

# **Autoantibody Profiling of Glioma Serum Samples to Identify Biomarkers Using Human Proteome Arrays**

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## **Supplementary Information**

## Supplementary Tables:

| <b>Table 1S: Experimental details.</b> The details of the healthy control and Grade II samples. |                 |                                  |             |        |
|-------------------------------------------------------------------------------------------------|-----------------|----------------------------------|-------------|--------|
| Sample ID                                                                                       | Sample Type     | File name                        | Age (years) | Sex    |
| <b>CF 10729</b>                                                                                 | Glioma Grade II | Grade_II_CF_10729_2000154012.gpr | 45          | Female |
| <b>CF 20468</b>                                                                                 | Glioma Grade II | Grade_II_CF_20468_2000153947.gpr | 22          | Male   |
| <b>CF 28254</b>                                                                                 | Glioma Grade II | Grade_II_CF_28254_2000153938.gpr | 26          | Male   |
| <b>CF 29538</b>                                                                                 | Glioma Grade II | Grade_II_CF_29538_2000154020.gpr | 32          | Male   |
| <b>CF 8551</b>                                                                                  | Glioma Grade II | Grade_II_CF_8551_2000153940.gpr  | 23          | Male   |
| <b>CH 12323</b>                                                                                 | Glioma Grade II | Grade_II_CH_12323_2000144444.gpr | 47          | Male   |
| <b>CH 13717</b>                                                                                 | Glioma Grade II | Grade_II_CH_13717_2000144447.gpr | 47          | Male   |
| <b>CH 27095</b>                                                                                 | Glioma Grade II | Grade_II_CH_27095_2000154014.gpr |             |        |
| <b>CH 32225</b>                                                                                 | Glioma Grade II | Grade_II_CH_32225_2000154033.gpr | 62          | Female |
| <b>CJ 10242</b>                                                                                 | Glioma Grade II | Grade_II_CJ_10242_2000144449.gpr | 22          | Male   |
| <b>CJ 16084</b>                                                                                 | Glioma Grade II | Grade_II_CJ_16084_2000153931.gpr | 42          | Female |
| <b>CJ 17734</b>                                                                                 | Glioma Grade II | Grade_II_CJ_17734_2000154015.gpr |             |        |
| <b>CJ 33350</b>                                                                                 | Glioma Grade II | Grade_II_CJ_33350_2000144452.gpr | 55          | Male   |
| <b>CJ 4825</b>                                                                                  | Glioma Grade II | Grade_II_CJ_4825_2000143981.gpr  | 17          | Male   |
| <b>CJ 7132</b>                                                                                  | Glioma Grade II | Grade_II_CJ_7132_2000154028.gpr  |             |        |
| <b>CJ 863</b>                                                                                   | Glioma Grade II | Grade_II_CJ_863_2000143970.gpr   | 32          | Female |
| <b>CK 40</b>                                                                                    | Glioma Grade II | Grade_II_CK_40_2000144445.gpr    | 17          | Male   |
| <b>H-02</b>                                                                                     | Healthy Control | Control_H-02_2000153953.gpr      |             |        |
| <b>H-03</b>                                                                                     | Healthy Control | Control_H-03_2000153943.gpr      |             |        |
| <b>H-19</b>                                                                                     | Healthy Control | Control_H-19_2000154008.gpr      |             |        |
| <b>H-23</b>                                                                                     | Healthy Control | Control_H-23_2000154009.gpr      |             |        |
| <b>H-25</b>                                                                                     | Healthy Control | Control_H-25_2000153952.gpr      |             |        |
| <b>H-35</b>                                                                                     | Healthy Control | Control_H-35_2000153942.gpr      |             |        |
| <b>H-41</b>                                                                                     | Healthy Control | Control_H-41_2000154026.gpr      |             |        |
| <b>H-58</b>                                                                                     | Healthy Control | Control_H-58_2000153935.gpr      |             |        |
| <b>H-59</b>                                                                                     | Healthy Control | Control_H-59_2000154016.gpr      |             |        |
| <b>HC-25</b>                                                                                    | Healthy Control | Control_HC-25_2000153932.gpr     |             |        |
| <b>HV-56</b>                                                                                    | Healthy Control | Control_HV-56_2000155735.gpr     |             |        |
| <b>HV-59</b>                                                                                    | Healthy Control | Control_HV-59_2000155740.gpr     |             |        |
| <b>HV-64</b>                                                                                    | Healthy Control | Control_HV-64_2000144456.gpr     |             |        |
| <b>HV-70</b>                                                                                    | Healthy Control | Control_HV-70_2000144457.gpr     |             |        |
| <b>HV-71</b>                                                                                    | Healthy Control | Control_HV-71_2000144458.gpr     |             |        |

**Table 1S: Shortlisted proteins.** List of proteins with p-value<0.05 and logFC>0.5 or <-0.5 for the healthy control and Grade II samples.

| Bloc<br>k | Row<br>w | Column<br>n | ID              | Name       | logF<br>C | AveExp<br>r | t             | P.Value     | adj.P.Val | B             |
|-----------|----------|-------------|-----------------|------------|-----------|-------------|---------------|-------------|-----------|---------------|
| 41        | 23       | 27          | BC121798        | EYA1       | -<br>0.56 | 9.58        | -<br>4.0<br>3 | 0.0000<br>9 | 0.55983   | 0.8<br>3      |
| 36        | 4        | 17          | NM_003099.3     | SNX1       | 0.78      | 9.47        | 4.0<br>0      | 0.0001<br>0 | 0.55983   | 0.7<br>6      |
| 35        | 14       | 21          | ENST00000361290 | MYLK       | 0.54      | 8.53        | 3.4<br>9      | 0.0006<br>3 | 0.71157   | -<br>0.6<br>7 |
| 18        | 4        | 11          | BC004372.1      | CD44       | -<br>0.51 | 7.43        | -<br>3.2<br>5 | 0.0013<br>9 | 0.72272   | -<br>1.2<br>7 |
| 16        | 4        | 21          | NM_003374.1     | VDAC1      | 0.53      | 8.06        | 3.2<br>5      | 0.0014<br>0 | 0.72272   | -<br>1.2<br>7 |
| 36        | 23       | 21          | Nol3            | NOL3       | -<br>1.35 | 11.13       | -<br>3.0<br>3 | 0.0028<br>2 | 0.91641   | -<br>1.7<br>9 |
| 36        | 23       | 23          | Lhx1            | LHX1       | -<br>0.66 | 8.01        | -<br>2.8<br>3 | 0.0051<br>7 | 0.99999   | -<br>2.2<br>4 |
| 33        | 2        | 17          | BC018747.1      | IGHG1      | 0.66      | 10.08       | 2.7<br>9      | 0.0059<br>1 | 0.99999   | -<br>2.3<br>4 |
| 23        | 16       | 5           | NM_144495.2     | PQBP1      | -<br>0.50 | 10.33       | -<br>2.5<br>9 | 0.0105<br>6 | 0.99999   | -<br>2.7<br>6 |
| 37        | 15       | 23          | NM_052849.2     | CCDC3<br>2 | 0.58      | 11.00       | 2.4<br>8      | 0.0142<br>3 | 0.99999   | -<br>2.9<br>8 |
| 46        | 14       | 17          | NM_015004.2     | EXOSC<br>7 | -<br>0.67 | 9.37        | -<br>2.3<br>4 | 0.0206<br>5 | 0.99999   | -<br>3.2<br>4 |

**Table 1S: Classifiers.** List of classifiers and their corresponding statistics for the healthy control and Grade II samples.

| N<br>F | Brier | BrierSE | C<br>A | CA<br>SE | AU<br>C | IS   | Sensitivity | Specificity | P<br>P<br>V | N<br>P<br>V | FeatureList                                                                                                          |
|--------|-------|---------|--------|----------|---------|------|-------------|-------------|-------------|-------------|----------------------------------------------------------------------------------------------------------------------|
| 1      | 0.40  | 0.04    | 0.79   | 0.06     | 0.8     | 0.18 | 0.94        | 0.60        | 0.73        | 0.90        | BC121798                                                                                                             |
| 2      | 0.34  | 0.04    | 0.69   | 0.09     | 0.825   | 0.33 | 0.82        | 0.53        | 0.67        | 0.73        | BC121798 BC018747.1                                                                                                  |
| 3      | 0.26  | 0.09    | 0.81   | 0.07     | 0.95    | 0.50 | 0.82        | 0.80        | 0.82        | 0.80        | BC121798 BC018747.1 NM_003099.3                                                                                      |
| 4      | 0.24  | 0.06    | 0.87   | 0.05     | 0.9     | 0.54 | 0.88        | 0.87        | 0.88        | 0.87        | BC121798 BC018747.1 NM_003099.3 NM_003374.1                                                                          |
| 5      | 0.28  | 0.08    | 0.83   | 0.07     | 0.95    | 0.46 | 0.76        | 0.93        | 0.93        | 0.78        | BC121798 BC018747.1 NM_003099.3 NM_003374.1 NM_052849.2                                                              |
| 6      | 0.27  | 0.05    | 0.83   | 0.07     | 0.95    | 0.48 | 0.88        | 0.80        | 0.83        | 0.86        | BC121798 BC018747.1 NM_003099.3 NM_003374.1 NM_052849.2 BC004372.1                                                   |
| 7      | 0.19  | 0.05    | 0.9    | 0.05     | 1       | 0.61 | 0.94        | 0.87        | 0.89        | 0.93        | BC121798 BC018747.1 NM_003099.3 NM_003374.1 NM_052849.2 BC004372.1 ENST00000361290                                   |
| 8      | 0.21  | 0.05    | 0.83   | 0.06     | 0.95    | 0.59 | 0.88        | 0.80        | 0.83        | 0.86        | BC121798 BC018747.1 NM_003099.3 NM_003374.1 NM_052849.2 BC004372.1 ENST00000361290 NM_144495.2                       |
| 9      | 0.26  | 0.08    | 0.78   | 0.08     | 0.9     | 0.52 | 0.88        | 0.67        | 0.75        | 0.83        | BC121798 BC018747.1 NM_003099.3 NM_003374.1 NM_052849.2 BC004372.1 ENST00000361290 NM_144495.2 NM_015004.2           |
| 10     | 0.23  | 0.05    | 0.87   | 0.05     | 0.9     | 0.51 | 0.88        | 0.87        | 0.88        | 0.87        | BC121798 BC018747.1 NM_003099.3 NM_003374.1 NM_052849.2 BC004372.1 ENST00000361290 NM_144495.2 NM_015004.2 NoI3      |
| 11     | 0.28  | 0.08    | 0.8    | 0.07     | 0.9     | 0.49 | 0.88        | 0.73        | 0.79        | 0.85        | BC121798 BC018747.1 NM_003099.3 NM_003374.1 NM_052849.2 BC004372.1 ENST00000361290 NM_144495.2 NM_015004.2 NoI3 Lhx1 |
| 12     | 0.28  | 0.08    | 0.8    | 0.07     | 0.9     | 0.49 | 0.88        | 0.73        | 0.79        | 0.85        | BC121798 BC018747.1 NM_003099.3 NM_003374.1 NM_052849.2 BC004372.1 ENST00000361290 NM_144495.2 NM_015004.2 NoI3 Lhx1 |
| 13     | 0.28  | 0.08    | 0.8    | 0.07     | 0.9     | 0.49 | 0.88        | 0.73        | 0.79        | 0.85        | BC121798 BC018747.1 NM_003099.3 NM_003374.1 NM_052849.2 BC004372.1 ENST00000361290 NM_144495.2 NM_015004.2 NoI3 Lhx1 |
| 14     | 0.28  | 0.08    | 0.8    | 0.07     | 0.9     | 0.49 | 0.88        | 0.73        | 0.79        | 0.85        | BC121798 BC018747.1 NM_003099.3 NM_003374.1 NM_052849.2 BC004372.1 ENST00000361290 NM_144495.2 NM_015004.2 NoI3 Lhx1 |



|        |          |      |         |          |     |          |      |      |          |          |                                                                                                                               |
|--------|----------|------|---------|----------|-----|----------|------|------|----------|----------|-------------------------------------------------------------------------------------------------------------------------------|
| 1<br>5 | 0.<br>28 | 0.08 | 0.<br>8 | 0.<br>07 | 0.9 | 0.<br>49 | 0.88 | 0.73 | 0.<br>79 | 0.<br>85 | BC121798 BC018747.1 NM_003099.3<br>NM_003374.1 NM_052849.2 BC004372.1<br>ENST00000361290 NM_144495.2<br>NM_015004.2 Nol3 Lhx1 |
| 1<br>6 | 0.<br>28 | 0.08 | 0.<br>8 | 0.<br>07 | 0.9 | 0.<br>49 | 0.88 | 0.73 | 0.<br>79 | 0.<br>85 | BC121798 BC018747.1 NM_003099.3<br>NM_003374.1 NM_052849.2 BC004372.1<br>ENST00000361290 NM_144495.2<br>NM_015004.2 Nol3 Lhx1 |
| 1<br>7 | 0.<br>28 | 0.08 | 0.<br>8 | 0.<br>07 | 0.9 | 0.<br>49 | 0.88 | 0.73 | 0.<br>79 | 0.<br>85 | BC121798 BC018747.1 NM_003099.3<br>NM_003374.1 NM_052849.2 BC004372.1<br>ENST00000361290 NM_144495.2<br>NM_015004.2 Nol3 Lhx1 |
| 1<br>8 | 0.<br>28 | 0.08 | 0.<br>8 | 0.<br>07 | 0.9 | 0.<br>49 | 0.88 | 0.73 | 0.<br>79 | 0.<br>85 | BC121798 BC018747.1 NM_003099.3<br>NM_003374.1 NM_052849.2 BC004372.1<br>ENST00000361290 NM_144495.2<br>NM_015004.2 Nol3 Lhx1 |
| 1<br>9 | 0.<br>28 | 0.08 | 0.<br>8 | 0.<br>07 | 0.9 | 0.<br>49 | 0.88 | 0.73 | 0.<br>79 | 0.<br>85 | BC121798 BC018747.1 NM_003099.3<br>NM_003374.1 NM_052849.2 BC004372.1<br>ENST00000361290 NM_144495.2<br>NM_015004.2 Nol3 Lhx1 |
| 2<br>0 | 0.<br>28 | 0.08 | 0.<br>8 | 0.<br>07 | 0.9 | 0.<br>49 | 0.88 | 0.73 | 0.<br>79 | 0.<br>85 | BC121798 BC018747.1 NM_003099.3<br>NM_003374.1 NM_052849.2 BC004372.1<br>ENST00000361290 NM_144495.2<br>NM_015004.2 Nol3 Lhx1 |
| 2<br>1 | 0.<br>28 | 0.08 | 0.<br>8 | 0.<br>07 | 0.9 | 0.<br>49 | 0.88 | 0.73 | 0.<br>79 | 0.<br>85 | BC121798 BC018747.1 NM_003099.3<br>NM_003374.1 NM_052849.2 BC004372.1<br>ENST00000361290 NM_144495.2<br>NM_015004.2 Nol3 Lhx1 |
| 2<br>2 | 0.<br>28 | 0.08 | 0.<br>8 | 0.<br>07 | 0.9 | 0.<br>49 | 0.88 | 0.73 | 0.<br>79 | 0.<br>85 | BC121798 BC018747.1 NM_003099.3<br>NM_003374.1 NM_052849.2 BC004372.1<br>ENST00000361290 NM_144495.2<br>NM_015004.2 Nol3 Lhx1 |
| 2<br>3 | 0.<br>28 | 0.08 | 0.<br>8 | 0.<br>07 | 0.9 | 0.<br>49 | 0.88 | 0.73 | 0.<br>79 | 0.<br>85 | BC121798 BC018747.1 NM_003099.3<br>NM_003374.1 NM_052849.2 BC004372.1<br>ENST00000361290 NM_144495.2<br>NM_015004.2 Nol3 Lhx1 |
| 2<br>4 | 0.<br>28 | 0.08 | 0.<br>8 | 0.<br>07 | 0.9 | 0.<br>49 | 0.88 | 0.73 | 0.<br>79 | 0.<br>85 | BC121798 BC018747.1 NM_003099.3<br>NM_003374.1 NM_052849.2 BC004372.1<br>ENST00000361290 NM_144495.2<br>NM_015004.2 Nol3 Lhx1 |
| 2<br>5 | 0.<br>28 | 0.08 | 0.<br>8 | 0.<br>07 | 0.9 | 0.<br>49 | 0.88 | 0.73 | 0.<br>79 | 0.<br>85 | BC121798 BC018747.1 NM_003099.3<br>NM_003374.1 NM_052849.2 BC004372.1<br>ENST00000361290 NM_144495.2<br>NM_015004.2 Nol3 Lhx1 |
| 2<br>6 | 0.<br>28 | 0.08 | 0.<br>8 | 0.<br>07 | 0.9 | 0.<br>49 | 0.88 | 0.73 | 0.<br>79 | 0.<br>85 | BC121798 BC018747.1 NM_003099.3<br>NM_003374.1 NM_052849.2 BC004372.1<br>ENST00000361290 NM_144495.2                          |

|        |          |      |         |          |     |          |      |      |          |          |                                                                                                                               |
|--------|----------|------|---------|----------|-----|----------|------|------|----------|----------|-------------------------------------------------------------------------------------------------------------------------------|
|        |          |      |         |          |     |          |      |      |          |          | NM_015004.2 Nol3 Lhx1                                                                                                         |
| 2<br>7 | 0.<br>28 | 0.08 | 0.<br>8 | 0.<br>07 | 0.9 | 0.<br>49 | 0.88 | 0.73 | 0.<br>79 | 0.<br>85 | BC121798 BC018747.1 NM_003099.3<br>NM_003374.1 NM_052849.2 BC004372.1<br>ENST00000361290 NM_144495.2<br>NM_015004.2 Nol3 Lhx1 |
| 2<br>8 | 0.<br>28 | 0.08 | 0.<br>8 | 0.<br>07 | 0.9 | 0.<br>49 | 0.88 | 0.73 | 0.<br>79 | 0.<br>85 | BC121798 BC018747.1 NM_003099.3<br>NM_003374.1 NM_052849.2 BC004372.1<br>ENST00000361290 NM_144495.2<br>NM_015004.2 Nol3 Lhx1 |
| 2<br>9 | 0.<br>28 | 0.08 | 0.<br>8 | 0.<br>07 | 0.9 | 0.<br>49 | 0.88 | 0.73 | 0.<br>79 | 0.<br>85 | BC121798 BC018747.1 NM_003099.3<br>NM_003374.1 NM_052849.2 BC004372.1<br>ENST00000361290 NM_144495.2<br>NM_015004.2 Nol3 Lhx1 |
| 3<br>0 | 0.<br>28 | 0.08 | 0.<br>8 | 0.<br>07 | 0.9 | 0.<br>49 | 0.88 | 0.73 | 0.<br>79 | 0.<br>85 | BC121798 BC018747.1 NM_003099.3<br>NM_003374.1 NM_052849.2 BC004372.1<br>ENST00000361290 NM_144495.2<br>NM_015004.2 Nol3 Lhx1 |

**Table 1S: Classifiers.** List of 10 classifier proteins for the healthy control and Grade II samples.

| ID              | Name   | logFC | AveExpr | t     | P.Value | adj.P.Val | B     |
|-----------------|--------|-------|---------|-------|---------|-----------|-------|
| BC121798        | EYA1   | -0.56 | 9.58    | -4.03 | 0.00009 | 0.55983   | 0.83  |
| NM_003099.3     | SNX1   | 0.78  | 9.47    | 4.00  | 0.00010 | 0.55983   | 0.76  |
| ENST00000361290 | MYLK   | 0.54  | 8.53    | 3.49  | 0.00063 | 0.71157   | -0.67 |
| BC004372.1      | CD44   | -0.51 | 7.43    | -3.25 | 0.00139 | 0.72272   | -1.27 |
| NM_003374.1     | VDAC1  | 0.53  | 8.06    | 3.25  | 0.00140 | 0.72272   | -1.27 |
| Nol3            | NOL3   | -1.35 | 11.13   | -3.03 | 0.00282 | 0.91641   | -1.79 |
| BC018747.1      | IGHG1  | 0.66  | 10.08   | 2.79  | 0.00591 | 0.99999   | -2.34 |
| NM_144495.2     | PQBP1  | -0.50 | 10.33   | -2.59 | 0.01056 | 0.99999   | -2.76 |
| NM_052849.2     | CCDC32 | 0.58  | 11.00   | 2.48  | 0.01423 | 0.99999   | -2.98 |
| NM_015004.2     | EXOSC7 | -0.67 | 9.37    | -2.34 | 0.02065 | 0.99999   | -3.24 |

**Table 2S: Experimental details.** The details of the healthy control and Grade III samples.

| Sample ID | Sample Type      | File name                         | Age (years) | Sex    |
|-----------|------------------|-----------------------------------|-------------|--------|
| CF 6980   | Glioma Grade III | Grade_III_CF_12839_2000143982.gpr | 27          | Female |
| CF 12839  | Glioma Grade III | Grade_III_CF_16216_2000144451.gpr | 25          | Female |
| CF 16216  | Glioma Grade III | Grade_III_CF_22483_2000144446.gpr | 28          | Female |
| CF 22483  | Glioma Grade III | Grade_III_CF_22807_2000154035.gpr | 33          | Female |
| CF 22807  | Glioma Grade III | Grade_III_CF_25539_2000143971.gpr | 27          | Male   |
| CF 25539  | Glioma Grade III | Grade_III_CF_29446_2000144453.gpr | 46          | Male   |
| CF 29446  | Glioma Grade III | Grade_III_CF_6980_2000154032.gpr  | 55          | Female |
| CH 15130  | Glioma Grade III | Grade_III_CH_15130_2000143947.gpr | 35          | Male   |
| CH 15138  | Glioma Grade III | Grade_III_CH_15138_2000143946.gpr | 42          | Male   |
| CH 17244  | Glioma Grade III | Grade_III_CH_17244_2000144448.gpr | 28          | Female |
| CH 9010   | Glioma Grade III | Grade_III_CH_9010_2000143984.gpr  | 23          | Female |
| CH 9043   | Glioma Grade III | Grade_III_CH_9043_2000144459.gpr  | 38          | Male   |
| CJ 1176   | Glioma Grade III | Grade_III_CJ_1176_2000154027.gpr  | 32          | Male   |
| CJ 14116  | Glioma Grade III | Grade_III_CJ_14116_2000144450.gpr | 54          | Male   |
| CJ 16912  | Glioma Grade III | Grade_III_CJ_16912_2000154006.gpr | 45          | Male   |
| CJ 20721  | Glioma Grade III | Grade_III_CJ_20721_2000143947.gpr | 21          | Male   |
| CJ 7833   | Glioma Grade III | Grade_III_CJ_7833_2000153939.gpr  | 25          | Female |
| CJ 9761   | Glioma Grade III | Grade_III_CJ_9761_2000143973.gpr  | 59          | Male   |
| H-02      | Healthy Control  | Control_H-02_2000153953.gpr       |             |        |
| H-03      | Healthy Control  | Control_H-03_2000153943.gpr       |             |        |
| H-19      | Healthy Control  | Control_H-19_2000154008.gpr       |             |        |
| H-23      | Healthy Control  | Control_H-23_2000154009.gpr       |             |        |
| H-25      | Healthy Control  | Control_H-25_2000153952.gpr       |             |        |
| H-35      | Healthy Control  | Control_H-35_2000153942.gpr       |             |        |
| H-41      | Healthy Control  | Control_H-41_2000154026.gpr       |             |        |
| H-58      | Healthy Control  | Control_H-58_2000153935.gpr       |             |        |
| H-59      | Healthy Control  | Control_H-59_2000154016.gpr       |             |        |
| HC-25     | Healthy Control  | Control_HC-25_2000153932.gpr      |             |        |
| HV-56     | Healthy Control  | Control_HV-56_2000155735.gpr      |             |        |
| HV-59     | Healthy Control  | Control_HV-59_2000155740.gpr      |             |        |
| HV-64     | Healthy Control  | Control_HV-64_2000144456.gpr      |             |        |
| HV-70     | Healthy Control  | Control_HV-70_2000144457.gpr      |             |        |
| HV-71     | Healthy Control  | Control_HV-71_2000144458.gpr      |             |        |

**Table 2S: Shortlisted proteins.** List of proteins with adjusted p-value<0.05 and logFC >0.5 or <-0.5 for the healthy control and Grade III samples.

| Bloc<br>k | Ro<br>w | Colum<br>n | ID              | Name     | logF<br>C | AveEx<br>pr | t             | P.Value      | adj.P.V<br>al | B         |
|-----------|---------|------------|-----------------|----------|-----------|-------------|---------------|--------------|---------------|-----------|
| 11        | 24      | 5          | BC014024.1      | TCL1A    | -<br>0.66 | 9.32        | -<br>7.0<br>1 | 5.75E-<br>11 | 7.75E-<br>07  | 14.5<br>1 |
| 32        | 13      | 5          | BC017492.1      | COG8     | 0.64      | 9.44        | 6.7<br>8      | 2.06E-<br>10 | 7.75E-<br>07  | 13.3<br>1 |
| 17        | 4       | 25         | NM_001500.2     | GMDS     | 0.56      | 8.26        | 6.7<br>7      | 2.17E-<br>10 | 7.75E-<br>07  | 13.2<br>6 |
| 46        | 14      | 13         | NM_013347.1     | RPA4     | 0.57      | 8.73        | 6.7<br>6      | 2.25E-<br>10 | 7.75E-<br>07  | 13.2<br>2 |
| 19        | 17      | 5          | BC103840.1      | MT1P3    | -<br>0.54 | 9.10        | -<br>6.7<br>6 | 2.31E-<br>10 | 7.75E-<br>07  | 13.2<br>0 |
| 23        | 14      | 5          | ENST00000360373 |          | -<br>0.67 | 9.15        | -<br>6.7<br>4 | 2.57E-<br>10 | 7.75E-<br>07  | 13.1<br>0 |
| 42        | 5       | 9          | NM_004504.3     | HRB      | 0.69      | 7.59        | 6.6<br>8      | 3.44E-<br>10 | 8.87E-<br>07  | 12.8<br>3 |
| 8         | 3       | 29         | NM_018491.3     | CBWD1    | 0.90      | 9.45        | 6.5<br>4      | 7.24E-<br>10 | 1.63E-<br>06  | 12.1<br>3 |
| 42        | 13      | 1          | NM_000100.2     | CSTB     | -<br>0.80 | 9.30        | -<br>6.3<br>9 | 1.65E-<br>09 | 3.21E-<br>06  | 11.3<br>5 |
| 23        | 3       | 25         | NM_015926.3     | TEX264   | 0.51      | 8.19        | 6.3<br>5      | 2.03E-<br>09 | 3.21E-<br>06  | 11.1<br>6 |
| 41        | 23      | 27         | BC121798        | EYA1     | -<br>0.87 | 9.58        | -<br>6.3<br>2 | 2.39E-<br>09 | 3.21E-<br>06  | 11.0<br>0 |
| 48        | 13      | 7          | NM_032361.1     | THOC3    | 0.58      | 9.54        | 6.2<br>9      | 2.74E-<br>09 | 3.21E-<br>06  | 10.8<br>7 |
| 39        | 3       | 15         | NM_022453.2     | RNF25    | 0.82      | 9.32        | 6.2<br>9      | 2.75E-<br>09 | 3.21E-<br>06  | 10.8<br>7 |
| 36        | 3       | 23         | NM_003279.2     | TNNC2    | -<br>0.72 | 8.85        | -<br>6.2<br>9 | 2.76E-<br>09 | 3.21E-<br>06  | 10.8<br>7 |
| 46        | 13      | 21         | NM_153686.4     | LCORL    | 0.56      | 9.35        | 6.2<br>8      | 2.84E-<br>09 | 3.21E-<br>06  | 10.8<br>4 |
| 15        | 21      | 19         | BC092474.1      | PRR16    | 0.69      | 9.22        | 6.2<br>6      | 3.20E-<br>09 | 3.34E-<br>06  | 10.7<br>3 |
| 35        | 24      | 11         | NM_004095.2     | EIF4EBP1 | -<br>0.63 | 8.95        | -<br>6.1<br>9 | 4.70E-<br>09 | 4.31E-<br>06  | 10.3<br>7 |
| 19        | 18      | 31         | NM_005987.2     | SPRR1A   | -<br>0.76 | 9.54        | -<br>6.1      | 4.77E-<br>09 | 4.31E-<br>06  | 10.3<br>5 |

|    |    |    |                    |               |           |       |               |              |              |           |
|----|----|----|--------------------|---------------|-----------|-------|---------------|--------------|--------------|-----------|
|    |    |    |                    |               |           |       | 8             |              |              |           |
| 48 | 5  | 1  | BC031469.1         | LOC55420<br>7 | 0.50      | 8.72  | 6.1<br>5      | 5.56E-<br>09 | 4.78E-<br>06 | 10.2<br>1 |
| 19 | 15 | 5  | NM_016370.1        | RAB9B         | -<br>0.55 | 9.91  | -<br>6.1<br>2 | 6.41E-<br>09 | 5.27E-<br>06 | 10.0<br>7 |
| 34 | 1  | 5  | BC001890.1         | GCK           | 0.56      | 8.52  | 6.0<br>7      | 8.40E-<br>09 | 6.07E-<br>06 | 9.82      |
| 22 | 23 | 31 | BC053845           | HKR1          | -<br>0.68 | 9.43  | -<br>6.0<br>4 | 9.90E-<br>09 | 6.88E-<br>06 | 9.67      |
| 17 | 23 | 23 | BC110912           | IRX4          | -<br>0.88 | 9.21  | -<br>6.0<br>1 | 1.17E-<br>08 | 7.83E-<br>06 | 9.51      |
| 19 | 17 | 9  | NM_001002848.<br>1 | LY6G5C        | -<br>0.65 | 8.63  | -<br>5.9<br>5 | 1.58E-<br>08 | 1.02E-<br>05 | 9.23      |
| 7  | 6  | 25 | NM_152667.1        | NANP          | -<br>0.57 | 9.16  | -<br>5.9<br>1 | 1.92E-<br>08 | 1.20E-<br>05 | 9.05      |
| 42 | 20 | 29 | NM_053031.2        | MYLK          | -<br>0.78 | 9.04  | -<br>5.9<br>0 | 1.99E-<br>08 | 1.20E-<br>05 | 9.01      |
| 5  | 5  | 1  | NM_138794.1        | LYPLAL1       | 0.51      | 9.04  | 5.8<br>4      | 2.69E-<br>08 | 1.43E-<br>05 | 8.73      |
| 40 | 1  | 5  | NM_002969.3        | MAPK12        | 0.64      | 8.11  | 5.8<br>1      | 3.19E-<br>08 | 1.60E-<br>05 | 8.57      |
| 30 | 22 | 5  | BC045826.1         | C20orf19      | 0.63      | 9.62  | 5.8<br>0      | 3.37E-<br>08 | 1.60E-<br>05 | 8.52      |
| 32 | 12 | 13 | NM_014284.2        | NCDN          | 0.88      | 8.93  | 5.7<br>9      | 3.43E-<br>08 | 1.60E-<br>05 | 8.50      |
| 32 | 16 | 7  | NM_001002033.<br>1 | HN1           | -<br>0.70 | 8.93  | -<br>5.7<br>8 | 3.63E-<br>08 | 1.60E-<br>05 | 8.45      |
| 19 | 4  | 9  | BC000719.2         | ATG4B         | 0.50      | 9.27  | 5.7<br>7      | 3.85E-<br>08 | 1.60E-<br>05 | 8.39      |
| 32 | 12 | 27 | BC007660.2         | DKK3          | 0.52      | 9.40  | 5.7<br>6      | 3.94E-<br>08 | 1.60E-<br>05 | 8.37      |
| 15 | 12 | 17 | ENST00000378470    |               | -<br>0.74 | 8.92  | -<br>5.7<br>6 | 3.97E-<br>08 | 1.60E-<br>05 | 8.36      |
| 44 | 5  | 1  | NM_001037535.<br>1 | SCML1         | 0.67      | 10.05 | 5.7<br>6      | 3.98E-<br>08 | 1.60E-<br>05 | 8.36      |
| 10 | 13 | 9  | NM_022822.1        | KLC2          | 0.73      | 8.62  | 5.7<br>4      | 4.41E-<br>08 | 1.73E-<br>05 | 8.27      |
| 22 | 24 | 23 | NM_014669.2        | N.D.          | -<br>0.57 | 8.24  | -<br>5.7      | 4.61E-<br>08 | 1.77E-<br>05 | 8.22      |

|    |    |    |                     |               |           |      |          |              |              |      |
|----|----|----|---------------------|---------------|-----------|------|----------|--------------|--------------|------|
|    |    |    |                     |               |           |      | 3        |              |              |      |
| 17 | 4  | 29 | BC000718.2          | DCTN2         | 0.53      | 8.35 | 5.7<br>2 | 4.97E-<br>08 | 1.78E-<br>05 | 8.15 |
| 42 | 22 | 15 | XM_001130991.1      | LOC72944<br>7 | -<br>0.59 | 8.78 | 5.7<br>1 | 5.09E-<br>08 | 1.78E-<br>05 | 8.13 |
| 28 | 4  | 15 | BC004867.2          | DOK3          | 0.76      | 9.65 | 5.7<br>1 | 5.11E-<br>08 | 1.78E-<br>05 | 8.13 |
| 34 | 4  | 11 | ENST0000037041<br>7 | --            | 0.80      | 9.23 | 5.7<br>0 | 5.50E-<br>08 | 1.88E-<br>05 | 8.06 |
| 35 | 6  | 23 | NM_012198.2         | GCA           | 0.51      | 8.81 | 5.6<br>9 | 5.75E-<br>08 | 1.90E-<br>05 | 8.02 |
| 46 | 14 | 17 | NM_015004.2         | EXOSC7        | -<br>1.62 | 9.37 | 5.6<br>9 | 5.78E-<br>08 | 1.90E-<br>05 | 8.01 |
| 9  | 4  | 13 | NM_016095.1         | GIN52         | 0.51      | 8.62 | 5.6<br>2 | 8.07E-<br>08 | 2.47E-<br>05 | 7.70 |
| 32 | 2  | 25 | BC009561.1          | C11orf74      | 0.62      | 9.44 | 5.6<br>1 | 8.45E-<br>08 | 2.54E-<br>05 | 7.66 |
| 8  | 6  | 21 | BC029858.1          | LRRC23        | 0.61      | 8.74 | 5.5<br>8 | 9.73E-<br>08 | 2.78E-<br>05 | 7.52 |
| 39 | 1  | 13 | NM_005500.1         | SAE1          | 0.59      | 8.98 | 5.5<br>7 | 1.02E-<br>07 | 2.78E-<br>05 | 7.48 |
| 12 | 18 | 13 | NM_012275.2         | IL1F5         | -<br>0.77 | 9.46 | 5.5<br>6 | 1.06E-<br>07 | 2.78E-<br>05 | 7.44 |
| 38 | 24 | 19 | BC029896.1          | N.D.          | -<br>0.54 | 8.40 | 5.5<br>5 | 1.11E-<br>07 | 2.88E-<br>05 | 7.40 |
| 3  | 17 | 29 | NM_001014450.<br>1  | SPRR2F        | -<br>0.51 | 9.14 | 5.5<br>5 | 1.13E-<br>07 | 2.88E-<br>05 | 7.38 |
| 22 | 24 | 25 | BC053624.1          | LOC28601<br>6 | -<br>0.66 | 9.04 | 5.5<br>3 | 1.26E-<br>07 | 3.16E-<br>05 | 7.28 |
| 10 | 20 | 11 | NM_018339.3         | RFK           | -<br>1.29 | 8.91 | 5.5<br>2 | 1.29E-<br>07 | 3.20E-<br>05 | 7.26 |
| 47 | 3  | 25 | NM_016246.2         | HSD17B14      | 0.58      | 8.51 | 5.4<br>6 | 1.75E-<br>07 | 4.13E-<br>05 | 6.98 |
| 22 | 12 | 5  | NM_016823.2         | CRK           | -<br>0.56 | 8.68 | 5.4<br>3 | 1.98E-<br>07 | 4.40E-<br>05 | 6.86 |
| 48 | 19 | 17 | NM_015162.3         | ACSBG1        | 0.53      | 9.01 | 5.4<br>3 | 2.00E-<br>07 | 4.40E-<br>05 | 6.85 |
| 7  | 17 | 31 | NM_174928.1         | N6AMT2        | -<br>0.53 | 9.99 | 5.4      | 2.29E-<br>07 | 4.77E-<br>05 | 6.72 |

|    |    |    |                    |              |           |       |               |              |              |      |
|----|----|----|--------------------|--------------|-----------|-------|---------------|--------------|--------------|------|
|    |    |    |                    |              |           |       | 0             |              |              |      |
| 29 | 23 | 13 | NM_198584.1        | CA13         | -<br>0.66 | 8.67  | -<br>5.4<br>0 | 2.31E-<br>07 | 4.77E-<br>05 | 6.72 |
| 39 | 19 | 27 | NM_032547.1        | SCOC         | -<br>0.67 | 9.91  | -<br>5.4<br>0 | 2.32E-<br>07 | 4.77E-<br>05 | 6.71 |
| 36 | 13 | 11 | BC021192.2         | SEPT9        | 0.59      | 8.93  | 5.3<br>9      | 2.35E-<br>07 | 4.77E-<br>05 | 6.70 |
| 18 | 13 | 9  | NM_199415.1        | UBOX5        | 0.71      | 9.72  | 5.3<br>9      | 2.41E-<br>07 | 4.81E-<br>05 | 6.68 |
| 38 | 17 | 27 | NM_138627.2        | BCL2L11      | -<br>0.57 | 8.36  | -<br>5.3<br>9 | 2.42E-<br>07 | 4.81E-<br>05 | 6.67 |
| 6  | 14 | 23 | NM_170678.1        | ITGB1BP3     | -<br>0.59 | 9.77  | -<br>5.3<br>8 | 2.47E-<br>07 | 4.84E-<br>05 | 6.65 |
| 28 | 20 | 1  | NM_001018025.<br>2 | MTCP1        | -<br>0.74 | 9.07  | -<br>5.3<br>8 | 2.52E-<br>07 | 4.85E-<br>05 | 6.63 |
| 25 | 23 | 13 | NM_138362.1        | FAM104B      | -<br>0.65 | 8.20  | -<br>5.3<br>6 | 2.75E-<br>07 | 5.09E-<br>05 | 6.55 |
| 4  | 15 | 25 | NM_173080.1        | SPRR4        | -<br>0.55 | 9.01  | -<br>5.3<br>6 | 2.79E-<br>07 | 5.09E-<br>05 | 6.54 |
| 40 | 14 | 29 | NM_176870.1        | MT1M         | -<br>0.58 | 9.08  | -<br>5.3<br>5 | 2.92E-<br>07 | 5.28E-<br>05 | 6.50 |
| 40 | 17 | 31 | NM_181337.2        | KAAG1        | -<br>0.62 | 9.48  | -<br>5.3<br>4 | 2.98E-<br>07 | 5.33E-<br>05 | 6.48 |
| 28 | 1  | 3  | BC015547.1         | UCK1         | 0.52      | 8.83  | 5.3<br>3      | 3.19E-<br>07 | 5.60E-<br>05 | 6.41 |
| 23 | 16 | 7  | NM_176806.2        | MOCS2        | -<br>0.51 | 8.34  | -<br>5.3<br>3 | 3.23E-<br>07 | 5.60E-<br>05 | 6.40 |
| 15 | 3  | 27 | BC004130.2         | CALCOCO<br>2 | 0.68      | 9.20  | 5.3<br>0      | 3.58E-<br>07 | 6.05E-<br>05 | 6.31 |
| 32 | 13 | 21 | BC069328.1         | BMF          | 0.57      | 10.04 | 5.2<br>9      | 3.80E-<br>07 | 6.25E-<br>05 | 6.25 |
| 41 | 23 | 29 | BC125062           | ARNTL2       | -<br>0.59 | 8.90  | -<br>5.2<br>7 | 4.19E-<br>07 | 6.62E-<br>05 | 6.16 |
| 3  | 10 | 29 | NM_002086.3        | GRB2         | -<br>0.66 | 10.19 | -<br>5.2<br>6 | 4.43E-<br>07 | 6.79E-<br>05 | 6.11 |



|    |    |    |                    |                |           |       |          |              |              |      |
|----|----|----|--------------------|----------------|-----------|-------|----------|--------------|--------------|------|
| 39 | 19 | 3  | NM_005335.3        | HCLS1          | 0.76      | 9.40  | 5.2<br>4 | 4.84E-<br>07 | 7.23E-<br>05 | 6.02 |
| 46 | 17 | 27 | NM_001009956.<br>1 | ZNF655         | -<br>0.64 | 9.45  | 5.2<br>3 | 5.04E-<br>07 | 7.46E-<br>05 | 5.99 |
| 19 | 6  | 17 | NM_005388.3        | PDCL           | 0.75      | 9.84  | 5.2<br>2 | 5.27E-<br>07 | 7.67E-<br>05 | 5.95 |
| 31 | 20 | 11 | NM_006148.1        | LASP1          | -<br>0.59 | 9.24  | 5.2<br>1 | 5.61E-<br>07 | 7.92E-<br>05 | 5.89 |
| 36 | 18 | 31 | BC001241.1         | ARHGAP1<br>7   | -<br>0.60 | 8.71  | 5.1<br>9 | 5.98E-<br>07 | 8.31E-<br>05 | 5.83 |
| 9  | 14 | 11 | BC058007.1         | MUC15          | 0.85      | 8.77  | 5.1<br>9 | 6.06E-<br>07 | 8.35E-<br>05 | 5.82 |
| 32 | 1  | 25 | BC012010.1         | SAAL1          | 0.71      | 10.28 | 5.1<br>7 | 6.66E-<br>07 | 9.11E-<br>05 | 5.73 |
| 3  | 17 | 9  | NM_175622.3        | MT1JP          | -<br>0.55 | 9.29  | 5.1<br>5 | 7.47E-<br>07 | 9.72E-<br>05 | 5.62 |
| 14 | 24 | 23 | BC033854.1         | N.D.           | -<br>0.60 | 9.09  | 5.1<br>4 | 7.53E-<br>07 | 9.72E-<br>05 | 5.61 |
| 15 | 13 | 9  | BC064834.1         | LRBA           | 0.52      | 8.54  | 5.1<br>0 | 9.10E-<br>07 | 0.00011<br>5 | 5.44 |
| 42 | 12 | 13 | BC032412.1         | BC032412.<br>1 | 0.61      | 8.97  | 5.1<br>0 | 9.33E-<br>07 | 0.00011<br>7 | 5.41 |
| 34 | 6  | 9  | NM_006304.1        | SHFM1          | -<br>0.65 | 8.59  | 5.1<br>0 | 9.39E-<br>07 | 0.00011<br>7 | 5.41 |
| 24 | 24 | 25 | NM_019857.3        | N.D.           | -<br>0.54 | 9.00  | 5.1<br>0 | 9.43E-<br>07 | 0.00011<br>7 | 5.40 |
| 42 | 14 | 7  | NM_174895.1        | PCP2           | -<br>0.52 | 10.15 | 5.0<br>9 | 9.79E-<br>07 | 0.00011<br>9 | 5.37 |
| 4  | 5  | 7  | NM_005185.2        | CALML3         | -<br>0.66 | 8.94  | 5.0<br>8 | 1.00E-<br>06 | 0.00012      | 5.35 |
| 41 | 22 | 1  | BC075862.1         | CAPN1          | -<br>0.51 | 8.61  | 5.0<br>6 | 1.10E-<br>06 | 0.00012<br>9 | 5.26 |
| 4  | 16 | 27 | NM_152901.1        | PYDC1          | -<br>0.52 | 9.73  | 5.0<br>5 | 1.14E-<br>06 | 0.00013<br>2 | 5.23 |
| 46 | 12 | 21 | BC007439.2         | DCP1A          | 0.52      | 8.97  | 5.0<br>4 | 1.20E-<br>06 | 0.00013<br>7 | 5.18 |

|    |    |    |                |           |           |       |               |              |              |      |
|----|----|----|----------------|-----------|-----------|-------|---------------|--------------|--------------|------|
| 9  | 24 | 19 | NM_152308.1    | C16orf75  | -<br>0.84 | 8.45  | -<br>5.0<br>3 | 1.26E-<br>06 | 0.00014<br>1 | 5.13 |
| 42 | 15 | 7  | NM_003746.2    | DYNLL1    | -<br>0.53 | 8.63  | -<br>5.0<br>1 | 1.37E-<br>06 | 0.00015<br>1 | 5.05 |
| 9  | 24 | 5  | NM_198584.1    | CA13      | -<br>0.75 | 8.93  | -<br>5.0<br>0 | 1.42E-<br>06 | 0.00015<br>6 | 5.02 |
| 9  | 2  | 25 | NM_006360.3    | PCID1     | 0.63      | 9.68  | 4.9<br>9      | 1.53E-<br>06 | 0.00016<br>4 | 4.95 |
| 33 | 2  | 17 | BC018747.1     | IGHG1     | 1.17      | 10.08 | 4.9<br>9      | 1.54E-<br>06 | 0.00016<br>4 | 4.95 |
| 17 | 19 | 9  | NM_000577.3    | IL1RN     | -<br>0.64 | 9.29  | -<br>4.9<br>8 | 1.62E-<br>06 | 0.00017      | 4.90 |
| 33 | 14 | 15 | NM_012278.1    | ITGB1BP2  | -<br>1.20 | 8.97  | -<br>4.9<br>7 | 1.63E-<br>06 | 0.00017      | 4.89 |
| 17 | 13 | 21 | NM_138468.3    | ICA1L     | -<br>0.54 | 8.42  | -<br>4.9<br>5 | 1.80E-<br>06 | 0.00018<br>3 | 4.80 |
| 24 | 12 | 11 | BC012797.2     | CNKSR1    | 0.59      | 9.01  | 4.9<br>4      | 1.94E-<br>06 | 0.00019<br>4 | 4.73 |
| 17 | 23 | 15 | NM_152678.1    | FAM116A   | -<br>0.52 | 8.09  | -<br>4.9<br>3 | 1.95E-<br>06 | 0.00019<br>4 | 4.72 |
| 31 | 6  | 23 | NM_017924.2    | C14orf119 | 0.67      | 9.15  | 4.9<br>3      | 1.97E-<br>06 | 0.00019<br>4 | 4.72 |
| 14 | 17 | 1  | BC045799.1     | ZNF428    | -<br>0.61 | 8.57  | -<br>4.9<br>2 | 2.10E-<br>06 | 0.00020<br>7 | 4.66 |
| 40 | 3  | 21 | NM_182789.2    | PAIP1     | 0.59      | 8.90  | 4.9<br>2      | 2.12E-<br>06 | 0.00020<br>7 | 4.65 |
| 18 | 13 | 7  | NM_016143.3    | NSFL1C    | -<br>0.61 | 8.91  | -<br>4.9<br>1 | 2.20E-<br>06 | 0.00021<br>1 | 4.62 |
| 28 | 11 | 11 | NM_005953.2    | MT2A      | -<br>0.51 | 9.17  | -<br>4.9<br>0 | 2.29E-<br>06 | 0.00021<br>9 | 4.58 |
| 28 | 13 | 9  | NM_173608.1    | C14orf80  | 0.55      | 8.37  | 4.8<br>9      | 2.36E-<br>06 | 0.00022<br>3 | 4.55 |
| 28 | 21 | 31 | BC101135.1     | FERD3L    | -<br>0.51 | 8.36  | -<br>4.8<br>8 | 2.49E-<br>06 | 0.00023      | 4.50 |
| 36 | 23 | 9  | NM_001001561.1 | GGA1      | -<br>0.55 | 10.55 | -<br>4.8      | 2.51E-<br>06 | 0.00023<br>1 | 4.49 |

|    |    |    |                 |            |       |       |      |          |          |      |
|----|----|----|-----------------|------------|-------|-------|------|----------|----------|------|
|    |    |    |                 |            |       |       | 8    |          |          |      |
|    |    |    |                 |            | -     |       | -    |          |          |      |
| 22 | 24 | 19 | NM_006112.2     | PPIE       | 0.61  | 8.56  | 4.87 | 2.63E-06 | 0.000237 | 4.45 |
| 21 | 2  | 5  | BC018269.1      | KIAA1967   | 0.68  | 8.60  | 4.86 | 2.74E-06 | 0.000242 | 4.41 |
| 26 | 5  | 3  | BC004405.1      | BC004405.1 | -0.54 | 8.68  | 4.84 | 3.01E-06 | 0.00026  | 4.32 |
| 18 | 23 | 13 | NM_032194.1     | BXDC1      | -0.52 | 10.07 | 4.83 | 3.05E-06 | 0.000262 | 4.31 |
| 28 | 13 | 19 | BC066304.1      | LGALS13    | -0.64 | 9.18  | 4.82 | 3.20E-06 | 0.000272 | 4.26 |
| 47 | 2  | 21 | NM_001031677.2  | RAB24      | 0.59  | 8.77  | 4.79 | 3.65E-06 | 0.000304 | 4.14 |
| 1  | 4  | 7  | NM_000790.2     | DDC        | 0.61  | 8.77  | 4.79 | 3.73E-06 | 0.000306 | 4.12 |
| 30 | 13 | 25 | NM_000496.2     | CRYBB2     | -0.54 | 8.53  | 4.74 | 4.51E-06 | 0.000351 | 3.95 |
| 36 | 4  | 17 | NM_003099.3     | SNX1       | 0.91  | 9.47  | 4.73 | 4.71E-06 | 0.000359 | 3.91 |
| 46 | 1  | 31 | NM_001878.2     | CRABP2     | -0.94 | 8.49  | 4.73 | 4.87E-06 | 0.000366 | 3.88 |
| 5  | 23 | 9  | NM_002899.2     | RBP1       | -0.64 | 8.73  | 4.72 | 4.93E-06 | 0.000368 | 3.86 |
| 22 | 16 | 13 | NM_183041.1     | DTNBP1     | 0.59  | 9.90  | 4.72 | 5.06E-06 | 0.000376 | 3.84 |
| 3  | 17 | 21 | NM_005950.1     | MT1G       | -0.61 | 9.33  | 4.70 | 5.36E-06 | 0.000383 | 3.79 |
| 11 | 19 | 21 | ENST00000371141 |            | -0.53 | 9.62  | 4.70 | 5.38E-06 | 0.000383 | 3.78 |
| 35 | 24 | 25 | NM_032531.2     | N.D.       | -0.55 | 8.82  | 4.68 | 6.01E-06 | 0.000418 | 3.68 |
| 40 | 22 | 21 | BC014225.2      | HOP        | -0.53 | 9.08  | 4.65 | 6.67E-06 | 0.000445 | 3.58 |
| 20 | 23 | 15 | BC026965.1      | ARHGEF10   | -0.56 | 9.68  | 4.61 | 7.86E-06 | 0.000499 | 3.43 |

|    |    |    |             |          |           |      |          |              |              |      |
|----|----|----|-------------|----------|-----------|------|----------|--------------|--------------|------|
| 46 | 13 | 25 | NM_002822.3 | TWF1     | 0.83      | 7.97 | 4.6<br>1 | 7.93E-<br>06 | 0.00050<br>1 | 3.42 |
| 41 | 24 | 23 | NM_198428.2 | N.D.     | -<br>0.60 | 9.69 | 4.6<br>0 | 8.23E-<br>06 | 0.00051<br>3 | 3.39 |
| 48 | 21 | 23 | BC099845.1  | RAP1GDS1 | 0.54      | 9.91 | 4.5<br>4 | 1.07E-<br>05 | 0.00061<br>8 | 3.15 |
| 13 | 22 | 5  | BC063432.1  | TRA@     | -<br>0.52 | 9.03 | 4.5<br>3 | 1.13E-<br>05 | 0.00064<br>4 | 3.10 |
| 30 | 23 | 3  | NM_007193.3 | ANXA10   | -<br>0.56 | 9.85 | 4.5<br>1 | 1.21E-<br>05 | 0.00067<br>6 | 3.04 |
| 46 | 15 | 19 | NM_130844.1 | WVOX     | -<br>0.78 | 9.37 | 4.5<br>1 | 1.24E-<br>05 | 0.00068<br>8 | 3.01 |
| 13 | 13 | 5  | NM_130776.1 | XAGE3    | -<br>0.51 | 8.95 | 4.4<br>9 | 1.32E-<br>05 | 0.00072      | 2.95 |
| 11 | 13 | 9  | NM_000884.2 | IMPDH2   | 0.55      | 8.62 | 4.4<br>7 | 1.43E-<br>05 | 0.00075<br>9 | 2.88 |
| 21 | 21 | 31 | BC090928.1  | SLAMF6   | -<br>0.56 | 9.12 | 4.4<br>3 | 1.68E-<br>05 | 0.00084      | 2.73 |
| 44 | 12 | 25 | NM_152296.3 | ATP1A3   | 0.81      | 8.43 | 4.4<br>3 | 1.69E-<br>05 | 0.00084      | 2.72 |
| 26 | 12 | 27 | NM_138357.1 | CCDC109A | -<br>0.52 | 9.02 | 4.4<br>3 | 1.71E-<br>05 | 0.00084<br>4 | 2.71 |
| 2  | 1  | 21 | NM_004330.1 | BNIP2    | 0.64      | 8.37 | 4.4<br>3 | 1.71E-<br>05 | 0.00084<br>4 | 2.71 |
| 33 | 24 | 3  | nd          | nd       | -<br>0.58 | 8.28 | 4.4<br>3 | 1.73E-<br>05 | 0.00084<br>8 | 2.70 |
| 34 | 4  | 13 | BC004889.2  | USP5     | 0.52      | 9.04 | 4.4<br>2 | 1.76E-<br>05 | 0.00085<br>5 | 2.68 |
| 48 | 14 | 17 | NM_006634.2 | VAMP5    | -<br>0.61 | 8.28 | 4.3<br>9 | 2.05E-<br>05 | 0.00095<br>1 | 2.54 |
| 41 | 24 | 13 | NM_032439.1 | PHYHIPL  | -<br>0.66 | 9.83 | 4.3<br>1 | 2.75E-<br>05 | 0.00120<br>5 | 2.28 |
| 12 | 14 | 9  | NM_182498.2 | ZNF428   | -<br>0.66 | 8.82 | 4.2<br>8 | 3.14E-<br>05 | 0.00134      | 2.15 |
| 21 | 4  | 5  | NM_000026.1 | ADSL     | 0.51      | 9.02 | 4.2<br>8 | 3.16E-<br>05 | 0.00134<br>4 | 2.15 |

|    |    |    |                    |         |           |       |               |              |              |      |
|----|----|----|--------------------|---------|-----------|-------|---------------|--------------|--------------|------|
| 4  | 14 | 21 | NM_130467.3        | PAGE5   | -<br>0.53 | 8.57  | -<br>4.2<br>6 | 3.45E-<br>05 | 0.00143      | 2.07 |
| 46 | 20 | 31 | NM_031431.2        | COG3    | 0.50      | 7.64  | 4.2<br>6      | 3.45E-<br>05 | 0.00143      | 2.07 |
| 43 | 2  | 15 | BC017723.1         | MAGEA4  | 0.55      | 9.83  | 4.2<br>6      | 3.48E-<br>05 | 0.00143<br>1 | 2.06 |
| 20 | 10 | 3  | BC000870.1         | TIPIN   | 0.53      | 8.87  | 4.2<br>2      | 3.99E-<br>05 | 0.00156<br>8 | 1.93 |
| 2  | 19 | 21 | NM_052965.1        | C1orf19 | -<br>0.66 | 10.45 | -<br>4.2<br>0 | 4.30E-<br>05 | 0.00165<br>1 | 1.86 |
| 2  | 14 | 25 | BC062684.1         | SCOC    | -<br>0.68 | 10.24 | -<br>4.2<br>0 | 4.35E-<br>05 | 0.00166<br>2 | 1.85 |
| 43 | 4  | 5  | NM_002853.3        | RAD1    | 0.52      | 8.47  | 4.2<br>0      | 4.40E-<br>05 | 0.00167<br>5 | 1.84 |
| 24 | 4  | 21 | BC006402.1         | IGHG1   | 0.73      | 10.16 | 4.1<br>8      | 4.81E-<br>05 | 0.00179<br>2 | 1.76 |
| 32 | 8  | 21 | NM_005207.2        | CRKL    | -<br>0.52 | 9.58  | -<br>4.1<br>6 | 5.04E-<br>05 | 0.00185<br>2 | 1.72 |
| 16 | 20 | 11 | NM_003152.2        | STAT5A  | 0.50      | 9.24  | 4.1<br>4      | 5.60E-<br>05 | 0.00201<br>1 | 1.62 |
| 31 | 4  | 3  | NM_002857.2        | PEX19   | 0.70      | 9.75  | 4.1<br>3      | 5.65E-<br>05 | 0.00202<br>3 | 1.61 |
| 44 | 20 | 29 | NM_005416.1        | SPRR3   | -<br>0.61 | 10.58 | -<br>4.1<br>3 | 5.68E-<br>05 | 0.00202<br>5 | 1.61 |
| 2  | 18 | 27 | NM_001024382.<br>1 | HMBS    | -<br>0.51 | 8.64  | -<br>4.1<br>3 | 5.80E-<br>05 | 0.00204<br>9 | 1.59 |
| 17 | 2  | 1  | NM_032331.2        | MGC2408 | 0.68      | 9.99  | 4.1<br>2      | 6.05E-<br>05 | 0.00212<br>3 | 1.55 |
| 23 | 16 | 5  | NM_144495.2        | PQBP1   | -<br>0.79 | 10.33 | -<br>4.1<br>1 | 6.12E-<br>05 | 0.00214<br>2 | 1.54 |
| 11 | 20 | 23 | BC073755.1         | ANXA8L1 | -<br>0.54 | 9.11  | -<br>4.1<br>0 | 6.54E-<br>05 | 0.00226<br>5 | 1.48 |
| 22 | 24 | 17 | BC029886.1         | N.D.    | -<br>0.68 | 8.21  | -<br>4.0<br>8 | 7.10E-<br>05 | 0.00239<br>6 | 1.40 |
| 5  | 3  | 27 | BC001103.2         | GULP1   | 0.57      | 8.98  | 4.0<br>6      | 7.42E-<br>05 | 0.00248<br>7 | 1.36 |
| 10 | 9  | 5  | BC015848.1         | GLOD4   | -<br>1.01 | 8.89  | -<br>4.0      | 8.12E-<br>05 | 0.00264<br>2 | 1.28 |

|    |    |    |                    |               |           |       |               |              |              |           |
|----|----|----|--------------------|---------------|-----------|-------|---------------|--------------|--------------|-----------|
|    |    |    |                    |               |           |       | 4             |              |              |           |
| 28 | 1  | 13 | NM_031361.1        | COL4A3BP      | 0.53      | 8.89  | 4.0<br>2      | 8.71E-<br>05 | 0.00276<br>4 | 1.21      |
| 42 | 12 | 25 | NM_002482.2        | NASP          | 0.66      | 8.37  | 4.0<br>2      | 8.72E-<br>05 | 0.00276<br>4 | 1.21      |
| 46 | 20 | 29 | NM_020532.4        | RTN4          | 0.60      | 7.74  | 3.9<br>6      | 0.00011      | 0.00328<br>9 | 1.00      |
| 47 | 20 | 17 | BC004128.2         | EFHD1         | 0.62      | 9.87  | 3.9<br>5      | 0.00011<br>6 | 0.00344<br>4 | 0.95      |
| 46 | 13 | 23 | NM_203284.1        | RBPJ          | 1.11      | 8.72  | 3.9<br>4      | 0.00012      | 0.00353      | 0.92      |
| 27 | 14 | 23 | NM_018584.4        | CAMK2N1       | -<br>1.24 | 8.93  | -<br>3.9<br>1 | 0.00013<br>3 | 0.00380<br>3 | 0.83      |
| 38 | 4  | 1  | BC002660.2         | TMOD1         | 0.66      | 8.57  | 3.8<br>8      | 0.00015      | 0.00414<br>4 | 0.71      |
| 35 | 15 | 13 | NM_001025266.<br>1 | LOC28538<br>2 | 0.92      | 8.41  | 3.8<br>7      | 0.00015<br>6 | 0.00424<br>8 | 0.68      |
| 8  | 2  | 15 | BC019337.1         | IGHG1         | 0.53      | 10.72 | 3.8<br>2      | 0.00018<br>9 | 0.00482<br>1 | 0.51      |
| 29 | 21 | 29 | BC088364.1         | RAD23A        | -<br>0.50 | 9.14  | -<br>3.8<br>2 | 0.00018<br>9 | 0.00482<br>1 | 0.50      |
| 36 | 1  | 15 | BC013992.1         | MAPK3         | 0.51      | 9.01  | 3.7<br>8      | 0.00022      | 0.00539<br>1 | 0.37      |
| 42 | 3  | 7  | NM_000184.2        | HBG2          | 0.54      | 9.18  | 3.6<br>7      | 0.00032<br>2 | 0.00715<br>5 | 0.02      |
| 31 | 13 | 25 | NM_130809.2        | PRRC1         | 0.52      | 10.03 | 3.6<br>6      | 0.00033<br>4 | 0.00732<br>1 | -<br>0.01 |
| 16 | 19 | 21 | NM_016224.3        | SNX9          | 1.20      | 8.49  | 3.6<br>6      | 0.00033<br>8 | 0.00737<br>5 | -<br>0.02 |
| 1  | 4  | 5  | NM_016630.3        | SPG21         | 0.50      | 8.24  | 3.6<br>5      | 0.00035      | 0.00756<br>3 | -<br>0.05 |
| 27 | 15 | 29 | NM_198086.1        | JUB           | -<br>0.84 | 8.68  | -<br>3.5<br>6 | 0.00048<br>5 | 0.00953<br>9 | -<br>0.35 |
| 39 | 1  | 31 | BC013009.2         | ZMYM3         | 0.76      | 10.13 | 3.5<br>5      | 0.00050<br>3 | 0.00978<br>8 | -<br>0.38 |
| 6  | 2  | 11 | NM_145055.2        | C18orf25      | 0.54      | 8.74  | 3.5<br>5      | 0.00050<br>4 | 0.00979<br>4 | -<br>0.38 |
| 20 | 22 | 25 | BC065378.1         | STK24         | 0.56      | 9.04  | 3.4<br>8      | 0.00064<br>5 | 0.01169<br>1 | -<br>0.61 |
| 38 | 13 | 11 | NM_198204.1        | MLX           | 0.51      | 9.58  | 3.4<br>7      | 0.00066<br>5 | 0.01200<br>8 | -<br>0.64 |
| 21 | 21 | 1  | NM_052942.2        | GBP5          | 0.66      | 10.28 | 3.4<br>5      | 0.00071<br>7 | 0.01266<br>8 | -<br>0.70 |
| 39 | 14 | 7  | BC060792.1         | ACBD3         | 0.51      | 8.79  | 3.4           | 0.00074      | 0.01300      | -         |

|    |    |    |                    |               |           |      |               |              |              |           |
|----|----|----|--------------------|---------------|-----------|------|---------------|--------------|--------------|-----------|
|    |    |    |                    |               |           |      | 4             | 3            | 3            | 0.73      |
| 17 | 2  | 5  | NM_001444.1        | FABP5         | 0.58      | 9.97 | 3.4<br>3      | 0.00075<br>7 | 0.01321      | -<br>0.75 |
| 7  | 15 | 11 | XM_208990.4        | LOC28406<br>7 | 0.61      | 7.99 | 3.3<br>5      | 0.00099<br>7 | 0.01627<br>9 | -<br>1.00 |
| 7  | 15 | 9  | NM_203283.1        | RBPJ          | 1.00      | 9.04 | 3.3<br>5      | 0.00100<br>5 | 0.01638      | -<br>1.01 |
| 25 | 18 | 9  | NM_001167858.<br>1 | PPP1R12<br>B  | -<br>0.61 | 9.64 | -<br>3.3<br>1 | 0.00113<br>2 | 0.01805<br>3 | -<br>1.11 |
| 28 | 19 | 31 | NM_018955.2        | UBB           | -<br>0.50 | 8.15 | -<br>3.3<br>1 | 0.00113<br>3 | 0.01805<br>6 | -<br>1.11 |
| 19 | 21 | 9  | BC041857.1         | R3HDM2        | 0.50      | 8.35 | 3.2<br>5      | 0.00141<br>3 | 0.02149<br>8 | -<br>1.31 |
| 38 | 20 | 1  | NM_001032296.<br>2 | STK24         | 0.97      | 9.68 | 3.2<br>5      | 0.00142      | 0.02159<br>7 | -<br>1.32 |
| 36 | 17 | 21 | BC067101.1         | MYOM3         | -<br>0.51 | 8.01 | -<br>3.1<br>7 | 0.00182<br>3 | 0.02585<br>6 | -<br>1.54 |
| 48 | 17 | 25 | NM_019088.2        | PAF1          | 0.53      | 9.41 | 3.0<br>9      | 0.00232<br>3 | 0.03067<br>3 | -<br>1.76 |
| 27 | 14 | 19 | NM_002767.2        | PRPSAP2       | -<br>0.70 | 8.43 | -<br>3.0<br>4 | 0.00271      | 0.03401<br>9 | -<br>1.89 |
| 27 | 15 | 7  | XM_290842.4        | LRFN1         | -<br>0.55 | 8.19 | -<br>3.0<br>3 | 0.00282      | 0.03509      | -<br>1.93 |
| 27 | 21 | 31 | NM_001003892.<br>1 | DUPD1         | 0.65      | 8.24 | 3.0<br>3      | 0.00283<br>5 | 0.03518<br>1 | -<br>1.93 |
| 27 | 14 | 17 | NM_148910.2        | TIRAP         | -<br>0.57 | 8.30 | -<br>3.0<br>3 | 0.00284<br>8 | 0.03528<br>1 | -<br>1.94 |
| 1  | 18 | 17 | NM_004696.1        | SLC16A4       | 0.84      | 9.05 | 2.9<br>8      | 0.00327      | 0.03878<br>3 | -<br>2.06 |
| 32 | 6  | 27 | NM_032347.1        | ZNF397        | 0.56      | 9.82 | 2.9<br>5      | 0.00367<br>2 | 0.04224<br>8 | -<br>2.16 |

**Table 2S: Classifiers.** List of classifiers and their corresponding statistics for the healthy control and Grade III samples.

| NF | Brier | BrierSE | CA   | CASE | AUC  | IS   | Sensitivity | Specificity | PP V | NPV  | FeatureList                                                                                                        |
|----|-------|---------|------|------|------|------|-------------|-------------|------|------|--------------------------------------------------------------------------------------------------------------------|
| 1  | 0.30  | 0.07    | 0.73 | 0.07 | 0.88 | 0.38 | 0.78        | 0.67        | 0.74 | 0.71 | NM_138794.1                                                                                                        |
| 2  | 0.25  | 0.06    | 0.79 | 0.07 | 0.88 | 0.48 | 0.83        | 0.73        | 0.79 | 0.79 | NM_138794.1<br>BC001890.1                                                                                          |
| 3  | 0.20  | 0.06    | 0.94 | 0.04 | 0.90 | 0.54 | 0.89        | 1.00        | 1.00 | 0.88 | NM_138794.1<br>BC001890.1<br>NM_003099.3                                                                           |
| 4  | 0.18  | 0.07    | 0.84 | 0.07 | 0.95 | 0.62 | 0.78        | 0.93        | 0.93 | 0.78 | NM_138794.1<br>BC001890.1<br>NM_003099.3<br>NM_015926.3                                                            |
| 5  | 0.14  | 0.06    | 0.90 | 0.07 | 0.95 | 0.67 | 0.89        | 0.93        | 0.94 | 0.88 | NM_138794.1<br>BC001890.1<br>NM_003099.3<br>NM_015926.3<br>NM_016246.2                                             |
| 6  | 0.13  | 0.05    | 0.97 | 0.03 | 0.95 | 0.70 | 0.94        | 1.00        | 1.00 | 0.94 | NM_138794.1<br>BC001890.1<br>NM_003099.3<br>NM_015926.3<br>NM_016246.2<br>NM_198204.1                              |
| 7  | 0.13  | 0.06    | 0.93 | 0.04 | 0.95 | 0.69 | 0.89        | 1.00        | 1.00 | 0.88 | NM_138794.1<br>BC001890.1<br>NM_003099.3<br>NM_015926.3<br>NM_016246.2<br>NM_198204.1<br>NM_020532.4               |
| 8  | 0.11  | 0.04    | 1.00 | 0.00 | 1.00 | 0.69 | 1.00        | 1.00        | 1.00 | 1.00 | NM_138794.1<br>BC001890.1<br>NM_003099.3<br>NM_015926.3<br>NM_016246.2<br>NM_198204.1<br>NM_020532.4<br>BC017723.1 |
| 9  | 0.11  | 0.04    | 0.93 | 0.04 | 1.00 | 0.71 | 0.89        | 1.00        | 1.00 | 0.88 | NM_138794.1<br>BC001890.1<br>NM_003099.3<br>NM_015926.3<br>NM_016246.2<br>NM_198204.1                              |



|    |      |      |      |      |      |      |      |      |          |      |                                                                                                                                                                            |
|----|------|------|------|------|------|------|------|------|----------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |      |      |      |      |      |      |      |      |          |      | NM_020532.4<br>BC017723.1<br>BC001241.1                                                                                                                                    |
| 10 | 0.10 | 0.03 | 0.93 | 0.04 | 1.00 | 0.72 | 0.89 | 1.00 | 1.0<br>0 | 0.88 | NM_138794.1<br>BC001890.1<br>NM_003099.3<br>NM_015926.3<br>NM_016246.2<br>NM_198204.1<br>NM_020532.4<br>BC017723.1<br>BC001241.1<br>NM_173608.1                            |
| 11 | 0.07 | 0.02 | 1.00 | 0.00 | 1.00 | 0.78 | 1.00 | 1.00 | 1.0<br>0 | 1.00 | NM_138794.1<br>BC001890.1<br>NM_003099.3<br>NM_015926.3<br>NM_016246.2<br>NM_198204.1<br>NM_020532.4<br>BC017723.1<br>BC001241.1<br>NM_173608.1<br>BC121798                |
| 12 | 0.07 | 0.02 | 0.97 | 0.03 | 1.00 | 0.77 | 0.94 | 1.00 | 1.0<br>0 | 0.94 | NM_138794.1<br>BC001890.1<br>NM_003099.3<br>NM_015926.3<br>NM_016246.2<br>NM_198204.1<br>NM_020532.4<br>BC017723.1<br>BC001241.1<br>NM_173608.1<br>BC121798<br>NM_005500.1 |
| 13 | 0.06 | 0.02 | 0.97 | 0.03 | 1.00 | 0.81 | 0.94 | 1.00 | 1.0<br>0 | 0.94 | NM_138794.1<br>BC001890.1<br>NM_003099.3<br>NM_015926.3<br>NM_016246.2<br>NM_198204.1<br>NM_020532.4<br>BC017723.1<br>BC001241.1<br>NM_173608.1<br>BC121798<br>NM_005500.1 |

|    |      |      |      |      |      |      |      |      |      |      |                                                                                                                                                                                                                                         |
|----|------|------|------|------|------|------|------|------|------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |      |      |      |      |      |      |      |      |      |      | NM_006634.2                                                                                                                                                                                                                             |
| 14 | 0.06 | 0.02 | 0.97 | 0.03 | 1.00 | 0.80 | 0.94 | 1.00 | 1.00 | 0.94 | NM_138794.1<br>BC001890.1<br>NM_003099.3<br>NM_015926.3<br>NM_016246.2<br>NM_198204.1<br>NM_020532.4<br>BC017723.1<br>BC001241.1<br>NM_173608.1<br>BC121798<br>NM_005500.1<br>NM_006634.2<br>BC014024.1                                 |
| 15 | 0.06 | 0.02 | 0.97 | 0.03 | 1.00 | 0.79 | 0.94 | 1.00 | 1.00 | 0.94 | NM_138794.1<br>BC001890.1<br>NM_003099.3<br>NM_015926.3<br>NM_016246.2<br>NM_198204.1<br>NM_020532.4<br>BC017723.1<br>BC001241.1<br>NM_173608.1<br>BC121798<br>NM_005500.1<br>NM_006634.2<br>BC014024.1<br>BC021192.2                   |
| 16 | 0.05 | 0.02 | 1.00 | 0.00 | 1.00 | 0.82 | 1.00 | 1.00 | 1.00 | 1.00 | NM_138794.1<br>BC001890.1<br>NM_003099.3<br>NM_015926.3<br>NM_016246.2<br>NM_198204.1<br>NM_020532.4<br>BC017723.1<br>BC001241.1<br>NM_173608.1<br>BC121798<br>NM_005500.1<br>NM_006634.2<br>BC014024.1<br>BC021192.2<br>ENST0000036037 |

|    |      |      |      |      |      |      |      |      |          |      |                                                                                                                                                                                                                                                                        |
|----|------|------|------|------|------|------|------|------|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 17 | 0.05 | 0.01 | 1.00 | 0.00 | 1.00 | 0.82 | 1.00 | 1.00 | 1.0<br>0 | 1.00 | NM_138794.1<br>BC001890.1<br>NM_003099.3<br>NM_015926.3<br>NM_016246.2<br>NM_198204.1<br>NM_020532.4<br>BC017723.1<br>BC001241.1<br>NM_173608.1<br>BC121798<br>NM_005500.1<br>NM_006634.2<br>BC014024.1<br>BC021192.2<br>ENST0000036037<br>3 NM_032361.1               |
| 18 | 0.04 | 0.01 | 1.00 | 0.00 | 1.00 | 0.84 | 1.00 | 1.00 | 1.0<br>0 | 1.00 | NM_138794.1<br>BC001890.1<br>NM_003099.3<br>NM_015926.3<br>NM_016246.2<br>NM_198204.1<br>NM_020532.4<br>BC017723.1<br>BC001241.1<br>NM_173608.1<br>BC121798<br>NM_005500.1<br>NM_006634.2<br>BC014024.1<br>BC021192.2<br>ENST0000036037<br>3 NM_032361.1<br>BC045799.1 |
| 19 | 0.03 | 0.01 | 1.00 | 0.00 | 1.00 | 0.85 | 1.00 | 1.00 | 1.0<br>0 | 1.00 | NM_138794.1<br>BC001890.1<br>NM_003099.3<br>NM_015926.3<br>NM_016246.2<br>NM_198204.1<br>NM_020532.4<br>BC017723.1<br>BC001241.1<br>NM_173608.1<br>BC121798<br>NM_005500.1<br>NM_006634.2                                                                              |

|    |      |      |      |      |      |          |      |      |          |      |                                                                                                                                                                                                                                                                                                                    |
|----|------|------|------|------|------|----------|------|------|----------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |      |      |      |      |      |          |      |      |          |      | BC014024.1<br>BC021192.2<br>ENST0000036037<br>3 NM_032361.1<br>BC045799.1<br>NM_005953.2                                                                                                                                                                                                                           |
| 20 | 0.04 | 0.01 | 1.00 | 0.00 | 1.00 | 0.<br>84 | 1.00 | 1.00 | 1.0<br>0 | 1.00 | NM_138794.1<br>BC001890.1<br>NM_003099.3<br>NM_015926.3<br>NM_016246.2<br>NM_198204.1<br>NM_020532.4<br>BC017723.1<br>BC001241.1<br>NM_173608.1<br>BC121798<br>NM_005500.1<br>NM_006634.2<br>BC014024.1<br>BC021192.2<br>ENST0000036037<br>3 NM_032361.1<br>BC045799.1<br>NM_005953.2<br>NM_032547.1               |
| 21 | 0.04 | 0.01 | 1.00 | 0.00 | 1.00 | 0.<br>84 | 1.00 | 1.00 | 1.0<br>0 | 1.00 | NM_138794.1<br>BC001890.1<br>NM_003099.3<br>NM_015926.3<br>NM_016246.2<br>NM_198204.1<br>NM_020532.4<br>BC017723.1<br>BC001241.1<br>NM_173608.1<br>BC121798<br>NM_005500.1<br>NM_006634.2<br>BC014024.1<br>BC021192.2<br>ENST0000036037<br>3 NM_032361.1<br>BC045799.1<br>NM_005953.2<br>NM_032547.1<br>BC026965.1 |

|    |      |      |      |      |      |      |      |      |          |      |                                                                                                                                                                                                                                                                                                                                                |
|----|------|------|------|------|------|------|------|------|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |      |      |      |      |      |      |      |      |          |      | NM_138794.1<br>BC001890.1<br>NM_003099.3<br>NM_015926.3<br>NM_016246.2<br>NM_198204.1<br>NM_020532.4<br>BC017723.1<br>BC001241.1<br>NM_173608.1<br>BC121798<br>NM_005500.1<br>NM_006634.2<br>BC014024.1<br>BC021192.2<br>ENST0000036037<br>3 NM_032361.1<br>BC045799.1<br>NM_005953.2<br>NM_032547.1<br>BC026965.1<br>BC018747.1               |
| 22 | 0.04 | 0.01 | 1.00 | 0.00 | 1.00 | 0.83 | 1.00 | 1.00 | 1.0<br>0 | 1.00 |                                                                                                                                                                                                                                                                                                                                                |
|    |      |      |      |      |      |      |      |      |          |      | NM_138794.1<br>BC001890.1<br>NM_003099.3<br>NM_015926.3<br>NM_016246.2<br>NM_198204.1<br>NM_020532.4<br>BC017723.1<br>BC001241.1<br>NM_173608.1<br>BC121798<br>NM_005500.1<br>NM_006634.2<br>BC014024.1<br>BC021192.2<br>ENST0000036037<br>3 NM_032361.1<br>BC045799.1<br>NM_005953.2<br>NM_032547.1<br>BC026965.1<br>BC018747.1<br>BC009561.1 |
| 23 | 0.04 | 0.01 | 1.00 | 0.00 | 1.00 | 0.83 | 1.00 | 1.00 | 1.0<br>0 | 1.00 |                                                                                                                                                                                                                                                                                                                                                |
| 24 | 0.05 | 0.02 | 1.00 | 0.00 | 1.00 | 0.80 | 1.00 | 1.00 | 1.0<br>0 | 1.00 | NM_138794.1<br>BC001890.1<br>NM_003099.3                                                                                                                                                                                                                                                                                                       |

|    |      |      |      |      |      |      |      |      |          |      |                                                                                                                                                                                                                                                                                                                                                                             |
|----|------|------|------|------|------|------|------|------|----------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |      |      |      |      |      |      |      |      |          |      | NM_015926.3<br>NM_016246.2<br>NM_198204.1<br>NM_020532.4<br>BC017723.1<br>BC001241.1<br>NM_173608.1<br>BC121798<br>NM_005500.1<br>NM_006634.2<br>BC014024.1<br>BC021192.2<br>ENST0000036037<br>3 NM_032361.1<br>BC045799.1<br>NM_005953.2<br>NM_032547.1<br>BC026965.1<br>BC018747.1<br>BC009561.1<br>NM_032439.1                                                           |
| 25 | 0.04 | 0.01 | 1.00 | 0.00 | 1.00 | 0.82 | 1.00 | 1.00 | 1.0<br>0 | 1.00 | NM_138794.1<br>BC001890.1<br>NM_003099.3<br>NM_015926.3<br>NM_016246.2<br>NM_198204.1<br>NM_020532.4<br>BC017723.1<br>BC001241.1<br>NM_173608.1<br>BC121798<br>NM_005500.1<br>NM_006634.2<br>BC014024.1<br>BC021192.2<br>ENST0000036037<br>3 NM_032361.1<br>BC045799.1<br>NM_005953.2<br>NM_032547.1<br>BC026965.1<br>BC018747.1<br>BC009561.1<br>NM_032439.1<br>BC012010.1 |
| 26 | 0.04 | 0.01 | 1.00 | 0.00 | 1.00 | 0.84 | 1.00 | 1.00 | 1.0<br>0 | 1.00 | NM_138794.1<br>BC001890.1                                                                                                                                                                                                                                                                                                                                                   |

|    |      |      |      |      |      |          |      |      |          |                                                                                                                                                                                                                                                                                                                                                                    |
|----|------|------|------|------|------|----------|------|------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |      |      |      |      |      |          |      |      |          | NM_003099.3<br>NM_015926.3<br>NM_016246.2<br>NM_198204.1<br>NM_020532.4<br>BC017723.1<br>BC001241.1<br>NM_173608.1<br>BC121798<br>NM_005500.1<br>NM_006634.2<br>BC014024.1<br>BC021192.2<br>ENST0000036037<br>3 NM_032361.1<br>BC045799.1<br>NM_005953.2<br>NM_032547.1<br>BC026965.1<br>BC018747.1<br>BC009561.1<br>NM_032439.1<br>BC012010.1<br>NM_175622.3      |
| 27 | 0.04 | 0.01 | 1.00 | 0.00 | 1.00 | 0.<br>83 | 1.00 | 1.00 | 1.0<br>0 | 1.00 NM_138794.1<br>BC001890.1<br>NM_003099.3<br>NM_015926.3<br>NM_016246.2<br>NM_198204.1<br>NM_020532.4<br>BC017723.1<br>BC001241.1<br>NM_173608.1<br>BC121798<br>NM_005500.1<br>NM_006634.2<br>BC014024.1<br>BC021192.2<br>ENST0000036037<br>3 NM_032361.1<br>BC045799.1<br>NM_005953.2<br>NM_032547.1<br>BC026965.1<br>BC018747.1<br>BC009561.1<br>NM_032439.1 |

|    |      |      |      |      |      |          |      |      |          |      |                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----|------|------|------|------|------|----------|------|------|----------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |      |      |      |      |      |          |      |      |          |      | BC012010.1<br>NM_175622.3<br>BC125062                                                                                                                                                                                                                                                                                                                                                                                |
| 28 | 0.04 | 0.01 | 1.00 | 0.00 | 1.00 | 0.<br>82 | 1.00 | 1.00 | 1.0<br>0 | 1.00 | NM_138794.1<br>BC001890.1<br>NM_003099.3<br>NM_015926.3<br>NM_016246.2<br>NM_198204.1<br>NM_020532.4<br>BC017723.1<br>BC001241.1<br>NM_173608.1<br>BC121798<br>NM_005500.1<br>NM_006634.2<br>BC014024.1<br>BC021192.2<br>ENST0000036037<br>3 NM_032361.1<br>BC045799.1<br>NM_005953.2<br>NM_032547.1<br>BC026965.1<br>BC018747.1<br>BC009561.1<br>NM_032439.1<br>BC012010.1<br>NM_175622.3<br>BC125062<br>BC004405.1 |
| 29 | 0.04 | 0.01 | 1.00 | 0.00 | 1.00 | 0.<br>82 | 1.00 | 1.00 | 1.0<br>0 | 1.00 | NM_138794.1<br>BC001890.1<br>NM_003099.3<br>NM_015926.3<br>NM_016246.2<br>NM_198204.1<br>NM_020532.4<br>BC017723.1<br>BC001241.1<br>NM_173608.1<br>BC121798<br>NM_005500.1<br>NM_006634.2<br>BC014024.1<br>BC021192.2<br>ENST0000036037<br>3 NM_032361.1                                                                                                                                                             |



|    |      |      |      |      |      |          |      |      |          |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----|------|------|------|------|------|----------|------|------|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |      |      |      |      |      |          |      |      |          |      | BC045799.1<br>NM_005953.2<br>NM_032547.1<br>BC026965.1<br>BC018747.1<br>BC009561.1<br>NM_032439.1<br>BC012010.1<br>NM_175622.3<br>BC125062<br>BC004405.1<br>NM_016224.3                                                                                                                                                                                                                                                                              |
| 30 | 0.04 | 0.01 | 1.00 | 0.00 | 1.00 | 0.<br>83 | 1.00 | 1.00 | 1.0<br>0 | 1.00 | NM_138794.1<br>BC001890.1<br>NM_003099.3<br>NM_015926.3<br>NM_016246.2<br>NM_198204.1<br>NM_020532.4<br>BC017723.1<br>BC001241.1<br>NM_173608.1<br>BC121798<br>NM_005500.1<br>NM_006634.2<br>BC014024.1<br>BC021192.2<br>ENST0000036037<br>3 NM_032361.1<br>BC045799.1<br>NM_005953.2<br>NM_032547.1<br>BC026965.1<br>BC018747.1<br>BC009561.1<br>NM_032439.1<br>BC012010.1<br>NM_175622.3<br>BC125062<br>BC004405.1<br>NM_016224.3<br>NM_001001561. |

| <b>Table 2S: Classifiers.</b> List of 10 classifier proteins for the healthy control and Grade III samples. |          |       |         |       |          |           |       |            |
|-------------------------------------------------------------------------------------------------------------|----------|-------|---------|-------|----------|-----------|-------|------------|
| ID                                                                                                          | Name     | logFC | AveExpr | t     | P.Value  | adj.P.Val | B     | Regulation |
| NM_003099.3                                                                                                 | SNX1     | 0.91  | 9.47    | 4.73  | 4.71E-06 | 0.000359  | 3.91  | Up         |
| NM_020532.4                                                                                                 | RTN4     | 0.60  | 7.74    | 3.96  | 0.00011  | 0.003289  | 1.00  | Up         |
| NM_016246.2                                                                                                 | HSD17B14 | 0.58  | 8.51    | 5.46  | 1.75E-07 | 4.13E-05  | 6.98  | Up         |
| BC001890.1                                                                                                  | GCK      | 0.56  | 8.52    | 6.07  | 8.40E-09 | 6.07E-06  | 9.82  | Up         |
| BC017723.1                                                                                                  | MAGEA4   | 0.55  | 9.83    | 4.26  | 3.48E-05 | 0.001431  | 2.06  | Up         |
| NM_173608.1                                                                                                 | C14orf80 | 0.55  | 8.37    | 4.89  | 2.36E-06 | 0.000223  | 4.55  | Up         |
| NM_198204.1                                                                                                 | MLX      | 0.51  | 9.58    | 3.47  | 0.000665 | 0.012008  | -0.64 | Up         |
| NM_138794.1                                                                                                 | LYPLAL1  | 0.51  | 9.04    | 5.84  | 2.69E-08 | 1.43E-05  | 8.73  | Up         |
| NM_015926.3                                                                                                 | TEX264   | 0.51  | 8.19    | 6.35  | 2.03E-09 | 3.21E-06  | 11.16 | Up         |
| BC001241.1                                                                                                  | ARHGAP17 | -0.60 | 8.71    | -5.19 | 5.98E-07 | 8.31E-05  | 5.83  | Down       |

| <b>Table 3S: Experimental details.</b> The details of the healthy control and Grade IV samples. |                              |                                  |             |        |
|-------------------------------------------------------------------------------------------------|------------------------------|----------------------------------|-------------|--------|
| Sample ID                                                                                       | Sample Type                  | File name                        | Age (years) | Sex    |
| <b>CF 11518</b>                                                                                 | Glioma Grade IV SVZ negative | Grade_IV_CF_11518_2000153942.gpr | 57          | Female |
| <b>CF 11940</b>                                                                                 | Glioma Grade IV SVZ positive | Grade_IV_CF_11940_2000153779.gpr | 59          | Male   |
| <b>CF 12166</b>                                                                                 | Glioma Grade IV SVZ positive | Grade_IV_CF_12166_2000153934.gpr | 64          | Male   |
| <b>CF 19257</b>                                                                                 | Glioma Grade IV SVZ negative | Grade_IV_CF_19257_2000155723.gpr | 60          | Male   |
| <b>CF 27891</b>                                                                                 | Glioma Grade IV SVZ negative | Grade_IV_CF_27891_2000153776.gpr | 64          | Male   |
| <b>CF 7522</b>                                                                                  | Glioma Grade IV SVZ positive | Grade_IV_CF_7522_2000154010.gpr  | 20          | Female |
| <b>CF 7916</b>                                                                                  | Glioma Grade IV SVZ positive | Grade_IV_CF_7916_2000154021.gpr  | 56          | Male   |
| <b>CH 12724</b>                                                                                 | Glioma Grade IV SVZ negative | Grade_IV_CH_12724_2000153778.gpr | 60          | Male   |
| <b>CH 14820</b>                                                                                 | Glioma Grade IV SVZ positive | Grade_IV_CH_14820_2000153796.gpr | 57          | Male   |
| <b>CH 18016</b>                                                                                 | Glioma Grade IV SVZ negative | Grade_IV_CH_18016_2000153791.gpr | 40          | Male   |
| <b>CH 18426</b>                                                                                 | Glioma Grade IV SVZ positive | Grade_IV_CH_18426_2000153757.gpr | 56          | Male   |
| <b>CH 21783</b>                                                                                 | Glioma Grade IV SVZ positive | Grade_IV_CH_21783_2000153785.gpr | 47          | Male   |
| <b>CH 22618</b>                                                                                 | Glioma Grade IV SVZ positive | Grade_IV_CH_22618_2000153782.gpr | 53          | Male   |
| <b>CH 28569</b>                                                                                 | Glioma Grade IV SVZ positive | Grade_IV_CH_28569_2000153799.gpr | 38          | Female |
| <b>CH 29697</b>                                                                                 | Glioma Grade IV SVZ positive | Grade_IV_CH_29697_2000153759.gpr | 60          | Male   |
| <b>CH 29738</b>                                                                                 | Glioma Grade IV SVZ positive | Grade_IV_CH_29738_2000153798.gpr | 46          | Male   |
| <b>CH 30203</b>                                                                                 | Glioma Grade IV SVZ positive | Grade_IV_CH_30203_2000153793.gpr | 61          | Female |
| <b>CH 3969</b>                                                                                  | Glioma Grade IV SVZ positive | Grade_IV_CH_3969_2000153950.gpr  | 46          | Female |
| <b>CH 4996</b>                                                                                  | Glioma Grade IV SVZ positive | Grade_IV_CH_4996_2000153933.gpr  | 57          | Male   |
| <b>CH 5261</b>                                                                                  | Glioma Grade IV SVZ negative | Grade_IV_CH_5261_2000155722.gpr  | 30          | Male   |
| <b>CH 6643</b>                                                                                  | Glioma Grade IV SVZ positive | Grade_IV_CH_6643_2000153758.gpr  | 47          | Male   |
| <b>CH 8498</b>                                                                                  | Glioma Grade IV SVZ negative | Grade_IV_CH_8498_2000153777.gpr  | 52          | Male   |
| <b>CH 9002</b>                                                                                  | Glioma Grade IV SVZ positive | Grade_IV_CH_9002_2000153954.gpr  | 69          | Male   |
| <b>CJ 10048</b>                                                                                 | Glioma Grade IV SVZ negative | Grade_IV_CJ_10048_2000155725.gpr | 37          | Male   |
| <b>CJ 11291</b>                                                                                 | Glioma Grade IV SVZ positive | Grade_IV_CJ_11291_2000154025.gpr | 51          | Female |
| <b>CJ 12441</b>                                                                                 | Glioma Grade IV SVZ          | Grade_IV_CJ_12441_2000153760.g   | 58          | Male   |

|                 |                              |                                  |    |        |
|-----------------|------------------------------|----------------------------------|----|--------|
|                 | negative                     | pr                               |    |        |
| <b>CJ 13655</b> | Glioma Grade IV SVZ positive | Grade_IV_CJ_13655_2000153783.gpr | 68 | Female |
| <b>CJ 1519</b>  | Glioma Grade IV SVZ positive | Grade_IV_CJ_1519_2000153951.gpr  | 55 | Female |
| <b>CJ 18704</b> | Glioma Grade IV SVZ negative | Grade_IV_CJ_18704_2000153784.gpr | 65 | Male   |
| <b>CJ 2041</b>  | Glioma Grade IV SVZ negative | Grade_IV_CJ_2041_2000154019.gpr  | 58 | Male   |
| <b>CJ 22776</b> | Glioma Grade IV SVZ positive | Grade_IV_CJ_22776_2000153756.gpr | 61 | Male   |
| <b>CJ 30014</b> | Glioma Grade IV SVZ positive | Grade_IV_CJ_30014_2000153805.gpr | 64 | Male   |
| <b>CJ 32705</b> | Glioma Grade IV SVZ negative | Grade_IV_CJ_32705_2000153797.gpr | 59 | Male   |
| <b>CJ 6254</b>  | Glioma Grade IV SVZ negative | Grade_IV_CJ_6254_2000153800.gpr  | 67 | Male   |
| <b>H-02</b>     | Healthy Control              | Control_H-02_2000153953.gpr      |    |        |
| <b>H-03</b>     | Healthy Control              | Control_H-03_2000153943.gpr      |    |        |
| <b>H-19</b>     | Healthy Control              | Control_H-19_2000154008.gpr      |    |        |
| <b>H-23</b>     | Healthy Control              | Control_H-23_2000154009.gpr      |    |        |
| <b>H-25</b>     | Healthy Control              | Control_H-25_2000153952.gpr      |    |        |
| <b>H-35</b>     | Healthy Control              | Control_H-35_2000153942.gpr      |    |        |
| <b>H-41</b>     | Healthy Control              | Control_H-41_2000154026.gpr      |    |        |
| <b>H-58</b>     | Healthy Control              | Control_H-58_2000153935.gpr      |    |        |
| <b>H-59</b>     | Healthy Control              | Control_H-59_2000154016.gpr      |    |        |
| <b>HC-25</b>    | Healthy Control              | Control_HC-25_2000153932.gpr     |    |        |
| <b>HV-56</b>    | Healthy Control              | Control_HV-56_2000155735.gpr     |    |        |
| <b>HV-59</b>    | Healthy Control              | Control_HV-59_2000155740.gpr     |    |        |
| <b>HV-64</b>    | Healthy Control              | Control_HV-64_2000144456.gpr     |    |        |
| <b>HV-70</b>    | Healthy Control              | Control_HV-70_2000144457.gpr     |    |        |
| <b>HV-71</b>    | Healthy Control              | Control_HV-71_2000144458.gpr     |    |        |

**Table 3S: Shortlisted proteins.** List of proteins with adjusted p-value<0.05 and logFC >0.5 or <-0.5 for the healthy control and Grade IV samples.

| Bloc<br>k | Ro<br>w | Colum<br>n | ID             | Name          | logF<br>C | AveEx<br>pr | t         | P.Value      | adj.P.Va<br>l | B         |
|-----------|---------|------------|----------------|---------------|-----------|-------------|-----------|--------------|---------------|-----------|
| 41        | 5       | 11         | BC025985.1     | IGHG4         | -<br>1.75 | 9.37        | -<br>8.97 | 6.26E-<br>16 | 1.13E-<br>11  | 25.2<br>6 |
| 27        | 12      | 25         | NM_001005465.1 | OR10G3        | -<br>1.36 | 9.79        | -<br>7.08 | 3.89E-<br>11 | 1.76E-<br>07  | 14.8<br>6 |
| 27        | 13      | 15         | BC065370.1     | C20orf112     | -<br>1.30 | 9.41        | -<br>6.18 | 4.87E-<br>09 | 5.86E-<br>06  | 10.3<br>3 |
| 27        | 13      | 1          | NM_024928.3    | OBFC1         | -<br>1.27 | 10.02       | -<br>5.32 | 3.33E-<br>07 | 7.42E-<br>05  | 6.38      |
| 25        | 11      | 23         | BC041037.1     | IGHM          | 0.98      | 8.13        | 3.9<br>4  | 0.00011<br>9 | 0.00366       | 0.94      |
| 36        | 4       | 17         | NM_003099.3    | SNX1          | 0.84      | 9.47        | 4.8<br>6  | 2.70E-<br>06 | 0.00029<br>2  | 4.43      |
| 27        | 14      | 23         | NM_018584.4    | CAMK2N1       | -<br>0.80 | 8.93        | -<br>2.84 | 0.00507<br>7 | 0.04522<br>5  | -<br>2.44 |
| 44        | 7       | 13         | NM_001157.2    | ANXA11        | 0.78      | 9.92        | 5.3<br>7  | 2.67E-<br>07 | 6.52E-<br>05  | 6.58      |
| 27        | 22      | 17         | NM_001033515.1 | LOC38983<br>3 | -<br>0.74 | 8.16        | -<br>5.78 | 3.69E-<br>08 | 1.71E-<br>05  | 8.43      |
| 27        | 21      | 1          | BC037876.1     | C17orf57      | -<br>0.74 | 8.64        | -<br>2.89 | 0.00431<br>9 | 0.04051<br>5  | -<br>2.29 |
| 43        | 1       | 27         | NM_006857.1    | RY1           | 0.74      | 8.94        | 5.6<br>0  | 8.58E-<br>08 | 2.98E-<br>05  | 7.64      |
| 27        | 2       | 15         | NM_014372.3    | RNF11         | -<br>0.72 | 8.67        | -<br>3.52 | 0.00056<br>5 | 0.01052<br>2  | -<br>0.48 |
| 27        | 15      | 29         | NM_198086.1    | JUB           | -<br>0.71 | 8.68        | -<br>3.36 | 0.00096<br>9 | 0.01487<br>2  | -<br>0.96 |
| 27        | 6       | 11         | NM_024745.2    | SHCBP1        | -<br>0.71 | 9.11        | -<br>3.05 | 0.00262<br>6 | 0.029         | -<br>1.86 |
| 38        | 19      | 7          | NM_000689.3    | ALDH1A1       | -<br>0.70 | 9.50        | -<br>5.49 | 1.51E-<br>07 | 4.52E-<br>05  | 7.11      |
| 40        | 7       | 13         | BC015738.1     | ZFYVE19       | 0.70      | 8.79        | 5.9<br>8  | 1.37E-<br>08 | 9.57E-<br>06  | 9.36      |

|    |    |    |                |           |       |       |      |          |          |       |
|----|----|----|----------------|-----------|-------|-------|------|----------|----------|-------|
| 35 | 15 | 13 | NM_001025266.1 | LOC285382 | 0.69  | 8.41  | 3.27 | 0.001321 | 0.01842  | -1.24 |
| 3  | 3  | 21 | NM_032328.1    | EFCAB2    | 0.69  | 9.22  | 6.05 | 9.16E-09 | 7.20E-06 | 9.73  |
| 27 | 14 | 19 | NM_002767.2    | PRPSAP2   | -0.68 | 8.43  | 3.30 | 0.001177 | 0.017153 | -1.14 |
| 20 | 10 | 3  | BC000870.1     | TIPIN     | 0.68  | 8.87  | 6.10 | 7.15E-09 | 6.46E-06 | 9.97  |
| 3  | 3  | 11 | NM_001001394.2 | HCG3      | 0.68  | 8.86  | 5.55 | 1.10E-07 | 3.68E-05 | 7.41  |
| 39 | 1  | 31 | BC013009.2     | ZMYM3     | 0.67  | 10.13 | 3.49 | 0.00062  | 0.011082 | -0.56 |
| 26 | 19 | 17 | NM_018379.3    | FAM63A    | -0.67 | 8.50  | 5.43 | 1.95E-07 | 5.41E-05 | 6.87  |
| 12 | 1  | 15 | NM_001827.1    | CKS2      | 0.67  | 8.11  | 6.57 | 6.21E-10 | 1.40E-06 | 12.26 |
| 41 | 18 | 15 | BC000846.2     | CIB1      | -0.65 | 10.15 | 3.58 | 0.000449 | 0.008851 | -0.27 |
| 33 | 2  | 17 | BC018747.1     | IGHG1     | 0.65  | 10.08 | 3.11 | 0.002217 | 0.025956 | -1.70 |
| 20 | 22 | 23 | BC075842.1     | IGHG1     | 0.64  | 10.39 | 4.98 | 1.61E-06 | 0.000202 | 4.91  |
| 8  | 16 | 11 | NM_139204.1    | EPS8L1    | 0.64  | 8.19  | 3.72 | 0.000275 | 0.006395 | 0.17  |
| 48 | 1  | 19 | NM_178815.3    | ARL5B     | 0.63  | 8.27  | 3.96 | 0.00011  | 0.003466 | 1.01  |
| 27 | 15 | 7  | XM_290842.4    | LRFN1     | -0.63 | 8.19  | 3.88 | 0.000151 | 0.004295 | 0.72  |
| 38 | 10 | 23 | BC013186.1     | RCSD1     | -0.63 | 8.01  | 4.25 | 3.52E-05 | 0.001621 | 2.05  |
| 11 | 1  | 19 | NM_031966.2    | CCNB1     | 0.62  | 8.61  | 6.13 | 6.24E-09 | 6.46E-06 | 10.09 |
| 32 | 6  | 27 | NM_032347.1    | ZNF397    | 0.62  | 9.82  | 3.63 | 0.00038  | 0.007969 | -0.12 |
| 27 | 20 | 11 | NM_021810.3    | CDH26     | -0.61 | 8.44  | 3.84 | 0.000176 | 0.00477  | 0.58  |
| 38 | 18 | 5  | NM_031304.2    | DOHH      | -0.60 | 9.92  | 5.81 | 3.08E-08 | 1.63E-05 | 8.60  |
| 27 | 21 | 31 | NM_001003892.1 | DUPD1     | -0.59 | 8.24  | 3.0  | 0.002491 | 0.028025 | -1.81 |

|    |    |    |                     |           |           |       |           |              |              |           |
|----|----|----|---------------------|-----------|-----------|-------|-----------|--------------|--------------|-----------|
|    |    |    |                     |           |           |       | 7         |              |              |           |
| 42 | 15 | 31 | BC067254.1          | COASY     | -<br>0.58 | 9.29  | -<br>6.21 | 4.17E-<br>09 | 5.74E-<br>06 | 10.4<br>7 |
| 27 | 18 | 31 | NM_006541.1         | TXNL2     | -<br>0.58 | 8.21  | -<br>3.62 | 0.00038<br>6 | 0.00806<br>7 | -<br>0.14 |
| 27 | 14 | 17 | NM_148910.2         | TIRAP     | -<br>0.57 | 8.30  | -<br>3.40 | 0.00084<br>8 | 0.01359<br>3 | -<br>0.85 |
| 46 | 23 | 31 | BC000446            | CLP1      | -<br>0.57 | 9.51  | -<br>4.85 | 2.84E-<br>06 | 0.00030<br>4 | 4.38      |
| 16 | 2  | 1  | NM_007198.2         | PROSC     | 0.57      | 8.28  | 7.0<br>2  | 5.56E-<br>11 | 2.01E-<br>07 | 14.5<br>3 |
| 19 | 9  | 19 | ENST0000043503<br>3 |           | 0.57      | 9.04  | 7.6<br>8  | 1.30E-<br>12 | 1.17E-<br>08 | 18.0<br>7 |
| 36 | 1  | 15 | BC013992.1          | MAPK3     | 0.56      | 9.01  | 4.5<br>8  | 9.18E-<br>06 | 0.00069<br>1 | 3.29      |
| 36 | 7  | 13 | BC010450.1          | PRCC      | 0.55      | 8.56  | 5.2<br>6  | 4.50E-<br>07 | 8.61E-<br>05 | 6.09      |
| 23 | 16 | 5  | NM_144495.2         | PQBP1     | -<br>0.55 | 10.33 | -<br>3.23 | 0.00150<br>7 | 0.02013<br>5 | -<br>1.36 |
| 34 | 20 | 11 | NM_022158.2         | FN3K      | -<br>0.55 | 8.70  | -<br>6.92 | 9.67E-<br>11 | 2.91E-<br>07 | 14.0<br>1 |
| 41 | 14 | 19 | NM_024826.1         | ASAP      | 0.55      | 10.16 | 3.0<br>5  | 0.00263<br>7 | 0.029        | -<br>1.86 |
| 5  | 1  | 15 | NM_001549.2         | IFIT3     | 0.55      | 8.91  | 4.5<br>1  | 1.20E-<br>05 | 0.00081<br>4 | 3.04      |
| 38 | 18 | 7  | NM_021979.2         | HSPA2     | -<br>0.54 | 9.12  | -<br>5.80 | 3.28E-<br>08 | 1.65E-<br>05 | 8.54      |
| 41 | 23 | 27 | BC121798            | EYA1      | -<br>0.53 | 9.58  | -<br>4.33 | 2.60E-<br>05 | 0.00133<br>2 | 2.33      |
| 42 | 18 | 3  | NM_024815.3         | NUDT18    | -<br>0.53 | 9.20  | -<br>5.25 | 4.72E-<br>07 | 8.89E-<br>05 | 6.05      |
| 38 | 20 | 25 | NM_001801.2         | CDO1      | -<br>0.53 | 9.08  | -<br>5.95 | 1.52E-<br>08 | 9.80E-<br>06 | 9.26      |
| 31 | 6  | 23 | NM_017924.2         | C14orf119 | 0.53      | 9.15  | 4.3<br>2  | 2.67E-<br>05 | 0.00135      | 2.31      |
| 23 | 2  | 11 | BC016854.2          | C11orf67  | 0.53      | 8.71  | 6.5<br>4  | 7.23E-<br>10 | 1.45E-<br>06 | 12.1<br>2 |

|    |    |    |                     |              |           |      |               |              |              |           |
|----|----|----|---------------------|--------------|-----------|------|---------------|--------------|--------------|-----------|
| 18 | 19 | 1  | NM_006541.2         | TXNL2        | -<br>0.52 | 9.69 | -<br>4.6<br>0 | 8.50E-<br>06 | 0.00066<br>7 | 3.36      |
| 11 | 13 | 9  | NM_000884.2         | IMPDH2       | 0.51      | 8.62 | 4.6<br>7      | 6.30E-<br>06 | 0.00054<br>7 | 3.64      |
| 15 | 3  | 27 | BC004130.2          | CALCOCO<br>2 | 0.51      | 9.20 | 4.4<br>6      | 1.50E-<br>05 | 0.00094<br>7 | 2.84      |
| 42 | 3  | 7  | NM_000184.2         | HBG2         | 0.51      | 9.18 | 3.9<br>3      | 0.00012<br>3 | 0.00372<br>5 | 0.91      |
| 11 | 1  | 9  | NM_002867.2         | RAB3B        | 0.51      | 8.92 | 4.6<br>6      | 6.45E-<br>06 | 0.00055<br>2 | 3.62      |
| 39 | 3  | 15 | NM_022453.2         | RNF25        | 0.51      | 9.32 | 4.3<br>7      | 2.23E-<br>05 | 0.00118      | 2.47      |
| 32 | 2  | 25 | BC009561.1          | C11orf74     | 0.51      | 9.44 | 5.1<br>9      | 6.20E-<br>07 | 0.00010<br>5 | 5.79      |
| 4  | 2  | 13 | NM_003123.3         | SPN          | 0.51      | 7.84 | 3.0<br>8      | 0.00239<br>9 | 0.02732<br>7 | -<br>1.77 |
| 38 | 20 | 13 | BC068569.1          | ZHX3         | -<br>0.51 | 9.16 | -<br>3.8<br>9 | 0.00014<br>6 | 0.00421<br>4 | 0.75      |
| 46 | 19 | 9  | NM_001008491.1      | SEPT2        | -<br>0.51 | 9.82 | -<br>5.1<br>2 | 8.52E-<br>07 | 0.00012<br>9 | 5.50      |
| 44 | 9  | 19 | BC032665.1          | EEF2K        | 0.51      | 8.78 | 4.5<br>7      | 9.69E-<br>06 | 0.00071      | 3.24      |
| 20 | 16 | 3  | ENST0000036203<br>5 |              | 0.51      | 8.15 | 5.7<br>0      | 5.28E-<br>08 | 2.22E-<br>05 | 8.09      |
| 34 | 23 | 9  | NM_001155.3         | ANXA6        | -<br>0.51 | 8.67 | -<br>5.3<br>3 | 3.12E-<br>07 | 7.23E-<br>05 | 6.43      |



**Table 3S: Classifiers.** List of classifiers and their corresponding statistics for the healthy control and Grade IV samples.

|   | N<br>F           | B<br>r<br>i<br>e<br>r<br>E | B<br>r<br>i<br>e<br>r<br>E | C<br>A<br>S<br>E | C<br>A<br>S<br>E | A<br>U<br>C      | I<br>S           | S<br>e<br>n<br>s<br>i<br>t<br>i<br>v<br>i<br>t<br>y | S<br>p<br>e<br>c<br>i<br>f<br>i<br>c<br>i<br>t<br>y | P<br>P<br>V      | N<br>P<br>V      | FeatureList                                                                                            |
|---|------------------|----------------------------|----------------------------|------------------|------------------|------------------|------------------|-----------------------------------------------------|-----------------------------------------------------|------------------|------------------|--------------------------------------------------------------------------------------------------------|
| 1 | 0<br>.<br>2<br>4 | 0<br>.<br>0<br>4           | 0<br>.<br>8<br>4           | 0<br>.<br>0<br>5 | 0<br>.<br>8<br>8 | 0<br>.<br>3<br>5 | 0<br>.<br>1<br>5 | 0.<br>9<br>1                                        | 0.<br>6<br>7                                        | 0<br>.<br>8<br>6 | 0<br>.<br>7<br>7 | NM_003099.3                                                                                            |
| 2 | 0<br>.<br>2<br>1 | 0<br>.<br>0<br>3           | 0<br>.<br>8<br>4           | 0<br>.<br>0<br>4 | 0<br>.<br>9<br>5 | 0<br>.<br>4<br>2 | 0<br>.<br>1<br>2 | 0.<br>9<br>1                                        | 0.<br>6<br>7                                        | 0<br>.<br>8<br>6 | 0<br>.<br>7<br>7 | NM_003099.3 NM_021810.3                                                                                |
| 3 | 0<br>.<br>2<br>4 | 0<br>.<br>0<br>6           | 0<br>.<br>8<br>2           | 0<br>.<br>0<br>6 | 0<br>.<br>9<br>4 | 0<br>.<br>3<br>9 | 0<br>.<br>1<br>9 | 0.<br>9<br>1                                        | 0.<br>6<br>0                                        | 0<br>.<br>8<br>4 | 0<br>.<br>5<br>5 | NM_003099.3 NM_021810.3 BC068569.1                                                                     |
| 4 | 0<br>.<br>2<br>0 | 0<br>.<br>0<br>4           | 0<br>.<br>8<br>6           | 0<br>.<br>0<br>4 | 0<br>.<br>9<br>1 | 0<br>.<br>4<br>5 | 0<br>.<br>5<br>5 | 0.<br>8<br>5                                        | 0.<br>8<br>7                                        | 0<br>.<br>9<br>4 | 0<br>.<br>2<br>2 | NM_003099.3 NM_021810.3 BC068569.1 BC009561.1                                                          |
| 5 | 0<br>.<br>2<br>6 | 0<br>.<br>0<br>5           | 0<br>.<br>8<br>0           | 0<br>.<br>0<br>4 | 0<br>.<br>9<br>2 | 0<br>.<br>3<br>6 | 0<br>.<br>8<br>6 | 0.<br>8<br>8                                        | 0.<br>6<br>0                                        | 0<br>.<br>8<br>3 | 0<br>.<br>9<br>9 | NM_003099.3 NM_021810.3 BC068569.1 BC009561.1<br>BC018747.1                                            |
| 6 | 0<br>.<br>2<br>1 | 0<br>.<br>0<br>4           | 0<br>.<br>8<br>2           | 0<br>.<br>0<br>5 | 0<br>.<br>9<br>4 | 0<br>.<br>4<br>0 | 0<br>.<br>8<br>0 | 0.<br>8<br>8                                        | 0.<br>6<br>7                                        | 0<br>.<br>8<br>6 | 0<br>.<br>1<br>1 | NM_003099.3 NM_021810.3 BC068569.1 BC009561.1<br>BC018747.1 BC000846.2                                 |
| 7 | 0<br>.<br>2<br>3 | 0<br>.<br>0<br>5           | 0<br>.<br>8<br>0           | 0<br>.<br>0<br>7 | 0<br>.<br>8<br>8 | 0<br>.<br>4<br>0 | 0<br>.<br>1<br>1 | 0.<br>9<br>1                                        | 0.<br>5<br>3                                        | 0<br>.<br>8<br>2 | 0<br>.<br>3<br>3 | NM_003099.3 NM_021810.3 BC068569.1 BC009561.1<br>BC018747.1 BC000846.2 BC121798                        |
| 8 | 0<br>.<br>1<br>3 | 0<br>.<br>0<br>4           | 0<br>.<br>9<br>2           | 0<br>.<br>0<br>4 | 0<br>.<br>0<br>0 | 0<br>.<br>5<br>5 | 0<br>.<br>7<br>5 | 0.<br>9<br>7                                        | 0.<br>8<br>0                                        | 0<br>.<br>9<br>2 | 0<br>.<br>2<br>2 | NM_003099.3 NM_021810.3 BC068569.1 BC009561.1<br>BC018747.1 BC000846.2 BC121798 BC037876.1             |
| 9 | 0<br>.<br>1<br>6 | 0<br>.<br>0<br>4           | 0<br>.<br>9<br>0           | 0<br>.<br>0<br>5 | 0<br>.<br>9<br>8 | 0<br>.<br>4<br>9 | 0<br>.<br>9<br>4 | 0.<br>9<br>4                                        | 0.<br>8<br>0                                        | 0<br>.<br>9<br>1 | 0<br>.<br>6<br>6 | NM_003099.3 NM_021810.3 BC068569.1 BC009561.1<br>BC018747.1 BC000846.2 BC121798 BC037876.1 NM_144495.2 |
| 1 | 0                | 0                          | 0                          | 0                | 0                | 0                | 0                | 0.                                                  | 0.                                                  | 0                | 0                | NM_003099.3 NM_021810.3 BC068569.1 BC009561.1                                                          |

|   |   |   |   |   |   |   |    |    |   |                                                                  |
|---|---|---|---|---|---|---|----|----|---|------------------------------------------------------------------|
| 0 | . | . | . | . | . | 9 | 7  | .  | . | BC018747.1 BC000846.2 BC121798 BC037876.1 NM_144495.2 BC013186.1 |
|   | 1 | 0 | 8 | 0 | 9 | 4 | 4  | 3  | 8 |                                                                  |
|   | 6 | 3 | 8 | 4 | 8 | 7 |    |    | 9 | 5                                                                |
|   | 0 | 0 | 0 | 0 | 0 | 0 |    |    | 0 | 0                                                                |
| 1 | . | . | . | . | . | . | 0. | 0. | . | .                                                                |
| 1 | 1 | 0 | 9 | 0 | 9 | 5 | 9  | 8  | 9 | 9                                                                |
| 1 | 5 | 3 | 2 | 4 | 8 | 0 | 7  | 0  | 2 | 2                                                                |
|   | 0 | 0 | 0 | 0 | 0 | 0 |    |    | 0 | 0                                                                |
| 1 | . | . | . | . | . | . | 0. | 0. | . | .                                                                |
| 2 | 1 | 0 | 9 | 0 | 9 | 5 | 9  | 8  | 9 | 9                                                                |
| 2 | 2 | 4 | 2 | 4 | 8 | 9 | 7  | 0  | 2 | 2                                                                |
|   | 0 | 0 | 0 | 0 | 0 | 0 |    |    | 0 | 0                                                                |
| 1 | . | . | . | . | . | . | 0. | 0. | . | .                                                                |
| 3 | 1 | 0 | 8 | 0 | 9 | 6 | 9  | 7  | 8 | 8                                                                |
| 3 | 2 | 3 | 8 | 4 | 8 | 0 | 4  | 3  | 9 | 5                                                                |
|   | 0 | 0 | 0 | 0 | 1 | 0 |    |    | 0 | 0                                                                |
| 1 | . | . | . | . | . | . | 0. | 0. | . | .                                                                |
| 4 | 1 | 0 | 8 | 0 | 0 | 5 | 9  | 8  | 9 | 8                                                                |
| 4 | 3 | 3 | 8 | 3 | 0 | 7 | 1  | 0  | 1 | 0                                                                |
|   | 0 | 0 | 0 | 0 | 0 | 0 |    |    | 0 | 0                                                                |
| 1 | . | . | . | . | . | . | 0. | 0. | . | .                                                                |
| 5 | 1 | 0 | 8 | 0 | 9 | 5 | 8  | 7  | 8 | 7                                                                |
| 5 | 7 | 3 | 4 | 4 | 7 | 0 | 8  | 3  | 8 | 3                                                                |
|   | 0 | 0 | 0 | 0 | 0 | 0 |    |    | 0 | 0                                                                |
| 1 | . | . | . | . | . | . | 0. | 0. | . | .                                                                |
| 6 | 1 | 0 | 8 | 0 | 9 | 5 | 9  | 8  | 9 | 8                                                                |
| 6 | 4 | 3 | 8 | 3 | 8 | 6 | 1  | 0  | 1 | 0                                                                |
|   | 0 | 0 | 0 | 0 | 0 | 0 |    |    | 0 | 0                                                                |
| 1 | . | . | . | . | . | . | 0. | 0. | . | .                                                                |
| 7 | 1 | 0 | 9 | 0 | 9 | 5 | 9  | 8  | 9 | 9                                                                |
| 7 | 2 | 3 | 2 | 3 | 8 | 8 | 7  | 0  | 2 | 2                                                                |
|   | 0 | 0 | 0 | 0 | 0 | 0 |    |    | 0 | 0                                                                |
| 1 | . | . | . | . | . | . | 0. | 0. | . | .                                                                |
| 8 | 1 | 0 | 9 | 0 | 9 | 6 | 9  | 8  | 9 | 9                                                                |
| 8 | 0 | 3 | 2 | 3 | 8 | 1 | 7  | 0  | 2 | 2                                                                |
|   | 0 | 0 | 0 | 0 | 1 | 0 |    |    | 0 | 0                                                                |
| 1 | . | . | . | . | . | . | 0. | 0. | . | .                                                                |
| 9 | 1 | 0 | 9 | 0 | 0 | 6 | 9  | 7  | 8 | 9                                                                |
| 9 | 1 | 3 | 0 | 3 | 0 | 2 | 7  | 3  | 9 | 2                                                                |
|   | 0 | 0 | 0 | 0 | 1 | 0 |    |    | 0 | 0                                                                |
| 2 | . | . | . | . | . | . | 0. | 0. | . | .                                                                |
| 0 | 1 | 0 | 9 | 0 | 0 | 6 | 9  | 8  | 9 | 9                                                                |
| 0 | 1 | 3 | 2 | 3 | 0 | 0 | 7  | 0  | 2 | 2                                                                |
| 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0. | 0. | 0 | 0                                                                |

|   |   |   |   |   |   |   |    |    |   |                                                       |
|---|---|---|---|---|---|---|----|----|---|-------------------------------------------------------|
| 1 | . | . | . | . | . | 9 | 8  | .  | . | BC018747.1 BC000846.2 BC121798 BC037876.1 NM_144495.2 |
|   | 1 | 0 | 9 | 0 | 0 | 6 | 7  | 7  | 9 | BC013186.1 NM_003123.3 NM_006541.1 NM_000689.3        |
|   | 0 | 3 | 4 | 3 | 0 | 1 |    |    | 4 | NM_022158.2 NM_018584.4 NM_002867.2 NM_006541.2       |
|   |   |   |   |   |   |   |    |    | 3 | NM_018379.3 NM_001005465.1 NM_001801.2 NM_031966.2    |
|   |   |   |   |   |   |   |    |    |   | NM_003099.3 NM_021810.3 BC068569.1 BC009561.1         |
|   | 0 | 0 | 0 | 0 | 1 | 0 |    |    | 0 | BC018747.1 BC000846.2 BC121798 BC037876.1 NM_144495.2 |
|   | . | . | . | . | . | . | 0. | 0. | . | BC013186.1 NM_003123.3 NM_006541.1 NM_000689.3        |
| 2 | 1 | 0 | 9 | 0 | 0 | 5 | 9  | 7  | 8 | NM_022158.2 NM_018584.4 NM_002867.2 NM_006541.2       |
| 2 | 2 | 3 | 0 | 4 | 0 | 9 | 7  | 3  | 9 | NM_018379.3 NM_001005465.1 NM_001801.2 NM_031966.2    |
|   |   |   |   |   |   |   |    |    | 2 | NM_001025266.1                                        |
|   |   |   |   |   |   |   |    |    |   | NM_003099.3 NM_021810.3 BC068569.1 BC009561.1         |
|   | 0 | 0 | 0 | 0 | 0 | 0 |    |    | 0 | BC018747.1 BC000846.2 BC121798 BC037876.1 NM_144495.2 |
|   | . | . | . | . | . | . | 0. | 0. | . | BC013186.1 NM_003123.3 NM_006541.1 NM_000689.3        |
| 2 | 1 | 0 | 9 | 0 | 9 | 6 | 9  | 8  | 9 | NM_022158.2 NM_018584.4 NM_002867.2 NM_006541.2       |
| 3 | 0 | 3 | 4 | 3 | 8 | 1 | 7  | 7  | 4 | NM_018379.3 NM_001005465.1 NM_001801.2 NM_031966.2    |
|   |   |   |   |   |   |   |    |    | 3 | NM_001025266.1 NM_032328.1                            |
|   |   |   |   |   |   |   |    |    |   | NM_003099.3 NM_021810.3 BC068569.1 BC009561.1         |
|   | 0 | 0 | 0 | 0 | 0 | 0 |    |    | 0 | BC018747.1 BC000846.2 BC121798 BC037876.1 NM_144495.2 |
|   | . | . | . | . | . | . | 0. | 0. | . | BC013186.1 NM_003123.3 NM_006541.1 NM_000689.3        |
| 2 | 0 | 0 | 9 | 0 | 9 | 6 | 9  | 8  | 9 | NM_022158.2 NM_018584.4 NM_002867.2 NM_006541.2       |
| 4 | 9 | 2 | 4 | 3 | 8 | 3 | 7  | 7  | 4 | NM_018379.3 NM_001005465.1 NM_001801.2 NM_031966.2    |
|   |   |   |   |   |   |   |    |    | 3 | NM_001025266.1 NM_032328.1 NM_178815.3                |
|   |   |   |   |   |   |   |    |    |   | NM_003099.3 NM_021810.3 BC068569.1 BC009561.1         |
|   | 0 | 0 | 0 | 0 | 0 | 0 |    |    | 0 | BC018747.1 BC000846.2 BC121798 BC037876.1 NM_144495.2 |
|   | . | . | . | . | . | . | 0. | 0. | . | BC013186.1 NM_003123.3 NM_006541.1 NM_000689.3        |
| 2 | 0 | 0 | 9 | 0 | 9 | 6 | 9  | 9  | 9 | NM_022158.2 NM_018584.4 NM_002867.2 NM_006541.2       |
| 5 | 9 | 3 | 6 | 3 | 8 | 3 | 7  | 3  | 7 | NM_018379.3 NM_001005465.1 NM_001801.2 NM_031966.2    |
|   |   |   |   |   |   |   |    |    | 3 | NM_001025266.1 NM_032328.1 NM_178815.3 BC000870.1     |
|   |   |   |   |   |   |   |    |    |   | NM_003099.3 NM_021810.3 BC068569.1 BC009561.1         |
|   | 0 | 0 | 0 | 0 | 0 | 0 |    |    | 0 | BC018747.1 BC000846.2 BC121798 BC037876.1 NM_144495.2 |
|   | . | . | . | . | . | . | 0. | 0. | . | BC013186.1 NM_003123.3 NM_006541.1 NM_000689.3        |
| 2 | 1 | 0 | 9 | 0 | 9 | 5 | 9  | 8  | 9 | NM_022158.2 NM_018584.4 NM_002867.2 NM_006541.2       |
| 6 | 2 | 2 | 2 | 4 | 8 | 5 | 4  | 7  | 4 | NM_018379.3 NM_001005465.1 NM_001801.2 NM_031966.2    |
|   |   |   |   |   |   |   |    |    | 7 | NM_001025266.1 NM_032328.1 NM_178815.3 BC000870.1     |
|   |   |   |   |   |   |   |    |    |   | BC016854.2                                            |
|   |   |   |   |   |   |   |    |    |   | NM_003099.3 NM_021810.3 BC068569.1 BC009561.1         |
|   | 0 | 0 | 0 | 0 | 1 | 0 |    |    | 1 | BC018747.1 BC000846.2 BC121798 BC037876.1 NM_144495.2 |
|   | . | . | . | . | . | . | 0. | 1. | . | BC013186.1 NM_003123.3 NM_006541.1 NM_000689.3        |
| 2 | 0 | 0 | 9 | 0 | 0 | 6 | 9  | 0  | 0 | NM_022158.2 NM_018584.4 NM_002867.2 NM_006541.2       |
| 7 | 9 | 1 | 6 | 3 | 0 | 1 | 4  | 0  | 0 | NM_018379.3 NM_001005465.1 NM_001801.2 NM_031966.2    |
|   |   |   |   |   |   |   |    |    | 8 | NM_001025266.1 NM_032328.1 NM_178815.3 BC000870.1     |
|   |   |   |   |   |   |   |    |    |   | BC016854.2 NM_001033515.1                             |
|   |   |   |   |   |   |   |    |    |   | NM_003099.3 NM_021810.3 BC068569.1 BC009561.1         |
|   | 0 | 0 | 0 | 0 | 1 | 0 |    |    | 0 | BC018747.1 BC000846.2 BC121798 BC037876.1 NM_144495.2 |
|   | . | . | . | . | . | . | 0. | 0. | . | BC013186.1 NM_003123.3 NM_006541.1 NM_000689.3        |
| 2 | 0 | 0 | 9 | 0 | 0 | 6 | 9  | 9  | 9 | NM_022158.2 NM_018584.4 NM_002867.2 NM_006541.2       |
| 8 | 8 | 1 | 6 | 3 | 0 | 2 | 7  | 3  | 7 | NM_018379.3 NM_001005465.1 NM_001801.2 NM_031966.2    |

|   |   |   |   |   |   |   |    |    |   |   |  |                                                                                                                                                                                                                                                                                                                                                                                               |
|---|---|---|---|---|---|---|----|----|---|---|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |   |   |   |   |   |   |    |    |   |   |  | NM_001025266.1 NM_032328.1 NM_178815.3 BC000870.1<br>BC016854.2 NM_001033515.1 NM_000184.2                                                                                                                                                                                                                                                                                                    |
|   |   |   |   |   |   |   |    |    |   |   |  | NM_003099.3 NM_021810.3 BC068569.1 BC009561.1<br>BC018747.1 BC000846.2 BC121798 BC037876.1 NM_144495.2<br>BC013186.1 NM_003123.3 NM_006541.1 NM_000689.3<br>NM_022158.2 NM_018584.4 NM_002867.2 NM_006541.2<br>NM_018379.3 NM_001005465.1 NM_001801.2 NM_031966.2<br>NM_001025266.1 NM_032328.1 NM_178815.3 BC000870.1<br>BC016854.2 NM_001033515.1 NM_000184.2 NM_001003892.1                |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1. | 0. | 0 | 1 |  |                                                                                                                                                                                                                                                                                                                                                                                               |
| 9 | 1 | 0 | 9 | 0 | 9 | 6 | 0  | 8  | 9 | 0 |  |                                                                                                                                                                                                                                                                                                                                                                                               |
|   | 0 | 2 | 4 | 3 | 8 | 1 | 0  | 0  | 2 | 0 |  |                                                                                                                                                                                                                                                                                                                                                                                               |
|   |   |   |   |   |   |   |    |    |   |   |  | NM_003099.3 NM_021810.3 BC068569.1 BC009561.1<br>BC018747.1 BC000846.2 BC121798 BC037876.1 NM_144495.2<br>BC013186.1 NM_003123.3 NM_006541.1 NM_000689.3<br>NM_022158.2 NM_018584.4 NM_002867.2 NM_006541.2<br>NM_018379.3 NM_001005465.1 NM_001801.2 NM_031966.2<br>NM_001025266.1 NM_032328.1 NM_178815.3 BC000870.1<br>BC016854.2 NM_001033515.1 NM_000184.2 NM_001003892.1<br>NM_007198.2 |
| 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0. | 0. | 0 | 0 |  |                                                                                                                                                                                                                                                                                                                                                                                               |
| 0 | 1 | 0 | 9 | 0 | 0 | 6 | 9  | 8  | 9 | 9 |  |                                                                                                                                                                                                                                                                                                                                                                                               |
|   | 0 | 2 | 4 | 3 | 0 | 0 | 7  | 7  | 4 | 3 |  |                                                                                                                                                                                                                                                                                                                                                                                               |

**Table 3S: Classifiers.** List of 10 classifier proteins for the healthy control and Grade IV samples.

| ID          | Name     | logFC | AveExpr | t     | P.Value  | adj.P.Val | B     | Regulation |
|-------------|----------|-------|---------|-------|----------|-----------|-------|------------|
| NM_003099.3 | SNX1     | 0.84  | 9.47    | 4.86  | 2.70E-06 | 0.000292  | 4.43  | Up         |
| BC018747.1  | IGHG1    | 0.65  | 10.08   | 3.11  | 0.002217 | 0.025956  | -1.70 | Up         |
| BC009561.1  | C11orf74 | 0.51  | 9.44    | 5.19  | 6.20E-07 | 0.000105  | 5.79  | Up         |
| BC068569.1  | ZHX3     | -0.51 | 9.16    | -3.89 | 0.000146 | 0.004214  | 0.75  | Down       |
| BC121798    | EYA1     | -0.53 | 9.58    | -4.33 | 2.60E-05 | 0.001332  | 2.33  | Down       |
| NM_144495.2 | PQBP1    | -0.55 | 10.33   | -3.23 | 0.001507 | 0.020135  | -1.36 | Down       |
| NM_021810.3 | CDH26    | -0.61 | 8.44    | -3.84 | 0.000176 | 0.00477   | 0.58  | Down       |
| BC013186.1  | RCSD1    | -0.63 | 8.01    | -4.25 | 3.52E-05 | 0.001621  | 2.05  | Down       |
| BC000846.2  | CIB1     | -0.65 | 10.15   | -3.58 | 0.000449 | 0.008851  | -0.27 | Down       |
| BC037876.1  | C17orf57 | -0.74 | 8.64    | -2.89 | 0.004319 | 0.040515  | -2.29 | Down       |

| Table 4S: Experimental details. The details of the SVZp and SVZn samples. |             |                                  |     |        |
|---------------------------------------------------------------------------|-------------|----------------------------------|-----|--------|
| Sample ID                                                                 | Sample Type | File name                        | Age | Sex    |
| CF 11518                                                                  | SVZn        | Grade_IV_CF_11518_2000153942.gpr | 57  | Female |
| CF 19257                                                                  | SVZn        | Grade_IV_CF_19257_2000155723.gpr | 60  | Male   |
| CF 27891                                                                  | SVZn        | Grade_IV_CF_27891_2000153776.gpr | 64  | Male   |
| CH 12724                                                                  | SVZn        | Grade_IV_CH_12724_2000153778.gpr | 60  | Male   |
| CH 18016                                                                  | SVZn        | Grade_IV_CH_18016_2000153791.gpr | 40  | Male   |
| CH 5261                                                                   | SVZn        | Grade_IV_CH_5261_2000155722.gpr  | 30  | Male   |
| CH 8498                                                                   | SVZn        | Grade_IV_CH_8498_2000153777.gpr  | 52  | Male   |
| CJ 10048                                                                  | SVZn        | Grade_IV_CJ_10048_2000155725.gpr | 37  | Male   |
| CJ 12441                                                                  | SVZn        | Grade_IV_CJ_12441_2000153760.gpr | 58  | Male   |
| CJ 18704                                                                  | SVZn        | Grade_IV_CJ_18704_2000153784.gpr | 65  | Male   |
| CJ 2041                                                                   | SVZn        | Grade_IV_CJ_2041_2000154019.gpr  | 58  | Male   |
| CJ 32705                                                                  | SVZn        | Grade_IV_CJ_32705_2000153797.gpr | 59  | Male   |
| CJ 6254                                                                   | SVZn        | Grade_IV_CJ_6254_2000153800.gpr  | 67  | Male   |
| CF 11940                                                                  | SVZp        | Grade_IV_CF_11940_2000153779.gpr | 59  | Male   |
| CF 12166                                                                  | SVZp        | Grade_IV_CF_12166_2000153934.gpr | 64  | Male   |
| CF 7522                                                                   | SVZp        | Grade_IV_CF_7522_2000154010.gpr  | 20  | Female |
| CF 7916                                                                   | SVZp        | Grade_IV_CF_7916_2000154021.gpr  | 56  | Male   |
| CH 14820                                                                  | SVZp        | Grade_IV_CH_14820_2000153796.gpr | 57  | Male   |
| CH 18426                                                                  | SVZp        | Grade_IV_CH_18426_2000153757.gpr | 56  | Male   |
| CH 21783                                                                  | SVZp        | Grade_IV_CH_21783_2000153785.gpr | 47  | Male   |
| CH 22618                                                                  | SVZp        | Grade_IV_CH_22618_2000153782.gpr | 53  | Male   |
| CH 28569                                                                  | SVZp        | Grade_IV_CH_28569_2000153799.gpr | 38  | Female |
| CH 29697                                                                  | SVZp        | Grade_IV_CH_29697_2000153759.gpr | 60  | Male   |
| CH 29738                                                                  | SVZp        | Grade_IV_CH_29738_2000153798.gpr | 46  | Male   |
| CH 30203                                                                  | SVZp        | Grade_IV_CH_30203_2000153793.gpr | 61  | Female |
| CH 3969                                                                   | SVZp        | Grade_IV_CH_3969_2000153950.gpr  | 46  | Female |
| CH 4996                                                                   | SVZp        | Grade_IV_CH_4996_2000153933.gpr  | 57  | Male   |
| CH 6643                                                                   | SVZp        | Grade_IV_CH_6643_2000153758.gpr  | 47  | Male   |
| CH 9002                                                                   | SVZp        | Grade_IV_CH_9002_2000153954.gpr  | 69  | Male   |
| CJ 11291                                                                  | SVZp        | Grade_IV_CJ_11291_2000154025.gpr | 51  | Female |
| CJ 13655                                                                  | SVZp        | Grade_IV_CJ_13655_2000153783.gpr | 68  | Female |
| CJ 1519                                                                   | SVZp        | Grade_IV_CJ_1519_2000153951.gpr  | 55  | Female |
| CJ 22776                                                                  | SVZp        | Grade_IV_CJ_22776_2000153756.gpr | 61  | Male   |
| CJ 30014                                                                  | SVZp        | Grade_IV_CJ_30014_2000153805.gpr | 64  | Male   |

**Table 4S: Shortlisted proteins.** List of proteins with adjusted p-value<0.05 and logFC >0.5 or <-0.5 for the SVZp and SVZn samples.

| Bloc<br>k | Row | Column | ID                 | Name        | logF<br>C | AveEx<br>pr | t             | P.Value        | adj.P.Val    | B        |
|-----------|-----|--------|--------------------|-------------|-----------|-------------|---------------|----------------|--------------|----------|
| 44        | 14  | 21     | NM_006403.2        | NEDD9       | -<br>0.52 | 8.85        | -<br>5.1<br>3 | 8.02E-07       | 0.00362<br>3 | 5.4<br>3 |
| 22        | 19  | 29     | NM_018290.2        | PGM2        | 0.55      | 9.42        | 4.7<br>5      | 4.49E-06       | 0.00736<br>8 | 3.9<br>0 |
| 2         | 23  | 3      | NM_001938.2        | DR1         | 0.85      | 11.25       | 4.6<br>9      | 5.67E-06       | 0.00815<br>6 | 3.6<br>9 |
| 8         | 8   | 11     | BC035031.2         | GABPA       | -<br>0.65 | 7.41        | -<br>4.6<br>3 | 7.25E-06       | 0.00873<br>6 | 3.4<br>7 |
| 27        | 12  | 1      | NM_032448.1        | FAM120<br>B | -<br>0.53 | 7.95        | -<br>4.6<br>1 | 8.04E-06       | 0.00900<br>8 | 3.3<br>8 |
| 5         | 7   | 9      | NM_020313.2        | CIAPIN1     | -<br>0.70 | 7.48        | -<br>4.5<br>3 | 1.14E-05       | 0.00912<br>9 | 3.0<br>7 |
| 27        | 17  | 11     | NM_001007275.<br>1 | DUSP13      | -<br>0.67 | 7.65        | -<br>4.5<br>2 | 1.15E-05       | 0.00912<br>9 | 3.0<br>6 |
| 10        | 8   | 9      | NM_178471.1        | GPR119      | -<br>0.51 | 7.38        | -<br>4.5<br>0 | 1.28E-05       | 0.00912<br>9 | 2.9<br>7 |
| 16        | 7   | 19     | BC033711.1         | ATXN3       | -<br>0.67 | 7.45        | -<br>4.3<br>5 | 2.36E-05       | 0.01150<br>4 | 2.4<br>3 |
| 29        | 7   | 29     | NM_000409.2        | GUCA1A      | -<br>0.51 | 7.41        | -<br>4.3<br>1 | 2.80E-05       | 0.01249<br>1 | 2.2<br>7 |
| 48        | 7   | 13     | NM_000666.1        | ACY1        | -<br>0.51 | 7.42        | -<br>4.3<br>0 | 2.93E-05       | 0.01258<br>8 | 2.2<br>3 |
| 6         | 7   | 19     | BC017810.1         | TMOD4       | -<br>0.65 | 7.48        | -<br>4.0<br>4 | 8.04E-05       | 0.02640<br>5 | 1.3<br>4 |
| 43        | 8   | 1      | NM_152740.2        | HIBADH      | 1.09      | 10.74       | 4.0<br>3      | 8.61E-05       | 0.02725<br>1 | 1.2<br>8 |
| 3         | 4   | 1      | BC000267.1         | GPBP1       | 0.92      | 10.53       | 4.0<br>1      | 9.05E-05       | 0.02725<br>1 | 1.2<br>4 |
| 30        | 15  | 27     | XM_379060.1        |             | 0.53      | 9.29        | 3.9<br>5      | 0.0001146<br>1 | 0.03181<br>3 | 1.0<br>3 |
| 16        | 12  | 7      | NM_024482.1        | GMEB1       | -<br>0.52 | 8.38        | -<br>3.9<br>2 | 0.0001277<br>4 | 0.03344<br>4 | 0.9<br>4 |

|    |    |    |            |        |           |      |               |                |              |          |
|----|----|----|------------|--------|-----------|------|---------------|----------------|--------------|----------|
| 21 | 21 | 21 | BC094687.1 | EEF1A1 | 0.75      | 8.42 | 3.8<br>2      | 0.0001892<br>3 | 0.04439<br>6 | 0.5<br>9 |
| 44 | 12 | 3  | BC019883.1 | CLEC2D | -<br>0.52 | 7.43 | -<br>3.8<br>0 | 0.0001999<br>6 | 0.04571<br>9 | 0.5<br>5 |



| Table 4S: Classifiers. List of classifiers and their corresponding statistics for the SVZp and SVZn samples. |    |    |    |    |   |    |    |    |    |    |                                                                        |
|--------------------------------------------------------------------------------------------------------------|----|----|----|----|---|----|----|----|----|----|------------------------------------------------------------------------|
| N                                                                                                            | B  | B  |    | C  | A |    | S  | S  | P  | N  |                                                                        |
| F                                                                                                            | r  | ri | C  | A  | U | IS | e  | p  | P  | P  | FeatureList                                                            |
|                                                                                                              |    | er | A  | S  | C |    | n  | e  | V  | V  |                                                                        |
|                                                                                                              |    | S  |    | E  |   |    | i  | c  |    |    |                                                                        |
|                                                                                                              |    | E  |    |    |   |    | t  | i  |    |    |                                                                        |
|                                                                                                              |    |    |    |    |   |    | y  | t  |    |    |                                                                        |
| 1                                                                                                            | 0. | 0. | 0. | 0. |   | 0. | 0. | 0. | 0. | 0. | NM_001938.2                                                            |
|                                                                                                              | 3  | 0  | 7  | 0  |   | 2  | 5  | 9  | 7  |    |                                                                        |
|                                                                                                              | 7  | 3  | 6  | 5  |   | 0  | 3  | 0  | 7  |    |                                                                        |
|                                                                                                              | 3  | 5  | 6  | 5  |   | 3  | 8  | 4  | 7  |    |                                                                        |
|                                                                                                              | 5  | 5  | 6  | 2  | 0 | 3  | 4  | 7  | 7  | 0. |                                                                        |
|                                                                                                              | 1  | 8  | 6  | 7  | . | 0  | 6  | 6  | 7  | 7  |                                                                        |
|                                                                                                              | 1  | 8  | 7  | 7  | 9 | 6  | 2  | 2  | 8  | 6  |                                                                        |
| 2                                                                                                            | 0. | 0. |    | 0. |   | 0. | 0. | 0. |    | 0. | NM_001938.2 NM_018290.2                                                |
|                                                                                                              | 2  | 0  |    | 0  |   | 3  | 6  | 8  |    | 8  |                                                                        |
|                                                                                                              | 8  | 4  |    | 4  | 0 | 5  | 9  | 5  |    | 1  |                                                                        |
|                                                                                                              | 3  | 0  |    | 5  | . | 7  | 2  | 7  |    | 8  |                                                                        |
|                                                                                                              | 7  | 3  |    | 1  | 8 | 2  | 3  | 1  | 0. | 1  |                                                                        |
|                                                                                                              | 8  | 5  | 0. | 3  | 7 | 5  | 0  | 4  | 7  | 8  |                                                                        |
|                                                                                                              | 2  | 6  | 8  | 4  | 5 | 4  | 8  | 3  | 5  | 2  |                                                                        |
| 3                                                                                                            | 0. | 0. | 0. | 0. |   | 0. | 0. | 0. |    | 0. | NM_001938.2 NM_018290.2 NM_032448.1                                    |
|                                                                                                              | 1  | 0  | 8  | 0  |   | 5  | 6  | 9  |    | 8  |                                                                        |
|                                                                                                              | 9  | 5  | 6  | 5  |   | 2  | 9  | 5  |    | 3  |                                                                        |
|                                                                                                              | 5  | 4  | 6  | 8  | 0 | 1  | 2  | 2  |    | 3  |                                                                        |
|                                                                                                              | 2  | 8  | 6  | 5  | . | 4  | 3  | 3  |    | 3  |                                                                        |
|                                                                                                              | 6  | 7  | 6  | 3  | 9 | 6  | 0  | 8  | 0. | 3  |                                                                        |
|                                                                                                              | 1  | 9  | 7  | 1  | 5 | 6  | 8  | 1  | 9  | 3  |                                                                        |
| 4                                                                                                            | 0. | 0. | 0. | 0. |   | 0. | 0. | 0. |    | 0. | NM_001938.2 NM_018290.2 NM_032448.1 NM_006403.2                        |
|                                                                                                              | 1  | 0  | 8  | 0  |   | 5  | 6  | 9  |    | 8  |                                                                        |
|                                                                                                              | 7  | 5  | 6  | 5  |   | 7  | 9  | 5  |    | 3  |                                                                        |
|                                                                                                              | 4  | 1  | 6  | 8  | 0 | 6  | 2  | 2  |    | 3  |                                                                        |
|                                                                                                              | 2  | 1  | 6  | 5  | . | 6  | 3  | 3  |    | 3  |                                                                        |
|                                                                                                              | 6  | 6  | 6  | 3  | 9 | 5  | 0  | 8  | 0. | 3  |                                                                        |
|                                                                                                              | 2  | 2  | 7  | 1  | 5 | 7  | 8  | 1  | 9  | 3  |                                                                        |
| 5                                                                                                            | 0. | 0. |    | 0. |   | 0. | 0. | 0. | 0. | 0. | NM_001938.2 NM_018290.2 NM_032448.1 NM_006403.2 NM_024482.1            |
|                                                                                                              | 1  | 0  |    | 0  |   | 5  | 8  | 9  | 9  | 9  |                                                                        |
|                                                                                                              | 5  | 3  |    | 3  | 0 | 8  | 4  | 5  | 1  | 0  |                                                                        |
|                                                                                                              | 4  | 7  | 0. | 8  | . | 6  | 6  | 2  | 6  | 9  |                                                                        |
|                                                                                                              | 7  | 5  | 9  | 1  | 9 | 8  | 1  | 3  | 6  | 0  |                                                                        |
|                                                                                                              | 5  | 8  | 2  | 8  | 7 | 4  | 5  | 8  | 6  | 9  |                                                                        |
|                                                                                                              | 5  | 1  | 5  | 8  | 5 | 3  | 4  | 1  | 7  | 1  |                                                                        |
| 6                                                                                                            | 0. | 0. | 0. | 0. | 0 | 0. | 0. | 0. | 0. | 0. | NM_001938.2 NM_018290.2 NM_032448.1 NM_006403.2 NM_024482.1 BC000267.1 |
|                                                                                                              | 1  | 0  | 8  | 0  | . | 5  | 7  | 9  | 8  | 8  |                                                                        |

|    |                                  |                                  |                                  |                                  |                                |                                  |                                  |                                  |                                  |                                  |                                                                                                                                                      |
|----|----------------------------------|----------------------------------|----------------------------------|----------------------------------|--------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | 6<br>3<br>7<br>9<br>2            | 5<br>0<br>4<br>6<br>7            | 6<br>6<br>6<br>3<br>7            | 5<br>8<br>5<br>3<br>1            | 9<br>5<br>                     | 7<br>8<br>9<br>2<br>3<br>7       | 6<br>9<br>2<br>3<br>1            | 0<br>4<br>7<br>6<br>2            | 3<br>3<br>3<br>3<br>6            | 6<br>3<br>6<br>3<br>6            |                                                                                                                                                      |
| 7  | 0.<br>1<br>6<br>5<br>6<br>5<br>4 | 0.<br>0<br>4<br>5<br>1<br>1      | <br><br><br>0.<br>9              | 0.<br>0<br>5<br>5<br>2<br>7      | <br>0<br>.<br>9<br>2<br>5      | 0.<br>5<br>7<br>4<br>7<br>1      | 0.<br>7<br>6<br>9<br>2<br>3<br>1 | 0.<br>9<br>5<br>2<br>8<br>1      | 0.<br>9<br>0<br>9<br>6<br>1      | 0.<br>8<br>6<br>9<br>5<br>5      | NM_001938.2 NM_018290.2 NM_032448.1<br>NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2                                                                |
| 8  | 0.<br>1<br>8<br>2<br>7<br>5<br>8 | 0.<br>0<br>4<br>6<br>4<br>7<br>8 | 0.<br>8<br>5<br>3<br>            | 0.<br>0<br>6<br>0<br>9<br>2<br>1 | <br>0<br>.<br>.<br>2<br>5      | 0.<br>5<br>2<br>5<br>9<br>2<br>8 | 0.<br>7<br>6<br>9<br>2<br>3<br>1 | 0.<br>9<br>0<br>4<br>7<br>6<br>2 | 0.<br>8<br>3<br>3<br>6<br>3<br>6 | 0.<br>8<br>6<br>3<br>6<br>3<br>6 | NM_001938.2 NM_018290.2 NM_032448.1<br>NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2<br>BC017810.1                                                  |
| 9  | 0.<br>1<br>5<br>6<br>6<br>1      | 0.<br>0<br>3<br>5<br>6<br>7      | <br><br>0.<br>                   | 0.<br>0<br>3<br>8<br>1<br>8      | <br>0<br>.<br>.<br>9<br>5      | 0.<br>5<br>4<br>0<br>8<br>7<br>5 | 0.<br>8<br>4<br>6<br>1<br>0<br>6 | 0.<br>9<br>5<br>2<br>3<br>5<br>4 | 0.<br>9<br>1<br>6<br>8<br>5<br>1 | 0.<br>9<br>0<br>9<br>6<br>7<br>1 | NM_001938.2 NM_018290.2 NM_032448.1<br>NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2<br>BC017810.1 BC094687.1                                       |
| 10 | 0.<br>1<br>7<br>5<br>2<br>6<br>5 | 0.<br>0<br>3<br>9<br>1<br>8<br>4 | 0.<br>8<br>1<br>6<br>6<br>7      | 0.<br>0<br>4<br>8<br>7<br>6      | <br>0<br>.<br>.<br>9<br>5      | 0.<br>5<br>1<br>6<br>9<br>7<br>2 | 0.<br>7<br>6<br>9<br>2<br>3<br>1 | 0.<br>9<br>5<br>2<br>3<br>8<br>1 | 0.<br>9<br>0<br>9<br>6<br>8<br>1 | 0.<br>8<br>6<br>5<br>5<br>6<br>5 | NM_001938.2 NM_018290.2 NM_032448.1<br>NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2<br>BC017810.1 BC094687.1 XM_379060.1                           |
| 11 | 0.<br>1<br>7<br>1<br>1<br>1      | 0.<br>0<br>3<br>8<br>5<br>3      | <br><br>0.<br>                   | 0.<br>0<br>3<br>3<br>9<br>3      | <br><br>0<br>.<br>9<br>5       | 0.<br>5<br>2<br>1<br>8<br>7<br>7 | 0.<br>9<br>2<br>3<br>0<br>7<br>7 | 0.<br>9<br>5<br>2<br>3<br>8<br>1 | 0.<br>9<br>2<br>3<br>0<br>7<br>1 | 0.<br>9<br>5<br>2<br>3<br>8<br>1 | NM_001938.2 NM_018290.2 NM_032448.1<br>NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2<br>BC017810.1 BC094687.1 XM_379060.1 NM_020313.2               |
| 12 | 0.<br>1<br>9<br>1<br>3<br>4<br>2 | 0.<br>0<br>4<br>0<br>5<br>4<br>8 | 0.<br>9<br>1<br>6<br>6<br>6<br>7 | 0.<br>0<br>4<br>3<br>0<br>3<br>5 | <br>0<br>.<br>.<br>9<br>7<br>5 | 0.<br>8<br>5<br>0<br>7<br>3<br>2 | 0.<br>9<br>4<br>6<br>1<br>5<br>4 | 0.<br>9<br>5<br>2<br>3<br>8<br>1 | 0.<br>9<br>1<br>6<br>6<br>9<br>7 | 0.<br>9<br>0<br>9<br>6<br>9<br>1 | NM_001938.2 NM_018290.2 NM_032448.1<br>NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2<br>BC017810.1 BC094687.1 XM_379060.1 NM_020313.2<br>BC019883.1 |

|    |    |    |    |    |   |    |    |    |    |    |                                                                                                                                                                                                                                     |
|----|----|----|----|----|---|----|----|----|----|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13 | 0. | 0. | 0. | 0. |   | 0. | 0. | 0. | 0. |    | NM_001938.2 NM_018290.2 NM_032448.1<br>NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2<br>BC017810.1 BC094687.1 XM_379060.1 NM_020313.2<br>BC019883.1 BC035031.2                                                                     |
|    | 1  | 0  | 9  | 0  |   | 5  | 9  | 9  | 8  |    |                                                                                                                                                                                                                                     |
|    | 7  | 3  | 1  | 4  | 0 | 1  | 2  | 0  | 5  |    |                                                                                                                                                                                                                                     |
|    | 2  | 8  | 6  | 3  | . | 3  | 3  | 4  | 7  |    |                                                                                                                                                                                                                                     |
|    | 2  | 6  | 6  | 0  | 9 | 0  | 0  | 7  | 1  | 0. |                                                                                                                                                                                                                                     |
| 14 | 8  | 6  | 6  | 3  | 7 | 2  | 7  | 6  | 4  | 9  | NM_001938.2 NM_018290.2 NM_032448.1<br>NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2<br>BC017810.1 BC094687.1 XM_379060.1 NM_020313.2<br>BC019883.1 BC035031.2 NM_000409.2                                                         |
|    | 2  | 9  | 7  | 3  | 5 | 9  | 7  | 2  | 3  | 5  |                                                                                                                                                                                                                                     |
|    | 0. | 0. | 0. | 0. |   | 0. | 0. | 0. | 0. | 0. |                                                                                                                                                                                                                                     |
|    | 1  | 0  | 8  | 0  |   | 5  | 8  | 9  | 8  | 9  |                                                                                                                                                                                                                                     |
|    | 8  | 4  | 8  | 4  | 0 | 1  | 4  | 0  | 4  | 0  |                                                                                                                                                                                                                                     |
| 14 | 0  | 0  | 3  | 8  | . | 2  | 6  | 4  | 6  | 4  | NM_001938.2 NM_018290.2 NM_032448.1<br>NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2<br>BC017810.1 BC094687.1 XM_379060.1 NM_020313.2<br>BC019883.1 BC035031.2 NM_000409.2                                                         |
|    | 8  | 5  | 3  | 4  | 9 | 6  | 1  | 7  | 1  | 7  |                                                                                                                                                                                                                                     |
|    | 8  | 8  | 3  | 3  | 7 | 1  | 5  | 6  | 5  | 6  |                                                                                                                                                                                                                                     |
|    | 5  | 5  | 3  | 2  | 5 | 7  | 4  | 2  | 4  | 2  |                                                                                                                                                                                                                                     |
|    | 0. | 0. | 0. | 0. |   | 0. | 0. | 0. | 0. | 0. |                                                                                                                                                                                                                                     |
| 15 | 2  | 0  | 8  | 0  |   | 4  | 8  | 9  | 8  | 9  | NM_001938.2 NM_018290.2 NM_032448.1<br>NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2<br>BC017810.1 BC094687.1 XM_379060.1 NM_020313.2<br>BC019883.1 BC035031.2 NM_000409.2<br>NM_001007275.1                                       |
|    | 1  | 4  | 8  | 4  |   | 7  | 4  | 0  | 4  | 0  |                                                                                                                                                                                                                                     |
|    | 5  | 7  | 3  | 8  | 0 | 4  | 6  | 4  | 6  | 4  |                                                                                                                                                                                                                                     |
|    | 4  | 8  | 3  | 4  | . | 1  | 1  | 7  | 1  | 7  |                                                                                                                                                                                                                                     |
|    | 9  | 1  | 3  | 3  | 9 | 2  | 5  | 6  | 5  | 6  |                                                                                                                                                                                                                                     |
| 16 | 3  | 6  | 3  | 2  | 5 | 1  | 4  | 2  | 4  | 2  | NM_001938.2 NM_018290.2 NM_032448.1<br>NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2<br>BC017810.1 BC094687.1 XM_379060.1 NM_020313.2<br>BC019883.1 BC035031.2 NM_000409.2<br>NM_001007275.1 BC033711.1                            |
|    | 0. | 0  | 9  | 0  |   | 4  | 9  | 9  | 8  |    |                                                                                                                                                                                                                                     |
|    | 1  | 4  | 1  | 4  | 0 | 9  | 2  | 0  | 5  |    |                                                                                                                                                                                                                                     |
|    | 9  | 1  | 6  | 3  | . | 0  | 3  | 4  | 7  |    |                                                                                                                                                                                                                                     |
|    | 3  | 6  | 6  | 0  | 9 | 6  | 0  | 7  | 1  | 0. |                                                                                                                                                                                                                                     |
| 17 | 1  | 6  | 6  | 3  | 7 | 9  | 7  | 6  | 4  | 9  | NM_001938.2 NM_018290.2 NM_032448.1<br>NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2<br>BC017810.1 BC094687.1 XM_379060.1 NM_020313.2<br>BC019883.1 BC035031.2 NM_000409.2<br>NM_001007275.1 BC033711.1 NM_000666.1                |
|    | 2  | 6  | 7  | 3  | 5 | 8  | 7  | 2  | 3  | 5  |                                                                                                                                                                                                                                     |
|    | 0. | 0  | 9  | 0  |   | 5  | 8  | 9  | 9  | 9  |                                                                                                                                                                                                                                     |
|    | 7  | 3  | 1  | 4  | 0 | 2  | 4  | 5  | 1  | 0  |                                                                                                                                                                                                                                     |
|    | 3  | 6  | 6  | 3  | . | 6  | 6  | 2  | 6  | 9  |                                                                                                                                                                                                                                     |
| 18 | 1  | 8  | 6  | 0  | 9 | 8  | 1  | 3  | 6  | 0  | NM_001938.2 NM_018290.2 NM_032448.1<br>NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2<br>BC017810.1 BC094687.1 XM_379060.1 NM_020313.2<br>BC019883.1 BC035031.2 NM_000409.2<br>NM_001007275.1 BC033711.1 NM_000666.1                |
|    | 5  | 8  | 6  | 3  | 7 | 8  | 5  | 8  | 6  | 9  |                                                                                                                                                                                                                                     |
|    | 3  | 2  | 7  | 3  | 5 | 4  | 4  | 1  | 7  | 1  |                                                                                                                                                                                                                                     |
|    | 0. | 0  |    | 0  |   | 0. | 0. | 0. | 0. | 0. |                                                                                                                                                                                                                                     |
|    | 0. | 0  |    | 0  |   | 5  | 9  | 9  | 9  | 9  |                                                                                                                                                                                                                                     |
| 18 | 1  | 3  |    | 3  | 0 | 1  | 2  | 5  | 2  | 5  | NM_001938.2 NM_018290.2 NM_032448.1<br>NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2<br>BC017810.1 BC094687.1 XM_379060.1 NM_020313.2<br>BC019883.1 BC035031.2 NM_000409.2<br>NM_001007275.1 BC033711.1 NM_000666.1<br>NM_178471.1 |
|    | 7  | 9  |    | 3  | . | 1  | 3  | 2  | 3  | 2  |                                                                                                                                                                                                                                     |
|    | 9  | 0  | 0. | 3  | 9 | 8  | 0  | 3  | 0  | 3  |                                                                                                                                                                                                                                     |
|    | 7  | 6  | 9  | 3  | 7 | 1  | 7  | 8  | 7  | 8  |                                                                                                                                                                                                                                     |
|    | 2  | 4  | 5  | 3  | 5 | 5  | 7  | 1  | 7  | 1  |                                                                                                                                                                                                                                     |
| 19 | 0. | 0. |    | 0. | 0 | 0. | 0. | 0. | 0. | 0. | NM_001938.2 NM_018290.2 NM_032448.1<br>NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2<br>BC017810.1 BC094687.1 XM_379060.1 NM_020313.2<br>BC019883.1 BC035031.2 NM_000409.2<br>NM_001007275.1 BC033711.1 NM_000666.1                |
|    | 1  | 0  |    | 0  | . | 5  | 9  | 9  | 9  | 9  |                                                                                                                                                                                                                                     |
|    | 7  | 3  | 0. | 3  | 9 | 1  | 2  | 5  | 2  | 5  |                                                                                                                                                                                                                                     |
|    | 9  | 9  | 9  | 3  | 7 | 1  | 3  | 2  | 3  | 2  |                                                                                                                                                                                                                                     |
|    | 7  | 0  | 5  | 3  | 5 | 8  | 0  | 3  | 0  | 3  |                                                                                                                                                                                                                                     |

|   |    |    |    |    |   |    |    |    |    |    |                                                |
|---|----|----|----|----|---|----|----|----|----|----|------------------------------------------------|
|   | 2  | 6  |    | 3  |   | 1  | 7  | 8  | 7  | 8  | NM_178471.1                                    |
|   |    | 4  |    | 3  |   | 5  | 7  | 1  | 7  | 1  |                                                |
|   | 0. | 0. |    | 0. |   | 0. | 0. | 0. | 0. | 0. | NM_001938.2 NM_018290.2 NM_032448.1            |
|   | 1  | 3  |    | 3  | 0 | 1  | 2  | 5  | 2  | 5  | NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2 |
|   | 7  | 9  |    | 3  | . | 1  | 3  | 2  | 3  | 2  | BC017810.1 BC094687.1 XM_379060.1 NM_020313.2  |
|   | 9  | 0  | 0. | 3  | 9 | 8  | 0  | 3  | 0  | 3  | BC019883.1 BC035031.2 NM_000409.2              |
| 2 | 7  | 6  | 9  | 3  | 7 | 1  | 7  | 8  | 7  | 8  | NM_001007275.1 BC033711.1 NM_000666.1          |
| 0 | 2  | 4  | 5  | 3  | 5 | 5  | 7  | 1  | 7  | 1  | NM_178471.1                                    |
|   | 0. | 0. |    | 0. |   | 0. | 0. | 0. | 0. | 0. | NM_001938.2 NM_018290.2 NM_032448.1            |
|   | 1  | 3  |    | 3  | 0 | 1  | 2  | 5  | 2  | 5  | NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2 |
|   | 7  | 9  |    | 3  | . | 1  | 3  | 2  | 3  | 2  | BC017810.1 BC094687.1 XM_379060.1 NM_020313.2  |
|   | 9  | 0  | 0. | 3  | 9 | 8  | 0  | 3  | 0  | 3  | BC019883.1 BC035031.2 NM_000409.2              |
| 2 | 7  | 6  | 9  | 3  | 7 | 1  | 7  | 8  | 7  | 8  | NM_001007275.1 BC033711.1 NM_000666.1          |
| 1 | 2  | 4  | 5  | 3  | 5 | 5  | 7  | 1  | 7  | 1  | NM_178471.1                                    |
|   | 0. | 0. |    | 0. |   | 0. | 0. | 0. | 0. | 0. | NM_001938.2 NM_018290.2 NM_032448.1            |
|   | 1  | 3  |    | 3  | 0 | 1  | 2  | 5  | 2  | 5  | NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2 |
|   | 7  | 9  |    | 3  | . | 1  | 3  | 2  | 3  | 2  | BC017810.1 BC094687.1 XM_379060.1 NM_020313.2  |
|   | 9  | 0  | 0. | 3  | 9 | 8  | 0  | 3  | 0  | 3  | BC019883.1 BC035031.2 NM_000409.2              |
| 2 | 7  | 6  | 9  | 3  | 7 | 1  | 7  | 8  | 7  | 8  | NM_001007275.1 BC033711.1 NM_000666.1          |
| 2 | 2  | 4  | 5  | 3  | 5 | 5  | 7  | 1  | 7  | 1  | NM_178471.1                                    |
|   | 0. | 0. |    | 0. |   | 0. | 0. | 0. | 0. | 0. | NM_001938.2 NM_018290.2 NM_032448.1            |
|   | 1  | 3  |    | 3  | 0 | 1  | 2  | 5  | 2  | 5  | NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2 |
|   | 7  | 9  |    | 3  | . | 1  | 3  | 2  | 3  | 2  | BC017810.1 BC094687.1 XM_379060.1 NM_020313.2  |
|   | 9  | 0  | 0. | 3  | 9 | 8  | 0  | 3  | 0  | 3  | BC019883.1 BC035031.2 NM_000409.2              |
| 2 | 7  | 6  | 9  | 3  | 7 | 1  | 7  | 8  | 7  | 8  | NM_001007275.1 BC033711.1 NM_000666.1          |
| 3 | 2  | 4  | 5  | 3  | 5 | 5  | 7  | 1  | 7  | 1  | NM_178471.1                                    |
|   | 0. | 0. |    | 0. |   | 0. | 0. | 0. | 0. | 0. | NM_001938.2 NM_018290.2 NM_032448.1            |
|   | 1  | 3  |    | 3  | 0 | 1  | 2  | 5  | 2  | 5  | NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2 |
|   | 7  | 9  |    | 3  | . | 1  | 3  | 2  | 3  | 2  | BC017810.1 BC094687.1 XM_379060.1 NM_020313.2  |
|   | 9  | 0  | 0. | 3  | 9 | 8  | 0  | 3  | 0  | 3  | BC019883.1 BC035031.2 NM_000409.2              |
| 2 | 7  | 6  | 9  | 3  | 7 | 1  | 7  | 8  | 7  | 8  | NM_001007275.1 BC033711.1 NM_000666.1          |
| 4 | 2  | 4  | 5  | 3  | 5 | 5  | 7  | 1  | 7  | 1  | NM_178471.1                                    |
|   | 0. | 0. |    | 0. |   | 0. | 0. | 0. | 0. | 0. | NM_001938.2 NM_018290.2 NM_032448.1            |
|   | 1  | 3  |    | 3  | 0 | 1  | 2  | 5  | 2  | 5  | NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2 |
|   | 7  | 9  |    | 3  | . | 1  | 3  | 2  | 3  | 2  | BC017810.1 BC094687.1 XM_379060.1 NM_020313.2  |
|   | 9  | 0  | 0. | 3  | 9 | 8  | 0  | 3  | 0  | 3  | BC019883.1 BC035031.2 NM_000409.2              |
| 2 | 7  | 6  | 9  | 3  | 7 | 1  | 7  | 8  | 7  | 8  | NM_001007275.1 BC033711.1 NM_000666.1          |
| 5 | 2  | 4  | 5  | 3  | 5 | 5  | 7  | 1  | 7  | 1  | NM_178471.1                                    |
|   | 0. | 0. | 0. | 0. | 0 | 0. | 0. | 0. | 0. | 0. | NM_001938.2 NM_018290.2 NM_032448.1            |
| 2 | 1  | 0  | 9  | 0  | . | 5  | 9  | 9  | 9  | 9  | NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2 |
| 6 | 7  | 3  | 5  | 3  | 9 | 1  | 2  | 5  | 2  | 5  | BC017810.1 BC094687.1 XM_379060.1 NM_020313.2  |

|  |                             |                            |  |                        |                             |                             |                             |                                  |                                  |                                  |                                                                                                                                                                                                                                     |
|--|-----------------------------|----------------------------|--|------------------------|-----------------------------|-----------------------------|-----------------------------|----------------------------------|----------------------------------|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 9<br>7<br>2                 | 9<br>0<br>6<br>4           |  | 3<br>3<br>3<br>3       | 7<br>5<br>1<br>5            | 1<br>8<br>7<br>5            | 3<br>0<br>7<br>7            | 2<br>3<br>8<br>1                 | 3<br>0<br>7<br>7                 | 2<br>3<br>8<br>1                 | BC019883.1 BC035031.2 NM_000409.2<br>NM_001007275.1 BC033711.1 NM_000666.1<br>NM_178471.1                                                                                                                                           |
|  | 0.<br>1<br>7<br>9<br>2<br>7 | 0<br>0<br>3<br>9<br>6<br>4 |  | 0.<br>0<br>3<br>3<br>5 | 0.<br>0<br>3<br>9<br>7<br>5 | 0.<br>5<br>1<br>8<br>1<br>5 | 0.<br>9<br>2<br>3<br>0<br>7 | 0.<br>9<br>5<br>2<br>3<br>0<br>8 | 0.<br>9<br>2<br>3<br>0<br>7<br>1 | 0.<br>9<br>5<br>2<br>3<br>0<br>8 | NM_001938.2 NM_018290.2 NM_032448.1<br>NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2<br>BC017810.1 BC094687.1 XM_379060.1 NM_020313.2<br>BC019883.1 BC035031.2 NM_000409.2<br>NM_001007275.1 BC033711.1 NM_000666.1<br>NM_178471.1 |
|  | 0.<br>1<br>7<br>9<br>2<br>7 | 0<br>0<br>3<br>9<br>6<br>4 |  | 0.<br>0<br>3<br>3<br>5 | 0.<br>0<br>3<br>9<br>7<br>5 | 0.<br>5<br>1<br>8<br>1<br>5 | 0.<br>9<br>2<br>3<br>0<br>7 | 0.<br>9<br>5<br>2<br>3<br>0<br>8 | 0.<br>9<br>5<br>2<br>3<br>0<br>7 | 0.<br>9<br>5<br>2<br>3<br>0<br>8 | NM_001938.2 NM_018290.2 NM_032448.1<br>NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2<br>BC017810.1 BC094687.1 XM_379060.1 NM_020313.2<br>BC019883.1 BC035031.2 NM_000409.2<br>NM_001007275.1 BC033711.1 NM_000666.1<br>NM_178471.1 |
|  | 0.<br>1<br>7<br>9<br>2<br>7 | 0<br>0<br>3<br>9<br>6<br>4 |  | 0.<br>0<br>3<br>3<br>5 | 0.<br>0<br>3<br>9<br>7<br>5 | 0.<br>5<br>1<br>8<br>1<br>5 | 0.<br>9<br>2<br>3<br>0<br>7 | 0.<br>9<br>5<br>2<br>3<br>0<br>8 | 0.<br>9<br>5<br>2<br>3<br>0<br>7 | 0.<br>9<br>5<br>2<br>3<br>0<br>8 | NM_001938.2 NM_018290.2 NM_032448.1<br>NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2<br>BC017810.1 BC094687.1 XM_379060.1 NM_020313.2<br>BC019883.1 BC035031.2 NM_000409.2<br>NM_001007275.1 BC033711.1 NM_000666.1<br>NM_178471.1 |
|  | 0.<br>1<br>7<br>9<br>2<br>7 | 0<br>0<br>3<br>9<br>6<br>4 |  | 0.<br>0<br>3<br>3<br>5 | 0.<br>0<br>3<br>9<br>7<br>5 | 0.<br>5<br>1<br>8<br>1<br>5 | 0.<br>9<br>2<br>3<br>0<br>7 | 0.<br>9<br>5<br>2<br>3<br>0<br>8 | 0.<br>9<br>5<br>2<br>3<br>0<br>7 | 0.<br>9<br>5<br>2<br>3<br>0<br>8 | NM_001938.2 NM_018290.2 NM_032448.1<br>NM_006403.2 NM_024482.1 BC000267.1 NM_152740.2<br>BC017810.1 BC094687.1 XM_379060.1 NM_020313.2<br>BC019883.1 BC035031.2 NM_000409.2<br>NM_001007275.1 BC033711.1 NM_000666.1<br>NM_178471.1 |

| <b>Table 4S: Classifiers.</b> List of 10 classifier proteins for the SVZp and SVZn samples. |               |                  |              |              |              |               |              |                                    |
|---------------------------------------------------------------------------------------------|---------------|------------------|--------------|--------------|--------------|---------------|--------------|------------------------------------|
| ID                                                                                          | Name          | logFC            | AveEx<br>pr  | t            | P.Valu<br>e  | adj.P.V<br>al | B            | Regulation with respect<br>to SVZp |
| NM_0064<br>03.2                                                                             | NEDD9         | -<br>0.5231      | 8.8509<br>01 | 5.1307<br>3  | 8.02E-<br>07 | 0.0036<br>23  | 5.4277<br>53 | Down                               |
| NM_0182<br>90.2                                                                             | PGM2          | 0.5534<br>21     | 9.4243<br>67 | 4.7451<br>76 | 4.49E-<br>06 | 0.0073<br>68  | 3.8956<br>34 | Up                                 |
| NM_0019<br>38.2                                                                             | DR1           | 0.8455<br>1      | 11.252<br>56 | 4.6912<br>03 | 5.67E-<br>06 | 0.0081<br>56  | 3.6881<br>51 | Up                                 |
| NM_0324<br>48.1                                                                             | FAM120<br>B   | -<br>0.5346<br>1 | 7.9450<br>2  | 4.6094<br>8  | 8.04E-<br>06 | 0.0090<br>08  | 3.3773<br>87 | Down                               |
| BC017810<br>.1                                                                              | TMOD4         | -<br>0.6482<br>4 | 7.4826<br>31 | 4.0442<br>7  | 8.04E-<br>05 | 0.0264<br>05  | 1.3441<br>58 | Down                               |
| NM_1527<br>40.2                                                                             | HIBADH        | 1.0914<br>49     | 10.743<br>23 | 4.0267<br>14 | 8.61E-<br>05 | 0.0272<br>51  | 1.2843<br>68 | Up                                 |
| BC000267<br>.1                                                                              | GPBP1         | 0.9178<br>42     | 10.530<br>46 | 4.0136<br>46 | 9.05E-<br>05 | 0.0272<br>51  | 1.2400<br>06 | Up                                 |
| XM_3790<br>60.1                                                                             | LOC339<br>685 | 0.5318<br>31     | 9.2921<br>59 | 3.9521<br>41 | 0.0001<br>15 | 0.0318<br>13  | 1.0327<br>9  | Up                                 |
| NM_0244<br>82.1                                                                             | GMEB1         | -<br>0.5162<br>2 | 8.3834<br>36 | 3.9236<br>5  | 0.0001<br>28 | 0.0334<br>44  | 0.9376<br>75 | Down                               |
| BC094687<br>.1                                                                              | EEF1A1        | 0.7538<br>08     | 8.4199<br>64 | 3.8191<br>24 | 0.0001<br>89 | 0.0443<br>96  | 0.5935<br>86 | Up                                 |

**Table 5S: Experimental details.** The patient details with the IDHp, WT and 1p and 19q status for different grades of glioma.

| FileName | Patient ID | Condition  | IDH status | 1p          | 19q             |
|----------|------------|------------|------------|-------------|-----------------|
| Gradell  | CF 8551    | Grade2     | NA         | NA          | NA              |
| Gradell  | CF 10729   | Grade2     | WT         | NA          | NA              |
| Gradell  | CF 20468   | Grade2     | WT         | not deleted | not deleted     |
| Gradell  | CF 28254   | Grade2     | NA         | NA          | NA              |
| Gradell  | CF 29538   | Grade2     | IDHp       | NA          | NA              |
| Gradell  | CH 12323   | Grade2     | NA         | not deleted | not deleted     |
| Gradell  | CH 13717   | Grade2     | NA         | not deleted | not deleted     |
| Gradell  | CH 27095   | Grade2     | NA         | NA          | NA              |
| Gradell  | CH 32225   | Grade2     | NA         | not deleted | not deleted     |
| Gradell  | CJ 863     | Grade2     | NA         | NA          | NA              |
| Gradell  | CJ 4825    | Grade2     | IDHp       | not deleted | uninterpretable |
| Gradell  | CJ 7132    | Grade2     | IDHp       | NA          | NA              |
| Gradell  | CJ 10242   | Grade2     | WT         | not deleted | not deleted     |
| Gradell  | CJ 16084   | Grade2     | NA         | NA          | NA              |
| Gradell  | CJ 17734   | Grade2     | NA         | NA          | NA              |
| Gradell  | CJ 33350   | Grade2     | IDHp       | deleted     | deleted         |
| Gradell  | CK 40      | Grade2     | WT         | not deleted | not deleted     |
| Gradelll | CF 12839   | Grade3     | IDHp       | NA          | NA              |
| Gradelll | CF 16216   | Grade3     | IDHp       | NA          | NA              |
| Gradelll | CF 22483   | Grade3     | NA         | not deleted | not deleted     |
| Gradelll | CF 25539   | Grade3     | WT         | not deleted | not deleted     |
| Gradelll | CF 29446   | Grade3     | WT         | NA          | NA              |
| Gradelll | CH 9010    | Grade3     | NA         | NA          | NA              |
| Gradelll | CH 9043    | Grade3     | WT         | NA          | NA              |
| Gradelll | CH 17244   | Grade3     | IDHp       | not deleted | not deleted     |
| Gradelll | CJ 1176    | Grade3     | NA         | NA          | NA              |
| Gradelll | CJ 7833    | Grade3     | IDHp       | deleted     | uninterpretable |
| Gradelll | CJ 9761    | Grade3     | IDHp       | not deleted | not deleted     |
| Gradelll | CJ 14116   | Grade3     | IDHp       | not deleted | not deleted     |
| Gradelll | CJ 16912   | Grade3     | NA         | not deleted | not deleted     |
| Gradelll | CF 22807   | Grade3     | NA         | NA          | NA              |
| Gradelll | CF 6980    | Grade3     | NA         | NA          | NA              |
| Gradelll | CH 15130   | Grade3     | IDHp       | NA          | NA              |
| Gradelll | CH 15138   | Grade3     | NA         | NA          | NA              |
| Gradelll | CJ 20721   | Grade3     | NA         | NA          | NA              |
| GradeIV  | CF 7522    | Grade4SVZp | NA         | NA          | NA              |
| GradeIV  | CF 7916    | Grade4SVZp | IDHp       | NA          | NA              |
| GradeIV  | CF 11518   | Grade4SVZn | NA         | NA          | NA              |
| GradeIV  | CF 11940   | Grade4SVZp | NA         | NA          | NA              |

|         |          |            |      |             |             |
|---------|----------|------------|------|-------------|-------------|
| GradeIV | CF 12166 | Grade4SVZp | IDHp | NA          | NA          |
| GradeIV | CF 19257 | Grade4SVZn | NA   | NA          | NA          |
| GradeIV | CF 27891 | Grade4SVZn | NA   | NA          | NA          |
| GradeIV | CH 3969  | Grade4SVZp | WT   | NA          | NA          |
| GradeIV | CH 4996  | Grade4SVZp | NA   | NA          | NA          |
| GradeIV | CH 5261  | Grade4SVZn | NA   | NA          | NA          |
| GradeIV | CH 6643  | Grade4SVZp | NA   | NA          | NA          |
| GradeIV | CH 8498  | Grade4SVZn | NA   | not deleted | not deleted |
| GradeIV | CH 9002  | Grade4SVZp | NA   | NA          | NA          |
| GradeIV | CH 12724 | Grade4SVZn | NA   | NA          | NA          |
| GradeIV | CH 14820 | Grade4SVZp | NA   | NA          | NA          |
| GradeIV | CH 18016 | Grade4SVZn | WT   | NA          | NA          |
| GradeIV | CH 18426 | Grade4SVZp | NA   | NA          | NA          |
| GradeIV | CH 21783 | Grade4SVZp | NA   | NA          | NA          |
| GradeIV | CH 22618 | Grade4SVZp | NA   | NA          | NA          |
| GradeIV | CH 28569 | Grade4SVZp | NA   | NA          | NA          |
| GradeIV | CH 29697 | Grade4SVZp | NA   | NA          | NA          |
| GradeIV | CH 29738 | Grade4SVZp | NA   | NA          | NA          |
| GradeIV | CH 30203 | Grade4SVZp | NA   | NA          | NA          |
| GradeIV | CJ 1519  | Grade4SVZp | NA   | NA          | NA          |
| GradeIV | CJ 2041  | Grade4SVZn | NA   | NA          | NA          |
| GradeIV | CJ 6254  | Grade4SVZn | NA   | NA          | NA          |
| GradeIV | CJ 10048 | Grade4SVZn | NA   | NA          | NA          |
| GradeIV | CJ 11291 | Grade4SVZp | NA   | NA          | NA          |
| GradeIV | CJ 12441 | Grade4SVZn | WT   | NA          | NA          |
| GradeIV | CJ 13655 | Grade4SVZp | NA   | NA          | NA          |
| GradeIV | CJ 18704 | Grade4SVZn | NA   | NA          | NA          |
| GradeIV | CJ 22776 | Grade4SVZp | IDHp | NA          | NA          |
| GradeIV | CJ 30014 | Grade4SVZp | WT   | NA          | NA          |
| GradeIV | CJ 32705 | Grade4SVZn | NA   | NA          | NA          |



| Table 5S: Shortlisted proteins (Grade II: IDHp vs WT). List of proteins with p-value<0.05 and logFC >0.5 or <-0.5 for Grade II: IDHp vs WT samples. |         |            |                     |              |                  |              |                  |              |                    |                  |                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------|------------|---------------------|--------------|------------------|--------------|------------------|--------------|--------------------|------------------|------------------|
| Bloc<br>k                                                                                                                                           | Ro<br>w | Colu<br>mn | ID                  | Name         | logFC            | AveEx<br>pr  | t                | P.Val<br>ue  | adj.<br>P.Val<br>l | B                | absl<br>ogF<br>C |
| 41                                                                                                                                                  | 18      | 15         | BC000846.2          | CIB1         | 1.3383<br>58     | 10.634<br>68 | 10.375<br>73     | 2.39E<br>-08 | 0.00<br>043<br>2   | 8.27<br>878<br>7 | 1.33<br>835<br>8 |
| 16                                                                                                                                                  | 14      | 3          | NM_017735.3         | TTC27        | -<br>0.9963<br>5 | 10.565<br>95 | -<br>8.8276      | 2.05E<br>-07 | 0.00<br>185<br>1   | 6.67<br>901<br>1 | 0.99<br>635<br>4 |
| 17                                                                                                                                                  | 6       | 7          | BC034483.1          | HSPA1<br>L   | 0.5834<br>75     | 10.306<br>96 | 7.7763<br>51     | 1.03E<br>-06 | 0.00<br>592<br>8   | 5.40<br>016<br>3 | 0.58<br>347<br>5 |
| 24                                                                                                                                                  | 16      | 7          | ENST0000038<br>9266 |              | -<br>1.1100<br>1 | 9.7156<br>74 | -<br>7.5456<br>5 | 1.49E<br>-06 | 0.00<br>592<br>8   | 5.09<br>648<br>4 | 1.11<br>001<br>5 |
| 24                                                                                                                                                  | 17      | 29         | BC026060.2          | CAMKK<br>2   | -<br>0.6039<br>6 | 9.6561<br>03 | -<br>7.4883<br>4 | 1.64E<br>-06 | 0.00<br>592<br>8   | 5.01<br>970<br>4 | 0.60<br>395<br>6 |
| 11                                                                                                                                                  | 6       | 31         | NM_016401.2         | C11orf<br>73 | -<br>0.7173      | 9.6519<br>59 | -<br>6.8977<br>3 | 4.42E<br>-06 | 0.01<br>061<br>6   | 4.19<br>685<br>8 | 0.71<br>729<br>5 |
| 37                                                                                                                                                  | 19      | 15         | NM_001888.2         | CRYM         | 0.5477<br>07     | 9.1707<br>32 | 6.8615<br>79     | 4.70E<br>-06 | 0.01<br>061<br>6   | 4.14<br>459<br>2 | 0.54<br>770<br>7 |
| 36                                                                                                                                                  | 24      | 17         | NM_007026.1         | N.D.         | 2.0560<br>38     | 9.5219<br>31 | 6.6274<br>91     | 7.06E<br>-06 | 0.01<br>335<br>7   | 3.80<br>080<br>1 | 2.05<br>603<br>8 |
| 37                                                                                                                                                  | 19      | 13         | NM_005861.2         | STUB1        | 0.7129<br>43     | 9.5844<br>9  | 6.6012<br>35     | 7.39E<br>-06 | 0.01<br>335<br>7   | 3.76<br>165<br>9 | 0.71<br>294<br>3 |
| 24                                                                                                                                                  | 13      | 17         | NM_000519.3         | HBD          | -<br>0.5491<br>2 | 11.250<br>92 | -<br>6.3483<br>2 | 1.16E<br>-05 | 0.01<br>743<br>5   | 3.37<br>859<br>5 | 0.54<br>911<br>8 |
| 16                                                                                                                                                  | 16      | 5          | NM_017863.2         | CXorf4<br>8  | -<br>0.7812<br>1 | 10.047<br>77 | -<br>5.9903<br>4 | 2.22E<br>-05 | 0.02<br>123<br>1   | 2.81<br>778<br>1 | 0.78<br>121<br>4 |
| 23                                                                                                                                                  | 21      | 27         | BC089418.1          | IGLV3-<br>25 | -<br>0.6476<br>8 | 9.8150<br>37 | -<br>5.9007<br>9 | 2.62E<br>-05 | 0.02<br>123<br>1   | 2.67<br>410<br>5 | 0.64<br>768      |
| 13                                                                                                                                                  | 23      | 9          | NM_014440.1         | IL1F6        | 0.5474<br>56     | 10.219<br>58 | 5.8535<br>03     | 2.86E<br>-05 | 0.02<br>123<br>1   | 2.59<br>769<br>2 | 0.54<br>745<br>6 |
| 5                                                                                                                                                   | 17      | 1          | NM_130897.1         | DYNLR<br>B2  | 0.5514<br>71     | 8.9052<br>61 | 5.7389<br>18     | 3.54E<br>-05 | 0.02<br>452        | 2.41<br>098<br>4 | 0.55<br>147<br>1 |

|    |    |    |             |              |                  |              |                  |              |                  |                  |                  |
|----|----|----|-------------|--------------|------------------|--------------|------------------|--------------|------------------|------------------|------------------|
| 33 | 4  | 15 | BC001394.2  | SERPIN<br>B6 | 0.5173<br>34     | 8.6705<br>26 | 5.6430<br>51     | 4.24E<br>-05 | 0.02<br>677<br>3 | 2.25<br>311      | 0.51<br>733<br>4 |
| 9  | 22 | 15 | BC000967.2  | NUDCD<br>1   | 0.5530<br>45     | 9.5802<br>31 | 5.6359<br>19     | 4.30E<br>-05 | 0.02<br>677<br>3 | 2.24<br>130<br>4 | 0.55<br>304<br>5 |
| 19 | 13 | 3  | BC064512.1  | UBR2         | -<br>0.6113<br>9 | 9.8592<br>95 | -<br>5.6074<br>9 | 4.54E<br>-05 | 0.02<br>730<br>9 | 2.19<br>417<br>3 | 0.61<br>139<br>1 |
| 30 | 21 | 27 | NM_001106.3 | ACVR2<br>B   | 0.8665<br>47     | 8.1134<br>89 | 5.5068<br>09     | 5.49E<br>-05 | 0.03<br>199<br>8 | 2.02<br>616<br>7 | 0.86<br>654<br>7 |
| 41 | 22 | 1  | BC075862.1  | CAPN1        | 0.5829<br>24     | 8.8439<br>83 | 5.4045<br>13     | 6.68E<br>-05 | 0.03<br>655<br>5 | 1.85<br>380<br>8 | 0.58<br>292<br>4 |
| 8  | 12 | 15 | BC002508.2  | ASMTL        | -<br>0.6533<br>9 | 10.322<br>3  | -<br>5.3455<br>5 | 7.48E<br>-05 | 0.03<br>753<br>2 | 1.75<br>371<br>3 | 0.65<br>338<br>9 |
| 29 | 24 | 25 | NM_003405.3 | YWHA<br>H    | 0.5483<br>56     | 9.2851<br>29 | 5.3262<br>32     | 7.76E<br>-05 | 0.03<br>765<br>1 | 1.72<br>079<br>7 | 0.54<br>835<br>6 |
| 8  | 13 | 9  | NM_013330.3 | NME7         | -<br>0.5022<br>4 | 9.4351<br>05 | -<br>5.2476<br>1 | 9.04E<br>-05 | 0.04<br>081<br>9 | 1.58<br>624<br>6 | 0.50<br>224<br>4 |

**Table 5S: Shortlisted proteins (Grade IV: IDHp vs WT).** List of proteins with p-value<0.05 and logFC >0.5 or <-0.5 for Grade II: IDHp vs WT samples.

| Block | Row | Column | ID          | Name    | logFC    | AveExpr  | t        | P.Value  | adj.P.Val | B       | abslogFC |
|-------|-----|--------|-------------|---------|----------|----------|----------|----------|-----------|---------|----------|
| 22    | 13  | 3      | NM_152734.3 | C6orf89 | 0.636265 | 9.988923 | 7.544568 | 5.46E-07 | 0.009868  | 3.97153 | 0.636265 |

**Table 6S: Enrichment analysis report.** Enrichment by Pathway Maps (healthy control vs Grade II)

| Enrichment by Pathway Maps |                                                                                                                   |       |           |          | GRADE II_INPUT_g enelist |          |         |                                  |
|----------------------------|-------------------------------------------------------------------------------------------------------------------|-------|-----------|----------|--------------------------|----------|---------|----------------------------------|
| #                          | Maps                                                                                                              | Total | pValue    | Min FDR  | p-value                  | FDR      | In Data | Network Objects from Active Data |
| 1                          | <a href="#">Development Beta-adrenergic receptors transactivation of EGFR</a>                                     | 37    | 4.345E-04 | 8.63E-03 | 4.345E-04                | 8.63E-03 | 2       | CD44, MYLK 1                     |
| 2                          | <a href="#">Cytoskeleton remodeling Hyaluronic acid/ CD44 signaling pathways</a>                                  | 43    | 5.876E-04 | 8.63E-03 | 5.876E-04                | 8.63E-03 | 2       | CD44, MLCK                       |
| 3                          | <a href="#">Cell adhesion Integrin-mediated cell adhesion and migration</a>                                       | 48    | 7.324E-04 | 8.63E-03 | 7.324E-04                | 8.63E-03 | 2       | MYLK 1, MLCK                     |
| 4                          | <a href="#">Chemotaxis Inhibitory action of lipoxins on IL-8- and Leukotriene B4-induced neutrophil migration</a> | 51    | 8.268E-04 | 8.63E-03 | 8.268E-04                | 8.63E-03 | 2       | MYLK 1, MLCK                     |
| 5                          | <a href="#">Airway smooth muscle contraction in asthma</a>                                                        | 56    | 9.964E-04 | 8.63E-03 | 9.964E-04                | 8.63E-03 | 2       | MLCK, Telokin                    |
| 6                          | <a href="#">Impaired inhibitory action of lipoxins on neutrophil migration in CF</a>                              | 56    | 9.964E-04 | 8.63E-03 | 9.964E-04                | 8.63E-03 | 2       | MYLK 1, MLCK                     |
| 7                          | <a href="#">Muscle contraction GPCRs in the regulation of smooth muscle tone</a>                                  | 83    | 2.176E-03 | 1.61E-02 | 2.176E-03                | 1.61E-02 | 2       | MLCK, Telokin                    |
| 8                          | <a href="#">Cytoskeleton remodeling Cytoskeleton remodeling</a>                                                   | 102   | 3.267E-03 | 2.12E-02 | 3.267E-03                | 2.12E-02 | 2       | MYLK 1, MLCK                     |
| 9                          | <a href="#">Cytoskeleton remodeling TGF, WNT and cytoskeletal remodeling</a>                                      | 111   | 3.856E-03 | 2.22E-02 | 3.856E-03                | 2.22E-02 | 2       | MYLK 1, MLCK                     |

**Table 6S: Enrichment analysis report.** Enrichment by Pathway Maps (healthy control vs Grade III)

| Enrichment by Pathway Maps |                                                                              |                       |                        |                        | GRADE<br>III_INPUT_4_<br>genelist |               |                        |                                                                                     |
|----------------------------|------------------------------------------------------------------------------|-----------------------|------------------------|------------------------|-----------------------------------|---------------|------------------------|-------------------------------------------------------------------------------------|
| #                          | Maps                                                                         | T<br>o<br>t<br>a<br>l | pV<br>a<br>l<br>u<br>e | Mi<br>n<br>F<br>D<br>R | p-<br>v<br>a<br>l<br>u<br>e       | F<br>D<br>R   | In<br>D<br>a<br>t<br>a | Network Objects from<br>Active Data                                                 |
| 1                          | <a href="#">Development_Flt3 signaling</a>                                   | 44                    | 5.139<br>E-07          | 1.978<br>E-04          | 5.139<br>E-07                     | 1.978<br>E-04 | 6                      | CRK, STAT5A, p38 MAPK, ERK1/2, CrkL, GRB2                                           |
| 2                          | <a href="#">Cytoskeleton remodeling_TGF, WNT and cytoskeletal remodeling</a> | 111                   | 8.832<br>E-07          | 1.978<br>E-04          | 8.832<br>E-07                     | 1.978<br>E-04 | 8                      | CRK, p38 MAPK, ERK1 (MAPK3), ERK1/2, MYLK1, GRB2, 4E-BP1, MLCK                      |
| 3                          | <a href="#">Signal transduction_PTMs in BAFF-induced signaling</a>           | 51                    | 1.262<br>E-06          | 1.978<br>E-04          | 1.262<br>E-06                     | 1.978<br>E-04 | 6                      | p38 MAPK, ERK1 (MAPK3), Bim, Ubiquitin, ERK1/2, 4E-BP1                              |
| 4                          | <a href="#">Development_EPO-induced Jak-STAT pathway</a>                     | 35                    | 3.852<br>E-06          | 4.526<br>E-04          | 3.852<br>E-06                     | 4.526<br>E-04 | 5                      | STAT5A, ERK1 (MAPK3), STAT5, CrkL, GRB2                                             |
| 5                          | <a href="#">Cytoskeleton remodeling_Cytoskeleton remodeling</a>              | 102                   | 6.217<br>E-06          | 5.844<br>E-04          | 6.217<br>E-06                     | 5.844<br>E-04 | 7                      | CRK, p38 MAPK, ERK1/2, MYLK1, GRB2, 4E-BP1, MLCK                                    |
| 6                          | <a href="#">Development_NOTCH-induced EMT</a>                                | 19                    | 7.649<br>E-06          | 5.992<br>E-04          | 7.649<br>E-06                     | 5.992<br>E-04 | 4                      | NOTCH1 (NICD), RBP-J kappa (CBF1), NOTCH1 receptor, NOTCH1 (NEXT)                   |
| 7                          | <a href="#">Development_Notch Signaling Pathway</a>                          | 43                    | 1.094<br>E-05          | 7.347<br>E-04          | 1.094<br>E-05                     | 7.347<br>E-04 | 5                      | NOTCH1 (NICD), RBP-J kappa (CBF1), NOTCH1 receptor, NOTCH1 (NEXT), NOTCH1 precursor |
| 8                          | <a href="#">Cell adhesion_Integrin-mediated cell adhesion and migration</a>  | 48                    | 1.895<br>E-05          | 1.113<br>E-03          | 1.895<br>E-05                     | 1.113<br>E-03 | 5                      | CRK, ERK1/2, MYLK1, GRB2, MLCK                                                      |
| 9                          | <a href="#">Development_FGFR signaling pathway</a>                           | 54                    | 3.390<br>E-05          | 1.770<br>E-03          | 3.390<br>E-05                     | 1.770<br>E-03 | 5                      | CRK, p38 MAPK, Ubiquitin, ERK1/2, GRB2                                              |
| 10                         | <a href="#">Immune response_IL-15 signaling</a>                              | 64                    | 7.747<br>E-04          | 3.191<br>E-04          | 7.747<br>E-04                     | 3.191<br>E-04 | 5                      | p38 MAPK, ERK1 (MAPK3), ERK1/2, GRB2, 4E-BP1                                        |

|    |                                                                                               |    |               |               |               |               |   |                                                                   |
|----|-----------------------------------------------------------------------------------------------|----|---------------|---------------|---------------|---------------|---|-------------------------------------------------------------------|
|    |                                                                                               |    | E-05          | E-03          | E-05          | E-03          |   |                                                                   |
| 11 | <a href="#">Chemotaxis CXCR4 signaling pathway</a>                                            | 34 | 8.463<br>E-05 | 3.191<br>E-03 | 8.463<br>E-05 | 3.191<br>E-03 | 4 | CRK, ERK1 (MAPK3), CrkL, GRB2                                     |
| 12 | <a href="#">Development NOTCH1-mediated pathway for NF-KB activity modulation</a>             | 34 | 8.463<br>E-05 | 3.191<br>E-03 | 8.463<br>E-05 | 3.191<br>E-03 | 4 | NOTCH1 (NICD), RBP-J kappa (CBF1), NOTCH1 receptor, NOTCH1 (NEXT) |
| 13 | <a href="#">Role of Tissue factor in cancer independent of coagulation protease signaling</a> | 35 | 9.505<br>E-05 | 3.191<br>E-03 | 9.505<br>E-05 | 3.191<br>E-03 | 4 | p38 MAPK, ERK1 (MAPK3), ERK1/2, GRB2                              |
| 14 | <a href="#">Immune response Oncostatin M signaling via MAPK in mouse cells</a>                | 35 | 9.505<br>E-05 | 3.191<br>E-03 | 9.505<br>E-05 | 3.191<br>E-03 | 4 | p38 MAPK, ERK1 (MAPK3), ERK1/2, GRB2                              |
| 15 | <a href="#">DNA damage Nucleotide excision repair</a>                                         | 36 | 1.064<br>E-04 | 3.280<br>E-03 | 1.064<br>E-04 | 3.280<br>E-03 | 4 | Ubiquitin, XPF, RAD23A, RPA4                                      |
| 16 | <a href="#">Immune response Oncostatin M signaling via MAPK in human cells</a>                | 37 | 1.187<br>E-04 | 3.280<br>E-03 | 1.187<br>E-04 | 3.280<br>E-03 | 4 | p38 MAPK, ERK1 (MAPK3), ERK1/2, GRB2                              |
| 17 | <a href="#">Development Beta-adrenergic receptors transactivation of EGFR</a>                 | 37 | 1.187<br>E-04 | 3.280<br>E-03 | 1.187<br>E-04 | 3.280<br>E-03 | 4 | ERK1 (MAPK3), ERK1/2, MYLK1, GRB2                                 |
| 18 | <a href="#">Immune response IL-7 signaling in B lymphocytes</a>                               | 43 | 2.149<br>E-04 | 5.611<br>E-03 | 2.149<br>E-04 | 5.611<br>E-03 | 4 | STAT5A, STAT5, ERK1/2, GRB2                                       |
| 19 | <a href="#">Immune response TNF-R2 signaling pathways</a>                                     | 45 | 2.567<br>E-04 | 6.351<br>E-03 | 2.567<br>E-04 | 6.351<br>E-03 | 4 | p38 MAPK, Bim, ERK1/2, BMF                                        |
| 20 | <a href="#">Immune response IL-5 signalling</a>                                               | 46 | 2.797<br>E-04 | 6.498<br>E-03 | 2.797<br>E-04 | 6.498<br>E-03 | 4 | STAT5, ERK1/2, CrkL, GRB2                                         |
| 21 | <a href="#">Development TGF-beta-dependent induction of EMT via MAPK</a>                      | 47 | 3.042<br>E-04 | 6.498<br>E-03 | 3.042<br>E-04 | 6.498<br>E-03 | 4 | p38 MAPK, ERK1/2, GRB2, Occludin                                  |

|   |                                                                                                         |   |      |      |      |      |   |                                                  |
|---|---------------------------------------------------------------------------------------------------------|---|------|------|------|------|---|--------------------------------------------------|
| 2 |                                                                                                         |   | 3.0  | 6.4  | 3.0  | 6.4  |   |                                                  |
| 2 |                                                                                                         | 4 | 42   | 98   | 42   | 98   |   |                                                  |
| 2 | <a href="#">Development_HGF signaling pathway</a>                                                       | 7 | E-04 | E-03 | E-04 | E-03 | 4 | CRK, ERK1/2, CrkL, GRB2                          |
| 2 |                                                                                                         |   | 3.5  | 7.0  | 3.5  | 7.0  |   |                                                  |
| 3 | <a href="#">Immune response_IL-2 activation and signaling pathway</a>                                   | 9 | E-04 | E-03 | E-04 | E-03 | 4 | STAT5A, STAT5, ERK1/2, GRB2                      |
| 2 |                                                                                                         |   | 3.5  | 7.0  | 3.5  | 7.0  |   |                                                  |
| 4 | <a href="#">Development_G-CSF signaling</a>                                                             | 9 | E-04 | E-03 | E-04 | E-03 | 4 | p38 MAPK, STAT5, ERK1/2, GRB2                    |
| 2 |                                                                                                         |   | 3.8  | 7.2  | 3.8  | 7.2  |   |                                                  |
| 5 | <a href="#">Development_GM-CSF signaling</a>                                                            | 0 | E-04 | E-03 | E-04 | E-03 | 4 | STAT5A, STAT5, ERK1/2, GRB2                      |
| 2 |                                                                                                         |   | 4.1  | 7.5  | 4.1  | 7.5  |   |                                                  |
| 6 | <a href="#">Development_Oligodendrocyte differentiation from adult stem cells</a>                       | 1 | E-04 | E-03 | E-04 | E-03 | 4 | NOTCH1 (NICD), p38 MAPK, NOTCH1 receptor, ERK1/2 |
| 2 |                                                                                                         |   | 4.8  | 8.1  | 4.8  | 8.1  |   |                                                  |
| 7 | <a href="#">Translation_Regulation of EIF4F activity</a>                                                | 3 | E-04 | E-03 | E-04 | E-03 | 4 | p38 MAPK, ERK1/2, GRB2, 4E-BP1                   |
| 2 |                                                                                                         |   | 5.1  | 8.1  | 5.1  | 8.1  |   |                                                  |
| 8 | <a href="#">Immune response_IL-12 signaling pathway</a>                                                 | 3 | E-04 | E-03 | E-04 | E-03 | 3 | STAT5A, STAT5, Ubiquitin                         |
| 2 |                                                                                                         |   | 5.2  | 8.1  | 5.2  | 8.1  |   |                                                  |
| 9 | <a href="#">Immune response_HSP60 and HSP70/TLR signaling pathway</a>                                   | 4 | E-04 | E-03 | E-04 | E-03 | 4 | TIRAP (Mal), p38 MAPK, Ubiquitin, ERK1/2         |
| 3 |                                                                                                         |   | 5.2  | 8.1  | 5.2  | 8.1  |   |                                                  |
| 0 | <a href="#">Neurophysiological process_Dynein-dynactin motor complex in axonal transport in neurons</a> | 4 | E-04 | E-03 | E-04 | E-03 | 4 | Ubiquitin, Kinesin light chain, ERK1/2, DYNLL    |
| 3 |                                                                                                         |   | 5.5  | 8.4  | 5.5  | 8.4  |   |                                                  |
| 1 | <a href="#">Aberrant B-Raf signaling in melanoma progression</a>                                        | 5 | E-04 | E-03 | E-04 | E-03 | 4 | NOTCH1 (NICD), Bim, ERK1/2, BMF                  |
| 3 |                                                                                                         |   | 6.3  | 9.1  | 6.3  | 9.1  |   |                                                  |
| 2 | <a href="#">Immune response_TLR2 and TLR4 signaling pathways</a>                                        | 7 | E-04 | E-03 | E-04 | E-03 | 4 | TIRAP (Mal), p38 MAPK, Ubiquitin, ERK1/2         |
| 3 |                                                                                                         |   | 6.3  | 9.1  | 6.3  | 9.1  |   |                                                  |
| 3 | <a href="#">Development_Cytokine-mediated regulation of megakaryopoiesis</a>                            | 7 | E-04 | E-03 | E-04 | E-03 | 4 | STAT5, ERK1/2, GRB2, 4E-BP1                      |

|        |                                                                                                  |        |                       |                       |                       |                       |   |                                      |
|--------|--------------------------------------------------------------------------------------------------|--------|-----------------------|-----------------------|-----------------------|-----------------------|---|--------------------------------------|
|        |                                                                                                  |        | 04                    | 03                    | 04                    | 03                    |   |                                      |
| 3<br>4 | <a href="#">Effect of H. pylori infection on gastric epithelial cell proliferation</a>           | 5<br>8 | 6.8<br>33<br>E-<br>04 | 9.1<br>75<br>E-<br>03 | 6.8<br>33<br>E-<br>04 | 9.1<br>75<br>E-<br>03 | 4 | CRK, ERK1/2, CrkL, GRB2              |
| 3<br>5 | <a href="#">Development Prolactin receptor signaling</a>                                         | 5<br>8 | 6.8<br>33<br>E-<br>04 | 9.1<br>75<br>E-<br>03 | 6.8<br>33<br>E-<br>04 | 9.1<br>75<br>E-<br>03 | 4 | STAT5A, STAT5, ERK1/2, GRB2          |
| 3<br>6 | <a href="#">IGF family signaling in colorectal cancer</a>                                        | 6<br>0 | 7.7<br>72<br>E-<br>04 | 1.0<br>15<br>E-<br>02 | 7.7<br>72<br>E-<br>04 | 1.0<br>15<br>E-<br>02 | 4 | ERK1 (MAPK3), ERK1/2, GRB2, 4E-BP1   |
| 3<br>7 | <a href="#">Development c-Kit ligand signaling pathway during hemopoiesis</a>                    | 6<br>1 | 8.2<br>74<br>E-<br>04 | 1.0<br>51<br>E-<br>02 | 8.2<br>74<br>E-<br>04 | 1.0<br>51<br>E-<br>02 | 4 | STAT5, ERK1/2, CrkL, GRB2            |
| 3<br>8 | <a href="#">Immune response CD137 signaling in immune cell</a>                                   | 2<br>9 | 1.0<br>33<br>E-<br>03 | 1.2<br>77<br>E-<br>02 | 1.0<br>33<br>E-<br>03 | 1.2<br>77<br>E-<br>02 | 3 | p38 MAPK, Bim, ERK1/2                |
| 3<br>9 | <a href="#">Immune response Mast cell proliferation, differentiation and survival</a>            | 3<br>0 | 1.1<br>42<br>E-<br>03 | 1.3<br>76<br>E-<br>02 | 1.1<br>42<br>E-<br>03 | 1.3<br>76<br>E-<br>02 | 3 | STAT5, ERK1/2, GRB2                  |
| 4<br>0 | <a href="#">Immune response IL-3 activation and signaling pathway</a>                            | 3<br>1 | 1.2<br>58<br>E-<br>03 | 1.4<br>42<br>E-<br>02 | 1.2<br>58<br>E-<br>03 | 1.4<br>42<br>E-<br>02 | 3 | STAT5, ERK1/2, GRB2                  |
| 4<br>1 | <a href="#">Immune response ETV3 affect on CSF1-promoted macrophage differentiation</a>          | 3<br>1 | 1.2<br>58<br>E-<br>03 | 1.4<br>42<br>E-<br>02 | 1.2<br>58<br>E-<br>03 | 1.4<br>42<br>E-<br>02 | 3 | p38 MAPK, ERK1/2, GRB2               |
| 4<br>2 | <a href="#">Signal transduction ERK1/2 signaling pathway</a>                                     | 3<br>2 | 1.3<br>81<br>E-<br>03 | 1.5<br>10<br>E-<br>02 | 1.3<br>81<br>E-<br>03 | 1.5<br>10<br>E-<br>02 | 3 | ERK1 (MAPK3), ERK1/2, GRB2           |
| 4<br>3 | <a href="#">Signal transduction PTMs in IL-17-induced CIKS-dependent MAPK signaling pathways</a> | 3<br>2 | 1.3<br>81<br>E-<br>03 | 1.5<br>10<br>E-<br>02 | 1.3<br>81<br>E-<br>03 | 1.5<br>10<br>E-<br>02 | 3 | p38 MAPK, Ubiquitin, ERK1/2          |
| 4<br>4 | <a href="#">Development EGFR signaling pathway</a>                                               | 7<br>1 | 1.4<br>63<br>E-<br>03 | 1.5<br>62<br>E-<br>02 | 1.4<br>63<br>E-<br>03 | 1.5<br>62<br>E-<br>02 | 4 | p38 MAPK, ERK1 (MAPK3), ERK1/2, GRB2 |



|        |                                                                                                                                         |        |                       |                       |                       |                       |   |                                                    |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------|--------|-----------------------|-----------------------|-----------------------|-----------------------|---|----------------------------------------------------|
| 4<br>5 | <a href="#">Development Epigenetic and transcriptional regulation of oligodendrocyte precursor cell differentiation and myelination</a> | 3<br>4 | 1.6<br>50<br>E-<br>03 | 1.6<br>16<br>E-<br>02 | 1.6<br>50<br>E-<br>03 | 1.6<br>16<br>E-<br>02 | 3 | NOTCH1 (NICD), RBP-J kappa (CBF1), NOTCH1 receptor |
| 4<br>6 | <a href="#">Development S1P1 receptor signaling via beta-arrestin</a>                                                                   | 3<br>4 | 1.6<br>50<br>E-<br>03 | 1.6<br>16<br>E-<br>02 | 1.6<br>50<br>E-<br>03 | 1.6<br>16<br>E-<br>02 | 3 | ERK1 (MAPK3), ERK1/2, GRB2                         |
| 4<br>7 | <a href="#">Apoptosis and survival Cytoplasmic/mitochondrial transport of proapoptotic proteins Bid, Bmf and Bim</a>                    | 3<br>4 | 1.6<br>50<br>E-<br>03 | 1.6<br>16<br>E-<br>02 | 1.6<br>50<br>E-<br>03 | 1.6<br>16<br>E-<br>02 | 3 | DLC1 (Dynein LC8a), Bim, BMF                       |
| 4<br>8 | <a href="#">Immune response IL-22 signaling pathway</a>                                                                                 | 3<br>4 | 1.6<br>50<br>E-<br>03 | 1.6<br>16<br>E-<br>02 | 1.6<br>50<br>E-<br>03 | 1.6<br>16<br>E-<br>02 | 3 | p38 MAPK, STAT5, ERK1/2                            |
| 4<br>9 | <a href="#">Development Angiopoietin - Tie2 signaling</a>                                                                               | 3<br>5 | 1.7<br>96<br>E-<br>03 | 1.7<br>22<br>E-<br>02 | 1.7<br>96<br>E-<br>03 | 1.7<br>22<br>E-<br>02 | 3 | CRK, STAT5, GRB2                                   |
| 5<br>0 | <a href="#">Immune response HMGB1/TLR signaling pathway</a>                                                                             | 3<br>6 | 1.9<br>49<br>E-<br>03 | 1.7<br>96<br>E-<br>02 | 1.9<br>49<br>E-<br>03 | 1.7<br>96<br>E-<br>02 | 3 | TIRAP (Mal), Ubiquitin, IL1RN                      |
| 5<br>1 | <a href="#">Immune response IL-9 signaling pathway</a>                                                                                  | 3<br>6 | 1.9<br>49<br>E-<br>03 | 1.7<br>96<br>E-<br>02 | 1.9<br>49<br>E-<br>03 | 1.7<br>96<br>E-<br>02 | 3 | STAT5, ERK1/2, GRB2                                |
| 5<br>2 | <a href="#">Neurophysiological process NMDA-dependent postsynaptic long-term potentiation in CA1 hippocampal neurons</a>                | 8<br>0 | 2.2<br>72<br>E-<br>03 | 1.8<br>80<br>E-<br>02 | 2.2<br>72<br>E-<br>03 | 1.8<br>80<br>E-<br>02 | 4 | ERK1 (MAPK3), ERK1/2, GRB2, 4E-BP1                 |
| 5<br>3 | <a href="#">Immune response Role of integrins in NK cells cytotoxicity</a>                                                              | 3<br>8 | 2.2<br>80<br>E-<br>03 | 1.8<br>80<br>E-<br>02 | 2.2<br>80<br>E-<br>03 | 1.8<br>80<br>E-<br>02 | 3 | p38 MAPK, ERK1 (MAPK3), GRB2                       |
| 5<br>4 | <a href="#">Development SDF-1 signaling in hematopoietic stem cell homing</a>                                                           | 3<br>8 | 2.2<br>80<br>E-<br>03 | 1.8<br>80<br>E-<br>02 | 2.2<br>80<br>E-<br>03 | 1.8<br>80<br>E-<br>02 | 3 | CRK, ERK1/2, CrkL                                  |
| 5<br>5 | <a href="#">Role of tumor microenvironment in plexiform neurofibroma formation in neurofibromatosis type 1</a>                          | 3<br>8 | 2.2<br>80<br>E-<br>03 | 1.8<br>80<br>E-<br>02 | 2.2<br>80<br>E-<br>03 | 1.8<br>80<br>E-<br>02 | 3 | p38 MAPK, ERK1/2, GRB2                             |
| 5<br>6 | <a href="#">Immune response Human NKG2D signaling</a>                                                                                   | 3<br>8 | 2.2<br>80<br>E-<br>03 | 1.8<br>80<br>E-<br>02 | 2.2<br>80<br>E-<br>03 | 1.8<br>80<br>E-<br>02 | 3 | STAT5, ERK1/2, GRB2                                |

|        |                                                                          |        |                       |                       |                       |                       |   |                                      |
|--------|--------------------------------------------------------------------------|--------|-----------------------|-----------------------|-----------------------|-----------------------|---|--------------------------------------|
|        |                                                                          |        | 03                    | 02                    | 03                    | 02                    |   |                                      |
| 5<br>7 | <a href="#">Signal transduction Soluble CXCL16 signaling</a>             | 3<br>8 | 2.2<br>80<br>E-<br>03 | 1.8<br>80<br>E-<br>02 | 2.2<br>80<br>E-<br>03 | 1.8<br>80<br>E-<br>02 | 3 | p38 MAPK, ERK1/2, 4E-BP1             |
| 5<br>8 | <a href="#">Regulation of degradation of deltaF508-CFTR in CF</a>        | 3<br>9 | 2.4<br>58<br>E-<br>03 | 1.9<br>26<br>E-<br>02 | 2.4<br>58<br>E-<br>03 | 1.9<br>26<br>E-<br>02 | 3 | SAE1, Ubiquitin, Sti1                |
| 5<br>9 | <a href="#">Immune response TSLP signalling</a>                          | 3<br>9 | 2.4<br>58<br>E-<br>03 | 1.9<br>26<br>E-<br>02 | 2.4<br>58<br>E-<br>03 | 1.9<br>26<br>E-<br>02 | 3 | p38 MAPK, STAT5, ERK1/2              |
| 6<br>0 | <a href="#">Transcription Receptor-mediated HIF regulation</a>           | 3<br>9 | 2.4<br>58<br>E-<br>03 | 1.9<br>26<br>E-<br>02 | 2.4<br>58<br>E-<br>03 | 1.9<br>26<br>E-<br>02 | 3 | ERK1/2, GRB2, 4E-BP1                 |
| 6<br>1 | <a href="#">G-protein signaling Rap1B regulation pathway</a>             | 1<br>1 | 2.5<br>19<br>E-<br>03 | 1.9<br>41<br>E-<br>02 | 2.5<br>19<br>E-<br>03 | 1.9<br>41<br>E-<br>02 | 2 | GRB2, Rap1GDS1                       |
| 6<br>2 | <a href="#">Development VEGF signaling via VEGFR2 - generic cascades</a> | 8<br>4 | 2.7<br>15<br>E-<br>03 | 2.0<br>58<br>E-<br>02 | 2.7<br>15<br>E-<br>03 | 2.0<br>58<br>E-<br>02 | 4 | p38 MAPK, ERK1 (MAPK3), ERK1/2, GRB2 |
| 6<br>3 | <a href="#">Development Neurotrophin family signaling</a>                | 4<br>1 | 2.8<br>39<br>E-<br>03 | 2.1<br>18<br>E-<br>02 | 2.8<br>39<br>E-<br>03 | 2.1<br>18<br>E-<br>02 | 3 | ERK1/2, CrkL, GRB2                   |
| 6<br>4 | <a href="#">Translation Insulin regulation of translation</a>            | 4<br>2 | 3.0<br>43<br>E-<br>03 | 2.1<br>67<br>E-<br>02 | 3.0<br>43<br>E-<br>03 | 2.1<br>67<br>E-<br>02 | 3 | ERK1/2, GRB2, 4E-BP1                 |
| 6<br>5 | <a href="#">Immune response Murine NKG2D signaling</a>                   | 4<br>2 | 3.0<br>43<br>E-<br>03 | 2.1<br>67<br>E-<br>02 | 3.0<br>43<br>E-<br>03 | 2.1<br>67<br>E-<br>02 | 3 | STAT5, ERK1/2, GRB2                  |
| 6<br>6 | <a href="#">Signal transduction JNK pathway</a>                          | 4<br>2 | 3.0<br>43<br>E-<br>03 | 2.1<br>67<br>E-<br>02 | 3.0<br>43<br>E-<br>03 | 2.1<br>67<br>E-<br>02 | 3 | CRK, GRB2, GCK(MAP4K2)               |
| 6<br>7 | <a href="#">Immune response HTR2A-induced activation of cPLA2</a>        | 4<br>3 | 3.2<br>55<br>E-<br>03 | 2.2<br>50<br>E-<br>02 | 3.2<br>55<br>E-<br>03 | 2.2<br>50<br>E-<br>02 | 3 | p38 MAPK, ERK1/2, GRB2               |

|        |                                                                                           |        |                       |                       |                       |                       |   |                               |
|--------|-------------------------------------------------------------------------------------------|--------|-----------------------|-----------------------|-----------------------|-----------------------|---|-------------------------------|
| 6<br>8 | <a href="#">Cytoskeleton remodeling_Hyaluronic acid/ CD44 signaling pathways</a>          | 4<br>3 | 3.2<br>55<br>E-<br>03 | 2.2<br>50<br>E-<br>02 | 3.2<br>55<br>E-<br>03 | 2.2<br>50<br>E-<br>02 | 3 | ERK1/2, GRB2, MLCK            |
| 6<br>9 | <a href="#">Immune response_IL-4 signaling pathway</a>                                    | 4<br>4 | 3.4<br>76<br>E-<br>03 | 2.3<br>34<br>E-<br>02 | 3.4<br>76<br>E-<br>03 | 2.3<br>34<br>E-<br>02 | 3 | ERK1/2, GRB2, IGHG1           |
| 7<br>0 | <a href="#">Influence of smoking on activation of EGFR signaling in lung cancer cells</a> | 4<br>4 | 3.4<br>76<br>E-<br>03 | 2.3<br>34<br>E-<br>02 | 3.4<br>76<br>E-<br>03 | 2.3<br>34<br>E-<br>02 | 3 | ERK1 (MAPK3), ERK1/2, GRB2    |
| 7<br>1 | <a href="#">Development_EPO-induced MAPK pathway</a>                                      | 4<br>5 | 3.7<br>05<br>E-<br>03 | 2.3<br>86<br>E-<br>02 | 3.7<br>05<br>E-<br>03 | 2.3<br>86<br>E-<br>02 | 3 | ERK1/2, CrkL, GRB2            |
| 7<br>2 | <a href="#">Development_Ligand-independent activation of ESR1 and ESR2</a>                | 4<br>5 | 3.7<br>05<br>E-<br>03 | 2.3<br>86<br>E-<br>02 | 3.7<br>05<br>E-<br>03 | 2.3<br>86<br>E-<br>02 | 3 | ERK1 (MAPK3), ERK1/2, GRB2    |
| 7<br>3 | <a href="#">Development_Thrombopoietin-regulated cell processes</a>                       | 4<br>5 | 3.7<br>05<br>E-<br>03 | 2.3<br>86<br>E-<br>02 | 3.7<br>05<br>E-<br>03 | 2.3<br>86<br>E-<br>02 | 3 | ERK1/2, CrkL, GRB2            |
| 7<br>4 | <a href="#">Development_Endothelin-1/EDNRA transactivation of EGFR</a>                    | 4<br>6 | 3.9<br>44<br>E-<br>03 | 2.5<br>05<br>E-<br>02 | 3.9<br>44<br>E-<br>03 | 2.5<br>05<br>E-<br>02 | 3 | STAT5, ERK1/2, GRB2           |
| 7<br>5 | <a href="#">Regulation of lipid metabolism_Insulin signaling:generic cascades</a>         | 4<br>7 | 4.1<br>93<br>E-<br>03 | 2.6<br>27<br>E-<br>02 | 4.1<br>93<br>E-<br>03 | 2.6<br>27<br>E-<br>02 | 3 | ERK1/2, GRB2, 4E-BP1          |
| 7<br>6 | <a href="#">Signal transduction_PTMs in IL-12 signaling pathway</a>                       | 4<br>8 | 4.4<br>50<br>E-<br>03 | 2.7<br>16<br>E-<br>02 | 4.4<br>50<br>E-<br>03 | 2.7<br>16<br>E-<br>02 | 3 | STAT5A, STAT5, Ubiquitin      |
| 7<br>7 | <a href="#">Immune response_TLR5, TLR7, TLR8 and TLR9 signaling pathways</a>              | 4<br>8 | 4.4<br>50<br>E-<br>03 | 2.7<br>16<br>E-<br>02 | 4.4<br>50<br>E-<br>03 | 2.7<br>16<br>E-<br>02 | 3 | p38 MAPK, Ubiquitin, ERK1/2   |
| 7<br>8 | <a href="#">Transcription_CREB pathway</a>                                                | 4<br>9 | 4.7<br>17<br>E-<br>03 | 2.7<br>71<br>E-<br>02 | 4.7<br>17<br>E-<br>03 | 2.7<br>71<br>E-<br>02 | 3 | p38 MAPK, ERK1/2, GRB2        |
| 7<br>9 | <a href="#">Role and regulation of Prostaglandin E2 in gastric cancer</a>                 | 4<br>9 | 4.7<br>17<br>E-<br>03 | 2.7<br>71<br>E-<br>02 | 4.7<br>17<br>E-<br>03 | 2.7<br>71<br>E-<br>02 | 3 | NOTCH1 receptor, ERK1/2, GRB2 |

|    |                                                                                                                   |    |                       |                       |                       |                       |   |                                                    |
|----|-------------------------------------------------------------------------------------------------------------------|----|-----------------------|-----------------------|-----------------------|-----------------------|---|----------------------------------------------------|
|    |                                                                                                                   |    | 03                    | 02                    | 03                    | 02                    |   |                                                    |
| 80 | <a href="#">Tissue Factor signaling in cancer via PAR1 and PAR2</a>                                               | 49 | 4.7<br>17<br>E-<br>03 | 2.7<br>71<br>E-<br>02 | 4.7<br>17<br>E-<br>03 | 2.7<br>71<br>E-<br>02 | 3 | STAT5A, ERK1/2, GRB2                               |
| 81 | <a href="#">Development A2B receptor: action via G-protein alpha s</a>                                            | 50 | 4.9<br>93<br>E-<br>03 | 2.8<br>97<br>E-<br>02 | 4.9<br>93<br>E-<br>03 | 2.8<br>97<br>E-<br>02 | 3 | p38 MAPK, ERK1/2, GRB2                             |
| 82 | <a href="#">Chemotaxis Inhibitory action of lipoxins on IL-8- and Leukotriene B4-induced neutrophil migration</a> | 51 | 5.2<br>80<br>E-<br>03 | 3.0<br>26<br>E-<br>02 | 5.2<br>80<br>E-<br>03 | 3.0<br>26<br>E-<br>02 | 3 | ERK1/2, MYLK1, MLCK                                |
| 83 | <a href="#">Development IGF-1 receptor signaling</a>                                                              | 52 | 5.5<br>75<br>E-<br>03 | 3.1<br>19<br>E-<br>02 | 5.5<br>75<br>E-<br>03 | 3.1<br>19<br>E-<br>02 | 3 | ERK1/2, GRB2, 4E-BP1                               |
| 84 | <a href="#">Development FGF-family signaling</a>                                                                  | 52 | 5.5<br>75<br>E-<br>03 | 3.1<br>19<br>E-<br>02 | 5.5<br>75<br>E-<br>03 | 3.1<br>19<br>E-<br>02 | 3 | p38 MAPK, ERK1 (MAPK3), GRB2                       |
| 85 | <a href="#">Development A1 receptor signaling</a>                                                                 | 53 | 5.8<br>81<br>E-<br>03 | 3.1<br>41<br>E-<br>02 | 5.8<br>81<br>E-<br>03 | 3.1<br>41<br>E-<br>02 | 3 | p38 MAPK, ERK1/2, GRB2                             |
| 86 | <a href="#">Immune response T cell receptor signaling pathway</a>                                                 | 53 | 5.8<br>81<br>E-<br>03 | 3.1<br>41<br>E-<br>02 | 5.8<br>81<br>E-<br>03 | 3.1<br>41<br>E-<br>02 | 3 | Ubiquitin, ERK1/2, GRB2                            |
| 87 | <a href="#">Immune response HMGB1/RAGE signaling pathway</a>                                                      | 53 | 5.8<br>81<br>E-<br>03 | 3.1<br>41<br>E-<br>02 | 5.8<br>81<br>E-<br>03 | 3.1<br>41<br>E-<br>02 | 3 | p38 MAPK, ERK1/2, IL1RN                            |
| 88 | <a href="#">Immune response T regulatory cell-mediated modulation of effector T cell and NK cell functions</a>    | 53 | 5.8<br>81<br>E-<br>03 | 3.1<br>41<br>E-<br>02 | 5.8<br>81<br>E-<br>03 | 3.1<br>41<br>E-<br>02 | 3 | NOTCH1 (NICD), RBP-J kappa (CBF1), NOTCH1 receptor |
| 89 | <a href="#">DNA damage_Role of SUMO in p53 regulation</a>                                                         | 17 | 6.0<br>64<br>E-<br>03 | 3.2<br>00<br>E-<br>02 | 6.0<br>64<br>E-<br>03 | 3.2<br>00<br>E-<br>02 | 2 | SAE1, Ubiquitin                                    |
| 90 | <a href="#">Immune response Role of DAP12 receptors in NK cells</a>                                               | 54 | 6.1<br>96<br>E-<br>03 | 3.2<br>00<br>E-<br>02 | 6.1<br>96<br>E-<br>03 | 3.2<br>00<br>E-<br>02 | 3 | ERK1/2, CrkL, GRB2                                 |

|     |                                                                                          |    |                       |                       |                       |                       |   |                                           |
|-----|------------------------------------------------------------------------------------------|----|-----------------------|-----------------------|-----------------------|-----------------------|---|-------------------------------------------|
| 91  | <a href="#">Immune response_IFN gamma signaling pathway</a>                              | 54 | 6.1<br>96<br>E-<br>03 | 3.2<br>00<br>E-<br>02 | 6.1<br>96<br>E-<br>03 | 3.2<br>00<br>E-<br>02 | 3 | p38 MAPK, ERK1/2, CrkL                    |
| 92  | <a href="#">Immune response_Fc epsilon RI pathway</a>                                    | 55 | 6.5<br>21<br>E-<br>03 | 3.3<br>32<br>E-<br>02 | 6.5<br>21<br>E-<br>03 | 3.3<br>32<br>E-<br>02 | 3 | p38 MAPK, ERK1/2, GRB2                    |
| 93  | <a href="#">Chemotaxis_CCL2-induced chemotaxis</a>                                       | 56 | 6.8<br>57<br>E-<br>03 | 3.3<br>57<br>E-<br>02 | 6.8<br>57<br>E-<br>03 | 3.3<br>57<br>E-<br>02 | 3 | p38 MAPK, ERK1/2, GRB2                    |
| 94  | <a href="#">Development_Keratinocyte differentiation</a>                                 | 56 | 6.8<br>57<br>E-<br>03 | 3.3<br>57<br>E-<br>02 | 6.8<br>57<br>E-<br>03 | 3.3<br>57<br>E-<br>02 | 3 | NOTCH1 (NICD), RBP-J kappa (CBF1), ERK1/2 |
| 95  | <a href="#">Impaired inhibitory action of lipoxins on neutrophil migration in CF</a>     | 56 | 6.8<br>57<br>E-<br>03 | 3.3<br>57<br>E-<br>02 | 6.8<br>57<br>E-<br>03 | 3.3<br>57<br>E-<br>02 | 3 | ERK1/2, MYLK1, MLCK                       |
| 96  | <a href="#">Regulation of lipid metabolism_Insulin regulation of glycogen metabolism</a> | 56 | 6.8<br>57<br>E-<br>03 | 3.3<br>57<br>E-<br>02 | 6.8<br>57<br>E-<br>03 | 3.3<br>57<br>E-<br>02 | 3 | ERK1/2, GRB2, HXK4                        |
| 97  | <a href="#">Cytoskeleton remodeling_FAK signaling</a>                                    | 57 | 7.2<br>02<br>E-<br>03 | 3.4<br>90<br>E-<br>02 | 7.2<br>02<br>E-<br>03 | 3.4<br>90<br>E-<br>02 | 3 | CRK, ERK1/2, GRB2                         |
| 98  | <a href="#">Immune response_TREM1 signaling pathway</a>                                  | 59 | 7.9<br>23<br>E-<br>03 | 3.8<br>00<br>E-<br>02 | 7.9<br>23<br>E-<br>03 | 3.8<br>00<br>E-<br>02 | 3 | Ubiquitin, ERK1/2, GRB2                   |
| 99  | <a href="#">Development_TGF-beta-induction of EMT via ROS</a>                            | 20 | 8.3<br>59<br>E-<br>03 | 3.9<br>29<br>E-<br>02 | 8.3<br>59<br>E-<br>03 | 3.9<br>29<br>E-<br>02 | 2 | p38 MAPK, GRB2                            |
| 100 | <a href="#">Translation_IL-2 regulation of translation</a>                               | 20 | 8.3<br>59<br>E-<br>03 | 3.9<br>29<br>E-<br>02 | 8.3<br>59<br>E-<br>03 | 3.9<br>29<br>E-<br>02 | 2 | GRB2, 4E-BP1                              |

**Table 6S: Enrichment analysis report.** Enrichment by Pathway Maps (healthy control vs Grade IV)

| Enrichment by Pathway Maps |                                                                       |       |               | GRADE<br>IV_INPUT(1)_genelis<br>t |               |               |            |                                        |
|----------------------------|-----------------------------------------------------------------------|-------|---------------|-----------------------------------|---------------|---------------|------------|----------------------------------------|
| #                          | Maps                                                                  | Total | pValue        | Min<br>FDR                        | p-value       | FDR           | In<br>Data | Network<br>Objects from<br>Active Data |
| 1                          | <a href="#">Immune response_IL-4 signaling pathway</a>                | 44    | 1.280<br>E-04 | 3.435<br>E-02                     | 1.280<br>E-04 | 3.435<br>E-02 | 3          | IGHG4, IGHG1,<br>ERK1/2                |
| 2                          | <a href="#">Immune response_HSP60 and HSP70/TLR signaling pathway</a> | 54    | 2.363<br>E-04 | 3.435<br>E-02                     | 2.363<br>E-04 | 3.435<br>E-02 | 3          | TIRAP (Mal),<br>HSP70, ERK1/2          |
| 3                          | <a href="#">Transport_RAB3 regulation pathway</a>                     | 14    | 4.447<br>E-04 | 3.435<br>E-02                     | 4.447<br>E-04 | 3.435<br>E-02 | 2          | Rab-3B, Rab-3                          |
| 4                          | <a href="#">Cell cycle_Nucleocytoplasmic transport of CDK/Cyclins</a> | 14    | 4.447<br>E-04 | 3.435<br>E-02                     | 4.447<br>E-04 | 3.435<br>E-02 | 2          | Cyclin B1, ERK1<br>(MAPK3)             |

| <b>Table 6S: Enrichment analysis report.</b> Enrichment by Pathway Maps (healthy control vs SVZp) |                                                                                   |           |                   |                   |                              |                   |                |                                                                 |
|---------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------|-------------------|-------------------|------------------------------|-------------------|----------------|-----------------------------------------------------------------|
| Enrichment by Pathway Maps                                                                        |                                                                                   |           |                   |                   | SVZp Limma<br>Input_genelist |                   |                |                                                                 |
| #                                                                                                 | Maps                                                                              | T<br>otal | pVa<br>lue        | Min<br>FD<br>R    | p-<br>val<br>ue              | FD<br>R           | In<br>Da<br>ta | Network Objects from<br>Active Data                             |
| 1                                                                                                 | <a href="#">Development Notch Signaling Pathway</a>                               | 4<br>3    | 6.7<br>29E<br>-06 | 2.2<br>14E<br>-03 | 6.7<br>29E<br>-06            | 2.2<br>14E<br>-03 | 4              | NOTCH1 (NICD), NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor |
| 2                                                                                                 | <a href="#">Development NOTCH-induced EMT</a>                                     | 1<br>9    | 2.1<br>21E<br>-05 | 3.4<br>88E<br>-03 | 2.1<br>21E<br>-05            | 3.4<br>88E<br>-03 | 3              | NOTCH1 (NICD), NOTCH1 (NEXT), NOTCH1 receptor                   |
| 3                                                                                                 | <a href="#">Development NOTCH1-mediated pathway for NF-KB activity modulation</a> | 3<br>4    | 1.2<br>72E<br>-04 | 1.3<br>95E<br>-02 | 1.2<br>72E<br>-04            | 1.3<br>95E<br>-02 | 3              | NOTCH1 (NICD), NOTCH1 (NEXT), NOTCH1 receptor                   |
| 4                                                                                                 | <a href="#">Immune response IL-4 signaling pathway</a>                            | 4<br>4    | 2.7<br>60E<br>-04 | 2.2<br>70E<br>-02 | 2.7<br>60E<br>-04            | 2.2<br>70E<br>-02 | 3              | IGHG4, IGHG1, ERK1/2                                            |
| 5                                                                                                 | <a href="#">Development Oligodendrocyte differentiation from adult stem cells</a> | 5<br>1    | 4.2<br>81E<br>-04 | 2.8<br>17E<br>-02 | 4.2<br>81E<br>-04            | 2.8<br>17E<br>-02 | 3              | NOTCH1 (NICD), NOTCH1 receptor, ERK1/2                          |
| 6                                                                                                 | <a href="#">Transport_RAB3 regulation pathway</a>                                 | 1<br>4    | 7.3<br>94E<br>-04 | 3.4<br>75E<br>-02 | 7.3<br>94E<br>-04            | 3.4<br>75E<br>-02 | 2              | Rab-3B, Rab-3                                                   |
| 7                                                                                                 | <a href="#">Cell cycle Nucleocytoplasmic transport of CDK/Cyclins</a>             | 1<br>4    | 7.3<br>94E<br>-04 | 3.4<br>75E<br>-02 | 7.3<br>94E<br>-04            | 3.4<br>75E<br>-02 | 2              | Cyclin B1, ERK1 (MAPK3)                                         |

No significant pathways enriched in healthy control vs SVZp comparison by Pathway maps.

**Table 6S: Enrichment analysis report.** Enrichment by Pathway Maps (SVZp vs SVZn)

| Enrichment by Pathway Maps |                                                                   |       |           |           | SVZp VS SVZn Limma List_genelist |           |         |                                  |
|----------------------------|-------------------------------------------------------------------|-------|-----------|-----------|----------------------------------|-----------|---------|----------------------------------|
| #                          | Maps                                                              | Total | pValue    | Min FDR   | p-value                          | FDR       | In Data | Network Objects from Active Data |
| 1                          | <a href="#">Regulation of degradation of wtCFTR</a>               | 20    | 1.298E-02 | 3.504E-02 | 1.298E-02                        | 3.504E-02 | 1       | MJD (ataxin-3)                   |
| 2                          | <a href="#">Proteolysis Putative ubiquitin pathway</a>            | 23    | 1.492E-02 | 3.504E-02 | 1.492E-02                        | 3.504E-02 | 1       | MJD (ataxin-3)                   |
| 3                          | <a href="#">Neurophysiological process Visual perception</a>      | 30    | 1.942E-02 | 3.504E-02 | 1.942E-02                        | 3.504E-02 | 1       | GCAP1                            |
| 4                          | <a href="#">LRRK2 in neurons in Parkinson's disease</a>           | 33    | 2.135E-02 | 3.504E-02 | 2.135E-02                        | 3.504E-02 | 1       | eEF1A                            |
| 5                          | <a href="#">Glycogen metabolism</a>                               | 37    | 2.391E-02 | 3.504E-02 | 2.391E-02                        | 3.504E-02 | 1       | PGMU                             |
| 6                          | <a href="#">Immune response Generation of memory CD4+ T cells</a> | 37    | 2.391E-02 | 3.504E-02 | 2.391E-02                        | 3.504E-02 | 1       | GABP alpha                       |
| 7                          | <a href="#">Regulation of degradation of deltaF508-CFTR in CF</a> | 39    | 2.519E-02 | 3.504E-02 | 2.519E-02                        | 3.504E-02 | 1       | MJD (ataxin-3)                   |
| 8                          | <a href="#">Propionate metabolism p.1</a>                         | 39    | 2.519E-02 | 3.504E-02 | 2.519E-02                        | 3.504E-02 | 1       | 3HIDH                            |
| 9                          | <a href="#">Pentose phosphate pathway/ Rodent version</a>         | 43    | 2.774E-02 | 3.504E-02 | 2.774E-02                        | 3.504E-02 | 1       | PGMU                             |
| 10                         | <a href="#">Pentose phosphate pathway</a>                         | 44    | 2.838E-02 | 3.504E-02 | 2.838E-02                        | 3.504E-02 | 1       | PGMU                             |
| 11                         | <a href="#">Glycolysis and gluconeogenesis p. 1</a>               | 46    | 2.965E-02 | 3.504E-02 | 2.965E-02                        | 3.504E-02 | 1       | PGMU                             |
| 12                         | <a href="#">Galactose metabolism</a>                              | 59    | 3.790E-02 | 4.105E-02 | 3.790E-02                        | 4.105E-02 | 1       | PGMU                             |
| 13                         | <a href="#">Galactose metabolism/ Rodent version</a>              | 64    | 4.105E-02 | 4.105E-02 | 4.105E-02                        | 4.105E-02 | 1       | PGMU                             |



| Table 7S: Enrichment analysis report. Enrichment by Metabolic Networks (healthy control vs Grade II) |                                                              |       |           |           |                         |           |         |                                  |
|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|-------|-----------|-----------|-------------------------|-----------|---------|----------------------------------|
| Enrichment by Metabolic Networks                                                                     |                                                              |       |           |           | GRADE II_INPUT_genelist |           |         |                                  |
| #                                                                                                    | Networks                                                     | Total | pValue    | Min FDR   | p-value                 | FDR       | In Data | Network Objects from Active Data |
| 1                                                                                                    | <a href="#">Phosphatidic acid pathway</a>                    | 13    | 4.118E-03 | 1.235E-02 | 4.118E-03               | 1.235E-02 | 1       | SNX1                             |
| 2                                                                                                    | <a href="#">Phosphatidylethanolamine pathway</a>             | 91    | 2.865E-02 | 2.896E-02 | 2.865E-02               | 2.896E-02 | 1       | CD44                             |
| 3                                                                                                    | <a href="#">Phosphatidylinositol-4,5-diphosphate pathway</a> | 92    | 2.896E-02 | 2.896E-02 | 2.896E-02               | 2.896E-02 | 1       | SNX1                             |

No significant pathways enriched in healthy control vs Grade III comparison by Metabolic Networks.

No significant pathways enriched in healthy control vs Grade IV comparison by Metabolic Networks.

| <b>Table 7S: Enrichment analysis report.</b> Enrichment by Metabolic Networks (healthy control vs SVZp) |                                                                  |       |                   |                   |                              |                   |         |                                                                  |
|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|-------|-------------------|-------------------|------------------------------|-------------------|---------|------------------------------------------------------------------|
| Enrichment by Metabolic Networks                                                                        |                                                                  |       |                   |                   | SVZp Limma<br>Input_genelist |                   |         |                                                                  |
| #                                                                                                       | Networks                                                         | Total | pValue            | Min FDR           | p-value                      | FDR               | In Data | Network Objects from Active Data                                 |
| 1                                                                                                       | <a href="#">Phosphatidylethanolamine pathway</a>                 | 91    | 1.83<br>7E-<br>05 | 4.40<br>9E-<br>04 | 1.83<br>7E-<br>05            | 4.40<br>9E-<br>04 | 4       | Tissue kallikreins, Kallikrein 1, Annexin XI, Kallikrein 3 (PSA) |
| 2                                                                                                       | <a href="#">2-arachidonoyl-glycerol 3-phosphocholine pathway</a> | 140   | 2.03<br>2E-<br>03 | 2.43<br>9E-<br>02 | 2.03<br>2E-<br>03            | 2.43<br>9E-<br>02 | 3       | Tissue kallikreins, OATP-C, ERK1/2                               |

No significant pathways enriched in healthy control vs SVZn comparison by Metabolic Networks.

No significant pathways enriched in SVZp vs SVZn comparison by Metabolic Networks.

| Table 8S: Enrichment analysis report. Enrichment by Process Networks (healthy control vs Grade II) |                                                        |       |           |           |                         |           |         |                                            |
|----------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------|-----------|-----------|-------------------------|-----------|---------|--------------------------------------------|
| Enrichment by Process Networks                                                                     |                                                        |       |           |           | GRADE II_INPUT_genelist |           |         |                                            |
| #                                                                                                  | Networks                                               | Total | pValue    | Min FDR   | p-value                 | FDR       | In Data | Network Objects from Active Data           |
| 1                                                                                                  | <a href="#">Cell adhesion Cell-matrix interactions</a> | 211   | 2.071E-04 | 5.178E-03 | 2.071E-04               | 5.178E-03 | 4       | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD) |
| 2                                                                                                  | <a href="#">Cytoskeleton Actin filaments</a>           | 176   | 2.095E-03 | 2.618E-02 | 2.095E-03               | 2.618E-02 | 3       | CD44, MYLK1, MLCK                          |

**Table 8S: Enrichment analysis report.** Enrichment by Process Networks (healthy control vs Grade III)

| Enrichment by Process Networks |                                                                                             |       |           | GRADE III_INPUT_4(1)_genelist |           |           |         |                                                                                                                                                                 |
|--------------------------------|---------------------------------------------------------------------------------------------|-------|-----------|-------------------------------|-----------|-----------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #                              | Networks                                                                                    | Total | p Value   | Min FDR                       | p-value   | FDR       | In Data | Network Objects from Active Data                                                                                                                                |
| 1                              | <a href="#">Development Blood vessel morphogenesis</a>                                      | 228   | 8.403E-06 | 8.058E-04                     | 8.403E-06 | 8.058E-04 | 12      | CRK, NOTCH1 (NICD), ERK1 (MAPK3), STAT5, RBP-J kappa (CBF1), NOTCH1 receptor, ERK1/2, Guanylate cyclase A (NPR1), GRB2, Notch, NOTCH1 (NEXT), NOTCH1 precursor  |
| 2                              | <a href="#">Signal transduction NOTCH signaling</a>                                         | 236   | 1.194E-05 | 8.058E-04                     | 1.194E-05 | 8.058E-04 | 12      | NOTCH1 (NICD), p38 MAPK, ERK1 (MAPK3), RBP-J kappa (CBF1), NOTCH1 receptor, p38gamma (MAPK12), Ubiquitin, ERK1/2, GRB2, NOTCH1 (NEXT), NOTCH1 precursor, 4E-BP1 |
| 3                              | <a href="#">Development Hemopoiesis, Erythropoietin pathway</a>                             | 136   | 2.054E-05 | 9.242E-04                     | 2.054E-05 | 9.242E-04 | 9       | STAT5A, p38 MAPK, ERK1 (MAPK3), Bim, STAT5, p38gamma (MAPK12), ERK1/2, CrkL, GRB2                                                                               |
| 4                              | <a href="#">Development EMT Regulation of epithelial-to-mesenchymal transition</a>          | 225   | 4.108E-05 | 1.386E-03                     | 4.108E-05 | 1.386E-03 | 11      | CRK, NOTCH1 (NICD), p38 MAPK, RBP-J kappa (CBF1), NOTCH1 receptor, ERK1/2, CrkL, GRB2, NOTCH1 (NEXT), 4E-BP1, Occludin                                          |
| 5                              | <a href="#">Cytoskeleton Actin filaments</a>                                                | 176   | 1.543E-04 | 4.167E-03                     | 1.543E-04 | 4.167E-03 | 9       | CRK, ERK1 (MAPK3), LASP1, Twinfilin, ERK1/2, MYLK1, GRB2, Tropomodulin, MLCK                                                                                    |
| 6                              | <a href="#">Cell adhesion Glycoconjugates</a>                                               | 162   | 4.631E-04 | 1.042E-02                     | 4.631E-04 | 1.042E-02 | 8       | Reticulon 4, Siglec-8, ERK1 (MAPK3), ERK1/2, Siglec-E, SAP, Galectin-13, SIGLEC5                                                                                |
| 7                              | <a href="#">Immune response IL-5 signalling</a>                                             | 38    | 8.437E-04 | 1.512E-02                     | 8.437E-04 | 1.512E-02 | 4       | STAT5, ERK1/2, CrkL, GRB2                                                                                                                                       |
| 8                              | <a href="#">Apoptosis Anti-Apoptosis mediated by external signals via MAPK and JAK/STAT</a> | 179   | 8.962E-05 | 1.512E-02                     | 8.962E-05 | 1.512E-02 | 8       | CRK, STAT5A, p38 MAPK, Bim, STAT5, ERK1/2, CrkL, GRB2                                                                                                           |

|        |                                                      |             |                      |                      |                      |                      |   |                                                                                          |
|--------|------------------------------------------------------|-------------|----------------------|----------------------|----------------------|----------------------|---|------------------------------------------------------------------------------------------|
|        |                                                      |             | 04                   | 02                   | 04                   | 02                   |   |                                                                                          |
| 9      | <a href="#">Inflammation IL-2 signaling</a>          | 1<br>0<br>4 | 1.<br>10<br>4E<br>03 | 1.<br>65<br>5E<br>02 | 1.<br>10<br>4E<br>03 | 1.<br>65<br>5E<br>02 | 6 | STAT5A, p38 MAPK, ERK1 (MAPK3), STAT5, ERK1/2, GRB2                                      |
| 1<br>0 | <a href="#">Cell adhesion Amyloid proteins</a>       | 1<br>9<br>5 | 1.<br>55<br>7E<br>03 | 2.<br>10<br>2E<br>02 | 1.<br>55<br>7E<br>03 | 2.<br>10<br>2E<br>02 | 8 | Reticulon 4, Siglec-8, NOTCH1 (NICD), ERK1 (MAPK3), NOTCH1 receptor, ERK1/2, GRB2, Notch |
| 1<br>1 | <a href="#">DNA damage Checkpoint</a>                | 1<br>2<br>4 | 2.<br>71<br>5E<br>03 | 3.<br>33<br>2E<br>02 | 2.<br>71<br>5E<br>03 | 3.<br>33<br>2E<br>02 | 6 | RAD1, p38 MAPK, ERK1 (MAPK3), p38gamma (MAPK12), Ubiquitin, ERK1/2                       |
| 1<br>2 | <a href="#">Translation Regulation of initiation</a> | 1<br>2<br>7 | 3.<br>06<br>0E<br>03 | 3.<br>44<br>2E<br>02 | 3.<br>06<br>0E<br>03 | 3.<br>44<br>2E<br>02 | 6 | p38 MAPK, ERK1 (MAPK3), p38gamma (MAPK12), ERK1/2, GRB2, 4E-BP1                          |
| 1<br>3 | <a href="#">Immune response TCR signaling</a>        | 1<br>7<br>4 | 3.<br>43<br>7E<br>03 | 3.<br>56<br>9E<br>02 | 3.<br>43<br>7E<br>03 | 3.<br>56<br>9E<br>02 | 7 | p38 MAPK, ERK1 (MAPK3), Bim, p38gamma (MAPK12), Ubiquitin, ERK1/2, GRB2                  |

**Table 8S: Enrichment analysis report.** Enrichment by Process Networks (healthy control vs Grade IV)

| Enrichment by Process Networks |                                                               |       |               | GRADE IV_INPUT_genelist |               |               |         |                                                                |
|--------------------------------|---------------------------------------------------------------|-------|---------------|-------------------------|---------------|---------------|---------|----------------------------------------------------------------|
| #                              | Networks                                                      | Total | pValue        | Min FDR                 | p-value       | FDR           | In Data | Network Objects from Active Data                               |
| 1                              | <a href="#">Protein folding Response to unfolded proteins</a> | 69    | 8.64<br>3E-05 | 8.78<br>9E-03           | 8.64<br>3E-05 | 8.78<br>9E-03 | 4       | HSPA1B, HSP70, HSPA1A, HSPA2                                   |
| 2                              | <a href="#">Reproduction Male sex differentiation</a>         | 246   | 1.59<br>8E-04 | 8.78<br>9E-03           | 1.59<br>8E-04 | 8.78<br>9E-03 | 6       | Olfactory receptor, HSP70, ERK1 (MAPK3), HSPA1A, HSPA2, ERK1/2 |
| 3                              | <a href="#">Inflammation IL-4 signaling</a>                   | 115   | 6.20<br>1E-04 | 1.55<br>2E-02           | 6.20<br>1E-04 | 1.55<br>2E-02 | 4       | IGHG4, IGHG1, ERK1 (MAPK3), ERK1/2                             |
| 4                              | <a href="#">Cell cycle G2-M</a>                               | 206   | 6.29<br>1E-04 | 1.55<br>2E-02           | 6.29<br>1E-04 | 1.55<br>2E-02 | 5       | Cyclin B1, ERK1 (MAPK3), CKS2, Cyclin B, ERK1/2                |
| 5                              | <a href="#">Protein folding Folding in normal condition</a>   | 119   | 7.05<br>6E-04 | 1.55<br>2E-02           | 7.05<br>6E-04 | 1.55<br>2E-02 | 4       | HSPA1B, HSP70, HSPA1A, HSPA2                                   |

| Table 8S: Enrichment analysis report. Enrichment by Process Networks (healthy control vs SVZp) |                                                                       |       |           |                           |           |           |        |                                                                                                                                                    |
|------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-------|-----------|---------------------------|-----------|-----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Enrichment by Process Networks                                                                 |                                                                       |       |           | SVZp Limma Input_genelist |           |           |        |                                                                                                                                                    |
| #                                                                                              | Networks                                                              | Total | pValue    | Min FDR                   | p-value   | FDR       | Indata | Network Objects from Active Data                                                                                                                   |
| 1                                                                                              | <a href="#">Development Blood vessel morphogenesis</a>                | 228   | 6.013E-08 | 6.674E-06                 | 6.013E-08 | 6.674E-06 | 10     | Tissue kallikreins, Kallikrein 1, NOTCH1 (NICD), Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, NOTCH1 receptor, Kallikrein 3 (PSA), ERK1/2 |
| 2                                                                                              | <a href="#">Development Neurogenesis in general</a>                   | 192   | 2.634E-05 | 1.462E-03                 | 2.634E-05 | 1.462E-03 | 7      | LHX1, NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor, ERK1/2                                                               |
| 3                                                                                              | <a href="#">Cell cycle G2-M</a>                                       | 206   | 4.144E-05 | 1.533E-03                 | 4.144E-05 | 1.533E-03 | 7      | Cyclin B1, ERK1 (MAPK3), 14-3-3 zeta/delta, CKS2, Cyclin B, ERK1/2, 14-3-3                                                                         |
| 4                                                                                              | <a href="#">Development Hedgehog signaling</a>                        | 254   | 1.558E-04 | 4.324E-03                 | 1.558E-04 | 4.324E-03 | 7      | Cyclin B1, LHX1, NOTCH1 (NICD), NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, NOTCH1 receptor                                                     |
| 5                                                                                              | <a href="#">DNA damage Checkpoint</a>                                 | 124   | 2.698E-04 | 5.989E-03                 | 2.698E-04 | 5.989E-03 | 5      | ERK1 (MAPK3), 14-3-3 zeta/delta, Cyclin B, ERK1/2, 14-3-3                                                                                          |
| 6                                                                                              | <a href="#">Inflammation TREM1 signaling</a>                          | 145   | 5.558E-04 | 1.028E-02                 | 5.558E-04 | 1.028E-02 | 5      | TIRAP (Mal), ERK1 (MAPK3), 14-3-3 zeta/delta, ERK1/2, 14-3-3                                                                                       |
| 7                                                                                              | <a href="#">Signal transduction NOTCH signaling</a>                   | 236   | 7.529E-04 | 1.194E-02                 | 7.529E-04 | 1.194E-02 | 6      | NOTCH1 (NICD), NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, NOTCH1 receptor, ERK1/2                                                              |
| 8                                                                                              | <a href="#">Cytoskeleton Regulation of cytoskeleton rearrangement</a> | 183   | 1.587E-03 | 2.202E-02                 | 1.587E-03 | 2.202E-02 | 5      | ERK1 (MAPK3), CD43, 14-3-3 zeta/delta, ERK1/2, 14-3-3                                                                                              |
| 9                                                                                              | <a href="#">Inflammation IL-4 signaling</a>                           | 115   | 2.034E-03 | 2.326E-02                 | 2.034E-03 | 2.326E-02 | 4      | IGHG4, IGHG1, ERK1 (MAPK3), ERK1/2                                                                                                                 |
| 10                                                                                             | <a href="#">Cell adhesion Amyloid proteins</a>                        | 199   | 2.100E-00 | 2.326E-00                 | 2.100E-00 | 2.326E-00 | 5      | NOTCH1 (NICD), Notch, ERK1 (MAPK3), NOTCH1 receptor, ERK1/2                                                                                        |

|   |                                                     |   |       |       |       |       |   |                                                          |
|---|-----------------------------------------------------|---|-------|-------|-------|-------|---|----------------------------------------------------------|
|   |                                                     | 5 | E-03  | E-02  | E-03  | E-02  |   |                                                          |
| 1 | <a href="#">Inflammation IL-6 signaling</a>         | 1 | 2.305 | 2.326 | 2.305 | 2.326 |   |                                                          |
| 1 |                                                     | 1 | E-03  | E-02  | E-03  | E-02  | 4 | ERK1 (MAPK3), 14-3-3 zeta/delta, ERK1/2, 14-3-3          |
| 1 | <a href="#">Reproduction Progesterone signaling</a> | 2 | 3.149 | 2.913 | 3.149 | 2.913 |   |                                                          |
| 2 |                                                     | 1 | E-03  | E-02  | E-03  | E-02  | 5 | Cyclin B1, ERK1 (MAPK3), NOTCH1 precursor, SULT1E1, CKS2 |



| <b>Table 8S: Enrichment analysis report.</b> Enrichment by Process Networks (healthy control vs SVZn) |                                                               |         |               |               |                              |               |         |                                     |
|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|---------|---------------|---------------|------------------------------|---------------|---------|-------------------------------------|
| Enrichment by Process Networks                                                                        |                                                               |         |               |               | SVZn Limma<br>Input_genelist |               |         |                                     |
| #                                                                                                     | Networks                                                      | Total   | pValue        | Min FDR       | p-value                      | FDR           | In Data | Network Objects from Active Data    |
| 1                                                                                                     | <a href="#">Protein folding_Response to unfolded proteins</a> | 69      | 6.564<br>E-05 | 6.171<br>E-03 | 6.564<br>E-05                | 6.171<br>E-03 | 5       | HSPA1B, HSP70, HSPA2, HSPA1A, HSC70 |
| 2                                                                                                     | <a href="#">Protein folding_Folding in normal condition</a>   | 11<br>9 | 8.447<br>E-04 | 3.970<br>E-02 | 8.447<br>E-04                | 3.970<br>E-02 | 5       | HSPA1B, HSP70, HSPA2, HSPA1A, HSC70 |

No significant pathways enriched in SVZp vs SVZn comparison by Process Networks.

**Table 9S: Enrichment analysis report.** Enrichment by GO Processes (healthy control vs Grade II)

| Enrichment by GO Processes |                                                          |       |           |           | GRADE II_INPUT_genelist |           |        |                                  |
|----------------------------|----------------------------------------------------------|-------|-----------|-----------|-------------------------|-----------|--------|----------------------------------|
| #                          | Processes                                                | Total | pValue    | Min FDR   | p-value                 | FDR       | Indata | Network Objects from Active Data |
| 1                          | <a href="#">aorta morphogenesis</a>                      | 30    | 1.751E-09 | 6.483E-07 | 1.751E-09               | 6.483E-07 | 4      | MYLK1, MLCK, EYA1, Telokin       |
| 2                          | <a href="#">aorta development</a>                        | 33    | 2.613E-09 | 6.483E-07 | 2.613E-09               | 6.483E-07 | 4      | MYLK1, MLCK, EYA1, Telokin       |
| 3                          | <a href="#">aorta smooth muscle tissue morphogenesis</a> | 6     | 2.964E-09 | 6.483E-07 | 2.964E-09               | 6.483E-07 | 3      | MYLK1, MLCK, Telokin             |
| 4                          | <a href="#">cellular hypotonic response</a>              | 6     | 2.964E-09 | 6.483E-07 | 2.964E-09               | 6.483E-07 | 3      | MYLK1, MLCK, Telokin             |
| 5                          | <a href="#">hypotonic response</a>                       | 8     | 8.293E-09 | 1.451E-06 | 8.293E-09               | 1.451E-06 | 3      | MYLK1, MLCK, Telokin             |
| 6                          | <a href="#">bleb assembly</a>                            | 12    | 3.254E-08 | 4.745E-06 | 3.254E-08               | 4.745E-06 | 3      | MYLK1, MLCK, Telokin             |
| 7                          | <a href="#">artery morphogenesis</a>                     | 78    | 8.982E-08 | 1.123E-05 | 8.982E-08               | 1.123E-05 | 4      | MYLK1, MLCK, EYA1, Telokin       |
| 8                          | <a href="#">artery development</a>                       | 87    | 1.398E-07 | 1.390E-05 | 1.398E-07               | 1.390E-05 | 4      | MYLK1, MLCK, EYA1, Telokin       |
| 9                          | <a href="#">tonic smooth muscle contraction</a>          | 19    | 1.430E-07 | 1.390E-05 | 1.430E-07               | 1.390E-05 | 3      | MYLK1, MLCK, Telokin             |
| 10                         | <a href="#">positive regulation of wound healing</a>     | 22    | 2.270E-07 | 1.986E-06 | 2.270E-07               | 1.986E-06 | 3      | MYLK1, MLCK, Telokin             |

|        |                                                                  |                  |                   |                   |                   |                   |   |                                                |
|--------|------------------------------------------------------------------|------------------|-------------------|-------------------|-------------------|-------------------|---|------------------------------------------------|
|        |                                                                  |                  | E-07              | E-05              | E-07              | E-05              |   |                                                |
| 1<br>1 | <a href="#">smooth muscle tissue development</a>                 | 3<br>5           | 9.6<br>07<br>E-07 | 7.6<br>42<br>E-05 | 9.6<br>07<br>E-07 | 7.6<br>42<br>E-05 | 3 | MYLK1, MLCK, Telokin                           |
| 1<br>2 | <a href="#">tissue morphogenesis</a>                             | 6<br>9<br>3      | 1.0<br>64<br>E-06 | 7.7<br>61<br>E-05 | 1.0<br>64<br>E-06 | 7.7<br>61<br>E-05 | 6 | CD44, MYLK1, MLCK, LHX1, EYA1, Telokin         |
| 1<br>3 | <a href="#">cellular response to osmotic stress</a>              | 4<br>2           | 1.6<br>81<br>E-06 | 1.1<br>32<br>E-04 | 1.6<br>81<br>E-06 | 1.1<br>32<br>E-04 | 3 | MYLK1, MLCK, Telokin                           |
| 1<br>4 | <a href="#">branching involved in ureteric bud morphogenesis</a> | 7<br>8           | 1.1<br>01<br>E-05 | 6.8<br>82<br>E-04 | 1.1<br>01<br>E-05 | 6.8<br>82<br>E-04 | 3 | CD44, LHX1, EYA1                               |
| 1<br>5 | <a href="#">smooth muscle contraction</a>                        | 8<br>4           | 1.3<br>76<br>E-05 | 8.0<br>29<br>E-04 | 1.3<br>76<br>E-05 | 8.0<br>29<br>E-04 | 3 | MYLK1, MLCK, Telokin                           |
| 1<br>6 | <a href="#">blood vessel development</a>                         | 6<br>2<br>3      | 1.6<br>06<br>E-05 | 8.4<br>30<br>E-04 | 1.6<br>06<br>E-05 | 8.4<br>30<br>E-04 | 5 | CD44, MYLK1, MLCK, EYA1, Telokin               |
| 1<br>7 | <a href="#">ureteric bud morphogenesis</a>                       | 8<br>9           | 1.6<br>38<br>E-05 | 8.4<br>30<br>E-04 | 1.6<br>38<br>E-05 | 8.4<br>30<br>E-04 | 3 | CD44, LHX1, EYA1                               |
| 1<br>8 | <a href="#">organ morphogenesis</a>                              | 1<br>1<br>2<br>7 | 1.7<br>76<br>E-05 | 8.6<br>34<br>E-04 | 1.7<br>76<br>E-05 | 8.6<br>34<br>E-04 | 6 | CD44, MYLK1, MLCK, LHX1, EYA1, Telokin         |
| 1<br>9 | <a href="#">vasculature development</a>                          | 6<br>6<br>8      | 2.2<br>49<br>E-05 | 1.0<br>36<br>E-03 | 2.2<br>49<br>E-05 | 1.0<br>36<br>E-03 | 5 | CD44, MYLK1, MLCK, EYA1, Telokin               |
| 2<br>0 | <a href="#">muscle tissue morphogenesis</a>                      | 1<br>0<br>4      | 2.6<br>14<br>E-05 | 1.0<br>91<br>E-03 | 2.6<br>14<br>E-05 | 1.0<br>91<br>E-03 | 3 | MYLK1, MLCK, Telokin                           |
| 2<br>1 | <a href="#">tissue development</a>                               | 1<br>8<br>7<br>9 | 2.6<br>19<br>E-05 | 1.0<br>91<br>E-03 | 2.6<br>19<br>E-05 | 1.0<br>91<br>E-03 | 7 | CD44, VDAC 1, MYLK1, MLCK, LHX1, EYA1, Telokin |

|   |                                                               |   |     |     |     |     |   |                                  |
|---|---------------------------------------------------------------|---|-----|-----|-----|-----|---|----------------------------------|
| 2 |                                                               | 1 | 3.2 | 1.2 | 3.2 | 1.2 |   |                                  |
| 2 |                                                               | 1 | 63  | 98  | 63  | 98  |   |                                  |
| 2 | <a href="#">muscle organ morphogenesis</a>                    | 2 | E-  | E-  | E-  | E-  | 3 | MYLK1, MLCK, Telokin             |
| 2 |                                                               | 1 | 3.6 | 1.3 | 3.6 | 1.3 |   |                                  |
| 3 | <a href="#">response to osmotic stress</a>                    | 6 | 23  | 21  | 23  | 21  | 3 | MYLK1, MLCK, Telokin             |
|   |                                                               | 1 | E-  | E-  | E-  | E-  |   |                                  |
| 2 |                                                               | 1 | 3.6 | 1.3 | 3.6 | 1.3 |   |                                  |
| 4 | <a href="#">positive regulation of calcium ion transport</a>  | 6 | 23  | 21  | 23  | 21  | 3 | MYLK1, MLCK, Telokin             |
|   |                                                               | 1 | E-  | E-  | E-  | E-  |   |                                  |
| 2 |                                                               | 1 | 6.0 | 2.1 | 6.0 | 2.1 |   |                                  |
| 5 | <a href="#">ureteric bud development</a>                      | 8 | 82  | 29  | 82  | 29  | 3 | CD44, LHX1, EYA1                 |
|   |                                                               | 3 | E-  | E-  | E-  | E-  |   |                                  |
| 2 |                                                               | 1 | 6.4 | 2.1 | 6.4 | 2.1 |   |                                  |
| 6 | <a href="#">regulation of wound healing</a>                   | 4 | 85  | 82  | 85  | 82  | 3 | MYLK1, MLCK, Telokin             |
|   |                                                               | 1 | E-  | E-  | E-  | E-  |   |                                  |
| 2 |                                                               | 4 | 7.5 | 2.4 | 7.5 | 2.4 |   |                                  |
| 7 | <a href="#">muscle tissue development</a>                     | 5 | 76  | 55  | 76  | 55  | 4 | MYLK1, MLCK, EYA1, Telokin       |
|   |                                                               | 2 | E-  | E-  | E-  | E-  |   |                                  |
| 2 |                                                               | 1 | 9.4 | 2.9 | 9.4 | 2.9 |   |                                  |
| 8 | <a href="#">positive regulation of response to wounding</a>   | 6 | 40  | 50  | 40  | 50  | 3 | MYLK1, MLCK, Telokin             |
|   |                                                               | 0 | E-  | E-  | E-  | E-  |   |                                  |
| 2 |                                                               | 1 | 1.3 | 4.0 | 1.3 | 4.0 |   |                                  |
| 9 | <a href="#">actin filament organization</a>                   | 8 | 38  | 38  | 38  | 38  | 3 | MYLK1, MLCK, Telokin             |
|   |                                                               | 0 | E-  | E-  | E-  | E-  |   |                                  |
| 3 |                                                               | 5 | 1.7 | 5.1 | 1.7 | 5.1 |   |                                  |
| 0 | <a href="#">blood vessel morphogenesis</a>                    | 2 | 65  | 48  | 65  | 48  | 4 | MYLK1, MLCK, EYA1, Telokin       |
|   |                                                               | 9 | E-  | E-  | E-  | E-  |   |                                  |
| 3 |                                                               | 1 | 2.1 | 5.9 | 2.1 | 5.9 |   |                                  |
| 1 | <a href="#">circulatory system development</a>                | 0 | 60  | 06  | 60  | 06  | 5 | CD44, MYLK1, MLCK, EYA1, Telokin |
|   |                                                               | 7 | E-  | E-  | E-  | E-  |   |                                  |
| 3 |                                                               | 1 | 2.1 | 5.9 | 2.1 | 5.9 |   |                                  |
| 2 | <a href="#">cardiovascular system development</a>             | 0 | 60  | 06  | 60  | 06  | 5 | CD44, MYLK1, MLCK, EYA1, Telokin |
|   |                                                               | 7 | E-  | E-  | E-  | E-  |   |                                  |
| 3 |                                                               | 2 | 2.6 | 6.9 | 2.6 | 6.9 |   |                                  |
| 3 | <a href="#">branching morphogenesis of an epithelial tube</a> | 2 | 18  | 42  | 18  | 42  | 3 | CD44, LHX1, EYA1                 |
|   |                                                               | 6 | E-  | E-  | E-  | E-  |   |                                  |

|        |                                                             |                  |                       |                       |                       |                       |   |                                         |
|--------|-------------------------------------------------------------|------------------|-----------------------|-----------------------|-----------------------|-----------------------|---|-----------------------------------------|
|        |                                                             |                  | 04                    | 03                    | 04                    | 03                    |   |                                         |
| 3<br>4 | <a href="#">cell projection assembly</a>                    | 2<br>4<br>6      | 3.3<br>58<br>E-<br>04 | 8.6<br>42<br>E-<br>03 | 3.3<br>58<br>E-<br>04 | 8.6<br>42<br>E-<br>03 | 3 | MYLK1, MLCK, Telokin                    |
| 3<br>5 | <a href="#">regulation of calcium ion transport</a>         | 2<br>5<br>4      | 3.6<br>88<br>E-<br>04 | 8.9<br>38<br>E-<br>03 | 3.6<br>88<br>E-<br>04 | 8.9<br>38<br>E-<br>03 | 3 | MYLK1, MLCK, Telokin                    |
| 3<br>6 | <a href="#">morphogenesis of a branching epithelium</a>     | 2<br>5<br>4      | 3.6<br>88<br>E-<br>04 | 8.9<br>38<br>E-<br>03 | 3.6<br>88<br>E-<br>04 | 8.9<br>38<br>E-<br>03 | 3 | CD44, LHX1, EYA1                        |
| 3<br>7 | <a href="#">positive regulation of response to stimulus</a> | 1<br>9<br>4<br>3 | 3.7<br>84<br>E-<br>04 | 8.9<br>38<br>E-<br>03 | 3.7<br>84<br>E-<br>04 | 8.9<br>38<br>E-<br>03 | 6 | CD44, IGHG1, MYLK1, MLCK, EYA1, Telokin |
| 3<br>8 | <a href="#">positive regulation of ion transport</a>        | 2<br>5<br>9      | 3.9<br>05<br>E-<br>04 | 8.9<br>38<br>E-<br>03 | 3.9<br>05<br>E-<br>04 | 8.9<br>38<br>E-<br>03 | 3 | MYLK1, MLCK, Telokin                    |
| 3<br>9 | <a href="#">morphogenesis of a branching structure</a>      | 2<br>6<br>3      | 4.0<br>84<br>E-<br>04 | 8.9<br>38<br>E-<br>03 | 4.0<br>84<br>E-<br>04 | 8.9<br>38<br>E-<br>03 | 3 | CD44, LHX1, EYA1                        |
| 4<br>0 | <a href="#">cell projection organization</a>                | 1<br>2<br>3<br>1 | 4.0<br>86<br>E-<br>04 | 8.9<br>38<br>E-<br>03 | 4.0<br>86<br>E-<br>04 | 8.9<br>38<br>E-<br>03 | 5 | CD44, MYLK1, MLCK, LHX1, Telokin        |
| 4<br>1 | <a href="#">regulation of response to stress</a>            | 1<br>2<br>4<br>2 | 4.2<br>58<br>E-<br>04 | 9.0<br>88<br>E-<br>03 | 4.2<br>58<br>E-<br>04 | 9.0<br>88<br>E-<br>03 | 5 | CD44, MYLK1, MLCK, EYA1, Telokin        |
| 4<br>2 | <a href="#">muscle contraction</a>                          | 2<br>8<br>9      | 5.3<br>79<br>E-<br>04 | 1.0<br>33<br>E-<br>02 | 5.3<br>79<br>E-<br>04 | 1.0<br>33<br>E-<br>02 | 3 | MYLK1, MLCK, Telokin                    |
| 4<br>3 | <a href="#">regulation of ion transport</a>                 | 7<br>1<br>2      | 5.4<br>85<br>E-<br>04 | 1.0<br>33<br>E-<br>02 | 5.4<br>85<br>E-<br>04 | 1.0<br>33<br>E-<br>02 | 4 | VDAC 1, MYLK1, MLCK, Telokin            |
| 4<br>4 | <a href="#">horizontal cell localization</a>                |                  | 5.7<br>90<br>E-<br>04 | 1.0<br>33<br>E-<br>02 | 5.7<br>90<br>E-<br>04 | 1.0<br>33<br>E-<br>02 | 1 | LHX1                                    |

|        |                                                                                |                  |                       |                       |                       |                       |   |                                                       |
|--------|--------------------------------------------------------------------------------|------------------|-----------------------|-----------------------|-----------------------|-----------------------|---|-------------------------------------------------------|
| 4<br>5 | <a href="#">uterine epithelium development</a>                                 | 1                | 5.7<br>90<br>E-<br>04 | 1.0<br>33<br>E-<br>02 | 5.7<br>90<br>E-<br>04 | 1.0<br>33<br>E-<br>02 | 1 | LHX1                                                  |
| 4<br>6 | <a href="#">oviduct epithelium development</a>                                 | 1                | 5.7<br>90<br>E-<br>04 | 1.0<br>33<br>E-<br>02 | 5.7<br>90<br>E-<br>04 | 1.0<br>33<br>E-<br>02 | 1 | LHX1                                                  |
| 4<br>7 | <a href="#">nephric duct elongation</a>                                        | 1                | 5.7<br>90<br>E-<br>04 | 1.0<br>33<br>E-<br>02 | 5.7<br>90<br>E-<br>04 | 1.0<br>33<br>E-<br>02 | 1 | LHX1                                                  |
| 4<br>8 | <a href="#">response to injury involved in regulation of muscle adaptation</a> | 1                | 5.7<br>90<br>E-<br>04 | 1.0<br>33<br>E-<br>02 | 5.7<br>90<br>E-<br>04 | 1.0<br>33<br>E-<br>02 | 1 | NOL3                                                  |
| 4<br>9 | <a href="#">macrophage fusion</a>                                              | 1                | 5.7<br>90<br>E-<br>04 | 1.0<br>33<br>E-<br>02 | 5.7<br>90<br>E-<br>04 | 1.0<br>33<br>E-<br>02 | 1 | CD44                                                  |
| 5<br>0 | <a href="#">response to stress</a>                                             | 4<br>1<br>5<br>6 | 5.9<br>01<br>E-<br>04 | 1.0<br>33<br>E-<br>02 | 5.9<br>01<br>E-<br>04 | 1.0<br>33<br>E-<br>02 | 8 | CD44, VDAC 1, IGHG1, MYLK1, NOL3, MLCK, EYA1, Telokin |
| 5<br>1 | <a href="#">regulation of metal ion transport</a>                              | 3<br>5<br>4      | 9.6<br>96<br>E-<br>04 | 1.6<br>54<br>E-<br>02 | 9.6<br>96<br>E-<br>04 | 1.6<br>54<br>E-<br>02 | 3 | MYLK1, MLCK, Telokin                                  |
| 5<br>2 | <a href="#">muscle system process</a>                                          | 3<br>5<br>7      | 9.9<br>35<br>E-<br>04 | 1.6<br>54<br>E-<br>02 | 9.9<br>35<br>E-<br>04 | 1.6<br>54<br>E-<br>02 | 3 | MYLK1, MLCK, Telokin                                  |
| 5<br>3 | <a href="#">cellular response to abiotic stimulus</a>                          | 3<br>5<br>8      | 1.0<br>02<br>E-<br>03 | 1.6<br>54<br>E-<br>02 | 1.0<br>02<br>E-<br>03 | 1.6<br>54<br>E-<br>02 | 3 | MYLK1, MLCK, Telokin                                  |
| 5<br>4 | <a href="#">positive regulation of anterior head development</a>               | 2                | 1.1<br>58<br>E-<br>03 | 1.8<br>42<br>E-<br>02 | 1.1<br>58<br>E-<br>03 | 1.8<br>42<br>E-<br>02 | 1 | LHX1                                                  |
| 5<br>5 | <a href="#">regulation of anterior head development</a>                        | 2                | 1.1<br>58<br>E-<br>03 | 1.8<br>42<br>E-<br>02 | 1.1<br>58<br>E-<br>03 | 1.8<br>42<br>E-<br>02 | 1 | LHX1                                                  |
| 5<br>6 | <a href="#">response to abiotic stimulus</a>                                   | 1<br>5<br>5      | 1.1<br>83<br>E-<br>5  | 1.8<br>48<br>E-<br>5  | 1.1<br>83<br>E-<br>5  | 1.8<br>48<br>E-<br>5  | 5 | MYLK1, NOL3, MLCK, EYA1, Telokin                      |

|        |                                                                                                           |             |                       |                       |                       |                       |   |                            |
|--------|-----------------------------------------------------------------------------------------------------------|-------------|-----------------------|-----------------------|-----------------------|-----------------------|---|----------------------------|
|        |                                                                                                           | 1           | 03                    | 02                    | 03                    | 02                    |   |                            |
| 5<br>7 | <a href="#">renal system development</a>                                                                  | 3<br>8<br>6 | 1.2<br>45<br>E-<br>03 | 1.9<br>11<br>E-<br>02 | 1.2<br>45<br>E-<br>03 | 1.9<br>11<br>E-<br>02 | 3 | CD44, LHX1, EYA1           |
| 5<br>8 | <a href="#">muscle organ development</a>                                                                  | 3<br>9<br>9 | 1.3<br>69<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1.3<br>69<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 3 | MYLK1, MLCK, Telokin       |
| 5<br>9 | <a href="#">epithelial tube morphogenesis</a>                                                             | 4<br>1<br>9 | 1.5<br>76<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1.5<br>76<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 3 | CD44, LHX1, EYA1           |
| 6<br>0 | <a href="#">positive regulation of cell migration</a>                                                     | 4<br>1<br>9 | 1.5<br>76<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1.5<br>76<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 3 | MYLK1, MLCK, Telokin       |
| 6<br>1 | <a href="#">negative regulation of cysteine-type endopeptidase activity involved in apoptotic process</a> | 1<br>0<br>4 | 1.5<br>93<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1.5<br>93<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 2 | CD44, NOL3                 |
| 6<br>2 | <a href="#">formation of primary germ layer</a>                                                           | 1<br>0<br>7 | 1.6<br>85<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1.6<br>85<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 2 | LHX1, EYA1                 |
| 6<br>3 | <a href="#">cytoskeleton organization</a>                                                                 | 9<br>6<br>1 | 1.6<br>86<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1.6<br>86<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 4 | MYLK1, MLCK, EYA1, Telokin |
| 6<br>4 | <a href="#">regulation of anatomical structure morphogenesis</a>                                          | 9<br>6<br>2 | 1.6<br>93<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1.6<br>93<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 4 | MLCK, PQBP-1, LHX1, EYA1   |
| 6<br>5 | <a href="#">positive regulation of cell motility</a>                                                      | 4<br>3<br>0 | 1.6<br>97<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1.6<br>97<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 3 | MYLK1, MLCK, Telokin       |
| 6<br>6 | <a href="#">negative regulation of cysteine-type endopeptidase activity</a>                               | 1<br>0<br>8 | 1.7<br>16<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1.7<br>16<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 2 | CD44, NOL3                 |
| 6<br>7 | <a href="#">positive regulation of fast-twitch skeletal muscle fiber contraction</a>                      | 3           | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1 | MLCK                       |

|        |                                                                                                       |   |                       |                       |                       |                       |   |      |
|--------|-------------------------------------------------------------------------------------------------------|---|-----------------------|-----------------------|-----------------------|-----------------------|---|------|
| 6<br>8 | <a href="#">positive regulation of epithelial cell differentiation involved in kidney development</a> | 3 | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1 | LHX1 |
| 6<br>9 | <a href="#">positive regulation of nephron tubule epithelial cell differentiation</a>                 | 3 | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1 | LHX1 |
| 7<br>0 | <a href="#">regulation of twitch skeletal muscle contraction</a>                                      | 3 | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1 | MLCK |
| 7<br>1 | <a href="#">regulation of fast-twitch skeletal muscle fiber contraction</a>                           | 3 | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1 | MLCK |
| 7<br>2 | <a href="#">positive regulation of neutrophil apoptotic process</a>                                   | 3 | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1 | CD44 |
| 7<br>3 | <a href="#">positive regulation of leukocyte cell-cell adhesion</a>                                   | 3 | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1 | CD44 |
| 7<br>4 | <a href="#">regulation of vascular permeability involved in acute inflammatory response</a>           | 3 | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1 | MLCK |
| 7<br>5 | <a href="#">positive regulation of monocyte aggregation</a>                                           | 3 | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1 | CD44 |
| 7<br>6 | <a href="#">monocyte aggregation</a>                                                                  | 3 | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1 | CD44 |
| 7<br>7 | <a href="#">cervix development</a>                                                                    | 3 | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1 | LHX1 |
| 7<br>8 | <a href="#">regulation of monocyte aggregation</a>                                                    | 3 | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1 | CD44 |
| 7<br>9 | <a href="#">lateral motor column neuron migration</a>                                                 | 3 | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1.7<br>36<br>E-<br>03 | 1.9<br>19<br>E-<br>02 | 1 | LHX1 |



|    |                                                                                        |      |               |               |               |               |   |                                        |
|----|----------------------------------------------------------------------------------------|------|---------------|---------------|---------------|---------------|---|----------------------------------------|
|    |                                                                                        |      | 03            | 02            | 03            | 02            |   |                                        |
| 80 | <a href="#">tube morphogenesis</a>                                                     | 435  | 1.755<br>E-03 | 1.919<br>E-02 | 1.755<br>E-03 | 1.919<br>E-02 | 3 | CD44, LHX1, EYA1                       |
| 81 | <a href="#">positive regulation of cellular component movement</a>                     | 443  | 1.849<br>E-03 | 1.997<br>E-02 | 1.849<br>E-03 | 1.997<br>E-02 | 3 | MYLK1, MLCK, Telokin                   |
| 82 | <a href="#">anatomical structure morphogenesis</a>                                     | 2618 | 1.890<br>E-03 | 2.000<br>E-02 | 1.890<br>E-03 | 2.000<br>E-02 | 6 | CD44, MYLK1, MLCK, LHX1, EYA1, Telokin |
| 83 | <a href="#">urogenital system development</a>                                          | 447  | 1.897<br>E-03 | 2.000<br>E-02 | 1.897<br>E-03 | 2.000<br>E-02 | 3 | CD44, LHX1, EYA1                       |
| 84 | <a href="#">positive regulation of locomotion</a>                                      | 449  | 1.921<br>E-03 | 2.001<br>E-02 | 1.921<br>E-03 | 2.001<br>E-02 | 3 | MYLK1, MLCK, Telokin                   |
| 85 | <a href="#">metanephros development</a>                                                | 117  | 2.010<br>E-03 | 2.069<br>E-02 | 2.010<br>E-03 | 2.069<br>E-02 | 2 | LHX1, EYA1                             |
| 86 | <a href="#">metanephric part of ureteric bud development</a>                           | 4    | 2.314<br>E-03 | 2.199<br>E-02 | 2.314<br>E-03 | 2.199<br>E-02 | 1 | LHX1                                   |
| 87 | <a href="#">ectoderm formation</a>                                                     | 4    | 2.314<br>E-03 | 2.199<br>E-02 | 2.314<br>E-03 | 2.199<br>E-02 | 1 | LHX1                                   |
| 88 | <a href="#">spinal cord motor neuron migration</a>                                     | 4    | 2.314<br>E-03 | 2.199<br>E-02 | 2.314<br>E-03 | 2.199<br>E-02 | 1 | LHX1                                   |
| 89 | <a href="#">sarcomerogenesis</a>                                                       | 4    | 2.314<br>E-03 | 2.199<br>E-02 | 2.314<br>E-03 | 2.199<br>E-02 | 1 | MLCK                                   |
| 90 | <a href="#">positive regulation of secondary heart field cardioblast proliferation</a> | 4    | 2.314<br>E-03 | 2.199<br>E-02 | 2.314<br>E-03 | 2.199<br>E-02 | 1 | EYA1                                   |

|             |                                                                          |                  |                       |                       |                       |                       |    |                                                                    |
|-------------|--------------------------------------------------------------------------|------------------|-----------------------|-----------------------|-----------------------|-----------------------|----|--------------------------------------------------------------------|
| 9<br>1      | <a href="#">oviduct development</a>                                      | 4                | 2.3<br>14<br>E-<br>03 | 2.1<br>99<br>E-<br>02 | 2.3<br>14<br>E-<br>03 | 2.1<br>99<br>E-<br>02 | 1  | LHX1                                                               |
| 9<br>2      | <a href="#">motor neuron migration</a>                                   | 4                | 2.3<br>14<br>E-<br>03 | 2.1<br>99<br>E-<br>02 | 2.3<br>14<br>E-<br>03 | 2.1<br>99<br>E-<br>02 | 1  | LHX1                                                               |
| 9<br>3      | <a href="#">actin cytoskeleton organization</a>                          | 4<br>8<br>2      | 2.3<br>52<br>E-<br>03 | 2.1<br>99<br>E-<br>02 | 2.3<br>52<br>E-<br>03 | 2.1<br>99<br>E-<br>02 | 3  | MYLK1, MLCK, Telokin                                               |
| 9<br>4      | <a href="#">embryonic skeletal system morphogenesis</a>                  | 1<br>2<br>7      | 2.3<br>62<br>E-<br>03 | 2.1<br>99<br>E-<br>02 | 2.3<br>62<br>E-<br>03 | 2.1<br>99<br>E-<br>02 | 2  | LHX1, EYA1                                                         |
| 9<br>5      | <a href="#">epithelium development</a>                                   | 1<br>0<br>6<br>3 | 2.4<br>46<br>E-<br>03 | 2.2<br>53<br>E-<br>02 | 2.4<br>46<br>E-<br>03 | 2.2<br>53<br>E-<br>02 | 4  | CD44, VDAC 1, LHX1, EYA1                                           |
| 9<br>6      | <a href="#">regulation of response to wounding</a>                       | 4<br>9<br>1      | 2.4<br>79<br>E-<br>03 | 2.2<br>60<br>E-<br>02 | 2.4<br>79<br>E-<br>03 | 2.2<br>60<br>E-<br>02 | 3  | MYLK1, MLCK, Telokin                                               |
| 9<br>7      | <a href="#">regulation of response to stimulus</a>                       | 3<br>8<br>7<br>8 | 2.6<br>11<br>E-<br>03 | 2.3<br>45<br>E-<br>02 | 2.6<br>11<br>E-<br>03 | 2.3<br>45<br>E-<br>02 | 7  | CD44, IGHG1, MYLK1, NOL3, MLCK, EYA1, Telokin                      |
| 9<br>8      | <a href="#">macromolecule metabolic process</a>                          | 8<br>2<br>2<br>9 | 2.6<br>27<br>E-<br>03 | 2.3<br>45<br>E-<br>02 | 2.6<br>27<br>E-<br>03 | 2.3<br>45<br>E-<br>02 | 10 | CD44, IGHG1, MYLK1, NOL3, MLCK, PQBP-1, LHX1, RRP42, EYA1, Telokin |
| 9<br>9      | <a href="#">anatomical structure formation involved in morphogenesis</a> | 1<br>0<br>9<br>1 | 2.6<br>90<br>E-<br>03 | 2.3<br>78<br>E-<br>02 | 2.6<br>90<br>E-<br>03 | 2.3<br>78<br>E-<br>02 | 4  | CD44, MLCK, LHX1, EYA1                                             |
| 1<br>0<br>0 | <a href="#">regulation of leukocyte cell-cell adhesion</a>               | 5                | 2.8<br>92<br>E-<br>03 | 2.4<br>57<br>E-<br>02 | 2.8<br>92<br>E-<br>03 | 2.4<br>57<br>E-<br>02 | 1  | CD44                                                               |
| 1<br>0<br>1 | <a href="#">paramesonephric duct development</a>                         | 5                | 2.8<br>92<br>E-<br>03 | 2.4<br>57<br>E-<br>02 | 2.8<br>92<br>E-<br>03 | 2.4<br>57<br>E-<br>02 | 1  | LHX1                                                               |
| 1<br>0<br>2 | <a href="#">histone dephosphorylation</a>                                | 5                | 2.8<br>92<br>E-<br>03 | 2.4<br>57<br>E-<br>02 | 2.8<br>92<br>E-<br>03 | 2.4<br>57<br>E-<br>02 | 1  | EYA1                                                               |

|             |                                                                        |                  |                       |                       |                       |                       |   |                                                           |
|-------------|------------------------------------------------------------------------|------------------|-----------------------|-----------------------|-----------------------|-----------------------|---|-----------------------------------------------------------|
|             |                                                                        |                  | 03                    | 02                    | 03                    | 02                    |   |                                                           |
| 1<br>0<br>3 | <a href="#">early endosome to Golgi transport</a>                      | 5                | 2.8<br>92<br>E-<br>03 | 2.4<br>57<br>E-<br>02 | 2.8<br>92<br>E-<br>03 | 2.4<br>57<br>E-<br>02 | 1 | SNX1                                                      |
| 1<br>0<br>4 | <a href="#">positive regulation of biological process</a>              | 5<br>2<br>4<br>9 | 3.0<br>34<br>E-<br>03 | 2.5<br>52<br>E-<br>02 | 3.0<br>34<br>E-<br>03 | 2.5<br>52<br>E-<br>02 | 8 | CD44, IGHG1, MYLK1,<br>MLCK, LHX1, EYA1,<br>Telokin, SNX1 |
| 1<br>0<br>5 | <a href="#">morphogenesis of an epithelium</a>                         | 5<br>2<br>9      | 3.0<br>63<br>E-<br>03 | 2.5<br>53<br>E-<br>02 | 3.0<br>63<br>E-<br>03 | 2.5<br>53<br>E-<br>02 | 3 | CD44, LHX1, EYA1                                          |
| 1<br>0<br>6 | <a href="#">actin filament-based process</a>                           | 5<br>3<br>2      | 3.1<br>13<br>E-<br>03 | 2.5<br>70<br>E-<br>02 | 3.1<br>13<br>E-<br>03 | 2.5<br>70<br>E-<br>02 | 3 | MYLK1, MLCK, Telokin                                      |
| 1<br>0<br>7 | <a href="#">satellite cell differentiation</a>                         | 6                | 3.4<br>70<br>E-<br>03 | 2.7<br>11<br>E-<br>02 | 3.4<br>70<br>E-<br>03 | 2.7<br>11<br>E-<br>02 | 1 | MLCK                                                      |
| 1<br>0<br>8 | <a href="#">positive regulation of sarcomere organization</a>          | 6                | 3.4<br>70<br>E-<br>03 | 2.7<br>11<br>E-<br>02 | 3.4<br>70<br>E-<br>03 | 2.7<br>11<br>E-<br>02 | 1 | MLCK                                                      |
| 1<br>0<br>9 | <a href="#">negative regulation of mature B cell apoptotic process</a> | 6                | 3.4<br>70<br>E-<br>03 | 2.7<br>11<br>E-<br>02 | 3.4<br>70<br>E-<br>03 | 2.7<br>11<br>E-<br>02 | 1 | CD44                                                      |
| 1<br>1<br>0 | <a href="#">regulation of mature B cell apoptotic process</a>          | 6                | 3.4<br>70<br>E-<br>03 | 2.7<br>11<br>E-<br>02 | 3.4<br>70<br>E-<br>03 | 2.7<br>11<br>E-<br>02 | 1 | CD44                                                      |
| 1<br>1<br>1 | <a href="#">regulation of neutrophil apoptotic process</a>             | 6                | 3.4<br>70<br>E-<br>03 | 2.7<br>11<br>E-<br>02 | 3.4<br>70<br>E-<br>03 | 2.7<br>11<br>E-<br>02 | 1 | CD44                                                      |
| 1<br>1<br>2 | <a href="#">regulation of muscle filament sliding</a>                  | 6                | 3.4<br>70<br>E-<br>03 | 2.7<br>11<br>E-<br>02 | 3.4<br>70<br>E-<br>03 | 2.7<br>11<br>E-<br>02 | 1 | MLCK                                                      |
| 1<br>1<br>3 | <a href="#">regulation of response to DNA damage stimulus</a>          | 1<br>6<br>0      | 3.7<br>16<br>E-<br>03 | 2.8<br>77<br>E-<br>02 | 3.7<br>16<br>E-<br>03 | 2.8<br>77<br>E-<br>02 | 2 | CD44, EYA1                                                |

|             |                                                                                                                                                    |                  |                       |                       |                       |                       |   |                                                       |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------|-----------------------|-----------------------|-----------------------|---|-------------------------------------------------------|
| 1<br>1<br>4 | <a href="#">skeletal system development</a>                                                                                                        | 5<br>7<br>8      | 3.9<br>34<br>E-<br>03 | 3.0<br>20<br>E-<br>02 | 3.9<br>34<br>E-<br>03 | 3.0<br>20<br>E-<br>02 | 3 | CD44, LHX1, EYA1                                      |
| 1<br>1<br>5 | <a href="#">metanephric comma-shaped body morphogenesis</a>                                                                                        | 7                | 4.0<br>47<br>E-<br>03 | 3.0<br>53<br>E-<br>02 | 4.0<br>47<br>E-<br>03 | 3.0<br>53<br>E-<br>02 | 1 | LHX1                                                  |
| 1<br>1<br>6 | <a href="#">cerebellar Purkinje cell-granule cell precursor cell signaling involved in regulation of granule cell precursor cell proliferation</a> | 7                | 4.0<br>47<br>E-<br>03 | 3.0<br>53<br>E-<br>02 | 4.0<br>47<br>E-<br>03 | 3.0<br>53<br>E-<br>02 | 1 | LHX1                                                  |
| 1<br>1<br>7 | <a href="#">embryonic skeletal system development</a>                                                                                              | 1<br>6<br>9      | 4.1<br>35<br>E-<br>03 | 3.0<br>92<br>E-<br>02 | 4.1<br>35<br>E-<br>03 | 3.0<br>92<br>E-<br>02 | 2 | LHX1, EYA1                                            |
| 1<br>1<br>8 | <a href="#">gastrulation</a>                                                                                                                       | 1<br>7<br>5      | 4.4<br>26<br>E-<br>03 | 3.2<br>82<br>E-<br>02 | 4.4<br>26<br>E-<br>03 | 3.2<br>82<br>E-<br>02 | 2 | LHX1, EYA1                                            |
| 1<br>1<br>9 | <a href="#">cellular component organization or biogenesis</a>                                                                                      | 5<br>5<br>5<br>7 | 4.4<br>75<br>E-<br>03 | 3.2<br>89<br>E-<br>02 | 4.4<br>75<br>E-<br>03 | 3.2<br>89<br>E-<br>02 | 8 | CD44, MYLK1, MLCK, PQBP-1, LHX1, RRP42, EYA1, Telokin |
| 1<br>2<br>0 | <a href="#">embryonic retina morphogenesis in camera-type eye</a>                                                                                  | 8                | 4.6<br>24<br>E-<br>03 | 3.2<br>89<br>E-<br>02 | 4.6<br>24<br>E-<br>03 | 3.2<br>89<br>E-<br>02 | 1 | LHX1                                                  |
| 1<br>2<br>1 | <a href="#">positive regulation of homotypic cell-cell adhesion</a>                                                                                | 8                | 4.6<br>24<br>E-<br>03 | 3.2<br>89<br>E-<br>02 | 4.6<br>24<br>E-<br>03 | 3.2<br>89<br>E-<br>02 | 1 | CD44                                                  |
| 1<br>2<br>2 | <a href="#">outer ear morphogenesis</a>                                                                                                            | 8                | 4.6<br>24<br>E-<br>03 | 3.2<br>89<br>E-<br>02 | 4.6<br>24<br>E-<br>03 | 3.2<br>89<br>E-<br>02 | 1 | EYA1                                                  |
| 1<br>2<br>3 | <a href="#">metanephric S-shaped body morphogenesis</a>                                                                                            | 8                | 4.6<br>24<br>E-<br>03 | 3.2<br>89<br>E-<br>02 | 4.6<br>24<br>E-<br>03 | 3.2<br>89<br>E-<br>02 | 1 | LHX1                                                  |
| 1<br>2<br>4 | <a href="#">mesodermal cell fate specification</a>                                                                                                 | 9                | 5.2<br>00<br>E-<br>03 | 3.6<br>11<br>E-<br>02 | 5.2<br>00<br>E-<br>03 | 3.6<br>11<br>E-<br>02 | 1 | EYA1                                                  |
| 1<br>2<br>5 | <a href="#">positive regulation of gastrulation</a>                                                                                                | 9                | 5.2<br>00<br>E-<br>03 | 3.6<br>11<br>E-<br>02 | 5.2<br>00<br>E-<br>03 | 3.6<br>11<br>E-<br>02 | 1 | LHX1                                                  |

|             |                                                                               |                  |                       |                       |                       |                       |   |                                                        |
|-------------|-------------------------------------------------------------------------------|------------------|-----------------------|-----------------------|-----------------------|-----------------------|---|--------------------------------------------------------|
|             |                                                                               |                  | 03                    | 02                    | 03                    | 02                    |   |                                                        |
| 1<br>2<br>6 | <a href="#">semicircular canal morphogenesis</a>                              | 9                | 5.2<br>00<br>E-<br>03 | 3.6<br>11<br>E-<br>02 | 5.2<br>00<br>E-<br>03 | 3.6<br>11<br>E-<br>02 | 1 | EYA1                                                   |
| 1<br>2<br>7 | <a href="#">muscle structure development</a>                                  | 6<br>4<br>8      | 5.4<br>20<br>E-<br>03 | 3.7<br>09<br>E-<br>02 | 5.4<br>20<br>E-<br>03 | 3.7<br>09<br>E-<br>02 | 3 | MYLK1, MLCK, Telokin                                   |
| 1<br>2<br>8 | <a href="#">anatomical structure development</a>                              | 5<br>7<br>1<br>8 | 5.4<br>26<br>E-<br>03 | 3.7<br>09<br>E-<br>02 | 5.4<br>26<br>E-<br>03 | 3.7<br>09<br>E-<br>02 | 8 | CD44, VDAC 1, MYLK1, MLCK, PQBP-1, LHX1, EYA1, Telokin |
| 1<br>2<br>9 | <a href="#">tube development</a>                                              | 6<br>6<br>0      | 5.7<br>05<br>E-<br>03 | 3.7<br>44<br>E-<br>02 | 5.7<br>05<br>E-<br>03 | 3.7<br>44<br>E-<br>02 | 3 | CD44, LHX1, EYA1                                       |
| 1<br>3<br>0 | <a href="#">regulation of secondary heart field cardioblast proliferation</a> | 1<br>0           | 5.7<br>77<br>E-<br>03 | 3.7<br>44<br>E-<br>02 | 5.7<br>77<br>E-<br>03 | 3.7<br>44<br>E-<br>02 | 1 | EYA1                                                   |
| 1<br>3<br>1 | <a href="#">regulation of cardioblast proliferation</a>                       | 1<br>0           | 5.7<br>77<br>E-<br>03 | 3.7<br>44<br>E-<br>02 | 5.7<br>77<br>E-<br>03 | 3.7<br>44<br>E-<br>02 | 1 | EYA1                                                   |
| 1<br>3<br>2 | <a href="#">comma-shaped body morphogenesis</a>                               | 1<br>0           | 5.7<br>77<br>E-<br>03 | 3.7<br>44<br>E-<br>02 | 5.7<br>77<br>E-<br>03 | 3.7<br>44<br>E-<br>02 | 1 | LHX1                                                   |
| 1<br>3<br>3 | <a href="#">stress granule assembly</a>                                       | 1<br>0           | 5.7<br>77<br>E-<br>03 | 3.7<br>44<br>E-<br>02 | 5.7<br>77<br>E-<br>03 | 3.7<br>44<br>E-<br>02 | 1 | PQBP-1                                                 |
| 1<br>3<br>4 | <a href="#">positive regulation of heterotypic cell-cell adhesion</a>         | 1<br>0           | 5.7<br>77<br>E-<br>03 | 3.7<br>44<br>E-<br>02 | 5.7<br>77<br>E-<br>03 | 3.7<br>44<br>E-<br>02 | 1 | CD44                                                   |
| 1<br>3<br>5 | <a href="#">leukocyte aggregation</a>                                         | 1<br>0           | 5.7<br>77<br>E-<br>03 | 3.7<br>44<br>E-<br>02 | 5.7<br>77<br>E-<br>03 | 3.7<br>44<br>E-<br>02 | 1 | CD44                                                   |
| 1<br>3<br>6 | <a href="#">cellular component biogenesis</a>                                 | 2<br>2<br>3<br>9 | 6.0<br>43<br>E-<br>03 | 3.8<br>87<br>E-<br>02 | 6.0<br>43<br>E-<br>03 | 3.8<br>87<br>E-<br>02 | 5 | MYLK1, MLCK, PQBP-1, RRP42, Telokin                    |

|             |                                                                                        |             |                       |                       |                       |                       |   |                      |
|-------------|----------------------------------------------------------------------------------------|-------------|-----------------------|-----------------------|-----------------------|-----------------------|---|----------------------|
| 1<br>3<br>7 | <a href="#">regulation of organ morphogenesis</a>                                      | 2<br>0<br>9 | 6.2<br>50<br>E-<br>03 | 3.8<br>87<br>E-<br>02 | 6.2<br>50<br>E-<br>03 | 3.8<br>87<br>E-<br>02 | 2 | LHX1, EYA1           |
| 1<br>3<br>8 | <a href="#">blood vessel maturation</a>                                                | 1<br>1      | 6.3<br>53<br>E-<br>03 | 3.8<br>87<br>E-<br>02 | 6.3<br>53<br>E-<br>03 | 3.8<br>87<br>E-<br>02 | 1 | CD44                 |
| 1<br>3<br>9 | <a href="#">pronephros development</a>                                                 | 1<br>1      | 6.3<br>53<br>E-<br>03 | 3.8<br>87<br>E-<br>02 | 6.3<br>53<br>E-<br>03 | 3.8<br>87<br>E-<br>02 | 1 | LHX1                 |
| 1<br>4<br>0 | <a href="#">S-shaped body morphogenesis</a>                                            | 1<br>1      | 6.3<br>53<br>E-<br>03 | 3.8<br>87<br>E-<br>02 | 6.3<br>53<br>E-<br>03 | 3.8<br>87<br>E-<br>02 | 1 | LHX1                 |
| 1<br>4<br>1 | <a href="#">semicircular canal development</a>                                         | 1<br>1      | 6.3<br>53<br>E-<br>03 | 3.8<br>87<br>E-<br>02 | 6.3<br>53<br>E-<br>03 | 3.8<br>87<br>E-<br>02 | 1 | EYA1                 |
| 1<br>4<br>2 | <a href="#">nephric duct morphogenesis</a>                                             | 1<br>1      | 6.3<br>53<br>E-<br>03 | 3.8<br>87<br>E-<br>02 | 6.3<br>53<br>E-<br>03 | 3.8<br>87<br>E-<br>02 | 1 | LHX1                 |
| 1<br>4<br>3 | <a href="#">wound healing involved in inflammatory response</a>                        | 1<br>1      | 6.3<br>53<br>E-<br>03 | 3.8<br>87<br>E-<br>02 | 6.3<br>53<br>E-<br>03 | 3.8<br>87<br>E-<br>02 | 1 | CD44                 |
| 1<br>4<br>4 | <a href="#">regulation of cell migration</a>                                           | 6<br>9<br>8 | 6.6<br>66<br>E-<br>03 | 4.0<br>51<br>E-<br>02 | 6.6<br>66<br>E-<br>03 | 4.0<br>51<br>E-<br>02 | 3 | MYLK1, MLCK, Telokin |
| 1<br>4<br>5 | <a href="#">mesonephric duct development</a>                                           | 1<br>2      | 6.9<br>28<br>E-<br>03 | 4.0<br>69<br>E-<br>02 | 6.9<br>28<br>E-<br>03 | 4.0<br>69<br>E-<br>02 | 1 | LHX1                 |
| 1<br>4<br>6 | <a href="#">positive regulation of cerebellar granule cell precursor proliferation</a> | 1<br>2      | 6.9<br>28<br>E-<br>03 | 4.0<br>69<br>E-<br>02 | 6.9<br>28<br>E-<br>03 | 4.0<br>69<br>E-<br>02 | 1 | LHX1                 |
| 1<br>4<br>7 | <a href="#">positive regulation of myeloid cell apoptotic process</a>                  | 1<br>2      | 6.9<br>28<br>E-<br>03 | 4.0<br>69<br>E-<br>02 | 6.9<br>28<br>E-<br>03 | 4.0<br>69<br>E-<br>02 | 1 | CD44                 |
| 1<br>4<br>8 | <a href="#">regulation of skeletal muscle contraction</a>                              | 1<br>2      | 6.9<br>28<br>E-<br>03 | 4.0<br>69<br>E-<br>02 | 6.9<br>28<br>E-<br>03 | 4.0<br>69<br>E-<br>02 | 1 | MLCK                 |

|             |                                                                                                       |             |                       |                       |                       |                       |   |                      |
|-------------|-------------------------------------------------------------------------------------------------------|-------------|-----------------------|-----------------------|-----------------------|-----------------------|---|----------------------|
|             |                                                                                                       |             | 03                    | 02                    | 03                    | 02                    |   |                      |
| 1<br>4<br>9 | <a href="#">mitochondrial calcium ion transport</a>                                                   | 1<br>2      | 6.9<br>28<br>E-<br>03 | 4.0<br>69<br>E-<br>02 | 6.9<br>28<br>E-<br>03 | 4.0<br>69<br>E-<br>02 | 1 | VDAC 1               |
| 1<br>5<br>0 | <a href="#">embryonic viscerocranium morphogenesis</a>                                                | 1<br>3      | 7.5<br>04<br>E-<br>03 | 4.2<br>91<br>E-<br>02 | 7.5<br>04<br>E-<br>03 | 4.2<br>91<br>E-<br>02 | 1 | LHX1                 |
| 1<br>5<br>1 | <a href="#">metanephric renal vesicle morphogenesis</a>                                               | 1<br>3      | 7.5<br>04<br>E-<br>03 | 4.2<br>91<br>E-<br>02 | 7.5<br>04<br>E-<br>03 | 4.2<br>91<br>E-<br>02 | 1 | LHX1                 |
| 1<br>5<br>2 | <a href="#">primitive streak formation</a>                                                            | 1<br>3      | 7.5<br>04<br>E-<br>03 | 4.2<br>91<br>E-<br>02 | 7.5<br>04<br>E-<br>03 | 4.2<br>91<br>E-<br>02 | 1 | LHX1                 |
| 1<br>5<br>3 | <a href="#">negative regulation of B cell apoptotic process</a>                                       | 1<br>3      | 7.5<br>04<br>E-<br>03 | 4.2<br>91<br>E-<br>02 | 7.5<br>04<br>E-<br>03 | 4.2<br>91<br>E-<br>02 | 1 | CD44                 |
| 1<br>5<br>4 | <a href="#">cellular response to fibroblast growth factor stimulus</a>                                | 2<br>3<br>2 | 7.6<br>49<br>E-<br>03 | 4.3<br>46<br>E-<br>02 | 7.6<br>49<br>E-<br>03 | 4.3<br>46<br>E-<br>02 | 2 | CD44, LHX1           |
| 1<br>5<br>5 | <a href="#">regulation of cell motility</a>                                                           | 7<br>3<br>7 | 7.7<br>49<br>E-<br>03 | 4.3<br>74<br>E-<br>02 | 7.7<br>49<br>E-<br>03 | 4.3<br>74<br>E-<br>02 | 3 | MYLK1, MLCK, Telokin |
| 1<br>5<br>6 | <a href="#">response to fibroblast growth factor</a>                                                  | 2<br>3<br>6 | 7.9<br>05<br>E-<br>03 | 4.4<br>34<br>E-<br>02 | 7.9<br>05<br>E-<br>03 | 4.4<br>34<br>E-<br>02 | 2 | CD44, LHX1           |
| 1<br>5<br>7 | <a href="#">positive regulation of striated muscle contraction</a>                                    | 1<br>4      | 8.0<br>79<br>E-<br>03 | 4.4<br>74<br>E-<br>02 | 8.0<br>79<br>E-<br>03 | 4.4<br>74<br>E-<br>02 | 1 | MLCK                 |
| 1<br>5<br>8 | <a href="#">negative regulation of DNA damage response, signal transduction by p53 class mediator</a> | 1<br>4      | 8.0<br>79<br>E-<br>03 | 4.4<br>74<br>E-<br>02 | 8.0<br>79<br>E-<br>03 | 4.4<br>74<br>E-<br>02 | 1 | CD44                 |
| 1<br>5<br>9 | <a href="#">negative regulation of apoptotic signaling pathway</a>                                    | 2<br>4<br>2 | 8.2<br>97<br>E-<br>03 | 4.5<br>61<br>E-<br>02 | 8.2<br>97<br>E-<br>03 | 4.5<br>61<br>E-<br>02 | 2 | CD44, EYA1           |

|             |                                                                                                  |             |                       |                       |                       |                       |   |            |
|-------------|--------------------------------------------------------------------------------------------------|-------------|-----------------------|-----------------------|-----------------------|-----------------------|---|------------|
| 1<br>6<br>0 | <a href="#">otic vesicle morphogenesis</a>                                                       | 1<br>5      | 8.6<br>53<br>E-<br>03 | 4.5<br>61<br>E-<br>02 | 8.6<br>53<br>E-<br>03 | 4.5<br>61<br>E-<br>02 | 1 | EYA1       |
| 1<br>6<br>1 | <a href="#">regulation of cerebellar granule cell precursor proliferation</a>                    | 1<br>5      | 8.6<br>53<br>E-<br>03 | 4.5<br>61<br>E-<br>02 | 8.6<br>53<br>E-<br>03 | 4.5<br>61<br>E-<br>02 | 1 | LHX1       |
| 1<br>6<br>2 | <a href="#">nephric duct development</a>                                                         | 1<br>5      | 8.6<br>53<br>E-<br>03 | 4.5<br>61<br>E-<br>02 | 8.6<br>53<br>E-<br>03 | 4.5<br>61<br>E-<br>02 | 1 | LHX1       |
| 1<br>6<br>3 | <a href="#">renal vesicle morphogenesis</a>                                                      | 1<br>5      | 8.6<br>53<br>E-<br>03 | 4.5<br>61<br>E-<br>02 | 8.6<br>53<br>E-<br>03 | 4.5<br>61<br>E-<br>02 | 1 | LHX1       |
| 1<br>6<br>4 | <a href="#">regulation of sarcomere organization</a>                                             | 1<br>5      | 8.6<br>53<br>E-<br>03 | 4.5<br>61<br>E-<br>02 | 8.6<br>53<br>E-<br>03 | 4.5<br>61<br>E-<br>02 | 1 | MLCK       |
| 1<br>6<br>5 | <a href="#">somite rostral/caudal axis specification</a>                                         | 1<br>5      | 8.6<br>53<br>E-<br>03 | 4.5<br>61<br>E-<br>02 | 8.6<br>53<br>E-<br>03 | 4.5<br>61<br>E-<br>02 | 1 | LHX1       |
| 1<br>6<br>6 | <a href="#">response to stimulus involved in regulation of muscle adaptation</a>                 | 1<br>5      | 8.6<br>53<br>E-<br>03 | 4.5<br>61<br>E-<br>02 | 8.6<br>53<br>E-<br>03 | 4.5<br>61<br>E-<br>02 | 1 | NOL3       |
| 1<br>6<br>7 | <a href="#">regulation of muscle system process</a>                                              | 2<br>5<br>3 | 9.0<br>38<br>E-<br>03 | 4.7<br>36<br>E-<br>02 | 9.0<br>38<br>E-<br>03 | 4.7<br>36<br>E-<br>02 | 2 | NOL3, MLCK |
| 1<br>6<br>8 | <a href="#">positive regulation of embryonic development</a>                                     | 1<br>6      | 9.2<br>28<br>E-<br>03 | 4.7<br>78<br>E-<br>02 | 9.2<br>28<br>E-<br>03 | 4.7<br>78<br>E-<br>02 | 1 | LHX1       |
| 1<br>6<br>9 | <a href="#">hyaluronan catabolic process</a>                                                     | 1<br>6      | 9.2<br>28<br>E-<br>03 | 4.7<br>78<br>E-<br>02 | 9.2<br>28<br>E-<br>03 | 4.7<br>78<br>E-<br>02 | 1 | CD44       |
| 1<br>7<br>0 | <a href="#">regulation of cysteine-type endopeptidase activity involved in apoptotic process</a> | 2<br>5<br>9 | 9.4<br>55<br>E-<br>03 | 4.8<br>66<br>E-<br>02 | 9.4<br>55<br>E-<br>03 | 4.8<br>66<br>E-<br>02 | 2 | CD44, NOL3 |
| 1<br>7<br>1 | <a href="#">pharyngeal system development</a>                                                    | 1<br>7      | 9.8<br>02<br>E-<br>03 | 4.8<br>94<br>E-<br>02 | 9.8<br>02<br>E-<br>03 | 4.8<br>94<br>E-<br>02 | 1 | EYA1       |



|             |                                                                                  |             |                       |                       |                       |                       |   |                      |
|-------------|----------------------------------------------------------------------------------|-------------|-----------------------|-----------------------|-----------------------|-----------------------|---|----------------------|
|             |                                                                                  |             | 03                    | 02                    | 03                    | 02                    |   |                      |
| 1<br>7<br>2 | <a href="#">regulation of nephron tubule epithelial cell differentiation</a>     | 1<br>7      | 9.8<br>02<br>E-<br>03 | 4.8<br>94<br>E-<br>02 | 9.8<br>02<br>E-<br>03 | 4.8<br>94<br>E-<br>02 | 1 | LHX1                 |
| 1<br>7<br>3 | <a href="#">renal vesicle development</a>                                        | 1<br>7      | 9.8<br>02<br>E-<br>03 | 4.8<br>94<br>E-<br>02 | 9.8<br>02<br>E-<br>03 | 4.8<br>94<br>E-<br>02 | 1 | LHX1                 |
| 1<br>7<br>4 | <a href="#">branching involved in prostate gland morphogenesis</a>               | 1<br>7      | 9.8<br>02<br>E-<br>03 | 4.8<br>94<br>E-<br>02 | 9.8<br>02<br>E-<br>03 | 4.8<br>94<br>E-<br>02 | 1 | CD44                 |
| 1<br>7<br>5 | <a href="#">vagina development</a>                                               | 1<br>7      | 9.8<br>02<br>E-<br>03 | 4.8<br>94<br>E-<br>02 | 9.8<br>02<br>E-<br>03 | 4.8<br>94<br>E-<br>02 | 1 | LHX1                 |
| 1<br>7<br>6 | <a href="#">regulation of locomotion</a>                                         | 8<br>0<br>4 | 9.8<br>43<br>E-<br>03 | 4.8<br>94<br>E-<br>02 | 9.8<br>43<br>E-<br>03 | 4.8<br>94<br>E-<br>02 | 3 | MYLK1, MLCK, Telokin |
| 1<br>7<br>7 | <a href="#">metanephric glomerulus development</a>                               | 1<br>8      | 1.0<br>38<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 1.0<br>38<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 1 | LHX1                 |
| 1<br>7<br>8 | <a href="#">cerebellar Purkinje cell layer formation</a>                         | 1<br>8      | 1.0<br>38<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 1.0<br>38<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 1 | LHX1                 |
| 1<br>7<br>9 | <a href="#">regulation of cell proliferation involved in heart morphogenesis</a> | 1<br>8      | 1.0<br>38<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 1.0<br>38<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 1 | EYA1                 |
| 1<br>8<br>0 | <a href="#">mesonephric tubule development</a>                                   | 1<br>8      | 1.0<br>38<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 1.0<br>38<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 1 | LHX1                 |
| 1<br>8<br>1 | <a href="#">cerebellar Purkinje cell differentiation</a>                         | 1<br>8      | 1.0<br>38<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 1.0<br>38<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 1 | LHX1                 |
| 1<br>8<br>2 | <a href="#">regulation of cellular component movement</a>                        | 8<br>2<br>0 | 1.0<br>39<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 1.0<br>39<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 3 | MYLK1, MLCK, Telokin |

|             |                                                                                                                              |                  |                       |                       |                       |                       |   |                                                        |
|-------------|------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------|-----------------------|-----------------------|-----------------------|---|--------------------------------------------------------|
| 1<br>8<br>3 | <a href="#">regulation of cysteine-type endopeptidase activity</a>                                                           | 2<br>7<br>4      | 1.0<br>53<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 1.0<br>53<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 2 | CD44, NOL3                                             |
| 1<br>8<br>4 | <a href="#">skeletal system morphogenesis</a>                                                                                | 2<br>7<br>6      | 1.0<br>68<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 1.0<br>68<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 2 | LHX1, EYA1                                             |
| 1<br>8<br>5 | <a href="#">positive regulation of gene expression</a>                                                                       | 1<br>6<br>0<br>7 | 1.0<br>75<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 1.0<br>75<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 4 | CD44, MLCK, LHX1, EYA1                                 |
| 1<br>8<br>6 | <a href="#">system process</a>                                                                                               | 2<br>5<br>6<br>8 | 1.0<br>86<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 1.0<br>86<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 5 | VDAC 1, MYLK1, MLCK, EYA1, Telokin                     |
| 1<br>8<br>7 | <a href="#">single-organism developmental process</a>                                                                        | 6<br>3<br>4<br>8 | 1.0<br>86<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 1.0<br>86<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 8 | CD44, VDAC 1, MYLK1, MLCK, PQBP-1, LHX1, EYA1, Telokin |
| 1<br>8<br>8 | <a href="#">protein phosphorylation</a>                                                                                      | 8<br>3<br>5      | 1.0<br>92<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 1.0<br>92<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 3 | MYLK1, MLCK, Telokin                                   |
| 1<br>8<br>9 | <a href="#">mesonephric epithelium development</a>                                                                           | 1<br>9           | 1.0<br>95<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 1.0<br>95<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 1 | LHX1                                                   |
| 1<br>9<br>0 | <a href="#">regulation of epithelial cell differentiation involved in kidney development</a>                                 | 1<br>9           | 1.0<br>95<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 1.0<br>95<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 1 | LHX1                                                   |
| 1<br>9<br>1 | <a href="#">negative regulation of intrinsic apoptotic signaling pathway in response to DNA damage by p53 class mediator</a> | 1<br>9           | 1.0<br>95<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 1.0<br>95<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 1 | CD44                                                   |
| 1<br>9<br>2 | <a href="#">spinal cord association neuron differentiation</a>                                                               | 1<br>9           | 1.0<br>95<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 1.0<br>95<br>E-<br>02 | 4.9<br>90<br>E-<br>02 | 1 | LHX1                                                   |
| 1<br>9<br>3 | <a href="#">organ development</a>                                                                                            | 3<br>6<br>9<br>1 | 1.1<br>01<br>E-<br>02 | 4.9<br>91<br>E-<br>02 | 1.1<br>01<br>E-<br>02 | 4.9<br>91<br>E-<br>02 | 6 | CD44, MYLK1, MLCK, LHX1, EYA1, Telokin                 |

**Table 9S: Enrichment analysis report.** Enrichment by GO Processes (healthy control vs Grade III)

| Enrichment by GO Processes |                                               |       |           | GRADE III_INPUT_4(1)_genelist |           |           |         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------|-----------------------------------------------|-------|-----------|-------------------------------|-----------|-----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #                          | Processes                                     | Total | p Value   | Min FDR                       | p-value   | FDR       | In Data | Network Objects from Active Data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 1                          | <a href="#">Notch receptor processing</a>     | 29    | 2.399E-07 | 3.496E-04                     | 2.399E-07 | 3.496E-04 | 6       | RPS27A, Ubiquitin, UBC, Notch, UBB, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 2                          | <a href="#">transport</a>                     | 4365  | 7.810E-06 | 3.906E-06                     | 7.810E-06 | 3.906E-06 | 70      | Annexin VIII, PEX2, KLC2, DLC1 (Dynein LC8a), CRK, HBG, DCTN2, VAMP5, STAT5A, GGA1, NASP, ERK1 (MAPK3), Carbonic anhydrase XIII, Bim, LASP1, CERT, STAT5, RBP-J kappa (CBF1), RBP1, MCT4, Autophagin-1, Tex1, KLC3, RPS27A, Ccdc109a, Ubiquitin, CDC4L, SNX9, Kinesin light chain, Phosphatase regulator (inhibitor), ATP1A3, Fatty acid-binding protein, ERK1/2, CRABP2, Syntaxin 16, Guanylate cyclase A (NPR1), GRB2, Rab-9B, PEX19, HXK4, DDC, BBS9, COG3, UBC, HBGA, SNX1, CED-6, NUP93, ANXA8L2, Dysbindin, Notch, UBB, Guanylate cyclase, IGHG1, TRS85 homolog, NOTCH1 precursor, GCK(MAP4K2), GGA, RAB24, IL1RN, DYNLL, E-FABP, Adult hemoglobin, GOCAP1, MLX, Rich1, COG8, APOBEC-1, RIP, MLCK |
| 3                          | <a href="#">stress-activated MAPK cascade</a> | 175   | 7.810E-06 | 3.906E-06                     | 7.810E-06 | 3.906E-06 | 11      | CRK, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, CrkL, UBC, UBB, GCK(MAP4K2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 4                          | <a href="#">glycogen biosynthetic process</a> | 35    | 7.810E-06 | 3.906E-06                     | 7.810E-06 | 3.906E-06 | 6       | RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), HXK4, UBC, UBB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

|   |                                                                             |   |   |   |   |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---|-----------------------------------------------------------------------------|---|---|---|---|---|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                             |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             |   | 7 | 4 | 7 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 5 | <a href="#">glucan biosynthetic process</a>                                 | 3 | 7 | 3 | 7 | 3 | 6 | RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), HXK4, UBC, UBB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                                             | 5 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             |   | 8 | 4 | 8 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             |   | 2 | 9 | 2 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             |   | 4 | 6 | 4 | 6 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             |   | 7 | 4 | 7 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 6 | <a href="#">regulation of cell adhesion involved in heart morphogenesis</a> | 3 | 7 | 3 | 7 | 3 | 3 | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|   |                                                                             |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             |   | 9 | 4 | 9 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             |   | 5 | 9 | 5 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             |   | 3 | 6 | 3 | 6 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             |   | 7 | 4 | 7 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 7 | <a href="#">positive regulation of ephrin receptor signaling pathway</a>    | 3 | 7 | 3 | 7 | 3 | 3 | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|   |                                                                             |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             |   | 9 | 4 | 9 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             |   | 5 | 9 | 5 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             |   | 3 | 6 | 3 | 6 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             |   | 7 | 4 | 7 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 8 | <a href="#">establishment of localization</a>                               | 4 | 8 | 3 | 8 | 3 | 7 | Annexin VIII, PEX2, KLC2, DLC1 (Dynein LC8a), CRK, HBG, DCTN2, VAMP5, STAT5A, GGA1, NASP, ERK1 (MAPK3), Carbonic anhydrase XIII, Bim, LASP1, CERT, STAT5, RBP-J kappa (CBF1), RBP1, MCT4, Autophagin-1, Tex1, KLC3, RPS27A, Ccdc109a, Ubiquitin, CDC4L, EYA1, SNX9, Kinesin light chain, Phosphatase regulator (inhibitor), ATP1A3, Fatty acid-binding protein, ERK1/2, CRABP2, Syntaxin 16, Guanylate cyclase A (NPR1), GRB2, Rab-9B, PEX19, HXK4, DDC, BBS9, COG3, UBC, HBGA, SNX1, CED-6, NUP93, ANXA8L2, Dysbindin, Notch, UBB, Guanylate cyclase, IGHG1, TRS85 homolog, NOTCH1 precursor, GCK(MAP4K2), GGA, RAB24, IL1RN, DYNLL, E-FABP, Adult hemoglobin, GOCAP1, MLX, Rich1, COG8, APOBEC-1, RIP, MLCK |
|   |                                                                             | 4 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             | 7 | 7 | 4 | 7 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             | 4 | 9 | 4 | 9 |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             | 3 | 6 | 3 | 6 |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             | E | E | E | E |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             | - | - | - | - |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             | 0 | 0 | 0 | 0 |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             | 7 | 7 | 4 | 7 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 9 | <a href="#">stress-activated protein kinase signaling cascade</a>           | 1 | 1 | 3 | 1 | 3 | 1 | CRK, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, CrkL, UBC, UBB, GCK(MAP4K2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                             | 8 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|   |                                                                             | 1 | 0 | 8 | 0 | 8 | 1 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

|        |                                                                             |             |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                              |
|--------|-----------------------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                             |             | 9<br>0<br>E<br>-<br>0<br>6                | 7<br>5<br>E<br>-<br>0<br>4                | 9<br>0<br>E<br>-<br>0<br>6                | 7<br>5<br>E<br>-<br>0<br>4                |        |                                                                                                                                                                                                                                              |
| 1<br>0 | <a href="#">cellular response to growth factor stimulus</a>                 | 7<br>5<br>3 | 2<br>.<br>2<br>0<br>9<br>E<br>-<br>5<br>6 | 6<br>.<br>4<br>0<br>7<br>E<br>-<br>0<br>4 | 2<br>.<br>2<br>0<br>9<br>E<br>-<br>0<br>6 | 6<br>.<br>4<br>0<br>7<br>E<br>-<br>0<br>4 | 2<br>2 | Reticulon 4, CRK, p38 MAPK, ERK1 (MAPK3), Bim, Metallothionein-I, STAT5, SMIF, RPS27A, p38gamma (MAPK12), Ubiquitin, Phosphatase regulator (inhibitor), ERK1/2, Metallothionein-IG, CrkL, GRB2, DDC, UBC, Notch, UBB, NOTCH1 precursor, WWOX |
| 1<br>1 | <a href="#">toll-like receptor 5 signaling pathway</a>                      | 9<br>4      | 2<br>.<br>7<br>4<br>8<br>E<br>-<br>0<br>6 | 6<br>.<br>4<br>0<br>7<br>E<br>-<br>0<br>4 | 2<br>.<br>7<br>4<br>8<br>E<br>-<br>0<br>6 | 6<br>.<br>4<br>0<br>7<br>E<br>-<br>0<br>4 | 8      | TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, UBC, UBB                                                                                                                                                                     |
| 1<br>2 | <a href="#">apoptotic process involved in embryonic digit morphogenesis</a> | 4           | 3<br>.<br>1<br>5<br>9<br>E<br>-<br>0<br>6 | 6<br>.<br>4<br>0<br>7<br>E<br>-<br>0<br>4 | 3<br>.<br>1<br>5<br>9<br>E<br>-<br>0<br>6 | 6<br>.<br>4<br>0<br>7<br>E<br>-<br>0<br>4 | 3      | Bim, Notch, NOTCH1 precursor                                                                                                                                                                                                                 |
| 1<br>3 | <a href="#">regulation of ephrin receptor signaling pathway</a>             | 4           | 3<br>.<br>1<br>5<br>9<br>E<br>-<br>0<br>6 | 6<br>.<br>4<br>0<br>7<br>E<br>-<br>0<br>4 | 3<br>.<br>1<br>5<br>9<br>E<br>-<br>0<br>6 | 6<br>.<br>4<br>0<br>7<br>E<br>-<br>0<br>4 | 3      | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                                                                  |
| 1<br>4 | <a href="#">ubiquitin homeostasis</a>                                       | 4           | 3<br>.<br>1<br>5<br>9                     | 6<br>.<br>4<br>0<br>7                     | 3<br>.<br>1<br>5<br>9                     | 6<br>.<br>4<br>0<br>7                     | 3      | Ubiquitin, UBC, UBB                                                                                                                                                                                                                          |

|        |                                                                                                |                  |                                      |                                           |                                      |                                           |        |                                                                                                                                                                                                                                                                                                                                                                          |
|--------|------------------------------------------------------------------------------------------------|------------------|--------------------------------------|-------------------------------------------|--------------------------------------|-------------------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                                                |                  | E<br>-<br>0<br>6                     | E<br>-<br>0<br>4                          | E<br>-<br>0<br>6                     | E<br>-<br>0<br>4                          |        |                                                                                                                                                                                                                                                                                                                                                                          |
| 1<br>5 | <a href="#">establishment of localization in cell</a>                                          | 2<br>0<br>1<br>5 | 3<br>.<br>1<br>7<br>1<br>E<br>0<br>5 | 6<br>.<br>4<br>0<br>7<br>E<br>-<br>0<br>6 | 3<br>.<br>1<br>7<br>E<br>-<br>0<br>6 | 6<br>.<br>4<br>0<br>7<br>E<br>-<br>0<br>4 | 4<br>0 | Annexin VIII, PEX2, KLC2, DCTN2, VAMP5, GGA1, ERK1 (MAPK3), Bim, CERT, RBP-J kappa (CBF1), Tex1, KLC3, RPS27A, Ccdc109a, Ubiquitin, CDC4L, EYA1, SNX9, Kinesin light chain, Phosphatase regulator (inhibitor), ERK1/2, Syntaxin 16, PEX19, DDC, COG3, UBC, SNX1, ANXA8L2, Dysbindin, Notch, UBB, NOTCH1 precursor, GCK(MAP4K2), GGA, IL1RN, DYNLL, MLX, Rich1, RIP, MLCK |
| 1<br>6 | <a href="#">DNA damage induced protein phosphorylation</a>                                     | 1<br>2           | 3<br>.<br>4<br>0<br>5<br>E<br>-      | 6<br>.<br>4<br>0<br>7<br>E<br>-           | 3<br>.<br>4<br>0<br>5<br>E<br>-      | 6<br>.<br>4<br>0<br>7<br>E<br>-           | 4      | p38 MAPK, ERK1 (MAPK3), p38gamma (MAPK12), ERK1/2                                                                                                                                                                                                                                                                                                                        |
| 1<br>7 | <a href="#">cellular response to granulocyte macrophage colony-stimulating factor stimulus</a> | 1<br>2           | 3<br>.<br>4<br>0<br>5<br>E<br>-      | 6<br>.<br>4<br>0<br>7<br>E<br>-           | 3<br>.<br>4<br>0<br>5<br>E<br>-      | 6<br>.<br>4<br>0<br>7<br>E<br>-           | 4      | STAT5A, STAT5, ERK1/2, Guanylate cyclase                                                                                                                                                                                                                                                                                                                                 |
| 1<br>8 | <a href="#">toll-like receptor TLR6:TLR2 signaling pathway</a>                                 | 9<br>9           | 4<br>.<br>0<br>6<br>3<br>E<br>-      | 6<br>.<br>8<br>4<br>0<br>E<br>-           | 4<br>.<br>0<br>6<br>3<br>E<br>-      | 6<br>.<br>8<br>4<br>0<br>E<br>-           | 8      | TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, UBC, UBB                                                                                                                                                                                                                                                                                                 |
| 1<br>9 | <a href="#">toll-like receptor TLR1:TLR2 signaling pathway</a>                                 | 9<br>9           | 4<br>.<br>0<br>6<br>3<br>E<br>-      | 6<br>.<br>8<br>4<br>0<br>E<br>-           | 4<br>.<br>0<br>6<br>3<br>E<br>-      | 6<br>.<br>8<br>4<br>0<br>E<br>-           | 8      | TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, UBC, UBB                                                                                                                                                                                                                                                                                                 |

|        |                                                                                                    |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|----------------------------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                                                    |                  | 0<br>6                                    | 0<br>4                                    | 0<br>6                                    | 0<br>4                                    |        |                                                                                                                                                                                                                                                                                                                                                                                                            |
| 2<br>0 | <a href="#">toll-like receptor 2 signaling pathway</a>                                             | 1<br>0<br>1      | 4<br>.<br>7<br>2<br>1<br>E<br>-<br>0<br>1 | 7<br>.<br>4<br>3<br>7<br>E<br>-<br>0<br>6 | 4<br>.<br>7<br>2<br>1<br>E<br>-<br>0<br>6 | 7<br>.<br>4<br>3<br>7<br>E<br>-<br>0<br>4 | 8      | TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, UBC, UBB                                                                                                                                                                                                                                                                                                                                   |
| 2<br>1 | <a href="#">response to granulocyte macrophage colony-stimulating factor</a>                       | 1<br>3           | 4<br>.<br>8<br>8<br>2<br>E<br>-<br>0<br>3 | 7<br>.<br>4<br>3<br>7<br>E<br>-<br>0<br>6 | 4<br>.<br>8<br>8<br>2<br>E<br>-<br>0<br>6 | 7<br>.<br>4<br>3<br>7<br>E<br>-<br>0<br>4 | 4      | STAT5A, STAT5, ERK1/2, Guanylate cyclase                                                                                                                                                                                                                                                                                                                                                                   |
| 2<br>2 | <a href="#">regulation of transcription from RNA polymerase II promoter in response to hypoxia</a> | 4<br>8           | 5<br>.<br>3<br>5<br>0<br>E<br>-<br>0<br>8 | 7<br>.<br>6<br>3<br>8<br>E<br>-<br>4<br>6 | 5<br>.<br>3<br>5<br>0<br>E<br>-<br>0<br>6 | 7<br>.<br>6<br>3<br>8<br>E<br>-<br>0<br>4 | 6      | RPS27A, Ubiquitin, UBC, Notch, UBB, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                       |
| 2<br>3 | <a href="#">response to growth factor</a>                                                          | 7<br>9<br>7      | 5<br>.<br>4<br>9<br>2<br>E<br>-<br>0<br>6 | 7<br>.<br>6<br>3<br>8<br>E<br>-<br>4<br>4 | 5<br>.<br>4<br>9<br>2<br>E<br>-<br>0<br>6 | 7<br>.<br>6<br>3<br>8<br>E<br>-<br>0<br>4 | 2<br>2 | Reticulon 4, CRK, p38 MAPK, ERK1 (MAPK3), Bim, Metallothionein-I, STAT5, SMIF, RPS27A, p38gamma (MAPK12), Ubiquitin, Phosphatase regulator (inhibitor), ERK1/2, Metallothionein-IG, CrkL, GRB2, DDC, UBC, Notch, UBB, NOTCH1 precursor, WWOX                                                                                                                                                               |
| 2<br>4 | <a href="#">intracellular signal transduction</a>                                                  | 1<br>9<br>1<br>8 | 6<br>.<br>1<br>8<br>5<br>E<br>-<br>0<br>6 | 8<br>.<br>2<br>4<br>4<br>E<br>-<br>0<br>4 | 6<br>.<br>1<br>8<br>5<br>E<br>-<br>0<br>6 | 8<br>.<br>2<br>4<br>4<br>E<br>-<br>0<br>4 | 3<br>8 | MST3, DLC1 (Dynein LC8a), CRK, STAT5A, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), Bim, Metallothionein-I, STAT5, RPS27A, p38gamma (MAPK12), Ccdc109a, Ubiquitin, PhLP, Phosphatase regulator (inhibitor), ERK1/2, LCKBP1, Guanylate cyclase A (NPR1), CrkL, GRB2, Rab-9B, CNK1, HXK4, Metallothionein-II, UBC, Siglec-E, UBB, BMF, Guanylate cyclase, GCK(MAP4K2), 4E-BP1, RRAD, RAB24, DYNLL, WWOX, Rich1, DOK3 |

|   |                                                                      |   |                                           |                                                |                                           |                                                |   |                                                                                                          |
|---|----------------------------------------------------------------------|---|-------------------------------------------|------------------------------------------------|-------------------------------------------|------------------------------------------------|---|----------------------------------------------------------------------------------------------------------|
| 2 | <a href="#">aorta morphogenesis</a>                                  | 3 | 7<br>.<br>8<br>4<br>4<br>E<br>-<br>0<br>6 | 1<br>.<br>0<br>0<br>4<br>E<br>-<br>0<br>3      | 7<br>.<br>8<br>4<br>4<br>E<br>-<br>0<br>6 | 1<br>.<br>0<br>0<br>4<br>E<br>-<br>0<br>3      | 5 | RBP-J kappa (CBF1), EYA1, MYLK1, Telokin, MLCK                                                           |
| 2 | <a href="#">artery morphogenesis</a>                                 | 7 | 8<br>.<br>2<br>3<br>6<br>E<br>-<br>0<br>6 | 1<br>.<br>0<br>1<br>3<br>3<br>E<br>-<br>0<br>3 | 8<br>.<br>2<br>3<br>6<br>E<br>-<br>0<br>6 | 1<br>.<br>0<br>1<br>3<br>3<br>E<br>-<br>0<br>3 | 7 | RBP-J kappa (CBF1), EYA1, MYLK1, Telokin, Notch, NOTCH1 precursor, MLCK                                  |
| 2 | <a href="#">positive regulation of MAP kinase activity</a>           | 2 | 9<br>.<br>1<br>3<br>4<br>E<br>-<br>0<br>6 | 1<br>.<br>0<br>8<br>2<br>E<br>-<br>0<br>3      | 9<br>.<br>1<br>3<br>4<br>E<br>-<br>0<br>6 | 1<br>.<br>0<br>8<br>2<br>E<br>-<br>0<br>3      | 1 | CRK, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, Ajuba, UBC, UBB, GCK(MAP4K2), IL1RN |
| 2 | <a href="#">MyD88-dependent toll-like receptor signaling pathway</a> | 1 | 1<br>.<br>0<br>1<br>8<br>E<br>-<br>0<br>5 | 1<br>.<br>1<br>6<br>3<br>E<br>-<br>0<br>3      | 1<br>.<br>0<br>1<br>8<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>6<br>3<br>E<br>-<br>0<br>3      | 8 | TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, UBC, UBB                                 |
| 2 | <a href="#">viral protein processing</a>                             | 1 | 1<br>.<br>2<br>1<br>6<br>E<br>-<br>0<br>5 | 1<br>.<br>2<br>3<br>8<br>E<br>-<br>0<br>3      | 1<br>.<br>2<br>1<br>6<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>1<br>6<br>E<br>-<br>0<br>3      | 4 | RPS27A, Ubiquitin, UBC, UBB                                                                              |
| 3 | <a href="#">activation of MAPK activity</a>                          | 1 | 1<br>.<br>.<br>.<br>.<br>.<br>.<br>.<br>. | 1<br>.<br>.<br>.<br>.<br>.<br>.<br>.<br>.      | 1<br>.<br>.<br>.<br>.<br>.<br>.<br>.<br>. | 1<br>.<br>.<br>.<br>.<br>.<br>.<br>.<br>.      | 1 | CRK, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, UBC, UBB, GCK(MAP4K2)               |



|        |                                                              |                  |                                      |                                      |                                      |                                      |             |                                                                                                                                                                                                                                                                                                                                                  |
|--------|--------------------------------------------------------------|------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                              | 1                | 2<br>6<br>8<br>E<br>-<br>0<br>5      | 2<br>3<br>8<br>E<br>-<br>0<br>3      | 2<br>6<br>8<br>E<br>-<br>0<br>5      | 2<br>3<br>8<br>E<br>-<br>0<br>3      |             |                                                                                                                                                                                                                                                                                                                                                  |
| 3<br>1 | <a href="#">aorta development</a>                            | 3<br>3           | 1<br>2<br>7<br>7<br>E<br>-<br>0<br>5 | 1<br>2<br>3<br>8<br>E<br>-<br>0<br>3 | 1<br>2<br>7<br>7<br>E<br>-<br>0<br>5 | 1<br>2<br>3<br>8<br>E<br>-<br>0<br>3 | 5           | RBP-J kappa (CBF1), EYA1, MYLK1, Telokin, MLCK                                                                                                                                                                                                                                                                                                   |
| 3<br>2 | <a href="#">cellular response to stress</a>                  | 1<br>6<br>8<br>5 | 1<br>4<br>3<br>0<br>E<br>-<br>0<br>5 | 1<br>2<br>3<br>8<br>E<br>-<br>0<br>3 | 1<br>4<br>3<br>0<br>E<br>-<br>0<br>3 | 1<br>2<br>3<br>8<br>E<br>-<br>0<br>3 | 3<br>4      | MST3, TIPIN, CRK, TIRAP (Mal), RAD1, p38 MAPK, ERK1 (MAPK3), Bim, CERT, Autophagin-1, RPS27A, p38gamma (MAPK12), Ubiquitin, EYA1, XPF, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, MYLK1, CrkL, GRB2, HXK4, UBC, Telokin, Notch, RAD23A, UBB, NOTCH1 precursor, GCK(MAP4K2), DBC1, RPA4, DSS1, Adult hemoglobin, MLCK |
| 3<br>3 | <a href="#">MAPK cascade</a>                                 | 2<br>8<br>3      | 1<br>4<br>6<br>3<br>E<br>-<br>0<br>5 | 1<br>2<br>3<br>8<br>E<br>-<br>0<br>3 | 1<br>4<br>6<br>3<br>E<br>-<br>0<br>3 | 1<br>2<br>3<br>8<br>E<br>-<br>0<br>3 | 1<br>2      | CRK, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, p38gamma (MAPK12), Ubiquitin, ERK1/2, CrkL, UBC, UBB, GCK(MAP4K2)                                                                                                                                                                                                                              |
| 3<br>4 | <a href="#">cellular polysaccharide biosynthetic process</a> | 5<br>7           | 1<br>4<br>7<br>6<br>E<br>-<br>0<br>5 | 1<br>2<br>3<br>8<br>E<br>-<br>0<br>3 | 1<br>4<br>7<br>6<br>E<br>-<br>0<br>3 | 1<br>2<br>3<br>8<br>E<br>-<br>0<br>3 | 6           | RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), HXK4, UBC, UBB                                                                                                                                                                                                                                                                             |
| 3<br>5 | <a href="#">signal transduction by phosphorylation</a>       | 3<br>3<br>2      | 1<br>4<br>9                          | 1<br>2<br>9                          | 1<br>4<br>9                          | 1<br>2<br>9                          | 1<br>1<br>3 | MST3, CRK, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, p38gamma (MAPK12), Ubiquitin, ERK1/2, CrkL, UBC, UBB, GCK(MAP4K2)                                                                                                                                                                                                                        |

|        |                                                                               |   |                                       |                                       |                                       |                                       |   |                                             |
|--------|-------------------------------------------------------------------------------|---|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---|---------------------------------------------|
|        |                                                                               |   | 7<br>E<br>-<br>0<br>5                 | 8<br>E<br>-<br>0<br>3                 | 7<br>E<br>-<br>0<br>5                 | 8<br>E<br>-<br>0<br>3                 |   |                                             |
| 3<br>6 | <a href="#">aorta smooth muscle tissue morphogenesis</a>                      | 6 | 1<br>.5<br>5<br>8<br>E<br>-<br>0<br>5 | 1<br>.2<br>3<br>8<br>E<br>-<br>0<br>3 | 1<br>.5<br>5<br>8<br>E<br>-<br>0<br>5 | 1<br>.2<br>3<br>8<br>E<br>-<br>0<br>3 | 3 | MYLK1, Telokin, MLCK                        |
| 3<br>7 | <a href="#">positive regulation of transcription of Notch receptor target</a> | 6 | 1<br>.5<br>5<br>8<br>E<br>-<br>0<br>5 | 1<br>.2<br>3<br>8<br>E<br>-<br>0<br>3 | 1<br>.5<br>5<br>8<br>E<br>-<br>0<br>5 | 1<br>.2<br>3<br>8<br>E<br>-<br>0<br>3 | 3 | RBP-J kappa (CBF1), Notch, NOTCH1 precursor |
| 3<br>8 | <a href="#">arterial endothelial cell differentiation</a>                     | 6 | 1<br>.5<br>5<br>8<br>E<br>-<br>0<br>5 | 1<br>.2<br>3<br>8<br>E<br>-<br>0<br>3 | 1<br>.5<br>5<br>8<br>E<br>-<br>0<br>5 | 1<br>.2<br>3<br>8<br>E<br>-<br>0<br>3 | 3 | RBP-J kappa (CBF1), Notch, NOTCH1 precursor |
| 3<br>9 | <a href="#">interleukin-4 secretion</a>                                       | 6 | 1<br>.5<br>5<br>8<br>E<br>-<br>0<br>5 | 1<br>.2<br>3<br>8<br>E<br>-<br>0<br>3 | 1<br>.5<br>5<br>8<br>E<br>-<br>0<br>5 | 1<br>.2<br>3<br>8<br>E<br>-<br>0<br>3 | 3 | RBP-J kappa (CBF1), Notch, NOTCH1 precursor |
| 4<br>0 | <a href="#">cellular hypotonic response</a>                                   | 6 | 1<br>.5<br>5<br>8<br>E                | 1<br>.2<br>3<br>8<br>E                | 1<br>.5<br>5<br>8<br>E                | 1<br>.2<br>3<br>8<br>E                | 3 | MYLK1, Telokin, MLCK                        |

|   |                                    |   |   |   |   |   |   |                                                           |
|---|------------------------------------|---|---|---|---|---|---|-----------------------------------------------------------|
|   |                                    |   | - | - | - | - |   |                                                           |
|   |                                    |   | 0 | 0 | 0 | 0 |   |                                                           |
|   |                                    |   | 5 | 3 | 5 | 3 |   |                                                           |
| 4 | <a href="#">endosomal</a>          |   | 1 | 1 | 1 | 1 |   |                                                           |
| 1 | <a href="#">transport</a>          |   | . | . | . | . |   |                                                           |
|   |                                    |   | 5 | 2 | 5 | 2 |   |                                                           |
|   |                                    |   | 8 | 3 | 8 | 3 |   |                                                           |
|   |                                    |   | 7 | 8 | 7 | 8 |   |                                                           |
|   |                                    |   | E | E | E | E |   |                                                           |
|   |                                    | 1 | - | - | - | - |   |                                                           |
|   |                                    | 9 | 0 | 0 | 0 | 0 | 1 | Annexin VIII, RPS27A, Ubiquitin, CDC4L, SNX9, Syntaxin    |
|   |                                    | 6 | 5 | 3 | 5 | 3 | 0 | 16, UBC, SNX1, ANXA8L2, UBB                               |
| 4 | <a href="#">polysaccharide</a>     |   | 1 | 1 | 1 | 1 |   |                                                           |
| 2 | <a href="#">biosynthetic</a>       |   | . | . | . | . |   |                                                           |
|   | <a href="#">process</a>            |   | 6 | 2 | 6 | 2 |   |                                                           |
|   |                                    |   | 3 | 4 | 3 | 4 |   |                                                           |
|   |                                    |   | 3 | 4 | 3 | 4 |   |                                                           |
|   |                                    |   | E | E | E | E |   |                                                           |
|   |                                    |   | - | - | - | - |   |                                                           |
|   |                                    | 5 | 0 | 0 | 0 | 0 |   | RPS27A, Ubiquitin, Phosphatase regulator (inhibitor),     |
|   |                                    | 8 | 5 | 3 | 5 | 3 | 6 | H XK4, UBC, UBB                                           |
| 4 | <a href="#">artery</a>             |   | 1 | 1 | 1 | 1 |   |                                                           |
| 3 | <a href="#">development</a>        |   | . | . | . | . |   |                                                           |
|   |                                    |   | 6 | 2 | 6 | 2 |   |                                                           |
|   |                                    |   | 9 | 6 | 9 | 6 |   |                                                           |
|   |                                    |   | 8 | 3 | 8 | 3 |   |                                                           |
|   |                                    |   | E | E | E | E |   |                                                           |
|   |                                    |   | - | - | - | - |   |                                                           |
|   |                                    | 8 | 0 | 0 | 0 | 0 |   | RBP-J kappa (CBF1), EYA1, MYLK1, Telokin, Notch,          |
|   |                                    | 7 | 5 | 3 | 5 | 3 | 7 | NOTCH1 precursor, MLCK                                    |
| 4 | <a href="#">G2/M transition of</a> |   | 1 | 1 | 1 | 1 |   |                                                           |
| 4 | <a href="#">mitotic cell cycle</a> |   | . | . | . | . |   |                                                           |
|   |                                    |   | 8 | 3 | 8 | 3 |   |                                                           |
|   |                                    |   | 9 | 1 | 9 | 1 |   |                                                           |
|   |                                    |   | 0 | 5 | 0 | 5 |   |                                                           |
|   |                                    |   | E | E | E | E |   |                                                           |
|   |                                    | 2 | - | - | - | - |   | DLC1 (Dynein LC8a), DCTN2, PPP1R12B, RPS27A,              |
|   |                                    | 0 | 0 | 0 | 0 | 0 | 1 | Ubiquitin, Phosphatase regulator (inhibitor), Ajuba, UBC, |
|   |                                    | 0 | 5 | 3 | 5 | 3 | 0 | UBB, DYNLL                                                |
| 4 | <a href="#">cell cycle G2/M</a>    |   | 1 | 1 | 1 | 1 |   |                                                           |
| 5 | <a href="#">phase transition</a>   |   | . | . | . | . |   |                                                           |
|   |                                    |   | 8 | 3 | 8 | 3 |   |                                                           |
|   |                                    |   | 9 | 1 | 9 | 1 |   |                                                           |
|   |                                    |   | 0 | 5 | 0 | 5 |   |                                                           |
|   |                                    | 2 | E | E | E | E |   | DLC1 (Dynein LC8a), DCTN2, PPP1R12B, RPS27A,              |
|   |                                    | 0 | - | - | - | - | 1 | Ubiquitin, Phosphatase regulator (inhibitor), Ajuba, UBC, |
|   |                                    | 0 | 0 | 0 | 0 | 0 | 0 | UBB, DYNLL                                                |

|        |                                                                                                   |             |                                           |                                           |                                           |                                           |        |                                                                                                                   |
|--------|---------------------------------------------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|-------------------------------------------------------------------------------------------------------------------|
|        |                                                                                                   |             | 5                                         | 3                                         | 5                                         | 3                                         |        |                                                                                                                   |
| 4<br>6 | <a href="#">positive regulation of innate immune response</a>                                     | 2<br>4<br>5 | 1<br>.<br>9<br>7<br>5<br>E<br>-<br>0<br>5 | 1<br>.<br>3<br>1<br>5<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>7<br>5<br>E<br>-<br>0<br>5 | 1<br>.<br>3<br>1<br>5<br>E<br>-<br>0<br>3 | 1<br>1 | STAT5A, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), STAT5, RPS27A, Ubiquitin, ERK1/2, UBC, UBB, SAP                      |
| 4<br>7 | <a href="#">cellular response to vascular endothelial growth factor stimulus</a>                  | 3<br>6      | 1<br>.<br>9<br>8<br>3<br>E<br>-<br>0<br>5 | 1<br>.<br>3<br>1<br>5<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>8<br>3<br>E<br>-<br>0<br>5 | 1<br>.<br>3<br>1<br>5<br>E<br>-<br>0<br>3 | 5      | p38 MAPK, Metallothionein-I, Metallothionein-IG, Notch, NOTCH1 precursor                                          |
| 4<br>8 | <a href="#">neurotrophin TRK receptor signaling pathway</a>                                       | 3<br>4<br>1 | 1<br>.<br>9<br>8<br>3<br>E<br>-<br>0<br>5 | 1<br>.<br>3<br>1<br>5<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>8<br>3<br>E<br>-<br>0<br>5 | 1<br>.<br>3<br>1<br>5<br>E<br>-<br>0<br>3 | 1<br>3 | Reticulon 4, CRK, p38 MAPK, ERK1 (MAPK3), Bim, RPS27A, p38gamma (MAPK12), Ubiquitin, ERK1/2, CrkL, GRB2, UBC, UBB |
| 4<br>9 | <a href="#">regulation of cell proliferation involved in heart morphogenesis</a>                  | 1<br>8      | 2<br>.<br>0<br>1<br>4<br>E<br>-<br>0<br>5 | 1<br>.<br>3<br>1<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>1<br>4<br>E<br>-<br>0<br>5 | 1<br>.<br>3<br>1<br>5<br>E<br>-<br>0<br>3 | 4      | RBP-J kappa (CBF1), EYA1, Notch, NOTCH1 precursor                                                                 |
| 5<br>0 | <a href="#">regulation of transcription from RNA polymerase II promoter in response to stress</a> | 6<br>1      | 2<br>.<br>1<br>8<br>9<br>E<br>-<br>0<br>5 | 1<br>.<br>4<br>0<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>8<br>9<br>E<br>-<br>0<br>5 | 1<br>.<br>4<br>0<br>1<br>E<br>-<br>0<br>3 | 6      | RPS27A, Ubiquitin, UBC, Notch, UBB, NOTCH1 precursor                                                              |

|        |                                                         |             |                                                |                                           |                                           |                                           |        |                                                                                                                   |
|--------|---------------------------------------------------------|-------------|------------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|-------------------------------------------------------------------------------------------------------------------|
| 5<br>1 | <a href="#">JNK cascade</a>                             | 1<br>2<br>5 | 2<br>.<br>2<br>7<br>2<br>1<br>E<br>-<br>0<br>5 | 1<br>.<br>4<br>2<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>2<br>7<br>2<br>E<br>-<br>0<br>5 | 1<br>.<br>4<br>2<br>1<br>E<br>-<br>0<br>3 | 8      | CRK, TIRAP (Mal), RPS27A, Ubiquitin, CrkL, UBC, UBB, GCK(MAP4K2)                                                  |
| 5<br>2 | <a href="#">neurotrophin signaling pathway</a>          | 3<br>4<br>6 | 2<br>.<br>3<br>0<br>9<br>E<br>-<br>0<br>5      | 1<br>.<br>4<br>2<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>0<br>9<br>E<br>-<br>0<br>5 | 1<br>.<br>4<br>2<br>1<br>E<br>-<br>0<br>3 | 1<br>3 | Reticulon 4, CRK, p38 MAPK, ERK1 (MAPK3), Bim, RPS27A, p38gamma (MAPK12), Ubiquitin, ERK1/2, CrkL, GRB2, UBC, UBB |
| 5<br>3 | <a href="#">virion assembly</a>                         | 1<br>9      | 2<br>.<br>5<br>3<br>3<br>E<br>-<br>0<br>5      | 1<br>.<br>5<br>1<br>8<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>3<br>3<br>E<br>-<br>0<br>5 | 1<br>.<br>5<br>1<br>8<br>E<br>-<br>0<br>3 | 4      | RPS27A, Ubiquitin, UBC, UBB                                                                                       |
| 5<br>4 | <a href="#">toll-like receptor 10 signaling pathway</a> | 9<br>3      | 2<br>.<br>6<br>2<br>6<br>E<br>-<br>0<br>5      | 1<br>.<br>5<br>1<br>8<br>E<br>-<br>0<br>3 | 2<br>.<br>6<br>2<br>6<br>E<br>-<br>0<br>5 | 1<br>.<br>5<br>1<br>8<br>E<br>-<br>0<br>3 | 7      | p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, UBC, UBB                                                       |
| 5<br>5 | <a href="#">response to zinc ion</a>                    | 6<br>3      | 2<br>.<br>6<br>3<br>8<br>E<br>-<br>0<br>5      | 1<br>.<br>5<br>1<br>8<br>E<br>-<br>0<br>3 | 2<br>.<br>6<br>3<br>8<br>E<br>-<br>0<br>5 | 1<br>.<br>5<br>1<br>8<br>E<br>-<br>0<br>3 | 6      | Metallothionein-I, Metallothionein-IG, Metallothionein-II, HMBS, Metallothionein-1M, APOBEC-1                     |
| 5<br>6 | <a href="#">nucleotide biosynthetic process</a>         | 2<br>5      | 2<br>.<br>.<br>.<br>.<br>.                     | 1<br>.<br>.<br>.<br>.<br>.                | 2<br>.<br>.<br>.<br>.<br>.                | 1<br>.<br>.<br>.<br>.<br>.                | 1<br>1 | MIBP, GDP-mannose 4,6 dehydratase, UCK1, IMD2, ATP1A3, ADSL, Guanylate cyclase A (NPR1), RIFK, PAP41,             |

|        |                                                                       |                  |                                 |                                 |                                 |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|-----------------------------------------------------------------------|------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                       | 3                | 6<br>5<br>7<br>E<br>-<br>0<br>5 | 5<br>1<br>8<br>E<br>-<br>0<br>3 | 6<br>5<br>7<br>E<br>-<br>0<br>5 | 5<br>1<br>8<br>E<br>-<br>0<br>3 | Guanylate cyclase, CTP synthase II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5<br>7 | <a href="#">nucleoside<br/>phosphate<br/>biosynthetic<br/>process</a> | 2<br>5<br>4      | 2<br>0<br>5                     | 1<br>0<br>3                     | 2<br>0<br>5                     | 1<br>0<br>3                     | MIBP, GDP-mannose 4,6 dehydratase, UCK1, IMD2, ATP1A3, ADSL, Guanylate cyclase A (NPR1), RIFK, PAP41, Guanylate cyclase, CTP synthase II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 5<br>8 | <a href="#">cellular<br/>localization</a>                             | 2<br>3<br>7<br>4 | 2<br>-<br>0<br>5                | 1<br>-<br>0<br>3                | 2<br>-<br>0<br>5                | 1<br>-<br>0<br>3                | Annexin VIII, PEX2, KLC2, DCTN2, VAMP5, GGA1, ERK1 (MAPK3), Bim, CERT, RBP-J kappa (CBF1), Tex1, KLC3, RPS27A, Ccdc109a, Ubiquitin, CDC4L, EYA1, SNX9, Kinesin light chain, Phosphatase regulator (inhibitor), ERK1/2, Syntaxin 16, Ajuba, PTP-2, PEX19, DDC, COG3, UBC, SNX1, ANXA8L2, Dysbindin, Notch, UBB, NOTCH1 precursor, GCK(MAP4K2), GGA, IL1RN, DYNLL, MLX, Rich1, RIP, MLCK                                                                                                                                                                                                                                                                                                                                                                     |
| 5<br>9 | <a href="#">localization</a>                                          | 5<br>3<br>8<br>8 | 5<br>-<br>0<br>5                | 5<br>-<br>0<br>3                | 5<br>-<br>0<br>5                | 5<br>-<br>0<br>3                | Annexin VIII, PEX2, KLC2, Reticulon 4, DLC1 (Dynein LC8a), CRK, HBG, DCTN2, VAMP5, STAT5A, GGA1, NASP, ERK1 (MAPK3), Carbonic anhydrase XIII, Bim, LASP1, CERT, STAT5, RBP-J kappa (CBF1), RBP1, Twinfilin, MCT4, Autophagin-1, Tex1, KLC3, RPS27A, Ccdc109a, Ubiquitin, CDC4L, EYA1, SNX9, Kinesin light chain, Phosphatase regulator (inhibitor), ATP1A3, Fatty acid-binding protein, ERK1/2, CRABP2, Syntaxin 16, Guanylate cyclase A (NPR1), NEPH2, Ajuba, GRB2, Rab-9B, PTP-2, PEX19, HXK4, DDC, BBS9, COG3, UBC, HBGA, SNX1, CED-6, NUP93, ANXA8L2, Dysbindin, Notch, UBB, Guanylate cyclase, IGHG1, TRS85 homolog, NOTCH1 precursor, GCK(MAP4K2), GGA, RAB24, IL1RN, DYNLL, E-FABP, Adult hemoglobin, GOCAP1, MLX, Rich1, COG8, APOBEC-1, RIP, MLCK |
| 6<br>0 | <a href="#">cellular response<br/>to zinc ion</a>                     | 2<br>0           | 2<br>0                          | 2<br>0                          | 2<br>0                          | 2<br>0                          | Metallothionein-I, Metallothionein-IG, Metallothionein-II, Metallothionein-1M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

|        |                                                                                                                                   |             |                                           |                                                |                                           |                                                |        |                                                                                                                                                                                              |
|--------|-----------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------|------------------------------------------------|-------------------------------------------|------------------------------------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                                                                                   |             | 5                                         | 3                                              | 5                                         | 3                                              |        |                                                                                                                                                                                              |
| 6<br>1 | <a href="#">cellular response to cytokine stimulus</a>                                                                            | 7<br>0<br>1 | 3<br>.<br>1<br>8<br>9<br>E<br>-<br>0<br>5 | 1<br>.<br>6<br>7<br>2<br>E<br>-<br>0<br>3      | 3<br>.<br>1<br>8<br>9<br>E<br>-<br>0<br>5 | 1<br>.<br>6<br>7<br>2<br>E<br>-<br>0<br>3      | 1<br>9 | STAT5A, TIRAP (Mal), ERK1 (MAPK3), Metallothionein-I, STAT5, RPS27A, Ubiquitin, IMD2, ERK1/2, LCKBP1, Metallothionein-II, HMBS, UBC, GBP5, NUP93, UBB, Guanylate cyclase, PYDC1 (POP1), MLCK |
| 6<br>2 | <a href="#">toll-like receptor 4 signaling pathway</a>                                                                            | 1<br>3<br>2 | 3<br>.<br>3<br>6<br>5<br>E<br>-<br>3<br>2 | 1<br>.<br>7<br>3<br>6<br>6<br>E<br>-<br>0<br>5 | 3<br>.<br>3<br>6<br>5<br>E<br>-<br>5<br>3 | 1<br>.<br>7<br>3<br>6<br>6<br>E<br>-<br>0<br>3 | 8      | TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, UBC, UBB                                                                                                                     |
| 6<br>3 | <a href="#">toll-like receptor 9 signaling pathway</a>                                                                            | 1<br>0<br>0 | 4<br>.<br>2<br>0<br>1<br>E<br>-<br>0<br>0 | 1<br>.<br>9<br>9<br>5<br>E<br>-<br>0<br>5      | 4<br>.<br>2<br>0<br>1<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>9<br>5<br>E<br>-<br>0<br>3      | 7      | p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, UBC, UBB                                                                                                                                  |
| 6<br>4 | <a href="#">interleukin-4 production</a>                                                                                          | 8           | 4<br>.<br>3<br>0<br>3<br>E<br>-<br>0<br>5 | 1<br>.<br>9<br>9<br>5<br>E<br>-<br>0<br>3      | 4<br>.<br>3<br>0<br>3<br>E<br>-<br>0<br>5 | 1<br>.<br>9<br>9<br>5<br>E<br>-<br>0<br>3      | 3      | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                  |
| 6<br>5 | <a href="#">regulation of transcription from RNA polymerase II promoter involved in myocardial precursor cell differentiation</a> | 8           | 4<br>.<br>3<br>0<br>3<br>E<br>-<br>0<br>5 | 1<br>.<br>9<br>9<br>5<br>E<br>-<br>0<br>3      | 4<br>.<br>3<br>0<br>3<br>E<br>-<br>0<br>5 | 1<br>.<br>9<br>9<br>5<br>E<br>-<br>0<br>3      | 3      | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                  |

|   |                                                                                 |   |                                           |                                           |                                           |                                           |   |                                                                                                  |
|---|---------------------------------------------------------------------------------|---|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|--------------------------------------------------------------------------------------------------|
| 6 | <a href="#">endocardium morphogenesis</a>                                       | 8 | 4<br>.<br>3<br>0<br>3<br>E<br>-<br>0<br>5 | 1<br>.<br>9<br>9<br>5<br>E<br>-<br>0<br>3 | 4<br>.<br>3<br>0<br>3<br>E<br>-<br>0<br>5 | 1<br>.<br>9<br>9<br>5<br>E<br>-<br>0<br>3 | 3 | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                      |
| 6 | <a href="#">auditory receptor cell fate commitment</a>                          | 8 | 4<br>.<br>3<br>0<br>3<br>E<br>-<br>0<br>5 | 1<br>.<br>9<br>9<br>5<br>E<br>-<br>0<br>3 | 4<br>.<br>3<br>0<br>3<br>E<br>-<br>0<br>5 | 1<br>.<br>9<br>9<br>5<br>E<br>-<br>0<br>3 | 3 | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                      |
| 6 | <a href="#">inner ear receptor cell fate commitment</a>                         | 8 | 4<br>.<br>3<br>0<br>3<br>E<br>-<br>0<br>5 | 1<br>.<br>9<br>9<br>5<br>E<br>-<br>0<br>3 | 4<br>.<br>3<br>0<br>3<br>E<br>-<br>0<br>5 | 1<br>.<br>9<br>9<br>5<br>E<br>-<br>0<br>3 | 3 | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                      |
| 6 | <a href="#">hypotonic response</a>                                              | 8 | 4<br>.<br>3<br>0<br>3<br>E<br>-<br>0<br>5 | 1<br>.<br>9<br>9<br>5<br>E<br>-<br>0<br>3 | 4<br>.<br>3<br>0<br>3<br>E<br>-<br>0<br>5 | 1<br>.<br>9<br>9<br>5<br>E<br>-<br>0<br>3 | 3 | MYLK1, Telokin, MLCK                                                                             |
| 7 | <a href="#">regulation of DNA-templated transcription in response to stress</a> | 6 | 4<br>4<br>4<br>4<br>E<br>-<br>0<br>9      | 2<br>0<br>3<br>1<br>E<br>-<br>0<br>5      | 4<br>4<br>4<br>4<br>E<br>-<br>0<br>5      | 2<br>0<br>3<br>1<br>E<br>-<br>0<br>5      | 6 | RPS27A, Ubiquitin, UBC, Notch, UBB, NOTCH1 precursor                                             |
| 7 | <a href="#">regulation of muscle cell differentiation</a>                       | 1 | 4<br>.<br>.<br>.<br>.<br>.                | 2<br>.<br>.<br>.<br>.<br>.                | 4<br>.<br>.<br>.<br>.<br>.                | 2<br>.<br>.<br>.<br>.<br>.                | 9 | LAGY, MIBP, p38 MAPK, RBP-J kappa (CBF1), p38gamma (MAPK12), NIP2, Notch, NOTCH1 precursor, MLCK |



|        |                                                             |                  |                                      |                                      |                                      |                                      |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------|-------------------------------------------------------------|------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                             | 8                | 5<br>5<br>1<br>E<br>-<br>0<br>5      | 0<br>5<br>1<br>E<br>-<br>0<br>3      | 5<br>5<br>1<br>E<br>-<br>0<br>5      | 0<br>5<br>1<br>E<br>-<br>0<br>3      |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 7<br>2 | <a href="#">positive regulation of response to stimulus</a> | 1<br>9<br>4<br>3 | 4<br>7<br>7<br>8<br>E<br>-<br>0<br>5 | 2<br>0<br>7<br>2<br>E<br>-<br>0<br>3 | 4<br>7<br>7<br>8<br>E<br>-<br>0<br>5 | 2<br>0<br>7<br>2<br>E<br>-<br>0<br>3 | 3<br>6 | MST3, CRK, STAT5A, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), Bim, LASP1, STAT5, RBP-J kappa (CBF1), RPS27A, Ubiquitin, EYA1, SCOCO, Fatty acid-binding protein, ERK1/2, NIP2, MYLK1, LCKBP1, CrkL, Ajuba, GRB2, UBC, Telokin, Notch, UBB, BMF, IGHG1, NOTCH1 precursor, GCK(MAP4K2), DBC1, IL1RN, WWOX, ACP33, SAP, MLCK                                                                                                                                                                                                                                                                                                                     |
| 7<br>3 | <a href="#">myoblast differentiation</a>                    | 4<br>3           | 4<br>8<br>0<br>3<br>E<br>-<br>0<br>5 | 2<br>0<br>7<br>2<br>E<br>-<br>0<br>3 | 4<br>8<br>0<br>3<br>E<br>-<br>0<br>5 | 2<br>0<br>7<br>2<br>E<br>-<br>0<br>3 | 5      | p38 MAPK, RBP-J kappa (CBF1), p38gamma (MAPK12), Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 7<br>4 | <a href="#">cellular carbohydrate biosynthetic process</a>  | 7<br>0           | 4<br>8<br>2<br>4<br>E<br>-<br>0<br>5 | 2<br>0<br>7<br>2<br>E<br>-<br>0<br>3 | 4<br>8<br>2<br>4<br>E<br>-<br>0<br>5 | 2<br>0<br>7<br>2<br>E<br>-<br>0<br>3 | 6      | RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), HXK4, UBC, UBB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 7<br>5 | <a href="#">response to stress</a>                          | 4<br>1<br>5<br>6 | 4<br>8<br>5<br>7<br>E<br>-<br>0<br>5 | 2<br>0<br>7<br>2<br>E<br>-<br>0<br>3 | 4<br>8<br>5<br>7<br>E<br>-<br>0<br>5 | 2<br>0<br>7<br>2<br>E<br>-<br>0<br>3 | 6<br>2 | MST3, Annexin VIII, KLC2, TIPIN, CRK, RNASE6, HBG, TIRAP (Mal), RAD1, p38 MAPK, ERK1 (MAPK3), Bim, Metallothionein-I, CERT, STAT5, RBP-J kappa (CBF1), Autophagin-1, RPS27A, p38gamma (MAPK12), Ubiquitin, Sti1, EYA1, Kinesin light chain, XPF, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, ADSL, MYLK1, CrkL, Ajuba, GRB2, HXK4, Metallothionein-II, HMBS, UBC, HBGA, Telokin, SAAL1, GBP5, ANXA8L2, Dysbindin, Notch, RAD23A, UBB, Guanylate cyclase, IGHG1, CALCOCO2, NOTCH1 precursor, GCK(MAP4K2), 4E-BP1, DBC1, IL1RN, RPA4, DSS1, E-FABP, PYDC1 (POP1), Adult hemoglobin, SAP, APOBEC-1, SPRR3, MLCK |

|        |                                                                     |        |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                                          |
|--------|---------------------------------------------------------------------|--------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7<br>6 | <a href="#">intracellular transport</a>                             | 1      | 5<br>.<br>1<br>8<br>7<br>E<br>4<br>9<br>1 | 2<br>.<br>1<br>5<br>1<br>E<br>-<br>0<br>3 | 5<br>.<br>1<br>8<br>7<br>E<br>-<br>0<br>5 | 2<br>.<br>1<br>5<br>1<br>E<br>-<br>0<br>3 | 3<br>0 | Annexin VIII, PEX2, KLC2, VAMP5, GGA1, ERK1 (MAPK3), Bim, CERT, Tex1, KLC3, RPS27A, Ccdc109a, Ubiquitin, CDC4L, SNX9, Kinesin light chain, Phosphatase regulator (inhibitor), ERK1/2, Syntaxin 16, PEX19, COG3, UBC, SNX1, ANXA8L2, Dysbindin, UBB, GGA, DYNLL, MLX, RIP |
| 7<br>7 | <a href="#">transport of virus</a>                                  | 4<br>4 | 5<br>.<br>3<br>7<br>9<br>E<br>-<br>0<br>5 | 2<br>.<br>1<br>5<br>1<br>E<br>-<br>0<br>3 | 5<br>.<br>3<br>7<br>9<br>E<br>-<br>0<br>5 | 2<br>.<br>1<br>5<br>1<br>E<br>-<br>0<br>3 | 5      | Tex1, RPS27A, Ubiquitin, UBC, UBB                                                                                                                                                                                                                                        |
| 7<br>8 | <a href="#">intracellular transport of virus</a>                    | 4<br>4 | 5<br>.<br>3<br>7<br>9<br>E<br>-<br>0<br>5 | 2<br>.<br>1<br>5<br>1<br>E<br>-<br>0<br>3 | 5<br>.<br>3<br>7<br>9<br>E<br>-<br>0<br>5 | 2<br>.<br>1<br>5<br>1<br>E<br>-<br>0<br>3 | 5      | Tex1, RPS27A, Ubiquitin, UBC, UBB                                                                                                                                                                                                                                        |
| 7<br>9 | <a href="#">multi-organism intracellular transport</a>              | 4<br>4 | 5<br>.<br>3<br>7<br>9<br>E<br>-<br>0<br>5 | 2<br>.<br>1<br>5<br>1<br>E<br>-<br>0<br>3 | 5<br>.<br>3<br>7<br>9<br>E<br>-<br>0<br>5 | 2<br>.<br>1<br>5<br>1<br>E<br>-<br>0<br>3 | 5      | Tex1, RPS27A, Ubiquitin, UBC, UBB                                                                                                                                                                                                                                        |
| 8<br>0 | <a href="#">multi-organism transport</a>                            | 4<br>4 | 5<br>.<br>3<br>7<br>9<br>E<br>-<br>0<br>5 | 2<br>.<br>1<br>5<br>1<br>E<br>-<br>0<br>3 | 5<br>.<br>3<br>7<br>9<br>E<br>-<br>0<br>5 | 2<br>.<br>1<br>5<br>1<br>E<br>-<br>0<br>3 | 5      | Tex1, RPS27A, Ubiquitin, UBC, UBB                                                                                                                                                                                                                                        |
| 8<br>1 | <a href="#">TRIF-dependent toll-like receptor signaling pathway</a> | 1<br>0 | 5<br>.<br>.<br>.<br>.<br>.<br>.           | 2<br>.<br>.<br>.<br>.<br>.<br>.           | 5<br>.<br>.<br>.<br>.<br>.<br>.           | 2<br>.<br>.<br>.<br>.<br>.<br>.           | 7      | p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, UBC, UBB                                                                                                                                                                                                              |

|        |                                                                                      |   |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|--------------------------------------------------------------------------------------|---|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                                      | 5 | 7<br>4<br>4<br>E<br>-<br>0<br>5           | 2<br>6<br>8<br>E<br>-<br>0<br>3           | 7<br>4<br>4<br>E<br>-<br>0<br>5           | 2<br>6<br>8<br>E<br>-<br>0<br>3           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 8<br>2 | <a href="#">blood vessel<br/>endothelial cell<br/>differentiation</a>                | 9 | 6<br>.<br>4<br>1<br>0<br>E<br>-<br>0<br>5 | 2<br>.<br>5<br>0<br>1<br>E<br>-<br>0<br>3 | 6<br>.<br>4<br>1<br>0<br>E<br>-<br>0<br>5 | 2<br>.<br>5<br>0<br>1<br>E<br>-<br>0<br>3 | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 8<br>3 | <a href="#">cellular<br/>component<br/>organization</a>                              | 9 | 7<br>.<br>0<br>2<br>1<br>5<br>4<br>1<br>9 | 2<br>.<br>7<br>0<br>6<br>E<br>-<br>0<br>5 | 7<br>.<br>0<br>2<br>1<br>E<br>-<br>0<br>5 | 2<br>.<br>7<br>0<br>6<br>E<br>-<br>0<br>5 | MST3, Neurochondrin, Annexin VIII, PEX2, LAGY, Reticulon 4, ZNF261, DLC1 (Dynein LC8a), TIPIN, SCM1, HBG, DCTN2, VAMP5, Calpain 1(mu), p38 MAPK, NASP, ERK1 (MAPK3), Bim, CERT, EFHD1, RBP-J kappa (CBF1), Twinfilin, Autophagin-1, KLC3, RPS27A, Ccdc109a, Ubiquitin, IMD2, EYA1, PhLP, SNX9, Kinesin light chain, XPF, Phosphatase regulator (inhibitor), PDXP, Fatty acid-binding protein, ERK1/2, NIP2, ADSL, ARHGEF10, MYLK1, PQBP-1, Kizuna (C20orf19), LCKBP1, NEPH2, GA17, Ajuba, GRB2, PEX19, Grancalcin, Rap1GDS1, BBS9, Tropomodulin, UBC, HBGA, Telokin, ST13 (Hip), CED-6, NUP93, ANXA8L2, Dysbindin, Notch, UBB, ARID4A, NOTCH1 precursor, DBC1, BMP1, DYNLL, Occludin, Adult hemoglobin, Rich1, p47, RIP, MLCK, PAF1 |
| 8<br>4 | <a href="#">toll-like receptor 3<br/>signaling pathway</a>                           | 9 | 7<br>.<br>2<br>8<br>8<br>E<br>-<br>0<br>9 | 2<br>.<br>7<br>4<br>3<br>E<br>-<br>0<br>5 | 7<br>.<br>2<br>8<br>8<br>E<br>-<br>0<br>5 | 2<br>.<br>7<br>4<br>3<br>E<br>-<br>0<br>5 | p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, UBC, UBB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 8<br>5 | <a href="#">MyD88-<br/>independent toll-<br/>like receptor<br/>signaling pathway</a> | 9 | 7<br>.<br>2<br>8<br>8<br>E<br>-<br>0<br>9 | 2<br>.<br>7<br>4<br>3<br>E<br>-<br>0<br>5 | 7<br>.<br>2<br>8<br>8<br>E<br>-<br>0<br>5 | 2<br>.<br>7<br>4<br>3<br>E<br>-<br>0<br>5 | p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, UBC, UBB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|    |                                                                                                                   |    |                                           |                                           |                                           |                                           |    |                                                                                                                                                                                                                                                                                                                                                                                                        |
|----|-------------------------------------------------------------------------------------------------------------------|----|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 86 | <a href="#">organic substance transport</a>                                                                       | 2  | 7<br>5<br>8<br>9<br>E<br>1<br>4<br>7      | 2<br>.<br>8<br>2<br>3<br>E<br>-<br>0<br>5 | 7<br>.<br>5<br>8<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>2<br>3<br>E<br>-<br>0<br>5 | 38 | PEX2, VAMP5, GGA1, NASP, ERK1 (MAPK3), Carbonic anhydrase XIII, CERT, RBP-J kappa (CBF1), MCT4, Autophagin-1, Tex1, RPS27A, SNX9, Kinesin light chain, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, CRABP2, Syntaxin 16, Rab-9B, PEX19, HXK4, DDC, BBS9, COG3, SNX1, CED-6, NUP93, Notch, NOTCH1 precursor, GGA, RAB24, IL1RN, E-FABP, Adult hemoglobin, COG8, APOBEC-1, RIP |
| 87 | <a href="#">cardiac epithelial to mesenchymal transition</a>                                                      | 25 | 7<br>.<br>9<br>1<br>3<br>E<br>-<br>0<br>5 | 2<br>.<br>9<br>1<br>0<br>E<br>-<br>0<br>3 | 7<br>.<br>9<br>1<br>3<br>E<br>-<br>0<br>5 | 2<br>.<br>9<br>1<br>0<br>E<br>-<br>0<br>3 | 4  | Reticulon 4, RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                               |
| 88 | <a href="#">response to cytokine</a>                                                                              | 84 | 8<br>.<br>1<br>5<br>1<br>E<br>-<br>0<br>5 | 2<br>.<br>9<br>6<br>3<br>E<br>-<br>0<br>3 | 8<br>.<br>1<br>5<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>9<br>6<br>3<br>E<br>-<br>0<br>3 | 21 | STAT5A, TIRAP (Mal), ERK1 (MAPK3), Metallothionein-I, STAT5, RPS27A, Ubiquitin, IMD2, ERK1/2, LCKBP1, Metallothionein-II, HMBS, UBC, GBP5, NUP93, UBB, Guanylate cyclase, CALCOCO2, IL1RN, PYDC1 (POP1), MLCK                                                                                                                                                                                          |
| 89 | <a href="#">Notch signaling pathway involved in regulation of secondary heart field cardioblast proliferation</a> | 2  | 8<br>.<br>6<br>2<br>8<br>E<br>-<br>0<br>5 | 2<br>.<br>9<br>6<br>8<br>E<br>-<br>0<br>3 | 8<br>.<br>6<br>2<br>8<br>E<br>-<br>0<br>3 | 2<br>.<br>9<br>6<br>8<br>E<br>-<br>0<br>3 | 2  | Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                |
| 90 | <a href="#">regulation of apolipoprotein binding</a>                                                              | 2  | 8<br>.<br>6<br>2<br>8<br>E<br>-<br>0<br>5 | 2<br>.<br>9<br>6<br>8<br>E<br>-<br>0<br>3 | 8<br>.<br>6<br>2<br>8<br>E<br>-<br>0<br>3 | 2<br>.<br>9<br>6<br>8<br>E<br>-<br>0<br>3 | 2  | ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                                                                                                                                                                                                   |
| 91 | <a href="#">positive regulation of mast cell differentiation</a>                                                  | 2  | 8<br>.<br>.<br>.<br>.<br>.                | 2<br>.<br>.<br>.<br>.<br>.                | 8<br>.<br>.<br>.<br>.<br>.                | 2<br>.<br>.<br>.<br>.<br>.                | 2  | STAT5A, STAT5                                                                                                                                                                                                                                                                                                                                                                                          |

|        |                                                                               |                  |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                  |
|--------|-------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                               |                  | 6<br>2<br>8<br>E<br>-<br>0<br>5           | 9<br>6<br>8<br>E<br>-<br>0<br>3           | 6<br>2<br>8<br>E<br>-<br>0<br>5           | 9<br>6<br>8<br>E<br>-<br>0<br>3           |                                                                                                                                                                                                                  |
| 9<br>2 | <a href="#">venous endothelial cell differentiation</a>                       | 2                | 8<br>.<br>6<br>2<br>8<br>E<br>-<br>0<br>5 | 2<br>.<br>9<br>6<br>8<br>E<br>-<br>3      | 8<br>.<br>6<br>2<br>8<br>E<br>-<br>5      | 2<br>.<br>9<br>6<br>8<br>E<br>-<br>3      | Notch, NOTCH1 precursor                                                                                                                                                                                          |
| 9<br>3 | <a href="#">negative regulation of apolipoprotein binding</a>                 | 2                | 8<br>.<br>6<br>2<br>8<br>E<br>-<br>0<br>5 | 2<br>.<br>9<br>6<br>8<br>E<br>-<br>3      | 8<br>.<br>6<br>2<br>8<br>E<br>-<br>5      | 2<br>.<br>9<br>6<br>8<br>E<br>-<br>3      | ERK1 (MAPK3), ERK1/2                                                                                                                                                                                             |
| 9<br>4 | <a href="#">regulation of secondary heart field cardioblast proliferation</a> | 1<br>0           | 9<br>.<br>0<br>9<br>4<br>E<br>-<br>0<br>5 | 3<br>.<br>0<br>3<br>1<br>E<br>-<br>0<br>3 | 9<br>.<br>0<br>9<br>4<br>E<br>-<br>0<br>5 | 3<br>.<br>0<br>3<br>1<br>E<br>-<br>0<br>3 | EYA1, Notch, NOTCH1 precursor                                                                                                                                                                                    |
| 9<br>5 | <a href="#">regulation of cardioblast proliferation</a>                       | 1<br>0           | 9<br>.<br>0<br>9<br>4<br>E<br>-<br>0<br>5 | 3<br>.<br>0<br>3<br>1<br>E<br>-<br>3      | 9<br>.<br>0<br>9<br>4<br>E<br>-<br>5      | 3<br>.<br>0<br>3<br>1<br>E<br>-<br>3      | EYA1, Notch, NOTCH1 precursor                                                                                                                                                                                    |
| 9<br>6 | <a href="#">regulation of response to stress</a>                              | 1<br>2<br>4<br>2 | 9<br>.<br>1<br>7                          | 3<br>.<br>0<br>3<br>7                     | 9<br>.<br>1<br>7                          | 3<br>.<br>0<br>3<br>7                     | MST3, LAGY, Reticulon 4, CRK, STAT5A, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), STAT5, RPS27A, Ubiquitin, EYA1, SCOCO, Fatty acid-binding protein, ERK1/2, MYLK1, Ajuba, UBC, Telokin, UBB, GCK(MAP4K2), DBC1, IL1RN, |

|             |                                                                                 |                  |                                                     |                                                |                                                     |                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------|---------------------------------------------------------------------------------|------------------|-----------------------------------------------------|------------------------------------------------|-----------------------------------------------------|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                                 |                  | 0<br>E<br>-<br>0<br>5                               | 1<br>E<br>-<br>0<br>3                          | 0<br>E<br>-<br>0<br>5                               | 1<br>E<br>-<br>0<br>3                          | Adult hemoglobin, SAP, MLCK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 9<br>7      | <a href="#">cellular component organization or biogenesis</a>                   | 5<br>5<br>5<br>7 | 9<br>.<br>2<br>0<br>0<br>0<br>E<br>E<br>0<br>5<br>7 | 3<br>.<br>0<br>3<br>1<br>E<br>-<br>0<br>3      | 9<br>.<br>2<br>0<br>0<br>1<br>E<br>-<br>0<br>5<br>3 | 3<br>.<br>0<br>3<br>1<br>E<br>-<br>0<br>3<br>6 | MST3, Neurochondrin, Annexin VIII, PEX2, LAGY, Reticulon 4, ZNF261, DLC1 (Dynein LC8a), TIPIN, SCMH1, HBG, DCTN2, VAMP5, Calpain 1(mu), p38 MAPK, NASP, ERK1 (MAPK3), Bim, CERT, EFHD1, RBP-J kappa (CBF1), Twinfilin, Autophagin-1, KLC3, RPS27A, Ccdc109a, Ubiquitin, IMD2, EYA1, PhLP, SNX9, Kinesin light chain, XPF, Phosphatase regulator (inhibitor), PDXP, Fatty acid-binding protein, ERK1/2, NIP2, ADSL, ARHGEF10, MYLK1, PQBP-1, Kizuna (C20orf19), LCKBP1, NEPH2, GA17, Ajuba, GRB2, PEX19, Grancalcin, Rap1GDS1, BBS9, Tropomodulin, RRP42, UBC, HBGA, Telokin, ST13 (Hip), CED-6, NUP93, ANXA8L2, Dysbindin, Notch, UBB, ARID4A, NOTCH1 precursor, DBC1, BMP1, DYNLL, Occludin, Adult hemoglobin, Rich1, p47, RIP, MLCK, PAF1 |
| 9<br>8      | <a href="#">regulation of heart morphogenesis</a>                               | 2<br>6           | 9<br>.<br>2<br>8<br>4<br>E<br>-<br>0<br>5           | 3<br>.<br>0<br>3<br>1<br>E<br>-<br>0<br>3      | 9<br>.<br>2<br>8<br>4<br>E<br>-<br>0<br>5           | 3<br>.<br>0<br>3<br>1<br>E<br>-<br>0<br>3<br>4 | RBP-J kappa (CBF1), EYA1, Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 9<br>9<br>9 | <a href="#">positive regulation of protein serine/threonine kinase activity</a> | 3<br>4<br>6      | 1<br>.<br>0<br>2<br>5<br>E<br>-<br>0<br>4<br>6      | 3<br>.<br>3<br>1<br>3<br>E<br>-<br>0<br>3<br>4 | 1<br>.<br>0<br>2<br>5<br>E<br>-<br>0<br>4<br>3      | 3<br>.<br>3<br>1<br>3<br>E<br>-<br>0<br>3<br>2 | CRK, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, Ajuba, UBC, UBB, GCK(MAP4K2), IL1RN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 1<br>0<br>0 | <a href="#">single-organism biosynthetic process</a>                            | 1<br>4<br>0<br>5 | 1<br>.<br>1<br>1<br>8<br>E<br>-<br>0<br>4<br>5      | 3<br>.<br>5<br>5<br>1<br>E<br>-<br>0<br>3<br>4 | 1<br>.<br>5<br>5<br>8<br>E<br>-<br>0<br>4<br>3      | 3<br>.<br>5<br>5<br>1<br>E<br>-<br>0<br>3<br>8 | PEX2, MIBP, GDP-mannose 4,6 dehydratase, CERT, RBP1, UCK1, RPS27A, Ubiquitin, IMD2, NANP, Phosphatase regulator (inhibitor), ATP1A3, Fatty acid-binding protein, ADSL, CRABP2, Guanylate cyclase A (NPR1), Ajuba, HXK4, RIFK, HMBS, UBC, UBB, PAP41, Guanylate cyclase, CTP synthase II, RPA4, E-FABP, GOCAP1                                                                                                                                                                                                                                                                                                                                                                                                                               |

|             |                                                                                                |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------|------------------------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1<br>0<br>1 | <a href="#">phosphorylation</a>                                                                | 1<br>3<br>3<br>1 | 1<br>.<br>1<br>2<br>1<br>E<br>-<br>0<br>4 | 3<br>.<br>5<br>5<br>1<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>2<br>1<br>E<br>-<br>0<br>4 | 3<br>.<br>5<br>5<br>1<br>E<br>-<br>0<br>3 | 2<br>7 | MST3, MIBP, CRK, STAT5A, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), CERT, STAT5, Twinfilin, UCK1, RPS27A, p38gamma (MAPK12), Ubiquitin, ERK1/2, MYLK1, Guanylate cyclase A (NPR1), CrkL, CNK1, HXK4, RIFK, UBC, Telokin, UBB, Guanylate cyclase, GCK(MAP4K2), MLCK                                                                                                                                                                                                                               |
| 1<br>0<br>2 | <a href="#">phosphate-containing compound metabolic process</a>                                | 2<br>8<br>5<br>9 | 1<br>.<br>1<br>6<br>5<br>E<br>-<br>0<br>4 | 3<br>.<br>6<br>5<br>4<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>6<br>5<br>E<br>-<br>0<br>4 | 3<br>.<br>6<br>5<br>4<br>E<br>-<br>0<br>3 | 4<br>6 | MST3, MIBP, GDP-mannose 4,6 dehydratase, CRK, STAT5A, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), CERT, STAT5, Twinfilin, UCK1, RPS27A, p38gamma (MAPK12), Ubiquitin, IMD2, EYA1, NANP, DUPD1, Phosphatase regulator (inhibitor), PDXP, ATP1A3, Fatty acid-binding protein, ERK1/2, ADSL, MYLK1, Guanylate cyclase A (NPR1), MOCS2(small), CrkL, Ajuba, PTP-2, CNK1, HXK4, RIFK, UBC, Telokin, GBP5, UBB, PAP41, Guanylate cyclase, GCK(MAP4K2), RRAD, CTP synthase II, E-FABP, MLCK, Galectin-13 |
| 1<br>0<br>3 | <a href="#">cardiac muscle cell myoblast differentiation</a>                                   | 1<br>1           | 1<br>.<br>2<br>4<br>2<br>E<br>-<br>0<br>4 | 3<br>.<br>7<br>8<br>4<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>7<br>4<br>E<br>-<br>0<br>4 | 3<br>.<br>7<br>8<br>4<br>E<br>-<br>0<br>3 | 3      | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 1<br>0<br>4 | <a href="#">Notch signaling involved in heart development</a>                                  | 1<br>1           | 1<br>.<br>2<br>4<br>2<br>E<br>-<br>0<br>4 | 3<br>.<br>7<br>8<br>4<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>7<br>4<br>E<br>-<br>0<br>4 | 3<br>.<br>7<br>8<br>4<br>E<br>-<br>0<br>3 | 3      | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 1<br>0<br>5 | <a href="#">epithelial to mesenchymal transition involved in endocardial cushion formation</a> | 1<br>1           | 1<br>.<br>2<br>4<br>2<br>E<br>-<br>0<br>4 | 3<br>.<br>7<br>8<br>4<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>7<br>4<br>E<br>-<br>0<br>4 | 3<br>.<br>7<br>8<br>4<br>E<br>-<br>0<br>3 | 3      | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                |

|     |                                                             |      |         |         |         |         |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----|-------------------------------------------------------------|------|---------|---------|---------|---------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 106 | <a href="#">positive regulation of response to wounding</a> | 160  | 1306EE  | 3943EE  | 1306EE  | 3943EE  | 8  | MST3, STAT5A, p38 MAPK, STAT5, Fatty acid-binding protein, MYLK1, Telokin, MLCK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 107 | <a href="#">macromolecule localization</a>                  | 2206 | 13397EE | 39739EE | 13397EE | 39739EE | 38 | PEX2, VAMP5, STAT5A, GGA1, NASP, ERK1 (MAPK3), CERT, STAT5, RBP-J kappa (CBF1), Twinfilin, Autophagin-1, Tex1, RPS27A, CDC4L, EYA1, SNX9, Kinesin light chain, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, CRABP2, Syntaxin 16, Ajuba, Rab-9B, PTP-2, PEX19, BBS9, COG3, SNX1, CED-6, NUP93, Notch, NOTCH1 precursor, GGA, RAB24, COG8, APOBEC-1, RIP                                                                                                                                                                                                                                                 |
| 108 | <a href="#">glycogen metabolic process</a>                  | 84   | 1343E   | 3973E   | 1343E   | 3973E   | 6  | RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), HXK4, UBC, UBB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 109 | <a href="#">toll-like receptor signaling pathway</a>        | 161  | 1364E   | 3981EE  | 1364E   | 3981EE  | 8  | TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, UBC, UBB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 110 | <a href="#">regulation of metabolic process</a>             | 7302 | 1369E   | 3986E   | 1369E   | 3986E   | 93 | SAE1, Annexin VIII, PEX2, LAGY, DLC1 (Dynein LC8a), LCORL, TIPIN, SCMH1, CRK, HBG, PPP1R12B, STAT5A, TIRAP (Mal), GGA1, p38 MAPK, ERK1 (MAPK3), Bim, STAT5, RBP-J kappa (CBF1), FERD3L, SMIF, Twinfilin, BMAL2, Autophagin-1, RPS27A, p38gamma (MAPK12), ZNF397, Ubiquitin, EYA1, PhLP, SNX9, SCOCO, XPF, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, NIP2, ARHGEF10, CRABP2, PQBP-1, LCKBP1, Guanylate cyclase A (NPR1), GA17, CrkL, Ajuba, GRB2, PEX19, HXK4, RIFK, Rap1GDS1, ZNF655, COG3, UBC, HBGA, SNX1, PCP2, ST13 (Hip), HKR1, ANXA8L2, Dysbindin, Notch, RAD23A, UBB, PAP41, IRX4, Guanylate |



|             |                                                   |                  |                                           |                                                |                                           |                                                |                                                                                                                                                                                                                                                                                                                              |
|-------------|---------------------------------------------------|------------------|-------------------------------------------|------------------------------------------------|-------------------------------------------|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                   |                  |                                           |                                                |                                           |                                                | cyclase, ARID4A, Cyclophilin E, NOTCH1 precursor, GCK(MAP4K2), 4E-BP1, SCML1, DBC1, USP5, AO7, GGA, IL1RN, FAM116A, ZNF397OS, DYNLL, Cystatin B, WWOX, DKK3, PYDC1 (POP1), Adult hemoglobin, PAIP1, MLX, CAMK2N1, Rich1, APOBEC-1, RIP, MLCK, PAF1                                                                           |
| 1<br>1<br>1 | <a href="#">glucan metabolic process</a>          | 8<br>5           | 1<br>.<br>4<br>3<br>4<br>E<br>-<br>0<br>4 | 4<br>.<br>0<br>9<br>5<br>E<br>-<br>0<br>3      | 1<br>.<br>4<br>3<br>4<br>E<br>-<br>0<br>4 | 4<br>.<br>0<br>9<br>5<br>E<br>-<br>0<br>3      | 6<br>RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), HXK4, UBC, UBB                                                                                                                                                                                                                                                    |
| 1<br>1<br>2 | <a href="#">cellular glucan metabolic process</a> | 8<br>5           | 1<br>.<br>4<br>3<br>4<br>E<br>-<br>0<br>4 | 4<br>.<br>0<br>9<br>5<br>E<br>-<br>0<br>3      | 1<br>.<br>4<br>3<br>4<br>E<br>-<br>0<br>4 | 4<br>.<br>0<br>9<br>5<br>E<br>-<br>0<br>3      | 6<br>RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), HXK4, UBC, UBB                                                                                                                                                                                                                                                    |
| 1<br>1<br>3 | <a href="#">cell cycle</a>                        | 1<br>5<br>8<br>0 | 1<br>.<br>4<br>6<br>6<br>E<br>-<br>0<br>4 | 4<br>.<br>1<br>4<br>9<br>6<br>E<br>-<br>0<br>3 | 1<br>.<br>4<br>6<br>6<br>E<br>-<br>0<br>4 | 4<br>.<br>1<br>4<br>9<br>6<br>E<br>-<br>0<br>3 | 3<br>0<br>DLC1 (Dynein LC8a), TIPIN, DCTN2, PPP1R12B, RAD1, p38 MAPK, NASP, ERK1 (MAPK3), RPS27A, p38gamma (MAPK12), Ubiquitin, EYA1, SNX9, XPF, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, ARHGEF10, Kizuna (C20orf19), Ajuba, ZNF655, UBC, NUP93, Notch, UBB, 4E-BP1, DBC1, GINS2, RPA4, DYNLL |
| 1<br>1<br>4 | <a href="#">cell cycle phase transition</a>       | 4<br>1<br>6      | 1<br>.<br>4<br>9<br>6<br>E<br>-<br>0<br>4 | 4<br>.<br>1<br>7<br>5<br>E<br>-<br>0<br>3      | 1<br>.<br>4<br>9<br>6<br>E<br>-<br>0<br>4 | 4<br>.<br>1<br>7<br>5<br>E<br>-<br>0<br>3      | 1<br>3<br>DLC1 (Dynein LC8a), TIPIN, DCTN2, PPP1R12B, RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), Ajuba, UBC, UBB, 4E-BP1, RPA4, DYNLL                                                                                                                                                                             |
| 1<br>1<br>5 | <a href="#">glucose metabolic process</a>         | 2<br>0<br>8      | 1<br>.<br>5<br>0<br>1<br>E                | 4<br>.<br>1<br>7<br>5<br>1<br>E                | 1<br>.<br>5<br>0<br>1<br>E                | 4<br>.<br>1<br>7<br>5<br>1<br>E                | 9<br>p38 MAPK, RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), Fatty acid-binding protein, HXK4, UBC, UBB, E-FABP                                                                                                                                                                                                      |

|             |                                                                               |  |                                           |                                                |                                                |                                                |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------|-------------------------------------------------------------------------------|--|-------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                               |  | -<br>0<br>4                               | -<br>0<br>3                                    | -<br>0<br>4                                    | -<br>0<br>3                                    |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 1<br>1<br>6 | <a href="#">single-organism transport</a>                                     |  | 1<br>.<br>5<br>5<br>5<br>3<br>5<br>0<br>6 | 4<br>.<br>2<br>7<br>6<br>E<br>-<br>0<br>4      | 1<br>.<br>5<br>5<br>6<br>E<br>-<br>0<br>3      | 4<br>.<br>2<br>7<br>6<br>E<br>-<br>0<br>3      | 5<br>3 | Annexin VIII, PEX2, KLC2, CRK, HBG, DCTN2, VAMP5, STAT5A, ERK1 (MAPK3), Carbonic anhydrase XIII, Bim, LASP1, CERT, STAT5, RBP-J kappa (CBF1), MCT4, KLC3, RPS27A, Ccdc109a, Ubiquitin, CDC4L, SNX9, Kinesin light chain, Phosphatase regulator (inhibitor), ATP1A3, Fatty acid-binding protein, ERK1/2, CRABP2, Syntaxin 16, Guanylate cyclase A (NPR1), GRB2, PEX19, HXK4, DDC, COG3, UBC, HBGA, SNX1, CED-6, NUP93, ANXA8L2, Dysbindin, Notch, UBB, Guanylate cyclase, IGHG1, NOTCH1 precursor, IL1RN, E-FABP, Adult hemoglobin, Rich1, APOBEC-1, MLCK |
| 1<br>1<br>7 | <a href="#">positive regulation of defense response</a>                       |  | 1<br>.<br>5<br>6<br>4<br>E<br>3<br>6<br>2 | 4<br>.<br>2<br>7<br>6<br>E<br>-<br>0<br>4      | 1<br>.<br>5<br>6<br>4<br>E<br>-<br>0<br>3      | 4<br>.<br>2<br>7<br>6<br>E<br>-<br>0<br>3      | 1<br>2 | STAT5A, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), STAT5, RPS27A, Ubiquitin, Fatty acid-binding protein, ERK1/2, UBC, UBB, SAP                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 1<br>1<br>8 | <a href="#">organophosphate biosynthetic process</a>                          |  | 1<br>.<br>6<br>3<br>9<br>E<br>5<br>3<br>8 | 4<br>.<br>4<br>0<br>7<br>E<br>-<br>0<br>3<br>4 | 1<br>.<br>6<br>3<br>9<br>E<br>-<br>0<br>3<br>4 | 4<br>.<br>4<br>0<br>7<br>E<br>-<br>0<br>3<br>3 | 1<br>5 | MIBP, GDP-mannose 4,6 dehydratase, UCK1, IMD2, ATP1A3, Fatty acid-binding protein, ADSL, Guanylate cyclase A (NPR1), MOCS2(small), Ajuba, RIFK, PAP41, Guanylate cyclase, CTP synthase II, E-FABP                                                                                                                                                                                                                                                                                                                                                        |
| 1<br>1<br>9 | <a href="#">bleb assembly</a>                                                 |  | 1<br>.<br>6<br>4<br>4<br>E<br>-<br>1<br>2 | 4<br>.<br>4<br>0<br>7<br>E<br>-<br>0<br>3<br>4 | 1<br>.<br>6<br>4<br>4<br>E<br>-<br>0<br>3<br>4 | 4<br>.<br>4<br>0<br>7<br>E<br>-<br>0<br>3<br>3 | 3      | MYLK1, Telokin, MLCK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1<br>2<br>0 | <a href="#">JAK-STAT cascade involved in growth hormone signaling pathway</a> |  | 1<br>.<br>6<br>5<br>3<br>0                | 4<br>.<br>4<br>0<br>7<br>E<br>E                | 1<br>.<br>6<br>5<br>3<br>E                     | 4<br>.<br>4<br>0<br>7<br>E<br>E                | 4      | STAT5A, ERK1 (MAPK3), STAT5, ERK1/2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

|   |                                                                                           |   |   |   |   |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---|-------------------------------------------------------------------------------------------|---|---|---|---|---|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                                           |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 1 | <a href="#">negative regulation of epidermal growth factor receptor signaling pathway</a> | 5 | 1 | 4 | 1 | 4 | 5 | RPS27A, Ubiquitin, GRB2, UBC, UBB                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 2 |                                                                                           | 6 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 1 |                                                                                           |   | 7 | 5 | 7 | 5 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | 2 | 7 | 2 | 7 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | 8 | 0 | 8 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 1 | <a href="#">enzyme linked receptor protein signaling pathway</a>                          | 1 | 1 | 4 | 1 | 4 | 2 | Reticulon 4, CRK, STAT5A, p38 MAPK, ERK1 (MAPK3), Bim, STAT5, SMIF, RPS27A, p38gamma (MAPK12), Ubiquitin, Phosphatase regulator (inhibitor), ERK1/2, Guanylate cyclase A (NPR1), CrkL, GRB2, PTP-2, CNK1, UBC, UBB, Guanylate cyclase, 4E-BP1                                                                                                                                                                                                                                              |
| 2 |                                                                                           | 0 | . | . | . | . | 2 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 2 |                                                                                           | 7 | 8 | 7 | 8 | 7 | 2 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | 2 | 8 | 2 | 8 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | 6 | 9 | 6 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 1 | <a href="#">negative regulation of ERBB signaling pathway</a>                             | 5 | 1 | 4 | 1 | 4 | 5 | RPS27A, Ubiquitin, GRB2, UBC, UBB                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 2 |                                                                                           | 7 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 3 |                                                                                           |   | 8 | 8 | 8 | 8 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | 8 | 9 | 8 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | 0 | 1 | 0 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 1 | <a href="#">phosphorus metabolic process</a>                                              | 2 | 1 | 5 | 1 | 5 | 4 | MST3, MIBP, GDP-mannose 4,6 dehydratase, CRK, STAT5A, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), CERT, STAT5, Twinfilin, UCK1, RPS27A, p38gamma (MAPK12), Ubiquitin, IMD2, EYA1, NANP, DUPD1, Phosphatase regulator (inhibitor), PDXP, ATP1A3, Fatty acid-binding protein, ERK1/2, ADSL, MYLK1, Guanylate cyclase A (NPR1), MOCS2(small), CrkL, Ajuba, PTP-2, CNK1, HXK4, RIFK, UBC, Telokin, GBP5, UBB, PAP41, Guanylate cyclase, GCK(MAP4K2), RRAD, CTP synthase II, E-FABP, MLCK, Galectin-13 |
| 2 |                                                                                           | 9 | . | . | . | . | 6 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 4 |                                                                                           | 2 | 9 | 0 | 9 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | 4 | 1 | 4 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | 5 | 9 | 5 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 1 | <a href="#">regulation of MAP kinase activity</a>                                         | 3 | 1 | 5 | 1 | 5 | 1 | CRK, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, Ajuba, UBC, UBB, GCK(MAP4K2), IL1RN                                                                                                                                                                                                                                                                                                                                                                                   |
| 2 |                                                                                           | 7 | . | . | . | . | 2 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 5 |                                                                                           | 1 | 9 | 0 | 9 | 0 | 2 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | 6 | 2 | 6 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | 2 | 1 | 2 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                                                           |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

|             |                                                                                                                 |                  |                            |                            |                            |                            |        |                                                                                                                                                                                                                                                                           |
|-------------|-----------------------------------------------------------------------------------------------------------------|------------------|----------------------------|----------------------------|----------------------------|----------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                                                                 |                  | 0<br>4                     | 0<br>3                     | 0<br>4                     | 0<br>3                     |        |                                                                                                                                                                                                                                                                           |
| 1<br>2<br>6 | <a href="#">negative regulation of transmembrane receptor protein serine/threonine kinase signaling pathway</a> | 1<br>2<br>9      | 2<br>0<br>9<br>1<br>E<br>- | 5<br>3<br>0<br>6<br>E<br>- | 2<br>0<br>9<br>1<br>E<br>- | 5<br>3<br>0<br>6<br>E<br>- | 7      | RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), UBC, Notch, UBB, NOTCH1 precursor                                                                                                                                                                                   |
| 1<br>2<br>7 | <a href="#">cellular response to DNA damage stimulus</a>                                                        | 8<br>1<br>0      | 2<br>1<br>2<br>0<br>E<br>- | 5<br>3<br>0<br>6<br>E<br>- | 2<br>1<br>2<br>0<br>E<br>- | 5<br>3<br>0<br>6<br>E<br>- | 1<br>9 | TIPIN, RAD1, p38 MAPK, ERK1 (MAPK3), Bim, RPS27A, p38gamma (MAPK12), Ubiquitin, EYA1, XPF, Phosphatase regulator (inhibitor), ERK1/2, GRB2, UBC, RAD23A, UBB, DBC1, RPA4, DSS1                                                                                            |
| 1<br>2<br>8 | <a href="#">ventricular trabecula myocardium morphogenesis</a>                                                  | 1<br>3           | 2<br>1<br>2<br>3<br>E<br>- | 5<br>3<br>0<br>6<br>E<br>- | 2<br>1<br>2<br>0<br>E<br>- | 5<br>3<br>0<br>6<br>E<br>- | 3      | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                                                                                               |
| 1<br>2<br>9 | <a href="#">cell cycle process</a>                                                                              | 1<br>2<br>3<br>7 | 2<br>1<br>7<br>6<br>E<br>- | 5<br>3<br>9<br>6<br>E<br>- | 2<br>1<br>7<br>6<br>E<br>- | 5<br>3<br>9<br>6<br>E<br>- | 2<br>5 | DLC1 (Dynein LC8a), TIPIN, DCTN2, PPP1R12B, RAD1, p38 MAPK, RPS27A, p38gamma (MAPK12), Ubiquitin, EYA1, SNX9, XPF, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ARHGEF10, Kizuna (C20orf19), Ajuba, ZNF655, UBC, NUP93, Notch, UBB, 4E-BP1, RPA4, DYNLL |
| 1<br>3<br>0 | <a href="#">regulation of striated muscle cell differentiation</a>                                              | 1<br>3<br>2      | 2<br>4<br>0<br>9<br>E<br>- | 5<br>9<br>2<br>8<br>E<br>- | 2<br>4<br>0<br>9<br>E<br>- | 5<br>9<br>2<br>8<br>E<br>- | 7      | LAGY, MIBP, p38 MAPK, RBP-J kappa (CBF1), Notch, NOTCH1 precursor, MLCK                                                                                                                                                                                                   |

|             |                                                          |             |                                           |                                                |                                           |                                                |   |                                                          |
|-------------|----------------------------------------------------------|-------------|-------------------------------------------|------------------------------------------------|-------------------------------------------|------------------------------------------------|---|----------------------------------------------------------|
| 1<br>3<br>1 | <a href="#">DNA damage checkpoint</a>                    | 1<br>7<br>6 | 2<br>.<br>5<br>1<br>0<br>E<br>-<br>7<br>4 | 6<br>.<br>0<br>0<br>7<br>E<br>-<br>0<br>3      | 2<br>.<br>5<br>1<br>0<br>E<br>-<br>0<br>4 | 6<br>.<br>0<br>0<br>7<br>E<br>-<br>0<br>3      | 8 | TIPIN, RAD1, p38 MAPK, RPS27A, Ubiquitin, UBC, UBB, RPA4 |
| 1<br>3<br>2 | <a href="#">negative regulation of protein refolding</a> | 3           | 2<br>.<br>5<br>7<br>3<br>E<br>-<br>0<br>4 | 6<br>.<br>0<br>0<br>7<br>3<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>7<br>3<br>E<br>-<br>0<br>4 | 6<br>.<br>0<br>0<br>7<br>7<br>E<br>-<br>0<br>3 | 2 | PhLP, ST13 (Hip)                                         |
| 1<br>3<br>3 | <a href="#">stress response to copper ion</a>            | 3           | 2<br>.<br>5<br>7<br>3<br>E<br>-<br>0<br>4 | 6<br>.<br>0<br>0<br>7<br>3<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>7<br>3<br>E<br>-<br>0<br>4 | 6<br>.<br>0<br>0<br>7<br>7<br>E<br>-<br>0<br>3 | 2 | Metallothionein-I, Metallothionein-II                    |
| 1<br>3<br>4 | <a href="#">detoxification of copper ion</a>             | 3           | 2<br>.<br>5<br>7<br>3<br>E<br>-<br>0<br>4 | 6<br>.<br>0<br>0<br>7<br>3<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>7<br>3<br>E<br>-<br>0<br>4 | 6<br>.<br>0<br>0<br>7<br>7<br>E<br>-<br>0<br>3 | 2 | Metallothionein-I, Metallothionein-II                    |
| 1<br>3<br>5 | <a href="#">regulation of protein refolding</a>          | 3           | 2<br>.<br>5<br>7<br>3<br>E<br>-<br>0<br>4 | 6<br>.<br>0<br>0<br>7<br>3<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>7<br>3<br>E<br>-<br>0<br>4 | 6<br>.<br>0<br>0<br>7<br>7<br>E<br>-<br>0<br>3 | 2 | PhLP, ST13 (Hip)                                         |
| 1<br>3      | <a href="#">coronary vein morphogenesis</a>              | 3           | 2<br>.<br>.<br>.                          | 6<br>.<br>.<br>.                               | 2<br>.<br>.<br>.                          | 6<br>.<br>.<br>.                               | 2 | Notch, NOTCH1 precursor                                  |

|             |                                                             |             |                                           |                                                |                                           |                                                |   |                                                                                                |
|-------------|-------------------------------------------------------------|-------------|-------------------------------------------|------------------------------------------------|-------------------------------------------|------------------------------------------------|---|------------------------------------------------------------------------------------------------|
| 6           |                                                             |             | 5<br>7<br>3<br>E<br>-<br>0<br>4           | 0<br>0<br>7<br>E<br>-<br>0<br>3                | 5<br>7<br>3<br>E<br>-<br>0<br>4           | 0<br>0<br>7<br>E<br>-<br>0<br>3                |   |                                                                                                |
| 1<br>3<br>7 | <a href="#">regulation of extracellular matrix assembly</a> | 3           | 2<br>.<br>5<br>7<br>3<br>E<br>-<br>0<br>4 | 6<br>.<br>0<br>0<br>7<br>3<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>7<br>3<br>E<br>-<br>0<br>4 | 6<br>.<br>0<br>0<br>7<br>3<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor                                                                        |
| 1<br>3<br>8 | <a href="#">keratinocyte differentiation</a>                | 1<br>3<br>4 | 2<br>.<br>6<br>4<br>2<br>E<br>-<br>0<br>4 | 6<br>.<br>1<br>2<br>3<br>E<br>-<br>0<br>3      | 2<br>.<br>6<br>4<br>2<br>E<br>-<br>0<br>4 | 6<br>.<br>1<br>2<br>3<br>E<br>-<br>0<br>3      | 7 | SPRR1A, RBP-J kappa (CBF1), SPRR4, Notch, NOTCH1 precursor, Sprr2f, SPRR3                      |
| 1<br>3<br>9 | <a href="#">endocardial cushion formation</a>               | 1<br>4      | 2<br>.<br>6<br>8<br>4<br>E<br>-<br>0<br>4 | 6<br>.<br>1<br>3<br>2<br>E<br>-<br>0<br>3      | 2<br>.<br>6<br>8<br>4<br>E<br>-<br>0<br>4 | 6<br>.<br>1<br>3<br>2<br>E<br>-<br>0<br>3      | 3 | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                    |
| 1<br>4<br>0 | <a href="#">endocardium development</a>                     | 1<br>4      | 2<br>.<br>6<br>8<br>4<br>E<br>-<br>0<br>4 | 6<br>.<br>1<br>3<br>2<br>E<br>-<br>0<br>3      | 2<br>.<br>6<br>8<br>4<br>E<br>-<br>0<br>3 | 6<br>.<br>1<br>3<br>2<br>E<br>-<br>0<br>3      | 3 | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                    |
| 1<br>4<br>1 | <a href="#">ribonucleotide biosynthetic process</a>         | 1<br>7<br>9 | 2<br>.<br>7<br>8<br>1                     | 6<br>.<br>8<br>3<br>8                          | 2<br>.<br>8<br>3<br>1                     | 6<br>.<br>8<br>3<br>8                          | 8 | UCK1, IMD2, ATP1A3, ADSL, Guanylate cyclase A (NPR1), RIFK, Guanylate cyclase, CTP synthase II |

|             |                                                                                                        |             |                                           |                                           |                                           |                                           |   |                                                                             |
|-------------|--------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|-----------------------------------------------------------------------------|
|             |                                                                                                        |             | 4<br>E<br>-<br>0<br>4                     | 3<br>E<br>-<br>0<br>3                     | 4<br>E<br>-<br>0<br>4                     | 3<br>E<br>-<br>0<br>3                     |   |                                                                             |
| 1<br>4<br>2 | <a href="#">growth hormone<br/>receptor signaling<br/>pathway</a>                                      | 3<br>5      | 3<br>.<br>0<br>4<br>6<br>E<br>-<br>0<br>4 | 6<br>.<br>7<br>1<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>4<br>6<br>E<br>-<br>4<br>3 | 6<br>.<br>7<br>1<br>9<br>E<br>-<br>0<br>3 | 4 | STAT5A, ERK1 (MAPK3), STAT5, ERK1/2                                         |
| 1<br>4<br>3 | <a href="#">mRNA<br/>stabilization</a>                                                                 | 3<br>5      | 3<br>.<br>0<br>4<br>6<br>E<br>-<br>0<br>4 | 6<br>.<br>7<br>1<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>4<br>6<br>E<br>-<br>4<br>3 | 6<br>.<br>7<br>1<br>9<br>E<br>-<br>0<br>3 | 4 | TIRAP (Mal), p38 MAPK, PAIP1, APOBEC-1                                      |
| 1<br>4<br>4 | <a href="#">RNA stabilization</a>                                                                      | 3<br>5      | 3<br>.<br>0<br>4<br>6<br>E<br>-<br>0<br>4 | 6<br>.<br>7<br>1<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>4<br>6<br>E<br>-<br>4<br>3 | 6<br>.<br>7<br>1<br>9<br>E<br>-<br>0<br>3 | 4 | TIRAP (Mal), p38 MAPK, PAIP1, APOBEC-1                                      |
| 1<br>4<br>5 | <a href="#">epithelial cell<br/>differentiation<br/>involved in<br/>prostate gland<br/>development</a> | 3<br>5      | 3<br>.<br>0<br>4<br>6<br>E<br>-<br>0<br>4 | 6<br>.<br>7<br>1<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>4<br>6<br>E<br>-<br>4<br>3 | 6<br>.<br>7<br>1<br>9<br>E<br>-<br>0<br>3 | 4 | STAT5A, STAT5, Notch, NOTCH1 precursor                                      |
| 1<br>4<br>6 | <a href="#">pattern<br/>recognition<br/>receptor signaling<br/>pathway</a>                             | 1<br>8<br>2 | 3<br>.<br>1<br>4<br>7<br>E                | 6<br>.<br>8<br>9<br>5<br>E                | 3<br>.<br>1<br>4<br>7<br>E                | 6<br>.<br>8<br>9<br>5<br>E                | 8 | TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A,<br>Ubiquitin, ERK1/2, UBC, UBB |

|   |                                                                                                           |   |   |   |   |   |   |                                                                                                                                                                                                                                                                                                                        |
|---|-----------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                                                           |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                                                                        |
| 1 |                                                                                                           |   | 3 | 7 | 3 | 7 |   |                                                                                                                                                                                                                                                                                                                        |
| 4 |                                                                                                           |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                        |
| 7 | <a href="#">Notch signaling pathway</a>                                                                   |   | 2 | 1 | 2 | 1 |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           |   | 6 | 0 | 6 | 0 |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           |   | 5 | 5 | 5 | 5 |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           | 1 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           | 8 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           | 3 | 4 | 3 | 4 | 3 | 8 | GDP-mannose 4,6 dehydratase, RBP-J kappa (CBF1), RPS27A, Ubiquitin, UBC, Notch, UBB, NOTCH1 precursor                                                                                                                                                                                                                  |
| 1 |                                                                                                           |   | 3 | 7 | 3 | 7 |   |                                                                                                                                                                                                                                                                                                                        |
| 4 |                                                                                                           |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                        |
| 8 | <a href="#">regulation of transcription from RNA polymerase II promoter involved in heart development</a> |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           |   | 3 | 0 | 3 | 0 |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           |   | 2 | 1 | 2 | 1 |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           | 1 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           | 5 | 0 | 0 | 0 | 0 | 3 | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                            |
|   |                                                                                                           |   | 3 | 7 | 3 | 7 |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           |   | 8 | 7 | 8 | 7 |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           |   | 7 | 1 | 7 | 1 |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                        |
| 1 | <a href="#">ribose phosphate biosynthetic process</a>                                                     | 1 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                        |
| 4 |                                                                                                           | 8 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                        |
| 9 |                                                                                                           | 4 | 4 | 3 | 4 | 3 | 8 | UCK1, IMD2, ATP1A3, ADSL, Guanylate cyclase A (NPR1), RIFK, Guanylate cyclase, CTP synthase II                                                                                                                                                                                                                         |
| 1 |                                                                                                           |   | 3 | 7 | 3 | 7 |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           |   | 5 | 5 | 5 | 5 |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           |   | 5 | 9 | 5 | 9 |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           |   | 9 | 1 | 9 | 1 |   |                                                                                                                                                                                                                                                                                                                        |
| 1 | <a href="#">macromolecular complex subunit organization</a>                                               | 1 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                        |
| 5 |                                                                                                           | 8 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                        |
| 0 |                                                                                                           | 2 | 0 | 0 | 0 | 0 | 3 | HBG, DCTN2, NASP, ERK1 (MAPK3), RPS27A, Ccdc109a, IMD2, PhLP, SNX9, Kinesin light chain, Phosphatase regulator (inhibitor), PDXP, ERK1/2, ADSL, ARHGEF10, MYLK1, PQBP-1, Kizuna (C20orf19), LCKBP1, GA17, GRB2, Rap1GDS1, Tropomodulin, HBGA, Telokin, ST13 (Hip), NUP93, Occludin, Adult hemoglobin, Rich1, RIP, MLCK |
|   |                                                                                                           | 3 | 4 | 3 | 4 | 3 | 2 |                                                                                                                                                                                                                                                                                                                        |
| 1 |                                                                                                           |   | 3 | 7 | 3 | 7 |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           |   | 6 | 7 | 6 | 7 |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           |   | 4 | 1 | 4 | 1 |   |                                                                                                                                                                                                                                                                                                                        |
|   |                                                                                                           |   | 1 | 4 | 1 | 4 |   |                                                                                                                                                                                                                                                                                                                        |
| 1 | <a href="#">innate immune response-activating signal transduction</a>                                     | 1 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                        |
| 5 |                                                                                                           | 8 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                        |
| 1 |                                                                                                           | 6 | 0 | 0 | 0 | 0 | 8 | TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, UBC, UBB                                                                                                                                                                                                                                               |



|   |                                                        |   |   |   |   |   |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|---|--------------------------------------------------------|---|---|---|---|---|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                        |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
| 1 | <a href="#">regulation of ERBB signaling pathway</a>   | 1 | 3 | 7 | 3 | 7 | 6 | RBP-J kappa (CBF1), RPS27A, Ubiquitin, GRB2, UBC, UBB                                                                                                                                                                                                                                                                                                                                                    |
| 5 |                                                        | 0 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
| 2 |                                                        | 1 | 6 | 7 | 6 | 7 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | 7 | 3 | 7 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | 4 | 2 | 4 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
| 1 | <a href="#">cellular response to organic substance</a> | 2 | 3 | 7 | 3 | 7 | 3 | Reticulon 4, CRK, STAT5A, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), Bim, Metallothionein-I, STAT5, SMIF, RPS27A, p38gamma (MAPK12), Ubiquitin, IMD2, Phosphatase regulator (inhibitor), PDXP, ERK1/2, Metallothionein-IG, LCKBP1, CrkL, GRB2, HXK4, DDC, Metallothionein-II, HMBS, UBC, GBP5, NUP93, Notch, UBB, Guanylate cyclase, NOTCH1 precursor, 4E-BP1, IL1RN, WWOX, PYDC1 (POP1), APOBEC-1, MLCK, PAF1 |
| 5 |                                                        | 4 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
| 3 |                                                        | 0 | 7 | 7 | 7 | 7 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        | 4 | 0 | 5 | 0 | 5 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | 7 | 1 | 7 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        | 4 | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
| 1 | <a href="#">DNA integrity checkpoint</a>               | 1 | 3 | 7 | 3 | 7 | 8 | TIPIN, RAD1, p38 MAPK, RPS27A, Ubiquitin, UBC, UBB, RPA4                                                                                                                                                                                                                                                                                                                                                 |
| 5 |                                                        | 8 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
| 4 |                                                        | 7 | 7 | 8 | 7 | 8 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | 7 | 4 | 7 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | 4 | 0 | 4 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        | 7 | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
| 1 | <a href="#">cardioblast differentiation</a>            | 1 | 4 | 8 | 4 | 8 | 3 | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                              |
| 5 |                                                        | 6 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
| 5 |                                                        |   | 0 | 3 | 0 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | 7 | 7 | 7 | 7 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | 2 | 3 | 2 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
| 1 | <a href="#">activation of protein kinase activity</a>  | 3 | 4 | 8 | 4 | 8 | 1 | CRK, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, CrkL, UBC, UBB, GCK(MAP4K2)                                                                                                                                                                                                                                                                                                         |
| 5 |                                                        | 4 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
| 6 |                                                        | 5 | 0 | 3 | 0 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | 8 | 7 | 8 | 7 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | 3 | 3 | 3 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |
|   |                                                        |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                          |

|     |                                                                                        |     |          |           |          |           |    |                                                                                                                                                |
|-----|----------------------------------------------------------------------------------------|-----|----------|-----------|----------|-----------|----|------------------------------------------------------------------------------------------------------------------------------------------------|
| 157 | <a href="#">muscle tissue morphogenesis</a>                                            | 104 | 4299E-04 | 87599E-03 | 4299E-03 | 87599E-03 | 6  | RBP-J kappa (CBF1), MYLK1, Telokin, Notch, NOTCH1 precursor, MLCK                                                                              |
| 158 | <a href="#">regulation of innate immune response</a>                                   | 348 | 4390E-04 | 8890E-03  | 4390E-03 | 8890E-03  | 11 | STAT5A, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), STAT5, RPS27A, Ubiquitin, ERK1/2, UBC, UBB, SAP                                                   |
| 159 | <a href="#">transmembrane receptor protein tyrosine kinase signaling pathway</a>       | 725 | 4614E-04 | 9234E-03  | 4614E-03 | 9234E-03  | 17 | Reticulon 4, CRK, STAT5A, p38 MAPK, ERK1 (MAPK3), Bim, STAT5, RPS27A, p38gamma (MAPK12), Ubiquitin, ERK1/2, CrkL, GRB2, CNK1, UBC, UBB, 4E-BP1 |
| 160 | <a href="#">prostate gland epithelium morphogenesis</a>                                | 39  | 467E-03  | 924E-03   | 467E-03  | 924E-03   | 4  | STAT5A, STAT5, Notch, NOTCH1 precursor                                                                                                         |
| 161 | <a href="#">nucleotide-binding oligomerization domain containing signaling pathway</a> | 39  | 467E-03  | 924E-03   | 467E-03  | 924E-03   | 4  | RPS27A, Ubiquitin, UBC, UBB                                                                                                                    |
| 166 | <a href="#">interleukin-1-mediated signaling pathway</a>                               | 17  | 4        | 9         | 4        | 9         | 3  | TIRAP (Mal), ERK1 (MAPK3), ERK1/2                                                                                                              |

|             |                                                                                      |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                        |
|-------------|--------------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2           |                                                                                      |                  | 9<br>1<br>1<br>E<br>-<br>0<br>4           | 5<br>4<br>1<br>E<br>-<br>0<br>3           | 9<br>1<br>1<br>E<br>-<br>0<br>4           | 5<br>4<br>1<br>E<br>-<br>0<br>3           |        |                                                                                                                                                                                                                                        |
| 1<br>6<br>3 | <a href="#">single-organism<br/>intracellular<br/>transport</a>                      | 1<br>2<br>3<br>1 | 4<br>9<br>2<br>7<br>E<br>-<br>0<br>4      | 9<br>5<br>4<br>1<br>E<br>-<br>0<br>3      | 4<br>9<br>2<br>7<br>E<br>-<br>0<br>4      | 9<br>5<br>4<br>1<br>E<br>-<br>0<br>3      | 2<br>4 | Annexin VIII, PEX2, KLC2, VAMP5, ERK1 (MAPK3), Bim, CERT, KLC3, RPS27A, Ccdc109a, Ubiquitin, CDC4L, SNX9, Kinesin light chain, Phosphatase regulator (inhibitor), ERK1/2, Syntaxin 16, PEX19, COG3, UBC, SNX1, ANXA8L2, Dysbindin, UBB |
| 1<br>6<br>4 | <a href="#">atrioventricular<br/>node<br/>development</a>                            | 4                | 5<br>.<br>1<br>1<br>4<br>E<br>-<br>0<br>4 | 9<br>.<br>5<br>4<br>1<br>E<br>-<br>0<br>3 | 5<br>.<br>1<br>1<br>4<br>E<br>-<br>0<br>4 | 9<br>.<br>5<br>4<br>1<br>E<br>-<br>0<br>3 | 2      | Notch, NOTCH1 precursor                                                                                                                                                                                                                |
| 1<br>6<br>5 | <a href="#">negative<br/>regulation of pro-<br/>B cell<br/>differentiation</a>       | 4                | 5<br>.<br>1<br>1<br>4<br>E<br>-<br>0<br>4 | 9<br>.<br>5<br>4<br>1<br>E<br>-<br>0<br>3 | 5<br>.<br>1<br>1<br>4<br>E<br>-<br>0<br>4 | 9<br>.<br>5<br>4<br>1<br>E<br>-<br>0<br>3 | 2      | Notch, NOTCH1 precursor                                                                                                                                                                                                                |
| 1<br>6<br>6 | <a href="#">cardiac right<br/>atrium<br/>morphogenesis</a>                           | 4                | 5<br>.<br>1<br>1<br>4<br>E<br>-<br>0<br>4 | 9<br>.<br>5<br>4<br>1<br>E<br>-<br>0<br>3 | 5<br>.<br>1<br>1<br>4<br>E<br>-<br>0<br>4 | 9<br>.<br>5<br>4<br>1<br>E<br>-<br>0<br>3 | 2      | Notch, NOTCH1 precursor                                                                                                                                                                                                                |
| 1<br>6<br>7 | <a href="#">cell migration<br/>involved in<br/>endocardial<br/>cushion formation</a> | 4                | 5<br>.<br>1<br>1<br>4                     | 9<br>.<br>5<br>1<br>4                     | 5<br>.<br>1<br>1<br>4                     | 9<br>.<br>5<br>1<br>4                     | 2      | Notch, NOTCH1 precursor                                                                                                                                                                                                                |

|             |                                                                    |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                                                                                             |
|-------------|--------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                    |                  | 4<br>E<br>-<br>0<br>4                     | 1<br>E<br>-<br>0<br>3                     | 4<br>E<br>-<br>0<br>4                     | 1<br>E<br>-<br>0<br>3                     |        |                                                                                                                                                                                                                                                                                                                             |
| 1<br>6<br>8 | <a href="#">regulation of mast cell differentiation</a>            | 4                | 5<br>.<br>1<br>1<br>4<br>E<br>-<br>0<br>4 | 9<br>.<br>5<br>4<br>1<br>E<br>-<br>0<br>3 | 5<br>.<br>1<br>1<br>4<br>E<br>-<br>0<br>4 | 9<br>.<br>5<br>4<br>1<br>E<br>-<br>0<br>3 | 2      | STAT5A, STAT5                                                                                                                                                                                                                                                                                                               |
| 1<br>6<br>9 | <a href="#">prolactin signaling pathway</a>                        | 4                | 5<br>.<br>1<br>1<br>4<br>E<br>-<br>0<br>4 | 9<br>.<br>5<br>4<br>1<br>E<br>-<br>0<br>3 | 5<br>.<br>1<br>1<br>4<br>E<br>-<br>0<br>4 | 9<br>.<br>5<br>4<br>1<br>E<br>-<br>0<br>3 | 2      | STAT5A, STAT5                                                                                                                                                                                                                                                                                                               |
| 1<br>7<br>0 | <a href="#">negative regulation of endothelial cell chemotaxis</a> | 4                | 5<br>.<br>1<br>1<br>4<br>E<br>-<br>0<br>4 | 9<br>.<br>5<br>4<br>1<br>E<br>-<br>0<br>3 | 5<br>.<br>1<br>1<br>4<br>E<br>-<br>0<br>4 | 9<br>.<br>5<br>4<br>1<br>E<br>-<br>0<br>3 | 2      | Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                     |
| 1<br>7<br>1 | <a href="#">cellular response to growth hormone stimulus</a>       | 4                | 5<br>.<br>1<br>2<br>6<br>E<br>-<br>0<br>4 | 9<br>.<br>5<br>4<br>1<br>E<br>-<br>0<br>3 | 5<br>.<br>1<br>2<br>6<br>E<br>-<br>0<br>4 | 9<br>.<br>5<br>4<br>1<br>E<br>-<br>0<br>3 | 4      | STAT5A, ERK1 (MAPK3), STAT5, ERK1/2                                                                                                                                                                                                                                                                                         |
| 1<br>7<br>2 | <a href="#">regulation of primary metabolic process</a>            | 6<br>5<br>4<br>0 | 5<br>.<br>1<br>3<br>0<br>E                | 9<br>.<br>5<br>4<br>1<br>E                | 5<br>.<br>1<br>3<br>0<br>E                | 9<br>.<br>5<br>4<br>1<br>E                | 8<br>3 | Annexin VIII, PEX2, LAGY, DLC1 (Dynein LC8a), LCORL, TIPIN, SCMH1, CRK, HBG, STAT5A, TIRAP (Mal), GGA1, p38 MAPK, ERK1 (MAPK3), Bim, STAT5, RBP-J kappa (CBF1), FERD3L, SMIF, Twinfilin, BMAL2, Autophagin-1, RPS27A, p38gamma (MAPK12), ZNF397, Ubiquitin, EYA1, PhLP, SNX9, XPF, Phosphatase regulator (inhibitor), Fatty |

|             |                                                                                    |             |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------|------------------------------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                                    |             | -<br>0<br>4                               | -<br>0<br>3                               | -<br>0<br>4                               | -<br>0<br>3                               |        | acid-binding protein, ERK1/2, NIP2, ARHGEF10, CRABP2, PQBP-1, LCKBP1, Guanylate cyclase A (NPR1), GA17, CrkL, Ajuba, HXK4, Rap1GDS1, ZNF655, UBC, HBGA, SNX1, PCP2, ST13 (Hip), HKR1, ANXA8L2, Notch, RAD23A, UBB, IRX4, Guanylate cyclase, ARID4A, Cyclophilin E, NOTCH1 precursor, GCK(MAP4K2), 4E-BP1, SCML1, DBC1, USP5, AO7, GGA, IL1RN, FAM116A, ZNF397OS, DYNLL, Cystatin B, WWOX, DKK3, PYDC1 (POP1), Adult hemoglobin, PAIP1, MLX, CAMK2N1, Rich1, APOBEC-1, RIP, PAF1 |
| 1<br>7<br>3 | <a href="#">mitotic cell cycle phase transition</a>                                | 4<br>1<br>3 | 5<br>.<br>1<br>6<br>2<br>E<br>-<br>1<br>3 | 9<br>.<br>5<br>4<br>5<br>E<br>-<br>0<br>3 | 5<br>.<br>1<br>6<br>2<br>E<br>-<br>0<br>4 | 9<br>.<br>5<br>4<br>5<br>E<br>-<br>0<br>3 | 1<br>2 | DLC1 (Dynein LC8a), DCTN2, PPP1R12B, RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), Ajuba, UBC, UBB, 4E-BP1, RPA4, DYNLL                                                                                                                                                                                                                                                                                                                                                 |
| 1<br>7<br>4 | <a href="#">activation of innate immune response</a>                               | 1<br>9<br>7 | 5<br>.<br>3<br>3<br>4<br>E<br>-<br>9<br>7 | 9<br>.<br>8<br>0<br>6<br>E<br>-<br>0<br>4 | 5<br>.<br>3<br>3<br>4<br>E<br>-<br>0<br>3 | 9<br>.<br>8<br>0<br>6<br>E<br>-<br>0<br>3 | 8      | TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, UBC, UBB                                                                                                                                                                                                                                                                                                                                                                                                        |
| 1<br>7<br>5 | <a href="#">antigen processing and presentation of exogenous peptide antigen</a>   | 2<br>4<br>8 | 5<br>.<br>4<br>7<br>5<br>E<br>-<br>4<br>8 | 1<br>.<br>0<br>0<br>1<br>E<br>-<br>0<br>2 | 5<br>.<br>4<br>7<br>5<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>0<br>1<br>E<br>-<br>0<br>2 | 9      | KLC2, DLC1 (Dynein LC8a), DCTN2, RPS27A, Ubiquitin, Kinesin light chain, UBC, UBB, DYNLL                                                                                                                                                                                                                                                                                                                                                                                        |
| 1<br>7<br>6 | <a href="#">immune response-activating cell surface receptor signaling pathway</a> | 3<br>0<br>2 | 5<br>.<br>5<br>7<br>2<br>E<br>-<br>0<br>2 | 1<br>.<br>0<br>0<br>2<br>E<br>-<br>0<br>4 | 5<br>.<br>5<br>7<br>2<br>E<br>-<br>0<br>2 | 1<br>.<br>0<br>0<br>2<br>E<br>-<br>0<br>2 | 1<br>0 | CRK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, GRB2, UBC, UBB, IGHG1, ACP33                                                                                                                                                                                                                                                                                                                                                                                                      |
| 1<br>7      | <a href="#">response to abiotic stimulus</a>                                       | 1<br>5      | 5<br>.                                    | 1<br>.                                    | 5<br>.                                    | 1<br>.                                    | 2<br>8 | TIPIN, RAD1, p38 MAPK, ERK1 (MAPK3), STAT5, RBP1, RPS27A, Ubiquitin, EYA1, XPF, ATP1A3, Fatty acid-binding                                                                                                                                                                                                                                                                                                                                                                      |

|             |                                                                                                                              |                  |                                      |                                      |                                      |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------|------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7           |                                                                                                                              | 5<br>1           | 6<br>0<br>3<br>E<br>-<br>0<br>4      | 0<br>0<br>2<br>E<br>-<br>0<br>2      | 6<br>0<br>3<br>E<br>-<br>0<br>4      | 0<br>0<br>2<br>E<br>-<br>0<br>2      | protein, ERK1/2, ADSL, MYLK1, Ajuba, GRB2, HMBS, UBC, Telokin, PCP2, Notch, UBB, Guanylate cyclase, NOTCH1 precursor, DBC1, APOBEC-1, MLCK                                                                                                                                                                                                                                                                                                                                                                                       |
| 1<br>7<br>8 | <a href="#">positive regulation of protein insertion into mitochondrial membrane involved in apoptotic signaling pathway</a> | 4<br>1           | 5<br>6<br>4<br>0<br>E<br>-<br>0<br>4 | 1<br>0<br>0<br>2<br>E<br>-<br>0<br>2 | 5<br>6<br>4<br>0<br>E<br>-<br>0<br>4 | 1<br>0<br>0<br>2<br>E<br>-<br>0<br>2 | DLC1 (Dynein LC8a), Bim, BMF, DYNLL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 1<br>7<br>9 | <a href="#">regulation of protein insertion into mitochondrial membrane involved in apoptotic signaling pathway</a>          | 4<br>1           | 5<br>6<br>4<br>0<br>E<br>-<br>0<br>4 | 1<br>0<br>0<br>2<br>E<br>-<br>0<br>2 | 5<br>6<br>4<br>0<br>E<br>-<br>0<br>4 | 1<br>0<br>0<br>2<br>E<br>-<br>0<br>2 | DLC1 (Dynein LC8a), Bim, BMF, DYNLL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 1<br>8<br>0 | <a href="#">prostate gland morphogenesis</a>                                                                                 | 4<br>1           | 5<br>6<br>4<br>0<br>E<br>-<br>0<br>4 | 1<br>0<br>0<br>2<br>E<br>-<br>0<br>2 | 5<br>6<br>4<br>0<br>E<br>-<br>0<br>4 | 1<br>0<br>0<br>2<br>E<br>-<br>0<br>2 | STAT5A, STAT5, Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 1<br>8<br>1 | <a href="#">organ development</a>                                                                                            | 3<br>6<br>9<br>1 | 5<br>6<br>6<br>9<br>3<br>6<br>9<br>4 | 1<br>0<br>0<br>2<br>E<br>-<br>0<br>2 | 5<br>6<br>6<br>9<br>3<br>6<br>9<br>4 | 1<br>0<br>0<br>2<br>E<br>-<br>0<br>2 | LAGY, Reticulon 4, DLC1 (Dynein LC8a), Beta crystallin B2, VAMP5, STAT5A, SPRR1A, TIRAP (Mal), RAD1, p38 MAPK, ERK1 (MAPK3), Bim, Metallothionein-I, CERT, STAT5, RBP-J kappa (CBF1), NHS, p38gamma (MAPK12), Ubiquitin, IMD2, EYA1, Fatty acid-binding protein, ERK1/2, MYLK1, CRABP2, Metallothionein-IG, LCKBP1, SPRR4, NEPH2, CrkL, GRB2, PTP-2, HXK4, HMBS, Telokin, Dysbindin, Notch, ACSBG1, UBB, IRX4, ARID4A, NOTCH1 precursor, 4E-BP1, Sprr2f, BMP1, DYNLL, WWOX, E-FABP, DKK3, Adult hemoglobin, Melusin, SPRR3, MLCK |
| 1<br>8<br>2 | <a href="#">cellular polysaccharide metabolic process</a>                                                                    | 1<br>1<br>0      | 5<br>1<br>7                          | 1<br>0<br>0                          | 5<br>1<br>7                          | 1<br>0<br>0                          | RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), HXK4, UBC, UBB                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

|             |                                                                 |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------|-----------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                 |                  | 9<br>5<br>E<br>-<br>0<br>4                | 1<br>9<br>E<br>-<br>0<br>2                | 9<br>5<br>E<br>-<br>0<br>4                | 1<br>9<br>E<br>-<br>0<br>2                |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 1<br>8<br>3 | <a href="#">negative regulation of myoblast differentiation</a> | 1<br>8           | 5<br>.<br>8<br>5<br>3<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>2<br>3<br>E<br>-<br>0<br>2 | 5<br>.<br>8<br>5<br>3<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>2<br>3<br>E<br>-<br>0<br>2 | 3      | MIBP, Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 1<br>8<br>4 | <a href="#">single-organism organelle organization</a>          | 1<br>8           | 5<br>.<br>9<br>5<br>8<br>E<br>-<br>7<br>8 | 1<br>.<br>0<br>3<br>2<br>E<br>-<br>0<br>4 | 5<br>.<br>9<br>5<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>3<br>2<br>E<br>-<br>0<br>2 | 3<br>2 | PEX2, LAGY, DLC1 (Dynein LC8a), TIPIN, DCTN2, VAMP5, Bim, CERT, Ubiquitin, EYA1, SNX9, XPF, Phosphatase regulator (inhibitor), PDXP, Fatty acid-binding protein, NIP2, ARHGEF10, MYLK1, Kizuna (C20orf19), LCKBP1, PEX19, Rap1GDS1, Tropomodulin, Telokin, Dysbindin, UBB, ARID4A, DYNLL, Rich1, RIP, MLCK, PAF1                                                                                                                                                                                                                                                                                            |
| 1<br>8<br>5 | <a href="#">hexose metabolic process</a>                        | 2<br>5<br>1      | 5<br>.<br>9<br>6<br>9<br>E<br>-<br>5<br>1 | 1<br>.<br>0<br>3<br>2<br>E<br>-<br>0<br>2 | 5<br>.<br>9<br>6<br>9<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>3<br>2<br>E<br>-<br>0<br>2 | 9      | p38 MAPK, RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), Fatty acid-binding protein, HXK4, UBC, UBB, E-FABP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 1<br>8<br>6 | <a href="#">negative regulation of cellular process</a>         | 4<br>2<br>5<br>4 | 6<br>.<br>0<br>7<br>3<br>E<br>-<br>5<br>4 | 1<br>.<br>0<br>4<br>1<br>E<br>-<br>0<br>2 | 6<br>.<br>0<br>7<br>3<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>4<br>1<br>E<br>-<br>0<br>2 | 5<br>9 | MST3, PEX2, LAGY, Reticulon 4, MIBP, DLC1 (Dynein LC8a), TIPIN, SCM1, HBG, STAT5A, TCL1A, p38 MAPK, IL-1F5, Metallothionein-I, STAT5, RBP-J kappa (CBF1), FERD3L, Twinfilin, RPS27A, p38gamma (MAPK12), Ubiquitin, EYA1, PhLP, XPF, Phosphatase regulator (inhibitor), LYPLAL1, Fatty acid-binding protein, ERK1/2, NIP2, LCKBP1, Guanylate cyclase A (NPR1), Ajuba, GRB2, PTP-2, HXK4, ZNF655, UBC, HBGA, ST13 (Hip), Notch, UBB, BMF, Guanylate cyclase, ARID4A, NOTCH1 precursor, 4E-BP1, RRAD, DBC1, IL1RN, DYNLL, Cystatin B, WWOX, DKK3, PYDC1 (POP1), Adult hemoglobin, MLX, CAMK2N1, APOBEC-1, PAF1 |
| 1<br>8      | <a href="#">Ras protein signal transduction</a>                 | 2<br>0           | 6<br>.                                    | 1<br>.                                    | 6<br>.                                    | 1<br>.                                    | 8      | p38 MAPK, ERK1 (MAPK3), p38gamma (MAPK12), ERK1/2, CrkL, GRB2, CNK1, DOK3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

|   |                                                            |   |   |   |   |   |   |                                                                                                                                                                                                                   |
|---|------------------------------------------------------------|---|---|---|---|---|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7 |                                                            | 1 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                   |
|   |                                                            |   | 8 | 4 | 8 | 4 |   |                                                                                                                                                                                                                   |
|   |                                                            |   | 8 | 1 | 8 | 1 |   |                                                                                                                                                                                                                   |
|   |                                                            |   | E | E | E | E |   |                                                                                                                                                                                                                   |
|   |                                                            |   | - | - | - | - |   |                                                                                                                                                                                                                   |
|   |                                                            |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                   |
|   |                                                            |   | 4 | 2 | 4 | 2 |   |                                                                                                                                                                                                                   |
| 1 |                                                            |   | 6 | 1 | 6 | 1 |   |                                                                                                                                                                                                                   |
| 8 |                                                            |   | . | . | . | . |   |                                                                                                                                                                                                                   |
| 8 | <a href="#">muscle organ morphogenesis</a>                 | 1 | 3 | 0 | 3 | 0 |   |                                                                                                                                                                                                                   |
|   |                                                            |   | 7 | 8 | 7 | 8 |   |                                                                                                                                                                                                                   |
|   |                                                            |   | 5 | 5 | 5 | 5 |   |                                                                                                                                                                                                                   |
|   |                                                            |   | E | E | E | E |   |                                                                                                                                                                                                                   |
|   |                                                            |   | - | - | - | - |   |                                                                                                                                                                                                                   |
|   |                                                            | 1 | 0 | 0 | 0 | 0 |   | RBP-J kappa (CBF1), MYLK1, Telokin, Notch, NOTCH1 precursor, MLCK                                                                                                                                                 |
|   |                                                            | 2 | 4 | 2 | 4 | 2 | 6 |                                                                                                                                                                                                                   |
| 1 |                                                            |   | 6 | 1 | 6 | 1 |   |                                                                                                                                                                                                                   |
| 8 |                                                            |   | . | . | . | . |   |                                                                                                                                                                                                                   |
| 9 | <a href="#">regulation of cellular response to stress</a>  | 4 | 4 | 0 | 4 | 0 |   |                                                                                                                                                                                                                   |
|   |                                                            |   | 7 | 9 | 7 | 9 |   |                                                                                                                                                                                                                   |
|   |                                                            |   | 5 | 6 | 5 | 6 |   |                                                                                                                                                                                                                   |
|   |                                                            |   | E | E | E | E |   |                                                                                                                                                                                                                   |
|   |                                                            |   | - | - | - | - |   |                                                                                                                                                                                                                   |
|   |                                                            | 8 | 0 | 0 | 0 | 0 | 1 | MST3, Reticulon 4, CRK, TIRAP (Mal), ERK1 (MAPK3), EYA1, SCOCO, ERK1/2, Ajuba, GCK(MAP4K2), DBC1, IL1RN, Adult hemoglobin                                                                                         |
|   |                                                            | 5 | 4 | 2 | 4 | 2 | 3 |                                                                                                                                                                                                                   |
| 1 |                                                            |   | 6 | 1 | 6 | 1 |   |                                                                                                                                                                                                                   |
| 9 |                                                            |   | . | . | . | . |   |                                                                                                                                                                                                                   |
| 0 | <a href="#">regulation of myoblast differentiation</a>     | 4 | 7 | 1 | 7 | 1 |   |                                                                                                                                                                                                                   |
|   |                                                            |   | 7 | 3 | 7 | 3 |   |                                                                                                                                                                                                                   |
|   |                                                            |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                   |
|   |                                                            |   | E | E | E | E |   |                                                                                                                                                                                                                   |
|   |                                                            |   | - | - | - | - |   |                                                                                                                                                                                                                   |
|   |                                                            | 4 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                   |
|   |                                                            | 3 | 4 | 2 | 4 | 2 | 4 | MIBP, p38 MAPK, Notch, NOTCH1 precursor                                                                                                                                                                           |
| 1 |                                                            |   | 6 | 1 | 6 | 1 |   |                                                                                                                                                                                                                   |
| 9 |                                                            |   | . | . | . | . |   |                                                                                                                                                                                                                   |
| 1 | <a href="#">positive regulation of signal transduction</a> | 1 | 8 | 1 | 8 | 1 |   |                                                                                                                                                                                                                   |
|   |                                                            |   | 0 | 3 | 0 | 3 |   |                                                                                                                                                                                                                   |
|   |                                                            |   | 1 | 3 | 1 | 3 |   |                                                                                                                                                                                                                   |
|   |                                                            |   | E | E | E | E |   |                                                                                                                                                                                                                   |
|   |                                                            | 3 | - | - | - | - |   |                                                                                                                                                                                                                   |
|   |                                                            | 3 | 0 | 0 | 0 | 0 | 2 | CRK, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), Bim, LASP1, RBP-J kappa (CBF1), RPS27A, Ubiquitin, EYA1, ERK1/2, NIP2, LCKBP1, CrkL, Ajuba, GRB2, UBC, Notch, UBB, BMF, NOTCH1 precursor, GCK(MAP4K2), IL1RN, WWOX, SAP |
|   |                                                            | 6 | 4 | 2 | 4 | 2 | 5 |                                                                                                                                                                                                                   |
| 1 |                                                            |   | 6 | 1 | 6 | 1 |   |                                                                                                                                                                                                                   |
| 9 | <a href="#">positive regulation of catabolic process</a>   | 2 | . | . | . | . |   |                                                                                                                                                                                                                   |
| 2 |                                                            | 5 | 8 | 1 | 8 | 1 |   |                                                                                                                                                                                                                   |
|   |                                                            | 6 | 7 | 3 | 7 | 3 | 9 | GGA1, Autophagin-1, SCOCO, Fatty acid-binding protein, ARHGEF10, HXK4, SNX1, USP5, GGA                                                                                                                            |



|             |                                                                          |             |                                           |                                           |                                                |                                           |   |                                                                                          |
|-------------|--------------------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|------------------------------------------------|-------------------------------------------|---|------------------------------------------------------------------------------------------|
|             |                                                                          |             | 1<br>E<br>-<br>0<br>4                     | 3<br>E<br>-<br>0<br>2                     | 1<br>E<br>-<br>0<br>4                          | 3<br>E<br>-<br>0<br>2                     |   |                                                                                          |
| 1<br>9<br>3 | <a href="#">tonic smooth muscle contraction</a>                          | 1<br>9      | 6<br>.<br>9<br>0<br>3<br>E<br>-<br>0<br>4 | 1<br>.<br>1<br>3<br>3<br>E<br>-<br>0<br>2 | 6<br>.<br>9<br>0<br>3<br>3<br>E<br>-<br>0<br>4 | 1<br>.<br>1<br>3<br>3<br>E<br>-<br>0<br>2 | 3 | MYLK1, Telokin, MLCK                                                                     |
| 1<br>9<br>4 | <a href="#">positive regulation of protein oligomerization</a>           | 1<br>9      | 6<br>.<br>9<br>0<br>3<br>E<br>-<br>0<br>4 | 1<br>.<br>1<br>3<br>3<br>E<br>-<br>0<br>2 | 6<br>.<br>9<br>0<br>3<br>3<br>E<br>-<br>0<br>4 | 1<br>.<br>1<br>3<br>3<br>E<br>-<br>0<br>2 | 3 | Bim, SNX9, BMF                                                                           |
| 1<br>9<br>5 | <a href="#">endocardial cushion morphogenesis</a>                        | 1<br>9      | 6<br>.<br>9<br>0<br>3<br>E<br>-<br>0<br>4 | 1<br>.<br>1<br>3<br>3<br>E<br>-<br>0<br>2 | 6<br>.<br>9<br>0<br>3<br>3<br>E<br>-<br>0<br>4 | 1<br>.<br>1<br>3<br>3<br>E<br>-<br>0<br>2 | 3 | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                              |
| 1<br>9<br>6 | <a href="#">I-kappaB kinase/NF-kappaB signaling</a>                      | 7<br>6      | 7<br>.<br>1<br>9<br>5<br>E<br>-<br>0<br>4 | 1<br>.<br>1<br>7<br>4<br>E<br>-<br>0<br>2 | 7<br>.<br>1<br>9<br>5<br>E<br>-<br>0<br>4      | 1<br>.<br>1<br>7<br>4<br>E<br>-<br>0<br>2 | 5 | TIRAP (Mal), RPS27A, Ubiquitin, UBC, UBB                                                 |
| 1<br>9<br>7 | <a href="#">antigen processing and presentation of exogenous antigen</a> | 2<br>5<br>8 | 7<br>.<br>2<br>6<br>5<br>E                | 1<br>.<br>1<br>7<br>2<br>9<br>E           | 7<br>.<br>1<br>6<br>2<br>9<br>E                | 1<br>.<br>1<br>7<br>2<br>9<br>E           | 9 | KLC2, DLC1 (Dynein LC8a), DCTN2, RPS27A, Ubiquitin, Kinesin light chain, UBC, UBB, DYNLL |

|             |                                                                   |  |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------|-------------------------------------------------------------------|--|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                   |  | -<br>0<br>4                               | -<br>0<br>2                               | -<br>0<br>4                               | -<br>0<br>2                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 1<br>9<br>8 | <a href="#">anatomical<br/>structure<br/>development</a>          |  | 7<br>.<br>3<br>0<br>5<br>5<br>7<br>1<br>8 | 1<br>.<br>1<br>8<br>0<br>E<br>-<br>0<br>2 | 7<br>.<br>3<br>0<br>5<br>E<br>-<br>0<br>4 | 1<br>.<br>1<br>8<br>0<br>E<br>-<br>0<br>2 | MST3, Neurochondrin, PEX2, LAGY, Reticulon 4, DLC1 (Dynein LC8a), SCMH1, Beta crystallin B2, VAMP5, STAT5A, SPRR1A, TIRAP (Mal), RAD1, TCL1A, p38 MAPK, NASP, ERK1 (MAPK3), Bim, Metallothionein-I, CERT, STAT5, EFHD1, RBP-J kappa (CBF1), FERD3L, NHS, p38gamma (MAPK12), Ubiquitin, IMD2, EYA1, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, NIP2, ARHGEF10, MYLK1, CRABP2, Metallothionein-IG, PQBP-1, LCKBP1, SPRR4, NEPH2, CrkL, Ajuba, GRB2, PTP-2, HXK4, BBS9, Metallothionein-II, Tropomodulin, HMBS, Telokin, Dysbindin, Notch, ACSBG1, UBB, PAP41, IRX4, Guanylate cyclase, ARID4A, NOTCH1 precursor, 4E-BP1, Sprr2f, SCML1, BMP1, DYNLL, WWOX, E-FABP, DKK3, Adult hemoglobin, Melusin, RIP, SPRR3, MLCK, PAF1 |
| 1<br>9<br>9 | <a href="#">positive regulation<br/>of cell<br/>communication</a> |  | 7<br>.<br>5<br>9<br>4<br>1<br>4<br>2<br>4 | 1<br>.<br>2<br>2<br>1<br>E<br>-<br>0<br>2 | 7<br>.<br>5<br>9<br>4<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>2<br>1<br>E<br>-<br>0<br>2 | CRK, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), Bim, LASP1, RBP-J kappa (CBF1), RPS27A, Ubiquitin, EYA1, SCOCO, ERK1/2, NIP2, LCKBP1, CrkL, Ajuba, GRB2, UBC, Notch, UBB, BMF, NOTCH1 precursor, GCK(MAP4K2), IL1RN, WWOX, SAP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 2<br>0<br>0 | <a href="#">negative<br/>regulation of<br/>biological process</a> |  | 7<br>.<br>6<br>4<br>5<br>4<br>6<br>6<br>8 | 1<br>.<br>2<br>2<br>1<br>E<br>-<br>0<br>2 | 7<br>.<br>6<br>4<br>5<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>2<br>1<br>E<br>-<br>0<br>2 | MST3, PEX2, LAGY, Reticulon 4, MIBP, DLC1 (Dynein LC8a), TIPIN, SCMH1, HBG, STAT5A, TIRAP (Mal), TCL1A, p38 MAPK, IL-1F5, Metallothionein-I, STAT5, RBP-J kappa (CBF1), FERD3L, Twinfilin, RPS27A, p38gamma (MAPK12), Ubiquitin, EYA1, PhLP, XPF, Phosphatase regulator (inhibitor), LYPLAL1, Fatty acid-binding protein, ERK1/2, NIP2, Metallothionein-IG, LCKBP1, Guanylate cyclase A (NPR1), Ajuba, GRB2, PTP-2, HXK4, Metallothionein-II, ZNF655, UBC, HBGA, ST13 (Hip), Notch, UBB, BMF, Guanylate cyclase, ARID4A, NOTCH1 precursor, 4E-BP1, RRAD, DBC1, Metallothionein-1M, IL1RN, DYNLL, Cystatin B, WWOX, DKK3, PYDC1 (POP1), Adult hemoglobin, MLX, CAMK2N1, APOBEC-1, PAF1                                                                |
| 2<br>0<br>1 | <a href="#">positive regulation<br/>of MAPK cascade</a>           |  | 7<br>.<br>6<br>7<br>1<br>4<br>9<br>4      | 1<br>.<br>2<br>2<br>1<br>E<br>-<br>0<br>0 | 7<br>.<br>6<br>7<br>1<br>E<br>-<br>0<br>0 | 1<br>.<br>2<br>2<br>1<br>E<br>-<br>0<br>0 | CRK, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, NIP2, Ajuba, UBC, UBB, GCK(MAP4K2), IL1RN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

|     |                                                           |   |                                                |                                                |                                                |                                                |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----|-----------------------------------------------------------|---|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                                                           |   | 4                                              | 2                                              | 4                                              | 2                                              |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 202 | <a href="#">positive regulation of biological process</a> |   | 7<br>.<br>9<br>8<br>5<br>5<br>2<br>4<br>9      | 1<br>.<br>2<br>6<br>5<br>E<br>-<br>0<br>4      | 7<br>.<br>9<br>8<br>5<br>E<br>-<br>0<br>2      | 1<br>.<br>2<br>6<br>5<br>E<br>-<br>0<br>4      | 69 | MST3, LAGY, Reticulon 4, DLC1 (Dynein LC8a), TIPIN, CRK, Calpain 1(mu), STAT5A, TIRAP (Mal), GGA1, p38 MAPK, ERK1 (MAPK3), Bim, LASP1, STAT5, RBP-J kappa (CBF1), SMIF, BMAL2, Autophagin-1, RPS27A, p38gamma (MAPK12), Ccdc109a, Ubiquitin, EYA1, SNX9, SCOCO, PDXP, Fatty acid-binding protein, ERK1/2, NIP2, ARHGEF10, MYLK1, LCKBP1, Guanylate cyclase A (NPR1), CrkL, Ajuba, GRB2, HXK4, UBC, Telokin, SNX1, Dysbindin, Notch, RAD23A, UBB, BMF, Guanylate cyclase, IGHG1, Cyclophilin E, NOTCH1 precursor, GCK(MAP4K2), 4E-BP1, DBC1, USP5, GGA, IL1RN, FAM116A, BMP1, DYNLL, WWOX, ACP33, PYDC1 (POP1), Adult hemoglobin, PAIP1, MLX, SAP, APOBEC-1, MLCK, PAF1 |
| 203 | <a href="#">oxygen transport</a>                          |   | 8<br>.<br>0<br>6<br>6<br>E<br>-<br>2<br>0      | 1<br>.<br>2<br>6<br>5<br>E<br>-<br>0<br>4      | 8<br>.<br>0<br>6<br>6<br>E<br>-<br>0<br>4      | 1<br>.<br>2<br>6<br>5<br>E<br>-<br>0<br>2      | 3  | HBG, HBGA, Adult hemoglobin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 204 | <a href="#">response to muramyl dipeptide</a>             |   | 8<br>.<br>0<br>6<br>6<br>E<br>-<br>2<br>0<br>0 | 1<br>.<br>2<br>6<br>5<br>E<br>-<br>0<br>4<br>2 | 8<br>.<br>0<br>6<br>6<br>E<br>-<br>0<br>4<br>2 | 1<br>.<br>2<br>6<br>5<br>E<br>-<br>0<br>2<br>4 | 3  | p38 MAPK, Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 205 | <a href="#">creatinine metabolic process</a>              | 5 | 8<br>.<br>4<br>7<br>0<br>E<br>-<br>0<br>4      | 1<br>.<br>2<br>6<br>6<br>E<br>-<br>0<br>2      | 8<br>.<br>4<br>7<br>0<br>E<br>-<br>0<br>4      | 1<br>.<br>2<br>6<br>6<br>E<br>-<br>0<br>2      | 2  | STAT5A, STAT5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 206 | <a href="#">response to erythropoietin</a>                | 5 | 8<br>.<br>4<br>7<br>0                          | 1<br>.<br>2<br>6<br>6                          | 8<br>.<br>4<br>7<br>0                          | 1<br>.<br>2<br>6<br>6                          | 2  | Metallothionein-I, Metallothionein-II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

|             |                                                                                     |   |                                           |                                           |                                           |                                           |   |                                       |
|-------------|-------------------------------------------------------------------------------------|---|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|---------------------------------------|
|             |                                                                                     |   | E<br>-<br>0<br>4                          | E<br>-<br>0<br>2                          | E<br>-<br>0<br>4                          | E<br>-<br>0<br>2                          |   |                                       |
| 2<br>0<br>7 | <a href="#">cellular response to erythropoietin</a>                                 | 5 | 8<br>.<br>4<br>7<br>0<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>6<br>6<br>E<br>-<br>0<br>2 | 8<br>.<br>4<br>7<br>0<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>6<br>6<br>E<br>-<br>0<br>2 | 2 | Metallothionein-I, Metallothionein-II |
| 2<br>0<br>8 | <a href="#">hypothalamus gonadotrophin-releasing hormone neuron differentiation</a> | 5 | 8<br>.<br>4<br>7<br>0<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>6<br>6<br>E<br>-<br>0<br>2 | 8<br>.<br>4<br>7<br>0<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>6<br>6<br>E<br>-<br>0<br>2 | 2 | Ubiquitin, UBB                        |
| 2<br>0<br>9 | <a href="#">stress response to metal ion</a>                                        | 5 | 8<br>.<br>4<br>7<br>0<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>6<br>6<br>E<br>-<br>0<br>2 | 8<br>.<br>4<br>7<br>0<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>6<br>6<br>E<br>-<br>0<br>2 | 2 | Metallothionein-I, Metallothionein-II |
| 2<br>1<br>0 | <a href="#">negative regulation of photoreceptor cell differentiation</a>           | 5 | 8<br>.<br>4<br>7<br>0<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>6<br>6<br>E<br>-<br>0<br>2 | 8<br>.<br>4<br>7<br>0<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>6<br>6<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor               |
| 2<br>1<br>1 | <a href="#">hypothalamus gonadotrophin-releasing hormone neuron development</a>     | 5 | 8<br>.<br>4<br>7<br>0<br>E<br>-<br>-      | 1<br>.<br>2<br>6<br>6<br>E<br>-<br>-      | 8<br>.<br>4<br>7<br>0<br>E<br>-<br>-      | 1<br>.<br>2<br>6<br>6<br>E<br>-<br>-      | 2 | Ubiquitin, UBB                        |

|             |                                                                            |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                                               |
|-------------|----------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                            |                  | 0<br>4                                    | 0<br>2                                    | 0<br>4                                    | 0<br>2                                    |        |                                                                                                                                                                                                                                                                               |
| 2<br>1<br>2 | <a href="#">development of secondary male sexual characteristics</a>       | 5                | 8<br>.<br>4<br>7<br>0<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>6<br>6<br>E<br>-<br>0<br>2 | 8<br>.<br>4<br>7<br>0<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>6<br>6<br>E<br>-<br>0<br>2 | 2      | STAT5A, STAT5                                                                                                                                                                                                                                                                 |
| 2<br>1<br>3 | <a href="#">mitral valve formation</a>                                     | 5                | 8<br>.<br>4<br>7<br>0<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>6<br>6<br>E<br>-<br>0<br>2 | 8<br>.<br>4<br>7<br>0<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>6<br>6<br>E<br>-<br>0<br>2 | 2      | Notch, NOTCH1 precursor                                                                                                                                                                                                                                                       |
| 2<br>1<br>4 | <a href="#">isoleucine metabolic process</a>                               | 5                | 8<br>.<br>4<br>7<br>0<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>6<br>6<br>E<br>-<br>0<br>2 | 8<br>.<br>4<br>7<br>0<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>6<br>6<br>E<br>-<br>0<br>2 | 2      | STAT5A, STAT5                                                                                                                                                                                                                                                                 |
| 2<br>1<br>5 | <a href="#">protein complex subunit organization</a>                       | 1<br>5<br>9<br>6 | 8<br>.<br>7<br>2<br>5<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>9<br>8<br>E<br>-<br>0<br>2 | 8<br>.<br>7<br>2<br>5<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>9<br>8<br>E<br>-<br>0<br>2 | 2<br>8 | HBG, DCTN2, NASP, ERK1 (MAPK3), RPS27A, Ccdc109a, IMD2, PhLP, Phosphatase regulator (inhibitor), PDXP, ERK1/2, ADSL, ARHGEF10, MYLK1, Kizuna (C20orf19), LCKBP1, GRB2, Rap1GDS1, Tropomodulin, HBGA, Telokin, ST13 (Hip), NUP93, Occludin, Adult hemoglobin, Rich1, RIP, MLCK |
| 2<br>1<br>6 | <a href="#">cytoplasmic pattern recognition receptor signaling pathway</a> | 4<br>6           | 8<br>.<br>7<br>6<br>4<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>9<br>8<br>E<br>-<br>0<br>2 | 8<br>.<br>7<br>6<br>4<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>9<br>8<br>E<br>-<br>0<br>2 | 4      | RPS27A, Ubiquitin, UBC, UBB                                                                                                                                                                                                                                                   |

|     |                                                                     |      |          |          |          |          |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----|---------------------------------------------------------------------|------|----------|----------|----------|----------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 217 | <a href="#">cellular response to hypoxia</a>                        | 165  | 9183EE   | 1353EE   | 9183EE   | 1353EE   | 7  | RPS27A, Ubiquitin, Fatty acid-binding protein, UBC, Notch, UBB, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 218 | <a href="#">cellular biosynthetic process</a>                       | 9491 | 91448EE  | 13448EE  | 91448EE  | 13448EE  | 66 | PEX2, MUC15, LAGY, MIBP, DLC1 (Dynein LC8a), LCORL, GDP-mannose 4,6 dehydratase, TIPIN, SCMH1, STAT5A, RAD1, p38 MAPK, NASP, ERK1 (MAPK3), CERT, STAT5, RBP-J kappa (CBF1), FERD3L, RBP1, BMAL2, UCK1, RPS27A, p38gamma (MAPK12), ZNF397, Ubiquitin, IMD2, EYA1, NANP, Phosphatase regulator (inhibitor), ATP1A3, Fatty acid-binding protein, ERK1/2, ADSL, CRABP2, PQBP-1, Guanylate cyclase A (NPR1), MOCS2(small), GA17, Ajuba, HXK4, DDC, RIFK, ZNF655, COG3, HMBS, UBC, C16orf75, HKR1, Notch, UBB, PAP41, Guanylate cyclase, ARID4A, NOTCH1 precursor, 4E-BP1, SCML1, GINS2, CTP synthase II, RPA4, ZNF397OS, DYNLL, E-FABP, PAIP1, MLX, APOBEC-1, PAF1         |
| 219 | <a href="#">organic substance biosynthetic process</a>              | 587  | 9151E087 | 1351E087 | 9151E087 | 1351E087 | 67 | PEX2, MUC15, LAGY, MIBP, DLC1 (Dynein LC8a), LCORL, GDP-mannose 4,6 dehydratase, TIPIN, SCMH1, STAT5A, RAD1, p38 MAPK, NASP, ERK1 (MAPK3), CERT, STAT5, RBP-J kappa (CBF1), FERD3L, RBP1, BMAL2, UCK1, RPS27A, p38gamma (MAPK12), ZNF397, Ubiquitin, IMD2, EYA1, NANP, Phosphatase regulator (inhibitor), ATP1A3, Fatty acid-binding protein, ERK1/2, ADSL, CRABP2, PQBP-1, Guanylate cyclase A (NPR1), MOCS2(small), GA17, Ajuba, HXK4, DDC, RIFK, ZNF655, COG3, HMBS, UBC, C16orf75, HKR1, Notch, UBB, PAP41, Guanylate cyclase, ARID4A, NOTCH1 precursor, 4E-BP1, SCML1, GINS2, CTP synthase II, RPA4, ZNF397OS, DYNLL, E-FABP, GOCAP1, PAIP1, MLX, APOBEC-1, PAF1 |
| 220 | <a href="#">negative regulation of type I interferon production</a> | 47   | 910E-4   | 130E-4   | 910E-4   | 130E-4   | 4  | RPS27A, Ubiquitin, UBC, UBB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 221 | <a href="#">polysaccharide metabolic process</a>                    | 121  | 9216     | 1327     | 9216     | 1327     | 6  | RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), HXK4, UBC, UBB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

|             |                                                                |  |                            |                               |                               |                               |        |                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------|----------------------------------------------------------------|--|----------------------------|-------------------------------|-------------------------------|-------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                |  | 0<br>E<br>-<br>0<br>4      | 8<br>E<br>-<br>0<br>2         | 0<br>E<br>-<br>0<br>4         | 8<br>E<br>-<br>0<br>2         |        |                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 2<br>2<br>2 | <a href="#">immune system process</a>                          |  | 9<br>.562<br>2697          | 1<br>.372<br>E<br>-<br>0<br>4 | 9<br>.562<br>E<br>-<br>0<br>2 | 1<br>.372<br>E<br>-<br>0<br>2 | 4<br>1 | KLC2, DLC1 (Dynein LC8a), CRK, DCTN2, STAT5A, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), Bim, Metallothionein-I, CERT, STAT5, RBP-J kappa (CBF1), RPS27A, Ubiquitin, IMD2, KAAG1, Kinesin light chain, ERK1/2, Metallothionein-IG, LCKBP1, NEPH2, CrkL, GRB2, Metallothionein-II, UBC, GBP5, Notch, UBB, IGHG1, ARID4A, CALCOCO2, NOTCH1 precursor, GCK(MAP4K2), IL1RN, DYNLL, ACP33, PYDC1 (POP1), Adult hemoglobin, SAP, APOBEC-1 |
| 2<br>2<br>3 | <a href="#">cellular response to decreased oxygen levels</a>   |  | 9<br>.853<br>E<br>167      | 1<br>.406<br>E<br>-<br>0<br>4 | 9<br>.853<br>E<br>-<br>0<br>2 | 1<br>.406<br>E<br>-<br>0<br>2 | 7      | RPS27A, Ubiquitin, Fatty acid-binding protein, UBC, Notch, UBB, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                              |
| 2<br>2<br>4 | <a href="#">response to wounding</a>                           |  | 9<br>.882<br>E<br>145<br>0 | 1<br>.406<br>E<br>-<br>0<br>4 | 9<br>.882<br>E<br>-<br>0<br>2 | 1<br>.406<br>E<br>-<br>0<br>2 | 2<br>6 | Annexin VIII, KLC2, CRK, HBG, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), STAT5, RBP-J kappa (CBF1), Kinesin light chain, Fatty acid-binding protein, ERK1/2, Ajuba, GRB2, HBGA, SAAL1, ANXA8L2, Dysbindin, Notch, Guanylate cyclase, NOTCH1 precursor, IL1RN, E-FABP, Adult hemoglobin, SPRR3, MLCK                                                                                                                                 |
| 2<br>2<br>5 | <a href="#">immune response-activating signal transduction</a> |  | 9<br>.882<br>E<br>445      | 1<br>.406<br>E<br>-<br>0<br>2 | 9<br>.882<br>E<br>-<br>0<br>2 | 1<br>.406<br>E<br>-<br>0<br>2 | 1<br>2 | CRK, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, GRB2, UBC, UBB, IGHG1, ACP33                                                                                                                                                                                                                                                                                                                             |
| 2<br>2<br>6 | <a href="#">mitotic cell cycle process</a>                     |  | 1<br>0<br>85<br>0          | 1<br>4<br>26<br>E             | 1<br>0<br>26<br>E             | 1<br>4<br>26<br>E             | 8      | DLC1 (Dynein LC8a), TIPIN, DCTN2, PPP1R12B, RPS27A, Ubiquitin, EYA1, SNX9, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ARHGEF10, Ajuba, UBC, NUP93, UBB, 4E-BP1, RPA4, DYNLL                                                                                                                                                                                                                               |

|   |                                                               |   |   |   |   |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---|---------------------------------------------------------------|---|---|---|---|---|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                               |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2 | <a href="#">signal transduction in response to DNA damage</a> | 1 | 1 | 1 | 1 | 1 | 6 | p38 MAPK, RPS27A, Ubiquitin, GRB2, UBC, UBB                                                                                                                                                                                                                                                                                                                                                                             |
| 2 |                                                               | 2 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 7 |                                                               | 3 | 0 | 4 | 0 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | 4 | 6 | 4 | 6 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | 1 | 7 | 1 | 7 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2 | <a href="#">organelle organization</a>                        | 2 | 1 | 1 | 1 | 1 | 4 | Annexin VIII, PEX2, LAGY, Reticulon 4, ZNF261, DLC1 (Dynein LC8a), TIPIN, SCMH1, DCTN2, VAMP5, NASP, Bim, CERT, Autophagin-1, Ubiquitin, EYA1, SNX9, XPF, Phosphatase regulator (inhibitor), PDXP, Fatty acid-binding protein, NIP2, ARHGEF10, MYLK1, PQBP-1, Kizuna (C20orf19), LCKBP1, PEX19, Rap1GDS1, BBS9, Tropomodulin, Telokin, NUP93, ANXA8L2, Dysbindin, UBB, ARID4A, DBC1, DYNLL, Rich1, p47, RIP, MLCK, PAF1 |
| 2 |                                                               | 9 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 8 |                                                               | 6 | 0 | 4 | 0 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | 6 | 9 | 6 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2 | <a href="#">positive regulation of wound healing</a>          | 2 | 1 | 1 | 1 | 1 | 3 | MYLK1, Telokin, MLCK                                                                                                                                                                                                                                                                                                                                                                                                    |
| 2 |                                                               | 2 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 9 |                                                               | 2 | 0 | 4 | 0 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | 7 | 9 | 7 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | 5 | 8 | 5 | 8 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2 | <a href="#">protein transport</a>                             | 1 | 1 | 1 | 1 | 1 | 2 | PEX2, VAMP5, GGA1, NASP, ERK1 (MAPK3), RBP-J kappa (CBF1), Autophagin-1, RPS27A, SNX9, Kinesin light chain, Phosphatase regulator (inhibitor), ERK1/2, Syntaxin 16, Rab-9B, PEX19, BBS9, COG3, SNX1, NUP93, Notch, NOTCH1 precursor, GGA, RAB24, COG8, APOBEC-1                                                                                                                                                         |
| 3 |                                                               | 3 | . | . | . | . | 5 |                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 0 |                                                               | 8 | 0 | 4 | 0 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               | 0 | 7 | 9 | 7 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | 7 | 8 | 7 | 8 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2 | <a href="#">astrocyte differentiation</a>                     | 4 | 1 | 1 | 1 | 1 | 4 | Metallothionein-II, HMBS, Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                       |
| 3 |                                                               | 9 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1 |                                                               |   | 1 | 5 | 1 | 5 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | 1 | 4 | 1 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                               |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                         |



|   |                                                                        |   |   |   |   |   |   |                                                                                                                                                                                                        |
|---|------------------------------------------------------------------------|---|---|---|---|---|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                        |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                        |
| 2 |                                                                        |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                        |
| 3 |                                                                        |   | . | . | . | . |   |                                                                                                                                                                                                        |
| 2 |                                                                        |   | 1 | 5 | 1 | 5 |   |                                                                                                                                                                                                        |
| 3 |                                                                        |   | 2 | 5 | 2 | 5 |   |                                                                                                                                                                                                        |
| 2 |                                                                        |   | 5 | 1 | 5 | 1 |   |                                                                                                                                                                                                        |
|   |                                                                        |   | E | E | E | E |   |                                                                                                                                                                                                        |
|   |                                                                        | 8 | - | - | - | - |   |                                                                                                                                                                                                        |
|   |                                                                        | 5 | 0 | 0 | 0 | 0 | 1 |                                                                                                                                                                                                        |
| 2 | <a href="#">wound healing</a>                                          | 7 | 3 | 2 | 3 | 2 | 8 | Annexin VIII, KLC2, CRK, HBG, p38 MAPK, ERK1 (MAPK3), Kinesin light chain, ERK1/2, Ajuba, GRB2, HBGA, ANXA8L2, Dysbindin, Notch, Guanylate cyclase, NOTCH1 precursor, Adult hemoglobin, SPRR3          |
|   |                                                                        |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                        |
|   |                                                                        |   | . | . | . | . |   |                                                                                                                                                                                                        |
|   |                                                                        |   | 1 | 5 | 1 | 5 |   |                                                                                                                                                                                                        |
|   |                                                                        |   | 3 | 5 | 3 | 5 |   |                                                                                                                                                                                                        |
|   |                                                                        |   | 4 | 8 | 4 | 8 |   |                                                                                                                                                                                                        |
|   |                                                                        |   | E | E | E | E |   |                                                                                                                                                                                                        |
| 2 |                                                                        | 9 | - | - | - | - |   |                                                                                                                                                                                                        |
| 3 |                                                                        | 3 | 0 | 0 | 0 | 0 | 1 |                                                                                                                                                                                                        |
| 3 | <a href="#">mitotic cell cycle</a>                                     | 0 | 3 | 2 | 3 | 2 | 9 | DLC1 (Dynein LC8a), TIPIN, DCTN2, PPP1R12B, RPS27A, Ubiquitin, EYA1, SNX9, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ARHGEF10, Ajuba, UBC, NUP93, UBB, 4E-BP1, GINS2, RPA4, DYNLL |
|   |                                                                        |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                        |
|   |                                                                        |   | . | . | . | . |   |                                                                                                                                                                                                        |
|   |                                                                        |   | 1 | 5 | 1 | 5 |   |                                                                                                                                                                                                        |
|   |                                                                        |   | 6 | 9 | 6 | 9 |   |                                                                                                                                                                                                        |
|   |                                                                        |   | 6 | 4 | 6 | 4 |   |                                                                                                                                                                                                        |
|   |                                                                        |   | E | E | E | E |   |                                                                                                                                                                                                        |
| 2 | <a href="#">antigen processing and presentation of peptide antigen</a> | 2 | - | - | - | - |   |                                                                                                                                                                                                        |
| 3 |                                                                        | 7 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                        |
| 4 |                                                                        | 6 | 3 | 2 | 3 | 2 | 9 | KLC2, DLC1 (Dynein LC8a), DCTN2, RPS27A, Ubiquitin, Kinesin light chain, UBC, UBB, DYNLL                                                                                                               |
|   |                                                                        |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                        |
|   |                                                                        |   | . | . | . | . |   |                                                                                                                                                                                                        |
|   |                                                                        |   | 2 | 6 | 2 | 6 |   |                                                                                                                                                                                                        |
|   |                                                                        |   | 1 | 2 | 1 | 2 |   |                                                                                                                                                                                                        |
|   |                                                                        |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                        |
|   |                                                                        |   | E | E | E | E |   |                                                                                                                                                                                                        |
| 2 | <a href="#">positive regulation of organelle organization</a>          | 3 | - | - | - | - |   |                                                                                                                                                                                                        |
| 3 |                                                                        | 9 | 0 | 0 | 0 | 0 | 1 |                                                                                                                                                                                                        |
| 5 |                                                                        | 4 | 3 | 2 | 3 | 2 | 1 | DLC1 (Dynein LC8a), ERK1 (MAPK3), Bim, PDXP, ERK1/2, ARHGEF10, LCKBP1, GRB2, BMF, DYNLL, MLCK                                                                                                          |
|   |                                                                        |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                        |
|   |                                                                        |   | . | . | . | . |   |                                                                                                                                                                                                        |
|   |                                                                        |   | 2 | 6 | 2 | 6 |   |                                                                                                                                                                                                        |
|   |                                                                        |   | 2 | 2 | 2 | 2 |   |                                                                                                                                                                                                        |
|   |                                                                        |   | 6 | 2 | 6 | 2 |   |                                                                                                                                                                                                        |
|   |                                                                        |   | E | E | E | E |   |                                                                                                                                                                                                        |
| 2 |                                                                        | 7 | - | - | - | - |   |                                                                                                                                                                                                        |
| 3 | <a href="#">regulation of MAPK cascade</a>                             | 2 | 0 | 0 | 0 | 0 | 1 | CRK, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, NIP2, CrkL, Ajuba, GRB2, UBC, UBB, GCK(MAP4K2), IL1RN, MLCK                                                                       |
| 6 |                                                                        | 2 | 3 | 2 | 3 | 2 | 6 |                                                                                                                                                                                                        |

|     |                                                                                                        |     |              |              |              |              |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----|--------------------------------------------------------------------------------------------------------|-----|--------------|--------------|--------------|--------------|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 237 | <a href="#">mesenchyme morphogenesis</a>                                                               | 23  | 128E-<br>33  | 1628E-<br>32 | 128E-<br>33  | 1628E-<br>32 | 3  | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 238 | <a href="#">multicellular organismal development</a>                                                   | 523 | 1256E-<br>33 | 1628E-<br>32 | 1256E-<br>33 | 1628E-<br>32 | 73 | MST3, Neurochondrin, PEX2, LAGY, Reticulon 4, ZNF261, DLC1 (Dynein LC8a), SCMH1, Beta crystallin B2, VAMP5, STAT5A, SPRR1A, TIRAP (Mal), RAD1, TCL1A, p38 MAPK, NASP, ERK1 (MAPK3), Bim, Metallothionein-I, CERT, STAT5, EFHD1, RBP-J kappa (CBF1), FERD3L, NHS, p38gamma (MAPK12), Ubiquitin, IMD2, EYA1, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, NIP2, ARHGEF10, MYLK1, CRABP2, Metallothionein-IG, PQBP-1, LCKBP1, SPRR4, NEPH2, CrkL, GRB2, PTP-2, HXK4, DDC, Metallothionein-II, HMBS, Telokin, HKR1, Dysbindin, Notch, ACSBG1, UBB, PAP41, IRX4, Guanylate cyclase, ARID4A, NOTCH1 precursor, 4E-BP1, Sprr2f, BMP1, DYNLL, WWOX, E-FABP, DKK3, Adult hemoglobin, Melusin, RIP, SPRR3, MLCK, PAF1 |
| 239 | <a href="#">regulation of transmembrane receptor protein serine/threonine kinase signaling pathway</a> | 225 | 1262E-<br>35 | 1622E-<br>32 | 1262E-<br>35 | 1622E-<br>32 | 8  | RBP-J kappa (CBF1), RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), UBC, Notch, UBB, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 240 | <a href="#">negative regulation of phospholipase A2 activity</a>                                       | 6   | 1263E-<br>6  | 1623E-<br>2  | 1263E-<br>6  | 1623E-<br>2  | 2  | Annexin VIII, ANXA8L2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 241 | <a href="#">osteoblast fate commitment</a>                                                             | 6   | 1263E-<br>6  | 1623E-<br>2  | 1263E-<br>6  | 1623E-<br>2  | 2  | Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

|             |                                                                                                             |   |                                           |                                           |                                           |                                           |   |                         |
|-------------|-------------------------------------------------------------------------------------------------------------|---|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|-------------------------|
|             |                                                                                                             |   | 0<br>3                                    | 0<br>2                                    | 0<br>3                                    | 0<br>2                                    |   |                         |
| 2<br>4<br>2 | <a href="#">regulation of Golgi inheritance</a>                                                             | 6 | 1<br>.<br>2<br>6<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>2<br>2<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>6<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>2<br>2<br>E<br>-<br>0<br>2 | 2 | ERK1 (MAPK3), ERK1/2    |
| 2<br>4<br>3 | <a href="#">MAPK import into nucleus</a>                                                                    | 6 | 1<br>.<br>2<br>6<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>2<br>2<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>6<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>2<br>2<br>E<br>-<br>0<br>2 | 2 | ERK1 (MAPK3), ERK1/2    |
| 2<br>4<br>4 | <a href="#">positive regulation of transcription from RNA polymerase II promoter in response to hypoxia</a> | 6 | 1<br>.<br>2<br>6<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>2<br>2<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>6<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>2<br>2<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor |
| 2<br>4<br>5 | <a href="#">regulation of pro-B cell differentiation</a>                                                    | 6 | 1<br>.<br>2<br>6<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>2<br>2<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>6<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>2<br>2<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor |
| 2<br>4<br>6 | <a href="#">positive regulation of mast cell proliferation</a>                                              | 6 | 1<br>.<br>2<br>6<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>2<br>2<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>6<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>2<br>2<br>E<br>-<br>0<br>2 | 2 | STAT5A, STAT5           |

|     |                                                                                                   |     |                                           |                                           |                                           |                                           |    |                                                                                                  |
|-----|---------------------------------------------------------------------------------------------------|-----|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|----|--------------------------------------------------------------------------------------------------|
| 247 | <a href="#">cellular lactam metabolic process</a>                                                 | 6   | 1<br>.<br>2<br>6<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>2<br>2<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>6<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>2<br>2<br>E<br>-<br>0<br>2 | 2  | STAT5A, STAT5                                                                                    |
| 248 | <a href="#">regulation of mast cell proliferation</a>                                             | 6   | 1<br>.<br>2<br>6<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>2<br>2<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>6<br>3<br>E<br>-<br>0<br>2 | 1<br>.<br>6<br>2<br>2<br>E<br>-<br>0<br>2 | 2  | STAT5A, STAT5                                                                                    |
| 249 | <a href="#">negative regulation of mast cell apoptotic process</a>                                | 6   | 1<br>.<br>2<br>6<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>2<br>2<br>E<br>-<br>0<br>2 | 1<br>.<br>6<br>2<br>2<br>E<br>-<br>0<br>2 | 1<br>.<br>6<br>2<br>2<br>E<br>-<br>0<br>2 | 2  | STAT5A, STAT5                                                                                    |
| 250 | <a href="#">negative regulation of transforming growth factor beta receptor signaling pathway</a> | 87  | 1<br>.<br>3<br>2<br>5<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>9<br>6<br>E<br>-<br>0<br>2 | 1<br>.<br>3<br>2<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>6<br>9<br>6<br>E<br>-<br>0<br>2 | 5  | RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), UBC, UBB                                   |
| 251 | <a href="#">positive regulation of myeloid cell differentiation</a>                               | 129 | 1<br>.<br>3<br>3<br>1<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>9<br>6<br>E<br>-<br>0<br>2 | 1<br>.<br>3<br>3<br>1<br>E<br>-<br>0<br>2 | 1<br>.<br>6<br>9<br>6<br>E<br>-<br>0<br>2 | 6  | STAT5A, p38 MAPK, STAT5, LCKBP1, Notch, Adult hemoglobin                                         |
| 25  | <a href="#">muscle organ development</a>                                                          | 39  | 1<br>.<br>1<br>.                          | 1<br>.<br>1<br>.                          | 1<br>.<br>1<br>.                          | 1<br>.<br>1<br>.                          | 11 | VAMP5, p38 MAPK, RBP-J kappa (CBF1), p38gamma (MAPK12), MYLK1, Telokin, Dysbindin, Notch, NOTCH1 |

|             |                                                             |   |                                           |                                           |                                                |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------|-------------------------------------------------------------|---|-------------------------------------------|-------------------------------------------|------------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2           |                                                             | 9 | 3<br>4<br>1<br>E<br>-<br>0<br>3           | 7<br>0<br>2<br>E<br>-<br>0<br>2           | 3<br>4<br>1<br>E<br>-<br>0<br>3                | 7<br>0<br>2<br>E<br>-<br>0<br>2           | precursor, Melusin, MLCK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 2<br>5<br>3 | <a href="#">positive regulation of cellular process</a>     |   | 1<br>.<br>3<br>6<br>2<br>4<br>6<br>7<br>5 | 1<br>.<br>7<br>2<br>1<br>E<br>-<br>0<br>3 | 1<br>.<br>3<br>6<br>2<br>1<br>E<br>-<br>0<br>2 | 1<br>.<br>7<br>2<br>1<br>E<br>-<br>0<br>2 | MST3, LAGY, Reticulon 4, DLC1 (Dynein LC8a), TIPIN, CRK, Calpain 1(mu), STAT5A, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), Bim, LASP1, STAT5, RBP-J kappa (CBF1), SMIF, BMAL2, Autophagin-1, RPS27A, p38gamma (MAPK12), Ccdc109a, Ubiquitin, EYA1, SCOCO, PDXP, Fatty acid-binding protein, ERK1/2, NIP2, ARHGEF10, MYLK1, LCKBP1, Guanylate cyclase A (NPR1), CrkL, Ajuba, GRB2, HXK4, UBC, Telokin, Dysbindin, Notch, RAD23A, UBB, BMF, Guanylate cyclase, Cyclophilin E, NOTCH1 precursor, GCK(MAP4K2), 4E-BP1, DBC1, USP5, IL1RN, FAM116A, DYNLL, WWOX, PYDC1 (POP1), Adult hemoglobin, PAIP1, MLX, SAP, APOBEC-1, MLCK, PAF1 |
| 2<br>5<br>4 | <a href="#">cytokine-mediated signaling pathway</a>         |   | 1<br>.<br>3<br>8<br>5<br>E<br>4<br>6<br>3 | 1<br>.<br>7<br>2<br>1<br>E<br>-<br>0<br>3 | 1<br>.<br>3<br>8<br>5<br>E<br>-<br>0<br>2      | 1<br>.<br>7<br>2<br>1<br>E<br>-<br>0<br>2 | STAT5A, TIRAP (Mal), ERK1 (MAPK3), STAT5, RPS27A, Ubiquitin, ERK1/2, Metallothionein-II, UBC, NUP93, UBB, PYDC1 (POP1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 2<br>5<br>5 | <a href="#">inflammatory response to antigenic stimulus</a> |   | 1<br>.<br>3<br>9<br>2<br>E<br>-<br>0<br>2 | 1<br>.<br>7<br>2<br>1<br>E<br>-<br>0<br>3 | 1<br>.<br>3<br>9<br>2<br>E<br>-<br>0<br>2      | 1<br>.<br>7<br>2<br>1<br>E<br>-<br>0<br>2 | RBP-J kappa (CBF1), Notch, NOTCH1 precursor, IL1RN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 2<br>5<br>6 | <a href="#">axon cargo transport</a>                        |   | 1<br>.<br>3<br>9<br>2<br>E<br>-<br>0<br>2 | 1<br>.<br>7<br>2<br>1<br>E<br>-<br>0<br>3 | 1<br>.<br>3<br>9<br>2<br>E<br>-<br>0<br>2      | 1<br>.<br>7<br>2<br>1<br>E<br>-<br>0<br>2 | KLC2, KLC3, Kinesin light chain, Dysbindin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

|     |                                                                          |     |        |        |        |        |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-----|--------------------------------------------------------------------------|-----|--------|--------|--------|--------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 257 | <a href="#">apoptotic process involved in morphogenesis</a>              | 24  | 1393E- | 1393E- | 1393E- | 1393E- | 3  | Bim, Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 258 | <a href="#">cardiac left ventricle morphogenesis</a>                     | 24  | 1393E- | 1393E- | 1393E- | 1393E- | 3  | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 259 | <a href="#">positive regulation of cardiac muscle cell proliferation</a> | 24  | 1393E- | 1393E- | 1393E- | 1393E- | 3  | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 260 | <a href="#">regulation of cellular metabolic process</a>                 | 646 | 1457E  | 1457E  | 1457E  | 1457E  | 80 | PEX2, LAGY, DLC1 (Dynein LC8a), LCORL, TIPIN, SCMH1, CRK, HBG, STAT5A, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), STAT5, RBP-J kappa (CBF1), FERD3L, SMIF, Twinfilin, BMAL2, Autophagin-1, RPS27A, p38gamma (MAPK12), ZNF397, Ubiquitin, EYA1, PhLP, SNX9, SCOCO, XPF, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, NIP2, ARHGEF10, CRABP2, PQBP-1, LCKBP1, Guanylate cyclase A (NPR1), GA17, CrkL, Ajuba, GRB2, HXK4, Rap1GDS1, ZNF655, UBC, HBGA, PCP2, ST13 (Hip), HKR1, Notch, RAD23A, UBB, IRX4, Guanylate cyclase, ARID4A, Cyclophilin E, NOTCH1 precursor, GCK(MAP4K2), 4E-BP1, SCML1, DBC1, USP5, AO7, IL1RN, FAM116A, ZNF397OS, DYNLL, Cystatin B, WWOX, DKK3, PYDC1 (POP1), Adult hemoglobin, PAIP1, MLX, CAMK2N1, Rich1, APOBEC-1, RIP, MLCK, PAF1 |
| 261 | <a href="#">regulation of skeletal muscle fiber development</a>          | 53  | 149E   | 149E   | 149E   | 149E   | 4  | MIBP, p38 MAPK, Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

|     |                                                                                       |        |                     |                     |                     |                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----|---------------------------------------------------------------------------------------|--------|---------------------|---------------------|---------------------|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                                                                                       | -      | -                   | -                   | -                   |                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|     |                                                                                       | 0<br>3 | 0<br>2              | 0<br>3              | 0<br>2              |                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 262 | <a href="#">actin filament-based process</a>                                          | 532    | 1.<br>497E-<br>303  | 1.<br>828E-<br>002  | 1.<br>497E-<br>002  | 1<br><br><br><br><br><br>1<br><br><br><br><br><br>3 | DLC1 (Dynein LC8a), Phosphatase regulator (inhibitor), PDXP, MYLK1, LCKBP1, Rap1GDS1, Tropomodulin, Telokin, Troponin C, skeletal muscle, Dysbindin, DYNLL, Rich1, MLCK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 263 | <a href="#">negative regulation of cellular biosynthetic process</a>                  | 1494   | 1.<br>514E-<br>903  | 1.<br>841E-<br>002  | 1.<br>514E-<br>002  | 2<br><br><br><br><br><br>6                          | PEX2, LAGY, DLC1 (Dynein LC8a), TIPIN, SCMH1, HBG, RBP-J kappa (CBF1), FERD3L, RPS27A, Ubiquitin, Fatty acid-binding protein, LCKBP1, Ajuba, HKX4, UBC, HBGA, Notch, UBB, ARID4A, NOTCH1 precursor, 4E-BP1, DYNLL, DKK3, Adult hemoglobin, MLX, PAF1                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 264 | <a href="#">actin filament organization</a>                                           | 180    | 1.<br>520E-<br>803  | 1.<br>8420E-<br>002 | 1.<br>520E-<br>002  | 7                                                   | Phosphatase regulator (inhibitor), PDXP, MYLK1, LCKBP1, Telokin, Rich1, MLCK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 265 | <a href="#">biosynthetic process</a>                                                  | 5178   | 1.<br>.542E-<br>703 | 1.<br>.861E-<br>203 | 1.<br>.542E-<br>203 | 6<br><br><br><br><br><br>7                          | PEX2, MUC15, LAGY, MIBP, DLC1 (Dynein LC8a), LCORL, GDP-mannose 4,6 dehydratase, TIPIN, SCMH1, STAT5A, RAD1, p38 MAPK, NASP, ERK1 (MAPK3), CERT, STAT5, RBP-J kappa (CBF1), FERD3L, RBP1, BMAL2, UCK1, RPS27A, p38gamma (MAPK12), ZNF397, Ubiquitin, IMD2, EYA1, NANP, Phosphatase regulator (inhibitor), ATP1A3, Fatty acid-binding protein, ERK1/2, ADSL, CRABP2, PQBP-1, Guanylate cyclase A (NPR1), MOCS2(small), GA17, Ajuba, HKX4, DDC, RIFK, ZNF655, COG3, HMBS, UBC, C16orf75, HKR1, Notch, UBB, PAP41, Guanylate cyclase, ARID4A, NOTCH1 precursor, 4E-BP1, SCML1, GINS2, CTP synthase II, RPA4, ZNF397OS, DYNLL, E-FABP, GOCAP1, PAIP1, MLX, APOBEC-1, PAF1 |
| 266 | <a href="#">cell surface receptor signaling pathway involved in heart development</a> | 255    | 1.<br>.57           | 1.<br>.86           | 1.<br>.57           | 3                                                   | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

|             |                                                               |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------|---------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                               |                  | 3<br>E<br>-<br>0<br>3                     | 8<br>E<br>-<br>0<br>2                     | 3<br>E<br>-<br>0<br>3                     | 8<br>E<br>-<br>0<br>2                     |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2<br>6<br>7 | <a href="#">gas transport</a>                                 | 2<br>5           | 1<br>.<br>5<br>7<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>8<br>6<br>8<br>E<br>-<br>0<br>2 | 1<br>.<br>5<br>7<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>8<br>6<br>8<br>E<br>-<br>0<br>2 | 3      | HBG, HBGA, Adult hemoglobin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2<br>6<br>8 | <a href="#">positive regulation of immune response</a>        | 6<br>7<br>0      | 1<br>.<br>5<br>7<br>4<br>E<br>-<br>0<br>3 | 1<br>.<br>8<br>6<br>8<br>E<br>-<br>0<br>2 | 1<br>.<br>5<br>7<br>4<br>E<br>-<br>0<br>3 | 1<br>.<br>8<br>6<br>8<br>E<br>-<br>0<br>2 | 1<br>5 | CRK, STAT5A, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), STAT5, RPS27A, Ubiquitin, ERK1/2, GRB2, UBC, UBB, IGHG1, ACP33, SAP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 2<br>6<br>9 | <a href="#">regulation of macromolecule metabolic process</a> | 6<br>1<br>6<br>3 | 1<br>.<br>5<br>7<br>6<br>E<br>-<br>0<br>3 | 1<br>.<br>8<br>6<br>8<br>E<br>-<br>0<br>2 | 1<br>.<br>5<br>7<br>6<br>E<br>-<br>0<br>3 | 1<br>.<br>8<br>6<br>8<br>E<br>-<br>0<br>2 | 7<br>7 | Annexin VIII, PEX2, LAGY, DLC1 (Dynein LC8a), LCORL, TIPIN, SCMH1, CRK, HBG, STAT5A, TIRAP (Mal), GGA1, p38 MAPK, ERK1 (MAPK3), Bim, STAT5, RBP-J kappa (CBF1), FERD3L, SMIF, Twinfilin, BMAL2, Autophagin-1, RPS27A, p38gamma (MAPK12), ZNF397, Ubiquitin, EYA1, PhLP, XPF, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, CRABP2, PQBP-1, LCKBP1, GA17, CrkL, Ajuba, PEX19, HXK4, ZNF655, COG3, UBC, HBGA, SNX1, ST13 (Hip), HKR1, ANXA8L2, Dysbindin, Notch, RAD23A, UBB, IRX4, ARID4A, Cyclophilin E, NOTCH1 precursor, GCK(MAP4K2), 4E-BP1, SCML1, DBC1, USP5, AO7, GGA, IL1RN, ZNF397OS, DYNLL, Cystatin B, WWOX, DKK3, PYDC1 (POP1), Adult hemoglobin, PAIP1, MLX, CAMK2N1, APOBEC-1, MLCK, PAF1 |
| 2<br>7<br>0 | <a href="#">cellular response to chemical stimulus</a>        | 2<br>9<br>4<br>5 | 1<br>.<br>5<br>7<br>6<br>E<br>-<br>0<br>3 | 1<br>.<br>8<br>6<br>8<br>E<br>-<br>0<br>2 | 1<br>.<br>5<br>7<br>6<br>E<br>-<br>0<br>3 | 1<br>.<br>8<br>6<br>8<br>E<br>-<br>0<br>2 | 4<br>3 | MST3, Reticulon 4, CRK, STAT5A, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), Bim, Metallothionein-I, STAT5, SMIF, RPS27A, p38gamma (MAPK12), Ubiquitin, IMD2, Phosphatase regulator (inhibitor), PDXP, Fatty acid-binding protein, ERK1/2, Metallothionein-IG, LCKBP1, CrkL, GRB2, HXK4, DDC, Metallothionein-II, HMBS, UBC, GBP5, NUP93, Notch, UBB, Guanylate cyclase, NOTCH1 precursor, 4E-BP1, Metallothionein-1M, IL1RN, WWOX, PYDC1 (POP1), Adult hemoglobin, APOBEC-1, MLCK, PAF1                                                                                                                                                                                                                                                |



|   |                                                    |   |   |   |   |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---|----------------------------------------------------|---|---|---|---|---|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2 |                                                    |   | 1 | 1 | 1 | 1 |   | MST3, Neurochondrin, PEX2, LAGY, Reticulon 4, DLC1 (Dynein LC8a), Beta crystallin B2, VAMP5, STAT5A, SPRR1A, TIRAP (Mal), RAD1, p38 MAPK, ERK1 (MAPK3), Bim, Metallothionein-I, CERT, STAT5, EFHD1, RBP-J kappa (CBF1), FERD3L, NHS, p38gamma (MAPK12), Ubiquitin, IMD2, EYA1, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, NIP2, ARHGEF10, MYLK1, CRABP2, Metallothionein-IG, PQBP-1, LCKBP1, SPRR4, NEPH2, CrkL, GRB2, PTP-2, HXK4, Metallothionein-II, HMBS, Telokin, Dysbindin, Notch, ACSBG1, UBB, PAP41, IRX4, Guanylate cyclase, ARID4A, NOTCH1 precursor, 4E-BP1, Sprr2f, BMP1, DYNLL, WWOX, E-FABP, DKK3, Adult hemoglobin, Melusin, SPRR3, MLCK |
| 7 | <a href="#">system development</a>                 | 4 | E | E | E | E | 6 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1 |                                                    | 9 | - | - | - | - | 5 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                    | 9 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                    | 0 | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2 |                                                    |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 7 |                                                    |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2 | <a href="#">positive regulation of signaling</a>   | 5 | 8 | 5 | 8 |   | 2 | CRK, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), Bim, LASP1, RBP-J kappa (CBF1), RPS27A, Ubiquitin, EYA1, ERK1/2, NIP2, LCKBP1, CrkL, Ajuba, GRB2, UBC, Notch, UBB, BMF, NOTCH1 precursor, GCK(MAP4K2), IL1RN, WWOX, SAP                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|   |                                                    | 9 | 7 | 9 | 7 |   | 5 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                    | 9 | 2 | 9 | 2 |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                    | 1 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                    | 4 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                    | 2 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                    | 0 | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2 |                                                    |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 7 | <a href="#">negative regulation of growth</a>      |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 3 |                                                    | 6 | 8 | 6 | 8 |   | 9 | Reticulon 4, TIRAP (Mal), Metallothionein-I, Metallothionein-IG, Guanylate cyclase A (NPR1), Metallothionein-II, Guanylate cyclase, RRAD, Metallothionein-1M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|   |                                                    | 0 | 7 | 0 | 7 |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                    | 2 | 2 | 2 | 2 |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                    | E | E | E | E |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                    | 2 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                    | 8 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                    | 9 | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2 |                                                    |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 7 | <a href="#">regulation of mRNA stability</a>       |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 4 |                                                    | 6 | 8 | 6 | 8 |   | 4 | TIRAP (Mal), p38 MAPK, PAIP1, APOBEC-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                    | 0 | 7 | 0 | 7 |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                    | 3 | 2 | 3 | 2 |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                    | E | E | E | E |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                    | - | - | - | - |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                    | 5 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                    | 4 | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2 |                                                    |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 7 | <a href="#">cellular response to oxygen levels</a> |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 5 |                                                    | 6 | 8 | 6 | 8 |   | 7 | RPS27A, Ubiquitin, Fatty acid-binding protein, UBC, Notch, UBB, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|   |                                                    | 1 | 8 | 1 | 8 |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                    | 9 | 3 | 9 | 3 |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                    | 1 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                    | 8 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                    | 2 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

|             |                                                                                          |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------|------------------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                                          |                  | 3                                         | 2                                         | 3                                         | 2                                         |        |                                                                                                                                                                                                                                                                                                                                                                                                  |
| 2<br>7<br>6 | <a href="#">cytoskeleton organization</a>                                                | 9<br>6<br>1      | 1<br>.<br>6<br>5<br>4<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>1<br>7<br>E<br>-<br>0<br>2 | 1<br>.<br>6<br>5<br>4<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>1<br>7<br>E<br>-<br>0<br>2 | 1<br>9 | ZNF261, DLC1 (Dynein LC8a), DCTN2, EYA1, Phosphatase regulator (inhibitor), PDXP, NIP2, ARHGEF10, MYLK1, Kizuna (C20orf19), LCKBP1, Rap1GDS1, Tropomodulin, Telokin, Dysbindin, DYNLL, Rich1, RIP, MLCK                                                                                                                                                                                          |
| 2<br>7<br>7 | <a href="#">transmembrane receptor protein serine/threonine kinase signaling pathway</a> | 2<br>9<br>1      | 1<br>.<br>6<br>7<br>9<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>3<br>9<br>E<br>-<br>0<br>2 | 1<br>.<br>6<br>7<br>9<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>3<br>9<br>E<br>-<br>0<br>2 | 9      | p38 MAPK, ERK1 (MAPK3), SMIF, RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), ERK1/2, UBC, UBB                                                                                                                                                                                                                                                                                             |
| 2<br>7<br>8 | <a href="#">regulation of phosphate metabolic process</a>                                | 2<br>2<br>5<br>7 | 1<br>.<br>7<br>1<br>8<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>7<br>1<br>8<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2 | 3<br>5 | DLC1 (Dynein LC8a), CRK, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), Twinfilin, RPS27A, Ubiquitin, SNX9, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, NIP2, ARHGEF10, LCKBP1, Guanylate cyclase A (NPR1), CrkL, Ajuba, GRB2, HXK4, Rap1GDS1, UBC, PCP2, UBB, Guanylate cyclase, GCK(MAP4K2), IL1RN, FAM116A, DYNLL, PYDC1 (POP1), Adult hemoglobin, CAMK2N1, Rich1, RIP, MLCK |
| 2<br>7<br>9 | <a href="#">growth involved in heart morphogenesis</a>                                   | 7                | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2 | 2      | Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                          |
| 2<br>8<br>0 | <a href="#">allantoin metabolic process</a>                                              | 7                | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2 | 2      | STAT5A, STAT5                                                                                                                                                                                                                                                                                                                                                                                    |

|     |                                                   |   |                                           |                                           |                                           |                                           |   |                                       |
|-----|---------------------------------------------------|---|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|---------------------------------------|
| 281 | <a href="#">pericardium morphogenesis</a>         | 7 | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor               |
| 282 | <a href="#">cellular response to copper ion</a>   | 7 | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2 | 2 | Metallothionein-I, Metallothionein-IG |
| 283 | <a href="#">endocardial cell differentiation</a>  | 7 | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor               |
| 284 | <a href="#">cardiac right ventricle formation</a> | 7 | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor               |
| 285 | <a href="#">fat pad development</a>               | 7 | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2 | 2 | Ubiquitin, UBB                        |
| 288 | <a href="#">aortic valve morphogenesis</a>        | 7 | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor               |

|             |                                                           |             |                                           |                                           |                                           |                                                |        |                                                                                                                                            |
|-------------|-----------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------|
| 6           |                                                           |             | 7<br>5<br>7<br>E<br>-<br>0<br>3           | 9<br>4<br>5<br>E<br>-<br>0<br>2           | 7<br>5<br>7<br>E<br>-<br>0<br>3           | 9<br>4<br>5<br>E<br>-<br>0<br>2                |        |                                                                                                                                            |
| 2<br>8<br>7 | <a href="#">regulation of mast cell apoptotic process</a> | 7           | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2      | 2      | STAT5A, STAT5                                                                                                                              |
| 2<br>8<br>8 | <a href="#">caveolin-mediated endocytosis</a>             | 7           | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2      | 2      | ERK1 (MAPK3), ERK1/2                                                                                                                       |
| 2<br>8<br>9 | <a href="#">aortic valve development</a>                  | 7           | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2      | 2      | Notch, NOTCH1 precursor                                                                                                                    |
| 2<br>9<br>0 | <a href="#">DNA-templated transcription, initiation</a>   | 2<br>9<br>7 | 1<br>.<br>9<br>3<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>2<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>9<br>3<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>9<br>2<br>5<br>E<br>-<br>0<br>2 | 9      | ERK1 (MAPK3), RBP-J kappa (CBF1), RPS27A, Ubiquitin, ERK1/2, UBC, Notch, UBB, NOTCH1 precursor                                             |
| 2<br>9<br>1 | <a href="#">actin cytoskeleton organization</a>           | 4<br>8<br>2 | 1<br>.<br>9<br>3<br>2                     | 2<br>.<br>1<br>9<br>2<br>3                | 1<br>.<br>9<br>1<br>3<br>2                | 2<br>.<br>1<br>9<br>1<br>3                     | 1<br>2 | DLC1 (Dynein LC8a), Phosphatase regulator (inhibitor), PDXP, MYLK1, LCKBP1, Rap1GDS1, Tropomodulin, Telokin, Dysbindin, DYNLL, Rich1, MLCK |

|             |                                                                                                      |             |                                           |                                                |                                           |                                                |        |                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------|------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------|------------------------------------------------|-------------------------------------------|------------------------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                                                      |             | 8<br>E<br>-<br>0<br>3                     | 5<br>E<br>-<br>0<br>2                          | 8<br>E<br>-<br>0<br>3                     | 5<br>E<br>-<br>0<br>2                          |        |                                                                                                                                                                                                                                                                                                                                                                                                  |
| 2<br>9<br>2 | <a href="#">regulation of RNA stability</a>                                                          | 5<br>7      | 1<br>.<br>9<br>5<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>2<br>5<br>9<br>E<br>-<br>0<br>2 | 1<br>.<br>9<br>5<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>2<br>5<br>9<br>E<br>-<br>0<br>2 | 4      | TIRAP (Mal), p38 MAPK, PAIP1, APOBEC-1                                                                                                                                                                                                                                                                                                                                                           |
| 2<br>9<br>3 | <a href="#">nucleotide-binding domain, leucine rich repeat containing receptor signaling pathway</a> | 5<br>7      | 1<br>.<br>9<br>5<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>2<br>5<br>9<br>E<br>-<br>0<br>2 | 1<br>.<br>9<br>5<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>2<br>5<br>9<br>E<br>-<br>0<br>2 | 4      | RPS27A, Ubiquitin, UBC, UBB                                                                                                                                                                                                                                                                                                                                                                      |
| 2<br>9<br>4 | <a href="#">regulation of erythrocyte differentiation</a>                                            | 5<br>7      | 1<br>.<br>9<br>5<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>2<br>5<br>9<br>E<br>-<br>0<br>2 | 1<br>.<br>9<br>5<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>2<br>5<br>9<br>E<br>-<br>0<br>2 | 4      | STAT5A, p38 MAPK, STAT5, Adult hemoglobin                                                                                                                                                                                                                                                                                                                                                        |
| 2<br>9<br>5 | <a href="#">regulation of phosphorus metabolic process</a>                                           | 2<br>7<br>5 | 1<br>.<br>9<br>6<br>5<br>2<br>2<br>7<br>5 | 2<br>.<br>1<br>2<br>6<br>5<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>6<br>5<br>E<br>-<br>0<br>2 | 2<br>.<br>1<br>2<br>6<br>5<br>E<br>-<br>0<br>3 | 3<br>5 | DLC1 (Dynein LC8a), CRK, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), Twinfilin, RPS27A, Ubiquitin, SNX9, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, NIP2, ARHGEF10, LCKBP1, Guanylate cyclase A (NPR1), CrkL, Ajuba, GRB2, HXK4, Rap1GDS1, UBC, PCP2, UBB, Guanylate cyclase, GCK(MAP4K2), IL1RN, FAM116A, DYNLL, PYDC1 (POP1), Adult hemoglobin, CAMK2N1, Rich1, RIP, MLCK |
| 2<br>9<br>6 | <a href="#">epithelial cell fate commitment</a>                                                      | 2<br>7      | 1<br>.<br>9<br>7<br>3<br>E                | 2<br>.<br>1<br>2<br>7<br>5<br>E                | 1<br>.<br>9<br>7<br>3<br>E                | 2<br>.<br>1<br>2<br>7<br>5<br>E                | 3      | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                      |

|   |                                                                            |   |   |   |   |   |   |                                                                                                                                                                                                                                            |
|---|----------------------------------------------------------------------------|---|---|---|---|---|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                            |   | - | - | - | - |   |                                                                                                                                                                                                                                            |
|   |                                                                            |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                            |
|   |                                                                            |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                            |
| 2 |                                                                            |   | 1 | 2 | 1 | 2 |   |                                                                                                                                                                                                                                            |
| 9 |                                                                            |   | . | . | . | . |   |                                                                                                                                                                                                                                            |
| 7 | <a href="#">hair follicle maturation</a>                                   | 2 | 9 | 1 | 9 | 1 | 3 | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                                                                |
|   |                                                                            | 7 | 7 | 2 | 7 | 2 |   |                                                                                                                                                                                                                                            |
|   |                                                                            |   | 3 | 5 | 3 | 5 |   |                                                                                                                                                                                                                                            |
|   |                                                                            |   | E | E | E | E |   |                                                                                                                                                                                                                                            |
|   |                                                                            |   | - | - | - | - |   |                                                                                                                                                                                                                                            |
|   |                                                                            |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                            |
|   |                                                                            |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                            |
| 2 |                                                                            |   | 2 | 2 | 2 | 2 |   |                                                                                                                                                                                                                                            |
| 9 |                                                                            |   | . | . | . | . |   |                                                                                                                                                                                                                                            |
| 8 | <a href="#">cellular response to abiotic stimulus</a>                      | 3 | 0 | 1 | 0 | 1 | 1 | RAD1, p38 MAPK, ERK1 (MAPK3), ERK1/2, MYLK1, GRB2, Telokin, PCP2, Guanylate cyclase, MLCK                                                                                                                                                  |
|   |                                                                            | 8 | 0 | 4 | 0 | 4 | 0 |                                                                                                                                                                                                                                            |
|   |                                                                            |   | 2 | 9 | 2 | 9 |   |                                                                                                                                                                                                                                            |
|   |                                                                            |   | E | E | E | E |   |                                                                                                                                                                                                                                            |
|   |                                                                            |   | - | - | - | - |   |                                                                                                                                                                                                                                            |
|   |                                                                            |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                            |
|   |                                                                            |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                            |
| 2 |                                                                            |   | 2 | 2 | 2 | 2 |   |                                                                                                                                                                                                                                            |
| 9 |                                                                            |   | . | . | . | . |   |                                                                                                                                                                                                                                            |
| 9 | <a href="#">monosaccharide metabolic process</a>                           | 2 | 0 | 1 | 0 | 1 | 9 | p38 MAPK, RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), Fatty acid-binding protein, HXK4, UBC, UBB, E-FABP                                                                                                                         |
|   |                                                                            | 9 | 1 | 6 | 1 | 6 |   |                                                                                                                                                                                                                                            |
|   |                                                                            |   | 9 | 0 | 9 | 0 |   |                                                                                                                                                                                                                                            |
|   |                                                                            |   | E | E | E | E |   |                                                                                                                                                                                                                                            |
|   |                                                                            |   | - | - | - | - |   |                                                                                                                                                                                                                                            |
|   |                                                                            |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                            |
|   |                                                                            |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                            |
| 3 |                                                                            |   | 2 | 2 | 2 | 2 |   |                                                                                                                                                                                                                                            |
| 0 |                                                                            |   | . | . | . | . |   |                                                                                                                                                                                                                                            |
| 0 | <a href="#">negative regulation of nitrogen compound metabolic process</a> | 1 | 0 | 1 | 0 | 1 | 2 | PEX2, LAGY, DLC1 (Dynein LC8a), TIPIN, SCM1, HBG, RBP-J kappa (CBF1), FERD3L, RPS27A, Ubiquitin, XPF, Fatty acid-binding protein, LCKBP1, Ajuba, UBC, HBGA, Notch, UBB, ARID4A, NOTCH1 precursor, DYNLL, DKK3, Adult hemoglobin, MLX, PAF1 |
|   |                                                                            | 4 | 4 | 7 | 4 | 7 | 5 |                                                                                                                                                                                                                                            |
|   |                                                                            | 4 | 6 | 9 | 6 | 9 |   |                                                                                                                                                                                                                                            |
|   |                                                                            | 6 | E | E | E | E |   |                                                                                                                                                                                                                                            |
|   |                                                                            |   | - | - | - | - |   |                                                                                                                                                                                                                                            |
|   |                                                                            |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                            |
|   |                                                                            |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                            |
| 3 |                                                                            |   | 2 | 2 | 2 | 2 |   |                                                                                                                                                                                                                                            |
| 0 |                                                                            |   | . | . | . | . |   |                                                                                                                                                                                                                                            |
| 1 | <a href="#">ribonucleoside monophosphate biosynthetic process</a>          | 9 | 0 | 1 | 0 | 1 | 5 | UCK1, IMD2, ATP1A3, ADL1, RIFK                                                                                                                                                                                                             |
|   |                                                                            | 6 | 5 | 7 | 5 | 7 |   |                                                                                                                                                                                                                                            |
|   |                                                                            |   | 0 | 9 | 0 | 9 |   |                                                                                                                                                                                                                                            |
|   |                                                                            |   | E | E | E | E |   |                                                                                                                                                                                                                                            |
|   |                                                                            |   | - | - | - | - |   |                                                                                                                                                                                                                                            |
|   |                                                                            |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                            |

|   |                                                                                                                     |   |   |   |   |   |   |                                                                                                                                                                                                                                                                  |
|---|---------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                                                                     |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                  |
| 3 | <a href="#">response to growth hormone</a>                                                                          | 5 | 2 | 2 | 2 | 2 | 4 | STAT5A, ERK1 (MAPK3), STAT5, ERK1/2                                                                                                                                                                                                                              |
| 0 |                                                                                                                     | 8 | . | . | . | . |   |                                                                                                                                                                                                                                                                  |
| 2 |                                                                                                                     | 8 | 0 | 2 | 0 | 2 |   |                                                                                                                                                                                                                                                                  |
|   |                                                                                                                     | 9 | 8 | 1 | 8 | 1 |   |                                                                                                                                                                                                                                                                  |
|   |                                                                                                                     | E | 9 | 3 | 9 | 3 |   |                                                                                                                                                                                                                                                                  |
|   |                                                                                                                     | - | E | E | E | E |   |                                                                                                                                                                                                                                                                  |
|   |                                                                                                                     | 0 | - | - | - | - |   |                                                                                                                                                                                                                                                                  |
|   |                                                                                                                     | 8 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                  |
|   |                                                                                                                     |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                  |
| 3 | <a href="#">apoptotic process involved in development</a>                                                           | 2 | 2 | 2 | 2 | 2 | 3 | Bim, Notch, NOTCH1 precursor                                                                                                                                                                                                                                     |
| 0 |                                                                                                                     | 8 | . | . | . | . |   |                                                                                                                                                                                                                                                                  |
| 3 |                                                                                                                     |   | 1 | 3 | 1 | 3 |   |                                                                                                                                                                                                                                                                  |
|   |                                                                                                                     |   | 9 | 1 | 9 | 1 |   |                                                                                                                                                                                                                                                                  |
|   |                                                                                                                     |   | 5 | 7 | 5 | 7 |   |                                                                                                                                                                                                                                                                  |
|   |                                                                                                                     |   | E | E | E | E |   |                                                                                                                                                                                                                                                                  |
|   |                                                                                                                     |   | - | - | - | - |   |                                                                                                                                                                                                                                                                  |
|   |                                                                                                                     | 5 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                  |
| 4 | <a href="#">regulation of mitochondrial outer membrane permeabilization involved in apoptotic signaling pathway</a> | 9 | 2 | 3 | 2 | 3 | 4 | DLC1 (Dynein LC8a), Bim, BMF, DYNLL                                                                                                                                                                                                                              |
|   |                                                                                                                     |   | 2 | 4 | 2 | 4 |   |                                                                                                                                                                                                                                                                  |
|   |                                                                                                                     |   | 5 | 2 | 5 | 2 |   |                                                                                                                                                                                                                                                                  |
|   |                                                                                                                     |   | E | E | E | E |   |                                                                                                                                                                                                                                                                  |
|   |                                                                                                                     |   | - | - | - | - |   |                                                                                                                                                                                                                                                                  |
|   |                                                                                                                     | 9 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                  |
|   |                                                                                                                     | 8 | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                  |
| 3 | <a href="#">regulation of epidermal growth factor receptor signaling pathway</a>                                    |   | 2 | 2 | 2 | 2 | 5 | RPS27A, Ubiquitin, GRB2, UBC, UBB                                                                                                                                                                                                                                |
| 0 |                                                                                                                     |   | . | . | . | . |   |                                                                                                                                                                                                                                                                  |
| 5 |                                                                                                                     |   | 2 | 3 | 2 | 3 |   |                                                                                                                                                                                                                                                                  |
|   |                                                                                                                     |   | 4 | 5 | 4 | 5 |   |                                                                                                                                                                                                                                                                  |
|   |                                                                                                                     |   | 4 | 0 | 4 | 0 |   |                                                                                                                                                                                                                                                                  |
|   |                                                                                                                     |   | E | E | E | E |   |                                                                                                                                                                                                                                                                  |
|   |                                                                                                                     |   | - | - | - | - |   |                                                                                                                                                                                                                                                                  |
|   |                                                                                                                     | 1 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                  |
|   |                                                                                                                     | 2 | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                  |
|   |                                                                                                                     | 1 | 0 | 0 | 0 | 0 | 2 |                                                                                                                                                                                                                                                                  |
| 6 | <a href="#">negative regulation of molecular function</a>                                                           | 8 | 2 | 2 | 2 | 2 | 2 | Annexin VIII, DLC1 (Dynein LC8a), ERK1 (MAPK3), RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, Ajuba, PEX19, UBC, ANXA8L2, Notch, UBB, PAP41, NOTCH1 precursor, DBC1, IL1RN, DYNLL, Cystatin B, PYDC1 (POP1), CAMK2N1 |

|     |                                                                          |      |                                           |                                           |                                           |                                           |    |                                                                                                                                                                                                                                                     |
|-----|--------------------------------------------------------------------------|------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 307 | <a href="#">positive regulation of intracellular signal transduction</a> | 913  | 2<br>.<br>2<br>5<br>6<br>E                | 2<br>.<br>3<br>5<br>1<br>E                | 2<br>.<br>2<br>5<br>6<br>E                | 2<br>.<br>3<br>5<br>1<br>E                | 18 | CRK, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), Bim, RPS27A, Ubiquitin, ERK1/2, NIP2, LCKBP1, Ajuba, UBC, Notch, UBB, BMF, NOTCH1 precursor, GCK(MAP4K2), IL1RN                                                                                           |
| 308 | <a href="#">negative regulation of biosynthetic process</a>              | 1538 | 2<br>.<br>2<br>6<br>5<br>1<br>5<br>3<br>8 | 2<br>.<br>3<br>5<br>3<br>E<br>-<br>0<br>2 | 2<br>.<br>2<br>6<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>5<br>3<br>E<br>-<br>0<br>2 | 26 | PEX2, LAGY, DLC1 (Dynein LC8a), TIPIN, SCM1, HBG, RBP-J kappa (CBF1), FERD3L, RPS27A, Ubiquitin, Fatty acid-binding protein, LCKBP1, Ajuba, HXK4, UBC, HBGA, Notch, UBB, ARID4A, NOTCH1 precursor, 4E-BP1, DYNLL, DKK3, Adult hemoglobin, MLX, PAF1 |
| 309 | <a href="#">response to hypoxia</a>                                      | 427  | 2<br>.<br>2<br>8<br>2<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>6<br>2<br>E<br>-<br>0<br>2 | 2<br>.<br>2<br>8<br>2<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>6<br>2<br>E<br>-<br>0<br>2 | 11 | STAT5, RPS27A, Ubiquitin, Fatty acid-binding protein, ADSL, Ajuba, HMBS, UBC, Notch, UBB, NOTCH1 precursor                                                                                                                                          |
| 310 | <a href="#">regulation of photoreceptor cell differentiation</a>         | 8    | 2<br>.<br>3<br>2<br>8<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>6<br>3<br>E<br>-<br>0<br>2 | 2<br>.<br>3<br>2<br>8<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>6<br>3<br>E<br>-<br>0<br>2 | 2  | Notch, NOTCH1 precursor                                                                                                                                                                                                                             |
| 311 | <a href="#">taurine metabolic process</a>                                | 8    | 2<br>.<br>3<br>2<br>8<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>6<br>3<br>E<br>-<br>0<br>2 | 2<br>.<br>3<br>2<br>8<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>6<br>3<br>E<br>-<br>0<br>2 | 2  | STAT5A, STAT5                                                                                                                                                                                                                                       |
| 311 | <a href="#">positive regulation of histone phosphorylation</a>           | 8    | 2<br>.<br>2<br>.<br>2<br>.<br>2<br>.      | 2<br>.<br>2<br>.<br>2<br>.<br>2<br>.      | 2<br>.<br>2<br>.<br>2<br>.<br>2<br>.      | 2<br>.<br>2<br>.<br>2<br>.<br>2<br>.      | 2  | ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                                                |



|             |                                                                         |                  |                                      |                                      |                                      |                                      |             |                                                                                                                                                                                                                                                                   |
|-------------|-------------------------------------------------------------------------|------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2           |                                                                         |                  | 3<br>2<br>8<br>E<br>-<br>0<br>3      | 3<br>6<br>3<br>E<br>-<br>0<br>2      | 3<br>2<br>8<br>E<br>-<br>0<br>3      | 3<br>6<br>3<br>E<br>-<br>0<br>2      |             |                                                                                                                                                                                                                                                                   |
| 3<br>1<br>3 | <a href="#">compartment pattern specification</a>                       | 8                | 2<br>3<br>2<br>8<br>E<br>-<br>0<br>3 | 2<br>3<br>6<br>3<br>E<br>-<br>0<br>2 | 2<br>3<br>2<br>8<br>E<br>-<br>0<br>3 | 2<br>3<br>6<br>3<br>E<br>-<br>0<br>2 | 2           | Notch, NOTCH1 precursor                                                                                                                                                                                                                                           |
| 3<br>1<br>4 | <a href="#">regulation of early endosome to late endosome transport</a> | 8                | 2<br>3<br>2<br>8<br>E<br>-<br>0<br>3 | 2<br>3<br>6<br>3<br>E<br>-<br>0<br>2 | 2<br>3<br>2<br>8<br>E<br>-<br>0<br>3 | 2<br>3<br>6<br>3<br>E<br>-<br>0<br>2 | 2           | ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                                                              |
| 3<br>1<br>5 | <a href="#">cardiac vascular smooth muscle cell development</a>         | 8                | 2<br>3<br>2<br>8<br>E<br>-<br>0<br>3 | 2<br>3<br>6<br>3<br>E<br>-<br>0<br>2 | 2<br>3<br>2<br>8<br>E<br>-<br>0<br>3 | 2<br>3<br>6<br>3<br>E<br>-<br>0<br>2 | 2           | Notch, NOTCH1 precursor                                                                                                                                                                                                                                           |
| 3<br>1<br>6 | <a href="#">apoptotic process</a>                                       | 1<br>3<br>8<br>0 | 2<br>3<br>4<br>E<br>-<br>0<br>3      | 2<br>3<br>6<br>3<br>E<br>-<br>0<br>2 | 2<br>3<br>4<br>E<br>-<br>0<br>3      | 2<br>3<br>6<br>3<br>E<br>-<br>0<br>2 | 2<br>4      | MST3, Reticulon 4, DLC1 (Dynein LC8a), p38 MAPK, ERK1 (MAPK3), Bim, RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, NIP2, RIFK, UBC, CED-6, Notch, UBB, BMF, NOTCH1 precursor, DBC1, DYNLL, Occludin, WWOX, Galectin-13 |
| 3<br>1<br>7 | <a href="#">establishment of protein localization</a>                   | 1<br>4<br>6<br>1 | 2<br>3<br>6<br>4                     | 2<br>3<br>3<br>7                     | 2<br>3<br>3<br>4                     | 2<br>3<br>3<br>7                     | 2<br>2<br>5 | PEX2, VAMP5, GGA1, NASP, ERK1 (MAPK3), RBP-J kappa (CBF1), Autophagin-1, RPS27A, SNX9, Kinesin light chain, Phosphatase regulator (inhibitor), ERK1/2, Syntaxin 16, Rab-9B, PEX19, BBS9, COG3, SNX1, NUP93, Notch,                                                |

|             |                                                              |                  |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------|--------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                              |                  | 9<br>E<br>-<br>0<br>3                     | 0<br>E<br>-<br>0<br>2                     | 9<br>E<br>-<br>0<br>3                     | 0<br>E<br>-<br>0<br>2                     | NOTCH1 precursor, GGA, RAB24, COG8, APOBEC-1                                                                                                                                                                                                                                                                                                                                                   |
| 3<br>1<br>8 | <a href="#">organonitrogen compound biosynthetic process</a> | 7<br>0<br>0      | 2<br>.<br>3<br>9<br>8<br>E<br>-<br>0<br>0 | 2<br>.<br>4<br>1<br>2<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>9<br>8<br>E<br>-<br>0<br>2 | 2<br>.<br>4<br>1<br>2<br>E<br>-<br>0<br>2 | MIBP, CERT, UCK1, IMD2, ATP1A3, Fatty acid-binding protein, ADSL, Guanylate cyclase A (NPR1), MOCS2(small), DDC, RIFK, HMBS, Guanylate cyclase, CTP synthase II, E-FABP                                                                                                                                                                                                                        |
| 3<br>1<br>9 | <a href="#">regulation of protein oligomerization</a>        | 2<br>9           | 2<br>.<br>4<br>3<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>4<br>3<br>8<br>E<br>-<br>0<br>2 | 2<br>.<br>4<br>3<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>4<br>3<br>8<br>E<br>-<br>0<br>2 | Bim, SNX9, BMF                                                                                                                                                                                                                                                                                                                                                                                 |
| 3<br>2<br>0 | <a href="#">regulation of catalytic activity</a>             | 2<br>5<br>6<br>7 | 2<br>.<br>4<br>4<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>4<br>3<br>8<br>E<br>-<br>0<br>2 | 2<br>.<br>4<br>4<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>4<br>3<br>8<br>E<br>-<br>0<br>2 | SAE1, Annexin VIII, DLC1 (Dynein LC8a), CRK, PPP1R12B, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), Bim, RPS27A, Ubiquitin, SNX9, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, NIP2, ARHGEF10, CrkL, Ajuba, RIFK, Rap1GDS1, UBC, PCP2, ANXA8L2, Notch, UBB, PAP41, NOTCH1 precursor, GCK(MAP4K2), DBC1, IL1RN, FAM116A, DYNLL, Cystatin B, PYDC1 (POP1), CAMK2N1, Rich1, RIP |
| 3<br>2<br>1 | <a href="#">protein localization</a>                         | 1<br>8<br>7<br>8 | 2<br>.<br>4<br>4<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>4<br>3<br>8<br>E<br>-<br>0<br>2 | 2<br>.<br>4<br>4<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>4<br>3<br>8<br>E<br>-<br>0<br>2 | PEX2, VAMP5, GGA1, NASP, ERK1 (MAPK3), RBP-J kappa (CBF1), Twinfilin, Autophagin-1, RPS27A, CDC4L, EYA1, SNX9, Kinesin light chain, Phosphatase regulator (inhibitor), ERK1/2, Syntaxin 16, Ajuba, Rab-9B, PTP-2, PEX19, BBS9, COG3, SNX1, NUP93, Notch, NOTCH1 precursor, GGA, RAB24, COG8, APOBEC-1                                                                                          |
| 3<br>2<br>2 | <a href="#">epidermal cell differentiation</a>               | 1<br>9<br>6      | 2<br>.<br>4<br>6<br>9<br>E                | 2<br>.<br>4<br>4<br>5<br>E                | 2<br>.<br>4<br>6<br>1<br>E                | 2<br>.<br>4<br>4<br>5<br>E                | SPRR1A, RBP-J kappa (CBF1), SPRR4, Notch, NOTCH1 precursor, Sprr2f, SPRR3                                                                                                                                                                                                                                                                                                                      |

|   |                                                              |   |   |   |   |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---|--------------------------------------------------------------|---|---|---|---|---|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                              |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 3 | <a href="#">regulation of body fluid levels</a>              | 8 | 2 | 2 | 2 | 2 | 1 | Annexin VIII, KLC2, CRK, HBG, STAT5A, p38 MAPK, ERK1 (MAPK3), STAT5, Kinesin light chain, ERK1/2, Guanylate cyclase A (NPR1), GRB2, HBGA, ANXA8L2, Dysbindin, Guanylate cyclase, Adult hemoglobin                                                                                                                                                                                                                                                                                                          |
| 2 |                                                              | 4 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 3 |                                                              | 7 | 4 | 4 | 4 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | 8 | 5 | 8 | 5 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | 0 | 6 | 0 | 6 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 3 | <a href="#">response to decreased oxygen levels</a>          | 4 | 2 | 2 | 2 | 2 | 1 | STAT5, RPS27A, Ubiquitin, Fatty acid-binding protein, ADSL, Ajuba, HMBS, UBC, Notch, UBB, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2 |                                                              | 3 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 4 |                                                              | 3 | 5 | 5 | 5 | 5 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | 4 | 0 | 4 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | 1 | 8 | 1 | 8 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 3 | <a href="#">small GTPase mediated signal transduction</a>    | 5 | 2 | 2 | 2 | 2 | 1 | p38 MAPK, ERK1 (MAPK3), p38gamma (MAPK12), ERK1/2, CrkL, GRB2, Rab-9B, CNK1, RRAD, RAB24, Rich1, DOK3                                                                                                                                                                                                                                                                                                                                                                                                      |
| 2 |                                                              | 0 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 5 |                                                              | 0 | 6 | 5 | 6 | 5 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | 1 | 7 | 1 | 7 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | 8 | 7 | 8 | 7 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 3 | <a href="#">organic cyclic compound biosynthetic process</a> | 3 | 2 | 2 | 2 | 2 | 4 | PEX2, LAGY, MIBP, DLC1 (Dynein LC8a), LCORL, GDP-mannose 4,6 dehydratase, SCM1, STAT5A, p38 MAPK, ERK1 (MAPK3), STAT5, RBP-J kappa (CBF1), FERD3L, BMAL2, UCK1, RPS27A, p38gamma (MAPK12), ZNF397, Ubiquitin, IMD2, EYA1, Phosphatase regulator (inhibitor), ATP1A3, ERK1/2, ADSL, PQBP-1, Guanylate cyclase A (NPR1), MOCS2(small), Ajuba, DDC, RIFK, ZNF655, HMBS, UBC, HKR1, Notch, UBB, PAP41, Guanylate cyclase, ARID4A, NOTCH1 precursor, SCML1, CTP synthase II, ZNF397OS, DYNLL, GOCAP1, MLX, PAF1 |
| 2 |                                                              | 4 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 6 |                                                              | 8 | 6 | 6 | 6 | 6 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | 6 | 1 | 6 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | 5 | 5 | 5 | 5 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 3 | <a href="#">response to transition metal nanoparticle</a>    | 1 | 2 | 2 | 2 | 2 | 6 | Metallothionein-I, Metallothionein-IG, Metallothionein-II, HMBS, Metallothionein-1M, APOBEC-1                                                                                                                                                                                                                                                                                                                                                                                                              |
| 2 |                                                              | 4 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 7 |                                                              | 9 | 7 | 6 | 7 | 6 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | 5 | 9 | 5 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | 7 | 8 | 7 | 8 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|   |                                                              |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

|             |                                                                           |  |                                           |                                                |                                           |                                           |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------|---------------------------------------------------------------------------|--|-------------------------------------------|------------------------------------------------|-------------------------------------------|-------------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                           |  | 0<br>3                                    | 0<br>2                                         | 0<br>3                                    | 0<br>2                                    |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 3<br>2<br>8 | <a href="#">single-organism<br/>metabolic process</a>                     |  | 2<br>.<br>8<br>3<br>7<br>5<br>4<br>9<br>4 | 2<br>.<br>7<br>4<br>3<br>3<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>3<br>7<br>E<br>-<br>0<br>2 | 2<br>.<br>7<br>4<br>0<br>E<br>-<br>0<br>3 | 6<br>9 | MST3, PEX2, MUC15, LAGY, MIBP, GDP-mannose 4,6 dehydratase, CRK, STAT5A, TIRAP (Mal), RAD1, p38 MAPK, ERK1 (MAPK3), Carbonic anhydrase XIII, CERT, STAT5, RBP1, Autophagin-1, UCK1, RPS27A, p38gamma (MAPK12), Ubiquitin, IMD2, EYA1, NANP, XPF, Phosphatase regulator (inhibitor), PDXP, ATP1A3, Fatty acid-binding protein, ERK1/2, ADSL, CRABP2, Guanylate cyclase A (NPR1), MOCS2(small), CrkL, Ajuba, GRB2, HXK4, DDC, RIFK, COG3, HMBS, UBC, GBP5, NUP93, ACSBG1, RAD23A, UBB, PAP41, Guanylate cyclase, IGHG1, ARID4A, GCK(MAP4K2), RRAD, DHRS10, IL1RN, CTP synthase II, RPA4, BMP1, DSS1, Occludin, WWOX, E-FABP, Adult hemoglobin, GOCAP1, MLX, APOBEC-1, PAF1, Galectin-13 |
| 3<br>2<br>9 | <a href="#">positive regulation<br/>of metabolic<br/>process</a>          |  | 2<br>.<br>8<br>7<br>0<br>3<br>0<br>3<br>8 | 2<br>.<br>7<br>4<br>3<br>E<br>-<br>0<br>2      | 2<br>.<br>8<br>7<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>7<br>4<br>3<br>E<br>-<br>0<br>2 | 4<br>3 | CRK, STAT5A, TIRAP (Mal), GGA1, p38 MAPK, ERK1 (MAPK3), STAT5, RBP-J kappa (CBF1), SMIF, BMAL2, Autophagin-1, RPS27A, Ubiquitin, EYA1, SCOCO, Fatty acid-binding protein, ERK1/2, NIP2, ARHGEF10, LCKBP1, Guanylate cyclase A (NPR1), CrkL, Ajuba, GRB2, HXK4, UBC, SNX1, Dysbindin, Notch, UBB, Guanylate cyclase, NOTCH1 precursor, GCK(MAP4K2), USP5, GGA, IL1RN, WWOX, Adult hemoglobin, PAIP1, MLX, APOBEC-1, MLCK, PAF1                                                                                                                                                                                                                                                         |
| 3<br>3<br>0 | <a href="#">regulation of<br/>myeloid cell<br/>differentiation</a>        |  | 2<br>.<br>8<br>9<br>2<br>E<br>2<br>5<br>7 | 2<br>.<br>7<br>4<br>3<br>E<br>-<br>0<br>3      | 2<br>.<br>8<br>9<br>2<br>E<br>-<br>0<br>2 | 2<br>.<br>7<br>4<br>3<br>E<br>-<br>0<br>3 | 8      | STAT5A, p38 MAPK, STAT5, RBP1, LCKBP1, Notch, Adult hemoglobin, PAF1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 3<br>3<br>1 | <a href="#">nucleoside<br/>monophosphate<br/>biosynthetic<br/>process</a> |  | 2<br>.<br>9<br>0<br>6<br>E<br>1<br>0<br>4 | 2<br>.<br>7<br>4<br>3<br>E<br>-<br>0<br>2      | 2<br>.<br>9<br>0<br>6<br>E<br>-<br>0<br>3 | 2<br>.<br>7<br>4<br>3<br>E<br>-<br>0<br>2 | 5      | UCK1, IMD2, ATP1A3, ADSL, RIFK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 3<br>3<br>2 | <a href="#">epidermis<br/>development</a>                                 |  | 2<br>.<br>7<br>7                          | 2<br>.<br>9<br>0                               | 2<br>.<br>7<br>4                          | 2<br>.<br>7<br>4                          | 1<br>0 | SPRR1A, RBP-J kappa (CBF1), Fatty acid-binding protein, CRABP2, SPRR4, Notch, NOTCH1 precursor, Sprr2f, E-FABP, SPRR3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

|             |                                                                                          |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                                   |
|-------------|------------------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                                          |                  | 6<br>E<br>-<br>0<br>3                     | 3<br>E<br>-<br>0<br>2                     | 6<br>E<br>-<br>0<br>3                     | 3<br>E<br>-<br>0<br>2                     |        |                                                                                                                                                                                                                                                                   |
| 3<br>3<br>3 | <a href="#">programmed cell death</a>                                                    | 1<br>4<br>0<br>6 | 2<br>.<br>9<br>6<br>7<br>E<br>-<br>0<br>6 | 2<br>.<br>7<br>4<br>3<br>E<br>-<br>0<br>3 | 2<br>.<br>9<br>6<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>7<br>4<br>3<br>E<br>-<br>0<br>2 | 2<br>4 | MST3, Reticulon 4, DLC1 (Dynein LC8a), p38 MAPK, ERK1 (MAPK3), Bim, RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, NIP2, RIFK, UBC, CED-6, Notch, UBB, BMF, NOTCH1 precursor, DBC1, DYNLL, Occludin, WWOX, Galectin-13 |
| 3<br>3<br>4 | <a href="#">regulation of serine-type endopeptidase activity</a>                         | 9                | 2<br>.<br>9<br>7<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>7<br>4<br>3<br>E<br>-<br>0<br>2 | 2<br>.<br>9<br>7<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>7<br>4<br>3<br>E<br>-<br>0<br>2 | 2      | Annexin VIII, ANXA8L2                                                                                                                                                                                                                                             |
| 3<br>3<br>5 | <a href="#">negative regulation of erythrocyte differentiation</a>                       | 9                | 2<br>.<br>9<br>7<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>7<br>4<br>3<br>E<br>-<br>0<br>2 | 2<br>.<br>9<br>7<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>7<br>4<br>3<br>E<br>-<br>0<br>2 | 2      | STAT5A, STAT5                                                                                                                                                                                                                                                     |
| 3<br>3<br>6 | <a href="#">negative regulation of cell migration involved in sprouting angiogenesis</a> | 9                | 2<br>.<br>9<br>7<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>7<br>4<br>3<br>E<br>-<br>0<br>2 | 2<br>.<br>9<br>7<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>7<br>4<br>3<br>E<br>-<br>0<br>2 | 2      | Notch, NOTCH1 precursor                                                                                                                                                                                                                                           |
| 3<br>3<br>7 | <a href="#">citrate metabolic process</a>                                                | 9                | 2<br>.<br>9<br>7<br>5<br>E                | 2<br>.<br>7<br>4<br>3<br>E                | 2<br>.<br>9<br>7<br>5<br>E                | 2<br>.<br>7<br>4<br>3<br>E                | 2      | STAT5A, STAT5                                                                                                                                                                                                                                                     |

|   |                                                               |   |   |   |   |   |   |                                       |
|---|---------------------------------------------------------------|---|---|---|---|---|---|---------------------------------------|
|   |                                                               |   | - | - | - | - |   |                                       |
|   |                                                               |   | 0 | 0 | 0 | 0 |   |                                       |
|   |                                                               |   | 3 | 2 | 3 | 2 |   |                                       |
| 3 |                                                               |   | 2 | 2 | 2 | 2 |   |                                       |
| 3 |                                                               |   | . | . | . | . |   |                                       |
| 8 | <a href="#">monocyte activation</a>                           | 9 | 9 | 7 | 9 | 7 |   |                                       |
|   |                                                               |   | 7 | 4 | 7 | 4 |   |                                       |
|   |                                                               |   | 5 | 3 | 5 | 3 |   |                                       |
|   |                                                               |   | E | E | E | E |   |                                       |
|   |                                                               |   | - | - | - | - |   |                                       |
|   |                                                               |   | 0 | 0 | 0 | 0 |   |                                       |
|   |                                                               |   | 3 | 2 | 3 | 2 | 2 | Metallothionein-I, Metallothionein-IG |
| 3 |                                                               |   | 2 | 2 | 2 | 2 |   |                                       |
| 3 |                                                               |   | . | . | . | . |   |                                       |
| 9 | <a href="#">hypothalamus cell differentiation</a>             | 9 | 9 | 7 | 9 | 7 |   |                                       |
|   |                                                               |   | 7 | 4 | 7 | 4 |   |                                       |
|   |                                                               |   | 5 | 3 | 5 | 3 |   |                                       |
|   |                                                               |   | E | E | E | E |   |                                       |
|   |                                                               |   | - | - | - | - |   |                                       |
|   |                                                               |   | 0 | 0 | 0 | 0 |   |                                       |
|   |                                                               |   | 3 | 2 | 3 | 2 | 2 | Ubiquitin, UBB                        |
| 3 |                                                               |   | 2 | 2 | 2 | 2 |   |                                       |
| 4 |                                                               |   | . | . | . | . |   |                                       |
| 0 | <a href="#">peptidyl-tyrosine autophosphorylation</a>         | 9 | 9 | 7 | 9 | 7 |   |                                       |
|   |                                                               |   | 7 | 4 | 7 | 4 |   |                                       |
|   |                                                               |   | 5 | 3 | 5 | 3 |   |                                       |
|   |                                                               |   | E | E | E | E |   |                                       |
|   |                                                               |   | - | - | - | - |   |                                       |
|   |                                                               |   | 0 | 0 | 0 | 0 |   |                                       |
|   |                                                               |   | 3 | 2 | 3 | 2 | 2 | ERK1 (MAPK3), ERK1/2                  |
| 3 |                                                               |   | 2 | 2 | 2 | 2 |   |                                       |
| 4 |                                                               |   | . | . | . | . |   |                                       |
| 1 | <a href="#">coronary artery morphogenesis</a>                 | 9 | 9 | 7 | 9 | 7 |   |                                       |
|   |                                                               |   | 7 | 4 | 7 | 4 |   |                                       |
|   |                                                               |   | 5 | 3 | 5 | 3 |   |                                       |
|   |                                                               |   | E | E | E | E |   |                                       |
|   |                                                               |   | - | - | - | - |   |                                       |
|   |                                                               |   | 0 | 0 | 0 | 0 |   |                                       |
|   |                                                               |   | 3 | 2 | 3 | 2 | 2 | Notch, NOTCH1 precursor               |
| 3 |                                                               |   | 2 | 2 | 2 | 2 |   |                                       |
| 4 |                                                               |   | . | . | . | . |   |                                       |
| 2 | <a href="#">negative regulation of phospholipase activity</a> | 9 | 9 | 7 | 9 | 7 |   |                                       |
|   |                                                               |   | 7 | 4 | 7 | 4 |   |                                       |
|   |                                                               |   | 5 | 3 | 5 | 3 |   |                                       |
|   |                                                               |   | E | E | E | E |   |                                       |
|   |                                                               |   | - | - | - | - |   |                                       |
|   |                                                               |   | 0 | 0 | 0 | 0 | 2 | Annexin VIII, ANXA8L2                 |

|   |                                                                           |   |   |   |   |   |   |                       |
|---|---------------------------------------------------------------------------|---|---|---|---|---|---|-----------------------|
|   |                                                                           |   | 3 | 2 | 3 | 2 |   |                       |
| 3 |                                                                           |   | 2 | 2 | 2 | 2 |   |                       |
| 4 |                                                                           |   | . | . | . | . |   |                       |
| 3 |                                                                           |   | 9 | 7 | 9 | 7 |   |                       |
|   |                                                                           |   | 7 | 4 | 7 | 4 |   |                       |
|   |                                                                           |   | 5 | 3 | 5 | 3 |   |                       |
|   |                                                                           |   | E | E | E | E |   |                       |
|   |                                                                           |   | - | - | - | - |   |                       |
|   |                                                                           |   | 0 | 0 | 0 | 0 |   |                       |
|   | <a href="#">valine metabolic process</a>                                  | 9 | 3 | 2 | 3 | 2 | 2 | STAT5A, STAT5         |
| 3 |                                                                           |   | 2 | 2 | 2 | 2 |   |                       |
| 4 |                                                                           |   | . | . | . | . |   |                       |
| 4 |                                                                           |   | 9 | 7 | 9 | 7 |   |                       |
|   |                                                                           |   | 7 | 4 | 7 | 4 |   |                       |
|   |                                                                           |   | 5 | 3 | 5 | 3 |   |                       |
|   |                                                                           |   | E | E | E | E |   |                       |
|   |                                                                           |   | - | - | - | - |   |                       |
|   |                                                                           |   | 0 | 0 | 0 | 0 |   |                       |
|   | <a href="#">female meiosis I</a>                                          | 9 | 3 | 2 | 3 | 2 | 2 | Ubiquitin, UBB        |
| 3 |                                                                           |   | 2 | 2 | 2 | 2 |   |                       |
| 4 |                                                                           |   | . | . | . | . |   |                       |
| 5 |                                                                           |   | 9 | 7 | 9 | 7 |   |                       |
|   |                                                                           |   | 7 | 4 | 7 | 4 |   |                       |
|   |                                                                           |   | 5 | 3 | 5 | 3 |   |                       |
|   |                                                                           |   | E | E | E | E |   |                       |
|   |                                                                           |   | - | - | - | - |   |                       |
|   |                                                                           |   | 0 | 0 | 0 | 0 |   |                       |
|   | <a href="#">negative regulation of serine-type endopeptidase activity</a> | 9 | 3 | 2 | 3 | 2 | 2 | Annexin VIII, ANXA8L2 |
| 3 |                                                                           |   | 2 | 2 | 2 | 2 |   |                       |
| 4 |                                                                           |   | . | . | . | . |   |                       |
| 6 |                                                                           |   | 9 | 7 | 9 | 7 |   |                       |
|   |                                                                           |   | 7 | 4 | 7 | 4 |   |                       |
|   |                                                                           |   | 5 | 3 | 5 | 3 |   |                       |
|   |                                                                           |   | E | E | E | E |   |                       |
|   |                                                                           |   | - | - | - | - |   |                       |
|   |                                                                           |   | 0 | 0 | 0 | 0 |   |                       |
|   | <a href="#">positive regulation of gamma-delta T cell differentiation</a> | 9 | 3 | 2 | 3 | 2 | 2 | STAT5A, STAT5         |
| 3 |                                                                           |   | 2 | 2 | 2 | 2 |   |                       |
| 4 |                                                                           |   | . | . | . | . |   |                       |
| 7 |                                                                           |   | 9 | 7 | 9 | 7 |   |                       |
|   |                                                                           |   | 7 | 4 | 7 | 4 |   |                       |
|   |                                                                           |   | 5 | 3 | 5 | 3 |   |                       |
|   |                                                                           |   | E | E | E | E |   |                       |
|   |                                                                           |   | - | - | - | - |   |                       |
|   |                                                                           |   | 0 | 0 | 0 | 0 |   |                       |
|   | <a href="#">positive regulation of protein homooligomerization</a>        | 9 | 3 | 2 | 3 | 2 | 2 | Bim, BMF              |

|     |                                                                     |      |       |       |       |       |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----|---------------------------------------------------------------------|------|-------|-------|-------|-------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 348 | <a href="#">fibroblast growth factor receptor signaling pathway</a> | 203  | 291E  | 271E  | 291E  | 271E  | 7   | ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, GRB2, UBC, UBB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 349 | <a href="#">epithelial to mesenchymal transition</a>                | 64   | 297E  | 247E  | 297E  | 247E  | 4   | Reticulon 4, RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 350 | <a href="#">mRNA metabolic process</a>                              | 718  | 3046E | 2846E | 3046E | 2846E | 15  | p38 MAPK, SMIF, Tex1, RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), Sen15, RRP42, UBC, UBB, Cyclophilin E, DBC1, PAIP1, APOBEC-1, PAF1                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 351 | <a href="#">regulation of response to stimulus</a>                  | 8378 | 3066E | 2866E | 3066E | 2866E | 52  | MST3, LAGY, Reticulon 4, DLC1 (Dynein LC8a), CRK, STAT5A, TIRAP (Mal), p38 MAPK, IL-1F5, ERK1 (MAPK3), Bim, LASP1, STAT5, RBP-J kappa (CBF1), RPS27A, Ubiquitin, EYA1, PhLP, SCOCO, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, NIP2, ARHGEF10, MYLK1, LCKBP1, CrkL, Ajuba, GRB2, Rap1GDS1, UBC, Telokin, Dysbindin, Notch, UBB, BMF, Guanylate cyclase, IGHG1, NOTCH1 precursor, GCK(MAP4K2), DBC1, IL1RN, FAM116A, DYNLL, WWOX, DKK3, ACP33, Adult hemoglobin, Rich1, SAP, RIP, MLCK                                                             |
| 352 | <a href="#">cellular metabolic process</a>                          | 941  | 3070E | 2870E | 3070E | 2870E | 112 | MST3, SAE1, PEX2, MUC15, LAGY, MIBP, DLC1 (Dynein LC8a), LCORL, GDP-mannose 4,6 dehydratase, TIPIN, SCMH1, CRK, RNASE6, Calpain 1(mu), STAT5A, SPRR1A, TIRAP (Mal), RAD1, p38 MAPK, NASP, ERK1 (MAPK3), Carbonic anhydrase XIII, CERT, STAT5, RBP-J kappa (CBF1), FERD3L, RBP1, SMIF, Twinfilin, BMAL2, Autophagin-1, Tex1, UCK1, RPS27A, UIP5, p38gamma (MAPK12), ZNF397, Ubiquitin, IMD2, EYA1, PhLP, NANP, DUPD1, XPF, Phosphatase regulator (inhibitor), PDXP, LYPLAL1, ATP1A3, Fatty acid-binding protein, ERK1/2, ADSL, MYLK1, CRABP2, PQBP-1, SPRR4, Guanylate cyclase |



|   |                                                                                  |   |   |   |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---|----------------------------------------------------------------------------------|---|---|---|---|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                                  |   |   |   |   |   | A (NPR1), MOCS2(small), GA17, CrkL, Ajuba, GRB2, PTP-2, CNK1, PEX19, HXK4, DDC, RIFK, ZNF655, Sen15, COG3, HMBS, RRP42, UBC, Telokin, ST13 (Hip), C16orf75, GBP5, HKR1, Notch, ACSBG1, RAD23A, UBB, PAP41, Guanylate cyclase, ARID4A, Cyclophilin E, NOTCH1 precursor, GCK(MAP4K2), 4E-BP1, RRAD, SCML1, DBC1, GINS2, USP5, AO7, RAB24, IL1RN, CTP synthase II, RPA4, ZNF397OS, DYNLL, DSS1, Occludin, E-FABP, Adult hemoglobin, PAIP1, MLX, APOBEC-1, SPRR3, MLCK, PAF1, Galectin-13                                                                      |
| 3 | <a href="#">heterocycle biosynthetic process</a>                                 | 3 | 2 | 3 | 2 | 4 | LAGY, MIBP, DLC1 (Dynein LC8a), LCORL, GDP-mannose 4,6 dehydratase, SCMH1, STAT5A, p38 MAPK, ERK1 (MAPK3), STAT5, RBP-J kappa (CBF1), FERD3L, BMAL2, UCK1, RPS27A, p38gamma (MAPK12), ZNF397, Ubiquitin, IMD2, EYA1, Phosphatase regulator (inhibitor), ATP1A3, ERK1/2, ADSL, PQBP-1, Guanylate cyclase A (NPR1), MOCS2(small), Ajuba, DDC, RIFK, ZNF655, HMBS, UBC, HKR1, Notch, UBB, PAP41, Guanylate cyclase, ARID4A, NOTCH1 precursor, SCML1, CTP synthase II, ZNF397OS, DYNLL, MLX, PAF1                                                              |
| 3 | <a href="#">cell differentiation</a>                                             | 3 | 2 | 3 | 2 | 5 | MST3, Neurochondrin, PEX2, LAGY, Reticulon 4, VAMP5, STAT5A, SPRR1A, TIRAP (Mal), TCL1A, p38 MAPK, ERK1 (MAPK3), Bim, Metallothionein-I, STAT5, EFHD1, RBP-J kappa (CBF1), FERD3L, NHS, p38gamma (MAPK12), Ubiquitin, EYA1, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, NIP2, ARHGEF10, Metallothionein-IG, PQBP-1, LCKBP1, SPRR4, NEPH2, GRB2, PTP-2, BBS9, Metallothionein-II, Tropomodulin, HMBS, Dysbindin, Notch, UBB, IRX4, ARID4A, NOTCH1 precursor, Sprr2f, BMP1, DYNLL, WWOX, Adult hemoglobin, RIP, SPRR3, MLCK, PAF1 |
| 3 | <a href="#">negative regulation of cellular metabolic process</a>                | 3 | 2 | 3 | 2 | 3 | PEX2, LAGY, DLC1 (Dynein LC8a), TIPIN, SCMH1, HBG, RBP-J kappa (CBF1), FERD3L, RPS27A, Ubiquitin, PhLP, XPF, Fatty acid-binding protein, LCKBP1, Ajuba, HXK4, UBC, HBGA, ST13 (Hip), Notch, UBB, ARID4A, NOTCH1 precursor, 4E-BP1, DYNLL, Cystatin B, DKK3, PYDC1 (POP1), Adult hemoglobin, MLX, CAMK2N1, PAF1                                                                                                                                                                                                                                             |
| 3 | <a href="#">positive regulation of natural killer cell mediated cytotoxicity</a> | 3 | 2 | 3 | 2 | 3 | STAT5A, STAT5, SAP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|             |                                                         |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------|---------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                         |                  | 3                                         | 2                                         | 3                                         | 2                                         |        |                                                                                                                                                                                                                                                                                                                                                                                      |
| 3<br>5<br>7 | <a href="#">endocardial cushion development</a>         | 3<br>2           | 3<br>.<br>2<br>3<br>3<br>E<br>-           | 2<br>.<br>8<br>8<br>9<br>E<br>-           | 3<br>.<br>2<br>3<br>3<br>E<br>-           | 2<br>.<br>8<br>8<br>9<br>E<br>-           | 3      | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                          |
| 3<br>5<br>8 | <a href="#">heart trabecula morphogenesis</a>           | 3<br>2           | 3<br>.<br>2<br>3<br>3<br>E<br>-           | 2<br>.<br>8<br>8<br>9<br>E<br>-           | 3<br>.<br>2<br>3<br>3<br>E<br>-           | 2<br>.<br>8<br>8<br>9<br>E<br>-           | 3      | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                          |
| 3<br>5<br>9 | <a href="#">regulation of protein metabolic process</a> | 2<br>2<br>2      | 3<br>.<br>2<br>7<br>4<br>E<br>5<br>2<br>2 | 2<br>.<br>9<br>1<br>7<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>7<br>4<br>E<br>-<br>0<br>2 | 2<br>.<br>9<br>1<br>7<br>E<br>-<br>0<br>2 | 3<br>7 | Annexin VIII, CRK, STAT5A, TIRAP (Mal), GGA1, p38 MAPK, ERK1 (MAPK3), Bim, STAT5, Twinfilin, Autophagin-1, RPS27A, Ubiquitin, PhLP, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, LCKBP1, GA17, CrkL, Ajuba, UBC, SNX1, ST13 (Hip), ANXA8L2, RAD23A, UBB, GCK(MAP4K2), 4E-BP1, USP5, GGA, IL1RN, Cystatin B, PYDC1 (POP1), Adult hemoglobin, PAIP1, CAMK2N1 |
| 3<br>6<br>0 | <a href="#">regulation of catabolic process</a>         | 1<br>1<br>0<br>1 | 3<br>.<br>3<br>5<br>2<br>E<br>-           | 2<br>.<br>9<br>6<br>7<br>E<br>-           | 3<br>.<br>3<br>6<br>9<br>E<br>-           | 2<br>.<br>9<br>6<br>7<br>E<br>-           | 2<br>0 | CRK, GGA1, Autophagin-1, SNX9, SCOCO, Phosphatase regulator (inhibitor), Fatty acid-binding protein, NIP2, ARHGEF10, Ajuba, HXK4, Rap1GDS1, SNX1, PCP2, RAD23A, USP5, GGA, FAM116A, Rich1, RIP                                                                                                                                                                                       |
| 3<br>6<br>1 | <a href="#">carbohydrate biosynthetic process</a>       | 1<br>5<br>5      | 3<br>.<br>3<br>5<br>2<br>E<br>-           | 2<br>.<br>9<br>7<br>0<br>E<br>-           | 3<br>.<br>3<br>5<br>2<br>E<br>-           | 2<br>.<br>9<br>7<br>0<br>E<br>-           | 6      | RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), HXK4, UBC, UBB                                                                                                                                                                                                                                                                                                                 |

|     |                                                                              |      |        |        |        |        |    |                                                                                                                                                                                                                                     |
|-----|------------------------------------------------------------------------------|------|--------|--------|--------|--------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 362 | <a href="#">posttranscriptional regulation of gene expression</a>            | 585  | 3405EE | 3405EE | 3405EE | 3405EE | 13 | PEX2, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), Phosphatase regulator (inhibitor), ERK1/2, GA17, Ajuba, PEX19, COG3, 4E-BP1, PAIP1, APOBEC-1                                                                                             |
| 363 | <a href="#">Fc receptor signaling pathway</a>                                | 324  | 3408EE | 3408EE | 3408EE | 3408EE | 9  | CRK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, GRB2, UBC, UBB, IGHG1                                                                                                                                                                 |
| 364 | <a href="#">regulation of growth</a>                                         | 802  | 3506EE | 3506EE | 3506EE | 3506EE | 16 | LAGY, Reticulon 4, STAT5A, TIRAP (Mal), Bim, Metallothionein-I, STAT5, RBP-J kappa (CBF1), Metallothionein-IG, Guanylate cyclase A (NPR1), Metallothionein-II, Notch, Guanylate cyclase, NOTCH1 precursor, RRAD, Metallothionein-1M |
| 365 | <a href="#">positive regulation of natural killer cell mediated immunity</a> | 333  | 352EE  | 352EE  | 352EE  | 352EE  | 3  | STAT5A, STAT5, SAP                                                                                                                                                                                                                  |
| 366 | <a href="#">activation of immune response</a>                                | 5200 | 3589EE | 3589EE | 3589EE | 3589EE | 12 | CRK, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, GRB2, UBC, UBB, IGHG1, ACP33                                                                                                                                   |
| 366 | <a href="#">negative regulation of cellular</a>                              | 13   | 3.     | 3.     | 3.     | 3.     | 23 | PEX2, LAGY, TIPIN, SCM1, HBG, RBP-J kappa (CBF1), FERD3L, RPS27A, Ubiquitin, Fatty acid-binding protein,                                                                                                                            |

|     |                                                                       |    |          |          |          |          |   |                                                                                                           |
|-----|-----------------------------------------------------------------------|----|----------|----------|----------|----------|---|-----------------------------------------------------------------------------------------------------------|
| 7   | <a href="#">macromolecule biosynthetic process</a>                    | 49 | 679E-03  | 1379E-02 | 679E-02  | 1379E-02 |   | LCKBP1, Ajuba, UBC, HBGA, Notch, UBB, ARID4A, NOTCH1 precursor, 4E-BP1, DKK3, Adult hemoglobin, MLX, PAF1 |
| 368 | <a href="#">negative regulation of serine-type peptidase activity</a> | 10 | 3696E-03 | 3179E-03 | 3679E-03 | 3179E-03 | 2 | Annexin VIII, ANXA8L2                                                                                     |
| 369 | <a href="#">retinoic acid biosynthetic process</a>                    | 10 | 3696E-03 | 3179E-03 | 3679E-03 | 3179E-03 | 2 | RBP1, CRABP2                                                                                              |
| 370 | <a href="#">regulation of serine-type peptidase activity</a>          | 10 | 3696E-03 | 3179E-03 | 3679E-03 | 3179E-03 | 2 | Annexin VIII, ANXA8L2                                                                                     |
| 371 | <a href="#">glomerular mesangial cell development</a>                 | 10 | 3696E-03 | 3179E-03 | 3679E-03 | 3179E-03 | 2 | Notch, NOTCH1 precursor                                                                                   |
| 372 | <a href="#">energy homeostasis</a>                                    | 10 | 3696E-03 | 3179E-03 | 3679E-03 | 3179E-03 | 2 | Ubiquitin, UBB                                                                                            |

|             |                                                                 |        |                                      |                                      |                                      |                                      |   |                         |
|-------------|-----------------------------------------------------------------|--------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---|-------------------------|
|             |                                                                 |        | 6<br>E<br>-<br>0<br>3                | 7<br>E<br>-<br>0<br>2                | 6<br>E<br>-<br>0<br>3                | 7<br>E<br>-<br>0<br>2                |   |                         |
| 3<br>7<br>3 | <a href="#">negative regulation of glial cell proliferation</a> | 1<br>0 | 3<br>.<br>6<br>9<br>6<br>E<br>-<br>0 | 3<br>.<br>1<br>3<br>7<br>E<br>-<br>0 | 3<br>.<br>6<br>9<br>6<br>E<br>-<br>0 | 3<br>.<br>1<br>3<br>7<br>E<br>-<br>0 | 2 | Notch, NOTCH1 precursor |
| 3<br>7<br>4 | <a href="#">mitral valve morphogenesis</a>                      | 1<br>0 | 3<br>.<br>6<br>9<br>6<br>E<br>-<br>0 | 3<br>.<br>1<br>3<br>7<br>E<br>-<br>0 | 3<br>.<br>6<br>9<br>6<br>E<br>-<br>0 | 3<br>.<br>1<br>3<br>7<br>E<br>-<br>0 | 2 | Notch, NOTCH1 precursor |
| 3<br>7<br>5 | <a href="#">venous blood vessel morphogenesis</a>               | 1<br>0 | 3<br>.<br>6<br>9<br>6<br>E<br>-<br>0 | 3<br>.<br>1<br>3<br>7<br>E<br>-<br>0 | 3<br>.<br>6<br>9<br>6<br>E<br>-<br>0 | 3<br>.<br>1<br>3<br>7<br>E<br>-<br>0 | 2 | Notch, NOTCH1 precursor |
| 3<br>7<br>6 | <a href="#">pulmonary valve morphogenesis</a>                   | 1<br>0 | 3<br>.<br>6<br>9<br>6<br>E<br>-<br>0 | 3<br>.<br>1<br>3<br>7<br>E<br>-<br>0 | 3<br>.<br>6<br>9<br>6<br>E<br>-<br>0 | 3<br>.<br>1<br>3<br>7<br>E<br>-<br>0 | 2 | Notch, NOTCH1 precursor |
| 3<br>7<br>7 | <a href="#">pulmonary valve development</a>                     | 1<br>0 | 3<br>.<br>6<br>9<br>6<br>E<br>-<br>0 | 3<br>.<br>1<br>3<br>7<br>E<br>-<br>0 | 3<br>.<br>6<br>9<br>6<br>E<br>-<br>0 | 3<br>.<br>1<br>3<br>7<br>E<br>-<br>0 | 2 | Notch, NOTCH1 precursor |

|   |                                   |   |   |   |   |   |   |                                                       |
|---|-----------------------------------|---|---|---|---|---|---|-------------------------------------------------------|
|   |                                   |   | - | - | - | - |   |                                                       |
|   |                                   |   | 0 | 0 | 0 | 0 |   |                                                       |
|   |                                   |   | 3 | 2 | 3 | 2 |   |                                                       |
| 3 |                                   |   | 3 | 3 | 3 | 3 |   |                                                       |
| 7 |                                   |   | . | . | . | . |   |                                                       |
| 8 | <a href="#">keratinization</a>    | 6 | 7 | 1 | 7 | 1 | 4 | SPRR1A, SPRR4, Sprr2f, SPRR3                          |
|   |                                   | 8 | 3 | 5 | 3 | 5 |   |                                                       |
|   |                                   |   | 2 | 0 | 2 | 0 |   |                                                       |
|   |                                   |   | E | E | E | E |   |                                                       |
|   |                                   |   | - | - | - | - |   |                                                       |
|   |                                   |   | 0 | 0 | 0 | 0 |   |                                                       |
|   |                                   |   | 3 | 2 | 3 | 2 |   |                                                       |
| 3 |                                   |   | 3 | 3 | 3 | 3 |   |                                                       |
| 7 | <a href="#">JAK-STAT</a>          | 6 | . | . | . | . |   |                                                       |
| 9 | <a href="#">cascade</a>           | 8 | 7 | 1 | 7 | 1 | 4 | STAT5A, ERK1 (MAPK3), STAT5, ERK1/2                   |
|   |                                   |   | 3 | 5 | 3 | 5 |   |                                                       |
|   |                                   |   | 2 | 0 | 2 | 0 |   |                                                       |
|   |                                   |   | E | E | E | E |   |                                                       |
|   |                                   |   | - | - | - | - |   |                                                       |
|   |                                   |   | 0 | 0 | 0 | 0 |   |                                                       |
|   |                                   |   | 3 | 2 | 3 | 2 |   |                                                       |
| 3 |                                   |   | 3 | 3 | 3 | 3 |   |                                                       |
| 8 |                                   |   | . | . | . | . |   |                                                       |
| 0 | <a href="#">coagulation</a>       | 6 | 7 | 1 | 7 | 1 | 1 | Annexin VIII, KLC2, CRK, HBG, p38 MAPK, ERK1 (MAPK3), |
|   |                                   | 6 | 8 | 7 | 8 | 7 | 4 | Kinesin light chain, ERK1/2, GRB2, HBGA, ANXA8L2,     |
|   |                                   | 3 | 7 | 9 | 7 | 9 |   | Dysbindin, Guanylate cyclase, Adult hemoglobin        |
|   |                                   |   | E | E | E | E |   |                                                       |
|   |                                   |   | - | - | - | - |   |                                                       |
|   |                                   |   | 0 | 0 | 0 | 0 |   |                                                       |
|   |                                   |   | 3 | 2 | 3 | 2 |   |                                                       |
| 3 |                                   |   | 3 | 3 | 3 | 3 |   |                                                       |
| 8 |                                   |   | . | . | . | . |   |                                                       |
| 1 | <a href="#">blood coagulation</a> | 6 | 7 | 1 | 7 | 1 | 1 | Annexin VIII, KLC2, CRK, HBG, p38 MAPK, ERK1 (MAPK3), |
|   |                                   | 6 | 8 | 7 | 8 | 7 | 4 | Kinesin light chain, ERK1/2, GRB2, HBGA, ANXA8L2,     |
|   |                                   | 3 | 7 | 9 | 7 | 9 |   | Dysbindin, Guanylate cyclase, Adult hemoglobin        |
|   |                                   |   | E | E | E | E |   |                                                       |
|   |                                   |   | - | - | - | - |   |                                                       |
|   |                                   |   | 0 | 0 | 0 | 0 |   |                                                       |
|   |                                   |   | 3 | 2 | 3 | 2 |   |                                                       |
| 3 |                                   |   | 3 | 3 | 3 | 3 |   |                                                       |
| 8 |                                   |   | . | . | . | . |   |                                                       |
| 2 | <a href="#">cellular response</a> | 1 | 7 | 1 | 7 | 1 | 6 | Metallothionein-I, Fatty acid-binding protein,        |
|   | <a href="#">to metal ion</a>      | 5 | 9 | 8 | 9 | 8 |   | Metallothionein-IG, Metallothionein-II, HMBS,         |
|   |                                   | 9 | 8 | 1 | 8 | 1 |   | Metallothionein-1M                                    |
|   |                                   |   | E | E | E | E |   |                                                       |
|   |                                   |   | - | - | - | - |   |                                                       |
|   |                                   |   | 0 | 0 | 0 | 0 |   |                                                       |

|   |                                                                     |   |   |   |   |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---|---------------------------------------------------------------------|---|---|---|---|---|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                     |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 3 | <a href="#">positive regulation of BMP signaling pathway</a>        | 3 | 3 | 3 | 3 | 3 | 3 | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 8 |                                                                     |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 3 |                                                                     |   | 8 | 2 | 8 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|   |                                                                     |   | 4 | 1 | 4 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|   |                                                                     |   | 8 | 4 | 8 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|   |                                                                     |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|   |                                                                     |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|   |                                                                     | 3 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|   |                                                                     | 4 | 3 | 2 | 3 | 2 | 3 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 3 | <a href="#">response to stimulus</a>                                |   |   |   |   |   |   | MST3, Annexin VIII, KLC2, Reticulon 4, Siglec-8, DLC1 (Dynein LC8a), GDP-mannose 4,6 dehydratase, TIPIN, CRK, RNASE6, HBG, Beta crystallin B2, PPP1R12B, STAT5A, TIRAP (Mal), RAD1, p38 MAPK, ERK1 (MAPK3), Bim, Metallothionein-I, CERT, STAT5, RBP-J kappa (CBF1), RBP1, SMIF, BMAL2, Autophagin-1, RPS27A, p38gamma (MAPK12), Ccdc109a, Ubiquitin, IMD2, CDC4L, Sti1, EYA1, PhLP, KAAG1, Kinesin light chain, XPF, Phosphatase regulator (inhibitor), PDXP, ATP1A3, Fatty acid-binding protein, ERK1/2, ADSL, MYLK1, CRABP2, Metallothionein-IG, LCKBP1, Guanylate cyclase A (NPR1), NEPH2, CrkL, Ajuba, GRB2, Rab-9B, PTP-2, CNK1, HXK4, DDC, BBS9, Metallothionein-II, Tropomodulin, HMBS, UBC, HBGA, Telokin, SAAL1, PCP2, CED-6, GBP5, NUP93, ANXA8L2, Siglec-E, Dysbindin, Notch, ACSBG1, RAD23A, UBB, BMF, Guanylate cyclase, IGHG1, CALCOCO2, NOTCH1 precursor, GCK(MAP4K2), 4E-BP1, RRAD, Sprr2f, DBC1, Metallothionein-1M, RAB24, IL1RN, RPA4, DYNLL, Cystatin B, DSS1, WWOX, E-FABP, DKK3, ACP33, PYDC1 (POP1), Adult hemoglobin, Rich1, Melusin, SAP, APOBEC-1, SPRR3, MLCK, PAF1, DOK3 |
| 3 | <a href="#">negative regulation of transcription, DNA-templated</a> |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 8 |                                                                     |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 5 |                                                                     |   | 1 | 4 | 1 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|   |                                                                     |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|   |                                                                     |   | 9 | 4 | 9 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|   |                                                                     | 1 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|   |                                                                     | 2 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|   |                                                                     | 0 | 0 | 0 | 0 | 0 | 2 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|   |                                                                     | 1 | 3 | 2 | 3 | 2 | 1 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 3 | <a href="#">single-organism process</a>                             |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 8 |                                                                     | 1 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 6 |                                                                     | 5 | 1 | 4 | 1 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|   |                                                                     | 1 | 1 | 1 | 1 | 1 | 1 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|   |                                                                     | 1 | 9 | 4 | 9 | 4 | 5 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|   |                                                                     | 6 | E | E | E | E | 7 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

|             |                                  |                       |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------|----------------------------------|-----------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                  |                       | -<br>0<br>3                               | -<br>0<br>2                               | -<br>0<br>3                               | -<br>0<br>2                               | anhydrase XIII, Bim, LASP1, Metallothionein-I, CERT, STAT5, EFHD1, RBP-J kappa (CBF1), FERD3L, RBP1, SMIF, Twinfilin, MCT4, BMAL2, Autophagin-1, MTCP1(p13), NHS, UCK1, KLC3, RPS27A, p38gamma (MAPK12), Ccdc109a, Ubiquitin, IMD2, CDC4L, EYA1, PhLP, SNX9, Kinesin light chain, NANP, XPF, Phosphatase regulator (inhibitor), PDXP, ATP1A3, Fatty acid-binding protein, ERK1/2, NIP2, ADSL, ARHGEF10, MYLK1, CRABP2, MTCP1(p8), Metallothionein-IG, PQBP-1, Kizuna (C20orf19), LCKBP1, Syntaxin 16, SPRR4, Guanylate cyclase A (NPR1), NEPH2, MOCS2(small), CrkL, Ajuba, GRB2, Rab-9B, PTP-2, CNK1, PEX19, HXK4, DDC, RIFK, Rap1GDS1, BBS9, Metallothionein-II, ZNF655, Tropomodulin, COG3, HMBS, UBC, HBGA, Telokin, SNX1, PCP2, Troponin C, skeletal muscle, CED-6, GBP5, NUP93, HKR1, ANXA8L2, Siglec-E, Dysbindin, Notch, ACSBG1, RAD23A, UBB, BMF, PAP41, IRX4, Guanylate cyclase, IGHG1, ARID4A, NOTCH1 precursor, GCK(MAP4K2), 4E-BP1, RRAD, DHRS10, Sprr2f, DBC1, GINS2, RAB24, IL1RN, CTP synthase II, RPA4, BMP1, DYNLL, Cystatin B, DSS1, Occludin, WWOX, E-FABP, DKK3, ACP33, PYDC1 (POP1), Adult hemoglobin, GOCAP1, MLX, CAMK2N1, Rich1, Melusin, SAP, APOBEC-1, RIP, SPRR3, MLCK, PAF1, Galectin-13, DOK3 |
| 3<br>8<br>7 | <a href="#">hemostasis</a>       | 6<br>7<br>0           | 4<br>.<br>1<br>5<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>3<br>2<br>E<br>-<br>0<br>2 | 4<br>.<br>1<br>5<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>3<br>2<br>E<br>-<br>0<br>2 | Annexin VIII, KLC2, CRK, HBG, p38 MAPK, ERK1 (MAPK3), Kinesin light chain, ERK1/2, GRB2, HBGA, ANXA8L2, Dysbindin, Guanylate cyclase, Adult hemoglobin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 3<br>8<br>8 | <a href="#">cellular process</a> | 1<br>6<br>5<br>9<br>9 | 4<br>.<br>1<br>6<br>7<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>3<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>1<br>6<br>7<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>3<br>5<br>E<br>-<br>0<br>2 | MST3, Neurochondrin, SAE1, Annexin VIII, PEX2, KLC2, MUC15, LAGY, Reticulon 4, ZNF261, MIBP, Siglec-8, DLC1 (Dynein LC8a), LCORL, GDP-mannose 4,6 dehydratase, TIPIN, SCM1, CRK, RNASE6, DCTN2, PPP1R12B, VAMP5, Calpain 1(mu), STAT5A, SPRR1A, TIRAP (Mal), RAD1, TCL1A, p38 MAPK, NASP, ERK1 (MAPK3), Carbonic anhydrase XIII, Bim, LASP1, Metallothionein-I, CERT, STAT5, EFHD1, RBP-J kappa (CBF1), FERD3L, RBP1, SMIF, Twinfilin, MCT4, BMAL2, Autophagin-1, NHS, Tex1, UCK1, KLC3, RPS27A, UIP5, p38gamma (MAPK12), ZNF397, Ccdc109a, Ubiquitin, IMD2, CDC4L, EYA1, PhLP, SNX9, Kinesin light chain, NANP, DUPD1, XPF, Phosphatase regulator (inhibitor), PDXP, LYPLAL1, ATP1A3, Fatty acid-binding protein, ERK1/2, NIP2, ADSL, ARHGEF10, MYLK1, CRABP2, Metallothionein-IG, PQBP-1, Kizuna (C20orf19),                                                                                                                                                                                                                                                                                                                                                                                                             |



|     |                                                  |     |                                           |                                                |                                           |                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----|--------------------------------------------------|-----|-------------------------------------------|------------------------------------------------|-------------------------------------------|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                                                  |     |                                           |                                                |                                           |                                                | LCKBP1, SPRR4, Guanylate cyclase A (NPR1), NEPH2, MOCS2(small), GA17, CrkL, Ajuba, GRB2, Rab-9B, PTP-2, CNK1, PEX19, HXK4, DDC, RIFK, Rap1GDS1, BBS9, Metallothionein-II, ZNF655, Sen15, Tropomodulin, COG3, HMBS, RRP42, UBC, Telokin, PCP2, ST13 (Hip), Troponin C, skeletal muscle, CED-6, C16orf75, GBP5, NUP93, HKR1, ANXA8L2, Siglec-E, Dysbindin, Notch, ACSBG1, RAD23A, UBB, BMF, PAP41, IRX4, Guanylate cyclase, IGHG1, ARID4A, Cyclophilin E, CALCOCO2, NOTCH1 precursor, GCK(MAP4K2), 4E-BP1, RRAD, Sprr2f, SCML1, DBC1, Metallothionein-1M, GINS2, USP5, AO7, RAB24, IL1RN, CTP synthase II, RPA4, ZNF397OS, BMP1, DYNLL, DSS1, Occludin, WWOX, E-FABP, DKK3, ACP33, PYDC1 (POP1), Adult hemoglobin, PAIP1, MLX, CAMK2N1, Rich1, Melusin, SAP, p47, APOBEC-1, RIP, SPRR3, MLCK, PAF1, Galectin-13, DOK3 |
| 389 | <a href="#">smooth muscle tissue development</a> | 35  | 4<br>.<br>1<br>8<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>3<br>8<br>0<br>E<br>-<br>0<br>2 | 4<br>.<br>1<br>8<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>3<br>8<br>0<br>E<br>-<br>0<br>2 | 3<br>MYLK1, Telokin, MLCK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 390 | <a href="#">connective tissue development</a>    | 274 | 4<br>.<br>2<br>5<br>7<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>8<br>7<br>E<br>-<br>0<br>2      | 4<br>.<br>2<br>5<br>7<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>8<br>7<br>E<br>-<br>0<br>2      | 8<br>p38 MAPK, ERK1 (MAPK3), Ubiquitin, ERK1/2, Notch, UBB, NOTCH1 precursor, BMP1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 391 | <a href="#">cellular developmental process</a>   | 418 | 4<br>.<br>2<br>6<br>2<br>4<br>1<br>2<br>8 | 3<br>.<br>4<br>8<br>7<br>E<br>-<br>0<br>3      | 4<br>.<br>2<br>6<br>2<br>4<br>1<br>2<br>3 | 3<br>.<br>4<br>8<br>7<br>E<br>-<br>0<br>2      | 54<br>MST3, Neurochondrin, PEX2, LAGY, Reticulon 4, VAMP5, STAT5A, SPRR1A, TIRAP (Mal), TCL1A, p38 MAPK, ERK1 (MAPK3), Bim, Metallothionein-I, CERT, STAT5, EFHD1, RBP-J kappa (CBF1), FERD3L, NHS, p38gamma (MAPK12), Ubiquitin, EYA1, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, NIP2, ARHGEF10, Metallothionein-IG, PQBP-1, LCKBP1, SPRR4, NEPH2, GRB2, PTP-2, BBS9, Metallothionein-II, Tropomodulin, HMBS, Dysbindin, Notch, UBB, IRX4, ARID4A, NOTCH1 precursor, Sprr2f, BMP1, DYNLL, WWOX, Adult hemoglobin, RIP, SPRR3, MLCK, PAF1                                                                                                                                                                                                                                              |
| 392 | <a href="#">regulation of cellular component</a> | 820 | 4<br>.<br>3                               | 3<br>.<br>5                                    | 4<br>.<br>3                               | 3<br>.<br>5                                    | 16<br>MST3, Reticulon 4, CRK, TIRAP (Mal), p38 MAPK, STAT5, RBP-J kappa (CBF1), ERK1/2, MYLK1, Ajuba, PTP-2, Telokin, Notch, NOTCH1 precursor, IL1RN, MLCK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

|             |                                                                |                       |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------|----------------------------------------------------------------|-----------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             | <a href="#">movement</a>                                       |                       | 3<br>7<br>E<br>-<br>0<br>3                | 3<br>6<br>E<br>-<br>0<br>2                | 3<br>7<br>E<br>-<br>0<br>3                | 3<br>6<br>E<br>-<br>0<br>2                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 3<br>9<br>3 | <a href="#">cell cycle checkpoint</a>                          | 2<br>7<br>5           | 4<br>.<br>3<br>5<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 4<br>.<br>3<br>5<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 8<br>TIPIN, RAD1, p38 MAPK, RPS27A, Ubiquitin, UBC, UBB, RPA4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 3<br>9<br>4 | <a href="#">metabolic process</a>                              | 1<br>1<br>5<br>6<br>2 | 4<br>.<br>4<br>1<br>7<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>1<br>7<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 1<br>2<br>6<br>MST3, SAE1, PEX2, KLC2, MUC15, LAGY, MIBP, DLC1 (Dynein LC8a), LCORL, GDP-mannose 4,6 dehydratase, TIPIN, SCMH1, CRK, RNASE6, DCTN2, Calpain 1(mu), STAT5A, SPRR1A, TIRAP (Mal), RAD1, p38 MAPK, NASP, ERK1 (MAPK3), Carbonic anhydrase XIII, Bim, CERT, STAT5, RBP-J kappa (CBF1), FERD3L, RBP1, SMIF, Twinfilin, BMAL2, Autophagin-1, Tex1, UCK1, KLC3, RPS27A, UIP5, p38gamma (MAPK12), ZNF397, Ubiquitin, IMD2, EYA1, PhLP, Kinesin light chain, NANP, DUPD1, XPF, Phosphatase regulator (inhibitor), PDXP, LYPLAL1, ATP1A3, Fatty acid-binding protein, ERK1/2, ADSL, MYLK1, CRABP2, PQBP-1, SPRR4, Guanylate cyclase A (NPR1), MOCS2(small), GA17, CrkL, Ajuba, GRB2, PTP-2, CNK1, PEX19, HXK4, Grancalcin, DDC, RIFK, ZNF655, Sen15, COG3, HMBS, RRP42, UBC, Telokin, ST13 (Hip), C16orf75, GBP5, NUP93, HKR1, Notch, ACSBG1, RAD23A, UBB, PAP41, Guanylate cyclase, IGHG1, ARID4A, Cyclophilin E, NOTCH1 precursor, GCK(MAP4K2), 4E-BP1, RRAD, DHRS10, SCML1, DBC1, GINS2, N6amt2, USP5, AO7, RAB24, IL1RN, CTP synthase II, RPA4, ZNF397OS, BMP1, DYNLL, DSS1, Occludin, WWOX, E-FABP, Adult hemoglobin, GOCAP1, PAIP1, MLX, APOBEC-1, RIP, SPRR3, MLCK, PAF1, Galectin-13 |
| 3<br>9<br>5 | <a href="#">positive regulation of protein kinase activity</a> | 6<br>0<br>4           | 4<br>.<br>4<br>4<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>4<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 1<br>3<br>CRK, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, CrkL, Ajuba, UBC, UBB, GCK(MAP4K2), IL1RN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

|     |                                                              |    |                                           |                                           |                                           |                                           |   |                         |
|-----|--------------------------------------------------------------|----|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|-------------------------|
| 396 | <a href="#">myosin filament assembly</a>                     | 11 | 4<br>.<br>4<br>9<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 2 | Rap1GDS1, Tropomodulin  |
| 397 | <a href="#">regulation of histone phosphorylation</a>        | 11 | 4<br>.<br>4<br>9<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 2 | ERK1 (MAPK3), ERK1/2    |
| 398 | <a href="#">cell migration involved in heart development</a> | 11 | 4<br>.<br>4<br>9<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor |
| 399 | <a href="#">mitral valve development</a>                     | 11 | 4<br>.<br>4<br>9<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor |
| 400 | <a href="#">cardiac endothelial cell differentiation</a>     | 11 | 4<br>.<br>4<br>9<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor |
| 401 | <a href="#">myosin filament organization</a>                 | 11 | 4<br>.<br>4<br>9<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 2 | Rap1GDS1, Tropomodulin  |

|             |                                                                         |        |                                           |                                           |                                           |                                           |   |                         |
|-------------|-------------------------------------------------------------------------|--------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|-------------------------|
| 1           |                                                                         |        | 4<br>9<br>0<br>E<br>-<br>0<br>3           | 5<br>3<br>6<br>E<br>-<br>0<br>2           | 4<br>9<br>0<br>E<br>-<br>0<br>3           | 5<br>3<br>6<br>E<br>-<br>0<br>2           |   |                         |
| 4<br>0<br>2 | <a href="#">diterpenoid biosynthetic process</a>                        | 1<br>1 | 4<br>.<br>4<br>9<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 2 | RBP1, CRABP2            |
| 4<br>0<br>3 | <a href="#">negative regulation of stem cell differentiation</a>        | 1<br>1 | 4<br>.<br>4<br>9<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor |
| 4<br>0<br>4 | <a href="#">mesangial cell development</a>                              | 1<br>1 | 4<br>.<br>4<br>9<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor |
| 4<br>0<br>5 | <a href="#">glomerular mesangial cell differentiation</a>               | 1<br>1 | 4<br>.<br>4<br>9<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor |
| 4<br>0<br>6 | <a href="#">positive regulation of endothelial cell differentiation</a> | 1<br>1 | 4<br>.<br>4<br>9<br>0<br>3                | 3<br>.<br>5<br>3<br>6<br>9<br>3           | 4<br>.<br>4<br>9<br>0<br>3                | 3<br>.<br>5<br>3<br>6<br>9<br>3           | 2 | Notch, NOTCH1 precursor |

|             |                                                           |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                           |
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|             |                                                           |                  | 0<br>E<br>-<br>0<br>3                     | 6<br>E<br>-<br>0<br>2                     | 0<br>E<br>-<br>0<br>3                     | 6<br>E<br>-<br>0<br>2                     |        |                                                                                                                                                                                                                                                           |
| 4<br>0<br>7 | <a href="#">negative regulation of catalytic activity</a> | 9<br>7<br>5      | 4<br>.<br>4<br>9<br>9<br>E<br>-<br>7<br>5 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>9<br>9<br>E<br>-<br>0<br>2 | 3<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>2 | 1<br>8 | Annexin VIII, DLC1 (Dynein LC8a), RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), Fatty acid-binding protein, Ajuba, UBC, ANXA8L2, Notch, UBB, PAP41, NOTCH1 precursor, DBC1, DYNLL, Cystatin B, PYDC1 (POP1), CAMK2N1                              |
| 4<br>0<br>8 | <a href="#">developmental programmed cell death</a>       | 3<br>6           | 4<br>.<br>5<br>2<br>9<br>E<br>-<br>3<br>6 | 3<br>.<br>5<br>5<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>5<br>2<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>5<br>1<br>E<br>-<br>0<br>2 | 3      | Bim, Notch, NOTCH1 precursor                                                                                                                                                                                                                              |
| 4<br>0<br>9 | <a href="#">antigen processing and presentation</a>       | 3<br>3<br>8      | 4<br>.<br>5<br>4<br>0<br>E<br>-<br>3<br>3 | 3<br>.<br>5<br>5<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>5<br>4<br>0<br>E<br>-<br>3<br>2 | 3<br>.<br>5<br>5<br>1<br>E<br>-<br>0<br>2 | 9      | KLC2, DLC1 (Dynein LC8a), DCTN2, RPS27A, Ubiquitin, Kinesin light chain, UBC, UBB, DYNLL                                                                                                                                                                  |
| 4<br>1<br>0 | <a href="#">regulation of phosphorylation</a>             | 1<br>5<br>3<br>9 | 4<br>.<br>6<br>1<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>6<br>0<br>3<br>E<br>-<br>0<br>2 | 4<br>.<br>6<br>1<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>6<br>0<br>3<br>E<br>-<br>0<br>2 | 2<br>5 | DLC1 (Dynein LC8a), CRK, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), Twinfilin, RPS27A, Ubiquitin, Fatty acid-binding protein, ERK1/2, NIP2, LCKBP1, CrkL, Ajuba, GRB2, HXK4, UBC, UBB, GCK(MAP4K2), IL1RN, DYNLL, PYDC1 (POP1), Adult hemoglobin, CAMK2N1, MLCK |
| 4<br>1<br>1 | <a href="#">response to osmotic stress</a>                | 1<br>1<br>6      | 4<br>.<br>6<br>3<br>5<br>E                | 3<br>.<br>6<br>0<br>8<br>E                | 4<br>.<br>6<br>3<br>5<br>E                | 3<br>.<br>6<br>0<br>8<br>E                | 5      | p38 MAPK, MYLK1, Telokin, APOBEC-1, MLCK                                                                                                                                                                                                                  |

|             |                                                                     |  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                               |
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|             |                                                                     |  | -<br>0<br>3                               | -<br>0<br>2                               | -<br>0<br>3                               | -<br>0<br>2                               |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                               |
| 4<br>1<br>2 | <a href="#">developmental process</a>                               |  | 4<br>.<br>6<br>9<br>5<br>6<br>3<br>9      | 3<br>.<br>6<br>4<br>6<br>E<br>-<br>0<br>2 | 4<br>.<br>6<br>9<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>6<br>4<br>6<br>E<br>-<br>0<br>2 | 7<br>7 | MST3, Neurochondrin, PEX2, LAGY, Reticulon 4, ZNF261, DLC1 (Dynein LC8a), SCMH1, Beta crystallin B2, VAMP5, STAT5A, SPRR1A, TIRAP (Mal), RAD1, TCL1A, p38 MAPK, NASP, ERK1 (MAPK3), Bim, Metallothionein-I, CERT, STAT5, EFHD1, RBP-J kappa (CBF1), FERD3L, NHS, p38gamma (MAPK12), Ubiquitin, IMD2, EYA1, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, NIP2, ARHGEF10, MYLK1, CRABP2, Metallothionein-IG, PQBP-1, LCKBP1, SPRR4, NEPH2, CrkL, Ajuba, GRB2, PTP-2, HXK4, DDC, BBS9, Metallothionein-II, Tropomodulin, HMBS, Telokin, HKR1, Dysbindin, Notch, ACSBG1, UBB, PAP41, IRX4, Guanylate cyclase, ARID4A, NOTCH1 precursor, 4E-BP1, Sprr2f, SCML1, BMP1, DYNLL, WWOX, E-FABP, DKK3, Adult hemoglobin, Melusin, RIP, SPRR3, MLCK, PAF1 |                                               |
| 4<br>1<br>3 | <a href="#">peptidyl-serine phosphorylation</a>                     |  | 4<br>.<br>8<br>0<br>6<br>E<br>1<br>1<br>7 | 3<br>.<br>7<br>0<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>8<br>0<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>7<br>0<br>7<br>E<br>-<br>0<br>2 | 5      | p38 MAPK, ERK1 (MAPK3), p38gamma (MAPK12), ERK1/2, MLCK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                               |
| 4<br>1<br>4 | <a href="#">positive regulation of phosphorus metabolic process</a> |  | 4<br>.<br>8<br>1<br>4<br>1<br>1<br>3<br>8 | 3<br>.<br>7<br>0<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>8<br>1<br>4<br>E<br>-<br>0<br>3 | 3<br>.<br>7<br>0<br>7<br>E<br>-<br>0<br>2 | 2<br>0 | CRK, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, Fatty acid-binding protein, ERK1/2, NIP2, ARHGEF10, LCKBP1, Guanylate cyclase A (NPR1), CrkL, Ajuba, HXK4, UBC, UBB, Guanylate cyclase, GCK(MAP4K2), IL1RN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                               |
| 4<br>1<br>5 | <a href="#">positive regulation of phosphate metabolic process</a>  |  | 4<br>.<br>8<br>1<br>4<br>1<br>1<br>3<br>8 | 3<br>.<br>7<br>0<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>8<br>1<br>4<br>E<br>-<br>0<br>3 | 3<br>.<br>7<br>0<br>7<br>E<br>-<br>0<br>2 | 2<br>0 | CRK, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, Fatty acid-binding protein, ERK1/2, NIP2, ARHGEF10, LCKBP1, Guanylate cyclase A (NPR1), CrkL, Ajuba, HXK4, UBC, UBB, Guanylate cyclase, GCK(MAP4K2), IL1RN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                               |
| 4<br>1      | <a href="#">positive regulation of NF-kappaB transcription</a>      |  | 1<br>6                                    | 4<br>.                                    | 3<br>.                                    | 4<br>.                                    | 3<br>. | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | TIRAP (Mal), RPS27A, Ubiquitin, UBC, UBB, AO7 |

|             |                                                                              |                  |                                                |                                           |                                                |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
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| 6           | <a href="#">factor activity</a>                                              | 7                | 8<br>2<br>1<br>E<br>-<br>0<br>3                | 7<br>0<br>7<br>E<br>-<br>0<br>2           | 8<br>2<br>1<br>E<br>-<br>0<br>3                | 7<br>0<br>7<br>E<br>-<br>0<br>2           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 4<br>1<br>7 | <a href="#">regulation of biological quality</a>                             | 3<br>5<br>8<br>8 | 4<br>.<br>8<br>5<br>2<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>7<br>2<br>2<br>E<br>-<br>0<br>2 | 4<br>.<br>8<br>5<br>2<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>7<br>2<br>2<br>E<br>-<br>0<br>2 | Neurochondrin, Annexin VIII, PEX2, KLC2, Reticulon 4, DLC1 (Dynein LC8a), CRK, HBG, VAMP5, STAT5A, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), Bim, Metallothionein-I, CERT, STAT5, RBP1, Twinfilin, Ccdc109a, Ubiquitin, Kinesin light chain, XPF, PDXP, Fatty acid-binding protein, ERK1/2, CRABP2, LCKBP1, Guanylate cyclase A (NPR1), GRB2, PEX19, HXK4, Rap1GDS1, Metallothionein-II, COG3, UBC, HBGA, ANXA8L2, Dysbindin, UBB, Guanylate cyclase, ARID4A, IL1RN, DYNLL, Adult hemoglobin, PAIP1, APOBEC-1, MLCK                                                                                                                                                                                   |
| 4<br>1<br>8 | <a href="#">peptide cross-linking</a>                                        | 3<br>7           | 4<br>.<br>8<br>9<br>5<br>E<br>-<br>0<br>3      | 3<br>.<br>7<br>4<br>6<br>E<br>-<br>0<br>2 | 4<br>.<br>8<br>9<br>5<br>E<br>-<br>0<br>3      | 3<br>.<br>7<br>4<br>6<br>E<br>-<br>0<br>2 | SPRR1A, SPRR4, SPRR3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 4<br>1<br>9 | <a href="#">organic cyclic compound metabolic process</a>                    | 6<br>0<br>1<br>4 | 5<br>.<br>0<br>3<br>1<br>E<br>-<br>0<br>3      | 3<br>.<br>8<br>4<br>1<br>E<br>-<br>2<br>3 | 5<br>.<br>0<br>3<br>1<br>E<br>-<br>2<br>3      | 3<br>.<br>8<br>4<br>1<br>E<br>-<br>2<br>3 | PEX2, LAGY, MIBP, DLC1 (Dynein LC8a), LCORL, GDP-mannose 4,6 dehydratase, TIPIN, SCMH1, RNASE6, STAT5A, RAD1, p38 MAPK, NASP, ERK1 (MAPK3), STAT5, RBP-J kappa (CBF1), FERD3L, SMIF, BMAL2, Tex1, UCK1, RPS27A, p38gamma (MAPK12), ZNF397, Ubiquitin, IMD2, EYA1, XPF, Phosphatase regulator (inhibitor), PDXP, ATP1A3, ERK1/2, ADSL, PQBP-1, Guanylate cyclase A (NPR1), MOCS2(small), Ajuba, HXK4, DDC, RIFK, ZNF655, Sen15, HMBS, RRP42, UBC, C16orf75, GBP5, HKR1, Notch, RAD23A, UBB, PAP41, Guanylate cyclase, ARID4A, Cyclophilin E, NOTCH1 precursor, RRAD, DHRS10, SCML1, DBC1, GINS2, CTP synthase II, RPA4, ZNF397OS, DYNLL, DSS1, Occludin, WWOX, GOCAP1, PAIP1, MLX, APOBEC-1, PAF1 |
| 4<br>2<br>0 | <a href="#">negative regulation of G1/S transition of mitotic cell cycle</a> | 1<br>1<br>9      | 5<br>.<br>1<br>6<br>2<br>E<br>-<br>0<br>0      | 3<br>.<br>9<br>1<br>3<br>E<br>-<br>0<br>0 | 5<br>.<br>1<br>6<br>2<br>E<br>-<br>0<br>0      | 3<br>.<br>9<br>1<br>3<br>E<br>-<br>0<br>0 | RPS27A, Ubiquitin, ZNF655, UBC, UBB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

|             |                                                                         |                  |                                 |                                 |                                 |                                 |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------|-------------------------------------------------------------------------|------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                         |                  | 3                               | 2                               | 3                               | 2                               |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 4<br>2<br>1 | <a href="#">mitotic DNA damage checkpoint</a>                           | 1<br>1<br>9      | 5<br>.<br>1<br>6<br>2<br>E<br>- | 3<br>.<br>9<br>1<br>3<br>E<br>- | 5<br>.<br>1<br>6<br>2<br>E<br>- | 3<br>.<br>9<br>1<br>3<br>E<br>- | 5      | TIPIN, RPS27A, Ubiquitin, UBC, UBB                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 4<br>2<br>2 | <a href="#">negative regulation of cell cycle G1/S phase transition</a> | 1<br>1<br>9      | 5<br>.<br>1<br>6<br>2<br>E<br>- | 3<br>.<br>9<br>1<br>3<br>E<br>- | 5<br>.<br>1<br>6<br>2<br>E<br>- | 3<br>.<br>9<br>1<br>3<br>E<br>- | 5      | RPS27A, Ubiquitin, ZNF655, UBC, UBB                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 4<br>2<br>3 | <a href="#">response to organic substance</a>                           | 3<br>4<br>1<br>4 | 5<br>.<br>1<br>8<br>4<br>E<br>- | 3<br>.<br>9<br>2<br>0<br>E<br>- | 5<br>.<br>1<br>8<br>4<br>E<br>- | 3<br>.<br>9<br>2<br>0<br>E<br>- | 4<br>6 | Reticulon 4, CRK, STAT5A, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), Bim, Metallothionein-I, STAT5, RBP1, SMIF, RPS27A, p38gamma (MAPK12), Ubiquitin, IMD2, Phosphatase regulator (inhibitor), PDXP, Fatty acid-binding protein, ERK1/2, Metallothionein-IG, LCKBP1, CrkL, GRB2, PTP-2, HXK4, DDC, Metallothionein-II, HMBS, UBC, GBP5, NUP93, Notch, ACSBG1, UBB, Guanylate cyclase, CALCOCO2, NOTCH1 precursor, 4E-BP1, Sprr2f, IL1RN, WWOX, PYDC1 (POP1), Adult hemoglobin, APOBEC-1, MLCK, PAF1 |
| 4<br>2<br>4 | <a href="#">negative regulation of RNA biosynthetic process</a>         | 1<br>2<br>2<br>6 | 5<br>.<br>9<br>9<br>E<br>-      | 3<br>.<br>2<br>2<br>0<br>3      | 5<br>.<br>9<br>2<br>0<br>3      | 3<br>.<br>9<br>2<br>0<br>3      | 2<br>1 | PEX2, LAGY, SCM1, HBG, RBP-J kappa (CBF1), FERD3L, RPS27A, Ubiquitin, Fatty acid-binding protein, LCKBP1, Ajuba, UBC, HBGA, Notch, UBB, ARID4A, NOTCH1 precursor, DKK3, Adult hemoglobin, MLX, PAF1                                                                                                                                                                                                                                                                                           |
| 4<br>2<br>5 | <a href="#">cytokine secretion</a>                                      | 3<br>8           | 5<br>.<br>2<br>7<br>9<br>E<br>- | 3<br>.<br>9<br>2<br>9<br>E<br>- | 5<br>.<br>2<br>7<br>9<br>E<br>- | 3<br>.<br>9<br>2<br>9<br>E<br>- | 3      | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                   |



|   |                                                  |   |   |   |   |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---|--------------------------------------------------|---|---|---|---|---|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                  |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 4 | <a href="#">primary metabolic process</a>        |   |   |   |   |   |   | MST3, SAE1, PEX2, MUC15, LAGY, MIBP, DLC1 (Dynein LC8a), LCORL, GDP-mannose 4,6 dehydratase, TIPIN, SCMH1, RNASE6, Calpain 1(mu), STAT5A, SPRR1A, RAD1, p38 MAPK, NASP, ERK1 (MAPK3), Bim, CERT, STAT5, RBP-J kappa (CBF1), FERD3L, RBP1, SMIF, Twinfilin, BMAL2, Autophagin-1, Tex1, UCK1, RPS27A, UIP5, p38gamma (MAPK12), ZNF397, Ubiquitin, IMD2, EYA1, PhLP, NANP, DUPD1, XPF, Phosphatase regulator (inhibitor), PDXP, LYPLAL1, ATP1A3, Fatty acid-binding protein, ERK1/2, ADSL, MYLK1, CRABP2, PQBP-1, SPRR4, Guanylate cyclase A (NPR1), MOCS2(small), GA17, Ajuba, PTP-2, PEX19, HXK4, Grancalcin, DDC, RIFK, ZNF655, Sen15, COG3, HMBS, RRP42, UBC, Telokin, ST13 (Hip), C16orf75, GBP5, NUP93, HKR1, Notch, ACSBG1, RAD23A, UBB, PAP41, Guanylate cyclase, IGHG1, ARID4A, Cyclophilin E, NOTCH1 precursor, GCK(MAP4K2), 4E-BP1, RRAD, DHRS10, SCML1, DBC1, GINS2, USP5, AO7, IL1RN, CTP synthase II, RPA4, ZNF397OS, BMP1, DYNLL, DSS1, Occludin, WWOX, E-FABP, Adult hemoglobin, GOCAP1, PAIP1, MLX, APOBEC-1, SPRR3, MLCK, PAF1, Galectin-13                                                                                                                                                                                                                                             |
| 2 |                                                  |   | 5 | 3 | 5 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 6 |                                                  |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|   |                                                  |   | 2 | 9 | 2 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|   |                                                  |   | 8 | 2 | 8 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|   |                                                  |   | 1 | 2 | 9 | 2 | 9 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|   |                                                  | 0 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|   |                                                  | 1 | - | - | - | - | 1 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|   |                                                  | 8 | 0 | 0 | 0 | 0 | 1 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|   |                                                  | 5 | 3 | 2 | 3 | 2 | 3 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 4 | <a href="#">regulation of biological process</a> |   |   |   |   |   |   | MST3, Neurochondrin, SAE1, Annexin VIII, PEX2, LAGY, Reticulon 4, ZNF261, MIBP, Siglec-8, DLC1 (Dynein LC8a), LCORL, GDP-mannose 4,6 dehydratase, TIPIN, SCMH1, CRK, HBG, PPP1R12B, Calpain 1(mu), STAT5A, TIRAP (Mal), TCL1A, GGA1, p38 MAPK, IL-1F5, ERK1 (MAPK3), Bim, LASP1, Metallothionein-I, CERT, STAT5, RBP-J kappa (CBF1), FERD3L, RBP1, SMIF, Twinfilin, BMAL2, Autophagin-1, RPS27A, p38gamma (MAPK12), ZNF397, Ccdc109a, Ubiquitin, CDC4L, EYA1, PhLP, SNX9, SCOCO, XPF, Phosphatase regulator (inhibitor), PDXP, LYPLAL1, ATP1A3, Fatty acid-binding protein, ERK1/2, NIP2, ARHGEF10, MYLK1, CRABP2, Metallothionein-IG, PQBP-1, LCKBP1, Guanylate cyclase A (NPR1), GA17, CrkL, Ajuba, GRB2, Rab-9B, PTP-2, CNK1, PEX19, HXK4, RIFK, Rap1GDS1, Metallothionein-II, ZNF655, COG3, UBC, HBGA, Telokin, SNX1, PCP2, ST13 (Hip), Troponin C, skeletal muscle, CED-6, NUP93, HKR1, ANXA8L2, Siglec-E, Dysbindin, Notch, RAD23A, UBB, BMF, PAP41, IRX4, Guanylate cyclase, IGHG1, ARID4A, Cyclophilin E, NOTCH1 precursor, GCK(MAP4K2), 4E-BP1, RRAD, SCML1, DBC1, Metallothionein-1M, USP5, AO7, GGA, RAB24, IL1RN, FAM116A, ZNF397OS, BMP1, DYNLL, Cystatin B, WWOX, DKK3, ACP33, PYDC1 (POP1), Adult hemoglobin, PAIP1, MLX, CAMK2N1, Rich1, Melusin, SAP, APOBEC-1, RIP, MLCK, PAF1, DOK3 |
| 2 |                                                  |   | 5 | 3 | 5 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 7 |                                                  |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|   |                                                  |   | 3 | 9 | 3 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|   |                                                  |   | 0 | 2 | 0 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|   |                                                  |   | 1 | 5 | 9 | 5 | 9 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|   |                                                  | 2 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|   |                                                  | 3 | - | - | - | - | 1 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|   |                                                  | 9 | 0 | 0 | 0 | 0 | 3 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|   |                                                  | 1 | 3 | 2 | 3 | 2 | 3 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|             |                                                                            |        |                                           |                                           |                                           |                                           |   |                         |
|-------------|----------------------------------------------------------------------------|--------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|-------------------------|
| 4<br>2<br>8 | <a href="#">mammary gland involution</a>                                   | 1<br>2 | 5<br>.<br>3<br>5<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>9<br>2<br>9<br>E<br>-<br>0<br>2 | 5<br>.<br>3<br>5<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>9<br>2<br>9<br>E<br>-<br>0<br>2 | 2 | STAT5A, STAT5           |
| 4<br>2<br>9 | <a href="#">regulation of gamma-delta T cell differentiation</a>           | 1<br>2 | 5<br>.<br>3<br>5<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>9<br>2<br>9<br>E<br>-<br>0<br>2 | 5<br>.<br>3<br>5<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>9<br>2<br>9<br>E<br>-<br>0<br>2 | 2 | STAT5A, STAT5           |
| 4<br>3<br>0 | <a href="#">atrioventricular valve morphogenesis</a>                       | 1<br>2 | 5<br>.<br>3<br>5<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>9<br>2<br>9<br>E<br>-<br>0<br>2 | 5<br>.<br>3<br>5<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>9<br>2<br>9<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor |
| 4<br>3<br>1 | <a href="#">positive regulation of natural killer cell differentiation</a> | 1<br>2 | 5<br>.<br>3<br>5<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>9<br>2<br>9<br>E<br>-<br>0<br>2 | 5<br>.<br>3<br>5<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>9<br>2<br>9<br>E<br>-<br>0<br>2 | 2 | STAT5A, STAT5           |
| 4<br>3<br>2 | <a href="#">oxaloacetate metabolic process</a>                             | 1<br>2 | 5<br>.<br>3<br>5<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>9<br>2<br>9<br>E<br>-<br>0<br>2 | 5<br>.<br>3<br>5<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>9<br>2<br>9<br>E<br>-<br>0<br>2 | 2 | STAT5A, STAT5           |
| 4<br>3      | <a href="#">regulation of somitogenesis</a>                                | 1<br>2 | 5<br>.<br>3<br>5<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>9<br>2<br>9<br>E<br>-<br>0<br>2 | 5<br>.<br>3<br>5<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>9<br>2<br>9<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor |

|             |                                                       |                  |                                           |                                      |                                      |                                      |        |                                                                                                                                                                                                                                                                                                                                              |
|-------------|-------------------------------------------------------|------------------|-------------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3           |                                                       |                  | 3<br>5<br>5<br>E<br>-<br>0<br>3           | 9<br>2<br>9<br>E<br>-<br>0<br>2      | 3<br>5<br>5<br>E<br>-<br>0<br>3      | 9<br>2<br>9<br>E<br>-<br>0<br>2      |        |                                                                                                                                                                                                                                                                                                                                              |
| 4<br>3<br>4 | <a href="#">mesangial cell differentiation</a>        | 1<br>2           | 5<br>3<br>5<br>5<br>E<br>-<br>0<br>3      | 3<br>9<br>2<br>9<br>E<br>-<br>0<br>2 | 5<br>3<br>5<br>5<br>E<br>-<br>0<br>3 | 3<br>9<br>2<br>9<br>E<br>-<br>0<br>2 | 2      | Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                      |
| 4<br>3<br>5 | <a href="#">renal interstitial cell development</a>   | 1<br>2           | 5<br>3<br>5<br>5<br>E<br>-<br>0<br>3      | 3<br>9<br>2<br>9<br>E<br>-<br>0<br>2 | 5<br>3<br>5<br>5<br>E<br>-<br>0<br>3 | 3<br>9<br>2<br>9<br>E<br>-<br>0<br>2 | 2      | Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                      |
| 4<br>3<br>6 | <a href="#">creatine metabolic process</a>            | 1<br>2           | 5<br>3<br>5<br>5<br>E<br>-<br>0<br>3      | 3<br>9<br>2<br>9<br>E<br>-<br>0<br>2 | 5<br>3<br>5<br>5<br>E<br>-<br>0<br>3 | 3<br>9<br>2<br>9<br>E<br>-<br>0<br>2 | 2      | STAT5A, STAT5                                                                                                                                                                                                                                                                                                                                |
| 4<br>3<br>7 | <a href="#">cellular protein modification process</a> | 2<br>6<br>9<br>0 | 5<br>4<br>2<br>0<br>E<br>-<br>9<br>0<br>3 | 3<br>9<br>5<br>9<br>E<br>-<br>0<br>2 | 5<br>4<br>2<br>0<br>E<br>-<br>0<br>3 | 3<br>9<br>5<br>9<br>E<br>-<br>0<br>2 | 3<br>8 | MST3, SAE1, MUC15, LAGY, STAT5A, SPRR1A, p38 MAPK, ERK1 (MAPK3), CERT, STAT5, Twinfilin, RPS27A, UIP5, p38gamma (MAPK12), Ubiquitin, EYA1, DUPD1, PDXP, LYPLAL1, ERK1/2, MYLK1, SPRR4, Guanylate cyclase A (NPR1), PTP-2, COG3, HMBS, UBC, Telokin, UBB, Guanylate cyclase, ARID4A, Cyclophilin E, GCK(MAP4K2), USP5, AO7, SPRR3, MLCK, PAF1 |
| 4<br>3<br>8 | <a href="#">protein modification process</a>          | 2<br>6<br>9<br>0 | 5<br>4<br>9<br>2                          | 3<br>9<br>4<br>5                     | 5<br>4<br>9<br>2                     | 3<br>9<br>4<br>5                     | 3<br>8 | MST3, SAE1, MUC15, LAGY, STAT5A, SPRR1A, p38 MAPK, ERK1 (MAPK3), CERT, STAT5, Twinfilin, RPS27A, UIP5, p38gamma (MAPK12), Ubiquitin, EYA1, DUPD1, PDXP, LYPLAL1, ERK1/2, MYLK1, SPRR4, Guanylate cyclase A                                                                                                                                   |

|             |                                                                                          |                  |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------|------------------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                                          |                  | 0<br>E<br>-<br>0<br>3                     | 9<br>E<br>-<br>0<br>2                     | 0<br>E<br>-<br>0<br>3                     | 9<br>E<br>-<br>0<br>2                     | (NPR1), PTP-2, COG3, HMBS, UBC, Telokin, UBB, Guanylate cyclase, ARID4A, Cyclophilin E, GCK(MAP4K2), USP5, AO7, SPRR3, MLCK, PAF1                                                                                                                                                                                                                                                                                                                                               |
| 4<br>3<br>9 | <a href="#">regulation of transforming growth factor beta receptor signaling pathway</a> | 1<br>2<br>1      | 5<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>3 | 4<br>.<br>0<br>3<br>4<br>E<br>-<br>0<br>2 | 5<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>3 | 4<br>.<br>0<br>3<br>4<br>E<br>-<br>0<br>2 | RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), UBC, UBB                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 4<br>4<br>0 | <a href="#">aromatic compound biosynthetic process</a>                                   | 3<br>3<br>3<br>6 | 5<br>.<br>6<br>2<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>0<br>8<br>7<br>E<br>-<br>0<br>2 | 5<br>.<br>6<br>2<br>7<br>E<br>-<br>0<br>3 | 4<br>.<br>0<br>8<br>7<br>E<br>-<br>0<br>2 | LAGY, MIBP, DLC1 (Dynein LC8a), LCORL, GDP-mannose 4,6 dehydratase, SCMH1, STAT5A, p38 MAPK, ERK1 (MAPK3), STAT5, RBP-J kappa (CBF1), FERD3L, BMAL2, UCK1, RPS27A, p38gamma (MAPK12), ZNF397, Ubiquitin, IMD2, EYA1, Phosphatase regulator (inhibitor), ATP1A3, ERK1/2, ADSL, PQBP-1, Guanylate cyclase A (NPR1), Ajuba, DDC, RIFK, ZNF655, HMBS, UBC, HKR1, Notch, UBB, PAP41, Guanylate cyclase, ARID4A, NOTCH1 precursor, SCML1, CTP synthase II, ZNF397OS, DYNLL, MLX, PAF1 |
| 4<br>4<br>1 | <a href="#">negative regulation of nucleobase-containing compound metabolic process</a>  | 1<br>3<br>9<br>8 | 5<br>.<br>6<br>4<br>7<br>E<br>-<br>0<br>3 | 4<br>.<br>0<br>9<br>6<br>E<br>-<br>0<br>2 | 5<br>.<br>6<br>4<br>7<br>E<br>-<br>0<br>3 | 4<br>.<br>0<br>9<br>6<br>E<br>-<br>0<br>2 | PEX2, LAGY, TIPIN, SCMH1, HBG, RBP-J kappa (CBF1), FERD3L, RPS27A, Ubiquitin, XPF, Fatty acid-binding protein, LCKBP1, Ajuba, UBC, HBGA, Notch, UBB, ARID4A, NOTCH1 precursor, DKK3, Adult hemoglobin, MLX, PAF1                                                                                                                                                                                                                                                                |
| 4<br>4<br>2 | <a href="#">cellular protein metabolic process</a>                                       | 3<br>6<br>1<br>7 | 5<br>.<br>6<br>7<br>0<br>E<br>-<br>0<br>3 | 4<br>.<br>1<br>0<br>4<br>E<br>-<br>0<br>2 | 5<br>.<br>6<br>7<br>0<br>E<br>-<br>0<br>3 | 4<br>.<br>1<br>0<br>4<br>E<br>-<br>0<br>2 | MST3, SAE1, MUC15, LAGY, STAT5A, SPRR1A, p38 MAPK, ERK1 (MAPK3), CERT, STAT5, Twinfilin, RPS27A, UIP5, p38gamma (MAPK12), Ubiquitin, EYA1, PhLP, DUPD1, PDXP, LYPLAL1, ERK1/2, MYLK1, SPRR4, Guanylate cyclase A (NPR1), MOCS2(small), GA17, PTP-2, PEX19, COG3, HMBS, UBC, Telokin, ST13 (Hip), Notch, RAD23A, UBB, Guanylate cyclase, ARID4A, Cyclophilin E, NOTCH1 precursor, GCK(MAP4K2), 4E-BP1, USP5, AO7, PAIP1, SPRR3, MLCK, PAF1                                       |
| 4<br>4<br>3 | <a href="#">negative regulation of cellular response to growth factor stimulus</a>       | 1<br>2<br>2      | 5<br>.<br>7<br>3<br>0                     | 4<br>.<br>1<br>3<br>8                     | 5<br>.<br>7<br>3<br>0                     | 4<br>.<br>1<br>3<br>8                     | RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), UBC, UBB                                                                                                                                                                                                                                                                                                                                                                                                                  |

|   |                                                                                                         |   |                                      |                                      |                                      |                                      |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---|---------------------------------------------------------------------------------------------------------|---|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                                                         |   | E<br>-<br>0<br>3                     | E<br>-<br>0<br>2                     | E<br>-<br>0<br>3                     | E<br>-<br>0<br>2                     |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 4 | <a href="#">regulation of protein serine/threonine kinase activity</a>                                  | 5 | 5<br>8<br>1<br>2<br>E<br>-<br>0<br>3 | 4<br>1<br>7<br>0<br>E<br>-<br>0<br>2 | 5<br>8<br>1<br>2<br>E<br>-<br>0<br>3 | 4<br>1<br>7<br>0<br>E<br>-<br>0<br>2 | 1<br>2 | CRK, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, Ajuba, UBC, UBB, GCK(MAP4K2), IL1RN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4 | <a href="#">single-organism developmental process</a>                                                   | 6 | 5<br>8<br>1<br>3<br>E<br>-<br>0<br>8 | 4<br>1<br>7<br>0<br>E<br>-<br>0<br>2 | 5<br>8<br>1<br>3<br>E<br>-<br>0<br>2 | 4<br>1<br>7<br>0<br>E<br>-<br>0<br>2 | 7<br>6 | MST3, Neurochondrin, PEX2, LAGY, Reticulon 4, ZNF261, DLC1 (Dynein LC8a), SCMH1, Beta crystallin B2, VAMP5, STAT5A, SPRR1A, TIRAP (Mal), RAD1, TCL1A, p38 MAPK, NASP, ERK1 (MAPK3), Bim, Metallothionein-I, CERT, STAT5, EFHD1, RBP-J kappa (CBF1), FERD3L, NHS, p38gamma (MAPK12), Ubiquitin, IMD2, EYA1, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, NIP2, ARHGEF10, MYLK1, CRABP2, Metallothionein-IG, PQBP-1, LCKBP1, SPRR4, NEPH2, CrkL, Ajuba, GRB2, PTP-2, HXK4, DDC, BBS9, Metallothionein-II, Tropomodulin, HMBS, Telokin, HKR1, Dysbindin, Notch, ACSBG1, UBB, PAP41, IRX4, Guanylate cyclase, ARID4A, NOTCH1 precursor, 4E-BP1, Sprr2f, BMP1, DYNLL, WWOX, E-FABP, DKK3, Adult hemoglobin, Melusin, RIP, SPRR3, MLCK, PAF1 |
| 4 | <a href="#">negative regulation of ubiquitin-protein ligase activity involved in mitotic cell cycle</a> | 7 | 5<br>8<br>1<br>3<br>E<br>-<br>0<br>7 | 4<br>1<br>7<br>0<br>E<br>-<br>0<br>3 | 5<br>8<br>1<br>3<br>E<br>-<br>0<br>3 | 4<br>1<br>7<br>0<br>E<br>-<br>0<br>2 | 4      | RPS27A, Ubiquitin, UBC, UBB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 4 | <a href="#">regulation of cell migration</a>                                                            | 6 | 5<br>9<br>1<br>1<br>E<br>-<br>0<br>8 | 4<br>2<br>3<br>0<br>E<br>-<br>0<br>2 | 5<br>9<br>1<br>1<br>E<br>-<br>0<br>3 | 4<br>2<br>3<br>0<br>E<br>-<br>0<br>2 | 1<br>4 | MST3, Reticulon 4, TIRAP (Mal), p38 MAPK, RBP-J kappa (CBF1), ERK1/2, MYLK1, Ajuba, PTP-2, Telokin, Notch, NOTCH1 precursor, IL1RN, MLCK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|     |                                                                           |     |           |      |          |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----|---------------------------------------------------------------------------|-----|-----------|------|----------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 448 | <a href="#">regulation of cellular macromolecule biosynthetic process</a> | 422 | 6028E2    | 4305 | 6408E2   | 4305 | PEX2, LAGY, DLC1 (Dynein LC8a), LCORL, TIPIN, SCMH1, CRK, HBG, STAT5A, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), STAT5, RBP-J kappa (CBF1), FERD3L, SMIF, BMAL2, RPS27A, p38gamma (MAPK12), ZNF397, Ubiquitin, EYA1, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, CRABP2, PQBP-1, LCKBP1, GA17, Ajuba, HXK4, ZNF655, UBC, HBGA, HKR1, Notch, UBB, IRX4, ARID4A, Cyclophilin E, NOTCH1 precursor, 4E-BP1, SCML1, DBC1, AO7, ZNF397OS, DYNLL, WWOX, DKK3, PYDC1 (POP1), Adult hemoglobin, PAIP1, MLX, APOBEC-1, PAF1 |
| 449 | <a href="#">regulation of organ formation</a>                             | 400 | 6099EE-   | 4032 | 6409EE-  | 32   | EYA1, Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 450 | <a href="#">response to copper ion</a>                                    | 400 | 6099EE-   | 4032 | 6409EE-  | 32   | Metallothionein-I, Metallothionein-IG, Metallothionein-II                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 451 | <a href="#">cellular response to fibroblast growth factor stimulus</a>    | 232 | 6172EE-   | 4302 | 6472EE-  | 72   | ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, GRB2, UBC, UBB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 452 | <a href="#">positive regulation of catalytic activity</a>                 | 443 | 62471EE93 | 4322 | 6474EE93 | 24   | SAE1, CRK, PPP1R12B, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), Bim, RPS27A, Ubiquitin, SNX9, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, NIP2, CrkL, Ajuba, RIFK, Rap1GDS1, UBC, UBB, GCK(MAP4K2), IL1RN, Rich1, RIP                                                                                                                                                                                                                                                                                              |

|   |                                                                                                            |   |   |   |   |   |   |                         |
|---|------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|-------------------------|
| 4 |                                                                                                            |   | 6 | 4 | 6 | 4 |   |                         |
| 5 |                                                                                                            |   | . | . | . | . |   |                         |
| 3 |                                                                                                            |   | 2 | 3 | 2 | 3 |   |                         |
|   |                                                                                                            |   | 9 | 9 | 9 | 9 |   |                         |
|   |                                                                                                            |   | 1 | 4 | 1 | 4 |   |                         |
|   |                                                                                                            |   | E | E | E | E |   |                         |
|   |                                                                                                            |   | - | - | - | - |   |                         |
|   | <a href="#">neuronal stem cell maintenance</a>                                                             | 1 | 0 | 0 | 0 | 0 |   |                         |
|   |                                                                                                            | 3 | 3 | 2 | 3 | 2 | 2 | Notch, NOTCH1 precursor |
| 4 |                                                                                                            |   | 6 | 4 | 6 | 4 |   |                         |
| 5 |                                                                                                            |   | . | . | . | . |   |                         |
| 4 |                                                                                                            |   | 2 | 3 | 2 | 3 |   |                         |
|   |                                                                                                            |   | 9 | 9 | 9 | 9 |   |                         |
|   |                                                                                                            |   | 1 | 4 | 1 | 4 |   |                         |
|   | <a href="#">negative regulation of calcium ion-dependent exocytosis</a>                                    | 1 | E | E | E | E |   |                         |
|   |                                                                                                            |   | - | - | - | - |   |                         |
|   |                                                                                                            | 1 | 0 | 0 | 0 | 0 |   |                         |
|   |                                                                                                            | 3 | 3 | 2 | 3 | 2 | 2 | Notch, NOTCH1 precursor |
| 4 |                                                                                                            |   | 6 | 4 | 6 | 4 |   |                         |
| 5 |                                                                                                            |   | . | . | . | . |   |                         |
| 5 |                                                                                                            |   | 2 | 3 | 2 | 3 |   |                         |
|   |                                                                                                            |   | 9 | 9 | 9 | 9 |   |                         |
|   |                                                                                                            |   | 1 | 4 | 1 | 4 |   |                         |
|   | <a href="#">renal interstitial cell differentiation</a>                                                    | 1 | E | E | E | E |   |                         |
|   |                                                                                                            |   | - | - | - | - |   |                         |
|   |                                                                                                            | 1 | 0 | 0 | 0 | 0 |   |                         |
|   |                                                                                                            | 3 | 3 | 2 | 3 | 2 | 2 | Notch, NOTCH1 precursor |
| 4 |                                                                                                            |   | 6 | 4 | 6 | 4 |   |                         |
| 5 |                                                                                                            |   | . | . | . | . |   |                         |
| 6 |                                                                                                            |   | 2 | 3 | 2 | 3 |   |                         |
|   |                                                                                                            |   | 9 | 9 | 9 | 9 |   |                         |
|   |                                                                                                            |   | 1 | 4 | 1 | 4 |   |                         |
|   | <a href="#">positive regulation of transcription from RNA polymerase II promoter in response to stress</a> | 1 | E | E | E | E |   |                         |
|   |                                                                                                            |   | - | - | - | - |   |                         |
|   |                                                                                                            | 1 | 0 | 0 | 0 | 0 |   |                         |
|   |                                                                                                            | 3 | 3 | 2 | 3 | 2 | 2 | Notch, NOTCH1 precursor |
| 4 |                                                                                                            |   | 6 | 4 | 6 | 4 |   |                         |
| 5 |                                                                                                            |   | . | . | . | . |   |                         |
| 7 |                                                                                                            |   | 2 | 3 | 2 | 3 |   |                         |
|   |                                                                                                            |   | 9 | 9 | 9 | 9 |   |                         |
|   |                                                                                                            |   | 1 | 4 | 1 | 4 |   |                         |
|   | <a href="#">regulation of epithelial cell proliferation involved in prostate gland development</a>         | 1 | E | E | E | E |   |                         |
|   |                                                                                                            |   | - | - | - | - |   |                         |
|   |                                                                                                            | 1 | 0 | 0 | 0 | 0 |   |                         |
|   |                                                                                                            | 3 | 3 | 2 | 3 | 2 | 2 | Notch, NOTCH1 precursor |
| 4 |                                                                                                            |   | 6 | 4 | 6 | 4 |   |                         |
| 5 |                                                                                                            |   | . | . | . | . |   |                         |
|   | <a href="#">positive regulation of gamma-delta T cell activation</a>                                       | 1 | 6 | 4 | 6 | 4 |   |                         |
|   |                                                                                                            | 3 | . | . | . | . | 2 | STAT5A, STAT5           |

|             |                                                                                                               |             |                                           |                                           |                                           |                                           |        |                                                                                                                |
|-------------|---------------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|----------------------------------------------------------------------------------------------------------------|
| 8           |                                                                                                               |             | 2<br>9<br>1<br>E<br>-<br>0<br>3           | 3<br>9<br>4<br>E<br>-<br>0<br>2           | 2<br>9<br>1<br>E<br>-<br>0<br>3           | 3<br>9<br>4<br>E<br>-<br>0<br>2           |        |                                                                                                                |
| 4<br>5<br>9 | <a href="#">DNA damage response, signal transduction by p53 class mediator resulting in cell cycle arrest</a> | 7<br>9      | 6<br>.<br>3<br>6<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>0<br>5<br>E<br>-<br>0<br>2 | 6<br>.<br>3<br>6<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>0<br>5<br>E<br>-<br>0<br>2 | 4      | RPS27A, Ubiquitin, UBC, UBB                                                                                    |
| 4<br>6<br>0 | <a href="#">signal transduction involved in mitotic G1 DNA damage checkpoint</a>                              | 7<br>9      | 6<br>.<br>3<br>6<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>0<br>5<br>E<br>-<br>0<br>2 | 6<br>.<br>3<br>6<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>0<br>5<br>E<br>-<br>0<br>2 | 4      | RPS27A, Ubiquitin, UBC, UBB                                                                                    |
| 4<br>6<br>1 | <a href="#">prostate gland development</a>                                                                    | 7<br>9      | 6<br>.<br>3<br>6<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>0<br>5<br>E<br>-<br>0<br>2 | 6<br>.<br>3<br>6<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>0<br>5<br>E<br>-<br>0<br>2 | 4      | STAT5A, STAT5, Notch, NOTCH1 precursor                                                                         |
| 4<br>6<br>2 | <a href="#">intracellular signal transduction involved in G1 DNA damage checkpoint</a>                        | 7<br>9      | 6<br>.<br>3<br>6<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>0<br>5<br>E<br>-<br>0<br>2 | 6<br>.<br>3<br>6<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>0<br>5<br>E<br>-<br>0<br>2 | 4      | RPS27A, Ubiquitin, UBC, UBB                                                                                    |
| 4<br>6<br>3 | <a href="#">positive regulation of kinase activity</a>                                                        | 6<br>3<br>2 | 6<br>.<br>3<br>4<br>5                     | 4<br>.<br>4<br>4<br>5                     | 6<br>.<br>4<br>4<br>5                     | 4<br>.<br>4<br>4<br>5                     | 1<br>3 | CRK, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, CrkL, Ajuba, UBC, UBB, GCK(MAP4K2), IL1RN |



|             |                                                                                |                  |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------|--------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                                |                  | 1<br>E<br>-<br>0<br>3                     | 0<br>E<br>-<br>0<br>2                     | 1<br>E<br>-<br>0<br>3                     | 0<br>E<br>-<br>0<br>2                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 4<br>6<br>4 | <a href="#">cellular response to transforming growth factor beta stimulus</a>  | 2<br>3<br>4      | 6<br>.<br>4<br>5<br>9<br>E<br>-<br>3<br>4 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 6<br>.<br>4<br>5<br>9<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 7<br>SMIF, RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), UBC, UBB, WWOX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 4<br>6<br>5 | <a href="#">regulation of nucleobase-containing compound metabolic process</a> | 4<br>9<br>8<br>6 | 6<br>.<br>5<br>3<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 6<br>.<br>5<br>3<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 6<br>PEX2, LAGY, DLC1 (Dynein LC8a), LCORL, TIPIN, SCMH1, CRK, HBG, STAT5A, TIRAP (Mal), p38 MAPK, ERK1 (MAPK3), STAT5, RBP-J kappa (CBF1), FERD3L, SMIF, BMAL2, RPS27A, p38gamma (MAPK12), ZNF397, Ubiquitin, EYA1, SNX9, XPF, Phosphatase regulator (inhibitor), Fatty acid-binding protein, ERK1/2, NIP2, ARHGEF10, CRABP2, PQBP-1, LCKBP1, Guanylate cyclase A (NPR1), Ajuba, Rap1GDS1, ZNF655, UBC, HBGA, PCP2, HKR1, Notch, UBB, IRX4, Guanylate cyclase, ARID4A, Cyclophilin E, NOTCH1 precursor, SCML1, DBC1, AO7, FAM116A, ZNF397OS, DYNLL, WWOX, DKK3, PYDC1 (POP1), Adult hemoglobin, MLX, Rich1, APOBEC-1, RIP, PAF1 |
| 4<br>6<br>6 | <a href="#">dopamine metabolic process</a>                                     | 4<br>1           | 6<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 6<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 3<br>Guanylate cyclase A (NPR1), DDC, Guanylate cyclase                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 4<br>6<br>7 | <a href="#">nitric oxide mediated signal transduction</a>                      | 4<br>1           | 6<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 6<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 3<br>Metallothionein-I, Metallothionein-II, Guanylate cyclase                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 4<br>6      | <a href="#">lipopolysaccharide-mediated signaling pathway</a>                  | 4<br>1           | 6<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 6<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 3<br>p38 MAPK, ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

|             |                                                                                  |             |                                           |                                           |                                           |                                           |   |                                                         |
|-------------|----------------------------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|---------------------------------------------------------|
| 8           |                                                                                  |             | 5<br>3<br>6<br>E<br>-<br>0<br>3           | 4<br>5<br>0<br>E<br>-<br>0<br>2           | 5<br>3<br>6<br>E<br>-<br>0<br>3           | 4<br>5<br>0<br>E<br>-<br>0<br>2           |   |                                                         |
| 4<br>6<br>9 | <a href="#">antigen receptor-mediated signaling pathway</a>                      | 1<br>7<br>8 | 6<br>.<br>5<br>4<br>0<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 6<br>.<br>5<br>4<br>0<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 6 | RPS27A, Ubiquitin, ERK1/2, UBC, UBB, ACP33              |
| 4<br>7<br>0 | <a href="#">mitotic DNA integrity checkpoint</a>                                 | 1<br>2<br>6 | 6<br>.<br>5<br>5<br>4<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 6<br>.<br>5<br>5<br>4<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 5 | TIPIN, RPS27A, Ubiquitin, UBC, UBB                      |
| 4<br>7<br>1 | <a href="#">epidermal growth factor receptor signaling pathway</a>               | 2<br>3<br>5 | 6<br>.<br>6<br>0<br>6<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 6<br>.<br>6<br>0<br>6<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 7 | ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, GRB2, UBC, UBB |
| 4<br>7<br>2 | <a href="#">signal transduction involved in mitotic DNA integrity checkpoint</a> | 8<br>0      | 6<br>.<br>6<br>4<br>9<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 6<br>.<br>6<br>4<br>9<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 4 | RPS27A, Ubiquitin, UBC, UBB                             |
| 4<br>7<br>3 | <a href="#">signal transduction involved in mitotic cell cycle checkpoint</a>    | 8<br>0      | 6<br>.<br>6<br>4<br>5                     | 4<br>.<br>4<br>5<br>4                     | 6<br>.<br>6<br>4<br>5                     | 4<br>.<br>4<br>5<br>4                     | 4 | RPS27A, Ubiquitin, UBC, UBB                             |

|             |                                                                               |        |                                           |                                           |                                           |                                           |   |                                     |
|-------------|-------------------------------------------------------------------------------|--------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|-------------------------------------|
|             |                                                                               |        | 9<br>E<br>-<br>0<br>3                     | 0<br>E<br>-<br>0<br>2                     | 9<br>E<br>-<br>0<br>3                     | 0<br>E<br>-<br>0<br>2                     |   |                                     |
| 4<br>7<br>4 | <a href="#">signal transduction involved in DNA damage checkpoint</a>         | 8<br>0 | 6<br>.<br>6<br>4<br>9<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 6<br>.<br>6<br>4<br>9<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 4 | RPS27A, Ubiquitin, UBC, UBB         |
| 4<br>7<br>5 | <a href="#">positive regulation of mitochondrion organization</a>             | 8<br>0 | 6<br>.<br>6<br>4<br>9<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 6<br>.<br>6<br>4<br>9<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 4 | DLC1 (Dynein LC8a), Bim, BMF, DYNLL |
| 4<br>7<br>6 | <a href="#">signal transduction involved in DNA integrity checkpoint</a>      | 8<br>0 | 6<br>.<br>6<br>4<br>9<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 6<br>.<br>6<br>4<br>9<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 4 | RPS27A, Ubiquitin, UBC, UBB         |
| 4<br>7<br>7 | <a href="#">activation of MAPKK activity</a>                                  | 8<br>0 | 6<br>.<br>6<br>4<br>9<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 6<br>.<br>6<br>4<br>9<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 4 | CRK, ERK1 (MAPK3), ERK1/2, CrkL     |
| 4<br>7<br>8 | <a href="#">signal transduction involved in mitotic DNA damage checkpoint</a> | 8<br>0 | 6<br>.<br>6<br>4<br>9<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 6<br>.<br>6<br>4<br>9<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 4 | RPS27A, Ubiquitin, UBC, UBB         |

|   |                                                                        |   |   |   |   |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---|------------------------------------------------------------------------|---|---|---|---|---|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                        |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 4 | <a href="#">positive regulation of cellular component organization</a> | 9 | 6 | 4 | 6 | 4 | 1 | MST3, DLC1 (Dynein LC8a), p38 MAPK, ERK1 (MAPK3), Bim, SNX9, PDXP, ERK1/2, ARHGEF10, LCKBP1, Ajuba, GRB2, Notch, BMF, NOTCH1 precursor, DYNLL, MLCK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 7 |                                                                        | 3 | . | . | . | . | 7 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 9 |                                                                        | 6 | 6 | 4 | 6 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | 9 | 6 | 9 | 6 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | 4 | 8 | 4 | 8 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 4 | <a href="#">regulation of protein complex assembly</a>                 | 2 | 6 | 4 | 6 | 4 | 8 | Bim, Twinfilin, SNX9, LCKBP1, Ajuba, GRB2, BMF, 4E-BP1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 8 |                                                                        | 9 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 0 |                                                                        | 6 | 7 | 4 | 7 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | 0 | 6 | 0 | 6 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | 5 | 8 | 5 | 8 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 4 | <a href="#">response to fibroblast growth factor</a>                   | 2 | 6 | 4 | 6 | 4 | 7 | ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, GRB2, UBC, UBB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 8 |                                                                        | 3 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 1 |                                                                        | 6 | 7 | 4 | 7 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | 5 | 9 | 5 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | 6 | 3 | 6 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 4 | <a href="#">single-organism cellular process</a>                       | 1 | 6 | 4 | 6 | 4 | 1 | MST3, Neurochondrin, PEX2, KLC2, MUC15, LAGY, Reticulon 4, MIBP, Siglec-8, DLC1 (Dynein LC8a), GDP-mannose 4,6 dehydratase, TIPIN, SCMH1, CRK, DCTN2, PPP1R12B, VAMP5, Calpain 1(mu), STAT5A, SPRR1A, TIRAP (Mal), RAD1, TCL1A, p38 MAPK, NASP, ERK1 (MAPK3), Carbonic anhydrase XIII, Bim, LASP1, Metallothionein-I, CERT, STAT5, EFHD1, RBP-J kappa (CBF1), FERD3L, RBP1, SMIF, Twinfilin, MCT4, BMAL2, Autophagin-1, NHS, UCK1, KLC3, RPS27A, p38gamma (MAPK12), Ccdc109a, Ubiquitin, IMD2, CDC4L, EYA1, PhLP, SNX9, Kinesin light chain, NANP, XPF, Phosphatase regulator (inhibitor), PDXP, ATP1A3, Fatty acid-binding protein, ERK1/2, NIP2, ADSL, ARHGEF10, MYLK1, CRABP2, Metallothionein-IG, PQBP-1, Kizuna (C20orf19), LCKBP1, SPRR4, Guanylate cyclase A (NPR1), NEPH2, CrkL, Ajuba, GRB2, Rab-9B, PTP-2, CNK1, PEX19, HXK4, DDC, RIFK, Rap1GDS1, BBS9, Metallothionein-II, ZNF655, Tropomodulin, COG3, HMBS, UBC, Telokin, PCP2, |
| 8 |                                                                        | 3 | . | . | . | . | 4 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 2 |                                                                        | 9 | 8 | 5 | 8 | 5 | 2 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | 2 | 2 | 2 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | 5 | 9 | 5 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|   |                                                                        |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

|             |                                                                       |             |                                           |                                      |                                           |                                      |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------|-----------------------------------------------------------------------|-------------|-------------------------------------------|--------------------------------------|-------------------------------------------|--------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                       |             |                                           |                                      |                                           |                                      |                                           | Troponin C, skeletal muscle, CED-6, GBP5, NUP93, Siglec-E, Dysbindin, Notch, ACSBG1, RAD23A, UBB, BMF, PAP41, IRX4, Guanylate cyclase, IGHG1, ARID4A, NOTCH1 precursor, GCK(MAP4K2), 4E-BP1, RRAD, Sprr2f, DBC1, GINS2, RAB24, IL1RN, CTP synthase II, RPA4, BMP1, DYNLL, DSS1, Occludin, WWOX, E-FABP, DKK3, ACP33, PYDC1 (POP1), Adult hemoglobin, MLX, CAMK2N1, Rich1, Melusin, SAP, APOBEC-1, RIP, SPRR3, MLCK, PAF1, Galectin-13, DOK3 |
| 4<br>8<br>3 | <a href="#">diencephalon development</a>                              | 1<br>8<br>0 | 6<br>.<br>8<br>9<br>5<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>5<br>E<br>-<br>0<br>2 | 6<br>.<br>8<br>9<br>5<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>5<br>E<br>-<br>0<br>2 | 6<br>.<br>8<br>9<br>5<br>E<br>-<br>0<br>2 | DLC1 (Dynein LC8a), RAD1, RBP-J kappa (CBF1), Ubiquitin, UBB, DYNLL                                                                                                                                                                                                                                                                                                                                                                         |
| 4<br>8<br>4 | <a href="#">ERBB signaling pathway</a>                                | 2<br>3<br>7 | 6<br>.<br>9<br>0<br>8<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>5<br>E<br>-<br>0<br>2 | 6<br>.<br>9<br>0<br>8<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>5<br>E<br>-<br>0<br>2 | 7                                         | ERK1 (MAPK3), RPS27A, Ubiquitin, ERK1/2, GRB2, UBC, UBB                                                                                                                                                                                                                                                                                                                                                                                     |
| 4<br>8<br>5 | <a href="#">nucleobase metabolic process</a>                          | 8<br>1      | 6<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>5<br>E<br>-<br>0<br>2 | 6<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>5<br>E<br>-<br>0<br>2 | 4                                         | UCK1, IMD2, ERK1/2, ADSL                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 4<br>8<br>6 | <a href="#">signal transduction involved in cell cycle checkpoint</a> | 8<br>1      | 6<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>5<br>E<br>-<br>0<br>2 | 6<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>5<br>E<br>-<br>0<br>2 | 4                                         | RPS27A, Ubiquitin, UBC, UBB                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 4<br>8      | <a href="#">pyrimidine ribonucleoside metabolic process</a>           | 4<br>2      | 6<br>.<br>.<br>.<br>.                     | 4<br>.<br>.<br>.<br>.                | 6<br>.<br>.<br>.<br>.                     | 4<br>.<br>.<br>.<br>.                | 3                                         | UCK1, CTP synthase II, APOBEC-1                                                                                                                                                                                                                                                                                                                                                                                                             |

|             |                                                                 |                  |                                           |                                           |                                           |                                           |             |                                                                                                                                                                                                             |
|-------------|-----------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7           |                                                                 |                  | 9<br>9<br>1<br>E<br>-<br>0<br>3           | 5<br>5<br>5<br>E<br>-<br>0<br>2           | 9<br>9<br>1<br>E<br>-<br>0<br>3           | 5<br>5<br>5<br>E<br>-<br>0<br>2           |             |                                                                                                                                                                                                             |
| 4<br>8<br>8 | <a href="#">response to epidermal growth factor</a>             | 4<br>2           | 6<br>.<br>9<br>9<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>5<br>5<br>E<br>-<br>0<br>2 | 6<br>.<br>9<br>9<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>5<br>5<br>E<br>-<br>0<br>2 | 3           | ERK1 (MAPK3), STAT5, ERK1/2                                                                                                                                                                                 |
| 4<br>8<br>9 | <a href="#">auditory receptor cell differentiation</a>          | 4<br>2           | 6<br>.<br>9<br>9<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>5<br>5<br>E<br>-<br>0<br>3 | 6<br>.<br>9<br>9<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>5<br>5<br>E<br>-<br>0<br>2 | 3           | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                                 |
| 4<br>9<br>0 | <a href="#">cellular response to osmotic stress</a>             | 4<br>2           | 6<br>.<br>9<br>9<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>5<br>5<br>E<br>-<br>0<br>3 | 6<br>.<br>9<br>9<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>5<br>5<br>E<br>-<br>0<br>2 | 3           | MYLK1, Telokin, MLCK                                                                                                                                                                                        |
| 4<br>9<br>1 | <a href="#">regulation of cardiac muscle cell proliferation</a> | 4<br>2           | 6<br>.<br>9<br>9<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>5<br>5<br>E<br>-<br>0<br>3 | 6<br>.<br>9<br>9<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>5<br>5<br>E<br>-<br>0<br>2 | 3           | RBP-J kappa (CBF1), Notch, NOTCH1 precursor                                                                                                                                                                 |
| 4<br>9<br>2 | <a href="#">organic substance metabolic process</a>             | 1<br>0<br>4<br>7 | 7<br>.<br>0<br>5<br>1                     | 4<br>.<br>5<br>0<br>5                     | 7<br>.<br>5<br>0<br>1                     | 4<br>.<br>5<br>5<br>5                     | 1<br>1<br>5 | MST3, SAE1, PEX2, MUC15, LAGY, MIBP, DLC1 (Dynein LC8a), LCORL, GDP-mannose 4,6 dehydratase, TIPIN, SCM1, RNASE6, Calpain 1(mu), STAT5A, SPRR1A, RAD1, p38 MAPK, NASP, ERK1 (MAPK3), Bim, CERT, STAT5, RBP- |

|             |                                                                            |             |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------|----------------------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                            | 6           | 2<br>E<br>-<br>0<br>3                     | 9<br>E<br>-<br>0<br>2                     | 2<br>E<br>-<br>0<br>3                     | 9<br>E<br>-<br>0<br>2                     | J kappa (CBF1), FERD3L, RBP1, SMIF, Twinfilin, BMAL2, Autophagin-1, Tex1, UCK1, RPS27A, UIP5, p38gamma (MAPK12), ZNF397, Ubiquitin, IMD2, EYA1, PhLP, NANP, DUPD1, XPF, Phosphatase regulator (inhibitor), PDXP, LYPLAL1, ATP1A3, Fatty acid-binding protein, ERK1/2, ADSL, MYLK1, CRABP2, PQBP-1, SPRR4, Guanylate cyclase A (NPR1), MOCS2(small), GA17, Ajuba, GRB2, PTP-2, PEX19, HXK4, Grancalcin, DDC, RIFK, ZNF655, Sen15, COG3, HMBS, RRP42, UBC, Telokin, ST13 (Hip), C16orf75, GBP5, NUP93, HKR1, Notch, ACSBG1, RAD23A, UBB, PAP41, Guanylate cyclase, IGHG1, ARID4A, Cyclophilin E, NOTCH1 precursor, GCK(MAP4K2), 4E-BP1, RRAD, DHRS10, SCML1, DBC1, GINS2, USP5, AO7, IL1RN, CTP synthase II, RPA4, ZNF397OS, BMP1, DYNLL, DSS1, Occludin, WWOX, E-FABP, Adult hemoglobin, GOCAP1, PAIP1, MLX, APOBEC-1, RIP, SPRR3, MLCK, PAF1, Galectin-13 |
| 4<br>9<br>3 | <a href="#">transforming growth factor beta receptor signaling pathway</a> | 1<br>8<br>1 | 7<br>.<br>0<br>7<br>8<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>9<br>3<br>E<br>-<br>0<br>2 | 7<br>.<br>0<br>7<br>8<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>9<br>3<br>E<br>-<br>0<br>2 | SMIF, RPS27A, Ubiquitin, Phosphatase regulator (inhibitor), UBC, UBB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 4<br>9<br>4 | <a href="#">positive regulation of myeloid leukocyte differentiation</a>   | 8<br>2      | 7<br>.<br>2<br>4<br>9<br>E<br>-<br>0<br>3 | 4<br>.<br>6<br>3<br>0<br>E<br>-<br>0<br>2 | 7<br>.<br>2<br>4<br>9<br>E<br>-<br>0<br>3 | 4<br>.<br>6<br>3<br>0<br>E<br>-<br>0<br>2 | STAT5A, STAT5, LCKBP1, Notch                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 4<br>9<br>5 | <a href="#">heart valve formation</a>                                      | 1<br>4      | 7<br>.<br>2<br>9<br>4<br>E<br>-<br>0<br>3 | 4<br>.<br>6<br>3<br>0<br>E<br>-<br>0<br>2 | 7<br>.<br>2<br>9<br>4<br>E<br>-<br>0<br>3 | 4<br>.<br>6<br>3<br>0<br>E<br>-<br>0<br>2 | Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 4<br>9<br>6 | <a href="#">vascular smooth muscle cell development</a>                    | 1<br>4      | 7<br>.<br>2<br>9<br>3                     | 4<br>.<br>6<br>3<br>9                     | 7<br>.<br>2<br>9<br>3                     | 4<br>.<br>6<br>3<br>9                     | Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

|             |                                                    |        |                                           |                                           |                                           |                                           |   |                         |
|-------------|----------------------------------------------------|--------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|-------------------------|
|             |                                                    |        | 4<br>E<br>-<br>0<br>3                     | 0<br>E<br>-<br>0<br>2                     | 4<br>E<br>-<br>0<br>3                     | 0<br>E<br>-<br>0<br>2                     |   |                         |
| 4<br>9<br>7 | <a href="#">3'-UTR-mediated mRNA stabilization</a> | 1<br>4 | 7<br>.<br>2<br>9<br>4<br>E<br>-<br>0<br>3 | 4<br>.<br>6<br>3<br>0<br>E<br>-<br>0<br>2 | 7<br>.<br>2<br>9<br>4<br>E<br>-<br>0<br>3 | 4<br>.<br>6<br>3<br>0<br>E<br>-<br>0<br>2 | 2 | TIRAP (Mal), p38 MAPK   |
| 4<br>9<br>8 | <a href="#">glomerulus morphogenesis</a>           | 1<br>4 | 7<br>.<br>2<br>9<br>4<br>E<br>-<br>0<br>3 | 4<br>.<br>6<br>3<br>0<br>E<br>-<br>0<br>2 | 7<br>.<br>2<br>9<br>4<br>E<br>-<br>0<br>3 | 4<br>.<br>6<br>3<br>0<br>E<br>-<br>0<br>2 | 2 | NEPH2, Notch            |
| 4<br>9<br>9 | <a href="#">cardiac ventricle formation</a>        | 1<br>4 | 7<br>.<br>2<br>9<br>4<br>E<br>-<br>0<br>3 | 4<br>.<br>6<br>3<br>0<br>E<br>-<br>0<br>2 | 7<br>.<br>2<br>9<br>4<br>E<br>-<br>0<br>3 | 4<br>.<br>6<br>3<br>0<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor |
| 5<br>0<br>0 | <a href="#">terpenoid biosynthetic process</a>     | 1<br>4 | 7<br>.<br>2<br>9<br>4<br>E<br>-<br>0<br>3 | 4<br>.<br>6<br>3<br>0<br>E<br>-<br>0<br>2 | 7<br>.<br>2<br>9<br>4<br>E<br>-<br>0<br>3 | 4<br>.<br>6<br>3<br>0<br>E<br>-<br>0<br>2 | 2 | RBP1, CRABP2            |



**Table 9S: Enrichment analysis report.** Enrichment by GO Processes (healthy control vs Grade IV)

| Enrichment by GO Processes |                                                                |       | GRADE IV_INPUT_genelist |           |           |           |         |                                           |
|----------------------------|----------------------------------------------------------------|-------|-------------------------|-----------|-----------|-----------|---------|-------------------------------------------|
| #                          | Processes                                                      | Total | p Value                 | Min FDR   | p-value   | FDR       | In Data | Network Objects from Active Data          |
| 1                          | <a href="#">positive regulation of histone phosphorylation</a> | 8     | 7.346E-09               | 1.35E-05  | 7.346E-09 | 1.35E-05  | 4       | Cyclin B1, ERK1 (MAPK3), Cyclin B, ERK1/2 |
| 2                          | <a href="#">negative regulation of inclusion body assembly</a> | 10    | 2.193E-08               | 2.293E-05 | 2.193E-08 | 2.293E-05 | 4       | HSPA1B, HSP70, HSPA1A, HSPA2              |
| 3                          | <a href="#">regulation of histone phosphorylation</a>          | 11    | 3.438E-08               | 2.14E-05  | 3.438E-08 | 2.14E-05  | 4       | Cyclin B1, ERK1 (MAPK3), Cyclin B, ERK1/2 |
| 4                          | <a href="#">protein refolding</a>                              | 22    | 7.416E-07               | 3.24E-04  | 7.416E-07 | 3.24E-04  | 4       | HSPA1B, HSP70, HSPA1A, HSPA2              |

|    |                                                                                         |                  |                                           |                                           |                                           |                                           |                                           |                                           |                                                                                                                                                          |
|----|-----------------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5  | <a href="#">regulation of protein serine/threonine kinase activity</a>                  | 5<br>5<br>3      | 1<br>.<br>7<br>1<br>1<br>E<br>-<br>0<br>6 | 5<br>.<br>7<br>3<br>7<br>E<br>-<br>0<br>4 | 1<br>.<br>7<br>1<br>1<br>E<br>-<br>0<br>6 | 5<br>.<br>7<br>3<br>7<br>E<br>-<br>0<br>4 | 1<br>.<br>7<br>3<br>7<br>E<br>-<br>0<br>4 | 1<br>.<br>7<br>3<br>7<br>E<br>-<br>0<br>4 | Ajuba, Cyclin B1, HEXIM1, TIRAP (Mal), Calmyrin, HSP70, ERK1 (MAPK3), HSPA2, CKS2, Cyclin B, ERK1/2                                                      |
| 6  | <a href="#">regulation of protein phosphorylation</a>                                   | 1<br>2<br>6<br>7 | 2<br>.<br>4<br>7<br>6<br>E<br>-<br>0<br>6 | 5<br>.<br>7<br>3<br>7<br>E<br>-<br>0<br>4 | 2<br>.<br>4<br>7<br>6<br>E<br>-<br>0<br>6 | 5<br>.<br>7<br>3<br>7<br>E<br>-<br>0<br>4 | 5<br>.<br>7<br>3<br>7<br>E<br>-<br>0<br>4 | 1<br>.<br>7<br>3<br>7<br>E<br>-<br>0<br>4 | Ajuba, Cyclin B1, HEXIM1, TIRAP (Mal), Calmyrin, HSP70, ERK1 (MAPK3), eEF2K, CD43, HSPA2, CKS2, Spinophilin, Cyclin B, Adult hemoglobin, CAMK2N1, ERK1/2 |
| 7  | <a href="#">regulation of cyclin-dependent protein serine/threonine kinase activity</a> | 1<br>1<br>9      | 2<br>.<br>5<br>8<br>5<br>E<br>-<br>0<br>6 | 5<br>.<br>7<br>3<br>7<br>E<br>-<br>0<br>4 | 2<br>.<br>5<br>8<br>5<br>E<br>-<br>0<br>6 | 5<br>.<br>7<br>3<br>7<br>E<br>-<br>0<br>4 | 5<br>.<br>7<br>3<br>7<br>E<br>-<br>0<br>4 | 6                                         | Cyclin B1, HEXIM1, HSP70, HSPA2, CKS2, Cyclin B                                                                                                          |
| 8  | <a href="#">heat acclimation</a>                                                        | 9                | 2<br>.<br>7<br>9<br>8<br>E<br>-<br>0<br>6 | 5<br>.<br>7<br>3<br>7<br>E<br>-<br>0<br>4 | 2<br>.<br>7<br>9<br>8<br>E<br>-<br>0<br>6 | 5<br>.<br>7<br>3<br>7<br>E<br>-<br>0<br>4 | 5<br>.<br>7<br>3<br>7<br>E<br>-<br>0<br>4 | 3                                         | HSPA1B, HSP70, HSPA1A                                                                                                                                    |
| 9  | <a href="#">cellular heat acclimation</a>                                               | 9                | 2<br>.<br>7<br>9<br>8<br>E<br>-<br>0<br>6 | 5<br>.<br>7<br>3<br>7<br>E<br>-<br>0<br>4 | 2<br>.<br>7<br>9<br>8<br>E<br>-<br>0<br>6 | 5<br>.<br>7<br>3<br>7<br>E<br>-<br>0<br>4 | 5<br>.<br>7<br>3<br>7<br>E<br>-<br>0<br>4 | 3                                         | HSPA1B, HSP70, HSPA1A                                                                                                                                    |
| 10 | <a href="#">regulation of inclusion body assembly</a>                                   | 3<br>1           | 3<br>.                                    | 5<br>.                                    | 3<br>.                                    | 5<br>.                                    | 5<br>.                                    | 4                                         | HSPA1B, HSP70, HSPA1A, HSPA2                                                                                                                             |

|        |                                                      |        |                                           |                                           |                                           |                                           |   |                                 |
|--------|------------------------------------------------------|--------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|---------------------------------|
|        |                                                      |        | 1<br>2<br>0<br>E<br>-<br>0<br>6           | 7<br>5<br>6<br>E<br>-<br>0<br>4           | 1<br>2<br>0<br>E<br>-<br>0<br>6           | 7<br>5<br>6<br>E<br>-<br>0<br>4           |   |                                 |
| 1<br>1 | <a href="#">response to ischemia</a>                 | 3<br>3 | 4<br>.<br>0<br>3<br>7<br>E<br>-<br>0<br>6 | 6<br>.<br>7<br>7<br>1<br>E<br>-<br>0<br>4 | 4<br>.<br>0<br>3<br>7<br>E<br>-<br>0<br>6 | 6<br>.<br>7<br>7<br>1<br>E<br>-<br>0<br>4 | 4 | HSPA1B, Calmyrin, HSP70, HSPA1A |
| 1<br>2 | <a href="#">regulation of apolipoprotein binding</a> | 2      | 1<br>.<br>0<br>6<br>1<br>E<br>-<br>0<br>5 | 1<br>.<br>2<br>2<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>0<br>6<br>1<br>E<br>-<br>0<br>5 | 1<br>.<br>2<br>2<br>3<br>E<br>-<br>0<br>3 | 2 | ERK1 (MAPK3), ERK1/2            |
| 1<br>3 | <a href="#">response to DDT</a>                      | 2      | 1<br>.<br>0<br>6<br>1<br>E<br>-<br>0<br>5 | 1<br>.<br>2<br>2<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>0<br>6<br>1<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>2<br>3<br>E<br>-<br>0<br>3 | 2 | Cyclin B1, Cyclin B             |
| 1<br>4 | <a href="#">regulation of vesicle size</a>           | 2      | 1<br>.<br>0<br>6<br>1<br>E<br>-<br>0<br>5 | 1<br>.<br>2<br>2<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>0<br>6<br>1<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>2<br>3<br>E<br>-<br>0<br>3 | 2 | Rab-3B, Rab-3                   |
| 1<br>5 | <a href="#">synaptonemal complex disassembly</a>     | 2      | 1<br>.<br>0<br>6                          | 1<br>.<br>2<br>2                          | 1<br>.<br>0<br>6                          | 1<br>.<br>2<br>2                          | 2 | HSP70, HSPA2                    |

|        |                                                                                                   |        |                                           |                                           |                                           |                                           |                            |                                                                                                                                                                  |
|--------|---------------------------------------------------------------------------------------------------|--------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                                                   |        | 1<br>E<br>-<br>0<br>5                     | 3<br>E<br>-<br>0<br>3                     | 1<br>E<br>-<br>0<br>5                     | 3<br>E<br>-<br>0<br>3                     |                            |                                                                                                                                                                  |
| 1<br>6 | <a href="#">negative regulation of apolipoprotein binding</a>                                     | 2      | 1<br>.<br>0<br>6<br>1<br>E<br>-<br>0<br>5 | 1<br>.<br>2<br>2<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>0<br>6<br>1<br>E<br>-<br>0<br>5 | 1<br>.<br>2<br>2<br>3<br>E<br>-<br>0<br>3 | 2                          | ERK1 (MAPK3), ERK1/2                                                                                                                                             |
| 1<br>7 | <a href="#">negative regulation of vasoconstriction</a>                                           | 1<br>5 | 1<br>.<br>4<br>9<br>5<br>E<br>-<br>0<br>5 | 1<br>.<br>4<br>9<br>3<br>E<br>-<br>0<br>5 | 1<br>.<br>4<br>9<br>5<br>E<br>-<br>0<br>3 | 1<br>.<br>4<br>9<br>3<br>E<br>-<br>0<br>3 | 3                          | HSPA1B, HSP70, HSPA1A                                                                                                                                            |
| 1<br>8 | <a href="#">negative regulation of extrinsic apoptotic signaling pathway in absence of ligand</a> | 4<br>6 | 1<br>.<br>5<br>5<br>9<br>E<br>-<br>0<br>5 | 1<br>.<br>4<br>9<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>5<br>5<br>9<br>E<br>-<br>0<br>3 | 1<br>.<br>4<br>9<br>3<br>E<br>-<br>0<br>3 | 4                          | HSPA1B, HSP70, HSPA1A, EYA1                                                                                                                                      |
| 1<br>9 | <a href="#">negative regulation of signal transduction in absence of ligand</a>                   | 4<br>6 | 1<br>.<br>5<br>5<br>9<br>E<br>-<br>0<br>5 | 1<br>.<br>4<br>9<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>5<br>5<br>9<br>E<br>-<br>0<br>3 | 1<br>.<br>4<br>9<br>3<br>E<br>-<br>0<br>3 | 4                          | HSPA1B, HSP70, HSPA1A, EYA1                                                                                                                                      |
| 2<br>0 | <a href="#">macromolecular complex subunit organization</a>                                       |        | 1<br>.<br>6<br>8<br>2<br>3                | 1<br>.<br>4<br>9<br>3<br>E                | 1<br>.<br>6<br>1<br>9<br>3<br>E           | 1<br>.<br>4<br>9<br>3<br>E                | 1<br>.<br>4<br>9<br>3<br>E | Cyclin B1, Clp1, ASAP, AL1A1, HBG, HBGA, Calmyrin, COLEC12, HSP70, ERK1 (MAPK3), Annexin VI, CKS2, Spinophilin, Cyclin B, IMD2, Adult hemoglobin, ERK1/2, PQBP-1 |

|        |                                                           |                  |                                 |                                 |                                 |                                 |        |                                                                                                                                                          |
|--------|-----------------------------------------------------------|------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                           |                  | -<br>0<br>5                     | -<br>0<br>3                     | -<br>0<br>5                     | -<br>0<br>3                     |        |                                                                                                                                                          |
| 2<br>1 | <a href="#">interleukin-1-mediated signaling pathway</a>  | 1<br>7           | 2<br>.<br>2<br>2<br>3<br>E<br>- | 1<br>.<br>9<br>5<br>3<br>E<br>- | 2<br>.<br>2<br>2<br>3<br>E<br>- | 1<br>.<br>9<br>5<br>3<br>E<br>- | 3      | TIRAP (Mal), ERK1 (MAPK3), ERK1/2                                                                                                                        |
| 2<br>2 | <a href="#">regulation of phosphorylation</a>             | 1<br>5<br>3<br>9 | 2<br>.<br>8<br>7<br>5<br>E<br>- | 2<br>.<br>4<br>1<br>1<br>E<br>- | 2<br>.<br>8<br>7<br>5<br>E<br>- | 2<br>.<br>4<br>1<br>1<br>E<br>- | 1<br>6 | Ajuba, Cyclin B1, HEXIM1, TIRAP (Mal), Calmyrin, HSP70, ERK1 (MAPK3), eEF2K, CD43, HSPA2, CKS2, Spinophilin, Cyclin B, Adult hemoglobin, CAMK2N1, ERK1/2 |
| 2<br>3 | <a href="#">regulation of protein kinase activity</a>     | 8<br>9<br>6      | 3<br>.<br>0<br>9<br>1<br>E<br>- | 2<br>.<br>4<br>4<br>1<br>E<br>- | 3<br>.<br>0<br>9<br>1<br>E<br>- | 2<br>.<br>4<br>4<br>1<br>E<br>- | 1<br>2 | Ajuba, Cyclin B1, HEXIM1, TIRAP (Mal), Calmyrin, HSP70, ERK1 (MAPK3), HSPA2, CKS2, Cyclin B, CAMK2N1, ERK1/2                                             |
| 2<br>4 | <a href="#">mitotic spindle stabilization</a>             | 3                | 3<br>.<br>1<br>7<br>6<br>E<br>- | 2<br>.<br>4<br>4<br>1<br>E<br>- | 3<br>.<br>1<br>7<br>6<br>E<br>- | 2<br>.<br>4<br>4<br>1<br>E<br>- | 2      | Cyclin B1, Cyclin B                                                                                                                                      |
| 2<br>5 | <a href="#">regulation of erythrocyte differentiation</a> | 5<br>7           | 3<br>.<br>6<br>7<br>3<br>E<br>- | 2<br>.<br>6<br>2<br>6<br>E<br>- | 3<br>.<br>6<br>7<br>3<br>E<br>- | 2<br>.<br>6<br>2<br>6<br>E<br>- | 4      | HSPA1B, HSP70, HSPA1A, Adult hemoglobin                                                                                                                  |

|    |                                                            |  |                                           |                                           |                                           |                                           |    |                                                                                                                                                          |
|----|------------------------------------------------------------|--|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                                                            |  | 5                                         | 3                                         | 5                                         | 3                                         |    |                                                                                                                                                          |
| 26 | <a href="#">oxygen transport</a>                           |  | 3<br>.<br>7<br>0<br>1<br>E<br>-<br>2<br>0 | 2<br>.<br>6<br>2<br>6<br>E<br>-<br>0<br>5 | 3<br>.<br>7<br>0<br>1<br>E<br>-<br>0<br>5 | 2<br>.<br>6<br>2<br>6<br>E<br>-<br>0<br>3 | 3  | HBG, HBGA, Adult hemoglobin                                                                                                                              |
| 27 | <a href="#">cell cycle</a>                                 |  | 3<br>.<br>9<br>6<br>1<br>E<br>5<br>8<br>0 | 2<br>.<br>6<br>9<br>1<br>E<br>-<br>0<br>5 | 3<br>.<br>9<br>6<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>6<br>9<br>1<br>E<br>-<br>0<br>3 | 16 | Ajuba, Cyclin B1, TIPIN, ASAP, Calmyrin, HSP70, ERK1 (MAPK3), HSPA2, CKS2, Annexin XI, Spinophilin, Septin 3, Cyclin B, EYA1, ERK1/2, PRCC               |
| 28 | <a href="#">regulation of protein modification process</a> |  | 4<br>.<br>0<br>8<br>4<br>E<br>5<br>8<br>4 | 2<br>.<br>6<br>9<br>1<br>E<br>-<br>0<br>5 | 4<br>.<br>0<br>8<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>6<br>9<br>1<br>E<br>-<br>0<br>3 | 16 | Ajuba, Cyclin B1, HEXIM1, TIRAP (Mal), Calmyrin, HSP70, ERK1 (MAPK3), eEF2K, CD43, HSPA2, CKS2, Spinophilin, Cyclin B, Adult hemoglobin, CAMK2N1, ERK1/2 |
| 29 | <a href="#">macromolecular complex assembly</a>            |  | 4<br>.<br>3<br>1<br>0<br>E<br>4<br>1<br>5 | 2<br>.<br>7<br>4<br>2<br>E<br>-<br>0<br>5 | 4<br>.<br>3<br>1<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>7<br>4<br>2<br>E<br>-<br>0<br>3 | 15 | Cyclin B1, Clp1, ASAP, AL1A1, HBG, HBGA, COLEC12, HSP70, ERK1 (MAPK3), Annexin VI, Cyclin B, IMD2, Adult hemoglobin, ERK1/2, PQBP-1                      |
| 30 | <a href="#">protein complex subunit organization</a>       |  | 4<br>.<br>4<br>7<br>4<br>E<br>5<br>9<br>6 | 2<br>.<br>7<br>5<br>2<br>E<br>-<br>0<br>5 | 4<br>.<br>4<br>7<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>7<br>5<br>2<br>E<br>-<br>0<br>3 | 16 | Cyclin B1, ASAP, AL1A1, HBG, HBGA, Calmyrin, COLEC12, HSP70, ERK1 (MAPK3), Annexin VI, CKS2, Spinophilin, Cyclin B, IMD2, Adult hemoglobin, ERK1/2       |

|        |                                                                                                                                                    |        |                            |                            |                            |                            |                            |        |                                                                                                              |
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| 3<br>1 | <a href="#">negative regulation of myeloid cell apoptotic process</a>                                                                              | 2<br>3 | 5<br>0<br>9<br>E<br>-      | 3<br>7<br>0<br>7<br>E<br>- | 5<br>7<br>0<br>9<br>E<br>- | 3<br>3<br>7<br>7<br>E<br>- | 3<br>3<br>7<br>7<br>E<br>- | 3      | HSPA1B, HSP70, HSPA1A                                                                                        |
| 3<br>2 | <a href="#">cellular response to iron(III) ion</a>                                                                                                 | 4      | 6<br>3<br>3<br>8<br>E<br>- | 3<br>3<br>7<br>7<br>E<br>- | 6<br>3<br>3<br>8<br>E<br>- | 3<br>3<br>7<br>7<br>E<br>- | 3<br>3<br>7<br>7<br>E<br>- | 2      | Cyclin B1, Cyclin B                                                                                          |
| 3<br>3 | <a href="#">regulation of cyclin-dependent protein serine/threonine kinase activity involved in G2/M transition of mitotic cell cycle</a>          | 4      | 6<br>3<br>3<br>8<br>E<br>- | 3<br>3<br>7<br>7<br>E<br>- | 6<br>3<br>3<br>8<br>E<br>- | 3<br>3<br>7<br>7<br>E<br>- | 3<br>3<br>7<br>7<br>E<br>- | 2      | HSP70, HSPA2                                                                                                 |
| 3<br>4 | <a href="#">positive regulation of cyclin-dependent protein serine/threonine kinase activity involved in G2/M transition of mitotic cell cycle</a> | 4      | 6<br>3<br>3<br>8<br>E<br>- | 3<br>3<br>7<br>7<br>E<br>- | 6<br>3<br>3<br>8<br>E<br>- | 3<br>3<br>7<br>7<br>E<br>- | 3<br>3<br>7<br>7<br>E<br>- | 2      | HSP70, HSPA2                                                                                                 |
| 3<br>5 | <a href="#">regulation of kinase activity</a>                                                                                                      | 6<br>5 | 6<br>0<br>5                | 3<br>0<br>3                | 6<br>0<br>5                | 3<br>0<br>3                | 3<br>0<br>3                | 1<br>2 | Ajuba, Cyclin B1, HEXIM1, TIRAP (Mal), Calmyrin, HSP70, ERK1 (MAPK3), HSPA2, CKS2, Cyclin B, CAMK2N1, ERK1/2 |
| 3<br>6 | <a href="#">gas transport</a>                                                                                                                      | 2<br>5 | 7<br>.                     | 3<br>.                     | 7<br>.                     | 3<br>.                     | 3<br>.                     | 3      | HBG, HBGA, Adult hemoglobin                                                                                  |

|        |                                                             |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                |
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|        |                                                             |                  | 3<br>7<br>9<br>E<br>-<br>0<br>5           | 7<br>8<br>2<br>E<br>-<br>0<br>3           | 3<br>7<br>9<br>E<br>-<br>0<br>5           | 7<br>8<br>2<br>E<br>-<br>0<br>3           |        |                                                                                                                                                                                |
| 3<br>7 | <a href="#">positive regulation of histone modification</a> | 6<br>9           | 7<br>.<br>8<br>0<br>4<br>E<br>-<br>0<br>5 | 3<br>.<br>8<br>9<br>2<br>E<br>-<br>0<br>3 | 7<br>.<br>8<br>0<br>4<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>9<br>2<br>E<br>-<br>0<br>3 | 4      | Cyclin B1, ERK1 (MAPK3), Cyclin B, ERK1/2                                                                                                                                      |
| 3<br>8 | <a href="#">regulation of phosphate metabolic process</a>   | 2<br>2<br>5<br>7 | 8<br>.<br>1<br>5<br>5<br>E<br>-<br>0<br>5 | 3<br>.<br>9<br>6<br>0<br>E<br>-<br>0<br>3 | 8<br>.<br>1<br>5<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>9<br>6<br>0<br>E<br>-<br>0<br>3 | 1<br>9 | Ajuba, Cyclin B1, AL1A1, HEXIM1, TIRAP (Mal), Calmyrin, EPS8L1, HSP70, ERK1 (MAPK3), eEF2K, CD43, HSPA2, CKS2, Spinophilin, Cyclin B, Rab-3, Adult hemoglobin, CAMK2N1, ERK1/2 |
| 3<br>9 | <a href="#">regulation of phosphorus metabolic process</a>  | 2<br>2<br>7<br>5 | 9<br>.<br>0<br>7<br>8<br>E<br>-<br>0<br>5 | 4<br>.<br>2<br>9<br>5<br>E<br>-<br>0<br>3 | 9<br>.<br>0<br>7<br>8<br>E<br>-<br>0<br>3 | 4<br>.<br>2<br>9<br>5<br>E<br>-<br>0<br>3 | 1<br>9 | Ajuba, Cyclin B1, AL1A1, HEXIM1, TIRAP (Mal), Calmyrin, EPS8L1, HSP70, ERK1 (MAPK3), eEF2K, CD43, HSPA2, CKS2, Spinophilin, Cyclin B, Rab-3, Adult hemoglobin, CAMK2N1, ERK1/2 |
| 4<br>0 | <a href="#">response to mechanical stimulus</a>             | 3<br>2<br>5      | 9<br>.<br>3<br>4<br>0<br>E<br>-<br>0<br>5 | 4<br>.<br>3<br>0<br>8<br>E<br>-<br>0<br>3 | 9<br>.<br>3<br>4<br>0<br>E<br>-<br>0<br>3 | 4<br>.<br>3<br>0<br>8<br>E<br>-<br>0<br>3 | 7      | Cyclin B1, HSPA1B, HSP70, ERK1 (MAPK3), HSPA1A, Cyclin B, ERK1/2                                                                                                               |
| 4<br>1 | <a href="#">spindle stabilization</a>                       | 5<br>5           | 1<br>.<br>0<br>5                          | 4<br>.<br>6<br>3                          | 1<br>.<br>0<br>3                          | 4<br>.<br>6<br>3                          | 2      | Cyclin B1, Cyclin B                                                                                                                                                            |



|        |                                                                                          |                  |                                           |                                           |                                           |                                           |                                                                                                                       |
|--------|------------------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
|        |                                                                                          |                  | 4<br>E<br>-<br>0<br>4                     | 1<br>E<br>-<br>0<br>3                     | 4<br>E<br>-<br>0<br>4                     | 1<br>E<br>-<br>0<br>3                     |                                                                                                                       |
| 4<br>2 | <a href="#">peptidyl-cysteine methylation</a>                                            | 5                | 1<br>.<br>0<br>5<br>4<br>E<br>-<br>0<br>4 | 4<br>.<br>6<br>3<br>1<br>E<br>-<br>0<br>3 | 1<br>.<br>0<br>5<br>4<br>E<br>-<br>0<br>4 | 4<br>.<br>6<br>3<br>1<br>E<br>-<br>0<br>3 | Rab-3B, Rab-3                                                                                                         |
| 4<br>3 | <a href="#">negative regulation of microtubule depolymerization</a>                      | 2<br>9           | 1<br>.<br>1<br>6<br>1<br>E<br>-<br>0<br>4 | 4<br>.<br>9<br>8<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>6<br>1<br>E<br>-<br>0<br>4 | 4<br>.<br>9<br>8<br>3<br>E<br>-<br>0<br>3 | Cyclin B1, Calmyrin, Cyclin B                                                                                         |
| 4<br>4 | <a href="#">regulation of extrinsic apoptotic signaling pathway in absence of ligand</a> | 7<br>7           | 1<br>.<br>1<br>9<br>8<br>E<br>-<br>0<br>4 | 5<br>.<br>0<br>2<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>9<br>8<br>E<br>-<br>0<br>4 | 5<br>.<br>0<br>2<br>3<br>E<br>-<br>0<br>3 | HSPA1B, HSP70, HSPA1A, EYA1                                                                                           |
| 4<br>5 | <a href="#">protein complex assembly</a>                                                 | 1<br>2<br>0<br>0 | 1<br>.<br>2<br>2<br>7<br>E<br>-<br>0<br>4 | 5<br>.<br>0<br>3<br>2<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>2<br>7<br>E<br>-<br>0<br>4 | 5<br>.<br>0<br>3<br>2<br>E<br>-<br>0<br>3 | Cyclin B1, ASAP, AL1A1, HBG, HBGA, COLEC12, HSP70, ERK1 (MAPK3), Annexin VI, Cyclin B, IMD2, Adult hemoglobin, ERK1/2 |
| 4<br>6 | <a href="#">protein complex biogenesis</a>                                               | 1<br>2<br>0<br>3 | 1<br>.<br>2<br>5<br>0<br>E                | 5<br>.<br>0<br>4<br>7<br>E                | 1<br>.<br>2<br>5<br>0<br>E                | 5<br>.<br>0<br>4<br>7<br>E                | Cyclin B1, ASAP, AL1A1, HBG, HBGA, COLEC12, HSP70, ERK1 (MAPK3), Annexin VI, Cyclin B, IMD2, Adult hemoglobin, ERK1/2 |

|   |                                                                                          |   |   |   |   |   |   |                                                                                                                                                                                                                                              |
|---|------------------------------------------------------------------------------------------|---|---|---|---|---|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                                          |   | - | - | - | - |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                              |
| 4 | <a href="#">positive regulation of protein serine/threonine kinase activity</a>          | 3 | 1 | 5 | 1 | 5 |   | Ajuba, TIRAP (Mal), Calmyrin, HSP70, ERK1 (MAPK3), HSPA2, ERK1/2                                                                                                                                                                             |
| 7 |                                                                                          | 6 | . | . | . | . |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | 3 | 0 | 3 | 0 |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | 7 | 8 | 7 | 8 |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | 7 | 9 | 7 | 9 |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | E | E | E | E |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | - | - | - | - |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | 4 | 3 | 4 | 3 | 7 |                                                                                                                                                                                                                                              |
| 4 | <a href="#">telomere maintenance</a>                                                     | 8 | 1 | 5 | 1 | 5 |   |                                                                                                                                                                                                                                              |
| 8 |                                                                                          | 0 | . | . | . | . |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | 3 | 0 | 3 | 0 |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | 9 | 8 | 9 | 8 |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | 0 | 9 | 0 | 9 |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | E | E | E | E |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | - | - | - | - |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | 4 | 3 | 4 | 3 | 4 | HSPA1B, HSP70, HSPA1A, OBFC1                                                                                                                                                                                                                 |
| 4 | <a href="#">telomere organization</a>                                                    | 8 | 1 | 5 | 1 | 5 |   |                                                                                                                                                                                                                                              |
| 9 |                                                                                          | 1 | . | . | . | . |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | 4 | 0 | 4 | 0 |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | 5 | 8 | 5 | 8 |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | 8 | 9 | 8 | 9 |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | E | E | E | E |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | - | - | - | - |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | 4 | 3 | 4 | 3 | 4 | HSPA1B, HSP70, HSPA1A, OBFC1                                                                                                                                                                                                                 |
| 5 | <a href="#">response to stress</a>                                                       | 5 | 1 | 5 | 1 | 5 |   |                                                                                                                                                                                                                                              |
| 0 |                                                                                          | 6 | . | . | . | . |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | 5 | 0 | 5 | 0 |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | 3 | 8 | 3 | 8 |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | 8 | 9 | 8 | 9 |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | E | E | E | E |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | - | - | - | - |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | 0 | 0 | 0 | 0 | 2 | IGHM, Ajuba, IGHG4, Cyclin B1, HSPA1B, TIPIN, AL1A1, HBG, HBGA, CDO1, TIRAP (Mal), Olfactory receptor, Calmyrin, COLEC12, IGHG1, HSP70, ERK1 (MAPK3), CALCOCO2, HSPA1A, CD43, HSPA2, Cyclin B, Adult hemoglobin, EYA1, RIG-G, ERK1/2, CapZIP |
|   |                                                                                          |   | 4 | 3 | 4 | 3 | 7 |                                                                                                                                                                                                                                              |
| 5 | <a href="#">positive regulation of attachment of spindle microtubules to kinetochore</a> | 6 | 1 | 5 | 1 | 5 |   |                                                                                                                                                                                                                                              |
| 1 |                                                                                          |   | . | . | . | . |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | 5 | 0 | 5 | 0 |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | 7 | 8 | 7 | 8 |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | 8 | 9 | 8 | 9 |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | E | E | E | E |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | - | - | - | - |   |                                                                                                                                                                                                                                              |
|   |                                                                                          |   | 0 | 0 | 0 | 0 | 2 | Cyclin B1, Cyclin B                                                                                                                                                                                                                          |

|        |                                                                                               |   |                                           |                                           |                                           |                                           |   |                      |
|--------|-----------------------------------------------------------------------------------------------|---|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|----------------------|
|        |                                                                                               |   | 4                                         | 3                                         | 4                                         | 3                                         |   |                      |
| 5<br>2 | <a href="#">MAPK import into nucleus</a>                                                      | 6 | 1<br>.<br>5<br>7<br>8<br>E<br>-<br>0<br>4 | 5<br>.<br>0<br>8<br>9<br>E<br>-<br>0<br>3 | 1<br>.<br>5<br>7<br>8<br>E<br>-<br>0<br>4 | 5<br>.<br>0<br>8<br>9<br>E<br>-<br>0<br>3 | 2 | ERK1 (MAPK3), ERK1/2 |
| 5<br>3 | <a href="#">positive regulation of dopamine uptake involved in synaptic transmission</a>      | 6 | 1<br>.<br>5<br>7<br>8<br>E<br>-<br>0<br>4 | 5<br>.<br>0<br>8<br>9<br>E<br>-<br>0<br>3 | 1<br>.<br>5<br>7<br>8<br>E<br>-<br>0<br>4 | 5<br>.<br>0<br>8<br>9<br>E<br>-<br>0<br>3 | 2 | Rab-3B, Rab-3        |
| 5<br>4 | <a href="#">positive regulation of neurotransmitter uptake</a>                                | 6 | 1<br>.<br>5<br>7<br>8<br>E<br>-<br>0<br>4 | 5<br>.<br>0<br>8<br>9<br>E<br>-<br>0<br>3 | 1<br>.<br>5<br>7<br>8<br>E<br>-<br>0<br>4 | 5<br>.<br>0<br>8<br>9<br>E<br>-<br>0<br>3 | 2 | Rab-3B, Rab-3        |
| 5<br>5 | <a href="#">positive regulation of catecholamine uptake involved in synaptic transmission</a> | 6 | 1<br>.<br>5<br>7<br>8<br>E<br>-<br>0<br>4 | 5<br>.<br>0<br>8<br>9<br>E<br>-<br>0<br>3 | 1<br>.<br>5<br>7<br>8<br>E<br>-<br>0<br>4 | 5<br>.<br>0<br>8<br>9<br>E<br>-<br>0<br>3 | 2 | Rab-3B, Rab-3        |
| 5<br>6 | <a href="#">regulation of Golgi inheritance</a>                                               | 6 | 1<br>.<br>5<br>7<br>8<br>E<br>-<br>0<br>4 | 5<br>.<br>0<br>8<br>9<br>E<br>-<br>0<br>3 | 1<br>.<br>5<br>7<br>8<br>E<br>-<br>0<br>4 | 5<br>.<br>0<br>8<br>9<br>E<br>-<br>0<br>3 | 2 | ERK1 (MAPK3), ERK1/2 |

|    |                                                                |     |                                                |                                                |                                                |                                                |    |                                                                                                   |
|----|----------------------------------------------------------------|-----|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|----|---------------------------------------------------------------------------------------------------|
| 57 | <a href="#">regulation of chromosome condensation</a>          | 6   | 1<br>.<br>5<br>7<br>8<br>E<br>-<br>0<br>4      | 5<br>.<br>0<br>8<br>9<br>E<br>-<br>0<br>3      | 1<br>.<br>5<br>7<br>8<br>E<br>-<br>0<br>4      | 5<br>.<br>0<br>8<br>9<br>E<br>-<br>0<br>3      | 2  | Cyclin B1, Cyclin B                                                                               |
| 58 | <a href="#">positive regulation of chromosome organization</a> | 83  | 1<br>.<br>6<br>0<br>3<br>E<br>-<br>0<br>4      | 5<br>.<br>0<br>8<br>9<br>E<br>-<br>0<br>3      | 1<br>.<br>6<br>0<br>3<br>E<br>-<br>0<br>4      | 5<br>.<br>0<br>8<br>9<br>E<br>-<br>0<br>3      | 4  | Cyclin B1, ERK1 (MAPK3), Cyclin B, ERK1/2                                                         |
| 59 | <a href="#">phagocytosis</a>                                   | 248 | 1<br>.<br>6<br>2<br>7<br>E<br>-<br>0<br>4<br>8 | 5<br>.<br>0<br>8<br>9<br>E<br>-<br>0<br>3<br>4 | 1<br>.<br>6<br>2<br>7<br>E<br>-<br>0<br>4<br>3 | 5<br>.<br>0<br>8<br>9<br>E<br>-<br>0<br>3<br>4 | 6  | IGHG4, COLEC12, IGHG1, ERK1 (MAPK3), Annexin XI, ERK1/2                                           |
| 60 | <a href="#">regulation of microtubule depolymerization</a>     | 34  | 1<br>.<br>8<br>8<br>0<br>E<br>-<br>0<br>4      | 5<br>.<br>7<br>8<br>0<br>E<br>-<br>0<br>3      | 1<br>.<br>8<br>8<br>0<br>E<br>-<br>0<br>3      | 5<br>.<br>7<br>8<br>0<br>E<br>-<br>0<br>3      | 3  | Cyclin B1, Calmyrin, Cyclin B                                                                     |
| 61 | <a href="#">cell division</a>                                  | 772 | 1<br>.<br>9<br>9<br>7<br>E<br>-<br>0<br>4      | 5<br>.<br>9<br>8<br>2<br>E<br>-<br>0<br>3      | 1<br>.<br>9<br>8<br>7<br>E<br>-<br>0<br>3      | 5<br>.<br>9<br>8<br>2<br>E<br>-<br>0<br>3      | 10 | Cyclin B1, TIPIN, ASAP, Calmyrin, HSP70, HSPA2, CKS2, Annexin XI, Septin 3, Cyclin B              |
| 62 | <a href="#">regulation of primary metabolic process</a>        | 65  | 2<br>.<br>.<br>.<br>.                          | 5<br>.<br>.<br>.<br>.                          | 2<br>.<br>.<br>.<br>.                          | 5<br>.<br>.<br>.<br>.                          | 36 | Ajuba, Cyclin B1, HSPA1B, TIPIN, AL1A1, HBG, HBGA, SNX1, HEXIM1, TIRAP (Mal), Olfactory receptor, |

|        |                                                                    |                  |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                |
|--------|--------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                    | 4<br>0           | 0<br>1<br>0<br>E<br>-<br>0<br>4           | 9<br>8<br>2<br>E<br>-<br>0<br>3           | 0<br>1<br>0<br>E<br>-<br>0<br>4           | 9<br>8<br>2<br>E<br>-<br>0<br>3           | PTD015, Calmyrin, EPS8L1, HSP70, ERK1 (MAPK3), eEF2K, HSPA1A, CD43, HSPA2, AO7, CKS2, OBFC1, ZNF397OS, ICMT, ZNF397, Spinophilin, Cyclin B, Rab-3, Adult hemoglobin, EYA1, CAMK2N1, ZHX3, ERK1/2, DEAF, PQBP-1 |
| 6<br>3 | <a href="#">regulation of transferase activity</a>                 | 1<br>0<br>9<br>9 | 2<br>.<br>1<br>5<br>9<br>E<br>-<br>0<br>4 | 6<br>.<br>1<br>4<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>5<br>9<br>E<br>-<br>0<br>4 | 6<br>.<br>1<br>4<br>7<br>E<br>-<br>0<br>3 | Ajuba, Cyclin B1, HEXIM1, TIRAP (Mal), Calmyrin, HSP70, ERK1 (MAPK3), HSPA2, CKS2, Cyclin B, CAMK2N1, ERK1/2                                                                                                   |
| 6<br>4 | <a href="#">response to iron(III) ion</a>                          | 7                | 2<br>.<br>2<br>0<br>4<br>E<br>-<br>0<br>4 | 6<br>.<br>1<br>4<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>2<br>0<br>4<br>E<br>-<br>0<br>4 | 6<br>.<br>1<br>4<br>7<br>E<br>-<br>0<br>3 | Cyclin B1, Cyclin B                                                                                                                                                                                            |
| 6<br>5 | <a href="#">caveolin-mediated endocytosis</a>                      | 7                | 2<br>.<br>2<br>0<br>4<br>E<br>-<br>0<br>4 | 6<br>.<br>1<br>4<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>2<br>0<br>4<br>E<br>-<br>0<br>4 | 6<br>.<br>1<br>4<br>7<br>E<br>-<br>0<br>3 | ERK1 (MAPK3), ERK1/2                                                                                                                                                                                           |
| 6<br>6 | <a href="#">positive regulation of chromosome segregation</a>      | 7                | 2<br>.<br>2<br>0<br>4<br>E<br>-<br>0<br>4 | 6<br>.<br>1<br>4<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>2<br>0<br>4<br>E<br>-<br>0<br>4 | 6<br>.<br>1<br>4<br>7<br>E<br>-<br>0<br>3 | Cyclin B1, Cyclin B                                                                                                                                                                                            |
| 6<br>7 | <a href="#">positive regulation of erythrocyte differentiation</a> | 3<br>6           | 2<br>.<br>2<br>3                          | 6<br>.<br>1<br>4                          | 2<br>.<br>2<br>3                          | 6<br>.<br>1<br>4                          | HSPA1B, HSP70, HSPA1A                                                                                                                                                                                          |

|        |                                                                                       |  |                                           |                                           |                                           |                                           |                                                                                                                                                         |
|--------|---------------------------------------------------------------------------------------|--|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                                       |  | 2<br>E<br>-<br>0<br>4                     | 7<br>E<br>-<br>0<br>3                     | 2<br>E<br>-<br>0<br>4                     | 7<br>E<br>-<br>0<br>3                     |                                                                                                                                                         |
| 6<br>8 | <a href="#">cellular component assembly</a>                                           |  | 2<br>.<br>6<br>3<br>0<br>2<br>0<br>5<br>4 | 7<br>.<br>1<br>3<br>6<br>E<br>-<br>0<br>4 | 2<br>.<br>6<br>3<br>0<br>E<br>-<br>0<br>3 | 7<br>.<br>1<br>3<br>6<br>E<br>-<br>0<br>3 | Ajuba, Cyclin B1, Clp1, ASAP, AL1A1, HBG, HBGA, COLEC12, HSP70, ERK1 (MAPK3), Annexin VI, Spinophilin, Cyclin B, IMD2, Adult hemoglobin, ERK1/2, PQBP-1 |
| 6<br>9 | <a href="#">negative regulation of microtubule polymerization or depolymerization</a> |  | 2<br>.<br>8<br>3<br>7<br>E<br>-<br>3<br>9 | 7<br>.<br>5<br>8<br>7<br>E<br>-<br>0<br>4 | 2<br>.<br>8<br>3<br>7<br>E<br>-<br>0<br>3 | 7<br>.<br>5<br>8<br>7<br>E<br>-<br>0<br>3 | Cyclin B1, Calmyrin, Cyclin B                                                                                                                           |
| 7<br>0 | <a href="#">regulation of early endosome to late endosome transport</a>               |  | 2<br>.<br>9<br>3<br>3<br>E<br>-<br>0<br>8 | 7<br>.<br>7<br>3<br>0<br>E<br>-<br>0<br>4 | 2<br>.<br>9<br>3<br>3<br>E<br>-<br>0<br>3 | 7<br>.<br>7<br>3<br>0<br>E<br>-<br>0<br>3 | ERK1 (MAPK3), ERK1/2                                                                                                                                    |
| 7<br>1 | <a href="#">regulation of cell proliferation</a>                                      |  | 3<br>.<br>0<br>8<br>1<br>1<br>8<br>8<br>2 | 8<br>.<br>0<br>0<br>7<br>E<br>-<br>0<br>4 | 3<br>.<br>0<br>8<br>1<br>E<br>-<br>0<br>3 | 8<br>.<br>0<br>0<br>7<br>E<br>-<br>0<br>3 | Cyclin B1, HSPA1B, TIPIN, TIRAP (Mal), Calmyrin, HSP70, SHCBP1, HSPA1A, CD43, ICMT, Spinophilin, Cyclin B, EYA1, RIG-G, ERK1/2, DEAF                    |
| 7<br>2 | <a href="#">regulation of T cell mediated immunity</a>                                |  | 3<br>.<br>1<br>5<br>9<br>9                | 8<br>.<br>0<br>8<br>6<br>E<br>E           | 3<br>.<br>1<br>5<br>6<br>E<br>E           | 8<br>.<br>0<br>8<br>6<br>E<br>E           | HSPA1B, HSP70, HSPA1A, CD43                                                                                                                             |

|   |                                                               |   |   |   |   |   |   |                                                                                                                                                                                                                                                                                                  |
|---|---------------------------------------------------------------|---|---|---|---|---|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                               |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                                                  |
| 7 | <a href="#">positive regulation of immune response</a>        | 6 | 3 | 8 | 3 | 8 |   | IGHG4, HSPA1B, TIRAP (Mal), COLEC12, IGHG1, HSP70, ERK1 (MAPK3), HSPA1A, ERK1/2                                                                                                                                                                                                                  |
| 3 |                                                               | 0 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               | 7 | 2 | 2 | 2 | 2 |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               | 0 | 8 | 1 | 8 | 1 |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | 1 | 3 | 1 | 3 |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | 4 | 3 | 4 | 3 | 9 |                                                                                                                                                                                                                                                                                                  |
| 7 | <a href="#">regulation of myeloid cell apoptotic process</a>  | 4 | 3 | 8 | 3 | 8 |   |                                                                                                                                                                                                                                                                                                  |
| 4 |                                                               | 1 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | 2 | 2 | 2 | 2 |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | 9 | 1 | 9 | 1 |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | 4 | 3 | 4 | 3 | 3 | HSPA1B, HSP70, HSPA1A                                                                                                                                                                                                                                                                            |
| 7 | <a href="#">cellular response to interleukin-1</a>            | 1 | 3 | 8 | 3 | 8 |   |                                                                                                                                                                                                                                                                                                  |
| 5 |                                                               | 0 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               | 1 | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | 0 | 8 | 0 | 8 |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | 7 | 1 | 7 | 1 |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | 4 | 3 | 4 | 3 | 4 | TIRAP (Mal), HSP70, ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                                                                         |
| 7 | <a href="#">regulation of macromolecule metabolic process</a> | 6 | 3 | 8 | 3 | 8 |   |                                                                                                                                                                                                                                                                                                  |
| 6 |                                                               | 1 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               | 6 | 5 | 4 | 5 | 4 |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | 3 | 1 | 3 | 1 |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | 4 | 3 | 4 | 3 | 3 | Ajuba, Cyclin B1, HSPA1B, TIPIN, Clp1, HBG, HBGA, SNX1, HEXIM1, TIRAP (Mal), Olfactory receptor, PTD015, Calmyrin, HSP70, ERK1 (MAPK3), eEF2K, HSPA1A, CD43, HSPA2, AO7, CKS2, OBFC1, ZNF397OS, ICMT, ZNF397, Spinophilin, Cyclin B, Adult hemoglobin, EYA1, CAMK2N1, ZHX3, ERK1/2, DEAF, PQBP-1 |
|   |                                                               |   | 3 | 4 | 3 | 4 | 4 |                                                                                                                                                                                                                                                                                                  |
| 7 | <a href="#">regulation of protein metabolic process</a>       | 2 | 3 | 8 | 3 | 8 |   |                                                                                                                                                                                                                                                                                                  |
| 7 |                                                               | 5 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               | 2 | 5 | 4 | 5 | 4 |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | 2 | 1 | 2 | 1 |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | 0 | 1 | 0 | 1 |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                  |
|   |                                                               |   | 0 | 0 | 0 | 0 | 9 | Ajuba, Cyclin B1, HSPA1B, SNX1, HEXIM1, TIRAP (Mal), Calmyrin, HSP70, ERK1 (MAPK3), eEF2K, HSPA1A, CD43, HSPA2, CKS2, Spinophilin, Cyclin B, Adult hemoglobin, CAMK2N1, ERK1/2                                                                                                                   |

|   |                                                               |   |   |   |   |   |   |                                                                                                                                                                                                                                                                                                                               |
|---|---------------------------------------------------------------|---|---|---|---|---|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                               |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                                                                               |
| 7 | <a href="#">regulation of cellular component organization</a> | 8 | 3 | 8 | 3 | 8 | 1 | Ajuba, ZNF261, Cyclin B1, HSPA1B, ASAP, Olfactory receptor, Calmyrin, EPS8L1, HSP70, ERK1 (MAPK3), HSPA1A, HSPA2, Spinophilin, Cyclin B, Rab-3, ERK1/2, PQBP-1                                                                                                                                                                |
|   |                                                               |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               |   | 5 | 4 | 5 | 4 |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               |   | 5 | 1 | 5 | 1 |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               |   | 6 | 1 | 6 | 1 |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               | 2 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               | 1 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               | 0 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               | 7 | 4 | 3 | 4 | 3 | 7 |                                                                                                                                                                                                                                                                                                                               |
| 7 | <a href="#">peptidyl-tyrosine autophosphorylation</a>         | 9 | 3 | 8 | 3 | 8 | 2 | ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                                                                                                                          |
|   |                                                               |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               |   | 7 | 7 | 7 | 7 |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               |   | 6 | 8 | 6 | 8 |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               |   | 3 | 8 | 3 | 8 |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               | 9 | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                                                                               |
| 8 | <a href="#">regulation of metabolic process</a>               | 0 | 3 | 9 | 3 | 9 | 3 | Ajuba, Cyclin B1, HSPA1B, TIPIN, Clp1, AL1A1, HBG, HBGA, SNX1, HEXIM1, TIRAP (Mal), Olfactory receptor, PTD015, Calmyrin, PAP41, EPS8L1, HSP70, ERK1 (MAPK3), eEF2K, HSPA1A, CD43, HSPA2, AO7, CKS2, OBFC1, ZNF397OS, ICMT, ZNF397, Spinophilin, Cyclin B, Rab-3, Adult hemoglobin, EYA1, CAMK2N1, ZHX3, ERK1/2, DEAF, PQBP-1 |
|   |                                                               |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               |   | 9 | 0 | 9 | 0 |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               |   | 1 | 2 | 1 | 2 |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               |   | 5 | 8 | 5 | 8 |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               | 7 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               | 3 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               | 0 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               | 2 | 4 | 3 | 4 | 3 | 8 |                                                                                                                                                                                                                                                                                                                               |
| 8 | <a href="#">germ cell development</a>                         | 1 | 4 | 9 | 4 | 9 | 6 | Cyclin B1, Calmyrin, HSP70, HSPA2, Cyclin B, DEAF                                                                                                                                                                                                                                                                             |
|   |                                                               |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               |   | 0 | 2 | 0 | 2 |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               |   | 5 | 3 | 5 | 3 |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               |   | 4 | 5 | 4 | 5 |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               | 2 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               | 9 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               | 4 | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                                                                               |
| 8 | <a href="#">regulation of catalytic activity</a>              | 2 | 4 | 9 | 4 | 9 | 1 | Ajuba, Cyclin B1, HSPA1B, AL1A1, HEXIM1, TIRAP (Mal), Calmyrin, PAP41, EPS8L1, HSP70, ERK1 (MAPK3), HSPA1A, HSPA2, CKS2, Spinophilin, Cyclin B, Rab-3, CAMK2N1, ERK1/2                                                                                                                                                        |
|   |                                                               |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               |   | 4 | 9 | 4 | 9 |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               |   | 1 | 2 | 1 | 2 |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               |   | 0 | 3 | 0 | 3 |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               | 2 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               | 5 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               | 6 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                               |
|   |                                                               | 7 | 4 | 3 | 4 | 3 | 9 |                                                                                                                                                                                                                                                                                                                               |





|        |                                                                 |                  |                                 |                                 |                                 |                                 |                  |                                                                                                                                                                                  |
|--------|-----------------------------------------------------------------|------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                 | 6<br>8           | 0<br>8<br>1<br>E<br>-<br>0<br>4 | 0<br>6<br>5<br>E<br>-<br>0<br>2 | 0<br>8<br>1<br>E<br>-<br>0<br>4 | 0<br>6<br>5<br>E<br>-<br>0<br>2 |                  | Spinophilin, Cyclin B, Adult hemoglobin, CAMK2N1, ERK1/2                                                                                                                         |
| 8<br>9 | <a href="#">binding of sperm to zona pellucida</a>              | 4<br>8           | 5<br>4<br>0<br>0<br>0<br>0      | 1<br>2<br>9<br>0<br>E<br>-<br>4 | 5<br>0<br>5<br>8<br>E<br>-<br>4 | 1<br>2<br>9<br>0<br>E<br>-<br>2 | 3                | HSPA1B, HSP70, HSPA1A                                                                                                                                                            |
| 9<br>0 | <a href="#">positive regulation of protein phosphorylation</a>  | 8<br>7<br>5      | 5<br>3<br>9<br>1<br>E<br>-<br>4 | 1<br>1<br>0<br>5<br>E<br>-<br>2 | 5<br>3<br>9<br>1<br>E<br>-<br>4 | 1<br>1<br>0<br>5<br>E<br>-<br>2 | 1<br>0           | Ajuba, Cyclin B1, TIRAP (Mal), Calmyrin, HSP70, ERK1 (MAPK3), CD43, HSPA2, Cyclin B, ERK1/2                                                                                      |
| 9<br>1 | <a href="#">cellular response to heat</a>                       | 4<br>9           | 5<br>5<br>8<br>8<br>E<br>-<br>4 | 1<br>1<br>3<br>3<br>E<br>-<br>2 | 5<br>5<br>8<br>8<br>E<br>-<br>4 | 1<br>1<br>3<br>3<br>E<br>-<br>2 | 3                | HSPA1B, HSP70, HSPA1A                                                                                                                                                            |
| 9<br>2 | <a href="#">cellular response to iron ion</a>                   | 1<br>1           | 5<br>7<br>2<br>4<br>E<br>-<br>4 | 1<br>1<br>4<br>8<br>E<br>-<br>2 | 5<br>7<br>2<br>4<br>E<br>-<br>4 | 1<br>1<br>4<br>8<br>E<br>-<br>2 | 2                | Cyclin B1, Cyclin B                                                                                                                                                              |
| 9<br>3 | <a href="#">phosphate-containing compound metabolic process</a> | 2<br>8<br>5<br>9 | 6<br>.<br>2<br>3                | 1<br>.<br>2<br>3                | 6<br>.<br>2<br>3                | 1<br>.<br>2<br>3                | 0<br>2<br>2<br>3 | FLJ22494, Ajuba, Cyclin B1, HSPA1B, Clp1, TIRAP (Mal), PAP41, HSP70, ERK1 (MAPK3), eEF2K, COASY, HSPA1A, CKS2, Cyclin B, IMD2, Rab-3, EYA1, DUPD1, Fructosamine-3-kinase, ERK1/2 |

|        |                                                                                      |  |                                           |                                           |                                           |                                           |        |                                                                                                     |
|--------|--------------------------------------------------------------------------------------|--|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|-----------------------------------------------------------------------------------------------------|
|        |                                                                                      |  | 2<br>E<br>-<br>0<br>4                     | 3<br>E<br>-<br>0<br>2                     | 2<br>E<br>-<br>0<br>4                     | 3<br>E<br>-<br>0<br>2                     |        |                                                                                                     |
| 9<br>4 | <a href="#">cell cycle process</a>                                                   |  | 6<br>.<br>2<br>9<br>9<br>1<br>2<br>3<br>7 | 1<br>.<br>2<br>3<br>3<br>E<br>-<br>0<br>4 | 6<br>.<br>2<br>9<br>9<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>3<br>3<br>E<br>-<br>0<br>2 | 1<br>2 | Ajuba, Cyclin B1, TIPIN, ASAP, HSP70, HSPA2, CKS2, Annexin XI, Spinophilin, Cyclin B, EYA1, PRCC    |
| 9<br>5 | <a href="#">regulation of cell cycle</a>                                             |  | 6<br>.<br>3<br>5<br>1<br>1<br>0<br>6<br>2 | 1<br>.<br>2<br>3<br>3<br>E<br>-<br>0<br>4 | 6<br>.<br>2<br>5<br>3<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>3<br>3<br>E<br>-<br>0<br>2 | 1<br>1 | Cyclin B1, TIPIN, ASAP, HEXIM1, Olfactory receptor, HSP70, HSPA2, CKS2, Spinophilin, Cyclin B, PRCC |
| 9<br>6 | <a href="#">regulation of dopamine uptake involved in synaptic transmission</a>      |  | 6<br>.<br>8<br>5<br>5<br>E<br>-<br>1<br>2 | 1<br>.<br>2<br>9<br>0<br>E<br>-<br>0<br>4 | 6<br>.<br>8<br>5<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>9<br>0<br>E<br>-<br>0<br>2 | 2      | Rab-3B, Rab-3                                                                                       |
| 9<br>7 | <a href="#">regulation of catecholamine uptake involved in synaptic transmission</a> |  | 6<br>.<br>8<br>5<br>5<br>E<br>-<br>1<br>2 | 1<br>.<br>2<br>9<br>0<br>E<br>-<br>0<br>4 | 6<br>.<br>8<br>5<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>9<br>0<br>E<br>-<br>0<br>2 | 2      | Rab-3B, Rab-3                                                                                       |
| 9<br>8 | <a href="#">DNA damage induced protein phosphorylation</a>                           |  | 6<br>.<br>8<br>5<br>1<br>2                | 1<br>.<br>2<br>9<br>5<br>E<br>E           | 6<br>.<br>8<br>5<br>5<br>E<br>E           | 1<br>.<br>2<br>9<br>0<br>E<br>E           | 2      | ERK1 (MAPK3), ERK1/2                                                                                |

|   |                                                                                 |   |   |   |   |   |   |                                                                                                                                                                                  |
|---|---------------------------------------------------------------------------------|---|---|---|---|---|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                                 |   | - | - | - | - |   |                                                                                                                                                                                  |
|   |                                                                                 |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                  |
|   |                                                                                 |   | 4 | 2 | 4 | 2 |   |                                                                                                                                                                                  |
| 9 | <a href="#">cellular component</a>                                              |   | 7 | 1 | 7 | 1 |   |                                                                                                                                                                                  |
| 9 | <a href="#">biogenesis</a>                                                      |   | . | . | . | . |   |                                                                                                                                                                                  |
|   |                                                                                 |   | 1 | 3 | 1 | 3 |   |                                                                                                                                                                                  |
|   |                                                                                 |   | 9 | 4 | 9 | 4 |   |                                                                                                                                                                                  |
|   |                                                                                 |   | 1 | 0 | 1 | 0 |   |                                                                                                                                                                                  |
|   |                                                                                 | 2 | E | E | E | E |   |                                                                                                                                                                                  |
|   |                                                                                 | 2 | - | - | - | - |   |                                                                                                                                                                                  |
|   |                                                                                 | 3 | 0 | 0 | 0 | 0 | 1 |                                                                                                                                                                                  |
|   |                                                                                 | 9 | 4 | 2 | 4 | 2 | 7 | Ajuba, Cyclin B1, Clp1, ASAP, AL1A1, HBG, HBGA, COLEC12, HSP70, ERK1 (MAPK3), Annexin VI, Spinophilin, Cyclin B, IMD2, Adult hemoglobin, ERK1/2, PQBP-1                          |
| 1 |                                                                                 |   | 7 | 1 | 7 | 1 |   |                                                                                                                                                                                  |
| 0 |                                                                                 |   | . | . | . | . |   |                                                                                                                                                                                  |
| 0 | <a href="#">defense response</a>                                                |   | 3 | 3 | 3 | 3 |   |                                                                                                                                                                                  |
|   |                                                                                 |   | 7 | 6 | 7 | 6 |   |                                                                                                                                                                                  |
|   |                                                                                 |   | 5 | 1 | 5 | 1 |   |                                                                                                                                                                                  |
|   |                                                                                 | 1 | E | E | E | E |   |                                                                                                                                                                                  |
|   |                                                                                 | 8 | - | - | - | - |   |                                                                                                                                                                                  |
|   |                                                                                 | 3 | 0 | 0 | 0 | 0 | 1 |                                                                                                                                                                                  |
|   |                                                                                 | 3 | 4 | 2 | 4 | 2 | 5 | IGHM, IGHG4, HSPA1B, CDO1, TIRAP (Mal), Olfactory receptor, COLEC12, IGHG1, HSP70, ERK1 (MAPK3), CALCOCO2, HSPA1A, CD43, RIG-G, ERK1/2                                           |
| 1 |                                                                                 |   | 7 | 1 | 7 | 1 |   |                                                                                                                                                                                  |
| 0 |                                                                                 |   | . | . | . | . |   |                                                                                                                                                                                  |
| 1 | <a href="#">positive regulation of transferase activity</a>                     |   | 6 | 4 | 6 | 4 |   |                                                                                                                                                                                  |
|   |                                                                                 |   | 8 | 0 | 8 | 0 |   |                                                                                                                                                                                  |
|   |                                                                                 |   | 8 | 4 | 8 | 4 |   |                                                                                                                                                                                  |
|   |                                                                                 |   | E | E | E | E |   |                                                                                                                                                                                  |
|   |                                                                                 | 7 | - | - | - | - |   |                                                                                                                                                                                  |
|   |                                                                                 | 5 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                  |
|   |                                                                                 | 4 | 4 | 2 | 4 | 2 | 9 | Ajuba, Cyclin B1, TIRAP (Mal), Calmyrin, HSP70, ERK1 (MAPK3), HSPA2, Cyclin B, ERK1/2                                                                                            |
| 1 |                                                                                 |   | 8 | 1 | 8 | 1 |   |                                                                                                                                                                                  |
| 0 | <a href="#">regulation of attachment of spindle microtubules to kinetochore</a> |   | . | . | . | . |   |                                                                                                                                                                                  |
| 2 |                                                                                 |   | 0 | 4 | 0 | 4 |   |                                                                                                                                                                                  |
|   |                                                                                 |   | 8 | 6 | 8 | 6 |   |                                                                                                                                                                                  |
|   |                                                                                 |   | 4 | 2 | 4 | 2 |   |                                                                                                                                                                                  |
|   |                                                                                 |   | E | E | E | E |   |                                                                                                                                                                                  |
|   |                                                                                 |   | - | - | - | - |   |                                                                                                                                                                                  |
|   |                                                                                 | 1 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                  |
|   |                                                                                 | 3 | 4 | 2 | 4 | 2 | 2 | Cyclin B1, Cyclin B                                                                                                                                                              |
| 1 |                                                                                 |   | 8 | 1 | 8 | 1 |   |                                                                                                                                                                                  |
| 0 |                                                                                 |   | . | . | . | . |   |                                                                                                                                                                                  |
| 3 | <a href="#">phosphorus metabolic process</a>                                    |   | 2 | 4 | 2 | 4 |   |                                                                                                                                                                                  |
|   |                                                                                 |   | 5 | 7 | 5 | 7 |   |                                                                                                                                                                                  |
|   |                                                                                 | 2 | 5 | 9 | 5 | 9 |   |                                                                                                                                                                                  |
|   |                                                                                 | 9 | E | E | E | E |   |                                                                                                                                                                                  |
|   |                                                                                 | 2 | - | - | - | - | 2 |                                                                                                                                                                                  |
|   |                                                                                 | 2 | 0 | 0 | 0 | 0 | 0 | FLJ22494, Ajuba, Cyclin B1, HSPA1B, Clp1, TIRAP (Mal), PAP41, HSP70, ERK1 (MAPK3), eEF2K, COASY, HSPA1A, CKS2, Cyclin B, IMD2, Rab-3, EYA1, DUPD1, Fructosamine-3-kinase, ERK1/2 |

|             |                                                                              |             |                                           |                                                |                                                |                                                |        |                                                                             |
|-------------|------------------------------------------------------------------------------|-------------|-------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|--------|-----------------------------------------------------------------------------|
|             |                                                                              |             | 4                                         | 2                                              | 4                                              | 2                                              |        |                                                                             |
| 1<br>0<br>4 | <a href="#">endocytosis</a>                                                  | 6<br>1<br>0 | 8<br>.<br>4<br>0<br>9<br>E<br>-<br>0<br>4 | 1<br>.<br>4<br>8<br>8<br>E<br>-<br>0<br>2<br>4 | 8<br>.<br>4<br>0<br>9<br>E<br>-<br>0<br>2<br>4 | 1<br>.<br>4<br>8<br>8<br>E<br>-<br>0<br>2<br>4 | 8      | IGHG4, SNX1, COLEC12, IGHG1, ERK1 (MAPK3), Annexin XI, Rab-3, ERK1/2        |
| 1<br>0<br>5 | <a href="#">positive regulation of myeloid cell differentiation</a>          | 1<br>2<br>9 | 8<br>.<br>5<br>7<br>6<br>E<br>-<br>0<br>4 | 1<br>.<br>4<br>8<br>8<br>E<br>-<br>0<br>2<br>4 | 8<br>.<br>5<br>7<br>6<br>E<br>-<br>0<br>2<br>4 | 1<br>.<br>4<br>8<br>8<br>E<br>-<br>0<br>2<br>4 | 4      | HSPA1B, HSP70, HSPA1A, Adult hemoglobin                                     |
| 1<br>0<br>6 | <a href="#">regulation of histone modification</a>                           | 1<br>2<br>9 | 8<br>.<br>5<br>7<br>6<br>E<br>-<br>0<br>4 | 1<br>.<br>4<br>8<br>8<br>E<br>-<br>0<br>2<br>4 | 8<br>.<br>5<br>7<br>6<br>E<br>-<br>0<br>2<br>4 | 1<br>.<br>4<br>8<br>8<br>E<br>-<br>0<br>2<br>4 | 4      | Cyclin B1, ERK1 (MAPK3), Cyclin B, ERK1/2                                   |
| 1<br>0<br>7 | <a href="#">mitotic cell cycle</a>                                           | 9<br>3<br>0 | 8<br>.<br>6<br>2<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>4<br>8<br>8<br>E<br>-<br>0<br>2<br>4 | 8<br>.<br>6<br>2<br>8<br>E<br>-<br>0<br>2<br>4 | 1<br>.<br>4<br>8<br>8<br>E<br>-<br>0<br>2<br>4 | 1<br>0 | Ajuba, Cyclin B1, TIPIN, ASAP, Calmyrin, HSP70, HSPA2, Cyclin B, EYA1, PRCC |
| 1<br>0<br>8 | <a href="#">negative regulation of extrinsic apoptotic signaling pathway</a> | 1<br>3<br>1 | 9<br>.<br>0<br>8<br>2<br>E<br>-<br>0<br>4 | 1<br>.<br>5<br>5<br>2<br>E<br>-<br>0<br>2<br>4 | 9<br>.<br>0<br>8<br>2<br>E<br>-<br>0<br>2<br>4 | 1<br>.<br>5<br>5<br>2<br>E<br>-<br>0<br>2<br>4 | 4      | HSPA1B, HSP70, HSPA1A, EYA1                                                 |

|             |                                                                                                             |                  |                                           |                                                |                                                |                                                     |        |                                                                                                                                                                                                                                                                     |
|-------------|-------------------------------------------------------------------------------------------------------------|------------------|-------------------------------------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1<br>0<br>9 | <a href="#">regulation of spindle organization</a>                                                          | 1<br>4           | 9<br>.<br>4<br>1<br>1<br>E<br>-<br>0<br>4 | 1<br>.<br>5<br>9<br>3<br>E<br>-<br>0<br>2      | 9<br>.<br>4<br>1<br>1<br>E<br>-<br>0<br>4      | 1<br>.<br>5<br>9<br>3<br>E<br>-<br>0<br>2           | 2      | Cyclin B1, Cyclin B                                                                                                                                                                                                                                                 |
| 1<br>1<br>0 | <a href="#">immune response-regulating cell surface receptor signaling pathway involved in phagocytosis</a> | 1<br>3<br>4      | 9<br>.<br>8<br>8<br>0<br>E<br>-<br>0<br>4 | 1<br>.<br>6<br>4<br>2<br>E<br>-<br>0<br>2      | 9<br>.<br>8<br>8<br>0<br>E<br>-<br>0<br>4      | 1<br>.<br>6<br>4<br>2<br>E<br>-<br>0<br>2           | 4      | IGHG4, IGHG1, ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                                                  |
| 1<br>1<br>1 | <a href="#">Fc-gamma receptor signaling pathway involved in phagocytosis</a>                                | 1<br>3<br>4      | 9<br>.<br>8<br>8<br>0<br>E<br>-<br>0<br>4 | 1<br>.<br>6<br>4<br>2<br>E<br>-<br>0<br>2      | 9<br>.<br>8<br>8<br>0<br>E<br>-<br>0<br>4      | 1<br>.<br>6<br>4<br>2<br>E<br>-<br>0<br>2           | 4      | IGHG4, IGHG1, ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                                                  |
| 1<br>1<br>2 | <a href="#">cellular component organization</a>                                                             | 5<br>4<br>1<br>9 | 1<br>.<br>0<br>0<br>1<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>4<br>1<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>0<br>4<br>1<br>4<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>0<br>4<br>1<br>4<br>E<br>-<br>0<br>2 | 3<br>0 | Ajuba, ZNF261, Cyclin B1, HSPA1B, TIPIN, Clp1, ASAP, AL1A1, HBG, HBGA, Olfactory receptor, Rab-3B, Calmyrin, COLEC12, HSP70, ERK1 (MAPK3), Annexin VI, HSPA1A, HSPA2, CKS2, OBFC1, ICMT, Spinophilin, Cyclin B, IMD2, Rab-3, Adult hemoglobin, EYA1, ERK1/2, PQBP-1 |
| 1<br>1<br>3 | <a href="#">positive regulation of T cell mediated cytotoxicity</a>                                         | 6<br>0           | 1<br>.<br>0<br>1<br>1<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>4<br>1<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>0<br>4<br>1<br>4<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>0<br>4<br>1<br>4<br>E<br>-<br>0<br>2 | 3      | HSPA1B, HSP70, HSPA1A                                                                                                                                                                                                                                               |
| 1<br>1      | <a href="#">Fc-gamma receptor signaling pathway</a>                                                         | 1<br>3           | 1<br>.<br>.<br>.<br>.                     | 1<br>.<br>.<br>.<br>.                          | 1<br>.<br>.<br>.<br>.                          | 1<br>.<br>.<br>.<br>.                               | 4      | IGHG4, IGHG1, ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                                                  |

|             |                                                                    |             |                                           |                                           |                                           |                                           |        |                                                                                       |
|-------------|--------------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|---------------------------------------------------------------------------------------|
| 4           |                                                                    | 5           | 0<br>1<br>6<br>E<br>-<br>0<br>3           | 6<br>4<br>4<br>E<br>-<br>0<br>2           | 0<br>1<br>6<br>E<br>-<br>0<br>3           | 6<br>4<br>4<br>E<br>-<br>0<br>2           |        |                                                                                       |
| 1<br>1<br>5 | <a href="#">Fc receptor mediated stimulatory signaling pathway</a> | 1<br>3<br>6 | 1<br>.<br>0<br>4<br>4<br>E<br>-<br>3<br>6 | 1<br>.<br>6<br>7<br>5<br>E<br>-<br>2<br>3 | 1<br>.<br>0<br>4<br>4<br>E<br>-<br>3<br>2 | 1<br>.<br>6<br>7<br>5<br>E<br>-<br>3<br>2 | 4      | IGHG4, IGHG1, ERK1 (MAPK3), ERK1/2                                                    |
| 1<br>1<br>6 | <a href="#">sperm-egg recognition</a>                              | 6<br>1      | 1<br>.<br>0<br>6<br>1<br>E<br>-<br>3<br>1 | 1<br>.<br>6<br>8<br>6<br>E<br>-<br>2<br>3 | 1<br>.<br>0<br>6<br>1<br>E<br>-<br>3<br>2 | 1<br>.<br>6<br>8<br>6<br>E<br>-<br>3<br>2 | 3      | HSPA1B, HSP70, HSPA1A                                                                 |
| 1<br>1<br>7 | <a href="#">negative regulation of protein phosphorylation</a>     | 3<br>5<br>4 | 1<br>.<br>0<br>6<br>9<br>E<br>-<br>5<br>4 | 1<br>.<br>6<br>8<br>6<br>E<br>-<br>3<br>2 | 1<br>.<br>0<br>6<br>9<br>E<br>-<br>3<br>2 | 1<br>.<br>6<br>8<br>6<br>E<br>-<br>3<br>2 | 6      | Cyclin B1, HEXIM1, Calmyrin, HSP70, Cyclin B, CAMK2N1                                 |
| 1<br>1<br>8 | <a href="#">regulation of chromatin organization</a>               | 1<br>4<br>0 | 1<br>.<br>1<br>6<br>2<br>E<br>-<br>4<br>0 | 1<br>.<br>8<br>1<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>6<br>2<br>E<br>-<br>0<br>3 | 1<br>.<br>8<br>1<br>7<br>E<br>-<br>0<br>3 | 4      | Cyclin B1, ERK1 (MAPK3), Cyclin B, ERK1/2                                             |
| 1<br>1<br>9 | <a href="#">positive regulation of immune system process</a>       | 9<br>6<br>9 | 1<br>.<br>1<br>7                          | 1<br>.<br>8<br>2                          | 1<br>.<br>1<br>7                          | 1<br>.<br>8<br>2                          | 1<br>0 | IGHG4, HSPA1B, TIRAP (Mal), COLEC12, IGHG1, HSP70, ERK1 (MAPK3), HSPA1A, CD43, ERK1/2 |

|             |                                                                                     |                  |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                                                      |
|-------------|-------------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                                     |                  | 8<br>E<br>-<br>0<br>3                     | 7<br>E<br>-<br>0<br>2                     | 8<br>E<br>-<br>0<br>3                     | 7<br>E<br>-<br>0<br>2                     |                                                                                                                                                                                                                                                                      |
| 1<br>2<br>0 | <a href="#">response to interleukin-1</a>                                           | 1<br>4<br>2      | 1<br>.<br>2<br>2<br>5<br>E<br>-<br>4<br>3 | 1<br>.<br>8<br>8<br>3<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>2<br>5<br>E<br>-<br>0<br>3 | 1<br>.<br>8<br>8<br>3<br>E<br>-<br>0<br>2 | 4<br>TIRAP (Mal), HSP70, ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                                        |
| 1<br>2<br>1 | <a href="#">regulation of microtubule polymerization or depolymerization</a>        | 6<br>5           | 1<br>.<br>2<br>7<br>6<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>7<br>6<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2 | 3<br>Cyclin B1, Calmyrin, Cyclin B                                                                                                                                                                                                                                   |
| 1<br>2<br>2 | <a href="#">cellular process involved in reproduction in multicellular organism</a> | 3<br>6<br>7      | 1<br>.<br>2<br>8<br>6<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>8<br>6<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>5<br>E<br>-<br>0<br>2 | 6<br>Cyclin B1, Calmyrin, HSP70, HSPA2, Cyclin B, DEAF                                                                                                                                                                                                               |
| 1<br>2<br>3 | <a href="#">positive regulation of biological process</a>                           | 5<br>2<br>4<br>9 | 1<br>.<br>3<br>4<br>3<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>1<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>3<br>4<br>3<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>1<br>4<br>E<br>-<br>0<br>2 | 2<br>9<br>Ajuba, IGHG4, Cyclin B1, HSPA1B, TIPIN, AL1A1, SNX1, TIRAP (Mal), Olfactory receptor, PTD015, Rab-3B, Calmyrin, EPS8L1, COLEC12, IGHG1, HSP70, ERK1 (MAPK3), HSPA1A, CD43, HSPA2, OBFC1, ICMT, Cyclin B, Rab-3, Adult hemoglobin, EYA1, ZHX3, ERK1/2, DEAF |
| 1<br>2<br>4 | <a href="#">regulation of neurotransmitter uptake</a>                               | 1<br>7           | 1<br>.<br>3<br>9<br>8<br>E                | 2<br>.<br>0<br>7<br>9<br>E                | 1<br>.<br>3<br>9<br>8<br>E                | 2<br>.<br>0<br>7<br>9<br>E                | 2<br>Rab-3B, Rab-3                                                                                                                                                                                                                                                   |



|   |                                                             |   |   |   |   |   |   |                                                                                                                                                                                                                                                                     |
|---|-------------------------------------------------------------|---|---|---|---|---|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                             |   | - | - | - | - |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                     |
| 1 |                                                             | 1 | 1 | 2 | 1 | 2 |   |                                                                                                                                                                                                                                                                     |
| 2 |                                                             |   | . | . | . | . |   |                                                                                                                                                                                                                                                                     |
| 5 | <a href="#">single fertilization</a>                        | 8 | 4 | 1 | 4 | 1 | 4 | HSPA1B, Olfactory receptor, HSP70, HSPA1A                                                                                                                                                                                                                           |
|   |                                                             |   | 2 | 0 | 2 | 0 |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | 7 | 6 | 7 | 6 |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | E | E | E | E |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | - | - | - | - |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                     |
| 1 |                                                             | 1 | 1 | 2 | 1 | 2 |   |                                                                                                                                                                                                                                                                     |
| 2 |                                                             |   | . | . | . | . |   |                                                                                                                                                                                                                                                                     |
| 6 | <a href="#">cell recognition</a>                            | 9 | 4 | 1 | 4 | 1 | 4 | HSPA1B, COLEC12, HSP70, HSPA1A                                                                                                                                                                                                                                      |
|   |                                                             |   | 6 | 4 | 6 | 4 |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | E | E | E | E |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | - | - | - | - |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                     |
| 1 |                                                             |   | 1 | 2 | 1 | 2 |   |                                                                                                                                                                                                                                                                     |
| 2 | <a href="#">cellular component</a>                          | 5 | . | . | . | . |   |                                                                                                                                                                                                                                                                     |
| 7 | <a href="#">organization or biogenesis</a>                  | 7 | 5 | 1 | 5 | 1 | 3 | Ajuba, ZNF261, Cyclin B1, HSPA1B, TIPIN, Clp1, ASAP, AL1A1, HBG, HBGA, Olfactory receptor, Rab-3B, Calmyrin, COLEC12, HSP70, ERK1 (MAPK3), Annexin VI, HSPA1A, HSPA2, CKS2, OBFC1, ICMT, Spinophilin, Cyclin B, IMD2, Rab-3, Adult hemoglobin, EYA1, ERK1/2, PQBP-1 |
|   |                                                             |   | 5 | 9 | 4 | 9 | 0 |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | 7 | 6 | 7 | 6 |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | E | E | E | E |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | - | - | - | - |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                     |
| 1 |                                                             | 2 | 1 | 2 | 1 | 2 |   |                                                                                                                                                                                                                                                                     |
| 2 | <a href="#">regulation of myeloid cell differentiation</a>  | 5 | . | . | . | . |   |                                                                                                                                                                                                                                                                     |
| 8 |                                                             | 7 | 5 | 1 | 5 | 1 | 5 | HSPA1B, Calmyrin, HSP70, HSPA1A, Adult hemoglobin                                                                                                                                                                                                                   |
|   |                                                             |   | 5 | 9 | 5 | 9 |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | 6 | 6 | 6 | 6 |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | E | E | E | E |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | - | - | - | - |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                     |
| 1 |                                                             | 1 | 1 | 2 | 1 | 2 |   |                                                                                                                                                                                                                                                                     |
| 2 | <a href="#">ventricular cardiac muscle cell development</a> | 8 | . | . | . | . | 2 | Cyclin B1, Cyclin B                                                                                                                                                                                                                                                 |
| 9 |                                                             |   | 5 | 1 | 5 | 1 |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | 6 | 9 | 6 | 9 |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | 9 | 6 | 9 | 6 |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | E | E | E | E |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | - | - | - | - |   |                                                                                                                                                                                                                                                                     |
|   |                                                             |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                     |

|             |                                                                 |             |                                 |                                 |                                 |                                 |   |                                    |
|-------------|-----------------------------------------------------------------|-------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---|------------------------------------|
|             |                                                                 |             | 3                               | 2                               | 3                               | 2                               |   |                                    |
| 1<br>3<br>0 | <a href="#">mitotic metaphase plate congression</a>             | 1<br>8      | 1<br>.<br>5<br>6<br>9<br>E<br>- | 2<br>.<br>1<br>9<br>6<br>E<br>- | 1<br>.<br>5<br>6<br>9<br>E<br>- | 2<br>.<br>1<br>9<br>6<br>E<br>- | 2 | Cyclin B1, Cyclin B                |
| 1<br>3<br>1 | <a href="#">peptidyl-cysteine modification</a>                  | 1<br>8      | 1<br>.<br>5<br>6<br>9<br>E<br>- | 2<br>.<br>1<br>9<br>6<br>E<br>- | 1<br>.<br>5<br>6<br>9<br>E<br>- | 2<br>.<br>1<br>9<br>6<br>E<br>- | 2 | Rab-3B, Rab-3                      |
| 1<br>3<br>2 | <a href="#">regulation of T cell mediated cytotoxicity</a>      | 7<br>0      | 1<br>.<br>5<br>8<br>1<br>E<br>- | 2<br>.<br>1<br>9<br>6<br>E<br>- | 1<br>.<br>5<br>8<br>1<br>E<br>- | 2<br>.<br>1<br>9<br>6<br>E<br>- | 3 | HSPA1B, HSP70, HSPA1A              |
| 1<br>3<br>3 | <a href="#">response to ethanol</a>                             | 2<br>5<br>8 | 1<br>.<br>5<br>8<br>3<br>E<br>- | 2<br>.<br>1<br>9<br>6<br>E<br>- | 1<br>.<br>5<br>8<br>3<br>E<br>- | 2<br>.<br>1<br>9<br>6<br>E<br>- | 5 | HSPA1B, AL1A1, CDO1, HSP70, HSPA1A |
| 1<br>3<br>4 | <a href="#">negative regulation of protein depolymerization</a> | 7<br>1      | 1<br>6<br>4<br>6<br>E<br>-      | 2<br>2<br>6<br>1<br>E<br>-      | 1<br>6<br>4<br>6<br>E<br>-      | 2<br>2<br>6<br>1<br>E<br>-      | 3 | Cyclin B1, Calmyrin, Cyclin B      |

|             |                                                                    |                  |                                           |                                           |                                           |                                           |        |                                                                                                       |
|-------------|--------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|-------------------------------------------------------------------------------------------------------|
| 1<br>3<br>5 | <a href="#">positive regulation of phosphorylation</a>             | 1<br>0<br>1<br>4 | 1<br>.<br>6<br>5<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>2<br>6<br>1<br>E<br>-<br>0<br>2 | 1<br>.<br>6<br>5<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>2<br>6<br>1<br>E<br>-<br>0<br>2 | 1<br>0 | Ajuba, Cyclin B1, TIRAP (Mal), Calmyrin, HSP70, ERK1 (MAPK3), CD43, HSPA2, Cyclin B, ERK1/2           |
| 1<br>3<br>6 | <a href="#">positive regulation of ERK1 and ERK2 cascade</a>       | 1<br>5<br>6      | 1<br>.<br>7<br>3<br>1<br>E<br>-<br>5<br>6 | 2<br>.<br>3<br>4<br>8<br>E<br>-<br>0<br>2 | 1<br>.<br>7<br>3<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>4<br>8<br>E<br>-<br>0<br>2 | 4      | TIRAP (Mal), Calmyrin, ERK1 (MAPK3), ERK1/2                                                           |
| 1<br>3<br>7 | <a href="#">mitotic cell cycle process</a>                         | 8<br>5<br>0      | 1<br>.<br>7<br>7<br>2<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>8<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>7<br>7<br>2<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>8<br>4<br>E<br>-<br>0<br>2 | 9      | Ajuba, Cyclin B1, TIPIN, ASAP, HSP70, HSPA2, Cyclin B, EYA1, PRCC                                     |
| 1<br>3<br>8 | <a href="#">cell-cell recognition</a>                              | 7<br>3           | 1<br>.<br>7<br>8<br>3<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>8<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>7<br>8<br>3<br>E<br>-<br>0<br>2 | 2<br>.<br>3<br>8<br>4<br>E<br>-<br>0<br>2 | 3      | HSPA1B, HSP70, HSPA1A                                                                                 |
| 1<br>3<br>9 | <a href="#">negative regulation of protein complex disassembly</a> | 7<br>4           | 1<br>.<br>8<br>5<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>4<br>6<br>1<br>E<br>-<br>0<br>2 | 1<br>.<br>8<br>5<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>4<br>6<br>1<br>E<br>-<br>0<br>2 | 3      | Cyclin B1, Calmyrin, Cyclin B                                                                         |
| 1<br>4      | <a href="#">regulation of cellular metabolic process</a>           | 6<br>4           | 1<br>.<br>8<br>5<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>4<br>6<br>1<br>E<br>-<br>0<br>2 | 1<br>.<br>8<br>5<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>4<br>6<br>1<br>E<br>-<br>0<br>2 | 3<br>3 | Ajuba, Cyclin B1, TIPIN, AL1A1, HBG, HBGA, HEXIM1, TIRAP (Mal), Olfactory receptor, PTD015, Calmyrin, |

|             |                                                                 |                  |                                      |                                      |                                      |                                      |                                                                                                                                                                                      |
|-------------|-----------------------------------------------------------------|------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0           |                                                                 | 4<br>6           | 9<br>5<br>3<br>E<br>-<br>0<br>3      | 5<br>6<br>7<br>E<br>-<br>0<br>2      | 9<br>5<br>3<br>E<br>-<br>0<br>3      | 5<br>6<br>7<br>E<br>-<br>0<br>2      | EPS8L1, HSP70, ERK1 (MAPK3), eEF2K, CD43, HSPA2, AO7, CKS2, OBFC1, ZNF397OS, ICMT, ZNF397, Spinophilin, Cyclin B, Rab-3, Adult hemoglobin, EYA1, CAMK2N1, ZHX3, ERK1/2, DEAF, PQBP-1 |
| 1<br>4<br>1 | <a href="#">protein oligomerization</a>                         | 5<br>4<br>2      | 1<br>0<br>3                          | 2<br>0<br>2                          | 1<br>9<br>6<br>7<br>E<br>-<br>0<br>3 | 2<br>5<br>6<br>7<br>E<br>-<br>0<br>3 | AL1A1, HBG, HBGA, COLEC12, Annexin VI, IMD2, Adult hemoglobin                                                                                                                        |
| 1<br>4<br>2 | <a href="#">regulation of molecular function</a>                | 3<br>1<br>3<br>3 | 1<br>9<br>7<br>6<br>E<br>-<br>0<br>3 | 2<br>5<br>6<br>7<br>E<br>-<br>0<br>2 | 1<br>9<br>7<br>6<br>E<br>-<br>0<br>3 | 2<br>5<br>6<br>7<br>E<br>-<br>0<br>2 | Ajuba, Cyclin B1, HSPA1B, AL1A1, HEXIM1, TIRAP (Mal), Calmyrin, PAP41, EPS8L1, HSP70, ERK1 (MAPK3), HSPA1A, HSPA2, AO7, CKS2, Spinophilin, Cyclin B, Rab-3, CAMK2N1, ERK1/2          |
| 1<br>4<br>3 | <a href="#">positive regulation of T cell mediated immunity</a> | 7<br>7           | 2<br>0<br>3                          | 2<br>0<br>2                          | 2<br>6<br>8<br>1<br>E<br>-<br>0<br>3 | 2<br>6<br>7<br>8<br>E<br>-<br>0<br>2 | HSPA1B, HSP70, HSPA1A                                                                                                                                                                |
| 1<br>4<br>4 | <a href="#">positive regulation of mRNA 3'-end processing</a>   | 2<br>1           | 2<br>0<br>3                          | 2<br>0<br>2                          | 2<br>7<br>4<br>0<br>E<br>-<br>0<br>3 | 2<br>7<br>4<br>0<br>E<br>-<br>0<br>2 | Cyclin B1, Cyclin B                                                                                                                                                                  |
| 1<br>4<br>5 | <a href="#">response to toxic substance</a>                     | 2<br>7<br>7      | 2<br>1<br>5                          | 2<br>7<br>4                          | 2<br>7<br>5                          | 2<br>7<br>4                          | Cyclin B1, HSP70, ERK1 (MAPK3), Cyclin B, ERK1/2                                                                                                                                     |

|             |                                               |                  |                                           |                                           |                                           |                                           |        |                                                                                                               |
|-------------|-----------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|---------------------------------------------------------------------------------------------------------------|
|             |                                               |                  | 9<br>E<br>-<br>0<br>3                     | 7<br>E<br>-<br>0<br>2                     | 9<br>E<br>-<br>0<br>3                     | 7<br>E<br>-<br>0<br>2                     |        |                                                                                                               |
| 1<br>4<br>6 | <a href="#">nuclear division</a>              | 5<br>5<br>3      | 2<br>.<br>2<br>0<br>3<br>E<br>-<br>0<br>3 | 2<br>.<br>7<br>8<br>3<br>E<br>-<br>0<br>2 | 2<br>.<br>2<br>0<br>3<br>E<br>-<br>0<br>3 | 2<br>.<br>7<br>8<br>3<br>E<br>-<br>0<br>2 | 7      | Cyclin B1, TIPIN, ASAP, HSP70, HSPA2, CKS2, Cyclin B                                                          |
| 1<br>4<br>7 | <a href="#">regulation of immune response</a> | 1<br>0<br>5<br>8 | 2<br>.<br>2<br>6<br>1<br>E<br>-<br>0<br>8 | 2<br>.<br>8<br>3<br>8<br>E<br>-<br>0<br>2 | 2<br>.<br>2<br>6<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>3<br>8<br>E<br>-<br>0<br>2 | 1<br>0 | IGHG4, HSPA1B, TIRAP (Mal), COLEC12, IGHG1, HSP70, ERK1 (MAPK3), HSPA1A, CD43, ERK1/2                         |
| 1<br>4<br>8 | <a href="#">response to unfolded protein</a>  | 1<br>7<br>0      | 2<br>.<br>3<br>6<br>6<br>E<br>-<br>0<br>3 | 2<br>.<br>9<br>5<br>0<br>E<br>-<br>0<br>2 | 2<br>.<br>3<br>6<br>6<br>E<br>-<br>0<br>3 | 2<br>.<br>9<br>5<br>0<br>E<br>-<br>0<br>2 | 4      | HSPA1B, HSP70, HSPA1A, HSPA2                                                                                  |
| 1<br>4<br>9 | <a href="#">cell cycle phase transition</a>   | 4<br>1<br>6      | 2<br>.<br>4<br>2<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>9<br>9<br>6<br>E<br>-<br>0<br>2 | 2<br>.<br>4<br>2<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>9<br>6<br>E<br>-<br>0<br>2      | 6      | Ajuba, Cyclin B1, TIPIN, HSP70, HSPA2, Cyclin B                                                               |
| 1<br>5<br>0 | <a href="#">response to wounding</a>          | 4<br>5<br>0      | 2<br>.<br>4<br>5<br>0<br>E                | 3<br>.<br>6<br>4<br>E                     | 2<br>.<br>2<br>8<br>E                     | 3<br>.<br>6<br>8<br>E                     | 1<br>2 | Ajuba, Cyclin B1, HBG, HBGA, CDO1, TIRAP (Mal), HSP70, ERK1 (MAPK3), CD43, Cyclin B, Adult hemoglobin, ERK1/2 |

|   |                                                        |   |   |   |   |   |   |                                                                                                                 |
|---|--------------------------------------------------------|---|---|---|---|---|---|-----------------------------------------------------------------------------------------------------------------|
|   |                                                        |   | - | - | - | - |   |                                                                                                                 |
|   |                                                        |   | 0 | 0 | 0 | 0 |   |                                                                                                                 |
|   |                                                        |   | 3 | 2 | 3 | 2 |   |                                                                                                                 |
| 1 |                                                        |   | 2 | 3 | 2 | 3 |   |                                                                                                                 |
| 5 |                                                        |   | . | . | . | . |   |                                                                                                                 |
| 1 | <a href="#">negative regulation of phosphorylation</a> | 4 | 4 | 0 | 4 | 0 |   |                                                                                                                 |
|   |                                                        |   | 7 | 2 | 7 | 2 |   |                                                                                                                 |
|   |                                                        |   | 8 | 8 | 8 | 8 |   |                                                                                                                 |
|   |                                                        |   | E | E | E | E |   |                                                                                                                 |
|   |                                                        |   | - | - | - | - |   |                                                                                                                 |
|   |                                                        | 1 | 0 | 0 | 0 | 0 |   |                                                                                                                 |
|   |                                                        | 8 | 3 | 2 | 3 | 2 | 6 | Cyclin B1, HEXIM1, Calmyrin, HSP70, Cyclin B, CAMK2N1                                                           |
| 1 |                                                        |   | 2 | 3 | 2 | 3 |   |                                                                                                                 |
| 5 |                                                        |   | . | . | . | . |   |                                                                                                                 |
| 2 | <a href="#">negative regulation of growth</a>          | 2 | 5 | 1 | 5 | 1 |   |                                                                                                                 |
|   |                                                        |   | 9 | 4 | 9 | 4 |   |                                                                                                                 |
|   |                                                        |   | 4 | 8 | 4 | 8 |   |                                                                                                                 |
|   |                                                        |   | E | E | E | E |   |                                                                                                                 |
|   |                                                        | 8 | - | - | - | - |   |                                                                                                                 |
|   |                                                        | 9 | 0 | 0 | 0 | 0 |   |                                                                                                                 |
|   |                                                        | 9 | 3 | 2 | 3 | 2 | 5 | HSPA1B, TIRAP (Mal), HSP70, HSPA1A, Spinophilin                                                                 |
| 1 |                                                        |   | 2 | 3 | 2 | 3 |   |                                                                                                                 |
| 5 |                                                        |   | . | . | . | . |   |                                                                                                                 |
| 3 | <a href="#">regulation of organelle organization</a>   | 9 | 6 | 1 | 6 | 1 |   |                                                                                                                 |
|   |                                                        |   | 3 | 7 | 3 | 7 |   |                                                                                                                 |
|   |                                                        |   | 0 | 2 | 0 | 2 |   |                                                                                                                 |
|   |                                                        |   | E | E | E | E |   |                                                                                                                 |
|   |                                                        | 0 | - | - | - | - |   |                                                                                                                 |
|   |                                                        | 1 | 0 | 0 | 0 | 0 |   |                                                                                                                 |
|   |                                                        | 1 | 3 | 2 | 3 | 2 | 9 | Cyclin B1, ASAP, Olfactory receptor, Calmyrin, ERK1 (MAPK3), Spinophilin, Cyclin B, Rab-3, ERK1/2               |
| 1 |                                                        |   | 2 | 3 | 2 | 3 |   |                                                                                                                 |
| 5 |                                                        |   | . | . | . | . |   |                                                                                                                 |
| 4 | <a href="#">regulation of protein binding</a>          | 1 | 6 | 1 | 6 | 1 |   |                                                                                                                 |
|   |                                                        |   | 8 | 8 | 8 | 8 |   |                                                                                                                 |
|   |                                                        |   | 2 | 6 | 2 | 6 |   |                                                                                                                 |
|   |                                                        |   | E | E | E | E |   |                                                                                                                 |
|   |                                                        | 7 | - | - | - | - |   |                                                                                                                 |
|   |                                                        | 6 | 0 | 0 | 0 | 0 |   |                                                                                                                 |
|   |                                                        | 6 | 3 | 2 | 3 | 2 | 4 | TIRAP (Mal), HSP70, ERK1 (MAPK3), ERK1/2                                                                        |
| 1 |                                                        |   | 2 | 3 | 2 | 3 |   |                                                                                                                 |
| 5 |                                                        |   | . | . | . | . |   |                                                                                                                 |
| 5 | <a href="#">single-organism organelle organization</a> | 1 | 7 | 1 | 7 | 1 |   |                                                                                                                 |
|   |                                                        |   | 5 | 8 | 5 | 8 |   |                                                                                                                 |
|   |                                                        | 8 | 8 | 6 | 8 | 6 |   |                                                                                                                 |
|   |                                                        | 8 | E | E | E | E |   |                                                                                                                 |
|   |                                                        | 7 | - | - | - | - | 1 |                                                                                                                 |
|   |                                                        | 8 | 0 | 0 | 0 | 0 | 4 | Cyclin B1, HSPA1B, TIPIN, ASAP, Calmyrin, HSP70, HSPA1A, HSPA2, CKS2, OBFC1, Spinophilin, Cyclin B, Rab-3, EYA1 |

|             |                                                                          |             |        |        |        |        |   |                                                                         |
|-------------|--------------------------------------------------------------------------|-------------|--------|--------|--------|--------|---|-------------------------------------------------------------------------|
|             |                                                                          |             | 3      | 2      | 3      | 2      |   |                                                                         |
| 1<br>5<br>6 | <a href="#">regulation of mRNA 3'-end processing</a>                     | 2<br>4      | 2<br>3 | 3<br>2 | 2<br>3 | 3<br>2 | 2 | Cyclin B1, Cyclin B                                                     |
| 1<br>5<br>7 | <a href="#">positive regulation of cardiac muscle cell proliferation</a> | 2<br>4      | 2<br>3 | 3<br>2 | 2<br>3 | 3<br>2 | 2 | Cyclin B1, Cyclin B                                                     |
| 1<br>5<br>8 | <a href="#">regulation of lymphocyte mediated immunity</a>               | 1<br>7<br>9 | 2<br>3 | 3<br>2 | 2<br>3 | 3<br>2 | 4 | HSPA1B, HSP70, HSPA1A, CD43                                             |
| 1<br>5<br>9 | <a href="#">regulation of cytoskeleton organization</a>                  | 4<br>3<br>1 | 2<br>3 | 3<br>2 | 2<br>3 | 3<br>2 | 6 | Cyclin B1, Olfactory receptor, Calmyrin, ERK1 (MAPK3), Cyclin B, ERK1/2 |
| 1<br>6<br>0 | <a href="#">positive regulation of cell cycle</a>                        | 1<br>8<br>0 | 2<br>3 | 3<br>2 | 2<br>3 | 3<br>2 | 4 | Cyclin B1, HSP70, HSPA2, Cyclin B                                       |

|             |                                                                                |                  |                                           |                                           |                                           |                                                |                                           |                                                                                                                                                                                                                                                      |
|-------------|--------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1<br>6<br>1 | <a href="#">positive regulation of leukocyte mediated cytotoxicity</a>         | 8<br>7           | 2<br>3<br>4<br>1<br>E<br>-<br>0<br>3      | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 2<br>.<br>9<br>4<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2      | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 3<br>HSPA1B, HSP70, HSPA1A                                                                                                                                                                                                                           |
| 1<br>6<br>2 | <a href="#">organelle fission</a>                                              | 5<br>8<br>3      | 2<br>.<br>9<br>5<br>7<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 2<br>.<br>9<br>5<br>7<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2      | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 7<br>Cyclin B1, TIPIN, ASAP, HSP70, HSPA2, CKS2, Cyclin B                                                                                                                                                                                            |
| 1<br>6<br>3 | <a href="#">cellular response to stress</a>                                    | 1<br>6<br>8<br>5 | 2<br>.<br>9<br>6<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 2<br>.<br>9<br>6<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2      | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 1<br>3<br>Cyclin B1, HSPA1B, TIPIN, TIRAP (Mal), Calmyrin, HSP70, ERK1 (MAPK3), HSPA1A, Cyclin B, Adult hemoglobin, EYA1, ERK1/2, CapZIP                                                                                                             |
| 1<br>6<br>4 | <a href="#">regulation of chromosome organization</a>                          | 1<br>8<br>1      | 2<br>.<br>9<br>6<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 2<br>.<br>9<br>6<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2      | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 4<br>Cyclin B1, ERK1 (MAPK3), Cyclin B, ERK1/2                                                                                                                                                                                                       |
| 1<br>6<br>5 | <a href="#">regulation of nucleobase-containing compound metabolic process</a> | 4<br>9<br>8<br>6 | 2<br>.<br>9<br>9<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 2<br>.<br>9<br>8<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>9<br>8<br>6<br>E<br>-<br>0<br>2 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 2<br>7<br>Ajuba, Cyclin B1, TIPIN, AL1A1, HBG, HBGA, HEXIM1, TIRAP (Mal), Olfactory receptor, PTD015, Calmyrin, EPS8L1, HSP70, ERK1 (MAPK3), AO7, OBFC1, ZNF397OS, ICMT, ZNF397, Cyclin B, Rab-3, Adult hemoglobin, EYA1, ZHX3, ERK1/2, DEAF, PQBP-1 |
| 1<br>6      | <a href="#">pattern recognition receptor signaling pathway</a>                 | 1<br>8           | 2<br>.<br>9<br>.<br>.<br>.<br>.           | 3<br>.<br>1<br>.<br>.<br>.<br>.           | 3<br>.<br>1<br>.<br>.<br>.<br>.           | 3<br>.<br>1<br>.<br>.<br>.<br>.                | 3<br>.<br>1<br>.<br>.<br>.<br>.           | 4<br>TIRAP (Mal), COLEC12, ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                      |



|             |                                                                   |        |                                           |                                           |                                           |                                           |   |                      |
|-------------|-------------------------------------------------------------------|--------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|----------------------|
| 6           |                                                                   | 2      | 0<br>2<br>6<br>E<br>-<br>0<br>3           | 1<br>8<br>6<br>E<br>-<br>0<br>2           | 0<br>2<br>6<br>E<br>-<br>0<br>3           | 1<br>8<br>6<br>E<br>-<br>0<br>2           |   |                      |
| 1<br>6<br>7 | <a href="#">response to insecticide</a>                           | 2<br>5 | 3<br>.<br>0<br>3<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 3<br>.<br>0<br>3<br>1<br>E<br>-<br>0<br>2 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 2 | Cyclin B1, Cyclin B  |
| 1<br>6<br>8 | <a href="#">metaphase plate congression</a>                       | 2<br>5 | 3<br>.<br>0<br>3<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 3<br>.<br>0<br>3<br>1<br>E<br>-<br>0<br>2 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 2 | Cyclin B1, Cyclin B  |
| 1<br>6<br>9 | <a href="#">positive regulation of histone acetylation</a>        | 2<br>5 | 3<br>.<br>0<br>3<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 3<br>.<br>0<br>3<br>1<br>E<br>-<br>0<br>2 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 2 | ERK1 (MAPK3), ERK1/2 |
| 1<br>7<br>0 | <a href="#">synaptonemal complex organization</a>                 | 2<br>5 | 3<br>.<br>0<br>3<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 3<br>.<br>0<br>3<br>1<br>E<br>-<br>0<br>2 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 2 | HSP70, HSPA2         |
| 1<br>7<br>1 | <a href="#">regulation of synaptic transmission, dopaminergic</a> | 2<br>5 | 3<br>.<br>0<br>3<br>8                     | 3<br>.<br>1<br>8<br>3                     | 3<br>.<br>0<br>3<br>8                     | 3<br>.<br>1<br>8<br>3                     | 2 | Rab-3B, Rab-3        |

|             |                                                                       |                  |                                           |                                           |                                           |                                           |        |                                                                                             |
|-------------|-----------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|---------------------------------------------------------------------------------------------|
|             |                                                                       |                  | 1<br>E<br>-<br>0<br>3                     | 6<br>E<br>-<br>0<br>2                     | 1<br>E<br>-<br>0<br>3                     | 6<br>E<br>-<br>0<br>2                     |        |                                                                                             |
| 1<br>7<br>2 | <a href="#">response to topologically incorrect protein</a>           | 1<br>8<br>3      | 3<br>.<br>0<br>8<br>6<br>E<br>-<br>3      | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>2      | 3<br>.<br>0<br>8<br>6<br>E<br>-<br>3      | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>2      | 4      | HSPA1B, HSP70, HSPA1A, HSPA2                                                                |
| 1<br>7<br>3 | <a href="#">regulation of protein depolymerization</a>                | 8<br>9           | 3<br>.<br>1<br>3<br>7<br>E<br>-<br>9      | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>2      | 3<br>.<br>1<br>3<br>7<br>E<br>-<br>3      | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>2      | 3      | Cyclin B1, Calmyrin, Cyclin B                                                               |
| 1<br>7<br>4 | <a href="#">positive regulation of protein modification process</a>   | 1<br>1<br>0<br>9 | 3<br>.<br>1<br>7<br>9<br>E<br>-<br>0<br>9 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 3<br>.<br>1<br>7<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 1<br>0 | Ajuba, Cyclin B1, TIRAP (Mal), Calmyrin, HSP70, ERK1 (MAPK3), CD43, HSPA2, Cyclin B, ERK1/2 |
| 1<br>7<br>5 | <a href="#">innate immune response-activating signal transduction</a> | 1<br>8<br>6      | 3<br>.<br>2<br>7<br>1<br>E<br>-<br>8<br>6 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 3<br>.<br>2<br>7<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 4      | TIRAP (Mal), COLEC12, ERK1 (MAPK3), ERK1/2                                                  |
| 1<br>7<br>6 | <a href="#">male meiosis I</a>                                        | 2<br>6           | 3<br>.<br>2<br>7<br>6<br>E<br>E           | 3<br>.<br>1<br>8<br>6<br>E<br>E           | 3<br>.<br>2<br>7<br>6<br>E<br>E           | 3<br>.<br>1<br>8<br>6<br>E<br>E           | 2      | HSP70, HSPA2                                                                                |

|   |                                         |   |   |   |   |   |   |             |
|---|-----------------------------------------|---|---|---|---|---|---|-------------|
|   |                                         |   | - | - | - | - |   |             |
|   |                                         |   | 0 | 0 | 0 | 0 |   |             |
|   |                                         |   | 3 | 2 | 3 | 2 |   |             |
| 1 | <a href="#">deoxyribonucleoside</a>     |   | 3 | 3 | 3 | 3 |   |             |
| 7 | <a href="#">diphosphate catabolic</a>   |   | . | . | . | . |   |             |
| 7 | <a href="#">process</a>                 | 1 | 2 | 1 | 2 | 1 | 1 | FLJ22494    |
|   |                                         |   | 8 | 8 | 8 | 8 |   |             |
|   |                                         |   | 1 | 6 | 1 | 6 |   |             |
|   |                                         |   | E | E | E | E |   |             |
|   |                                         |   | - | - | - | - |   |             |
|   |                                         |   | 0 | 0 | 0 | 0 |   |             |
|   |                                         |   | 3 | 2 | 3 | 2 |   |             |
| 1 |                                         |   | 3 | 3 | 3 | 3 |   |             |
| 7 |                                         |   | . | . | . | . |   |             |
| 8 | <a href="#">GDP catabolic process</a>   | 1 | 2 | 1 | 2 | 1 | 1 | FLJ22494    |
|   |                                         |   | 8 | 8 | 8 | 8 |   |             |
|   |                                         |   | 1 | 6 | 1 | 6 |   |             |
|   |                                         |   | E | E | E | E |   |             |
|   |                                         |   | - | - | - | - |   |             |
|   |                                         |   | 0 | 0 | 0 | 0 |   |             |
|   |                                         |   | 3 | 2 | 3 | 2 |   |             |
| 1 | <a href="#">TIRAP-dependent toll-</a>   |   | 3 | 3 | 3 | 3 |   |             |
| 7 | <a href="#">like receptor signaling</a> |   | . | . | . | . |   |             |
| 9 | <a href="#">pathway</a>                 | 1 | 2 | 1 | 2 | 1 | 1 | TIRAP (Mal) |
|   |                                         |   | 8 | 8 | 8 | 8 |   |             |
|   |                                         |   | 1 | 6 | 1 | 6 |   |             |
|   |                                         |   | E | E | E | E |   |             |
|   |                                         |   | - | - | - | - |   |             |
|   |                                         |   | 0 | 0 | 0 | 0 |   |             |
|   |                                         |   | 3 | 2 | 3 | 2 |   |             |
| 1 | <a href="#">siRNA loading onto</a>      |   | 3 | 3 | 3 | 3 |   |             |
| 8 | <a href="#">RISC involved in RNA</a>    |   | . | . | . | . |   |             |
| 0 | <a href="#">interference</a>            | 1 | 2 | 1 | 2 | 1 | 1 | Clp1        |
|   |                                         |   | 8 | 8 | 8 | 8 |   |             |
|   |                                         |   | 1 | 6 | 1 | 6 |   |             |
|   |                                         |   | E | E | E | E |   |             |
|   |                                         |   | - | - | - | - |   |             |
|   |                                         |   | 0 | 0 | 0 | 0 |   |             |
|   |                                         |   | 3 | 2 | 3 | 2 |   |             |
| 1 | <a href="#">dADP catabolic</a>          |   | 3 | 3 | 3 | 3 |   |             |
| 8 | <a href="#">process</a>                 | 1 | . | . | . | . |   |             |
| 1 |                                         |   | 2 | 1 | 2 | 1 | 1 | FLJ22494    |
|   |                                         |   | 8 | 8 | 8 | 8 |   |             |
|   |                                         |   | 1 | 6 | 1 | 6 |   |             |
|   |                                         |   | E | E | E | E |   |             |
|   |                                         |   | - | - | - | - |   |             |
|   |                                         |   | 0 | 0 | 0 | 0 |   |             |
|   |                                         |   | 3 | 2 | 3 | 2 |   |             |

|             |                                                                                    |   |                                           |                                           |                                           |                                           |   |                       |
|-------------|------------------------------------------------------------------------------------|---|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|-----------------------|
|             |                                                                                    |   | 3                                         | 2                                         | 3                                         | 2                                         |   |                       |
| 1<br>8<br>2 | <a href="#">regulation of chemokine (C-X-C motif) ligand 1 production</a>          | 1 | 3<br>.<br>2<br>8<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 3<br>.<br>2<br>8<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 1 | TIRAP (Mal)           |
| 1<br>8<br>3 | <a href="#">TIRAP-dependent toll-like receptor 4 signaling pathway</a>             | 1 | 3<br>.<br>2<br>8<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 3<br>.<br>2<br>8<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 1 | TIRAP (Mal)           |
| 1<br>8<br>4 | <a href="#">regulation of interleukin-15 production</a>                            | 1 | 3<br>.<br>2<br>8<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 3<br>.<br>2<br>8<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 1 | TIRAP (Mal)           |
| 1<br>8<br>5 | <a href="#">positive regulation of chemokine (C-X-C motif) ligand 1 production</a> | 1 | 3<br>.<br>2<br>8<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 3<br>.<br>2<br>8<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 1 | TIRAP (Mal)           |
| 1<br>8<br>6 | <a href="#">fructoselysine metabolic process</a>                                   | 1 | 3<br>.<br>2<br>8<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 3<br>.<br>2<br>8<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 1 | Fructosamine-3-kinase |

|     |                                                                          |             |                                           |                                           |                                           |                                           |   |                                                          |
|-----|--------------------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|----------------------------------------------------------|
| 187 | <a href="#">positive regulation of interleukin-15 production</a>         | 1           | 3<br>.<br>2<br>8<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 3<br>.<br>2<br>8<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 1 | TIRAP (Mal)                                              |
| 188 | <a href="#">purine deoxyribonucleoside diphosphate catabolic process</a> | 1           | 3<br>.<br>2<br>8<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 3<br>.<br>2<br>8<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 1 | FLJ22494                                                 |
| 189 | <a href="#">dGDP catabolic process</a>                                   | 1           | 3<br>.<br>2<br>8<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 3<br>.<br>2<br>8<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 1 | FLJ22494                                                 |
| 190 | <a href="#">thymocyte aggregation</a>                                    | 1           | 3<br>.<br>2<br>8<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 3<br>.<br>2<br>8<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 1 | CD43                                                     |
| 191 | <a href="#">immune response-activating signal transduction</a>           | 4<br>4<br>5 | 3<br>.<br>3<br>7<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>6<br>0<br>E<br>-<br>0<br>2 | 3<br>.<br>3<br>7<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>6<br>0<br>E<br>-<br>0<br>2 | 6 | IGHG4, TIRAP (Mal), COLEC12, IGHG1, ERK1 (MAPK3), ERK1/2 |
| 199 | <a href="#">regulation of adaptive immune response based on somatic</a>  | 1<br>9      | 3<br>.<br>3<br>3<br>3                     | 3<br>.<br>3<br>3<br>3                     | 3<br>.<br>3<br>3<br>3                     | 3<br>.<br>3<br>3<br>3                     | 4 | HSPA1B, HSP70, HSPA1A, CD43                              |

|             |                                                                                                 |        |                                      |                                      |                                      |                                      |                                                                       |
|-------------|-------------------------------------------------------------------------------------------------|--------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|-----------------------------------------------------------------------|
| 2           | <a href="#">recombination of immune receptors built from immunoglobulin superfamily domains</a> | 0      | 5<br>2<br>9<br>E<br>-<br>0<br>3      | 3<br>5<br>8<br>E<br>-<br>0<br>2      | 5<br>2<br>9<br>E<br>-<br>0<br>3      | 3<br>5<br>8<br>E<br>-<br>0<br>2      |                                                                       |
| 1<br>9<br>3 | <a href="#">positive regulation of peptidyl-lysine acetylation</a>                              | 2<br>7 | 3<br>5<br>3<br>1<br>E<br>-<br>0<br>3 | 3<br>3<br>5<br>8<br>E<br>-<br>0<br>2 | 3<br>5<br>3<br>1<br>E<br>-<br>0<br>3 | 3<br>5<br>5<br>8<br>E<br>-<br>0<br>2 | 2<br>ERK1 (MAPK3), ERK1/2                                             |
| 1<br>9<br>4 | <a href="#">positive regulation of neurotransmitter transport</a>                               | 2<br>7 | 3<br>5<br>3<br>1<br>E<br>-<br>0<br>3 | 3<br>3<br>5<br>8<br>E<br>-<br>0<br>2 | 3<br>5<br>3<br>1<br>E<br>-<br>0<br>3 | 3<br>5<br>5<br>8<br>E<br>-<br>0<br>2 | 2<br>Rab-3B, Rab-3                                                    |
| 1<br>9<br>5 | <a href="#">positive regulation of cell killing</a>                                             | 9<br>3 | 3<br>5<br>5<br>1<br>E<br>-<br>0<br>3 | 3<br>3<br>6<br>0<br>E<br>-<br>0<br>3 | 3<br>5<br>5<br>1<br>E<br>-<br>0<br>3 | 3<br>5<br>6<br>0<br>E<br>-<br>0<br>2 | 3<br>HSPA1B, HSP70, HSPA1A                                            |
| 1<br>9<br>6 | <a href="#">positive regulation of protein kinase activity</a>                                  | 6<br>4 | 3<br>5<br>9<br>4<br>E<br>-<br>0<br>3 | 3<br>3<br>8<br>3<br>E<br>-<br>0<br>2 | 3<br>5<br>9<br>4<br>E<br>-<br>0<br>3 | 3<br>5<br>8<br>3<br>E<br>-<br>0<br>2 | 7<br>Ajuba, TIRAP (Mal), Calmyrin, HSP70, ERK1 (MAPK3), HSPA2, ERK1/2 |
| 1<br>9<br>7 | <a href="#">toll-like receptor 5 signaling pathway</a>                                          | 9<br>4 | 3<br>6<br>6                          | 3<br>4<br>2                          | 3<br>6<br>6                          | 3<br>4<br>2                          | 3<br>TIRAP (Mal), ERK1 (MAPK3), ERK1/2                                |

|             |                                                                     |             |                                           |                                                |                                           |                                                |        |                                                                                             |
|-------------|---------------------------------------------------------------------|-------------|-------------------------------------------|------------------------------------------------|-------------------------------------------|------------------------------------------------|--------|---------------------------------------------------------------------------------------------|
|             |                                                                     |             | 0<br>E<br>-<br>0<br>3                     | 7<br>E<br>-<br>0<br>2                          | 0<br>E<br>-<br>0<br>3                     | 7<br>E<br>-<br>0<br>2                          |        |                                                                                             |
| 1<br>9<br>8 | <a href="#">response to stilbenoid</a>                              | 2<br>8      | 3<br>.<br>7<br>9<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>9<br>0<br>E<br>-<br>0<br>2      | 3<br>.<br>7<br>9<br>5<br>E<br>-<br>0<br>2 | 3<br>.<br>4<br>9<br>0<br>E<br>-<br>0<br>2      | 2      | Adult hemoglobin, RIG-G                                                                     |
| 1<br>9<br>9 | <a href="#">positive regulation of protein acetylation</a>          | 2<br>8      | 3<br>.<br>7<br>9<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>9<br>0<br>E<br>-<br>0<br>2      | 3<br>.<br>7<br>9<br>5<br>E<br>-<br>0<br>2 | 3<br>.<br>4<br>9<br>0<br>E<br>-<br>0<br>2      | 2      | ERK1 (MAPK3), ERK1/2                                                                        |
| 2<br>0<br>0 | <a href="#">protein import</a>                                      | 1<br>9<br>4 | 3<br>.<br>8<br>0<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>9<br>0<br>1<br>E<br>-<br>0<br>2 | 3<br>.<br>8<br>0<br>1<br>E<br>-<br>0<br>2 | 3<br>.<br>4<br>9<br>0<br>1<br>E<br>-<br>0<br>2 | 4      | Olfactory receptor, HSP70, ERK1 (MAPK3), ERK1/2                                             |
| 2<br>0<br>1 | <a href="#">positive regulation of phosphorus metabolic process</a> | 1<br>3<br>8 | 3<br>.<br>8<br>2<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>9<br>0<br>1<br>E<br>-<br>0<br>2 | 3<br>.<br>8<br>2<br>1<br>E<br>-<br>0<br>2 | 3<br>.<br>4<br>9<br>0<br>1<br>E<br>-<br>0<br>2 | 1<br>0 | Ajuba, Cyclin B1, TIRAP (Mal), Calmyrin, HSP70, ERK1 (MAPK3), CD43, HSPA2, Cyclin B, ERK1/2 |
| 2<br>0<br>2 | <a href="#">positive regulation of phosphate metabolic process</a>  | 1<br>3<br>8 | 3<br>.<br>8<br>1<br>3<br>8                | 3<br>.<br>4<br>2<br>0<br>E<br>E                | 3<br>.<br>8<br>2<br>1<br>E<br>E           | 3<br>.<br>4<br>9<br>0<br>1<br>E<br>E           | 1<br>0 | Ajuba, Cyclin B1, TIRAP (Mal), Calmyrin, HSP70, ERK1 (MAPK3), CD43, HSPA2, Cyclin B, ERK1/2 |

|   |                                                                        |   |   |   |   |   |   |                                                                         |
|---|------------------------------------------------------------------------|---|---|---|---|---|---|-------------------------------------------------------------------------|
|   |                                                                        |   | - | - | - | - |   |                                                                         |
|   |                                                                        |   | 0 | 0 | 0 | 0 |   |                                                                         |
|   |                                                                        |   | 3 | 2 | 3 | 2 |   |                                                                         |
| 2 | <a href="#">negative regulation of cellular component organization</a> | 6 | 3 | 3 | 3 | 3 | 7 | Cyclin B1, HSPA1B, Calmyrin, HSP70, HSPA1A, HSPA2, Cyclin B             |
| 0 |                                                                        |   | . | . | . | . |   |                                                                         |
| 3 |                                                                        |   | 9 | 6 | 9 | 6 |   |                                                                         |
|   |                                                                        |   | 6 | 0 | 6 | 0 |   |                                                                         |
|   |                                                                        |   | 7 | 5 | 7 | 5 |   |                                                                         |
|   |                                                                        |   | E | E | E | E |   |                                                                         |
|   |                                                                        |   | - | - | - | - |   |                                                                         |
|   |                                                                        |   | 1 | 0 | 0 | 0 |   |                                                                         |
|   |                                                                        |   | 5 | 3 | 2 | 3 |   |                                                                         |
| 2 | <a href="#">regulation of cell cycle process</a>                       | 6 | 4 | 3 | 4 | 3 | 7 | Cyclin B1, TIPIN, ASAP, Olfactory receptor, Spinophilin, Cyclin B, PRCC |
| 0 |                                                                        |   | . | . | . | . |   |                                                                         |
| 4 |                                                                        |   | 0 | 6 | 0 | 6 |   |                                                                         |
|   |                                                                        |   | 0 | 1 | 0 | 1 |   |                                                                         |
|   |                                                                        |   | 2 | 3 | 2 | 3 |   |                                                                         |
|   |                                                                        |   | E | E | E | E |   |                                                                         |
|   |                                                                        |   | - | - | - | - |   |                                                                         |
|   |                                                                        |   | 1 | 0 | 0 | 0 |   |                                                                         |
|   |                                                                        |   | 6 | 3 | 2 | 3 |   |                                                                         |
| 2 | <a href="#">activation of innate immune response</a>                   | 1 | 4 | 3 | 4 | 3 | 4 | TIRAP (Mal), COLEC12, ERK1 (MAPK3), ERK1/2                              |
| 0 |                                                                        |   | . | . | . | . |   |                                                                         |
| 5 |                                                                        |   | 0 | 6 | 0 | 6 |   |                                                                         |
|   |                                                                        |   | 1 | 1 | 1 | 1 |   |                                                                         |
|   |                                                                        |   | 4 | 3 | 4 | 3 |   |                                                                         |
|   |                                                                        |   | E | E | E | E |   |                                                                         |
|   |                                                                        |   | - | - | - | - |   |                                                                         |
|   |                                                                        |   | 9 | 0 | 0 | 0 |   |                                                                         |
|   |                                                                        |   | 7 | 3 | 2 | 3 |   |                                                                         |
| 2 | <a href="#">oocyte maturation</a>                                      | 2 | 4 | 3 | 4 | 3 | 2 | Cyclin B1, Cyclin B                                                     |
| 0 |                                                                        |   | . | . | . | . |   |                                                                         |
| 6 |                                                                        |   | 0 | 6 | 0 | 6 |   |                                                                         |
|   |                                                                        |   | 6 | 4 | 6 | 4 |   |                                                                         |
|   |                                                                        |   | 8 | 3 | 8 | 3 |   |                                                                         |
|   |                                                                        |   | E | E | E | E |   |                                                                         |
|   |                                                                        |   | - | - | - | - |   |                                                                         |
|   |                                                                        |   | 0 | 0 | 0 | 0 |   |                                                                         |
|   |                                                                        |   | 9 | 3 | 2 | 3 |   |                                                                         |
| 2 | <a href="#">toll-like receptor TLR6:TLR2 signaling pathway</a>         | 9 | 4 | 3 | 4 | 3 | 3 | TIRAP (Mal), ERK1 (MAPK3), ERK1/2                                       |
| 0 |                                                                        |   | . | . | . | . |   |                                                                         |
| 7 |                                                                        |   | 2 | 7 | 2 | 7 |   |                                                                         |
|   |                                                                        |   | 3 | 0 | 3 | 0 |   |                                                                         |
|   |                                                                        |   | 3 | 1 | 3 | 1 |   |                                                                         |
|   |                                                                        |   | E | E | E | E |   |                                                                         |
|   |                                                                        |   | - | - | - | - |   |                                                                         |
|   |                                                                        |   | 9 | 0 | 0 | 0 |   |                                                                         |
|   |                                                                        |   | 9 | 0 | 0 | 0 |   |                                                                         |



|     |                                                                                         |      |                                                |                                           |                                                |                                           |    |                                                                                                                                                                                                                                            |
|-----|-----------------------------------------------------------------------------------------|------|------------------------------------------------|-------------------------------------------|------------------------------------------------|-------------------------------------------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                                                                                         |      | 3                                              | 2                                         | 3                                              | 2                                         |    |                                                                                                                                                                                                                                            |
| 208 | <a href="#">toll-like receptor<br/>TLR1:TLR2 signaling<br/>pathway</a>                  | 99   | 4<br>.<br>2<br>3<br>3<br>E<br>-<br>0<br>3      | 3<br>.<br>7<br>0<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>2<br>3<br>3<br>E<br>-<br>0<br>3      | 3<br>.<br>7<br>0<br>1<br>E<br>-<br>0<br>2 | 3  | TIRAP (Mal), ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                          |
| 209 | <a href="#">response to abiotic<br/>stimulus</a>                                        | 1551 | 4<br>.<br>2<br>6<br>8<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>7<br>0<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>2<br>6<br>8<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>7<br>0<br>1<br>E<br>-<br>0<br>2 | 12 | Ajuba, Cyclin B1, HSPA1B, TIPIN, HSP70, ERK1 (MAPK3), HSPA1A, Cyclin B, Rab-3, EYA1, ERK1/2, CapZIP                                                                                                                                        |
| 210 | <a href="#">Ras protein signal<br/>transduction</a>                                     | 201  | 4<br>.<br>3<br>1<br>1<br>E<br>-<br>0<br>3      | 3<br>.<br>7<br>0<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>3<br>1<br>1<br>E<br>-<br>0<br>3      | 3<br>.<br>7<br>0<br>1<br>E<br>-<br>0<br>2 | 4  | EPS8L1, ERK1 (MAPK3), Rab-3, ERK1/2                                                                                                                                                                                                        |
| 211 | <a href="#">regulation of nitrogen<br/>compound metabolic<br/>process</a>               | 5112 | 4<br>.<br>3<br>3<br>6<br>E<br>-<br>0<br>3      | 3<br>.<br>7<br>0<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>3<br>3<br>6<br>E<br>-<br>0<br>3      | 3<br>.<br>7<br>0<br>1<br>E<br>-<br>0<br>2 | 27 | Ajuba, Cyclin B1, TIPIN, AL1A1, HBG, HBGA, HEXIM1, TIRAP (Mal), Olfactory receptor, PTD015, Calmyrin, EPS8L1, HSP70, ERK1 (MAPK3), AO7, OBFC1, ZNF397OS, ICMT, ZNF397, Cyclin B, Rab-3, Adult hemoglobin, EYA1, ZHX3, ERK1/2, DEAF, PQBP-1 |
| 212 | <a href="#">positive regulation of<br/>cyclin-dependent<br/>protein kinase activity</a> | 300  | 4<br>.<br>3<br>4<br>9<br>E<br>-<br>0<br>3      | 3<br>.<br>7<br>0<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>3<br>4<br>9<br>E<br>-<br>0<br>3      | 3<br>.<br>7<br>0<br>1<br>E<br>-<br>0<br>2 | 2  | HSP70, HSPA2                                                                                                                                                                                                                               |

|             |                                                                               |             |                                           |                                           |                                           |                                           |   |                                   |
|-------------|-------------------------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|-----------------------------------|
| 2<br>1<br>3 | <a href="#">establishment of chromosome localization</a>                      | 3<br>0      | 4<br>.<br>3<br>4<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>7<br>0<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>3<br>4<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>7<br>0<br>1<br>E<br>-<br>0<br>2 | 2 | Cyclin B1, Cyclin B               |
| 2<br>1<br>4 | <a href="#">histone phosphorylation</a>                                       | 3<br>0      | 4<br>.<br>3<br>4<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>7<br>0<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>3<br>4<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>7<br>0<br>1<br>E<br>-<br>0<br>2 | 2 | Cyclin B1, Cyclin B               |
| 2<br>1<br>5 | <a href="#">positive regulation of mRNA processing</a>                        | 3<br>0      | 4<br>.<br>3<br>4<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>7<br>0<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>3<br>4<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>7<br>0<br>1<br>E<br>-<br>0<br>2 | 2 | Cyclin B1, Cyclin B               |
| 2<br>1<br>6 | <a href="#">JAK-STAT cascade involved in growth hormone signaling pathway</a> | 3<br>0      | 4<br>.<br>3<br>4<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>7<br>0<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>3<br>4<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>7<br>0<br>1<br>E<br>-<br>0<br>2 | 2 | ERK1 (MAPK3), ERK1/2              |
| 2<br>1<br>7 | <a href="#">regulation of vasoconstriction</a>                                | 1<br>0<br>0 | 4<br>.<br>3<br>5<br>3<br>E<br>-<br>0<br>3 | 3<br>.<br>7<br>0<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>3<br>5<br>3<br>E<br>-<br>0<br>3 | 3<br>.<br>7<br>0<br>1<br>E<br>-<br>0<br>2 | 3 | HSPA1B, HSP70, HSPA1A             |
| 2<br>1      | <a href="#">toll-like receptor 2 signaling pathway</a>                        | 1<br>0      | 4<br>.<br>.<br>.                          | 3<br>.<br>.<br>.                          | 4<br>.<br>.<br>.                          | 3<br>.<br>.<br>.                          | 3 | TIRAP (Mal), ERK1 (MAPK3), ERK1/2 |

|             |                                                           |             |                                           |                                           |                                           |                                           |   |                                                                                |
|-------------|-----------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|--------------------------------------------------------------------------------|
| 8           |                                                           | 1           | 4<br>7<br>6<br>E<br>-<br>0<br>3           | 7<br>7<br>1<br>E<br>-<br>0<br>2           | 4<br>7<br>6<br>E<br>-<br>0<br>3           | 7<br>7<br>1<br>E<br>-<br>0<br>2           |   |                                                                                |
| 2<br>1<br>9 | <a href="#">regulation of protein complex disassembly</a> | 1<br>0<br>1 | 4<br>.<br>4<br>7<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>7<br>7<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>7<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>7<br>7<br>1<br>E<br>-<br>0<br>2 | 3 | Cyclin B1, Calmyrin, Cyclin B                                                  |
| 2<br>2<br>0 | <a href="#">positive regulation of kinase activity</a>    | 6<br>3<br>2 | 4<br>.<br>6<br>0<br>0<br>E<br>-<br>3<br>2 | 3<br>.<br>8<br>4<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>6<br>0<br>0<br>E<br>-<br>3<br>2 | 3<br>.<br>8<br>4<br>1<br>E<br>-<br>0<br>2 | 7 | Ajuba, TIRAP (Mal), Calmyrin, HSP70, ERK1 (MAPK3), HSPA2, ERK1/2               |
| 2<br>2<br>1 | <a href="#">regulation of growth</a>                      | 8<br>0<br>2 | 4<br>.<br>6<br>2<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>4<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>6<br>2<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>4<br>1<br>E<br>-<br>0<br>2 | 8 | Cyclin B1, HSPA1B, TIRAP (Mal), Calmyrin, HSP70, HSPA1A, Spinophilin, Cyclin B |
| 2<br>2<br>2 | <a href="#">mitotic cell cycle checkpoint</a>             | 2<br>0<br>5 | 4<br>.<br>6<br>2<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>4<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>6<br>2<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>4<br>1<br>E<br>-<br>0<br>2 | 4 | Cyclin B1, TIPIN, Cyclin B, PRCC                                               |
| 2<br>2<br>3 | <a href="#">regulation of ERK1 and ERK2 cascade</a>       | 2<br>0<br>6 | 4<br>.<br>7<br>0                          | 3<br>.<br>8<br>9                          | 4<br>.<br>7<br>0                          | 3<br>.<br>8<br>9                          | 4 | TIRAP (Mal), Calmyrin, ERK1 (MAPK3), ERK1/2                                    |

|             |                                                                                                           |                  |                                 |                                 |                                 |                                 |        |                                                                                                   |
|-------------|-----------------------------------------------------------------------------------------------------------|------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|--------|---------------------------------------------------------------------------------------------------|
|             |                                                                                                           |                  | 2<br>E<br>-<br>0<br>3           | 0<br>E<br>-<br>0<br>2           | 2<br>E<br>-<br>0<br>3           | 0<br>E<br>-<br>0<br>2           |        |                                                                                                   |
| 2<br>2<br>4 | <a href="#">regulation of adaptive immune response</a>                                                    | 2<br>0<br>7      | 4<br>.<br>7<br>8<br>3<br>E<br>- | 3<br>.<br>9<br>3<br>9<br>E<br>- | 4<br>.<br>7<br>8<br>3<br>E<br>- | 3<br>.<br>9<br>3<br>9<br>E<br>- | 4      | HSPA1B, HSP70, HSPA1A, CD43                                                                       |
| 2<br>2<br>5 | <a href="#">negative regulation of cysteine-type endopeptidase activity involved in apoptotic process</a> | 1<br>0<br>4      | 4<br>.<br>8<br>5<br>7<br>E<br>- | 3<br>.<br>9<br>5<br>7<br>E<br>- | 4<br>.<br>8<br>5<br>7<br>E<br>- | 3<br>.<br>9<br>5<br>7<br>E<br>- | 3      | HSPA1B, HSP70, HSPA1A                                                                             |
| 2<br>2<br>6 | <a href="#">regulation of leukocyte mediated cytotoxicity</a>                                             | 1<br>0<br>4      | 4<br>.<br>8<br>5<br>7<br>E<br>- | 3<br>.<br>9<br>5<br>7<br>E<br>- | 4<br>.<br>8<br>5<br>7<br>E<br>- | 3<br>.<br>9<br>5<br>7<br>E<br>- | 3      | HSPA1B, HSP70, HSPA1A                                                                             |
| 2<br>2<br>7 | <a href="#">positive regulation of protein metabolic process</a>                                          | 1<br>3<br>7<br>4 | 4<br>.<br>8<br>6<br>8<br>E<br>- | 3<br>.<br>9<br>5<br>7<br>E<br>- | 4<br>.<br>8<br>6<br>8<br>E<br>- | 3<br>.<br>9<br>5<br>7<br>E<br>- | 1<br>1 | Ajuba, Cyclin B1, SNX1, TIRAP (Mal), Calmyrin, HSP70, ERK1 (MAPK3), CD43, HSPA2, Cyclin B, ERK1/2 |
| 2<br>2<br>8 | <a href="#">cellular response to DNA damage stimulus</a>                                                  | 8<br>1<br>0      | 4<br>.<br>9<br>0<br>2<br>E      | 3<br>.<br>9<br>6<br>7<br>E      | 4<br>.<br>9<br>0<br>2<br>E      | 3<br>.<br>9<br>6<br>7<br>E      | 8      | HSPA1B, TIPIN, Calmyrin, HSP70, ERK1 (MAPK3), HSPA1A, EYA1, ERK1/2                                |

|             |                                                                     |             |                                           |                                           |                                           |                                           |   |                                                                  |
|-------------|---------------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|------------------------------------------------------------------|
|             |                                                                     |             | -<br>0<br>3                               | -<br>0<br>2                               | -<br>0<br>3                               | -<br>0<br>2                               |   |                                                                  |
| 2<br>2<br>9 | <a href="#">negative regulation of cell growth</a>                  | 2<br>1<br>0 | 5<br>.<br>0<br>3<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>0<br>5<br>3<br>E<br>-<br>0<br>2 | 5<br>.<br>0<br>3<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>0<br>5<br>3<br>E<br>-<br>0<br>2 | 4 | HSPA1B, HSP70, HSPA1A, Spinophilin                               |
| 2<br>3<br>0 | <a href="#">regulation of extrinsic apoptotic signaling pathway</a> | 2<br>1<br>1 | 5<br>.<br>1<br>1<br>6<br>E<br>-<br>0<br>3 | 4<br>.<br>0<br>9<br>2<br>E<br>-<br>0<br>2 | 5<br>.<br>1<br>1<br>6<br>E<br>-<br>0<br>3 | 4<br>.<br>0<br>9<br>2<br>E<br>-<br>0<br>2 | 4 | HSPA1B, HSP70, HSPA1A, EYA1                                      |
| 2<br>3<br>1 | <a href="#">regulation of cellular response to stress</a>           | 4<br>8<br>5 | 5<br>.<br>1<br>2<br>4<br>E<br>-<br>0<br>3 | 4<br>.<br>0<br>9<br>2<br>E<br>-<br>0<br>2 | 5<br>.<br>1<br>2<br>4<br>E<br>-<br>0<br>3 | 4<br>.<br>0<br>9<br>2<br>E<br>-<br>0<br>2 | 6 | Ajuba, TIRAP (Mal), ERK1 (MAPK3), Adult hemoglobin, EYA1, ERK1/2 |
| 2<br>3<br>2 | <a href="#">negative regulation of phosphorus metabolic process</a> | 4<br>8<br>7 | 5<br>.<br>2<br>2<br>6<br>E<br>-<br>0<br>3 | 4<br>.<br>1<br>3<br>6<br>E<br>-<br>0<br>2 | 5<br>.<br>2<br>2<br>6<br>E<br>-<br>0<br>3 | 4<br>.<br>1<br>2<br>6<br>E<br>-<br>0<br>2 | 6 | Cyclin B1, HEXIM1, Calmyrin, HSP70, Cyclin B, CAMK2N1            |
| 2<br>3<br>3 | <a href="#">negative regulation of phosphate metabolic process</a>  | 4<br>8<br>7 | 5<br>.<br>2<br>2<br>6<br>E<br>-<br>0<br>0 | 4<br>.<br>1<br>3<br>6<br>E<br>-<br>0<br>0 | 5<br>.<br>2<br>2<br>6<br>E<br>-<br>0<br>0 | 4<br>.<br>1<br>2<br>6<br>E<br>-<br>0<br>0 | 6 | Cyclin B1, HEXIM1, Calmyrin, HSP70, Cyclin B, CAMK2N1            |

|   |                                                                             |   |   |   |   |   |   |                                                                                                                                                                                                                            |
|---|-----------------------------------------------------------------------------|---|---|---|---|---|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                             |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                            |
| 2 |                                                                             |   | 5 | 4 | 5 | 4 |   |                                                                                                                                                                                                                            |
| 3 |                                                                             |   | . | . | . | . |   |                                                                                                                                                                                                                            |
| 4 | <a href="#">chromosome localization</a>                                     | 3 | 2 | 1 | 2 | 1 |   |                                                                                                                                                                                                                            |
|   |                                                                             | 3 | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                            |
|   |                                                                             |   | 5 | 6 | 5 | 6 |   |                                                                                                                                                                                                                            |
|   |                                                                             |   | E | E | E | E |   |                                                                                                                                                                                                                            |
|   |                                                                             |   | - | - | - | - |   |                                                                                                                                                                                                                            |
|   |                                                                             |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                            |
|   |                                                                             | 3 | 3 | 2 | 3 | 2 | 2 | Cyclin B1, Cyclin B                                                                                                                                                                                                        |
| 2 |                                                                             |   | 5 | 4 | 5 | 4 |   |                                                                                                                                                                                                                            |
| 3 |                                                                             |   | . | . | . | . |   |                                                                                                                                                                                                                            |
| 5 | <a href="#">negative regulation of cysteine-type endopeptidase activity</a> | 1 | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                            |
|   |                                                                             | 0 | 9 | 3 | 9 | 3 |   |                                                                                                                                                                                                                            |
|   |                                                                             | 8 | 5 | 6 | 5 | 6 |   |                                                                                                                                                                                                                            |
|   |                                                                             |   | E | E | E | E |   |                                                                                                                                                                                                                            |
|   |                                                                             |   | - | - | - | - |   |                                                                                                                                                                                                                            |
|   |                                                                             |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                            |
|   |                                                                             | 3 | 3 | 2 | 3 | 2 | 3 | HSPA1B, HSP70, HSPA1A                                                                                                                                                                                                      |
| 2 |                                                                             |   | 5 | 4 | 5 | 4 |   |                                                                                                                                                                                                                            |
| 3 |                                                                             |   | . | . | . | . |   |                                                                                                                                                                                                                            |
| 6 | <a href="#">negative regulation of biological process</a>                   | 4 | 4 | 2 | 4 | 2 |   |                                                                                                                                                                                                                            |
|   |                                                                             | 6 | 2 | 4 | 2 | 4 |   |                                                                                                                                                                                                                            |
|   |                                                                             | 8 | 7 | 3 | 7 | 3 |   |                                                                                                                                                                                                                            |
|   |                                                                             |   | E | E | E | E |   |                                                                                                                                                                                                                            |
|   |                                                                             |   | - | - | - | - |   |                                                                                                                                                                                                                            |
|   |                                                                             |   | 0 | 0 | 0 | 0 | 2 | Ajuba, Cyclin B1, HSPA1B, TIPIN, Clp1, HBG, HBGA, HEXIM1, TIRAP (Mal), PTD015, Thioredoxin-like 2, Calmyrin, HSP70, HSPA1A, CD43, HSPA2, Spinophilin, Cyclin B, Adult hemoglobin, EYA1, RIG-G, CAMK2N1, ZHX3, ERK1/2, PRCC |
|   |                                                                             | 5 | 3 | 2 | 3 | 2 | 5 |                                                                                                                                                                                                                            |
| 2 |                                                                             |   | 5 | 4 | 5 | 4 |   |                                                                                                                                                                                                                            |
| 3 |                                                                             |   | . | . | . | . |   |                                                                                                                                                                                                                            |
| 7 | <a href="#">response to organic substance</a>                               | 3 | 4 | 2 | 4 | 2 |   |                                                                                                                                                                                                                            |
|   |                                                                             | 4 | 5 | 4 | 5 | 4 |   |                                                                                                                                                                                                                            |
|   |                                                                             |   | 6 | 7 | 6 | 7 |   |                                                                                                                                                                                                                            |
|   |                                                                             |   | E | E | E | E |   |                                                                                                                                                                                                                            |
|   |                                                                             |   | - | - | - | - |   |                                                                                                                                                                                                                            |
|   |                                                                             |   | 0 | 0 | 0 | 0 | 2 | Cyclin B1, HSPA1B, AL1A1, CDO1, TIRAP (Mal), Calmyrin, COLEC12, HSP70, ERK1 (MAPK3), CALCOCO2, eEF2K, SHCBP1, HSPA1A, HSPA2, Spinophilin, Cyclin B, IMD2, Adult hemoglobin, RIG-G, ERK1/2                                  |
|   |                                                                             | 4 | 3 | 2 | 3 | 2 | 0 |                                                                                                                                                                                                                            |
| 2 |                                                                             |   | 5 | 4 | 5 | 4 |   |                                                                                                                                                                                                                            |
| 3 |                                                                             |   | . | . | . | . |   |                                                                                                                                                                                                                            |
| 8 | <a href="#">regulation of immune system process</a>                         | 1 | 5 | 2 | 5 | 2 |   |                                                                                                                                                                                                                            |
|   |                                                                             | 6 | 2 | 8 | 2 | 8 |   |                                                                                                                                                                                                                            |
|   |                                                                             |   | 1 | 0 | 1 | 0 |   |                                                                                                                                                                                                                            |
|   |                                                                             |   | E | E | E | E |   |                                                                                                                                                                                                                            |
|   |                                                                             |   | - | - | - | - |   |                                                                                                                                                                                                                            |
|   |                                                                             |   | 0 | 0 | 0 | 0 | 1 | IGHG4, HSPA1B, TIRAP (Mal), Calmyrin, COLEC12, IGHG1, HSP70, ERK1 (MAPK3), HSPA1A, CD43, Adult hemoglobin, ERK1/2                                                                                                          |
|   |                                                                             | 2 | 3 | 2 | 3 | 2 | 2 |                                                                                                                                                                                                                            |

|             |                                                           |                  |                                           |                                           |                                           |                                           |   |                                                                                       |
|-------------|-----------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|---------------------------------------------------------------------------------------|
| 2<br>3<br>9 | <a href="#">regulation of cell killing</a>                | 1<br>1<br>0      | 5<br>.<br>6<br>7<br>7<br>E<br>-<br>0<br>3 | 4<br>.<br>3<br>8<br>2<br>E<br>-<br>0<br>2 | 5<br>.<br>6<br>7<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>3<br>8<br>2<br>E<br>-<br>0<br>2 | 3 | HSPA1B, HSP70, HSPA1A                                                                 |
| 2<br>4<br>0 | <a href="#">fertilization</a>                             | 2<br>1<br>8      | 5<br>.<br>7<br>3<br>6<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>0<br>9<br>E<br>-<br>0<br>2 | 5<br>.<br>7<br>3<br>6<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>0<br>9<br>E<br>-<br>0<br>2 | 4 | HSPA1B, Olfactory receptor, HSP70, HSPA1A                                             |
| 2<br>4<br>1 | <a href="#">regulation of leukocyte mediated immunity</a> | 2<br>1<br>9      | 5<br>.<br>8<br>2<br>8<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>3<br>3<br>E<br>-<br>0<br>2 | 5<br>.<br>8<br>2<br>8<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>3<br>3<br>E<br>-<br>0<br>2 | 4 | HSPA1B, HSP70, HSPA1A, CD43                                                           |
| 2<br>4<br>2 | <a href="#">growth hormone receptor signaling pathway</a> | 3<br>5           | 5<br>.<br>8<br>8<br>6<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>3<br>3<br>E<br>-<br>0<br>2 | 5<br>.<br>8<br>8<br>6<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>3<br>3<br>E<br>-<br>0<br>2 | 2 | ERK1 (MAPK3), ERK1/2                                                                  |
| 2<br>4<br>3 | <a href="#">sexual reproduction</a>                       | 1<br>0<br>1<br>9 | 5<br>.<br>8<br>9<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>3<br>3<br>E<br>-<br>0<br>2 | 5<br>.<br>8<br>9<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>3<br>3<br>E<br>-<br>0<br>2 | 9 | Cyclin B1, HSPA1B, Olfactory receptor, Calmyrin, HSP70, HSPA1A, HSPA2, Cyclin B, DEAF |
| 2<br>4      | <a href="#">small GTPase mediated signal transduction</a> | 5<br>0           | 5<br>.<br>.<br>.<br>.                     | 4<br>.<br>.<br>.<br>.                     | 5<br>.<br>.<br>.<br>.                     | 4<br>.<br>.<br>.<br>.                     | 6 | ARL5B, Rab-3B, EPS8L1, ERK1 (MAPK3), Rab-3, ERK1/2                                    |

|             |                                                                      |             |                                           |                                           |                                           |                                           |   |                                                                |
|-------------|----------------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|----------------------------------------------------------------|
| 4           |                                                                      | 0           | 9<br>2<br>7<br>E<br>-<br>0<br>3           | 4<br>3<br>3<br>E<br>-<br>0<br>2           | 9<br>2<br>7<br>E<br>-<br>0<br>3           | 4<br>3<br>3<br>E<br>-<br>0<br>2           |   |                                                                |
| 2<br>4<br>5 | <a href="#">blood coagulation</a>                                    | 6<br>6<br>3 | 5<br>.<br>9<br>4<br>9<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>3<br>3<br>E<br>-<br>0<br>2 | 5<br>.<br>9<br>4<br>9<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>3<br>3<br>E<br>-<br>0<br>2 | 7 | HBG, HBGA, HSP70, ERK1 (MAPK3), CD43, Adult hemoglobin, ERK1/2 |
| 2<br>4<br>6 | <a href="#">coagulation</a>                                          | 6<br>6<br>3 | 5<br>.<br>9<br>4<br>9<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>3<br>3<br>E<br>-<br>0<br>2 | 5<br>.<br>9<br>4<br>9<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>3<br>3<br>E<br>-<br>0<br>2 | 7 | HBG, HBGA, HSP70, ERK1 (MAPK3), CD43, Adult hemoglobin, ERK1/2 |
| 2<br>4<br>7 | <a href="#">meiosis I</a>                                            | 1<br>1<br>2 | 5<br>.<br>9<br>6<br>7<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>3<br>3<br>E<br>-<br>0<br>2 | 5<br>.<br>9<br>6<br>7<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>3<br>3<br>E<br>-<br>0<br>2 | 3 | HSP70, HSPA2, CKS2                                             |
| 2<br>4<br>8 | <a href="#">MyD88-dependent toll-like receptor signaling pathway</a> | 1<br>1<br>2 | 5<br>.<br>9<br>6<br>7<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>3<br>3<br>E<br>-<br>0<br>2 | 5<br>.<br>9<br>6<br>7<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>3<br>3<br>E<br>-<br>0<br>2 | 3 | TIRAP (Mal), ERK1 (MAPK3), ERK1/2                              |
| 2<br>4<br>9 | <a href="#">regulation of mitotic cell cycle</a>                     | 5<br>0<br>1 | 5<br>.<br>9<br>8                          | 4<br>.<br>4<br>3                          | 5<br>.<br>9<br>8                          | 4<br>.<br>4<br>3                          | 6 | Cyclin B1, TIPIN, ASAP, Spinophilin, Cyclin B, PRCC            |



|             |                                                           |                       |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------|-----------------------------------------------------------|-----------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                           |                       | 3<br>E<br>-<br>0<br>3                     | 3<br>E<br>-<br>0<br>2                     | 3<br>E<br>-<br>0<br>3                     | 3<br>E<br>-<br>0<br>2                     |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 2<br>5<br>0 | <a href="#">meiotic nuclear division</a>                  | 2<br>2<br>2<br>2      | 6<br>.<br>1<br>1<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>0<br>3<br>E<br>-<br>0<br>2 | 6<br>.<br>1<br>1<br>2<br>E<br>-<br>0<br>2 | 4<br>.<br>5<br>0<br>3<br>E<br>-<br>0<br>2 | 4      | HSP70, HSPA2, CKS2, Cyclin B                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 2<br>5<br>1 | <a href="#">negative regulation of molecular function</a> | 1<br>2<br>1<br>8      | 6<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>0<br>3<br>E<br>-<br>0<br>2 | 6<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>2 | 4<br>.<br>5<br>0<br>3<br>E<br>-<br>0<br>2 | 1<br>0 | Ajuba, HSPA1B, HEXIM1, PAP41, HSP70, ERK1 (MAPK3), HSPA1A, Spinophilin, CAMK2N1, ERK1/2                                                                                                                                                                                                                                                                                                                                                        |
| 2<br>5<br>2 | <a href="#">single organism reproductive process</a>      | 1<br>4<br>1<br>8      | 6<br>.<br>1<br>5<br>0<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>0<br>3<br>E<br>-<br>0<br>2 | 6<br>.<br>1<br>5<br>0<br>E<br>-<br>0<br>2 | 4<br>.<br>5<br>0<br>3<br>E<br>-<br>0<br>2 | 1<br>1 | Cyclin B1, HSPA1B, AL1A1, CDO1, Olfactory receptor, Calmyrin, HSP70, HSPA1A, HSPA2, Cyclin B, DEAF                                                                                                                                                                                                                                                                                                                                             |
| 2<br>5<br>3 | <a href="#">regulation of biological process</a>          | 1<br>2<br>3<br>9<br>1 | 6<br>.<br>2<br>5<br>0<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>2<br>5<br>E<br>-<br>0<br>2 | 6<br>.<br>2<br>5<br>0<br>E<br>-<br>0<br>2 | 4<br>.<br>5<br>2<br>5<br>E<br>-<br>0<br>2 | 5<br>1 | Ajuba, IGHG4, ZNF261, Cyclin B1, HSPA1B, TIPIN, Clp1, ASAP, AL1A1, ARL5B, HBG, HBGA, SNX1, HEXIM1, TIRAP (Mal), Olfactory receptor, PTD015, Thioredoxin-like 2, Rab-3B, Calmyrin, PAP41, EPS8L1, COLEC12, IGHG1, HSP70, ERK1 (MAPK3), Annexin VI, eEF2K, SHCBP1, HSPA1A, CD43, HSPA2, AO7, CKS2, OR10G3, OBFC1, ZNF397OS, ICMT, ZNF397, Spinophilin, Cyclin B, Rab-3, Adult hemoglobin, EYA1, RIG-G, CAMK2N1, ZHX3, ERK1/2, DEAF, PRCC, PQBP-1 |
| 2<br>5<br>4 | <a href="#">hemostasis</a>                                | 6<br>7<br>0           | 6<br>.<br>2<br>9<br>1<br>E                | 4<br>.<br>5<br>2<br>7<br>E                | 6<br>.<br>2<br>9<br>1<br>E                | 4<br>.<br>5<br>2<br>7<br>E                | 7      | HBG, HBGA, HSP70, ERK1 (MAPK3), CD43, Adult hemoglobin, ERK1/2                                                                                                                                                                                                                                                                                                                                                                                 |

|   |                                                            |   |   |   |   |   |   |                                             |
|---|------------------------------------------------------------|---|---|---|---|---|---|---------------------------------------------|
|   |                                                            |   | - | - | - | - |   |                                             |
|   |                                                            |   | 0 | 0 | 0 | 0 |   |                                             |
|   |                                                            |   | 3 | 2 | 3 | 2 |   |                                             |
| 2 |                                                            |   | 6 | 4 | 6 | 4 |   |                                             |
| 5 |                                                            |   | . | . | . | . |   |                                             |
| 5 | <a href="#">regulation of body fluid levels</a>            | 8 | 3 | 5 | 3 | 5 |   |                                             |
|   |                                                            |   | 7 | 2 | 7 | 2 |   |                                             |
|   |                                                            |   | 9 | 7 | 9 | 7 |   |                                             |
|   |                                                            |   | E | E | E | E |   |                                             |
|   |                                                            |   | - | - | - | - |   |                                             |
|   |                                                            | 4 | 0 | 0 | 0 | 0 |   | HBG, HBGA, CDO1, HSP70, ERK1 (MAPK3), CD43, |
|   |                                                            | 7 | 3 | 2 | 3 | 2 | 8 | Adult hemoglobin, ERK1/2                    |
| 2 |                                                            |   | 6 | 4 | 6 | 4 |   |                                             |
| 5 |                                                            |   | . | . | . | . |   |                                             |
| 6 | <a href="#">negative regulation of fibril organization</a> | 2 | 5 | 5 | 5 | 5 |   |                                             |
|   |                                                            |   | 5 | 2 | 5 | 2 |   |                                             |
|   |                                                            |   | 2 | 7 | 2 | 7 |   |                                             |
|   |                                                            |   | E | E | E | E |   |                                             |
|   |                                                            |   | - | - | - | - |   |                                             |
|   |                                                            |   | 0 | 0 | 0 | 0 |   |                                             |
|   |                                                            | 3 | 2 | 3 | 2 | 2 | 1 | HSP70                                       |
| 2 |                                                            |   | 6 | 4 | 6 | 4 |   |                                             |
| 5 |                                                            |   | . | . | . | . |   |                                             |
| 7 | <a href="#">regulation of fibril organization</a>          | 2 | 5 | 5 | 5 | 5 |   |                                             |
|   |                                                            |   | 5 | 2 | 5 | 2 |   |                                             |
|   |                                                            |   | 2 | 7 | 2 | 7 |   |                                             |
|   |                                                            |   | E | E | E | E |   |                                             |
|   |                                                            |   | - | - | - | - |   |                                             |
|   |                                                            |   | 0 | 0 | 0 | 0 |   |                                             |
|   |                                                            | 3 | 2 | 3 | 2 | 2 | 1 | HSP70                                       |
| 2 |                                                            |   | 6 | 4 | 6 | 4 |   |                                             |
| 5 |                                                            |   | . | . | . | . |   |                                             |
| 8 | <a href="#">GDP metabolic process</a>                      | 2 | 5 | 5 | 5 | 5 |   |                                             |
|   |                                                            |   | 5 | 2 | 5 | 2 |   |                                             |
|   |                                                            |   | 2 | 7 | 2 | 7 |   |                                             |
|   |                                                            |   | E | E | E | E |   |                                             |
|   |                                                            |   | - | - | - | - |   |                                             |
|   |                                                            |   | 0 | 0 | 0 | 0 |   |                                             |
|   |                                                            | 3 | 2 | 3 | 2 | 2 | 1 | FLJ22494                                    |
| 2 |                                                            |   | 6 | 4 | 6 | 4 |   |                                             |
| 5 |                                                            |   | . | . | . | . |   |                                             |
| 9 | <a href="#">taurine biosynthetic process</a>               | 2 | 5 | 5 | 5 | 5 |   |                                             |
|   |                                                            |   | 5 | 2 | 5 | 2 |   |                                             |
|   |                                                            |   | 2 | 7 | 2 | 7 |   |                                             |
|   |                                                            |   | E | E | E | E |   |                                             |
|   |                                                            |   | - | - | - | - |   |                                             |
|   |                                                            |   | 0 | 0 | 0 | 0 |   |                                             |
|   |                                                            | 2 | 0 | 0 | 0 | 0 | 1 | CDO1                                        |

|     |                                                                        |   |                                                |                                           |                                                |                                           |   |                       |
|-----|------------------------------------------------------------------------|---|------------------------------------------------|-------------------------------------------|------------------------------------------------|-------------------------------------------|---|-----------------------|
|     |                                                                        |   | 3                                              | 2                                         | 3                                              | 2                                         |   |                       |
| 260 | <a href="#">positive regulation of male germ cell proliferation</a>    | 2 | 6<br>.<br>5<br>5<br>2<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>2<br>7<br>E<br>-<br>0<br>2 | 6<br>.<br>5<br>5<br>2<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>2<br>7<br>E<br>-<br>0<br>2 | 1 | Calmyrin              |
| 261 | <a href="#">fructosamine metabolic process</a>                         | 2 | 6<br>.<br>5<br>5<br>2<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>2<br>7<br>E<br>-<br>0<br>2 | 6<br>.<br>5<br>5<br>2<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>2<br>7<br>E<br>-<br>0<br>2 | 1 | Fructosamine-3-kinase |
| 262 | <a href="#">L-cysteine catabolic process to taurine</a>                | 2 | 6<br>.<br>5<br>5<br>2<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>2<br>7<br>E<br>-<br>0<br>2 | 6<br>.<br>5<br>5<br>2<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>2<br>7<br>E<br>-<br>0<br>2 | 1 | CDO1                  |
| 263 | <a href="#">thrombopoietin-mediated signaling pathway</a>              | 2 | 6<br>.<br>5<br>5<br>2<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>2<br>7<br>E<br>-<br>0<br>2 | 6<br>.<br>5<br>5<br>2<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>2<br>7<br>E<br>-<br>0<br>2 | 1 | Calmyrin              |
| 264 | <a href="#">regulation of protein folding in endoplasmic reticulum</a> | 2 | 6<br>.<br>5<br>5<br>2<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>2<br>7<br>E<br>-<br>0<br>2 | 6<br>.<br>5<br>5<br>2<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>2<br>7<br>E<br>-<br>0<br>2 | 1 | HSP70                 |

|             |                                                                         |        |                                                |                                           |                                                |                                           |   |                      |
|-------------|-------------------------------------------------------------------------|--------|------------------------------------------------|-------------------------------------------|------------------------------------------------|-------------------------------------------|---|----------------------|
| 2<br>6<br>5 | <a href="#">maintenance of presynaptic active zone structure</a>        | 2      | 6<br>.<br>5<br>5<br>2<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>2<br>7<br>E<br>-<br>0<br>2 | 6<br>.<br>5<br>5<br>2<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>2<br>7<br>E<br>-<br>0<br>2 | 1 | Rab-3                |
| 2<br>6<br>6 | <a href="#">small RNA loading onto RISC</a>                             | 2      | 6<br>.<br>5<br>5<br>2<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>2<br>7<br>E<br>-<br>0<br>2 | 6<br>.<br>5<br>5<br>2<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>2<br>7<br>E<br>-<br>0<br>2 | 1 | Clp1                 |
| 2<br>6<br>7 | <a href="#">T cell aggregation</a>                                      | 2      | 6<br>.<br>5<br>5<br>2<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>2<br>7<br>E<br>-<br>0<br>2 | 6<br>.<br>5<br>5<br>2<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>2<br>7<br>E<br>-<br>0<br>2 | 1 | CD43                 |
| 2<br>6<br>8 | <a href="#">transcription initiation from RNA polymerase I promoter</a> | 3<br>8 | 6<br>9<br>1<br>1<br>E<br>-<br>0<br>3           | 4<br>7<br>5<br>7<br>E<br>-<br>0<br>2      | 6<br>9<br>1<br>1<br>E<br>-<br>0<br>3           | 4<br>7<br>5<br>7<br>E<br>-<br>0<br>2      | 2 | ERK1 (MAPK3), ERK1/2 |
| 2<br>6<br>9 | <a href="#">protein methylation</a>                                     | 1<br>9 | 7<br>.<br>0<br>5<br>4<br>E<br>-<br>0<br>3      | 4<br>.<br>8<br>1<br>4<br>E<br>-<br>0<br>2 | 7<br>.<br>0<br>5<br>4<br>E<br>-<br>0<br>3      | 4<br>.<br>8<br>1<br>4<br>E<br>-<br>0<br>2 | 3 | Rab-3B, ICMT, Rab-3  |
| 2<br>7      | <a href="#">protein alkylation</a>                                      | 1<br>1 | 7<br>.<br>.<br>.<br>.                          | 4<br>.<br>.<br>.<br>.                     | 7<br>.<br>.<br>.<br>.                          | 4<br>.<br>.<br>.<br>.                     | 3 | Rab-3B, ICMT, Rab-3  |

|   |                                                                     |   |   |   |   |   |   |                                                                                 |
|---|---------------------------------------------------------------------|---|---|---|---|---|---|---------------------------------------------------------------------------------|
| 0 |                                                                     | 9 | 0 | 8 | 0 | 8 |   |                                                                                 |
|   |                                                                     |   | 5 | 1 | 5 | 1 |   |                                                                                 |
|   |                                                                     |   | 4 | 4 | 4 | 4 |   |                                                                                 |
|   |                                                                     |   | E | E | E | E |   |                                                                                 |
|   |                                                                     |   | - | - | - | - |   |                                                                                 |
|   |                                                                     |   | 0 | 0 | 0 | 0 |   |                                                                                 |
|   |                                                                     |   | 3 | 2 | 3 | 2 |   |                                                                                 |
| 2 | <a href="#">negative regulation of protein modification process</a> | 5 | 7 | 4 | 7 | 4 | 6 | Cyclin B1, HEXIM1, Calmyrin, HSP70, Cyclin B, CAMK2N1                           |
| 7 |                                                                     |   | . | . | . | . |   |                                                                                 |
| 1 |                                                                     |   | 0 | 8 | 0 | 8 |   |                                                                                 |
|   |                                                                     |   | 7 | 1 | 7 | 1 |   |                                                                                 |
|   |                                                                     |   | 1 | 4 | 1 | 4 |   |                                                                                 |
|   |                                                                     |   | E | E | E | E |   |                                                                                 |
|   |                                                                     |   | - | - | - | - |   |                                                                                 |
|   |                                                                     |   | 1 | 0 | 0 | 0 |   |                                                                                 |
|   |                                                                     |   | 9 | 3 | 2 | 3 |   |                                                                                 |
| 2 |                                                                     |   | 7 | 4 | 7 | 4 |   |                                                                                 |
| 7 |                                                                     |   | . | . | . | . |   |                                                                                 |
| 2 | <a href="#">activation of immune response</a>                       | 5 | 1 | 8 | 1 | 8 | 6 | IGHG4, TIRAP (Mal), COLEC12, IGHG1, ERK1 (MAPK3), ERK1/2                        |
|   |                                                                     |   | 3 | 4 | 3 | 4 |   |                                                                                 |
|   |                                                                     |   | 6 | 0 | 6 | 0 |   |                                                                                 |
|   |                                                                     |   | E | E | E | E |   |                                                                                 |
|   |                                                                     |   | - | - | - | - |   |                                                                                 |
|   |                                                                     |   | 2 | 0 | 0 | 0 |   |                                                                                 |
|   |                                                                     |   | 0 | 3 | 2 | 3 |   |                                                                                 |
| 2 |                                                                     |   | 7 | 4 | 7 | 4 |   |                                                                                 |
| 7 |                                                                     |   | . | . | . | . |   |                                                                                 |
| 3 | <a href="#">innate immune response</a>                              | 1 | 1 | 8 | 1 | 8 | 9 | IGHM, IGHG4, TIRAP (Mal), COLEC12, IGHG1, ERK1 (MAPK3), CALCOCO2, RIG-G, ERK1/2 |
|   |                                                                     |   | 7 | 4 | 7 | 4 |   |                                                                                 |
|   |                                                                     |   | 0 | 6 | 0 | 6 |   |                                                                                 |
|   |                                                                     |   | E | E | E | E |   |                                                                                 |
|   |                                                                     |   | - | - | - | - |   |                                                                                 |
|   |                                                                     |   | 5 | 0 | 0 | 0 |   |                                                                                 |
|   |                                                                     |   | 1 | 3 | 2 | 3 |   |                                                                                 |
| 2 |                                                                     |   | 7 | 4 | 7 | 4 |   |                                                                                 |
| 7 |                                                                     |   | . | . | . | . |   |                                                                                 |
| 4 | <a href="#">regulation of DNA metabolic process</a>                 | 3 | 2 | 8 | 2 | 8 | 5 | Cyclin B1, TIPIN, OBFC1, Cyclin B, EYA1                                         |
|   |                                                                     |   | 5 | 7 | 5 | 7 |   |                                                                                 |
|   |                                                                     |   | 9 | 3 | 9 | 3 |   |                                                                                 |
|   |                                                                     |   | E | E | E | E |   |                                                                                 |
|   |                                                                     |   | - | - | - | - |   |                                                                                 |
|   |                                                                     |   | 6 | 0 | 0 | 0 |   |                                                                                 |
|   |                                                                     |   | 9 | 3 | 2 | 3 |   |                                                                                 |
| 2 |                                                                     |   | 7 | 4 | 7 | 4 |   |                                                                                 |
| 7 | <a href="#">regulation of chromosome segregation</a>                | 3 | . | . | . | . | 2 | Cyclin B1, Cyclin B                                                             |
| 5 |                                                                     |   | 9 | 6 | 7 | 6 |   |                                                                                 |

|             |                                                                                                                                                                  |                  |                                           |                                           |                                           |                                           |        |                                                                                             |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|---------------------------------------------------------------------------------------------|
|             |                                                                                                                                                                  |                  | 9<br>E<br>-<br>0<br>3                     | 3<br>E<br>-<br>0<br>2                     | 9<br>E<br>-<br>0<br>3                     | 3<br>E<br>-<br>0<br>2                     |        |                                                                                             |
| 2<br>7<br>6 | <a href="#">positive regulation of cellular protein metabolic process</a>                                                                                        | 1<br>2<br>4<br>9 | 7<br>.<br>2<br>9<br>0<br>E<br>-<br>0<br>3 | 4<br>.<br>8<br>7<br>3<br>E<br>-<br>0<br>2 | 7<br>.<br>2<br>9<br>0<br>E<br>-<br>0<br>3 | 4<br>.<br>8<br>7<br>3<br>E<br>-<br>0<br>2 | 1<br>0 | Ajuba, Cyclin B1, TIRAP (Mal), Calmyrin, HSP70, ERK1 (MAPK3), CD43, HSPA2, Cyclin B, ERK1/2 |
| 2<br>7<br>7 | <a href="#">positive regulation of adaptive immune response based on somatic recombination of immune receptors built from immunoglobulin superfamily domains</a> | 1<br>2<br>1      | 7<br>.<br>3<br>8<br>4<br>E<br>-<br>0<br>3 | 4<br>.<br>9<br>0<br>1<br>E<br>-<br>0<br>2 | 7<br>.<br>3<br>8<br>4<br>E<br>-<br>0<br>3 | 4<br>.<br>9<br>0<br>1<br>E<br>-<br>0<br>2 | 3      | HSPA1B, HSP70, HSPA1A                                                                       |
| 2<br>7<br>8 | <a href="#">positive regulation of lymphocyte mediated immunity</a>                                                                                              | 1<br>2<br>1      | 7<br>.<br>3<br>8<br>4<br>E<br>-<br>0<br>3 | 4<br>.<br>9<br>0<br>1<br>E<br>-<br>0<br>2 | 7<br>.<br>3<br>8<br>4<br>E<br>-<br>0<br>3 | 4<br>.<br>9<br>0<br>1<br>E<br>-<br>0<br>2 | 3      | HSPA1B, HSP70, HSPA1A                                                                       |
| 2<br>7<br>9 | <a href="#">meiotic cell cycle</a>                                                                                                                               | 2<br>3<br>5      | 7<br>.<br>4<br>4<br>6<br>E<br>-<br>0<br>3 | 4<br>.<br>9<br>2<br>4<br>E<br>-<br>0<br>2 | 7<br>.<br>4<br>4<br>6<br>E<br>-<br>0<br>3 | 4<br>.<br>9<br>2<br>4<br>E<br>-<br>0<br>2 | 4      | HSP70, HSPA2, CKS2, Cyclin B                                                                |

**Table 9S: Enrichment analysis report.** Enrichment by GO Processes (healthy control vs SVZp)

| Enrichment by GO Processes |                                                                |       |            | SVZp<br>Limma<br>Input_gene<br>list |                 |             |                                                                                                                                                             |
|----------------------------|----------------------------------------------------------------|-------|------------|-------------------------------------|-----------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #                          | Processes                                                      | Total | p<br>Value | Min<br>FDR                          | p<br>-<br>value | F<br>D<br>R | In<br>Data                                                                                                                                                  |
| 1                          | <a href="#">positive regulation of histone phosphorylation</a> | 8     | 6.915E-09  | 1.36E-05                            | 6.915E-09       | 1.36E-05    | 4                                                                                                                                                           |
|                            |                                                                |       |            |                                     |                 |             | Cyclin B1, ERK1 (MAPK3), Cyclin B, ERK1/2                                                                                                                   |
| 2                          | <a href="#">regulation of histone phosphorylation</a>          | 11    | 3.236E-08  | 3.96E-05                            | 3.236E-08       | 3.96E-05    | 4                                                                                                                                                           |
|                            |                                                                |       |            |                                     |                 |             | Cyclin B1, ERK1 (MAPK3), Cyclin B, ERK1/2                                                                                                                   |
| 3                          | <a href="#">wound healing</a>                                  | 857   | 4.889E-08  | 3.19E-04                            | 4.889E-08       | 3.19E-04    | 14                                                                                                                                                          |
|                            |                                                                |       |            |                                     |                 |             | Ajuba, Tissue kallikreins, Cyclin B1, HBG, HBGA, Notch, ERK1 (MAPK3), NOTCH1 precursor, CD43, 14-3-3 zeta/delta, Cyclin B, Adult hemoglobin, ERK1/2, 14-3-3 |
| 4                          | <a href="#">cardiac left ventricle morphogenesis</a>           | 24    | 1.01E-05   | 4.85E-04                            | 1.01E-05        | 4.85E-04    | 4                                                                                                                                                           |
|                            |                                                                |       |            |                                     |                 |             | Tissue kallikreins, Notch, NOTCH1 precursor, Kallikrein 3 (PSA)                                                                                             |

|    |                                                                          |      |            |            |            |            |    |                                                                                                                                                                                                     |
|----|--------------------------------------------------------------------------|------|------------|------------|------------|------------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5  | <a href="#">positive regulation of cardiac muscle cell proliferation</a> | 24   | 1010E-06   | 4085EE-04  | 1010E-04   | 4085EE-04  | 4  | Cyclin B1, Notch, NOTCH1 precursor, Cyclin B                                                                                                                                                        |
| 6  | <a href="#">response to wounding</a>                                     | 1500 | 2491691E-4 | 9041691E-4 | 2491691E-4 | 9041691E-4 | 17 | Ajuba, Tissue kallikreins, Cyclin B1, HBG, IRT-1, HBGA, TIRAP (Mal), Notch, ERK1 (MAPK3), NOTCH1 precursor, CD43, 14-3-3 zeta/delta, Cyclin B, Kallikrein 3 (PSA), Adult hemoglobin, ERK1/2, 14-3-3 |
| 7  | <a href="#">small GTPase mediated signal transduction</a>                | 5000 | 44170E-6   | 12700E-3   | 44170E-6   | 12700E-3   | 10 | Tissue kallikreins, IRT-1, Rab-11A, Rab-3B, ERK1 (MAPK3), PLEKHG2, Rab-3, Kallikrein 3 (PSA), ERK1/2, 14-3-3                                                                                        |
| 8  | <a href="#">tissue regeneration</a>                                      | 77   | 508E-7     | 1208E-6    | 508E-7     | 1208E-6    | 5  | Tissue kallikreins, Cyclin B1, Notch, NOTCH1 precursor, Cyclin B                                                                                                                                    |
| 9  | <a href="#">neuron projection development</a>                            | 9000 | 5156E-9    | 1270E-6    | 5156E-9    | 1270E-6    | 13 | Tissue kallikreins, LST1, LHX1, Rab-11A, Olfactory receptor, Notch, ERK1 (MAPK3), NOTCH1 precursor, Spinophilin, Rab-3, Protrudin, ERK1/2, 14-3-3                                                   |
| 10 | <a href="#">positive regulation of biological process</a>                | 52   | 61E-2      | 16E-1      | 61E-2      | 16E-1      | 34 | Ajuba, Tissue kallikreins, IGHG4, Kallikrein 1, Cyclin B1, TIPIN, AL1A1, LHX1, IRT-1, Gpbp1, Rab-11A, SNX1, TEF-5,                                                                                  |



|        |                                                                                                                   |        |                                      |                                      |                                      |                                      |        |                                                                                                                                                                                                                                 |
|--------|-------------------------------------------------------------------------------------------------------------------|--------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                                                                   | 4<br>9 | 8<br>6<br>0<br>E<br>-<br>0<br>6      | 2<br>7<br>0<br>E<br>-<br>0<br>3      | 8<br>6<br>0<br>E<br>-<br>0<br>6      | 2<br>7<br>0<br>E<br>-<br>0<br>3      |        | TIRAP (Mal), Olfactory receptor, PTD015, Notch, Rab-3B, IGHG1, ERK1 (MAPK3), SRB7, NOTCH1 precursor, CD43, 14-3-3 zeta/delta, OBFC1, PLEKHG2, Cyclin B, Rab-3, Kallikrein 3 (PSA), Adult hemoglobin, ZHX3, ERK1/2, DEAF, 14-3-3 |
| 1<br>1 | <a href="#">cell projection organization</a>                                                                      |        | 6<br>9<br>0<br>1<br>1<br>2<br>3<br>1 | 1<br>2<br>7<br>0<br>E<br>-<br>0<br>6 | 6<br>9<br>0<br>1<br>E<br>-<br>0<br>3 | 1<br>2<br>7<br>0<br>E<br>-<br>0<br>3 | 1<br>5 | Ajuba, Tissue kallikreins, LST1, LHX1, IRT-1, Rab-11A, Olfactory receptor, Notch, ERK1 (MAPK3), NOTCH1 precursor, Spinophilin, Rab-3, Protrudin, ERK1/2, 14-3-3                                                                 |
| 1<br>2 | <a href="#">regulation of cardiac muscle cell proliferation</a>                                                   |        | 1<br>0<br>1<br>8<br>E<br>-<br>0<br>2 | 1<br>2<br>7<br>0<br>E<br>-<br>0<br>5 | 1<br>0<br>1<br>8<br>E<br>-<br>0<br>3 | 1<br>2<br>7<br>0<br>E<br>-<br>0<br>3 | 4      | Cyclin B1, Notch, NOTCH1 precursor, Cyclin B                                                                                                                                                                                    |
| 1<br>3 | <a href="#">Notch signaling pathway involved in regulation of secondary heart field cardioblast proliferation</a> |        | 1<br>0<br>3<br>0<br>E<br>-<br>0<br>2 | 1<br>2<br>7<br>0<br>E<br>-<br>0<br>5 | 1<br>0<br>3<br>0<br>E<br>-<br>0<br>3 | 1<br>2<br>7<br>0<br>E<br>-<br>0<br>3 | 2      | Notch, NOTCH1 precursor                                                                                                                                                                                                         |
| 1<br>4 | <a href="#">regulation of apolipoprotein binding</a>                                                              |        | 1<br>0<br>3<br>0<br>E<br>-<br>0<br>2 | 1<br>2<br>7<br>0<br>E<br>-<br>0<br>5 | 1<br>0<br>3<br>0<br>E<br>-<br>0<br>3 | 1<br>2<br>7<br>0<br>E<br>-<br>0<br>3 | 2      | ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                            |
| 1<br>5 | <a href="#">response to DDT</a>                                                                                   |        | 1<br>0<br>3                          | 1<br>2<br>7                          | 1<br>0<br>3                          | 1<br>2<br>7                          | 2      | Cyclin B1, Cyclin B                                                                                                                                                                                                             |

|        |                                                                                |        |                                           |                                           |                                           |                                           |   |                                       |
|--------|--------------------------------------------------------------------------------|--------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|---------------------------------------|
|        |                                                                                |        | 0<br>E<br>-<br>0<br>5                     | 0<br>E<br>-<br>0<br>3                     | 0<br>E<br>-<br>0<br>5                     | 0<br>E<br>-<br>0<br>3                     |   |                                       |
| 1<br>6 | <a href="#">venous<br/>endothelial cell<br/>differentiation</a>                | 2      | 1<br>.<br>0<br>3<br>0<br>E<br>-<br>0<br>5 | 1<br>.<br>2<br>7<br>0<br>E<br>-<br>0<br>3 | 1<br>.<br>0<br>3<br>0<br>E<br>-<br>0<br>5 | 1<br>.<br>2<br>7<br>0<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor               |
| 1<br>7 | <a href="#">regulation of<br/>vesicle size</a>                                 | 2      | 1<br>.<br>0<br>3<br>0<br>E<br>-<br>0<br>5 | 1<br>.<br>2<br>7<br>0<br>E<br>-<br>0<br>3 | 1<br>.<br>0<br>3<br>0<br>E<br>-<br>0<br>5 | 1<br>.<br>2<br>7<br>0<br>E<br>-<br>0<br>3 | 2 | Rab-3B, Rab-3                         |
| 1<br>8 | <a href="#">negative<br/>regulation of<br/>apolipoprotein<br/>binding</a>      | 2      | 1<br>.<br>0<br>3<br>0<br>E<br>-<br>0<br>5 | 1<br>.<br>2<br>7<br>0<br>E<br>-<br>0<br>3 | 1<br>.<br>0<br>3<br>0<br>E<br>-<br>0<br>5 | 1<br>.<br>2<br>7<br>0<br>E<br>-<br>0<br>3 | 2 | ERK1 (MAPK3), ERK1/2                  |
| 1<br>9 | <a href="#">interleukin-1-<br/>mediated<br/>signaling pathway</a>              | 1<br>7 | 2<br>.<br>1<br>2<br>6<br>E<br>-<br>0<br>5 | 2<br>.<br>4<br>8<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>2<br>6<br>E<br>-<br>0<br>5 | 2<br>.<br>4<br>8<br>5<br>E<br>-<br>0<br>3 | 3 | TIRAP (Mal), ERK1 (MAPK3), ERK1/2     |
| 2<br>0 | <a href="#">positive regulation<br/>of epithelial cell<br/>differentiation</a> | 5<br>2 | 2<br>.<br>4<br>0<br>3<br>E                | 2<br>.<br>5<br>3<br>6<br>E                | 2<br>.<br>4<br>0<br>3<br>E                | 2<br>.<br>5<br>3<br>6<br>E                | 4 | LHX1, Notch, NOTCH1 precursor, 14-3-3 |

|   |                                                                             |   |   |   |   |   |   |                                        |
|---|-----------------------------------------------------------------------------|---|---|---|---|---|---|----------------------------------------|
|   |                                                                             |   | - | - | - | - |   |                                        |
|   |                                                                             |   | 0 | 0 | 0 | 0 |   |                                        |
|   |                                                                             |   | 5 | 3 | 5 | 3 |   |                                        |
| 2 | <a href="#">regulation of cell adhesion involved in heart morphogenesis</a> | 3 | 3 | 2 | 3 | 2 | 2 | Notch, NOTCH1 precursor                |
| 1 |                                                                             |   | . | . | . | . |   |                                        |
|   |                                                                             |   | 0 | 5 | 0 | 5 |   |                                        |
|   |                                                                             |   | 8 | 3 | 8 | 3 |   |                                        |
|   |                                                                             |   | 3 | 6 | 3 | 6 |   |                                        |
|   |                                                                             |   | E | E | E | E |   |                                        |
|   |                                                                             |   | - | - | - | - |   |                                        |
|   |                                                                             |   | 0 | 0 | 0 | 0 |   |                                        |
|   |                                                                             |   | 5 | 3 | 5 | 3 |   |                                        |
| 2 | <a href="#">positive regulation of ephrin receptor signaling pathway</a>    | 3 | 3 | 2 | 3 | 2 | 2 | Notch, NOTCH1 precursor                |
| 2 |                                                                             |   | . | . | . | . |   |                                        |
| 2 |                                                                             |   | 0 | 5 | 0 | 5 |   |                                        |
| 2 |                                                                             |   | 8 | 3 | 8 | 3 |   |                                        |
| 2 |                                                                             |   | 3 | 6 | 3 | 6 |   |                                        |
| 2 |                                                                             |   | E | E | E | E |   |                                        |
| 2 |                                                                             |   | - | - | - | - |   |                                        |
| 2 |                                                                             |   | 0 | 0 | 0 | 0 |   |                                        |
| 3 | <a href="#">bradykinin biosynthetic process</a>                             | 3 | 5 | 3 | 5 | 3 | 2 | Tissue kallikreins, Kallikrein 3 (PSA) |
|   |                                                                             |   | 3 | 2 | 3 | 2 |   |                                        |
|   |                                                                             |   | . | . | . | . |   |                                        |
|   |                                                                             |   | 0 | 5 | 0 | 5 |   |                                        |
|   |                                                                             |   | 8 | 3 | 8 | 3 |   |                                        |
|   |                                                                             |   | 3 | 6 | 3 | 6 |   |                                        |
|   |                                                                             |   | E | E | E | E |   |                                        |
|   |                                                                             |   | - | - | - | - |   |                                        |
| 2 | <a href="#">mitotic spindle stabilization</a>                               | 3 | 0 | 0 | 0 | 0 | 2 | Cyclin B1, Cyclin B                    |
| 4 |                                                                             |   | 5 | 3 | 5 | 3 |   |                                        |
|   |                                                                             |   | 3 | 2 | 3 | 2 |   |                                        |
|   |                                                                             |   | . | . | . | . |   |                                        |
|   |                                                                             |   | 0 | 5 | 0 | 5 |   |                                        |
|   |                                                                             |   | 8 | 3 | 8 | 3 |   |                                        |
|   |                                                                             |   | 3 | 6 | 3 | 6 |   |                                        |
|   |                                                                             |   | E | E | E | E |   |                                        |
|   |                                                                             |   | - | - | - | - |   |                                        |
| 2 | <a href="#">coronary vein morphogenesis</a>                                 | 3 | 0 | 0 | 0 | 0 | 2 | Notch, NOTCH1 precursor                |
| 5 |                                                                             |   |   |   |   |   |   |                                        |

|        |                                                                       |        |                                           |                                           |                                           |                                           |   |                                              |
|--------|-----------------------------------------------------------------------|--------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|----------------------------------------------|
|        |                                                                       |        | 5                                         | 3                                         | 5                                         | 3                                         |   |                                              |
| 2<br>6 | <a href="#">tissue kallikrein-kinin cascade</a>                       | 3      | 3<br>.<br>0<br>8<br>3<br>E<br>-<br>0<br>5 | 2<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>8<br>3<br>E<br>-<br>0<br>5 | 2<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>3 | 2 | Tissue kallikreins, Kallikrein 3 (PSA)       |
| 2<br>7 | <a href="#">regulation of extracellular matrix assembly</a>           | 3      | 3<br>.<br>0<br>8<br>3<br>E<br>-<br>0<br>5 | 2<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>8<br>3<br>E<br>-<br>0<br>5 | 2<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor                      |
| 2<br>8 | <a href="#">regulation of cardiac muscle tissue growth</a>            | 5<br>6 | 3<br>.<br>2<br>2<br>9<br>E<br>-<br>0<br>5 | 2<br>.<br>5<br>6<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>2<br>9<br>E<br>-<br>0<br>5 | 2<br>.<br>5<br>6<br>1<br>E<br>-<br>0<br>3 | 4 | Cyclin B1, Notch, NOTCH1 precursor, Cyclin B |
| 2<br>9 | <a href="#">oxygen transport</a>                                      | 2<br>0 | 3<br>.<br>5<br>4<br>0<br>E<br>-<br>0<br>5 | 2<br>.<br>7<br>1<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>4<br>0<br>E<br>-<br>0<br>5 | 2<br>.<br>7<br>1<br>1<br>E<br>-<br>0<br>3 | 3 | HBG, HBGA, Adult hemoglobin                  |
| 3<br>0 | <a href="#">positive regulation of epidermal cell differentiation</a> | 2<br>2 | 4<br>.<br>7<br>6<br>0<br>E<br>-<br>0<br>5 | 3<br>.<br>3<br>3<br>3<br>E<br>-<br>0<br>3 | 4<br>.<br>7<br>6<br>0<br>E<br>-<br>0<br>5 | 3<br>.<br>3<br>3<br>E<br>-<br>0<br>3      | 3 | Notch, NOTCH1 precursor, 14-3-3              |

|        |                                                                   |                  |                                           |                                           |                                                |                                           |        |                                                                                                                                                                                                      |
|--------|-------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------|-------------------------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3<br>1 | <a href="#">neuron development</a>                                | 1<br>1<br>1<br>5 | 4<br>.<br>9<br>6<br>3<br>E<br>-<br>0<br>5 | 3<br>.<br>3<br>3<br>3<br>E<br>-<br>0<br>3 | 4<br>.<br>9<br>6<br>3<br>3<br>E<br>-<br>0<br>5 | 3<br>.<br>3<br>3<br>3<br>E<br>-<br>0<br>3 | 1<br>3 | Tissue kallikreins, LST1, LHX1, Rab-11A, Olfactory receptor, Notch, ERK1 (MAPK3), NOTCH1 precursor, Spinophilin, Rab-3, Protrudin, ERK1/2, 14-3-3                                                    |
| 3<br>2 | <a href="#">cell development</a>                                  | 2<br>0<br>3<br>1 | 5<br>.<br>5<br>3<br>0<br>E<br>-<br>0<br>5 | 3<br>.<br>3<br>3<br>3<br>E<br>-<br>0<br>3 | 5<br>.<br>5<br>3<br>0<br>E<br>-<br>0<br>3      | 3<br>.<br>3<br>3<br>3<br>E<br>-<br>0<br>3 | 1<br>8 | Tissue kallikreins, LST1, Cyclin B1, LHX1, Rab-11A, Olfactory receptor, Notch, ERK1 (MAPK3), SRB7, NOTCH1 precursor, Spinophilin, Cyclin B, Rab-3, Adult hemoglobin, Protrudin, ERK1/2, DEAF, 14-3-3 |
| 3<br>3 | <a href="#">cellular response to iron(III) ion</a>                | 4                | 6<br>.<br>1<br>5<br>2<br>E<br>-<br>0<br>5 | 3<br>.<br>3<br>3<br>3<br>E<br>-<br>0<br>3 | 6<br>.<br>1<br>5<br>2<br>E<br>-<br>0<br>3      | 3<br>.<br>3<br>3<br>3<br>E<br>-<br>0<br>3 | 2      | Cyclin B1, Cyclin B                                                                                                                                                                                  |
| 3<br>4 | <a href="#">atrioventricular node development</a>                 | 4                | 6<br>.<br>1<br>5<br>2<br>E<br>-<br>0<br>5 | 3<br>.<br>3<br>3<br>3<br>E<br>-<br>0<br>3 | 6<br>.<br>1<br>5<br>2<br>E<br>-<br>0<br>3      | 3<br>.<br>3<br>3<br>3<br>E<br>-<br>0<br>3 | 2      | Notch, NOTCH1 precursor                                                                                                                                                                              |
| 3<br>5 | <a href="#">negative regulation of pro-B cell differentiation</a> | 4                | 6<br>.<br>1<br>5<br>2<br>E<br>-<br>0<br>5 | 3<br>.<br>3<br>3<br>3<br>E<br>-<br>0<br>3 | 6<br>.<br>1<br>5<br>2<br>E<br>-<br>0<br>3      | 3<br>.<br>3<br>3<br>3<br>E<br>-<br>0<br>3 | 2      | Notch, NOTCH1 precursor                                                                                                                                                                              |
| 3<br>6 | <a href="#">apoptotic process involved in embryonic digit</a>     | 4                | 6<br>.<br>.<br>.<br>.<br>.<br>.<br>.      | 3<br>.<br>.<br>.<br>.<br>.<br>.<br>.      | 6<br>.<br>.<br>.<br>.<br>.<br>.<br>.           | 3<br>.<br>.<br>.<br>.<br>.<br>.<br>.      | 2      | Notch, NOTCH1 precursor                                                                                                                                                                              |

|        |                                                                          |   |                                           |                                                |                                           |                                                |   |                                        |
|--------|--------------------------------------------------------------------------|---|-------------------------------------------|------------------------------------------------|-------------------------------------------|------------------------------------------------|---|----------------------------------------|
|        | <a href="#">morphogenesis</a>                                            |   | 1<br>5<br>2<br>E<br>-<br>0<br>5           | 3<br>3<br>3<br>E<br>-<br>0<br>3                | 1<br>5<br>2<br>E<br>-<br>0<br>5           | 3<br>3<br>3<br>E<br>-<br>0<br>3                |   |                                        |
| 3<br>7 | <a href="#">cardiac right atrium morphogenesis</a>                       | 4 | 6<br>.<br>1<br>5<br>2<br>E<br>-<br>0<br>5 | 3<br>.<br>3<br>3<br>3<br>3<br>E<br>-<br>3<br>5 | 6<br>.<br>1<br>5<br>2<br>E<br>-<br>0<br>5 | 3<br>.<br>3<br>3<br>3<br>3<br>E<br>-<br>3<br>5 | 2 | Notch, NOTCH1 precursor                |
| 3<br>8 | <a href="#">cell migration involved in endocardial cushion formation</a> | 4 | 6<br>.<br>1<br>5<br>2<br>E<br>-<br>0<br>5 | 3<br>.<br>3<br>3<br>3<br>3<br>E<br>-<br>3<br>5 | 6<br>.<br>1<br>5<br>2<br>E<br>-<br>0<br>5 | 3<br>.<br>3<br>3<br>3<br>3<br>E<br>-<br>3<br>5 | 2 | Notch, NOTCH1 precursor                |
| 3<br>9 | <a href="#">left ventricular cardiac muscle tissue morphogenesis</a>     | 4 | 6<br>.<br>1<br>5<br>2<br>E<br>-<br>0<br>5 | 3<br>.<br>3<br>3<br>3<br>3<br>E<br>-<br>3<br>5 | 6<br>.<br>1<br>5<br>2<br>E<br>-<br>0<br>5 | 3<br>.<br>3<br>3<br>3<br>3<br>E<br>-<br>3<br>5 | 2 | Tissue kallikreins, Kallikrein 3 (PSA) |
| 4<br>0 | <a href="#">regulation of ephrin receptor signaling pathway</a>          | 4 | 6<br>.<br>1<br>5<br>2<br>E<br>-<br>0<br>5 | 3<br>.<br>3<br>3<br>3<br>3<br>E<br>-<br>3<br>5 | 6<br>.<br>1<br>5<br>2<br>E<br>-<br>0<br>5 | 3<br>.<br>3<br>3<br>3<br>3<br>E<br>-<br>3<br>5 | 2 | Notch, NOTCH1 precursor                |
| 4<br>1 | <a href="#">negative regulation of endothelial cell chemotaxis</a>       | 4 | 6<br>.<br>1<br>5                          | 3<br>.<br>3<br>5                               | 6<br>.<br>1<br>5                          | 3<br>.<br>3<br>5                               | 2 | Notch, NOTCH1 precursor                |

|        |                                                                      |                  |                                           |                                           |                                                |                                           |        |                                                                                                                                                                       |
|--------|----------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------|-------------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                      |                  | 2<br>E<br>-<br>0<br>5                     | 3<br>E<br>-<br>0<br>3                     | 2<br>E<br>-<br>0<br>5                          | 3<br>E<br>-<br>0<br>3                     |        |                                                                                                                                                                       |
| 4<br>2 | <a href="#">regulation of heart growth</a>                           | 6<br>7           | 6<br>.<br>5<br>6<br>1<br>E<br>-<br>0<br>5 | 3<br>.<br>4<br>3<br>1<br>E<br>-<br>0<br>3 | 6<br>.<br>5<br>6<br>1<br>E<br>-<br>0<br>5      | 3<br>.<br>4<br>3<br>1<br>E<br>-<br>0<br>3 | 4      | Cyclin B1, Notch, NOTCH1 precursor, Cyclin B                                                                                                                          |
| 4<br>3 | <a href="#">positive regulation of cellular biosynthetic process</a> | 1<br>8<br>6<br>5 | 6<br>.<br>6<br>4<br>3<br>E<br>-<br>0<br>5 | 3<br>.<br>4<br>3<br>1<br>E<br>-<br>0<br>3 | 6<br>.<br>6<br>4<br>3<br>E<br>-<br>0<br>3      | 3<br>.<br>4<br>3<br>1<br>E<br>-<br>0<br>3 | 1<br>7 | Ajuba, LHX1, IRT-1, Gbbp1, TEF-5, TIRAP (Mal), PTD015, Notch, ERK1 (MAPK3), SRB7, NOTCH1 precursor, CD43, OBFC1, Adult hemoglobin, ERK1/2, DEAF, 14-3-3               |
| 4<br>4 | <a href="#">gas transport</a>                                        | 2<br>5           | 7<br>.<br>0<br>5<br>9<br>E<br>-<br>0<br>5 | 3<br>.<br>5<br>6<br>3<br>E<br>-<br>0<br>3 | 7<br>.<br>0<br>5<br>6<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>6<br>9<br>E<br>-<br>0<br>3 | 3      | HBG, HBGA, Adult hemoglobin                                                                                                                                           |
| 4<br>5 | <a href="#">positive regulation of histone modification</a>          | 6<br>9           | 7<br>.<br>3<br>6<br>4<br>E<br>-<br>0<br>5 | 3<br>.<br>5<br>9<br>2<br>E<br>-<br>0<br>3 | 7<br>.<br>3<br>6<br>4<br>E<br>-<br>0<br>3      | 3<br>.<br>5<br>9<br>2<br>E<br>-<br>0<br>3 | 4      | Cyclin B1, ERK1 (MAPK3), Cyclin B, ERK1/2                                                                                                                             |
| 4<br>6 | <a href="#">regulation of cell proliferation</a>                     | 1<br>8<br>8<br>2 | 7<br>.<br>4<br>4<br>0<br>E                | 3<br>.<br>5<br>9<br>2<br>E                | 7<br>.<br>3<br>6<br>4<br>E                     | 3<br>.<br>5<br>9<br>2<br>E                | 1<br>7 | Tissue kallikreins, Kallikrein 1, LST1, Cyclin B1, TIPIN, LHX1, IRT-1, TIRAP (Mal), Notch, NOTCH1 precursor, CD43, Spinophilin, Cyclin B, RIG-G, ERK1/2, DEAF, 14-3-3 |

|   |                                                                 |   |   |   |   |   |   |                                                                                                                                                                                               |
|---|-----------------------------------------------------------------|---|---|---|---|---|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                 |   | - | - | - | - |   |                                                                                                                                                                                               |
|   |                                                                 |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                               |
|   |                                                                 |   | 5 | 3 | 5 | 3 |   |                                                                                                                                                                                               |
| 4 | <a href="#">regulation of cardiac muscle tissue development</a> | 7 | 7 | 3 | 7 | 3 | 4 | Cyclin B1, Notch, NOTCH1 precursor, Cyclin B                                                                                                                                                  |
| 7 |                                                                 | 0 | . | . | . | . |   |                                                                                                                                                                                               |
|   |                                                                 | 0 | 7 | 6 | 7 | 6 |   |                                                                                                                                                                                               |
|   |                                                                 | 5 | 9 | 8 | 9 | 8 |   |                                                                                                                                                                                               |
|   |                                                                 | 3 | 1 | 2 | 1 | 2 |   |                                                                                                                                                                                               |
|   |                                                                 | 5 | E | E | E | E |   |                                                                                                                                                                                               |
|   |                                                                 | 0 | - | - | - | - |   |                                                                                                                                                                                               |
|   |                                                                 | 0 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                               |
|   |                                                                 | 2 | 8 | 3 | 8 | 3 |   |                                                                                                                                                                                               |
|   |                                                                 |   | . | . | . | . |   |                                                                                                                                                                                               |
|   |                                                                 |   | 4 | 9 | 4 | 9 |   |                                                                                                                                                                                               |
|   |                                                                 |   | 8 | 2 | 8 | 2 |   |                                                                                                                                                                                               |
|   |                                                                 |   | 6 | 6 | 6 | 6 |   |                                                                                                                                                                                               |
|   |                                                                 | 1 | E | E | E | E |   |                                                                                                                                                                                               |
| 4 | <a href="#">positive regulation of biosynthetic process</a>     | 9 | - | - | - | - | 1 | Ajuba, LHX1, IRT-1, Gbbp1, TEF-5, TIRAP (Mal), PTD015, Notch, ERK1 (MAPK3), SRB7, NOTCH1 precursor, CD43, OBFC1, Adult hemoglobin, ERK1/2, DEAF, 14-3-3                                       |
| 8 |                                                                 | 0 | 0 | 0 | 0 | 0 | 7 |                                                                                                                                                                                               |
|   |                                                                 | 2 | 5 | 3 | 5 | 3 |   |                                                                                                                                                                                               |
|   |                                                                 |   | 9 | 4 | 9 | 4 |   |                                                                                                                                                                                               |
|   |                                                                 |   | . | . | . | . |   |                                                                                                                                                                                               |
|   |                                                                 |   | 4 | 2 | 4 | 2 |   |                                                                                                                                                                                               |
|   |                                                                 |   | 1 | 0 | 1 | 0 |   |                                                                                                                                                                                               |
|   |                                                                 |   | 4 | 8 | 4 | 8 |   |                                                                                                                                                                                               |
|   |                                                                 | 1 | E | E | E | E |   |                                                                                                                                                                                               |
| 4 | <a href="#">intracellular signal transduction</a>               | 9 | - | - | - | - | 1 | Tissue kallikreins, Kallikrein 1, IRT-1, Rab-11A, TEF-5, TIRAP (Mal), Rab-3B, ERK1 (MAPK3), 14-3-3 zeta/delta, NFKBIL1, CKS2, PLEKHG2, Spinophilin, Rab-3, Kallikrein 3 (PSA), ERK1/2, 14-3-3 |
| 9 |                                                                 | 1 | 0 | 0 | 0 | 0 | 7 |                                                                                                                                                                                               |
|   |                                                                 | 8 | 5 | 3 | 5 | 3 |   |                                                                                                                                                                                               |
|   |                                                                 |   | 9 | 4 | 9 | 4 |   |                                                                                                                                                                                               |
|   |                                                                 |   | . | . | . | . |   |                                                                                                                                                                                               |
|   |                                                                 |   | 6 | 2 | 6 | 2 |   |                                                                                                                                                                                               |
|   |                                                                 |   | 8 | 0 | 8 | 0 |   |                                                                                                                                                                                               |
|   |                                                                 |   | 3 | 8 | 3 | 8 |   |                                                                                                                                                                                               |
|   |                                                                 |   | E | E | E | E |   |                                                                                                                                                                                               |
|   |                                                                 |   | - | - | - | - |   |                                                                                                                                                                                               |
| 5 | <a href="#">ventricular cardiac muscle tissue morphogenesis</a> | 7 | 0 | 0 | 0 | 0 | 4 | Tissue kallikreins, Notch, NOTCH1 precursor, Kallikrein 3 (PSA)                                                                                                                               |
| 0 |                                                                 | 4 | 5 | 3 | 5 | 3 |   |                                                                                                                                                                                               |
|   |                                                                 |   | 1 | 4 | 1 | 4 |   |                                                                                                                                                                                               |
|   |                                                                 |   | . | . | . | . |   |                                                                                                                                                                                               |
|   |                                                                 |   | 0 | 2 | 0 | 2 |   |                                                                                                                                                                                               |
|   |                                                                 |   | 2 | 0 | 2 | 0 |   |                                                                                                                                                                                               |
|   |                                                                 |   | 3 | 8 | 3 | 8 |   |                                                                                                                                                                                               |
|   |                                                                 |   | E | E | E | E |   |                                                                                                                                                                                               |
|   |                                                                 |   | - | - | - | - |   |                                                                                                                                                                                               |
| 5 | <a href="#">spindle stabilization</a>                           | 5 | 0 | 0 | 0 | 0 | 2 | Cyclin B1, Cyclin B                                                                                                                                                                           |
| 1 |                                                                 |   |   |   |   |   |   |                                                                                                                                                                                               |



|        |                                                                           |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                  |
|--------|---------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|----------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                           |                  | 4                                         | 3                                         | 4                                         | 3                                         |        |                                                                                                                                  |
| 5<br>2 | <a href="#">negative regulation of photoreceptor cell differentiation</a> | 5                | 1<br>.<br>0<br>2<br>3<br>E<br>-<br>0<br>4 | 4<br>.<br>2<br>0<br>8<br>E<br>-<br>0<br>3 | 1<br>.<br>0<br>2<br>3<br>E<br>-<br>0<br>4 | 4<br>.<br>2<br>0<br>8<br>E<br>-<br>0<br>3 | 2      | Notch, NOTCH1 precursor                                                                                                          |
| 5<br>3 | <a href="#">mitral valve formation</a>                                    | 5                | 1<br>.<br>0<br>2<br>3<br>E<br>-<br>0<br>4 | 4<br>.<br>2<br>0<br>8<br>E<br>-<br>0<br>3 | 1<br>.<br>0<br>2<br>3<br>E<br>-<br>0<br>4 | 4<br>.<br>2<br>0<br>8<br>E<br>-<br>0<br>3 | 2      | Notch, NOTCH1 precursor                                                                                                          |
| 5<br>4 | <a href="#">peptidyl-cysteine methylation</a>                             | 5                | 1<br>.<br>0<br>2<br>3<br>E<br>-<br>0<br>4 | 4<br>.<br>2<br>0<br>8<br>E<br>-<br>0<br>3 | 1<br>.<br>0<br>2<br>3<br>E<br>-<br>0<br>4 | 4<br>.<br>2<br>0<br>8<br>E<br>-<br>0<br>3 | 2      | Rab-3B, Rab-3                                                                                                                    |
| 5<br>5 | <a href="#">negative regulation of gene expression</a>                    | 1<br>3<br>9<br>0 | 1<br>.<br>8<br>5<br>E<br>-<br>0<br>4      | 4<br>.<br>3<br>6<br>1<br>E<br>-<br>0<br>3 | 1<br>.<br>3<br>8<br>5<br>E<br>-<br>0<br>4 | 4<br>.<br>3<br>6<br>1<br>E<br>-<br>0<br>3 | 1<br>4 | Ajuba, Cyclin B1, LHX1, HBG, IRT-1, HBGA, Notch, DR1, NOTCH1 precursor, Cyclin B, Adult hemoglobin, ZHX3, 14-3-3, RBBP7 (RbAp46) |
| 5<br>6 | <a href="#">negative regulation of chemotaxis</a>                         | 3<br>0           | 1<br>.<br>2<br>3<br>2<br>E<br>-<br>0<br>4 | 4<br>.<br>3<br>6<br>1<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>3<br>2<br>E<br>-<br>0<br>4 | 4<br>.<br>3<br>6<br>1<br>E<br>-<br>0<br>3 | 3      | IRT-1, Notch, NOTCH1 precursor                                                                                                   |

|    |                                                                            |      |       |      |       |      |                                                                                                                                                                                                                                                                                                                                                     |
|----|----------------------------------------------------------------------------|------|-------|------|-------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 57 | <a href="#">positive regulation of nitrogen compound metabolic process</a> | 179  | 13433 | 4613 | 13461 | 431  | Cyclin B1, LHX1, IRT-1, Gpbp1, TEF-5, PTD015, Notch, ERK1 (MAPK3), SRB7, NOTCH1 precursor, OBFC1, Cyclin B, Adult hemoglobin, ERK1/2, DEAF, 14-3-3                                                                                                                                                                                                  |
| 58 | <a href="#">immune response</a>                                            | 1590 | 1343  | 4613 | 13461 | 4315 | IGHG4, LST1, IRT-1, TIRAP (Mal), Notch, IGHG1, ERK1 (MAPK3), CALCOCO2, NOTCH1 precursor, CD43, 14-3-3 zeta/delta, G18, RIG-G, ERK1/2, 14-3-3                                                                                                                                                                                                        |
| 59 | <a href="#">regulation of primary metabolic process</a>                    | 6540 | 13565 | 4615 | 13461 | 4316 | Ajuba, Tissue kallikreins, Cyclin B1, TIPIN, AL1A1, LHX1, HBG, IRT-1, HBGA, Gpbp1, SNX1, TEF-5, TIRAP (Mal), Olfactory receptor, PTD015, Notch, ERK1 (MAPK3), DR1, SRB7, NOTCH1 precursor, CD43, NFKBIL1, AO7, CKS2, OBFC1, PLEKHG2, Spinophilin, Cyclin B, Rab-3, Kallikrein 3 (PSA), Adult hemoglobin, ZHX3, ERK1/2, DEAF, 14-3-3, RBBP7 (RbAp46) |
| 60 | <a href="#">cardiac muscle tissue development</a>                          | 244  | 1372E | 461E | 13461 | 4316 | Tissue kallikreins, Cyclin B1, Notch, NOTCH1 precursor, Cyclin B, Kallikrein 3 (PSA)                                                                                                                                                                                                                                                                |
| 61 | <a href="#">ventricular cardiac muscle tissue development</a>              | 81   | 137E- | 461E | 13461 | 4314 | Tissue kallikreins, Notch, NOTCH1 precursor, Kallikrein 3 (PSA)                                                                                                                                                                                                                                                                                     |
| 62 | <a href="#">positive regulation of metabolic process</a>                   | 30   | 137E- | 461E | 13461 | 22   | Ajuba, Tissue kallikreins, Cyclin B1, LHX1, IRT-1, Gpbp1, SNX1, TEF-5, TIRAP (Mal), PTD015, Notch, ERK1 (MAPK3),                                                                                                                                                                                                                                    |

|        |                                                                                          |             |                                      |                                      |                                      |                                      |   |                                                                                                           |
|--------|------------------------------------------------------------------------------------------|-------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---|-----------------------------------------------------------------------------------------------------------|
|        |                                                                                          | 3<br>8      | 4<br>1<br>1<br>E<br>-<br>0<br>4      | 3<br>6<br>1<br>E<br>-<br>0<br>3      | 4<br>1<br>1<br>E<br>-<br>0<br>4      | 3<br>6<br>1<br>E<br>-<br>0<br>3      |   | SRB7, NOTCH1 precursor, CD43, OBFC1, Cyclin B, Kallikrein 3 (PSA), Adult hemoglobin, ERK1/2, DEAF, 14-3-3 |
| 6<br>3 | <a href="#">phagocytosis</a>                                                             | 2<br>4<br>8 | 1<br>4<br>9<br>9<br>E<br>-<br>0<br>4 | 4<br>3<br>6<br>1<br>E<br>-<br>0<br>3 | 1<br>4<br>9<br>1<br>E<br>-<br>0<br>4 | 4<br>3<br>6<br>1<br>E<br>-<br>0<br>3 | 6 | IGHG4, IRT-1, IGHG1, ERK1 (MAPK3), Annexin XI, ERK1/2                                                     |
| 6<br>4 | <a href="#">positive regulation of chromosome organization</a>                           | 8<br>3      | 1<br>5<br>1<br>3<br>E<br>-<br>0<br>4 | 4<br>3<br>6<br>1<br>E<br>-<br>0<br>3 | 1<br>5<br>1<br>3<br>E<br>-<br>0<br>4 | 4<br>3<br>6<br>1<br>E<br>-<br>0<br>3 | 4 | Cyclin B1, ERK1 (MAPK3), Cyclin B, ERK1/2                                                                 |
| 6<br>5 | <a href="#">kinin cascade</a>                                                            | 6           | 1<br>5<br>3<br>2<br>E<br>-<br>0<br>4 | 4<br>3<br>6<br>1<br>E<br>-<br>0<br>3 | 1<br>5<br>3<br>2<br>E<br>-<br>0<br>4 | 4<br>3<br>6<br>1<br>E<br>-<br>0<br>3 | 2 | Tissue kallikreins, Kallikrein 3 (PSA)                                                                    |
| 6<br>6 | <a href="#">positive regulation of dopamine uptake involved in synaptic transmission</a> | 6           | 1<br>5<br>3<br>2<br>E<br>-<br>0<br>4 | 4<br>3<br>6<br>1<br>E<br>-<br>0<br>3 | 1<br>5<br>3<br>2<br>E<br>-<br>0<br>4 | 4<br>3<br>6<br>1<br>E<br>-<br>0<br>3 | 2 | Rab-3B, Rab-3                                                                                             |
| 6<br>7 | <a href="#">osteoblast fate commitment</a>                                               | 6           | 1<br>5<br>3                          | 4<br>3<br>6                          | 1<br>5<br>3                          | 4<br>3<br>6                          | 2 | Notch, NOTCH1 precursor                                                                                   |

|        |                                                                                               |   |                                       |                                       |                                       |                                       |   |                         |
|--------|-----------------------------------------------------------------------------------------------|---|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---|-------------------------|
|        |                                                                                               |   | 2<br>E<br>-<br>0<br>4                 | 1<br>E<br>-<br>0<br>3                 | 2<br>E<br>-<br>0<br>4                 | 1<br>E<br>-<br>0<br>3                 |   |                         |
| 6<br>8 | <a href="#">positive regulation of catecholamine uptake involved in synaptic transmission</a> | 6 | 1<br>.5<br>3<br>2<br>E<br>-<br>0<br>4 | 4<br>.3<br>6<br>1<br>E<br>-<br>0<br>3 | 1<br>.5<br>3<br>2<br>E<br>-<br>0<br>4 | 4<br>.3<br>6<br>1<br>E<br>-<br>0<br>3 | 2 | Rab-3B, Rab-3           |
| 6<br>9 | <a href="#">regulation of Golgi inheritance</a>                                               | 6 | 1<br>.5<br>3<br>2<br>E<br>-<br>0<br>4 | 4<br>.3<br>6<br>1<br>E<br>-<br>0<br>3 | 1<br>.5<br>3<br>2<br>E<br>-<br>0<br>4 | 4<br>.3<br>6<br>1<br>E<br>-<br>0<br>3 | 2 | ERK1 (MAPK3), ERK1/2    |
| 7<br>0 | <a href="#">positive regulation of transcription of Notch receptor target</a>                 | 6 | 1<br>.5<br>3<br>2<br>E<br>-<br>0<br>4 | 4<br>.3<br>6<br>1<br>E<br>-<br>0<br>3 | 1<br>.5<br>3<br>2<br>E<br>-<br>0<br>4 | 4<br>.3<br>6<br>1<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor |
| 7<br>1 | <a href="#">arterial endothelial cell differentiation</a>                                     | 6 | 1<br>.5<br>3<br>2<br>E<br>-<br>0<br>4 | 4<br>.3<br>6<br>1<br>E<br>-<br>0<br>3 | 1<br>.5<br>3<br>2<br>E<br>-<br>0<br>4 | 4<br>.3<br>6<br>1<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor |
| 7<br>2 | <a href="#">positive regulation of attachment of spindle microtubules to kinetochore</a>      | 6 | 1<br>.5<br>3<br>2<br>E                | 4<br>.3<br>6<br>1<br>E                | 1<br>.5<br>3<br>2<br>E                | 4<br>.3<br>6<br>1<br>E                | 2 | Cyclin B1, Cyclin B     |

|   |                                                                                                             |   |   |   |   |   |   |                         |
|---|-------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|-------------------------|
|   |                                                                                                             |   | - | - | - | - |   |                         |
|   |                                                                                                             |   | 0 | 0 | 0 | 0 |   |                         |
|   |                                                                                                             |   | 4 | 3 | 4 | 3 |   |                         |
| 7 | <a href="#">MAPK import into nucleus</a>                                                                    | 6 | 1 | 4 | 1 | 4 | 2 | ERK1 (MAPK3), ERK1/2    |
| 3 |                                                                                                             |   | . | . | . | . |   |                         |
|   |                                                                                                             |   | 5 | 3 | 5 | 3 |   |                         |
|   |                                                                                                             |   | 3 | 6 | 3 | 6 |   |                         |
|   |                                                                                                             |   | 2 | 1 | 2 | 1 |   |                         |
|   |                                                                                                             |   | E | E | E | E |   |                         |
|   |                                                                                                             |   | - | - | - | - |   |                         |
|   |                                                                                                             |   | 0 | 0 | 0 | 0 |   |                         |
|   |                                                                                                             |   | 4 | 3 | 4 | 3 |   |                         |
| 7 | <a href="#">positive regulation of transcription from RNA polymerase II promoter in response to hypoxia</a> | 6 | 1 | 4 | 1 | 4 | 2 | Notch, NOTCH1 precursor |
| 4 |                                                                                                             |   | . | . | . | . |   |                         |
|   |                                                                                                             |   | 5 | 3 | 5 | 3 |   |                         |
|   |                                                                                                             |   | 3 | 6 | 3 | 6 |   |                         |
|   |                                                                                                             |   | 2 | 1 | 2 | 1 |   |                         |
|   |                                                                                                             |   | E | E | E | E |   |                         |
|   |                                                                                                             |   | - | - | - | - |   |                         |
|   |                                                                                                             |   | 0 | 0 | 0 | 0 |   |                         |
|   |                                                                                                             |   | 4 | 3 | 4 | 3 |   |                         |
| 7 | <a href="#">regulation of pro-B cell differentiation</a>                                                    | 6 | 1 | 4 | 1 | 4 | 2 | Notch, NOTCH1 precursor |
| 5 |                                                                                                             |   | . | . | . | . |   |                         |
|   |                                                                                                             |   | 5 | 3 | 5 | 3 |   |                         |
|   |                                                                                                             |   | 3 | 6 | 3 | 6 |   |                         |
|   |                                                                                                             |   | 2 | 1 | 2 | 1 |   |                         |
|   |                                                                                                             |   | E | E | E | E |   |                         |
|   |                                                                                                             |   | - | - | - | - |   |                         |
|   |                                                                                                             |   | 0 | 0 | 0 | 0 |   |                         |
|   |                                                                                                             |   | 4 | 3 | 4 | 3 |   |                         |
| 7 | <a href="#">positive regulation of neurotransmitter uptake</a>                                              | 6 | 1 | 4 | 1 | 4 | 2 | Rab-3B, Rab-3           |
| 6 |                                                                                                             |   | . | . | . | . |   |                         |
|   |                                                                                                             |   | 5 | 3 | 5 | 3 |   |                         |
|   |                                                                                                             |   | 3 | 6 | 3 | 6 |   |                         |
|   |                                                                                                             |   | 2 | 1 | 2 | 1 |   |                         |
|   |                                                                                                             |   | E | E | E | E |   |                         |
|   |                                                                                                             |   | - | - | - | - |   |                         |
|   |                                                                                                             |   | 0 | 0 | 0 | 0 |   |                         |
|   |                                                                                                             |   | 4 | 3 | 4 | 3 |   |                         |
| 7 | <a href="#">interleukin-4 secretion</a>                                                                     | 6 | 1 | 4 | 1 | 4 | 2 | Notch, NOTCH1 precursor |
| 7 |                                                                                                             |   | . | . | . | . |   |                         |
|   |                                                                                                             |   | 5 | 3 | 5 | 3 |   |                         |
|   |                                                                                                             |   | 3 | 6 | 3 | 6 |   |                         |
|   |                                                                                                             |   | 2 | 1 | 2 | 1 |   |                         |
|   |                                                                                                             |   | E | E | E | E |   |                         |
|   |                                                                                                             |   | - | - | - | - |   |                         |
|   |                                                                                                             |   | 0 | 0 | 0 | 0 |   |                         |

|   |                                                                      |   |                                           |                                           |                                           |                                                |   |                                                                                                                                                                                               |
|---|----------------------------------------------------------------------|---|-------------------------------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                      |   | 4                                         | 3                                         | 4                                         | 3                                              |   |                                                                                                                                                                                               |
| 7 | <a href="#">regulation of chromosome condensation</a>                | 6 | 1<br>.<br>5<br>3<br>2<br>E<br>-<br>0<br>4 | 4<br>.<br>3<br>6<br>1<br>E<br>-<br>0<br>3 | 1<br>.<br>5<br>3<br>2<br>E<br>-<br>0<br>4 | 4<br>.<br>3<br>6<br>1<br>E<br>-<br>0<br>3      | 2 | Cyclin B1, Cyclin B                                                                                                                                                                           |
| 7 | <a href="#">cardiac cell development</a>                             | 8 | 1<br>.<br>5<br>8<br>5<br>E<br>-<br>0<br>4 | 4<br>.<br>4<br>5<br>6<br>E<br>-<br>0<br>4 | 1<br>.<br>5<br>8<br>5<br>E<br>-<br>0<br>3 | 4<br>.<br>4<br>5<br>6<br>E<br>-<br>0<br>3      | 4 | Cyclin B1, Notch, NOTCH1 precursor, Cyclin B                                                                                                                                                  |
| 8 | <a href="#">inflammatory response</a>                                | 6 | 1<br>.<br>6<br>6<br>8<br>E<br>-<br>0<br>4 | 4<br>.<br>6<br>3<br>1<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>6<br>8<br>E<br>-<br>0<br>4 | 4<br>.<br>6<br>3<br>1<br>E<br>-<br>0<br>3      | 9 | Tissue kallikreins, IRT-1, TIRAP (Mal), Notch, NOTCH1 precursor, CD43, 14-3-3 zeta/delta, Kallikrein 3 (PSA), 14-3-3                                                                          |
| 8 | <a href="#">defense response</a>                                     | 1 | 1<br>.<br>8<br>9<br>9<br>1<br>8<br>3<br>3 | 5<br>.<br>1<br>3<br>9<br>9<br>-<br>0<br>4 | 1<br>.<br>8<br>9<br>9<br>E<br>-<br>0<br>3 | 5<br>.<br>1<br>3<br>9<br>9<br>E<br>-<br>0<br>3 | 1 | Tissue kallikreins, IGHG4, IRT-1, TIRAP (Mal), Olfactory receptor, Notch, IGHG1, ERK1 (MAPK3), CALCOCO2, NOTCH1 precursor, CD43, 14-3-3 zeta/delta, Kallikrein 3 (PSA), RIG-G, ERK1/2, 14-3-3 |
| 8 | <a href="#">negative regulation of response to external stimulus</a> | 2 | 2<br>.<br>0<br>1<br>8<br>E<br>-<br>0<br>4 | 5<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>1<br>8<br>E<br>-<br>0<br>4 | 5<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>3      | 6 | Tissue kallikreins, IRT-1, Notch, NOTCH1 precursor, CD43, NFKBIL1                                                                                                                             |

|    |                                                               |    |                                           |                                           |                                           |                                           |   |                                 |
|----|---------------------------------------------------------------|----|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|---------------------------------|
| 83 | <a href="#">positive regulation of epidermis development</a>  | 36 | 2<br>.<br>1<br>3<br>6<br>E<br>-<br>0<br>4 | 5<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>3<br>6<br>E<br>-<br>0<br>4 | 5<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>3 | 3 | Notch, NOTCH1 precursor, 14-3-3 |
| 84 | <a href="#">growth involved in heart morphogenesis</a>        | 7  | 2<br>.<br>1<br>4<br>0<br>E<br>-<br>0<br>4 | 5<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>4<br>0<br>E<br>-<br>0<br>4 | 5<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor         |
| 85 | <a href="#">response to iron(III) ion</a>                     | 7  | 2<br>.<br>1<br>4<br>0<br>E<br>-<br>0<br>4 | 5<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>4<br>0<br>E<br>-<br>0<br>4 | 5<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>3 | 2 | Cyclin B1, Cyclin B             |
| 86 | <a href="#">pericardium morphogenesis</a>                     | 7  | 2<br>.<br>1<br>4<br>0<br>E<br>-<br>0<br>4 | 5<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>4<br>0<br>E<br>-<br>0<br>4 | 5<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor         |
| 87 | <a href="#">endocardial cell differentiation</a>              | 7  | 2<br>.<br>1<br>4<br>0<br>E<br>-<br>0<br>4 | 5<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>4<br>0<br>E<br>-<br>0<br>4 | 5<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor         |
| 88 | <a href="#">positive regulation of chromosome segregation</a> | 7  | 2<br>.<br>.<br>.<br>.<br>.<br>.<br>.<br>. | 5<br>.<br>.<br>.<br>.<br>.<br>.<br>.<br>. | 2<br>.<br>.<br>.<br>.<br>.<br>.<br>.<br>. | 5<br>.<br>.<br>.<br>.<br>.<br>.<br>.<br>. | 2 | Cyclin B1, Cyclin B             |

|        |                                                           |   |                                           |                                           |                                           |                                           |                  |                                                                                                                               |
|--------|-----------------------------------------------------------|---|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------|
|        |                                                           |   | 1<br>4<br>0<br>E<br>-<br>0<br>4           | 1<br>3<br>9<br>E<br>-<br>0<br>3           | 1<br>4<br>0<br>E<br>-<br>0<br>4           | 1<br>3<br>9<br>E<br>-<br>0<br>3           |                  |                                                                                                                               |
| 8<br>9 | <a href="#">cardiac right ventricle formation</a>         | 7 | 2<br>.<br>1<br>4<br>0<br>E<br>-<br>0<br>4 | 5<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>4<br>0<br>E<br>-<br>0<br>4 | 5<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>3 | 2                | Notch, NOTCH1 precursor                                                                                                       |
| 9<br>0 | <a href="#">aortic valve morphogenesis</a>                | 7 | 2<br>.<br>1<br>4<br>0<br>E<br>-<br>0<br>4 | 5<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>4<br>0<br>E<br>-<br>0<br>4 | 5<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>3 | 2                | Notch, NOTCH1 precursor                                                                                                       |
| 9<br>1 | <a href="#">caveolin-mediated endocytosis</a>             | 7 | 2<br>.<br>1<br>4<br>0<br>E<br>-<br>0<br>4 | 5<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>4<br>0<br>E<br>-<br>0<br>4 | 5<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>3 | 2                | ERK1 (MAPK3), ERK1/2                                                                                                          |
| 9<br>2 | <a href="#">aortic valve development</a>                  | 7 | 2<br>.<br>1<br>4<br>0<br>E<br>-<br>0<br>4 | 5<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>4<br>0<br>E<br>-<br>0<br>4 | 5<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>3 | 2                | Notch, NOTCH1 precursor                                                                                                       |
| 9<br>3 | <a href="#">positive regulation of cell proliferation</a> | 6 | 1<br>1<br>1<br>5                          | 2<br>.<br>1<br>1<br>5                     | 5<br>.<br>1<br>1<br>5                     | 2<br>.<br>1<br>1<br>5                     | 1<br>1<br>1<br>2 | Tissue kallikreins, Kallikrein 1, Cyclin B1, TIPIN, LHX1, IRT-1, TIRAP (Mal), Notch, NOTCH1 precursor, CD43, Cyclin B, ERK1/2 |



|        |                                                                   |  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                                                                                                                                |
|--------|-------------------------------------------------------------------|--|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                   |  | 2<br>E<br>-<br>0<br>4                     | 9<br>E<br>-<br>0<br>3                     | 2<br>E<br>-<br>0<br>4                     | 9<br>E<br>-<br>0<br>3                     |        |                                                                                                                                                                                                                                                                                                                                                                |
| 9<br>4 | <a href="#">regulation of cellular metabolic process</a>          |  | 2<br>.<br>5<br>2<br>2<br>6<br>4<br>4<br>6 | 5<br>.<br>9<br>1<br>0<br>E<br>-<br>0<br>4 | 2<br>.<br>5<br>2<br>0<br>E<br>-<br>4<br>3 | 5<br>.<br>9<br>1<br>0<br>E<br>-<br>0<br>3 | 3<br>5 | Ajuba, Tissue kallikreins, Cyclin B1, TIPIN, AL1A1, LHX1, HBG, IRT-1, HBGA, Gbp1, TEF-5, TIRAP (Mal), Olfactory receptor, PTD015, Notch, ERK1 (MAPK3), DR1, SRB7, NOTCH1 precursor, CD43, NFKBIL1, AO7, CKS2, OBFC1, PLEKHG2, Spinophilin, Cyclin B, Rab-3, Kallikrein 3 (PSA), Adult hemoglobin, ZHX3, ERK1/2, DEAF, 14-3-3, RBBP7 (RbAp46)                   |
| 9<br>5 | <a href="#">cardiac muscle tissue morphogenesis</a>               |  | 2<br>.<br>5<br>4<br>6<br>E<br>-<br>9<br>5 | 5<br>.<br>9<br>1<br>0<br>E<br>-<br>0<br>4 | 2<br>.<br>5<br>4<br>6<br>E<br>-<br>0<br>3 | 5<br>.<br>9<br>1<br>0<br>E<br>-<br>0<br>3 | 4      | Tissue kallikreins, Notch, NOTCH1 precursor, Kallikrein 3 (PSA)                                                                                                                                                                                                                                                                                                |
| 9<br>6 | <a href="#">regulation of nitrogen compound metabolic process</a> |  | 2<br>.<br>5<br>5<br>7<br>5<br>1<br>1<br>2 | 5<br>.<br>9<br>1<br>0<br>E<br>-<br>0<br>4 | 2<br>.<br>5<br>5<br>7<br>E<br>-<br>0<br>3 | 5<br>.<br>9<br>1<br>0<br>E<br>-<br>0<br>3 | 3<br>0 | Ajuba, Cyclin B1, TIPIN, AL1A1, LHX1, HBG, IRT-1, HBGA, Gbp1, TEF-5, TIRAP (Mal), Olfactory receptor, PTD015, Notch, ERK1 (MAPK3), DR1, SRB7, NOTCH1 precursor, NFKBIL1, AO7, OBFC1, PLEKHG2, Cyclin B, Rab-3, Adult hemoglobin, ZHX3, ERK1/2, DEAF, 14-3-3, RBBP7 (RbAp46)                                                                                    |
| 9<br>7 | <a href="#">regulation of metabolic process</a>                   |  | 2<br>.<br>6<br>0<br>7<br>7<br>3<br>0<br>2 | 5<br>.<br>9<br>1<br>0<br>E<br>-<br>0<br>4 | 2<br>.<br>6<br>0<br>7<br>E<br>-<br>0<br>3 | 5<br>.<br>9<br>1<br>0<br>E<br>-<br>0<br>3 | 3<br>8 | Ajuba, Tissue kallikreins, Cyclin B1, TIPIN, AL1A1, LHX1, HBG, IRT-1, HBGA, Gbp1, SNX1, TEF-5, TIRAP (Mal), Olfactory receptor, PTD015, Notch, PAP41, ERK1 (MAPK3), DR1, SRB7, NOTCH1 precursor, CD43, NFKBIL1, AO7, CKS2, OBFC1, PLEKHG2, G18, Spinophilin, Cyclin B, Rab-3, Kallikrein 3 (PSA), Adult hemoglobin, ZHX3, ERK1/2, DEAF, 14-3-3, RBBP7 (RbAp46) |
| 9<br>8 | <a href="#">negative regulation of angiogenesis</a>               |  | 2<br>.<br>6<br>5<br>9<br>6                | 5<br>.<br>9<br>1<br>0<br>E                | 2<br>.<br>6<br>5<br>0<br>E                | 5<br>.<br>9<br>1<br>0<br>E                | 4      | Tissue kallikreins, Notch, NOTCH1 precursor, Kallikrein 3 (PSA)                                                                                                                                                                                                                                                                                                |

|   |                                    |   |   |   |   |   |   |                         |
|---|------------------------------------|---|---|---|---|---|---|-------------------------|
|   |                                    |   | - | - | - | - |   |                         |
|   |                                    |   | 0 | 0 | 0 | 0 |   |                         |
|   |                                    |   | 4 | 3 | 4 | 3 |   |                         |
| 9 | <a href="#">interleukin-4</a>      | 8 | 2 | 5 | 2 | 5 | 2 | Notch, NOTCH1 precursor |
| 9 | <a href="#">production</a>         |   | . | . | . | . |   |                         |
|   |                                    |   | 8 | 9 | 8 | 9 |   |                         |
|   |                                    |   | 4 | 1 | 4 | 1 |   |                         |
|   |                                    |   | 7 | 0 | 7 | 0 |   |                         |
|   |                                    |   | E | E | E | E |   |                         |
|   |                                    |   | - | - | - | - |   |                         |
|   |                                    |   | 0 | 0 | 0 | 0 |   |                         |
|   |                                    |   | 4 | 3 | 4 | 3 |   |                         |
| 1 | <a href="#">regulation of</a>      | 8 | 2 | 5 | 2 | 5 | 2 | Notch, NOTCH1 precursor |
| 0 | <a href="#">transcription from</a> |   | . | . | . | . |   |                         |
| 0 | <a href="#">RNA polymerase</a>     |   | 8 | 9 | 8 | 9 |   |                         |
|   | <a href="#">II promoter</a>        |   | 4 | 1 | 4 | 1 |   |                         |
|   | <a href="#">involved in</a>        |   | 7 | 0 | 7 | 0 |   |                         |
|   | <a href="#">myocardial</a>         |   | E | E | E | E |   |                         |
|   | <a href="#">precursor cell</a>     |   | - | - | - | - |   |                         |
|   | <a href="#">differentiation</a>    |   | 0 | 0 | 0 | 0 |   |                         |
|   |                                    |   | 4 | 3 | 4 | 3 |   |                         |
| 1 | <a href="#">regulation of</a>      | 8 | 2 | 5 | 2 | 5 | 2 | Notch, NOTCH1 precursor |
| 0 | <a href="#">photoreceptor cell</a> |   | . | . | . | . |   |                         |
| 1 | <a href="#">differentiation</a>    |   | 8 | 9 | 8 | 9 |   |                         |
|   |                                    |   | 4 | 1 | 4 | 1 |   |                         |
|   |                                    |   | 7 | 0 | 7 | 0 |   |                         |
|   |                                    |   | E | E | E | E |   |                         |
|   |                                    |   | - | - | - | - |   |                         |
|   |                                    |   | 0 | 0 | 0 | 0 |   |                         |
|   |                                    |   | 4 | 3 | 4 | 3 |   |                         |
| 1 | <a href="#">endocardium</a>        | 8 | 2 | 5 | 2 | 5 | 2 | Notch, NOTCH1 precursor |
| 0 | <a href="#">morphogenesis</a>      |   | . | . | . | . |   |                         |
| 2 |                                    |   | 8 | 9 | 8 | 9 |   |                         |
|   |                                    |   | 4 | 1 | 4 | 1 |   |                         |
|   |                                    |   | 7 | 0 | 7 | 0 |   |                         |
|   |                                    |   | E | E | E | E |   |                         |
|   |                                    |   | - | - | - | - |   |                         |
|   |                                    |   | 0 | 0 | 0 | 0 |   |                         |
|   |                                    |   | 4 | 3 | 4 | 3 |   |                         |
| 1 | <a href="#">auditory receptor</a>  | 8 | 2 | 5 | 2 | 5 | 2 | Notch, NOTCH1 precursor |
| 0 | <a href="#">cell fate</a>          |   | . | . | . | . |   |                         |
| 3 | <a href="#">commitment</a>         |   | 8 | 9 | 8 | 9 |   |                         |
|   |                                    |   | 4 | 1 | 4 | 1 |   |                         |
|   |                                    |   | 7 | 0 | 7 | 0 |   |                         |
|   |                                    |   | E | E | E | E |   |                         |
|   |                                    |   | - | - | - | - |   |                         |
|   |                                    |   | 0 | 0 | 0 | 0 |   |                         |

|             |                                                                                     |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                         |
|-------------|-------------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                                     |                  | 4                                         | 3                                         | 4                                         | 3                                         |        |                                                                                                                                                                                                         |
| 1<br>0<br>4 | <a href="#">compartment<br/>pattern<br/>specification</a>                           | 8                | 2<br>.<br>8<br>4<br>7<br>E<br>-<br>0<br>4 | 5<br>.<br>9<br>1<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>4<br>7<br>E<br>-<br>0<br>4 | 5<br>.<br>9<br>1<br>0<br>E<br>-<br>0<br>3 | 2      | Notch, NOTCH1 precursor                                                                                                                                                                                 |
| 1<br>0<br>5 | <a href="#">inner ear receptor<br/>cell fate<br/>commitment</a>                     | 8                | 2<br>.<br>8<br>4<br>7<br>E<br>-<br>0<br>4 | 5<br>.<br>9<br>1<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>4<br>7<br>E<br>-<br>0<br>4 | 5<br>.<br>9<br>1<br>0<br>E<br>-<br>0<br>3 | 2      | Notch, NOTCH1 precursor                                                                                                                                                                                 |
| 1<br>0<br>6 | <a href="#">regulation of early<br/>endosome to late<br/>endosome<br/>transport</a> | 8                | 2<br>.<br>8<br>4<br>7<br>E<br>-<br>0<br>4 | 5<br>.<br>9<br>1<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>4<br>7<br>E<br>-<br>0<br>4 | 5<br>.<br>9<br>1<br>0<br>E<br>-<br>0<br>3 | 2      | ERK1 (MAPK3), ERK1/2                                                                                                                                                                                    |
| 1<br>0<br>7 | <a href="#">cardiac vascular<br/>smooth muscle<br/>cell development</a>             | 8                | 2<br>.<br>8<br>4<br>7<br>E<br>-<br>0<br>4 | 5<br>.<br>9<br>1<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>4<br>7<br>E<br>-<br>0<br>4 | 5<br>.<br>9<br>1<br>0<br>E<br>-<br>0<br>3 | 2      | Notch, NOTCH1 precursor                                                                                                                                                                                 |
| 1<br>0<br>8 | <a href="#">regulation of<br/>cellular<br/>component<br/>organization</a>           | 2<br>1<br>0<br>7 | 2<br>.<br>9<br>4<br>2<br>E<br>-<br>0<br>4 | 6<br>.<br>0<br>5<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>9<br>4<br>2<br>E<br>-<br>0<br>4 | 6<br>.<br>0<br>5<br>0<br>E<br>-<br>0<br>3 | 1<br>7 | Ajuba, Tissue kallikreins, ZNF261, LST1, Cyclin B1, Rab-11A, Olfactory receptor, Notch, ERK1 (MAPK3), NOTCH1 precursor, 14-3-3 zeta/delta, Spinophilin, Cyclin B, Rab-3, ERK1/2, 14-3-3, RBBP7 (RbAp46) |

|     |                                                           |      |                                                |                                           |                                                |                                           |    |                                                                                                                                                                                                                                                                                                    |
|-----|-----------------------------------------------------------|------|------------------------------------------------|-------------------------------------------|------------------------------------------------|-------------------------------------------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 109 | <a href="#">digestive tract development</a>               | 181  | 2<br>.<br>9<br>9<br>7<br>E<br>-<br>8<br>4      | 6<br>.<br>1<br>0<br>6<br>E<br>-<br>0<br>3 | 2<br>.<br>9<br>9<br>7<br>E<br>-<br>0<br>4      | 6<br>.<br>1<br>0<br>6<br>E<br>-<br>0<br>3 | 5  | Cyclin B1, AL1A1, Notch, NOTCH1 precursor, Cyclin B                                                                                                                                                                                                                                                |
| 110 | <a href="#">response to stress</a>                        | 4156 | 3<br>.<br>1<br>1<br>5<br>4<br>E<br>-<br>0<br>4 | 6<br>.<br>2<br>9<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>1<br>5<br>4<br>E<br>-<br>0<br>4 | 6<br>.<br>2<br>9<br>0<br>E<br>-<br>0<br>3 | 26 | Ajuba, Tissue kallikreins, IGHG4, Cyclin B1, TIPIN, AL1A1, HBG, IRT-1, HBGA, TIRAP (Mal), Olfactory receptor, Notch, IGHG1, ERK1 (MAPK3), CALCOCO2, NOTCH1 precursor, CD43, 14-3-3 zeta/delta, Cyclin B, Kallikrein 3 (PSA), Adult hemoglobin, RIG-G, ERK1/2, 14-3-3, CapZIP, RBBP7 (RbAp46)       |
| 111 | <a href="#">neuron differentiation</a>                    | 1346 | 3<br>.<br>2<br>5<br>1<br>E<br>-<br>0<br>4      | 6<br>.<br>5<br>0<br>4<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>5<br>1<br>E<br>-<br>0<br>4      | 6<br>.<br>5<br>0<br>4<br>E<br>-<br>0<br>3 | 13 | Tissue kallikreins, LST1, LHX1, Rab-11A, Olfactory receptor, Notch, ERK1 (MAPK3), NOTCH1 precursor, Spinophilin, Rab-3, Protrudin, ERK1/2, 14-3-3                                                                                                                                                  |
| 112 | <a href="#">negative regulation of biological process</a> | 4668 | 3<br>.<br>2<br>8<br>5<br>4<br>E<br>-<br>0<br>4 | 6<br>.<br>5<br>1<br>4<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>4<br>E<br>-<br>0<br>3 | 6<br>.<br>5<br>1<br>4<br>E<br>-<br>0<br>3 | 28 | Ajuba, Tissue kallikreins, LST1, Cyclin B1, TIPIN, LHX1, HBG, IRT-1, HBGA, TIRAP (Mal), PTD015, Notch, Thioredoxin-like 2, DR1, SRB7, NOTCH1 precursor, CD43, 14-3-3 zeta/delta, NFKBIL1, Spinophilin, Cyclin B, Kallikrein 3 (PSA), Adult hemoglobin, RIG-G, ZHX3, ERK1/2, 14-3-3, RBBP7 (RbAp46) |
| 113 | <a href="#">positive regulation of cellular process</a>   | 4675 | 3<br>.<br>3<br>7<br>2<br>E<br>-<br>0<br>4      | 6<br>.<br>6<br>2<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>3<br>7<br>2<br>E<br>-<br>0<br>4      | 6<br>.<br>6<br>2<br>8<br>E<br>-<br>0<br>3 | 28 | Ajuba, Tissue kallikreins, Kallikrein 1, Cyclin B1, TIPIN, AL1A1, LHX1, IRT-1, Gbp1, Rab-11A, TEF-5, TIRAP (Mal), Olfactory receptor, PTD015, Notch, ERK1 (MAPK3), SRB7, NOTCH1 precursor, CD43, 14-3-3 zeta/delta, OBFC1, PLEKHG2, Cyclin B, Adult hemoglobin, ZHX3, ERK1/2, DEAF, 14-3-3         |
| 114 | <a href="#">regulation of phosphorylation</a>             | 15   | 3<br>.                                         | 6<br>.                                    | 3<br>.                                         | 6<br>.                                    | 14 | Ajuba, Tissue kallikreins, Cyclin B1, IRT-1, TIRAP (Mal), ERK1 (MAPK3), CD43, CKS2, Spinophilin, Cyclin B,                                                                                                                                                                                         |

|             |                                                                                          |             |                                      |                                      |                                      |                                      |   |                                                                 |
|-------------|------------------------------------------------------------------------------------------|-------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---|-----------------------------------------------------------------|
| 4           |                                                                                          | 3<br>9      | 4<br>1<br>6<br>E<br>-<br>0<br>4      | 6<br>5<br>0<br>E<br>-<br>0<br>3      | 4<br>1<br>6<br>E<br>-<br>0<br>4      | 6<br>5<br>0<br>E<br>-<br>0<br>3      |   | Kallikrein 3 (PSA), Adult hemoglobin, ERK1/2, 14-3-3            |
| 1<br>1<br>5 | <a href="#">muscle tissue morphogenesis</a>                                              | 1<br>0<br>4 | 3<br>5<br>9<br>8<br>E<br>-<br>0<br>4 | 6<br>6<br>5<br>0<br>E<br>-<br>3<br>4 | 3<br>5<br>9<br>8<br>E<br>-<br>0<br>4 | 6<br>6<br>5<br>0<br>E<br>-<br>3<br>4 | 4 | Tissue kallikreins, Notch, NOTCH1 precursor, Kallikrein 3 (PSA) |
| 1<br>1<br>6 | <a href="#">blood vessel endothelial cell differentiation</a>                            | 9           | 3<br>6<br>5<br>3<br>E<br>-<br>0<br>4 | 6<br>6<br>5<br>0<br>E<br>-<br>3<br>4 | 3<br>6<br>5<br>3<br>E<br>-<br>0<br>4 | 6<br>6<br>5<br>0<br>E<br>-<br>3<br>4 | 2 | Notch, NOTCH1 precursor                                         |
| 1<br>1<br>7 | <a href="#">negative regulation of cell migration involved in sprouting angiogenesis</a> | 9           | 3<br>6<br>5<br>3<br>E<br>-<br>0<br>4 | 6<br>6<br>5<br>0<br>E<br>-<br>3<br>4 | 3<br>6<br>5<br>3<br>E<br>-<br>0<br>4 | 6<br>6<br>5<br>0<br>E<br>-<br>3<br>4 | 2 | Notch, NOTCH1 precursor                                         |
| 1<br>1<br>8 | <a href="#">histamine production involved in inflammatory response</a>                   | 9           | 3<br>6<br>5<br>3<br>E<br>-<br>0<br>4 | 6<br>6<br>5<br>0<br>E<br>-<br>3<br>4 | 3<br>6<br>5<br>3<br>E<br>-<br>0<br>4 | 6<br>6<br>5<br>0<br>E<br>-<br>3<br>4 | 2 | 14-3-3 zeta/delta, 14-3-3                                       |
| 1<br>1<br>9 | <a href="#">histamine secretion by mast cell</a>                                         | 9           | 3<br>6<br>5                          | 6<br>6<br>5                          | 3<br>6<br>5                          | 6<br>6<br>5                          | 2 | 14-3-3 zeta/delta, 14-3-3                                       |

|             |                                                                        |             |                                        |                                        |                                        |                                        |   |                                                                             |
|-------------|------------------------------------------------------------------------|-------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|---|-----------------------------------------------------------------------------|
|             |                                                                        |             | 3<br>E<br>-<br>0<br>4                  | 0<br>E<br>-<br>0<br>3                  | 3<br>E<br>-<br>0<br>4                  | 0<br>E<br>-<br>0<br>3                  |   |                                                                             |
| 1<br>2<br>0 | <a href="#">peptidyl-tyrosine autophosphorylation</a>                  | 9           | 3<br>. 6<br>5<br>3<br>E<br>-<br>0<br>4 | 6<br>. 6<br>5<br>0<br>E<br>-<br>0<br>3 | 3<br>. 6<br>5<br>3<br>E<br>-<br>0<br>4 | 6<br>. 6<br>5<br>0<br>E<br>-<br>0<br>3 | 2 | ERK1 (MAPK3), ERK1/2                                                        |
| 1<br>2<br>1 | <a href="#">coronary artery morphogenesis</a>                          | 9           | 3<br>. 6<br>5<br>3<br>E<br>-<br>0<br>4 | 6<br>. 6<br>5<br>0<br>E<br>-<br>0<br>3 | 3<br>. 6<br>5<br>3<br>E<br>-<br>0<br>4 | 6<br>. 6<br>5<br>0<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor                                                     |
| 1<br>2<br>2 | <a href="#">histamine secretion involved in inflammatory response</a>  | 9           | 3<br>. 6<br>5<br>3<br>E<br>-<br>0<br>4 | 6<br>. 6<br>5<br>0<br>E<br>-<br>0<br>3 | 3<br>. 6<br>5<br>3<br>E<br>-<br>0<br>4 | 6<br>. 6<br>5<br>0<br>E<br>-<br>0<br>3 | 2 | 14-3-3 zeta/delta, 14-3-3                                                   |
| 1<br>2<br>3 | <a href="#">regulation of protein serine/threonine kinase activity</a> | 5<br>5<br>3 | 3<br>. 9<br>9<br>6<br>E<br>-<br>0<br>4 | 7<br>. 2<br>0<br>6<br>E<br>-<br>0<br>3 | 3<br>. 9<br>9<br>6<br>E<br>-<br>0<br>4 | 7<br>. 2<br>0<br>6<br>E<br>-<br>0<br>3 | 8 | Ajuba, Cyclin B1, TIRAP (Mal), ERK1 (MAPK3), CKS2, Cyclin B, ERK1/2, 14-3-3 |
| 1<br>2<br>4 | <a href="#">digestive system development</a>                           | 1<br>9<br>3 | 4<br>. 0<br>2<br>3<br>E                | 7<br>. 2<br>0<br>6<br>E                | 4<br>. 0<br>2<br>3<br>E                | 7<br>. 2<br>0<br>6<br>E                | 5 | Cyclin B1, AL1A1, Notch, NOTCH1 precursor, Cyclin B                         |

|   |                                                                                |   |   |   |   |   |   |                                                                                                                                                                                                                                                                        |
|---|--------------------------------------------------------------------------------|---|---|---|---|---|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                                |   | - | - | - | - |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                        |
| 1 | <a href="#">regulation of nucleobase-containing compound metabolic process</a> | 4 | 4 | 7 | 4 | 7 | 2 | Ajuba, Cyclin B1, TIPIN, AL1A1, LHX1, HBG, HBGA, Gppbp1, TEF-5, TIRAP (Mal), Olfactory receptor, PTD015, Notch, ERK1 (MAPK3), DR1, SRB7, NOTCH1 precursor, NFKBIL1, AO7, OBFC1, PLEKHG2, Cyclin B, Rab-3, Adult hemoglobin, ZHX3, ERK1/2, DEAF, 14-3-3, RBBP7 (RbAp46) |
| 2 |                                                                                | 9 | . | . | . | . |   |                                                                                                                                                                                                                                                                        |
| 5 |                                                                                | 8 | 1 | 3 | 1 | 3 |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                | 6 | 2 | 3 | 2 | 3 |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | 8 | 5 | 8 | 5 |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | E | E | E | E |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | - | - | - | - |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                        |
| 1 | <a href="#">neuron projection morphogenesis</a>                                | 7 | 4 | 7 | 4 | 7 | 9 | Tissue kallikreins, LHX1, Olfactory receptor, Notch, ERK1 (MAPK3), NOTCH1 precursor, Rab-3, ERK1/2, 14-3-3                                                                                                                                                             |
| 2 |                                                                                | 0 | . | . | . | . |   |                                                                                                                                                                                                                                                                        |
| 6 |                                                                                | 3 | 1 | 3 | 1 | 3 |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | 6 | 3 | 6 | 3 |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | 2 | 6 | 2 | 6 |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | E | E | E | E |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | - | - | - | - |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | 3 | 4 | 3 | 4 |   |                                                                                                                                                                                                                                                                        |
| 1 | <a href="#">regulation of mitotic spindle organization</a>                     | 1 | 4 | 7 | 4 | 7 | 2 | Cyclin B1, Cyclin B                                                                                                                                                                                                                                                    |
| 2 |                                                                                | 0 | . | . | . | . |   |                                                                                                                                                                                                                                                                        |
| 7 |                                                                                | 0 | 5 | 4 | 5 | 4 |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | 5 | 9 | 5 | 9 |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | 7 | 6 | 7 | 6 |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | E | E | E | E |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | - | - | - | - |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                        |
| 1 | <a href="#">regulation of secondary heart field cardioblast proliferation</a>  | 1 | 4 | 7 | 4 | 7 | 2 | Notch, NOTCH1 precursor                                                                                                                                                                                                                                                |
| 2 |                                                                                | 0 | . | . | . | . |   |                                                                                                                                                                                                                                                                        |
| 8 |                                                                                | 0 | 5 | 4 | 5 | 4 |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | 5 | 9 | 5 | 9 |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | 7 | 6 | 7 | 6 |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | E | E | E | E |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | - | - | - | - |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                        |
| 1 | <a href="#">regulation of cardioblast proliferation</a>                        | 1 | 4 | 7 | 4 | 7 | 2 | Notch, NOTCH1 precursor                                                                                                                                                                                                                                                |
| 2 |                                                                                | 0 | . | . | . | . |   |                                                                                                                                                                                                                                                                        |
| 9 |                                                                                | 0 | 5 | 4 | 5 | 4 |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | 5 | 9 | 5 | 9 |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | 7 | 6 | 7 | 6 |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | E | E | E | E |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | - | - | - | - |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                        |
|   |                                                                                |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                        |

|             |                                                                 |        |                                      |                                      |                                      |                                      |   |                         |
|-------------|-----------------------------------------------------------------|--------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---|-------------------------|
|             |                                                                 |        | 4                                    | 3                                    | 4                                    | 3                                    |   |                         |
| 1<br>3<br>0 | <a href="#">glomerular mesangial cell development</a>           | 1<br>0 | 4<br>.<br>5<br>5<br>7<br>E<br>-<br>0 | 7<br>.<br>4<br>9<br>6<br>E<br>-<br>0 | 4<br>.<br>5<br>5<br>7<br>E<br>-<br>0 | 7<br>.<br>4<br>9<br>6<br>E<br>-<br>0 | 2 | Notch, NOTCH1 precursor |
| 1<br>3<br>1 | <a href="#">negative regulation of glial cell proliferation</a> | 1<br>0 | 4<br>.<br>5<br>5<br>7<br>E<br>-<br>0 | 7<br>.<br>4<br>9<br>6<br>E<br>-<br>0 | 4<br>.<br>5<br>5<br>7<br>E<br>-<br>0 | 7<br>.<br>4<br>9<br>6<br>E<br>-<br>0 | 2 | Notch, NOTCH1 precursor |
| 1<br>3<br>2 | <a href="#">mitral valve morphogenesis</a>                      | 1<br>0 | 4<br>.<br>5<br>5<br>7<br>E<br>-<br>0 | 7<br>.<br>4<br>9<br>6<br>E<br>-<br>0 | 4<br>.<br>5<br>5<br>7<br>E<br>-<br>0 | 7<br>.<br>4<br>9<br>6<br>E<br>-<br>0 | 2 | Notch, NOTCH1 precursor |
| 1<br>3<br>3 | <a href="#">venous blood vessel morphogenesis</a>               | 1<br>0 | 4<br>.<br>5<br>5<br>7<br>E<br>-<br>0 | 7<br>.<br>4<br>9<br>6<br>E<br>-<br>0 | 4<br>.<br>5<br>5<br>7<br>E<br>-<br>0 | 7<br>.<br>4<br>9<br>6<br>E<br>-<br>0 | 2 | Notch, NOTCH1 precursor |
| 1<br>3<br>4 | <a href="#">pulmonary valve morphogenesis</a>                   | 1<br>0 | 4<br>.<br>5<br>5<br>7<br>E<br>-<br>0 | 7<br>.<br>4<br>9<br>6<br>E<br>-<br>0 | 4<br>.<br>5<br>5<br>7<br>E<br>-<br>0 | 7<br>.<br>4<br>9<br>6<br>E<br>-<br>0 | 2 | Notch, NOTCH1 precursor |



|             |                                                    |             |                                           |                                           |                                           |                                           |   |                                                                 |
|-------------|----------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|-----------------------------------------------------------------|
| 1<br>3<br>5 | <a href="#">pulmonary valve development</a>        | 1<br>0      | 4<br>.<br>5<br>5<br>7<br>E<br>-<br>0<br>4 | 7<br>.<br>4<br>9<br>6<br>E<br>-<br>0<br>3 | 4<br>.<br>5<br>5<br>7<br>E<br>-<br>0<br>4 | 7<br>.<br>4<br>9<br>6<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor                                         |
| 1<br>3<br>6 | <a href="#">regulation of developmental growth</a> | 1<br>9<br>9 | 4<br>.<br>6<br>2<br>7<br>E<br>-<br>0<br>4 | 7<br>.<br>5<br>5<br>6<br>E<br>-<br>0<br>3 | 4<br>.<br>6<br>2<br>7<br>E<br>-<br>0<br>4 | 7<br>.<br>5<br>5<br>6<br>E<br>-<br>0<br>3 | 5 | Cyclin B1, Rab-11A, Notch, NOTCH1 precursor, Cyclin B           |
| 1<br>3<br>7 | <a href="#">cardiac ventricle morphogenesis</a>    | 1<br>1<br>2 | 4<br>.<br>7<br>6<br>7<br>E<br>-<br>0<br>4 | 7<br>.<br>6<br>7<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>7<br>6<br>7<br>E<br>-<br>0<br>4 | 7<br>.<br>6<br>7<br>2<br>E<br>-<br>0<br>3 | 4 | Tissue kallikreins, Notch, NOTCH1 precursor, Kallikrein 3 (PSA) |
| 1<br>3<br>8 | <a href="#">muscle organ morphogenesis</a>         | 1<br>1<br>2 | 4<br>.<br>7<br>6<br>7<br>E<br>-<br>0<br>4 | 7<br>.<br>6<br>7<br>2<br>E<br>-<br>0<br>3 | 4<br>.<br>7<br>6<br>7<br>E<br>-<br>0<br>4 | 7<br>.<br>6<br>7<br>2<br>E<br>-<br>0<br>3 | 4 | Tissue kallikreins, Notch, NOTCH1 precursor, Kallikrein 3 (PSA) |
| 1<br>3<br>9 | <a href="#">Ras protein signal transduction</a>    | 2<br>0<br>1 | 4<br>.<br>8<br>4<br>3<br>E<br>-<br>0<br>4 | 7<br>.<br>7<br>3<br>8<br>E<br>-<br>0<br>3 | 4<br>.<br>8<br>4<br>3<br>E<br>-<br>0<br>4 | 7<br>.<br>7<br>3<br>8<br>E<br>-<br>0<br>3 | 5 | IRT-1, ERK1 (MAPK3), Rab-3, ERK1/2, 14-3-3                      |
| 1<br>4      | <a href="#">regulation of organ growth</a>         | 1<br>1      | 5<br>.                                    | 8<br>.                                    | 5<br>.                                    | 8<br>.                                    | 4 | Cyclin B1, Notch, NOTCH1 precursor, Cyclin B                    |

|             |                                                                       |        |                                      |                                           |                                      |                                           |   |                         |
|-------------|-----------------------------------------------------------------------|--------|--------------------------------------|-------------------------------------------|--------------------------------------|-------------------------------------------|---|-------------------------|
| 0           |                                                                       | 5      | 2<br>6<br>8<br>E<br>-<br>0<br>4      | 1<br>7<br>4<br>E<br>-<br>0<br>3           | 2<br>6<br>8<br>E<br>-<br>0<br>4      | 1<br>7<br>4<br>E<br>-<br>0<br>3           |   |                         |
| 1<br>4<br>1 | <a href="#">cardiac muscle<br/>cell myoblast<br/>differentiation</a>  | 1<br>1 | 5<br>.<br>5<br>8<br>E<br>-<br>0<br>4 | 8<br>.<br>1<br>7<br>4<br>E<br>-<br>0<br>3 | 5<br>.<br>5<br>8<br>E<br>-<br>0<br>4 | 8<br>.<br>1<br>7<br>4<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor |
| 1<br>4<br>2 | <a href="#">cell migration<br/>involved in heart<br/>development</a>  | 1<br>1 | 5<br>.<br>5<br>8<br>E<br>-<br>0<br>4 | 8<br>.<br>1<br>7<br>4<br>E<br>-<br>0<br>3 | 5<br>.<br>5<br>8<br>E<br>-<br>0<br>4 | 8<br>.<br>1<br>7<br>4<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor |
| 1<br>4<br>3 | <a href="#">Notch signaling<br/>involved in heart<br/>development</a> | 1<br>1 | 5<br>.<br>5<br>8<br>E<br>-<br>0<br>4 | 8<br>.<br>1<br>7<br>4<br>E<br>-<br>0<br>3 | 5<br>.<br>5<br>8<br>E<br>-<br>0<br>4 | 8<br>.<br>1<br>7<br>4<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor |
| 1<br>4<br>4 | <a href="#">mitral valve<br/>development</a>                          | 1<br>1 | 5<br>.<br>5<br>8<br>E<br>-<br>0<br>4 | 8<br>.<br>1<br>7<br>4<br>E<br>-<br>0<br>3 | 5<br>.<br>5<br>8<br>E<br>-<br>0<br>4 | 8<br>.<br>1<br>7<br>4<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor |
| 1<br>4<br>5 | <a href="#">cardiac<br/>endothelial cell<br/>differentiation</a>      | 1<br>1 | 5<br>.<br>5<br>7                     | 8<br>.<br>1<br>5                          | 5<br>.<br>5<br>7                     | 8<br>.<br>1<br>5                          | 2 | Notch, NOTCH1 precursor |

|             |                                                                                                |        |                                           |                                           |                                           |                                           |   |                         |
|-------------|------------------------------------------------------------------------------------------------|--------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|-------------------------|
|             |                                                                                                |        | 8<br>E<br>-<br>0<br>4                     | 4<br>E<br>-<br>0<br>3                     | 8<br>E<br>-<br>0<br>4                     | 4<br>E<br>-<br>0<br>3                     |   |                         |
| 1<br>4<br>6 | <a href="#">cellular response to iron ion</a>                                                  | 1<br>1 | 5<br>.<br>5<br>5<br>8<br>E<br>-<br>0<br>4 | 8<br>.<br>1<br>7<br>4<br>E<br>-<br>0<br>3 | 5<br>.<br>5<br>5<br>8<br>E<br>-<br>0<br>4 | 8<br>.<br>1<br>7<br>4<br>E<br>-<br>0<br>3 | 2 | Cyclin B1, Cyclin B     |
| 1<br>4<br>7 | <a href="#">epithelial to mesenchymal transition involved in endocardial cushion formation</a> | 1<br>1 | 5<br>.<br>5<br>5<br>8<br>E<br>-<br>0<br>4 | 8<br>.<br>1<br>7<br>4<br>E<br>-<br>0<br>3 | 5<br>.<br>5<br>5<br>8<br>E<br>-<br>0<br>4 | 8<br>.<br>1<br>7<br>4<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor |
| 1<br>4<br>8 | <a href="#">negative regulation of stem cell differentiation</a>                               | 1<br>1 | 5<br>.<br>5<br>5<br>8<br>E<br>-<br>0<br>4 | 8<br>.<br>1<br>7<br>4<br>E<br>-<br>0<br>3 | 5<br>.<br>5<br>5<br>8<br>E<br>-<br>0<br>4 | 8<br>.<br>1<br>7<br>4<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor |
| 1<br>4<br>9 | <a href="#">mesangial cell development</a>                                                     | 1<br>1 | 5<br>.<br>5<br>5<br>8<br>E<br>-<br>0<br>4 | 8<br>.<br>1<br>7<br>4<br>E<br>-<br>0<br>3 | 5<br>.<br>5<br>5<br>8<br>E<br>-<br>0<br>4 | 8<br>.<br>1<br>7<br>4<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor |
| 1<br>5<br>0 | <a href="#">glomerular mesangial cell differentiation</a>                                      | 1<br>1 | 5<br>.<br>5<br>5<br>8<br>E<br>-<br>0<br>4 | 8<br>.<br>1<br>7<br>4<br>E<br>-<br>0<br>3 | 5<br>.<br>5<br>5<br>8<br>E<br>-<br>0<br>4 | 8<br>.<br>1<br>7<br>4<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor |

|   |                                                                                         |   |   |   |   |   |   |                                                                                                                                                                                        |
|---|-----------------------------------------------------------------------------------------|---|---|---|---|---|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                                         |   | - | - | - | - |   |                                                                                                                                                                                        |
|   |                                                                                         |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                        |
|   |                                                                                         |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                        |
| 1 | <a href="#">positive regulation of endothelial cell differentiation</a>                 | 1 | 5 | 8 | 5 | 8 | 2 | Notch, NOTCH1 precursor                                                                                                                                                                |
| 5 |                                                                                         | 1 | . | . | . | . |   |                                                                                                                                                                                        |
| 1 |                                                                                         | 1 | 5 | 1 | 5 | 1 |   |                                                                                                                                                                                        |
|   |                                                                                         |   | 5 | 7 | 5 | 7 |   |                                                                                                                                                                                        |
|   |                                                                                         |   | 8 | 4 | 8 | 4 |   |                                                                                                                                                                                        |
|   |                                                                                         |   | E | E | E | E |   |                                                                                                                                                                                        |
|   |                                                                                         |   | - | - | - | - |   |                                                                                                                                                                                        |
|   |                                                                                         |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                        |
|   |                                                                                         |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                        |
| 1 | <a href="#">regulation of cyclin-dependent protein serine/threonine kinase activity</a> | 1 | 5 | 8 | 5 | 8 | 4 | Cyclin B1, CKS2, Cyclin B, 14-3-3                                                                                                                                                      |
| 5 |                                                                                         | 1 | . | . | . | . |   |                                                                                                                                                                                        |
| 2 |                                                                                         | 1 | 9 | 7 | 9 | 7 |   |                                                                                                                                                                                        |
|   |                                                                                         |   | 9 | 3 | 9 | 3 |   |                                                                                                                                                                                        |
|   |                                                                                         |   | 3 | 8 | 3 | 8 |   |                                                                                                                                                                                        |
|   |                                                                                         |   | E | E | E | E |   |                                                                                                                                                                                        |
|   |                                                                                         |   | - | - | - | - |   |                                                                                                                                                                                        |
|   |                                                                                         |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                        |
|   |                                                                                         |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                        |
| 1 | <a href="#">morphogenesis of an epithelial sheet</a>                                    | 5 | 6 | 8 | 6 | 8 | 3 | Ajuba, Notch, NOTCH1 precursor                                                                                                                                                         |
| 5 |                                                                                         | 1 | . | . | . | . |   |                                                                                                                                                                                        |
| 3 |                                                                                         | 1 | 0 | 7 | 0 | 7 |   |                                                                                                                                                                                        |
|   |                                                                                         |   | 1 | 3 | 1 | 3 |   |                                                                                                                                                                                        |
|   |                                                                                         |   | 9 | 8 | 9 | 8 |   |                                                                                                                                                                                        |
|   |                                                                                         |   | E | E | E | E |   |                                                                                                                                                                                        |
|   |                                                                                         |   | - | - | - | - |   |                                                                                                                                                                                        |
|   |                                                                                         |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                        |
|   |                                                                                         |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                        |
| 1 | <a href="#">regulation of epidermal cell differentiation</a>                            | 5 | 6 | 9 | 6 | 9 | 3 | Notch, NOTCH1 precursor, 14-3-3                                                                                                                                                        |
| 5 |                                                                                         | 2 | . | . | . | . |   |                                                                                                                                                                                        |
| 4 |                                                                                         | 2 | 3 | 0 | 3 | 0 |   |                                                                                                                                                                                        |
|   |                                                                                         |   | 7 | 6 | 7 | 6 |   |                                                                                                                                                                                        |
|   |                                                                                         |   | 3 | 8 | 3 | 8 |   |                                                                                                                                                                                        |
|   |                                                                                         |   | E | E | E | E |   |                                                                                                                                                                                        |
|   |                                                                                         |   | - | - | - | - |   |                                                                                                                                                                                        |
|   |                                                                                         |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                        |
|   |                                                                                         |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                        |
| 1 | <a href="#">regulation of phosphate metabolic process</a>                               | 2 | 6 | 9 | 6 | 9 | 1 | Ajuba, Tissue kallikreins, Cyclin B1, AL1A1, IRT-1, TIRAP (Mal), ERK1 (MAPK3), CD43, CKS2, PLEKHG2, Spinophilin, Cyclin B, Rab-3, Kallikrein 3 (PSA), Adult hemoglobin, ERK1/2, 14-3-3 |
| 5 |                                                                                         | 2 | . | . | . | . | 7 |                                                                                                                                                                                        |
| 5 |                                                                                         | 5 | 5 | 0 | 5 | 0 |   |                                                                                                                                                                                        |
|   |                                                                                         |   | 6 | 6 | 6 | 6 |   |                                                                                                                                                                                        |
|   |                                                                                         |   | 5 | 8 | 5 | 8 |   |                                                                                                                                                                                        |
|   |                                                                                         |   | E | E | E | E |   |                                                                                                                                                                                        |
|   |                                                                                         |   | - | - | - | - |   |                                                                                                                                                                                        |
|   |                                                                                         |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                        |

|             |                                                                                 |        |                                           |                                           |                                           |                                           |   |                         |
|-------------|---------------------------------------------------------------------------------|--------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|-------------------------|
|             |                                                                                 |        | 4                                         | 3                                         | 4                                         | 3                                         |   |                         |
| 1<br>5<br>6 | <a href="#">atrioventricular valve morphogenesis</a>                            | 1<br>2 | 6<br>.<br>6<br>5<br>5<br>E<br>-<br>0<br>4 | 9<br>.<br>0<br>6<br>8<br>E<br>-<br>0<br>3 | 6<br>.<br>6<br>5<br>5<br>E<br>-<br>0<br>4 | 9<br>.<br>0<br>6<br>8<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor |
| 1<br>5<br>7 | <a href="#">DNA damage induced protein phosphorylation</a>                      | 1<br>2 | 6<br>.<br>6<br>5<br>5<br>E<br>-<br>0<br>4 | 9<br>.<br>0<br>6<br>8<br>E<br>-<br>0<br>3 | 6<br>.<br>6<br>5<br>5<br>E<br>-<br>0<br>4 | 9<br>.<br>0<br>6<br>8<br>E<br>-<br>0<br>3 | 2 | ERK1 (MAPK3), ERK1/2    |
| 1<br>5<br>8 | <a href="#">regulation of dopamine uptake involved in synaptic transmission</a> | 1<br>2 | 6<br>.<br>6<br>5<br>5<br>E<br>-<br>0<br>4 | 9<br>.<br>0<br>6<br>8<br>E<br>-<br>0<br>3 | 6<br>.<br>6<br>5<br>5<br>E<br>-<br>0<br>4 | 9<br>.<br>0<br>6<br>8<br>E<br>-<br>0<br>3 | 2 | Rab-3B, Rab-3           |
| 1<br>5<br>9 | <a href="#">cellular response to morphine</a>                                   | 1<br>2 | 6<br>.<br>6<br>5<br>5<br>E<br>-<br>0<br>4 | 9<br>.<br>0<br>6<br>8<br>E<br>-<br>0<br>3 | 6<br>.<br>6<br>5<br>5<br>E<br>-<br>0<br>4 | 9<br>.<br>0<br>6<br>8<br>E<br>-<br>0<br>3 | 2 | IRT-1, Spinophilin      |
| 1<br>6<br>0 | <a href="#">regulation of somitogenesis</a>                                     | 1<br>2 | 6<br>.<br>6<br>5<br>5<br>E<br>-<br>0<br>4 | 9<br>.<br>0<br>6<br>8<br>E<br>-<br>0<br>3 | 6<br>.<br>6<br>5<br>5<br>E<br>-<br>0<br>4 | 9<br>.<br>0<br>6<br>8<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor |

|             |                                                                                      |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                         |
|-------------|--------------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1<br>6<br>1 | <a href="#">mesangial cell differentiation</a>                                       | 1<br>2           | 6<br>.<br>6<br>5<br>5<br>E<br>-<br>0<br>4 | 9<br>.<br>0<br>6<br>8<br>E<br>-<br>0<br>3 | 6<br>.<br>6<br>5<br>5<br>E<br>-<br>0<br>4 | 9<br>.<br>0<br>6<br>8<br>E<br>-<br>0<br>3 | 2      | Notch, NOTCH1 precursor                                                                                                                                                                 |
| 1<br>6<br>2 | <a href="#">renal interstitial cell development</a>                                  | 1<br>2           | 6<br>.<br>6<br>5<br>5<br>E<br>-<br>0<br>4 | 9<br>.<br>0<br>6<br>8<br>E<br>-<br>0<br>3 | 6<br>.<br>6<br>5<br>5<br>E<br>-<br>0<br>4 | 9<br>.<br>0<br>6<br>8<br>E<br>-<br>0<br>3 | 2      | Notch, NOTCH1 precursor                                                                                                                                                                 |
| 1<br>6<br>3 | <a href="#">regulation of catecholamine uptake involved in synaptic transmission</a> | 1<br>2           | 6<br>.<br>6<br>5<br>5<br>E<br>-<br>0<br>4 | 9<br>.<br>0<br>6<br>8<br>E<br>-<br>0<br>3 | 6<br>.<br>6<br>5<br>5<br>E<br>-<br>0<br>4 | 9<br>.<br>0<br>6<br>8<br>E<br>-<br>0<br>3 | 2      | Rab-3B, Rab-3                                                                                                                                                                           |
| 1<br>6<br>4 | <a href="#">immune system process</a>                                                | 2<br>6<br>9<br>7 | 6<br>.<br>7<br>0<br>0<br>E<br>-<br>0<br>4 | 9<br>.<br>0<br>7<br>1<br>E<br>-<br>0<br>3 | 6<br>.<br>7<br>0<br>0<br>E<br>-<br>0<br>4 | 9<br>.<br>0<br>7<br>1<br>E<br>-<br>0<br>3 | 1<br>9 | IGHG4, LST1, IRT-1, TIRAP (Mal), Notch, Rab-3B, IGHG1, ERK1 (MAPK3), CALCOCO2, NOTCH1 precursor, CD43, 14-3-3 zeta/delta, G18, Cyclin B, Rab-3, Adult hemoglobin, RIG-G, ERK1/2, 14-3-3 |
| 1<br>6<br>5 | <a href="#">epidermis morphogenesis</a>                                              | 5<br>3           | 6<br>.<br>7<br>4<br>0<br>E<br>-<br>0<br>4 | 9<br>.<br>0<br>7<br>1<br>E<br>-<br>0<br>3 | 6<br>.<br>7<br>4<br>0<br>E<br>-<br>0<br>4 | 9<br>.<br>0<br>7<br>1<br>E<br>-<br>0<br>3 | 3      | Tissue kallikreins, Notch, NOTCH1 precursor                                                                                                                                             |
| 1<br>6      | <a href="#">regulation of protein phosphorylation</a>                                | 1<br>2           | 6<br>.<br>.<br>.<br>.                     | 9<br>.<br>.<br>.<br>.                     | 6<br>.<br>.<br>.<br>.                     | 9<br>.<br>.<br>.<br>.                     | 1<br>2 | Ajuba, Cyclin B1, IRT-1, TIRAP (Mal), ERK1 (MAPK3), CD43, CKS2, Spinophilin, Cyclin B, Adult hemoglobin,                                                                                |

|             |                                                                         |                  |                                      |                                      |                                      |                                      |                                                                                                                                                                                        |
|-------------|-------------------------------------------------------------------------|------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6           |                                                                         | 6<br>7           | 7<br>8<br>0<br>E<br>-<br>0<br>4      | 0<br>7<br>1<br>E<br>-<br>0<br>3      | 7<br>8<br>0<br>E<br>-<br>0<br>4      | 0<br>7<br>1<br>E<br>-<br>0<br>3      | ERK1/2, 14-3-3                                                                                                                                                                         |
| 1<br>6<br>7 | <a href="#">positive regulation of transferase activity</a>             | 7<br>5<br>4      | 6<br>8<br>8<br>9<br>E<br>-<br>0<br>4 | 9<br>1<br>6<br>2<br>E<br>-<br>0<br>3 | 6<br>8<br>8<br>9<br>E<br>-<br>0<br>4 | 9<br>1<br>6<br>2<br>E<br>-<br>0<br>3 | Ajuba, Tissue kallikreins, Cyclin B1, TIRAP (Mal), ERK1 (MAPK3), Cyclin B, Kallikrein 3 (PSA), ERK1/2, 14-3-3                                                                          |
| 1<br>6<br>8 | <a href="#">regulation of phosphorus metabolic process</a>              | 2<br>2<br>7<br>5 | 7<br>1<br>8<br>9<br>E<br>-<br>0<br>4 | 9<br>5<br>0<br>4<br>E<br>-<br>0<br>3 | 7<br>1<br>8<br>9<br>E<br>-<br>0<br>4 | 9<br>5<br>0<br>4<br>E<br>-<br>0<br>3 | Ajuba, Tissue kallikreins, Cyclin B1, AL1A1, IRT-1, TIRAP (Mal), ERK1 (MAPK3), CD43, CKS2, PLEKHG2, Spinophilin, Cyclin B, Rab-3, Kallikrein 3 (PSA), Adult hemoglobin, ERK1/2, 14-3-3 |
| 1<br>6<br>9 | <a href="#">endocytosis</a>                                             | 6<br>1<br>0      | 7<br>6<br>1<br>2<br>E<br>-<br>0<br>4 | 9<br>8<br>4<br>9<br>E<br>-<br>0<br>3 | 7<br>6<br>1<br>2<br>E<br>-<br>0<br>4 | 9<br>8<br>4<br>9<br>E<br>-<br>0<br>3 | IGHG4, IRT-1, SNX1, IGHG1, ERK1 (MAPK3), Annexin XI, Rab-3, ERK1/2                                                                                                                     |
| 1<br>7<br>0 | <a href="#">neuronal stem cell maintenance</a>                          | 1<br>3           | 7<br>8<br>4<br>9<br>E<br>-<br>0<br>4 | 9<br>8<br>4<br>9<br>E<br>-<br>0<br>3 | 7<br>8<br>4<br>9<br>E<br>-<br>0<br>4 | 9<br>8<br>4<br>9<br>E<br>-<br>0<br>3 | Notch, NOTCH1 precursor                                                                                                                                                                |
| 1<br>7<br>1 | <a href="#">negative regulation of calcium ion-dependent exocytosis</a> | 1<br>3           | 7<br>8<br>4                          | 9<br>8<br>4                          | 7<br>8<br>4                          | 9<br>8<br>4                          | Notch, NOTCH1 precursor                                                                                                                                                                |

|             |                                                                                                            |        |                                           |                                           |                                           |                                           |   |                         |
|-------------|------------------------------------------------------------------------------------------------------------|--------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|-------------------------|
|             |                                                                                                            |        | 9<br>E<br>-<br>0<br>4                     | 9<br>E<br>-<br>0<br>3                     | 9<br>E<br>-<br>0<br>4                     | 9<br>E<br>-<br>0<br>3                     |   |                         |
| 1<br>7<br>2 | <a href="#">renal interstitial cell differentiation</a>                                                    | 1<br>3 | 7<br>.<br>8<br>4<br>9<br>E<br>-<br>0<br>4 | 9<br>.<br>8<br>4<br>9<br>E<br>-<br>0<br>3 | 7<br>.<br>8<br>4<br>9<br>E<br>-<br>0<br>4 | 9<br>.<br>8<br>4<br>9<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor |
| 1<br>7<br>3 | <a href="#">regulation of attachment of spindle microtubules to kinetochore</a>                            | 1<br>3 | 7<br>.<br>8<br>4<br>9<br>E<br>-<br>0<br>4 | 9<br>.<br>8<br>4<br>9<br>E<br>-<br>0<br>3 | 7<br>.<br>8<br>4<br>9<br>E<br>-<br>0<br>4 | 9<br>.<br>8<br>4<br>9<br>E<br>-<br>0<br>3 | 2 | Cyclin B1, Cyclin B     |
| 1<br>7<br>4 | <a href="#">positive regulation of transcription from RNA polymerase II promoter in response to stress</a> | 1<br>3 | 7<br>.<br>8<br>4<br>9<br>E<br>-<br>0<br>4 | 9<br>.<br>8<br>4<br>9<br>E<br>-<br>0<br>3 | 7<br>.<br>8<br>4<br>9<br>E<br>-<br>0<br>4 | 9<br>.<br>8<br>4<br>9<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor |
| 1<br>7<br>5 | <a href="#">regulation of epithelial cell proliferation involved in prostate gland development</a>         | 1<br>3 | 7<br>.<br>8<br>4<br>9<br>E<br>-<br>0<br>4 | 9<br>.<br>8<br>4<br>9<br>E<br>-<br>0<br>3 | 7<br>.<br>8<br>4<br>9<br>E<br>-<br>0<br>4 | 9<br>.<br>8<br>4<br>9<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor |
| 1<br>7<br>6 | <a href="#">ventricular trabecula myocardium morphogenesis</a>                                             | 1<br>3 | 7<br>.<br>8<br>4<br>9<br>E                | 9<br>.<br>8<br>4<br>9<br>E                | 7<br>.<br>8<br>4<br>9<br>E                | 9<br>.<br>8<br>4<br>9<br>E                | 2 | Notch, NOTCH1 precursor |



|   |                                     |   |   |   |   |   |   |                                                         |
|---|-------------------------------------|---|---|---|---|---|---|---------------------------------------------------------|
|   |                                     |   | - | - | - | - |   |                                                         |
|   |                                     |   | 0 | 0 | 0 | 0 |   |                                                         |
|   |                                     |   | 4 | 3 | 4 | 3 |   |                                                         |
| 1 | <a href="#">cellular response</a>   |   | 7 | 9 | 7 | 9 |   |                                                         |
| 7 | <a href="#">to isoquinoline</a>     |   | . | . | . | . |   |                                                         |
| 7 | <a href="#">alkaloid</a>            | 1 | 8 | 8 | 8 | 8 | 2 | IRT-1, Spinophilin                                      |
|   |                                     | 3 | 4 | 3 | 4 | 3 |   |                                                         |
| 1 |                                     |   | 7 | 9 | 7 | 9 |   |                                                         |
| 7 |                                     |   | . | . | . | . |   |                                                         |
| 8 | <a href="#">nephron</a>             |   | 9 | 8 | 9 | 8 |   |                                                         |
|   | <a href="#">epithelium</a>          |   | 2 | 8 | 2 | 8 |   |                                                         |
|   | <a href="#">development</a>         | 5 | 0 | 3 | 0 | 3 | 3 | LHX1, Notch, NOTCH1 precursor                           |
|   |                                     | 6 | 4 | 3 | 4 | 3 |   |                                                         |
| 1 |                                     |   | 8 | 9 | 8 | 9 |   |                                                         |
| 7 | <a href="#">positive regulation</a> |   | . | . | . | . |   |                                                         |
| 9 | <a href="#">of cellular</a>         |   | 0 | 9 | 0 | 9 |   |                                                         |
|   | <a href="#">component</a>           |   | 4 | 8 | 4 | 8 |   |                                                         |
|   | <a href="#">organization</a>        | 9 | 9 | 7 | 9 | 7 | 1 | Ajuba, Cyclin B1, Rab-11A, Notch, ERK1 (MAPK3),         |
|   |                                     | 3 | E | E | E | E | 0 | NOTCH1 precursor, 14-3-3 zeta/delta, Cyclin B, ERK1/2,  |
|   |                                     | 6 | - | - | - | - |   | 14-3-3                                                  |
| 1 |                                     |   | 8 | 1 | 8 | 1 |   |                                                         |
| 8 | <a href="#">regulation of</a>       |   | . | . | . | . |   |                                                         |
| 0 | <a href="#">histone</a>             |   | 1 | 0 | 1 | 0 |   |                                                         |
|   | <a href="#">modification</a>        | 1 | 1 | 0 | 1 | 0 | 4 | Cyclin B1, ERK1 (MAPK3), Cyclin B, ERK1/2               |
|   |                                     | 2 | 0 | 1 | 0 | 1 |   |                                                         |
|   |                                     | 9 | 4 | 2 | 4 | 2 |   |                                                         |
| 1 |                                     |   | 8 | 1 | 8 | 1 |   |                                                         |
| 8 | <a href="#">positive regulation</a> |   | . | . | . | . |   |                                                         |
| 1 | <a href="#">of macromolecule</a>    |   | 2 | 0 | 2 | 0 |   |                                                         |
|   | <a href="#">metabolic process</a>   | 2 | 6 | 1 | 6 | 1 |   |                                                         |
|   |                                     | 7 | 3 | 4 | 3 | 4 | 1 | Ajuba, Cyclin B1, LHX1, IRT-1, Gbp1, SNX1, TEF-5, TIRAP |
|   |                                     | 4 | E | E | E | E | 9 | (Mal), PT015, Notch, ERK1 (MAPK3), SRB7, NOTCH1         |
|   |                                     | 3 | - | - | - | - |   | precursor, CD43, OBFC1, Cyclin B, ERK1/2, DEAF, 14-3-3  |
|   |                                     |   | 0 | 0 | 0 | 0 |   |                                                         |

|             |                                                                             |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                         |
|-------------|-----------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                             |                  | 4                                         | 2                                         | 4                                         | 2                                         |        |                                                                                                                                         |
| 1<br>8<br>2 | <a href="#">positive regulation of neural precursor cell proliferation</a>  | 5<br>8           | 8<br>.<br>7<br>7<br>6<br>E<br>-<br>0<br>8 | 1<br>.<br>0<br>3<br>5<br>E<br>-<br>0<br>4 | 8<br>.<br>7<br>7<br>6<br>E<br>-<br>0<br>2 | 1<br>.<br>0<br>3<br>5<br>E<br>-<br>0<br>4 | 3      | LHX1, Notch, NOTCH1 precursor                                                                                                           |
| 1<br>8<br>3 | <a href="#">vesicle-mediated transport</a>                                  | 1<br>3<br>0<br>5 | 8<br>.<br>7<br>9<br>1<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 8<br>.<br>7<br>9<br>1<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 1<br>2 | IGHG4, IRT-1, Rab-11A, SNX1, TIP47, IGHG1, ERK1 (MAPK3), 14-3-3 zeta/delta, Annexin XI, Rab-3, ERK1/2, 14-3-3                           |
| 1<br>8<br>4 | <a href="#">protein activation cascade</a>                                  | 1<br>3<br>2      | 8<br>.<br>8<br>3<br>7<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 8<br>.<br>8<br>3<br>7<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 4      | Tissue kallikreins, IGHG4, IGHG1, Kallikrein 3 (PSA)                                                                                    |
| 1<br>8<br>5 | <a href="#">regulation of transcription from RNA polymerase II promoter</a> | 1<br>8<br>9<br>7 | 8<br>.<br>9<br>2<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 8<br>.<br>9<br>2<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 1<br>5 | Ajuba, HBG, HBGA, TEF-5, PTD015, Notch, ERK1 (MAPK3), DR1, SRB7, NOTCH1 precursor, Adult hemoglobin, ZHX3, ERK1/2, DEAF, RBBP7 (RbAp46) |
| 1<br>8<br>6 | <a href="#">heart valve formation</a>                                       | 1<br>4           | 9<br>.<br>1<br>3<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 9<br>.<br>1<br>3<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 2      | Notch, NOTCH1 precursor                                                                                                                 |

|     |                                                         |    |                                           |                                           |                                           |                                           |   |                         |
|-----|---------------------------------------------------------|----|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|-------------------------|
| 187 | <a href="#">endocardial cushion formation</a>           | 14 | 9<br>.<br>1<br>3<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 9<br>.<br>1<br>3<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor |
| 188 | <a href="#">vascular smooth muscle cell development</a> | 14 | 9<br>.<br>1<br>3<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 9<br>.<br>1<br>3<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor |
| 189 | <a href="#">regulation of spindle organization</a>      | 14 | 9<br>.<br>1<br>3<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 9<br>.<br>1<br>3<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 2 | Cyclin B1, Cyclin B     |
| 190 | <a href="#">endocardium development</a>                 | 14 | 9<br>.<br>1<br>3<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 9<br>.<br>1<br>3<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor |
| 191 | <a href="#">cardiac ventricle formation</a>             | 14 | 9<br>.<br>1<br>3<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 9<br>.<br>1<br>3<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor |
| 199 | <a href="#">glomerular mesangium development</a>        | 14 | 9<br>.<br>1<br>3<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 9<br>.<br>1<br>3<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor |

|             |                                                                                      |        |                                      |                                      |                                      |                                      |   |                                        |
|-------------|--------------------------------------------------------------------------------------|--------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---|----------------------------------------|
| 2           |                                                                                      |        | 1<br>3<br>8<br>E<br>-<br>0<br>4      | 0<br>3<br>5<br>E<br>-<br>0<br>2      | 1<br>3<br>8<br>E<br>-<br>0<br>4      | 0<br>3<br>5<br>E<br>-<br>0<br>2      |   |                                        |
| 1<br>9<br>3 | <a href="#">brain renin-angiotensin system</a>                                       | 1<br>4 | 9<br>1<br>3<br>8<br>E<br>-<br>0<br>4 | 1<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 9<br>1<br>3<br>8<br>E<br>-<br>0<br>4 | 1<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 2 | Tissue kallikreins, Kallikrein 3 (PSA) |
| 1<br>9<br>4 | <a href="#">negative regulation of hematopoietic progenitor cell differentiation</a> | 1<br>4 | 9<br>1<br>3<br>8<br>E<br>-<br>0<br>4 | 1<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 9<br>1<br>3<br>8<br>E<br>-<br>0<br>4 | 1<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor                |
| 1<br>9<br>5 | <a href="#">atrioventricular valve development</a>                                   | 1<br>4 | 9<br>1<br>3<br>8<br>E<br>-<br>0<br>4 | 1<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 9<br>1<br>3<br>8<br>E<br>-<br>0<br>4 | 1<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor                |
| 1<br>9<br>6 | <a href="#">regulation of endothelial cell chemotaxis</a>                            | 1<br>4 | 9<br>1<br>3<br>8<br>E<br>-<br>0<br>4 | 1<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 9<br>1<br>3<br>8<br>E<br>-<br>0<br>4 | 1<br>0<br>3<br>5<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor                |
| 1<br>9<br>7 | <a href="#">negative regulation of behavior</a>                                      | 5<br>9 | 9<br>2<br>2                          | 1<br>0<br>4                          | 9<br>2<br>2                          | 1<br>0<br>4                          | 3 | IRT-1, Notch, NOTCH1 precursor         |

|             |                                                                                                             |                  |                                           |                                           |                                           |                                           |        |                                                                                                                         |
|-------------|-------------------------------------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------|
|             |                                                                                                             |                  | 5<br>E<br>-<br>0<br>4                     | 0<br>E<br>-<br>0<br>2                     | 5<br>E<br>-<br>0<br>4                     | 0<br>E<br>-<br>0<br>2                     |        |                                                                                                                         |
| 1<br>9<br>8 | <a href="#">immune response-regulating cell surface receptor signaling pathway involved in phagocytosis</a> | 1<br>3<br>4      | 9<br>.<br>3<br>4<br>6<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>4<br>3<br>E<br>-<br>0<br>2 | 9<br>.<br>3<br>4<br>6<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>4<br>3<br>E<br>-<br>0<br>2 | 4      | IGHG4, IGHG1, ERK1 (MAPK3), ERK1/2                                                                                      |
| 1<br>9<br>9 | <a href="#">Fc-gamma receptor signaling pathway involved in phagocytosis</a>                                | 1<br>3<br>4      | 9<br>.<br>3<br>4<br>6<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>4<br>3<br>E<br>-<br>0<br>2 | 9<br>.<br>3<br>4<br>6<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>4<br>3<br>E<br>-<br>0<br>2 | 4      | IGHG4, IGHG1, ERK1 (MAPK3), ERK1/2                                                                                      |
| 2<br>0<br>0 | <a href="#">axonogenesis</a>                                                                                | 6<br>3<br>2      | 9<br>.<br>5<br>7<br>2<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>6<br>2<br>E<br>-<br>0<br>2 | 9<br>.<br>5<br>7<br>2<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>6<br>2<br>E<br>-<br>0<br>2 | 8      | LHX1, Olfactory receptor, Notch, ERK1 (MAPK3), NOTCH1 precursor, Rab-3, ERK1/2, 14-3-3                                  |
| 2<br>0<br>1 | <a href="#">Fc-gamma receptor signaling pathway</a>                                                         | 1<br>3<br>5      | 9<br>.<br>6<br>0<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>6<br>2<br>E<br>-<br>0<br>2 | 9<br>.<br>6<br>0<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>6<br>2<br>E<br>-<br>0<br>2 | 4      | IGHG4, IGHG1, ERK1 (MAPK3), ERK1/2                                                                                      |
| 2<br>0<br>2 | <a href="#">positive regulation of macromolecule biosynthetic process</a>                                   | 1<br>7<br>0<br>8 | 9<br>.<br>6<br>5<br>9<br>E                | 1<br>.<br>0<br>6<br>2<br>E                | 9<br>.<br>6<br>5<br>9<br>E                | 1<br>.<br>0<br>6<br>2<br>E                | 1<br>4 | LHX1, Gbbp1, TEF-5, TIRAP (Mal), PTD015, Notch, ERK1 (MAPK3), SRB7, NOTCH1 precursor, CD43, OBFC1, ERK1/2, DEAF, 14-3-3 |

|   |                                                                                                           |   |   |   |   |   |   |                                                                                                                                                                                              |
|---|-----------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                                                           |   | - | - | - | - |   |                                                                                                                                                                                              |
|   |                                                                                                           |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                              |
|   |                                                                                                           |   | 4 | 2 | 4 | 2 |   |                                                                                                                                                                                              |
| 2 | <a href="#">Fc receptor mediated stimulatory signaling pathway</a>                                        | 1 | 9 | 1 | 9 | 1 |   |                                                                                                                                                                                              |
| 0 |                                                                                                           |   | . | . | . | . |   |                                                                                                                                                                                              |
| 3 |                                                                                                           |   | 8 | 0 | 8 | 0 |   |                                                                                                                                                                                              |
|   |                                                                                                           |   | 7 | 8 | 7 | 8 |   |                                                                                                                                                                                              |
|   |                                                                                                           |   | 5 | 0 | 5 | 0 |   |                                                                                                                                                                                              |
|   |                                                                                                           |   | E | E | E | E |   |                                                                                                                                                                                              |
|   |                                                                                                           |   | - | - | - | - |   |                                                                                                                                                                                              |
|   |                                                                                                           | 3 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                              |
|   |                                                                                                           | 6 | 4 | 2 | 4 | 2 | 4 | IGHG4, IGHG1, ERK1 (MAPK3), ERK1/2                                                                                                                                                           |
| 2 |                                                                                                           |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                              |
| 0 | <a href="#">regulation of kinase activity</a>                                                             | 9 | . | . | . | . |   |                                                                                                                                                                                              |
| 4 |                                                                                                           |   | 0 | 1 | 0 | 1 |   |                                                                                                                                                                                              |
|   |                                                                                                           |   | 2 | 0 | 2 | 0 |   |                                                                                                                                                                                              |
|   |                                                                                                           |   | 4 | 8 | 4 | 8 |   |                                                                                                                                                                                              |
|   |                                                                                                           |   | E | E | E | E |   |                                                                                                                                                                                              |
|   |                                                                                                           |   | - | - | - | - |   |                                                                                                                                                                                              |
|   |                                                                                                           | 6 | 0 | 0 | 0 | 0 | 1 | Ajuba, Tissue kallikreins, Cyclin B1, TIRAP (Mal), ERK1 (MAPK3), CKS2, Cyclin B, Kallikrein 3 (PSA), ERK1/2, 14-3-3                                                                          |
|   |                                                                                                           | 6 | 3 | 2 | 3 | 2 | 0 |                                                                                                                                                                                              |
| 2 |                                                                                                           |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                              |
| 0 | <a href="#">regulation of catalytic activity</a>                                                          | 2 | . | . | . | . |   |                                                                                                                                                                                              |
| 5 |                                                                                                           |   | 0 | 1 | 0 | 1 |   |                                                                                                                                                                                              |
|   |                                                                                                           |   | 2 | 0 | 2 | 0 |   |                                                                                                                                                                                              |
|   |                                                                                                           |   | 4 | 8 | 4 | 8 |   |                                                                                                                                                                                              |
|   |                                                                                                           |   | E | E | E | E |   |                                                                                                                                                                                              |
|   |                                                                                                           |   | - | - | - | - |   |                                                                                                                                                                                              |
|   |                                                                                                           | 6 | 0 | 0 | 0 | 0 | 1 | Ajuba, Tissue kallikreins, Cyclin B1, AL1A1, TIRAP (Mal), Notch, PAP41, ERK1 (MAPK3), NOTCH1 precursor, CKS2, PLEKHG2, G18, Spinophilin, Cyclin B, Rab-3, Kallikrein 3 (PSA), ERK1/2, 14-3-3 |
|   |                                                                                                           | 7 | 3 | 2 | 3 | 2 | 8 |                                                                                                                                                                                              |
| 2 |                                                                                                           |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                              |
| 0 | <a href="#">positive regulation of RNA metabolic process</a>                                              | 5 | . | . | . | . |   |                                                                                                                                                                                              |
| 6 |                                                                                                           |   | 0 | 1 | 0 | 1 |   |                                                                                                                                                                                              |
|   |                                                                                                           |   | 3 | 0 | 3 | 0 |   |                                                                                                                                                                                              |
|   |                                                                                                           |   | 7 | 8 | 7 | 8 |   |                                                                                                                                                                                              |
|   |                                                                                                           |   | E | E | E | E |   |                                                                                                                                                                                              |
|   |                                                                                                           |   | - | - | - | - |   |                                                                                                                                                                                              |
|   |                                                                                                           | 2 | 0 | 0 | 0 | 0 | 1 | Cyclin B1, LHX1, Gbp1, TEF-5, PTD015, Notch, ERK1 (MAPK3), SRB7, NOTCH1 precursor, Cyclin B, ERK1/2, DEAF, 14-3-3                                                                            |
|   |                                                                                                           | 2 | 3 | 2 | 3 | 2 | 3 |                                                                                                                                                                                              |
| 2 |                                                                                                           |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                              |
| 0 | <a href="#">regulation of transcription from RNA polymerase II promoter involved in heart development</a> | 1 | . | . | . | . |   |                                                                                                                                                                                              |
| 7 |                                                                                                           |   | 0 | 1 | 0 | 1 |   |                                                                                                                                                                                              |
|   |                                                                                                           |   | 5 | 0 | 5 | 0 |   |                                                                                                                                                                                              |
|   |                                                                                                           |   | 2 | 8 | 2 | 8 |   |                                                                                                                                                                                              |
|   |                                                                                                           |   | E | E | E | E |   |                                                                                                                                                                                              |
|   |                                                                                                           |   | - | - | - | - |   |                                                                                                                                                                                              |
|   |                                                                                                           | 5 | 0 | 0 | 0 | 0 | 2 | Notch, NOTCH1 precursor                                                                                                                                                                      |

|     |                                                                        |     |        |        |        |        |   |                                                                                                         |
|-----|------------------------------------------------------------------------|-----|--------|--------|--------|--------|---|---------------------------------------------------------------------------------------------------------|
|     |                                                                        |     | 3      | 2      | 3      | 2      |   |                                                                                                         |
| 208 | <a href="#">negative regulation of oligodendrocyte differentiation</a> | 15  | 1052E- | 1052E- | 1052E- | 1052E- | 2 | Notch, NOTCH1 precursor                                                                                 |
| 209 | <a href="#">cardiac chamber formation</a>                              | 15  | 1052E- | 1052E- | 1052E- | 1052E- | 2 | Notch, NOTCH1 precursor                                                                                 |
| 210 | <a href="#">cardiac conduction system development</a>                  | 15  | 1052E- | 1052E- | 1052E- | 1052E- | 2 | Notch, NOTCH1 precursor                                                                                 |
| 211 | <a href="#">foregut morphogenesis</a>                                  | 15  | 1052E- | 1052E- | 1052E- | 1052E- | 2 | Notch, NOTCH1 precursor                                                                                 |
| 212 | <a href="#">regulation of growth</a>                                   | 802 | 1065E- | 1065E- | 1065E- | 1065E- | 9 | Cyclin B1, Rab-11A, TIRAP (Mal), Notch, NOTCH1 precursor, Spinophilin, Cyclin B, 14-3-3, RBBP7 (RbAp46) |

|     |                                                                                         |      |                                           |                                           |                                           |                                           |    |                                                                                                                           |
|-----|-----------------------------------------------------------------------------------------|------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|----|---------------------------------------------------------------------------------------------------------------------------|
| 213 | <a href="#">developmental growth</a>                                                    | 360  | 1<br>.<br>0<br>7<br>8<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>2<br>3<br>E<br>-<br>0<br>2 | 1<br>.<br>0<br>7<br>8<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>2<br>3<br>E<br>-<br>0<br>2 | 6  | Tissue kallikreins, Cyclin B1, LHX1, Notch, NOTCH1 precursor, Cyclin B                                                    |
| 214 | <a href="#">positive regulation of nucleobase-containing compound metabolic process</a> | 1728 | 1<br>.<br>0<br>8<br>2<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>2<br>3<br>E<br>-<br>0<br>2 | 1<br>.<br>0<br>8<br>2<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>2<br>3<br>E<br>-<br>0<br>2 | 14 | Cyclin B1, LHX1, Gbbp1, TEF-5, PTD015, Notch, ERK1 (MAPK3), SRB7, NOTCH1 precursor, OBFC1, Cyclin B, ERK1/2, DEAF, 14-3-3 |
| 215 | <a href="#">regulation of chromatin organization</a>                                    | 140  | 1<br>.<br>1<br>0<br>0<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>3<br>1<br>E<br>-<br>0<br>2 | 1<br>.<br>1<br>0<br>1<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>1<br>0<br>E<br>-<br>0<br>2 | 4  | Cyclin B1, ERK1 (MAPK3), Cyclin B, ERK1/2                                                                                 |
| 216 | <a href="#">regulation of epithelial cell differentiation</a>                           | 140  | 1<br>.<br>1<br>0<br>E<br>-<br>0<br>3      | 1<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>2 | 1<br>.<br>1<br>1<br>0<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>1<br>0<br>E<br>-<br>0<br>2 | 4  | LHX1, Notch, NOTCH1 precursor, 14-3-3                                                                                     |
| 217 | <a href="#">negative regulation of transcription from RNA polymerase II promoter</a>    | 807  | 1<br>.<br>1<br>3<br>E<br>-<br>0<br>3      | 1<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>2 | 1<br>.<br>1<br>1<br>3<br>E<br>-<br>0<br>2 | 1<br>.<br>1<br>1<br>3<br>E<br>-<br>0<br>2 | 9  | Ajuba, HBG, HBGA, Notch, DR1, NOTCH1 precursor, Adult hemoglobin, ZHX3, RBBP7 (RbAp46)                                    |
| 218 | <a href="#">myeloid leukocyte activation</a>                                            | 14   | 1<br>.                                    | 1<br>.                                    | 1<br>.                                    | 1<br>.                                    | 4  | IRT-1, CD43, 14-3-3 zeta/delta, 14-3-3                                                                                    |



|             |                                                                                    |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                               |
|-------------|------------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8           |                                                                                    | 1                | 1<br>2<br>9<br>E<br>-<br>0<br>3           | 1<br>5<br>0<br>E<br>-<br>0<br>2           | 1<br>2<br>9<br>E<br>-<br>0<br>3           | 1<br>5<br>0<br>E<br>-<br>0<br>2           |        |                                                                                                                                                                                                                                               |
| 2<br>1<br>9 | <a href="#">negative regulation of cellular process</a>                            | 4<br>2<br>5<br>4 | 1<br>.<br>1<br>3<br>8<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>5<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>1<br>3<br>8<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>5<br>4<br>E<br>-<br>0<br>2 | 2<br>5 | Ajuba, Tissue kallikreins, LST1, Cyclin B1, TIPIN, LHX1, HBG, IRT-1, HBGA, PTD015, Notch, DR1, SRB7, NOTCH1 precursor, CD43, 14-3-3 zeta/delta, NFKBIL1, Spinophilin, Cyclin B, Adult hemoglobin, RIG-G, ZHX3, ERK1/2, 14-3-3, RBBP7 (RbAp46) |
| 2<br>2<br>0 | <a href="#">negative regulation of cellular macromolecule biosynthetic process</a> | 1<br>3<br>4<br>9 | 1<br>.<br>1<br>7<br>2<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>8<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>1<br>7<br>2<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>8<br>4<br>E<br>-<br>0<br>2 | 1<br>2 | Ajuba, TIPIN, LHX1, HBG, HBGA, Notch, DR1, NOTCH1 precursor, Adult hemoglobin, ZHX3, 14-3-3, RBBP7 (RbAp46)                                                                                                                                   |
| 2<br>2<br>1 | <a href="#">histamine secretion</a>                                                | 1<br>6           | 1<br>.<br>2<br>0<br>0<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>9<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>0<br>0<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>0<br>0<br>E<br>-<br>0<br>3 | 2      | 14-3-3 zeta/delta, 14-3-3                                                                                                                                                                                                                     |
| 2<br>2<br>2 | <a href="#">positive regulation of keratinocyte differentiation</a>                | 1<br>6           | 1<br>.<br>2<br>0<br>0<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>9<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>0<br>0<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>0<br>0<br>E<br>-<br>0<br>3 | 2      | Notch, NOTCH1 precursor                                                                                                                                                                                                                       |
| 2<br>2<br>3 | <a href="#">cardioblast differentiation</a>                                        | 1<br>6           | 1<br>.<br>2<br>0<br>9                     | 1<br>.<br>1<br>2<br>9                     | 1<br>.<br>1<br>2<br>9                     | 1<br>.<br>1<br>2<br>9                     | 2      | Notch, NOTCH1 precursor                                                                                                                                                                                                                       |

|             |                                                                   |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                               |
|-------------|-------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                   |                  | 0<br>E<br>-<br>0<br>3                     | 5<br>E<br>-<br>0<br>2                     | 0<br>E<br>-<br>0<br>3                     | 5<br>E<br>-<br>0<br>2                     |        |                                                                                                                                                                               |
| 2<br>2<br>4 | <a href="#">coagulation</a>                                       | 6<br>6<br>3      | 1<br>.<br>3<br>0<br>0<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>8<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>3<br>0<br>0<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>8<br>4<br>E<br>-<br>0<br>2 | 8      | HBG, HBGA, ERK1 (MAPK3), CD43, 14-3-3 zeta/delta, Adult hemoglobin, ERK1/2, 14-3-3                                                                                            |
| 2<br>2<br>5 | <a href="#">blood coagulation</a>                                 | 6<br>6<br>3      | 1<br>.<br>3<br>0<br>0<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>8<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>3<br>0<br>0<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>8<br>4<br>E<br>-<br>0<br>2 | 8      | HBG, HBGA, ERK1 (MAPK3), CD43, 14-3-3 zeta/delta, Adult hemoglobin, ERK1/2, 14-3-3                                                                                            |
| 2<br>2<br>6 | <a href="#">positive regulation of cellular metabolic process</a> | 2<br>8<br>5<br>2 | 1<br>.<br>3<br>2<br>8<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>9<br>9<br>E<br>-<br>0<br>2 | 1<br>.<br>3<br>2<br>8<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>9<br>9<br>E<br>-<br>0<br>2 | 1<br>9 | Ajuba, Cyclin B1, LHX1, IRT-1, Gbp1, TEF-5, TIRAP (Mal), PTD015, Notch, ERK1 (MAPK3), SRB7, NOTCH1 precursor, CD43, OBFC1, Cyclin B, Adult hemoglobin, ERK1/2, DEAF, 14-3-3   |
| 2<br>2<br>7 | <a href="#">skin morphogenesis</a>                                | 6<br>7           | 1<br>.<br>3<br>3<br>5<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>9<br>9<br>E<br>-<br>0<br>2 | 1<br>.<br>3<br>3<br>5<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>9<br>9<br>E<br>-<br>0<br>2 | 3      | Tissue kallikreins, Notch, NOTCH1 precursor                                                                                                                                   |
| 2<br>2<br>8 | <a href="#">regulation of developmental process</a>               | 2<br>4<br>0<br>4 | 1<br>.<br>3<br>3<br>7<br>E                | 1<br>.<br>2<br>9<br>9<br>E                | 1<br>.<br>3<br>3<br>7<br>E                | 1<br>.<br>2<br>9<br>9<br>E                | 1<br>7 | Tissue kallikreins, ZNF261, LST1, Cyclin B1, LHX1, Rab-11A, PTD015, Notch, SRB7, NOTCH1 precursor, Cyclin B, Kallikrein 3 (PSA), Adult hemoglobin, ZHX3, ERK1/2, DEAF, 14-3-3 |

|   |                                                       |   |   |   |   |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---|-------------------------------------------------------|---|---|---|---|---|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                       |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                       |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                       |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2 |                                                       |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2 |                                                       |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 9 | <a href="#">response to stimulus</a>                  |   | 3 | 2 | 3 | 2 | 4 | Ajuba, Tissue kallikreins, IGHG4, Kallikrein 1, LST1, Cyclin B1, TIPIN, AL1A1, LHX1, HBG, IRT-1, HBGA, Rab-11A, TEF-5, TIRAP (Mal), Olfactory receptor, Notch, Rab-3B, IGHG1, ERK1 (MAPK3), CALCOCO2, NOTCH1 precursor, SULT1E1, CD43, 14-3-3 zeta/delta, NFKBIL1, CKS2, MTL5, OR10G3, PLEKHG2, Annexin XI, G18, Spinophilin, Cyclin B, Rab-3, Kallikrein 3 (PSA), Adult hemoglobin, Protrudin, RIG-G, ERK1/2, UGDH, 14-3-3, CapZIP, RBBP7 (RbAp46) |
|   |                                                       | 9 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                       | 6 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                       | 8 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                       | 0 | 3 | 2 | 3 | 2 | 4 |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2 |                                                       |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 3 |                                                       |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 0 | <a href="#">distal tubule development</a>             |   | 3 | 2 | 3 | 2 | 2 | Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                       |   | 5 | 9 | 5 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                       |   | 7 | 9 | 7 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                       |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                       |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                       | 1 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                       | 7 | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2 |                                                       |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 3 |                                                       |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1 | <a href="#">regulation of neurotransmitter uptake</a> |   | 3 | 2 | 3 | 2 | 2 | Rab-3B, Rab-3                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|   |                                                       |   | 5 | 9 | 5 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                       |   | 7 | 9 | 7 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                       |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                       |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                       | 1 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                       | 7 | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2 |                                                       |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 3 |                                                       |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2 | <a href="#">collecting duct development</a>           |   | 3 | 2 | 3 | 2 | 2 | Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                       |   | 5 | 9 | 5 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                       |   | 7 | 9 | 7 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                       |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                       |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                       | 1 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                       | 7 | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2 |                                                       |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 3 |                                                       |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 3 |                                                       |   | 3 | 3 | 3 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                       |   | 9 | 2 | 9 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                       |   | 0 | 5 | 0 | 5 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                       | 6 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|   |                                                       | 7 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 3 | <a href="#">hemostasis</a>                            | 0 | 0 | 0 | 0 | 0 | 8 | HBG, HBGA, ERK1 (MAPK3), CD43, 14-3-3 zeta/delta, Adult hemoglobin, ERK1/2, 14-3-3                                                                                                                                                                                                                                                                                                                                                                  |

|   |                                                                         |   |   |   |   |   |   |                                                                                                                                                                                                                                           |
|---|-------------------------------------------------------------------------|---|---|---|---|---|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                         |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                           |
| 2 |                                                                         |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                                                           |
| 3 |                                                                         |   | . | . | . | . |   |                                                                                                                                                                                                                                           |
| 4 | <a href="#">glomerulus development</a>                                  | 6 | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                           |
|   |                                                                         | 9 | 5 | 4 | 5 | 4 |   |                                                                                                                                                                                                                                           |
|   |                                                                         |   | 3 | 9 | 3 | 9 |   |                                                                                                                                                                                                                                           |
|   |                                                                         |   | E | E | E | E |   |                                                                                                                                                                                                                                           |
|   |                                                                         |   | - | - | - | - |   |                                                                                                                                                                                                                                           |
|   |                                                                         |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                           |
|   |                                                                         |   | 3 | 2 | 3 | 2 | 3 | LHX1, Notch, NOTCH1 precursor                                                                                                                                                                                                             |
| 2 |                                                                         |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                                                           |
| 3 |                                                                         |   | . | . | . | . |   |                                                                                                                                                                                                                                           |
| 4 |                                                                         |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                           |
| 5 |                                                                         |   | 5 | 4 | 5 | 4 |   |                                                                                                                                                                                                                                           |
|   |                                                                         |   | 8 | 9 | 8 | 9 |   |                                                                                                                                                                                                                                           |
|   |                                                                         | 1 | E | E | E | E |   |                                                                                                                                                                                                                                           |
| 2 |                                                                         | 5 | - | - | - | - |   |                                                                                                                                                                                                                                           |
| 3 |                                                                         | 8 | 0 | 0 | 0 | 0 | 1 | Ajuba, Tissue kallikreins, Cyclin B1, TIPIN, Rab-11A, Notch, ERK1 (MAPK3), CKS2, Annexin XI, Spinophilin, Cyclin B, ERK1/2, 14-3-3                                                                                                        |
| 5 | <a href="#">cell cycle</a>                                              | 0 | 3 | 2 | 3 | 2 | 3 |                                                                                                                                                                                                                                           |
| 2 |                                                                         |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                                                           |
| 3 |                                                                         |   | . | . | . | . |   |                                                                                                                                                                                                                                           |
| 4 |                                                                         |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                           |
| 5 |                                                                         |   | 6 | 4 | 6 | 4 |   |                                                                                                                                                                                                                                           |
|   |                                                                         |   | 2 | 9 | 2 | 9 |   |                                                                                                                                                                                                                                           |
|   |                                                                         | 4 | E | E | E | E |   |                                                                                                                                                                                                                                           |
| 2 |                                                                         | 0 | - | - | - | - |   |                                                                                                                                                                                                                                           |
| 3 |                                                                         | 7 | 0 | 0 | 0 | 0 | 2 | Ajuba, Cyclin B1, LHX1, HBG, HBGA, Gbp1, TEF-5, TIRAP (Mal), Olfactory receptor, PTD015, Notch, ERK1 (MAPK3), DR1, SRB7, NOTCH1 precursor, NFKBIL1, AO7, Cyclin B, Adult hemoglobin, ZHX3, ERK1/2, DEAF, 14-3-3, RBBP7 (RbAp46)           |
| 6 | <a href="#">regulation of RNA metabolic process</a>                     | 5 | 3 | 2 | 3 | 2 | 4 |                                                                                                                                                                                                                                           |
| 2 |                                                                         |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                                                           |
| 3 |                                                                         |   | . | . | . | . |   |                                                                                                                                                                                                                                           |
| 4 |                                                                         |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                           |
| 5 |                                                                         |   | 8 | 4 | 8 | 4 |   |                                                                                                                                                                                                                                           |
|   |                                                                         |   | 7 | 9 | 7 | 9 |   |                                                                                                                                                                                                                                           |
|   |                                                                         | 3 | E | E | E | E |   |                                                                                                                                                                                                                                           |
| 2 |                                                                         | 5 | - | - | - | - |   |                                                                                                                                                                                                                                           |
| 3 |                                                                         | 8 | 0 | 0 | 0 | 0 | 2 | Tissue kallikreins, LST1, AL1A1, HBG, HBGA, Rab-11A, TIRAP (Mal), Thioredoxin-like 2, Rab-3B, ERK1 (MAPK3), SULT1E1, CD43, 14-3-3 zeta/delta, NFKBIL1, MTL5, OBFC1, Cyclin B, Rab-3, Kallikrein 3 (PSA), Adult hemoglobin, ERK1/2, 14-3-3 |
| 7 | <a href="#">regulation of biological quality</a>                        | 8 | 3 | 2 | 3 | 2 | 2 |                                                                                                                                                                                                                                           |
| 2 |                                                                         |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                                                           |
| 3 |                                                                         |   | . | . | . | . |   |                                                                                                                                                                                                                                           |
| 4 |                                                                         |   | 5 | 3 | 5 | 3 |   |                                                                                                                                                                                                                                           |
| 5 |                                                                         |   | 0 | 4 | 0 | 4 |   |                                                                                                                                                                                                                                           |
|   |                                                                         |   | 6 | 9 | 6 | 9 |   |                                                                                                                                                                                                                                           |
|   |                                                                         |   | E | E | E | E |   |                                                                                                                                                                                                                                           |
|   |                                                                         | 8 | - | - | - | - |   |                                                                                                                                                                                                                                           |
| 2 |                                                                         | 4 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                           |
| 3 | <a href="#">positive regulation of multicellular organismal process</a> | 3 | 3 | 2 | 3 | 2 | 9 | Tissue kallikreins, Kallikrein 1, Cyclin B1, LHX1, IRT-1, TIRAP (Mal), Notch, NOTCH1 precursor, Cyclin B                                                                                                                                  |
| 8 |                                                                         |   |   |   |   |   |   |                                                                                                                                                                                                                                           |

|             |                                                                                  |                  |                                      |                                      |                                      |                                      |                  |                                                                                                              |
|-------------|----------------------------------------------------------------------------------|------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|------------------|--------------------------------------------------------------------------------------------------------------|
| 2<br>3<br>9 | <a href="#">protein complex assembly</a>                                         | 1<br>2<br>0<br>0 | 1<br>5<br>1<br>4<br>E<br>-<br>0<br>3 | 1<br>3<br>4<br>9<br>E<br>-<br>0<br>2 | 1<br>5<br>1<br>4<br>E<br>-<br>0<br>3 | 1<br>3<br>4<br>9<br>E<br>-<br>0<br>2 | 1<br>1<br>1<br>1 | Cyclin B1, AL1A1, HBG, IRT-1, HBGA, ERK1 (MAPK3), Cyclin B, Adult hemoglobin, ERK1/2, 14-3-3, RBBP7 (RbAp46) |
| 2<br>4<br>0 | <a href="#">regulation of cell proliferation involved in heart morphogenesis</a> | 1<br>8           | 1<br>5<br>2<br>4<br>E<br>-<br>0<br>3 | 1<br>3<br>4<br>9<br>E<br>-<br>0<br>2 | 1<br>5<br>2<br>4<br>E<br>-<br>0<br>3 | 1<br>3<br>4<br>9<br>E<br>-<br>0<br>2 | 2                | Notch, NOTCH1 precursor                                                                                      |
| 2<br>4<br>1 | <a href="#">positive regulation of astrocyte differentiation</a>                 | 1<br>8           | 1<br>5<br>2<br>4<br>E<br>-<br>0<br>3 | 1<br>3<br>4<br>9<br>E<br>-<br>0<br>2 | 1<br>5<br>2<br>4<br>E<br>-<br>0<br>3 | 1<br>3<br>4<br>9<br>E<br>-<br>0<br>2 | 2                | Notch, NOTCH1 precursor                                                                                      |
| 2<br>4<br>2 | <a href="#">negative regulation of myotube differentiation</a>                   | 1<br>8           | 1<br>5<br>2<br>4<br>E<br>-<br>0<br>3 | 1<br>3<br>4<br>9<br>E<br>-<br>0<br>2 | 1<br>5<br>2<br>4<br>E<br>-<br>0<br>3 | 1<br>3<br>4<br>9<br>E<br>-<br>0<br>2 | 2                | Notch, NOTCH1 precursor                                                                                      |
| 2<br>4<br>3 | <a href="#">mitotic metaphase plate congression</a>                              | 1<br>8           | 1<br>5<br>2<br>4<br>E<br>-<br>0<br>3 | 1<br>3<br>4<br>9<br>E<br>-<br>0<br>2 | 1<br>5<br>2<br>4<br>E<br>-<br>0<br>3 | 1<br>3<br>4<br>9<br>E<br>-<br>0<br>2 | 2                | Cyclin B1, Cyclin B                                                                                          |
| 2<br>4      | <a href="#">negative regulation of myoblast</a>                                  | 1<br>8           | 1<br>5<br>2<br>4<br>E<br>-<br>0<br>3 | 1<br>3<br>4<br>9<br>E<br>-<br>0<br>2 | 1<br>5<br>2<br>4<br>E<br>-<br>0<br>3 | 1<br>3<br>4<br>9<br>E<br>-<br>0<br>2 | 2                | Notch, NOTCH1 precursor                                                                                      |

|             |                                                         |        |                                      |                                      |                                      |                                      |   |                           |
|-------------|---------------------------------------------------------|--------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---|---------------------------|
| 4           | <a href="#">differentiation</a>                         |        | 5<br>2<br>4<br>E<br>-<br>0<br>3      | 3<br>4<br>9<br>E<br>-<br>0<br>2      | 5<br>2<br>4<br>E<br>-<br>0<br>3      | 3<br>4<br>9<br>E<br>-<br>0<br>2      |   |                           |
| 2<br>4<br>5 | <a href="#">peptidyl-cysteine<br/>modification</a>      | 1<br>8 | 1<br>5<br>2<br>4<br>E<br>-<br>0<br>3 | 1<br>3<br>4<br>9<br>E<br>-<br>0<br>2 | 1<br>5<br>2<br>4<br>E<br>-<br>0<br>3 | 1<br>3<br>4<br>9<br>E<br>-<br>0<br>2 | 2 | Rab-3B, Rab-3             |
| 2<br>4<br>6 | <a href="#">histamine<br/>transport</a>                 | 1<br>8 | 1<br>5<br>2<br>4<br>E<br>-<br>0<br>3 | 1<br>3<br>4<br>9<br>E<br>-<br>0<br>2 | 1<br>5<br>2<br>4<br>E<br>-<br>0<br>3 | 1<br>3<br>4<br>9<br>E<br>-<br>0<br>2 | 2 | 14-3-3 zeta/delta, 14-3-3 |
| 2<br>4<br>7 | <a href="#">venous blood<br/>vessel<br/>development</a> | 1<br>8 | 1<br>5<br>2<br>4<br>E<br>-<br>0<br>3 | 1<br>3<br>4<br>9<br>E<br>-<br>0<br>2 | 1<br>5<br>2<br>4<br>E<br>-<br>0<br>3 | 1<br>3<br>4<br>9<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor   |
| 2<br>4<br>8 | <a href="#">left/right axis<br/>specification</a>       | 1<br>8 | 1<br>5<br>2<br>4<br>E<br>-<br>0<br>3 | 1<br>3<br>4<br>9<br>E<br>-<br>0<br>2 | 1<br>5<br>2<br>4<br>E<br>-<br>0<br>3 | 1<br>3<br>4<br>9<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor   |
| 2<br>4<br>9 | <a href="#">anagen</a>                                  | 1<br>8 | 1<br>5<br>2<br>4<br>E<br>-<br>0<br>3 | 1<br>3<br>4<br>9<br>E<br>-<br>0<br>2 | 1<br>5<br>2<br>4<br>E<br>-<br>0<br>3 | 1<br>3<br>4<br>9<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor   |

|             |                                                                                                              |                  |                            |                            |                            |                            |        |                                                                                                                                       |
|-------------|--------------------------------------------------------------------------------------------------------------|------------------|----------------------------|----------------------------|----------------------------|----------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                                                              |                  | 4<br>E<br>-<br>0<br>3      | 9<br>E<br>-<br>0<br>2      | 4<br>E<br>-<br>0<br>3      | 9<br>E<br>-<br>0<br>2      |        |                                                                                                                                       |
| 2<br>5<br>0 | <a href="#">ventricular<br/>cardiac muscle<br/>cell development</a>                                          | 1<br>8           | 1<br>5<br>2<br>4<br>E<br>- | 1<br>3<br>4<br>9<br>E<br>- | 1<br>5<br>2<br>4<br>E<br>- | 1<br>3<br>4<br>9<br>E<br>- | 2      | Cyclin B1, Cyclin B                                                                                                                   |
| 2<br>5<br>1 | <a href="#">negative<br/>regulation of<br/>transcription,<br/>DNA-templated</a>                              | 1<br>2<br>0<br>1 | 1<br>5<br>2<br>4<br>E<br>- | 1<br>3<br>4<br>9<br>E<br>- | 1<br>5<br>2<br>4<br>E<br>- | 1<br>3<br>4<br>9<br>E<br>- | 1<br>1 | Ajuba, LHX1, HBG, HBGA, Notch, DR1, NOTCH1 precursor,<br>Adult hemoglobin, ZHX3, 14-3-3, RBBP7 (RbAp46)                               |
| 2<br>5<br>2 | <a href="#">protein complex<br/>biogenesis</a>                                                               | 1<br>2<br>0<br>3 | 1<br>5<br>4<br>5<br>E<br>- | 1<br>3<br>6<br>1<br>E<br>- | 1<br>5<br>4<br>5<br>E<br>- | 1<br>3<br>6<br>1<br>E<br>- | 1<br>1 | Cyclin B1, AL1A1, HBG, IRT-1, HBGA, ERK1 (MAPK3),<br>Cyclin B, Adult hemoglobin, ERK1/2, 14-3-3, RBBP7<br>(RbAp46)                    |
| 2<br>5<br>3 | <a href="#">negative<br/>regulation of<br/>nucleobase-<br/>containing<br/>compound<br/>metabolic process</a> | 1<br>3<br>9<br>8 | 1<br>5<br>9<br>1<br>E<br>- | 1<br>3<br>9<br>2<br>E<br>- | 1<br>5<br>9<br>1<br>E<br>- | 1<br>3<br>9<br>2<br>E<br>- | 1<br>2 | Ajuba, TIPIN, LHX1, HBG, HBGA, Notch, DR1, NOTCH1<br>precursor, Adult hemoglobin, ZHX3, 14-3-3, RBBP7<br>(RbAp46)                     |
| 2<br>5<br>4 | <a href="#">protein complex<br/>subunit<br/>organization</a>                                                 | 1<br>5<br>9<br>6 | 1<br>5<br>9<br>E           | 1<br>3<br>9<br>E           | 1<br>5<br>9<br>E           | 1<br>3<br>9<br>E           | 1<br>3 | Cyclin B1, AL1A1, HBG, IRT-1, HBGA, ERK1 (MAPK3),<br>CKS2, Spinophilin, Cyclin B, Adult hemoglobin, ERK1/2,<br>14-3-3, RBBP7 (RbAp46) |

|   |                                                                            |   |   |   |   |   |   |                                                                                                                                                                                                            |
|---|----------------------------------------------------------------------------|---|---|---|---|---|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                            |   | - | - | - | - |   |                                                                                                                                                                                                            |
|   |                                                                            |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                            |
|   |                                                                            |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                            |
| 2 | <a href="#">cell morphogenesis involved in neuron differentiation</a>      | 6 | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                            |
| 5 |                                                                            |   | . | . | . | . |   |                                                                                                                                                                                                            |
| 5 |                                                                            |   | 5 | 3 | 5 | 3 |   |                                                                                                                                                                                                            |
|   |                                                                            |   | 9 | 9 | 9 | 9 |   |                                                                                                                                                                                                            |
|   |                                                                            |   | 9 | 2 | 9 | 2 |   |                                                                                                                                                                                                            |
|   |                                                                            |   | E | E | E | E |   |                                                                                                                                                                                                            |
|   |                                                                            |   | - | - | - | - |   |                                                                                                                                                                                                            |
|   |                                                                            | 8 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                            |
|   |                                                                            | 5 | 3 | 2 | 3 | 2 | 8 | LHX1, Olfactory receptor, Notch, ERK1 (MAPK3), NOTCH1 precursor, Rab-3, ERK1/2, 14-3-3                                                                                                                     |
| 2 | <a href="#">regulation of molecular function</a>                           | 3 | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                            |
| 5 |                                                                            |   | . | . | . | . |   |                                                                                                                                                                                                            |
| 6 |                                                                            |   | 6 | 4 | 6 | 4 |   |                                                                                                                                                                                                            |
|   |                                                                            |   | 2 | 0 | 2 | 0 |   |                                                                                                                                                                                                            |
|   |                                                                            |   | 1 | 7 | 1 | 7 |   |                                                                                                                                                                                                            |
|   |                                                                            | 3 | E | E | E | E |   |                                                                                                                                                                                                            |
|   |                                                                            | 1 | - | - | - | - |   |                                                                                                                                                                                                            |
|   |                                                                            | 3 | 0 | 0 | 0 | 0 | 2 | Ajuba, Tissue kallikreins, Cyclin B1, AL1A1, TIRAP (Mal), Notch, PAP41, ERK1 (MAPK3), NOTCH1 precursor, NFKBIL1, AO7, CKS2, PLEKHG2, G18, Spinophilin, Cyclin B, Rab-3, Kallikrein 3 (PSA), ERK1/2, 14-3-3 |
|   |                                                                            | 3 | 3 | 2 | 3 | 2 | 0 |                                                                                                                                                                                                            |
| 2 | <a href="#">regulation of immune system process</a>                        | 1 | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                            |
| 5 |                                                                            |   | . | . | . | . |   |                                                                                                                                                                                                            |
| 7 |                                                                            |   | 6 | 4 | 6 | 4 |   |                                                                                                                                                                                                            |
|   |                                                                            |   | 5 | 2 | 5 | 2 |   |                                                                                                                                                                                                            |
|   |                                                                            |   | 2 | 8 | 2 | 8 |   |                                                                                                                                                                                                            |
|   |                                                                            | 1 | E | E | E | E |   |                                                                                                                                                                                                            |
|   |                                                                            | 6 | - | - | - | - |   |                                                                                                                                                                                                            |
|   |                                                                            | 0 | 0 | 0 | 0 | 0 | 1 | IGHG4, LST1, IRT-1, TIRAP (Mal), Notch, IGHG1, ERK1 (MAPK3), NOTCH1 precursor, CD43, NFKBIL1, Adult hemoglobin, ERK1/2, 14-3-3                                                                             |
|   |                                                                            | 2 | 3 | 2 | 3 | 2 | 3 |                                                                                                                                                                                                            |
| 2 | <a href="#">regulation of striated muscle tissue development</a>           | 1 | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                            |
| 5 |                                                                            |   | . | . | . | . |   |                                                                                                                                                                                                            |
| 8 |                                                                            |   | 6 | 4 | 6 | 4 |   |                                                                                                                                                                                                            |
|   |                                                                            |   | 7 | 4 | 7 | 4 |   |                                                                                                                                                                                                            |
|   |                                                                            |   | 7 | 0 | 7 | 0 |   |                                                                                                                                                                                                            |
|   |                                                                            |   | E | E | E | E |   |                                                                                                                                                                                                            |
|   |                                                                            | 1 | - | - | - | - |   |                                                                                                                                                                                                            |
|   |                                                                            | 5 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                            |
|   |                                                                            | 7 | 3 | 2 | 3 | 2 | 4 | Cyclin B1, Notch, NOTCH1 precursor, Cyclin B                                                                                                                                                               |
| 2 | <a href="#">vasculogenesis involved in coronary vascular morphogenesis</a> | 1 | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                            |
| 5 |                                                                            |   | . | . | . | . |   |                                                                                                                                                                                                            |
| 9 |                                                                            |   | 6 | 4 | 6 | 4 |   |                                                                                                                                                                                                            |
|   |                                                                            |   | 9 | 4 | 9 | 4 |   |                                                                                                                                                                                                            |
|   |                                                                            |   | 9 | 0 | 9 | 0 |   |                                                                                                                                                                                                            |
|   |                                                                            |   | E | E | E | E |   |                                                                                                                                                                                                            |
|   |                                                                            | 1 | - | - | - | - |   |                                                                                                                                                                                                            |
|   |                                                                            | 9 | 0 | 0 | 0 | 0 | 2 | Notch, NOTCH1 precursor                                                                                                                                                                                    |



|     |                                                                |     |                                                |                                                |                                                |                                                |   |                                                                                           |
|-----|----------------------------------------------------------------|-----|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|---|-------------------------------------------------------------------------------------------|
|     |                                                                |     | 3                                              | 2                                              | 3                                              | 2                                              |   |                                                                                           |
| 260 | <a href="#">keratinocyte proliferation</a>                     | 19  | 1<br>.<br>6<br>9<br>9<br>E<br>-<br>0<br>3      | 1<br>.<br>4<br>4<br>0<br>E<br>-<br>0<br>2      | 1<br>.<br>6<br>9<br>0<br>E<br>-<br>0<br>3      | 1<br>.<br>4<br>4<br>0<br>E<br>-<br>0<br>2      | 2 | Tissue kallikreins, 14-3-3                                                                |
| 261 | <a href="#">regulation of endothelial cell differentiation</a> | 19  | 1<br>.<br>6<br>9<br>9<br>E<br>-<br>0<br>3      | 1<br>.<br>4<br>4<br>0<br>E<br>-<br>0<br>2      | 1<br>.<br>6<br>9<br>0<br>E<br>-<br>0<br>3      | 1<br>.<br>4<br>4<br>0<br>E<br>-<br>0<br>2      | 2 | Notch, NOTCH1 precursor                                                                   |
| 262 | <a href="#">endocardial cushion morphogenesis</a>              | 19  | 1<br>.<br>6<br>9<br>9<br>E<br>-<br>0<br>3      | 1<br>.<br>4<br>4<br>0<br>E<br>-<br>0<br>2      | 1<br>.<br>6<br>9<br>0<br>E<br>-<br>0<br>3      | 1<br>.<br>4<br>4<br>0<br>E<br>-<br>0<br>2      | 2 | Notch, NOTCH1 precursor                                                                   |
| 263 | <a href="#">positive regulation of organelle organization</a>  | 394 | 1<br>.<br>7<br>0<br>8<br>E<br>-<br>0<br>3<br>4 | 1<br>.<br>4<br>4<br>2<br>E<br>-<br>0<br>2<br>3 | 1<br>.<br>7<br>0<br>8<br>E<br>-<br>0<br>3<br>2 | 1<br>.<br>4<br>4<br>2<br>E<br>-<br>0<br>2<br>3 | 6 | Cyclin B1, ERK1 (MAPK3), 14-3-3 zeta/delta, Cyclin B, ERK1/2, 14-3-3                      |
| 264 | <a href="#">tissue morphogenesis</a>                           | 693 | 1<br>.<br>7<br>2<br>0<br>E<br>-<br>0<br>3<br>3 | 1<br>.<br>4<br>4<br>7<br>E<br>-<br>0<br>2<br>2 | 1<br>.<br>7<br>0<br>E<br>-<br>0<br>3<br>2      | 1<br>.<br>4<br>4<br>7<br>E<br>-<br>0<br>2<br>3 | 8 | Ajuba, Tissue kallikreins, AL1A1, LHX1, Notch, NOTCH1 precursor, Kallikrein 3 (PSA), DEAF |

|             |                                                                 |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                                                                      |
|-------------|-----------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2<br>6<br>5 | <a href="#">cellular component organization</a>                 | 5<br>4<br>1<br>9 | 1<br>.<br>7<br>3<br>0<br>E<br>-<br>0<br>3 | 1<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 1<br>.<br>7<br>3<br>0<br>E<br>-<br>0<br>3 | 1<br>.<br>4<br>5<br>0<br>E<br>-<br>0<br>2 | 2<br>9 | Ajuba, Tissue kallikreins, ZNF261, LST1, Cyclin B1, TIPIN, AL1A1, LHX1, HBG, IRT-1, HBGA, Rab-11A, Olfactory receptor, Notch, Rab-3B, ERK1 (MAPK3), DR1, NOTCH1 precursor, 14-3-3 zeta/delta, CKS2, OBFC1, Spinophilin, Cyclin B, Rab-3, Adult hemoglobin, Protrudin, ERK1/2, 14-3-3, RBBP7 (RbAp46) |
| 2<br>6<br>6 | <a href="#">regulation of muscle organ development</a>          | 1<br>5<br>9      | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>4<br>6<br>1<br>E<br>-<br>0<br>2 | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>4<br>6<br>1<br>E<br>-<br>0<br>2 | 4      | Cyclin B1, Notch, NOTCH1 precursor, Cyclin B                                                                                                                                                                                                                                                         |
| 2<br>6<br>7 | <a href="#">regulation of muscle tissue development</a>         | 1<br>5<br>9      | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>4<br>6<br>1<br>E<br>-<br>0<br>2 | 1<br>.<br>7<br>5<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>4<br>6<br>1<br>E<br>-<br>0<br>2 | 4      | Cyclin B1, Notch, NOTCH1 precursor, Cyclin B                                                                                                                                                                                                                                                         |
| 2<br>6<br>8 | <a href="#">negative regulation of RNA biosynthetic process</a> | 1<br>2<br>2<br>6 | 1<br>.<br>7<br>9<br>6<br>E<br>-<br>0<br>3 | 1<br>.<br>4<br>8<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>7<br>9<br>6<br>E<br>-<br>0<br>3 | 1<br>.<br>4<br>8<br>4<br>E<br>-<br>0<br>2 | 1<br>1 | Ajuba, LHX1, HBG, HBGA, Notch, DR1, NOTCH1 precursor, Adult hemoglobin, ZHX3, 14-3-3, RBBP7 (RbAp46)                                                                                                                                                                                                 |
| 2<br>6<br>9 | <a href="#">cardiac ventricle development</a>                   | 1<br>6<br>0      | 1<br>.<br>7<br>9<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>4<br>8<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>7<br>9<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>4<br>8<br>4<br>E<br>-<br>0<br>2 | 4      | Tissue kallikreins, Notch, NOTCH1 precursor, Kallikrein 3 (PSA)                                                                                                                                                                                                                                      |
| 2<br>7      | <a href="#">cardiac muscle cell differentiation</a>             | 1<br>6           | 1<br>.<br>7<br>9<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>4<br>8<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>7<br>9<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>4<br>8<br>4<br>E<br>-<br>0<br>2 | 4      | Cyclin B1, Notch, NOTCH1 precursor, Cyclin B                                                                                                                                                                                                                                                         |

|             |                                                     |             |                                           |                                           |                                           |                                           |   |                                                                                          |
|-------------|-----------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|------------------------------------------------------------------------------------------|
| 0           |                                                     | 1           | 8<br>3<br>9<br>E<br>-<br>0<br>3           | 4<br>9<br>3<br>E<br>-<br>0<br>2           | 8<br>3<br>9<br>E<br>-<br>0<br>3           | 4<br>9<br>3<br>E<br>-<br>0<br>2           |   |                                                                                          |
| 2<br>7<br>1 | <a href="#">regulation of exocytosis</a>            | 1<br>6<br>1 | 1<br>8<br>3<br>9<br>E<br>-<br>0<br>3      | 1<br>4<br>9<br>3<br>E<br>-<br>0<br>2      | 1<br>8<br>3<br>9<br>E<br>-<br>0<br>3      | 1<br>4<br>9<br>3<br>E<br>-<br>0<br>2      | 4 | Notch, Rab-3B, NOTCH1 precursor, Rab-3                                                   |
| 2<br>7<br>2 | <a href="#">chordate embryonic development</a>      | 8<br>6<br>8 | 1<br>8<br>4<br>9<br>1<br>E<br>-<br>0<br>3 | 1<br>4<br>9<br>3<br>1<br>E<br>-<br>0<br>2 | 1<br>8<br>4<br>9<br>1<br>E<br>-<br>0<br>3 | 1<br>4<br>9<br>3<br>1<br>E<br>-<br>0<br>2 | 9 | Cyclin B1, LHX1, Notch, SRB7, NOTCH1 precursor, Cyclin B, Adult hemoglobin, ERK1/2, DEAF |
| 2<br>7<br>3 | <a href="#">regulation of epidermis development</a> | 7<br>5      | 1<br>8<br>4<br>7<br>E<br>-<br>0<br>3      | 1<br>4<br>9<br>3<br>E<br>-<br>0<br>2      | 1<br>8<br>4<br>7<br>E<br>-<br>0<br>3      | 1<br>4<br>9<br>3<br>E<br>-<br>0<br>2      | 3 | Notch, NOTCH1 precursor, 14-3-3                                                          |
| 2<br>7<br>4 | <a href="#">cell differentiation in spinal cord</a> | 7<br>5      | 1<br>8<br>4<br>7<br>E<br>-<br>0<br>3      | 1<br>4<br>9<br>3<br>E<br>-<br>0<br>2      | 1<br>8<br>4<br>7<br>E<br>-<br>0<br>3      | 1<br>4<br>9<br>3<br>E<br>-<br>0<br>2      | 3 | LHX1, Notch, NOTCH1 precursor                                                            |
| 2<br>7<br>5 | <a href="#">axon development</a>                    | 7<br>0<br>1 | 1<br>8<br>4<br>9                          | 1<br>4<br>8<br>4                          | 1<br>8<br>4<br>9                          | 1<br>4<br>8<br>4                          | 8 | LHX1, Olfactory receptor, Notch, ERK1 (MAPK3), NOTCH1 precursor, Rab-3, ERK1/2, 14-3-3   |

|             |                                                                                 |                  |                                                |                                                     |                                                |                                                     |        |                                                                                                                                                                                                                                        |
|-------------|---------------------------------------------------------------------------------|------------------|------------------------------------------------|-----------------------------------------------------|------------------------------------------------|-----------------------------------------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                                 |                  | 8<br>E<br>-<br>0<br>3                          | 3<br>E<br>-<br>0<br>2                               | 8<br>E<br>-<br>0<br>3                          | 3<br>E<br>-<br>0<br>2                               |        |                                                                                                                                                                                                                                        |
| 2<br>7<br>6 | <a href="#">cardiac vascular smooth muscle cell differentiation</a>             | 2<br>0           | 1<br>.<br>8<br>8<br>4<br>E<br>-<br>0<br>3      | 1<br>.<br>5<br>0<br>5<br>E<br>-<br>0<br>2           | 1<br>.<br>8<br>8<br>4<br>E<br>-<br>0<br>3      | 1<br>.<br>5<br>0<br>5<br>E<br>-<br>0<br>2           | 2      | Notch, NOTCH1 precursor                                                                                                                                                                                                                |
| 2<br>7<br>7 | <a href="#">regulation of cell migration involved in sprouting angiogenesis</a> | 2<br>0           | 1<br>.<br>8<br>8<br>4<br>E<br>-<br>0<br>3      | 1<br>.<br>5<br>0<br>5<br>E<br>-<br>0<br>2           | 1<br>.<br>8<br>8<br>4<br>E<br>-<br>0<br>3      | 1<br>.<br>5<br>0<br>5<br>E<br>-<br>0<br>2           | 2      | Notch, NOTCH1 precursor                                                                                                                                                                                                                |
| 2<br>7<br>8 | <a href="#">response to muramyl dipeptide</a>                                   | 2<br>0           | 1<br>.<br>8<br>8<br>4<br>E<br>-<br>0<br>3      | 1<br>.<br>5<br>0<br>5<br>E<br>-<br>0<br>2           | 1<br>.<br>8<br>8<br>4<br>E<br>-<br>0<br>3      | 1<br>.<br>5<br>0<br>5<br>E<br>-<br>0<br>2           | 2      | Notch, NOTCH1 precursor                                                                                                                                                                                                                |
| 2<br>7<br>9 | <a href="#">regulation of cellular localization</a>                             | 1<br>2<br>3<br>4 | 1<br>.<br>8<br>9<br>1<br>E<br>-<br>0<br>3<br>4 | 1<br>.<br>5<br>0<br>5<br>E<br>-<br>0<br>2<br>3<br>2 | 1<br>.<br>8<br>9<br>1<br>E<br>-<br>0<br>3<br>2 | 1<br>.<br>5<br>0<br>5<br>E<br>-<br>0<br>2<br>3<br>2 | 1<br>1 | Cyclin B1, Notch, Rab-3B, ERK1 (MAPK3), NOTCH1 precursor, 14-3-3 zeta/delta, NFKBIL1, Cyclin B, Rab-3, ERK1/2, 14-3-3                                                                                                                  |
| 2<br>8<br>0 | <a href="#">regulation of cellular biosynthetic process</a>                     | 4<br>6<br>6<br>1 | 1<br>.<br>9<br>0<br>3<br>E                     | 1<br>.<br>5<br>1<br>0<br>E                          | 1<br>.<br>9<br>0<br>3<br>E                     | 1<br>.<br>5<br>1<br>0<br>E                          | 2<br>6 | Ajuba, TIPIN, LHX1, HBG, IRT-1, HBGA, Gbbp1, TEF-5, TIRAP (Mal), Olfactory receptor, PTD015, Notch, ERK1 (MAPK3), DR1, SRB7, NOTCH1 precursor, CD43, NFKBIL1, AO7, OBFC1, Adult hemoglobin, ZHX3, ERK1/2, DEAF, 14-3-3, RBBP7 (RbAp46) |

|   |                                     |   |   |   |   |   |   |                                                                                                             |
|---|-------------------------------------|---|---|---|---|---|---|-------------------------------------------------------------------------------------------------------------|
|   |                                     |   | - | - | - | - |   |                                                                                                             |
|   |                                     |   | 0 | 0 | 0 | 0 |   |                                                                                                             |
|   |                                     |   | 3 | 2 | 3 | 2 |   |                                                                                                             |
| 2 | <a href="#">striated muscle</a>     | 4 | 1 | 1 | 1 | 1 |   |                                                                                                             |
| 8 | <a href="#">tissue</a>              |   | . | . | . | . |   |                                                                                                             |
| 1 | <a href="#">development</a>         | 3 | 9 | 5 | 9 | 5 | 6 | Tissue kallikreins, Cyclin B1, Notch, NOTCH1 precursor, Cyclin B, Kallikrein 3 (PSA)                        |
|   |                                     |   | 1 | 1 | 1 | 1 |   |                                                                                                             |
|   |                                     |   | 3 | 2 | 3 | 2 |   |                                                                                                             |
|   |                                     |   | E | E | E | E |   |                                                                                                             |
|   |                                     |   | - | - | - | - |   |                                                                                                             |
|   |                                     |   | 0 | 0 | 0 | 0 |   |                                                                                                             |
|   |                                     |   | 3 | 2 | 3 | 2 |   |                                                                                                             |
| 2 | <a href="#">negative</a>            | 1 | 1 | 1 | 1 | 1 |   |                                                                                                             |
| 8 | <a href="#">regulation of</a>       | 4 | . | . | . | . |   |                                                                                                             |
| 2 | <a href="#">macromolecule</a>       | 3 | 9 | 5 | 9 | 5 | 1 | Ajuba, TIPIN, LHX1, HBG, HBGA, Notch, DR1, NOTCH1 precursor, Adult hemoglobin, ZHX3, 14-3-3, RBBP7 (RbAp46) |
| 2 | <a href="#">biosynthetic</a>        | 0 | 2 | 1 | 2 | 1 | 2 |                                                                                                             |
|   | <a href="#">process</a>             | 0 | 6 | 2 | 6 | 2 |   |                                                                                                             |
|   |                                     |   | E | E | E | E |   |                                                                                                             |
|   |                                     |   | - | - | - | - |   |                                                                                                             |
|   |                                     |   | 0 | 0 | 0 | 0 |   |                                                                                                             |
|   |                                     |   | 3 | 2 | 3 | 2 |   |                                                                                                             |
| 2 |                                     | 2 | 1 | 1 | 1 | 1 |   |                                                                                                             |
| 8 |                                     | 7 | . | . | . | . |   |                                                                                                             |
| 3 | <a href="#">regeneration</a>        | 4 | 9 | 5 | 9 | 5 | 5 | Tissue kallikreins, Cyclin B1, Notch, NOTCH1 precursor, Cyclin B                                            |
|   |                                     |   | 2 | 1 | 2 | 1 |   |                                                                                                             |
|   |                                     |   | 8 | 2 | 8 | 2 |   |                                                                                                             |
|   |                                     |   | E | E | E | E |   |                                                                                                             |
|   |                                     |   | - | - | - | - |   |                                                                                                             |
|   |                                     |   | 0 | 0 | 0 | 0 |   |                                                                                                             |
|   |                                     |   | 3 | 2 | 3 | 2 |   |                                                                                                             |
| 2 |                                     | 4 | 1 | 1 | 1 | 1 |   |                                                                                                             |
| 8 | <a href="#">regulation of</a>       | 0 | . | . | . | . |   |                                                                                                             |
| 4 | <a href="#">anatomical</a>          | 4 | 9 | 5 | 9 | 5 | 6 | Tissue kallikreins, Rab-11A, Rab-3B, Rab-3, Kallikrein 3 (PSA), Adult hemoglobin                            |
|   | <a href="#">structure size</a>      | 4 | 3 | 1 | 3 | 1 |   |                                                                                                             |
|   |                                     |   | 7 | 2 | 7 | 2 |   |                                                                                                             |
|   |                                     |   | E | E | E | E |   |                                                                                                             |
|   |                                     |   | - | - | - | - |   |                                                                                                             |
|   |                                     |   | 0 | 0 | 0 | 0 |   |                                                                                                             |
|   |                                     |   | 3 | 2 | 3 | 2 |   |                                                                                                             |
| 2 | <a href="#">positive regulation</a> | 8 | 1 | 1 | 1 | 1 |   |                                                                                                             |
| 8 | <a href="#">of protein</a>          | 7 | . | . | . | . |   |                                                                                                             |
| 5 | <a href="#">phosphorylation</a>     | 5 | 9 | 5 | 9 | 5 | 9 | Ajuba, Cyclin B1, IRT-1, TIRAP (Mal), ERK1 (MAPK3), CD43, Cyclin B, ERK1/2, 14-3-3                          |
|   |                                     |   | 4 | 1 | 4 | 1 |   |                                                                                                             |
|   |                                     |   | 5 | 2 | 5 | 2 |   |                                                                                                             |
|   |                                     |   | E | E | E | E |   |                                                                                                             |
|   |                                     |   | - | - | - | - |   |                                                                                                             |
|   |                                     |   | 0 | 0 | 0 | 0 |   |                                                                                                             |

|     |                                                                    |  |                                           |                                           |                                           |                                           |                                           |                                                                                                                                                                                               |
|-----|--------------------------------------------------------------------|--|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                                                                    |  | 3                                         | 2                                         | 3                                         | 2                                         |                                           |                                                                                                                                                                                               |
| 286 | <a href="#">cellular response to chemical stimulus</a>             |  | 1<br>.<br>9<br>4<br>7<br>2<br>9<br>4<br>5 | 1<br>.<br>5<br>1<br>2<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>4<br>7<br>E<br>-<br>0<br>2 | 1<br>.<br>5<br>1<br>2<br>E<br>-<br>0<br>3 | 1<br>.<br>5<br>1<br>2<br>E<br>-<br>0<br>2 | Cyclin B1, AL1A1, LHX1, IRT-1, TIRAP (Mal), Notch, ERK1 (MAPK3), NOTCH1 precursor, SULT1E1, NFKBIL1, PLEKHG2, Spinophilin, Cyclin B, Adult hemoglobin, Protrudin, RIG-G, ERK1/2, UGDH, 14-3-3 |
| 287 | <a href="#">regulation of chemotaxis</a>                           |  | 1<br>.<br>9<br>6<br>7<br>E<br>1<br>6<br>4 | 1<br>.<br>5<br>2<br>2<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>6<br>7<br>E<br>-<br>0<br>2 | 1<br>.<br>5<br>2<br>2<br>E<br>-<br>0<br>3 | 1<br>.<br>5<br>2<br>2<br>E<br>-<br>0<br>2 | IRT-1, TIRAP (Mal), Notch, NOTCH1 precursor                                                                                                                                                   |
| 288 | <a href="#">embryo development ending in birth or egg hatching</a> |  | 1<br>.<br>9<br>7<br>5<br>E<br>8<br>7<br>7 | 1<br>.<br>5<br>2<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>7<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>5<br>2<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>5<br>2<br>3<br>E<br>-<br>0<br>2 | Cyclin B1, LHX1, Notch, SRB7, NOTCH1 precursor, Cyclin B, Adult hemoglobin, ERK1/2, DEAF                                                                                                      |
| 289 | <a href="#">cell projection morphogenesis</a>                      |  | 2<br>.<br>0<br>0<br>6<br>E<br>8<br>7<br>9 | 1<br>.<br>5<br>4<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>0<br>6<br>E<br>-<br>0<br>2 | 1<br>.<br>5<br>4<br>0<br>E<br>-<br>0<br>3 | 1<br>.<br>5<br>4<br>0<br>E<br>-<br>0<br>2 | Tissue kallikreins, LHX1, Olfactory receptor, Notch, ERK1 (MAPK3), NOTCH1 precursor, Rab-3, ERK1/2, 14-3-3                                                                                    |
| 290 | <a href="#">cellular response to hypoxia</a>                       |  | 2<br>.<br>0<br>1<br>1<br>E<br>1<br>6<br>5 | 1<br>.<br>5<br>4<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>1<br>1<br>E<br>-<br>0<br>2 | 1<br>.<br>5<br>4<br>0<br>E<br>-<br>0<br>3 | 1<br>.<br>5<br>4<br>0<br>E<br>-<br>0<br>2 | Cyclin B1, Notch, NOTCH1 precursor, Cyclin B                                                                                                                                                  |

|     |                                                                                                                              |     |            |              |            |              |    |                                                                                                    |
|-----|------------------------------------------------------------------------------------------------------------------------------|-----|------------|--------------|------------|--------------|----|----------------------------------------------------------------------------------------------------|
| 291 | <a href="#">protein heterooligomerization</a>                                                                                | 166 | 2055EE-03  | 1059EE--02   | 2055EE--03 | 1059EE--02   | 4  | HBG, HBGA, Adult hemoglobin, 14-3-3                                                                |
| 292 | <a href="#">regulation of glial cell proliferation</a>                                                                       | 21  | 2078EE--03 | 10578EE--03  | 2078EE--03 | 10578EE--03  | 2  | Notch, NOTCH1 precursor                                                                            |
| 293 | <a href="#">secretory columnar luminal epithelial cell differentiation involved in prostate glandular acinus development</a> | 21  | 2078EE--03 | 10578EE--03  | 2078EE--03 | 10578EE--03  | 2  | Notch, NOTCH1 precursor                                                                            |
| 294 | <a href="#">positive regulation of mRNA 3'-end processing</a>                                                                | 21  | 2078EE--03 | 10578EE--03  | 2078EE--03 | 10578EE--03  | 2  | Cyclin B1, Cyclin B                                                                                |
| 295 | <a href="#">cellular response to decreased oxygen levels</a>                                                                 | 167 | 2011EE--03 | 105011EE--03 | 2011EE--03 | 105011EE--03 | 4  | Cyclin B1, Notch, NOTCH1 precursor, Cyclin B                                                       |
| 29  | <a href="#">negative regulation of nitrogen</a>                                                                              | 14  | 2011EE--03 | 105011EE--03 | 2011EE--03 | 105011EE--03 | 12 | Ajuba, TIPIN, LHX1, HBG, HBGA, Notch, DR1, NOTCH1 precursor, Adult hemoglobin, ZHX3, 14-3-3, RBBP7 |

|     |                                                                  |      |         |         |      |    |                                                                                                                                                                                                                                |
|-----|------------------------------------------------------------------|------|---------|---------|------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6   | <a href="#">compound metabolic process</a>                       | 46   | 11515   | 1818    | 5757 |    | (RbAp46)                                                                                                                                                                                                                       |
|     |                                                                  |      | E E E E | E E E E |      |    |                                                                                                                                                                                                                                |
|     |                                                                  |      | - - - - | - - - - |      |    |                                                                                                                                                                                                                                |
|     |                                                                  |      | 0000    | 0000    |      |    |                                                                                                                                                                                                                                |
|     |                                                                  |      | 3232    | 3232    |      |    |                                                                                                                                                                                                                                |
| 297 | <a href="#">activation of MAPKK activity</a>                     | 80   | 2121    | 2626    | 2626 | 3  | ERK1 (MAPK3), ERK1/2, 14-3-3                                                                                                                                                                                                   |
|     |                                                                  |      | 1111    | 1111    |      |    |                                                                                                                                                                                                                                |
|     |                                                                  |      | E E E E | E E E E |      |    |                                                                                                                                                                                                                                |
|     |                                                                  |      | - - - - | - - - - |      |    |                                                                                                                                                                                                                                |
|     |                                                                  |      | 0000    | 0000    |      |    |                                                                                                                                                                                                                                |
|     |                                                                  |      | 3232    | 3232    |      |    |                                                                                                                                                                                                                                |
| 298 | <a href="#">cardiac chamber morphogenesis</a>                    | 170  | 2121    | 2626    | 2626 | 4  | Tissue kallikreins, Notch, NOTCH1 precursor, Kallikrein 3 (PSA)                                                                                                                                                                |
|     |                                                                  |      | 4646    | 4646    |      |    |                                                                                                                                                                                                                                |
|     |                                                                  |      | 1818    | 1818    |      |    |                                                                                                                                                                                                                                |
|     |                                                                  |      | E E E E | E E E E |      |    |                                                                                                                                                                                                                                |
|     |                                                                  |      | - - - - | - - - - |      |    |                                                                                                                                                                                                                                |
|     |                                                                  |      | 0000    | 0000    |      |    |                                                                                                                                                                                                                                |
|     |                                                                  |      | 3232    | 3232    |      |    |                                                                                                                                                                                                                                |
| 299 | <a href="#">regulation of macromolecule biosynthetic process</a> | 4455 | 2121    | 2626    | 2626 | 25 | Ajuba, TIPIN, LHX1, HBG, HBGA, Gbp1, TEF-5, TIRAP (Mal), Olfactory receptor, PTD015, Notch, ERK1 (MAPK3), DR1, SRB7, NOTCH1 precursor, CD43, NFKBIL1, AO7, OBFC1, Adult hemoglobin, ZHX3, ERK1/2, DEAF, 14-3-3, RBBP7 (RbAp46) |
|     |                                                                  |      | 4646    | 4646    |      |    |                                                                                                                                                                                                                                |
|     |                                                                  |      | 6868    | 6868    |      |    |                                                                                                                                                                                                                                |
|     |                                                                  |      | E E E E | E E E E |      |    |                                                                                                                                                                                                                                |
|     |                                                                  |      | - - - - | - - - - |      |    |                                                                                                                                                                                                                                |
|     |                                                                  |      | 0000    | 0000    |      |    |                                                                                                                                                                                                                                |
|     |                                                                  |      | 3232    | 3232    |      |    |                                                                                                                                                                                                                                |
| 300 | <a href="#">developmental maturation</a>                         | 285  | 2121    | 2626    | 2626 | 5  | Cyclin B1, Notch, NOTCH1 precursor, Cyclin B, Rab-3                                                                                                                                                                            |
|     |                                                                  |      | 8989    | 8989    |      |    |                                                                                                                                                                                                                                |
|     |                                                                  |      | 8484    | 8484    |      |    |                                                                                                                                                                                                                                |
|     |                                                                  |      | E E E E | E E E E |      |    |                                                                                                                                                                                                                                |
|     |                                                                  |      | - - - - | - - - - |      |    |                                                                                                                                                                                                                                |
|     |                                                                  |      | 0000    | 0000    |      |    |                                                                                                                                                                                                                                |
|     |                                                                  |      | 3232    | 3232    |      |    |                                                                                                                                                                                                                                |
| 301 | <a href="#">negative regulation of RNA metabolic process</a>     | 1267 | 2121    | 2626    | 2626 | 11 | Ajuba, LHX1, HBG, HBGA, Notch, DR1, NOTCH1 precursor, Adult hemoglobin, ZHX3, 14-3-3, RBBP7 (RbAp46)                                                                                                                           |
|     |                                                                  |      | 2121    | 2626    | 2626 |    |                                                                                                                                                                                                                                |
|     |                                                                  |      | 6373    | 6373    |      |    |                                                                                                                                                                                                                                |
|     |                                                                  |      | 7212    | 7212    |      |    |                                                                                                                                                                                                                                |



|             |                                                      |                  |                                                |                                                |                                                     |                                                |        |                                                                                                                                                                                                                                        |
|-------------|------------------------------------------------------|------------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------------|------------------------------------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                      |                  | 6<br>E<br>-<br>0<br>3                          | 7<br>E<br>-<br>0<br>2                          | 6<br>E<br>-<br>0<br>3                               | 7<br>E<br>-<br>0<br>2                          |        |                                                                                                                                                                                                                                        |
| 3<br>0<br>2 | <a href="#">regulation of organelle organization</a> | 9<br>0<br>1      | 2<br>.<br>3<br>7<br>2<br>E<br>-<br>0<br>1      | 1<br>.<br>7<br>4<br>4<br>E<br>-<br>0<br>3      | 2<br>.<br>3<br>7<br>2<br>E<br>-<br>0<br>2           | 1<br>.<br>7<br>4<br>4<br>E<br>-<br>0<br>2      | 9      | Cyclin B1, Olfactory receptor, ERK1 (MAPK3), 14-3-3 zeta/delta, Spinophilin, Cyclin B, Rab-3, ERK1/2, 14-3-3                                                                                                                           |
| 3<br>0<br>3 | <a href="#">protein localization</a>                 | 1<br>8<br>7<br>8 | 2<br>.<br>3<br>8<br>5<br>E<br>-<br>0<br>3      | 1<br>.<br>7<br>4<br>8<br>5<br>E<br>-<br>0<br>2 | 2<br>.<br>3<br>7<br>8<br>5<br>E<br>-<br>0<br>3      | 1<br>.<br>7<br>4<br>8<br>5<br>E<br>-<br>0<br>2 | 1<br>4 | Ajuba, Rab-11A, SNX1, Olfactory receptor, Notch, Rab-3B, ERK1 (MAPK3), NOTCH1 precursor, 14-3-3 zeta/delta, NFKBIL1, Rab-3, Protrudin, ERK1/2, 14-3-3                                                                                  |
| 3<br>0<br>4 | <a href="#">regulation of biosynthetic process</a>   | 4<br>7<br>3<br>9 | 2<br>.<br>4<br>3<br>8<br>E<br>-<br>0<br>3<br>9 | 1<br>.<br>7<br>8<br>2<br>E<br>-<br>0<br>2<br>3 | 2<br>.<br>4<br>3<br>8<br>2<br>E<br>-<br>0<br>3<br>2 | 1<br>.<br>7<br>8<br>2<br>E<br>-<br>0<br>2<br>2 | 2<br>6 | Ajuba, TIPIN, LHX1, HBG, IRT-1, HBGA, Gbbp1, TEF-5, TIRAP (Mal), Olfactory receptor, PTD015, Notch, ERK1 (MAPK3), DR1, SRB7, NOTCH1 precursor, CD43, NFKBIL1, AO7, OBFC1, Adult hemoglobin, ZHX3, ERK1/2, DEAF, 14-3-3, RBBP7 (RbAp46) |
| 3<br>0<br>5 | <a href="#">azole transport</a>                      | 2<br>3           | 2<br>.<br>4<br>9<br>3<br>E<br>-<br>0<br>3      | 1<br>.<br>8<br>0<br>2<br>E<br>-<br>0<br>2      | 2<br>.<br>4<br>9<br>3<br>E<br>-<br>0<br>3           | 1<br>.<br>8<br>0<br>2<br>E<br>-<br>0<br>2      | 2      | 14-3-3 zeta/delta, 14-3-3                                                                                                                                                                                                              |
| 3<br>0<br>6 | <a href="#">mesenchyme morphogenesis</a>             | 2<br>3           | 2<br>.<br>4<br>9<br>3<br>E                     | 1<br>.<br>8<br>0<br>2<br>E                     | 2<br>.<br>4<br>9<br>3<br>E                          | 1<br>.<br>8<br>0<br>2<br>E                     | 2      | Notch, NOTCH1 precursor                                                                                                                                                                                                                |

|   |                                                                        |   |   |   |   |   |   |                                                                                                                                                                                                                                                                                                      |
|---|------------------------------------------------------------------------|---|---|---|---|---|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                        |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                      |
| 3 |                                                                        |   | 2 | 1 | 2 | 1 |   |                                                                                                                                                                                                                                                                                                      |
| 0 |                                                                        |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                      |
| 7 | <a href="#">muscle tissue development</a>                              | 4 | 4 | 8 | 4 | 8 |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        |   | 9 | 0 | 9 | 0 |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        |   | 6 | 2 | 6 | 2 |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        | 2 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        | 5 | 3 | 2 | 3 | 2 | 6 | Tissue kallikreins, Cyclin B1, Notch, NOTCH1 precursor, Cyclin B, Kallikrein 3 (PSA)                                                                                                                                                                                                                 |
| 3 |                                                                        |   | 2 | 1 | 2 | 1 |   |                                                                                                                                                                                                                                                                                                      |
| 0 |                                                                        |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                      |
| 8 | <a href="#">cell part morphogenesis</a>                                | 9 | 4 | 8 | 4 | 8 |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        |   | 9 | 0 | 9 | 0 |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        |   | 8 | 2 | 8 | 2 |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        | 0 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        | 8 | 3 | 2 | 3 | 2 | 9 | Tissue kallikreins, LHX1, Olfactory receptor, Notch, ERK1 (MAPK3), NOTCH1 precursor, Rab-3, ERK1/2, 14-3-3                                                                                                                                                                                           |
| 3 |                                                                        |   | 2 | 1 | 2 | 1 |   |                                                                                                                                                                                                                                                                                                      |
| 0 |                                                                        |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                      |
| 9 | <a href="#">negative regulation of macromolecule metabolic process</a> | 2 | 5 | 8 | 5 | 8 |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        |   | 1 | 0 | 1 | 0 |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        |   | 0 | 4 | 0 | 4 |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        | 2 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        | 1 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        | 0 | 0 | 0 | 0 | 0 | 1 | Ajuba, Cyclin B1, TIPIN, LHX1, HBG, IRT-1, HBGA, Notch, DR1, NOTCH1 precursor, Cyclin B, Adult hemoglobin, ZHX3, 14-3-3, RBBP7 (RbAp46)                                                                                                                                                              |
|   |                                                                        | 3 | 3 | 2 | 3 | 2 | 5 |                                                                                                                                                                                                                                                                                                      |
| 3 |                                                                        |   | 2 | 1 | 2 | 1 |   |                                                                                                                                                                                                                                                                                                      |
| 1 |                                                                        |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                      |
| 0 | <a href="#">cellular response to stress</a>                            | 1 | 5 | 8 | 5 | 8 |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        |   | 8 | 5 | 8 | 5 |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        |   | 7 | 3 | 7 | 3 |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        | 6 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        | 8 | 0 | 0 | 0 | 0 | 1 | Cyclin B1, TIPIN, IRT-1, TIRAP (Mal), Notch, ERK1 (MAPK3), NOTCH1 precursor, Cyclin B, Adult hemoglobin, ERK1/2, 14-3-3, CapZIP, RBBP7 (RbAp46)                                                                                                                                                      |
|   |                                                                        | 5 | 3 | 2 | 3 | 2 | 3 |                                                                                                                                                                                                                                                                                                      |
| 3 |                                                                        |   | 2 | 1 | 2 | 1 |   |                                                                                                                                                                                                                                                                                                      |
| 1 |                                                                        |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                      |
| 1 | <a href="#">cellular component organization or biogenesis</a>          | 5 | 6 | 8 | 6 | 8 |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        |   | 1 | 6 | 1 | 6 |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        | 5 | 1 | 2 | 1 | 2 |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        | 5 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                      |
|   |                                                                        | 5 | - | - | - | - | 2 | Ajuba, Tissue kallikreins, ZNF261, LST1, Cyclin B1, TIPIN, AL1A1, LHX1, HBG, IRT-1, HBGA, Rab-11A, Olfactory receptor, Notch, Rab-3B, ERK1 (MAPK3), DR1, NOTCH1 precursor, 14-3-3 zeta/delta, CKS2, OBFC1, Spinophilin, Cyclin B, Rab-3, Adult hemoglobin, Protrudin, ERK1/2, 14-3-3, RBBP7 (RbAp46) |
|   |                                                                        | 7 | 0 | 0 | 0 | 0 | 9 |                                                                                                                                                                                                                                                                                                      |

|   |                                      |   |   |   |   |   |   |                                                                                                                                                                                                                                                                                                                  |
|---|--------------------------------------|---|---|---|---|---|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                      |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                  |
| 3 | <a href="#">in utero</a>             | 5 | 2 | 1 | 2 | 1 |   |                                                                                                                                                                                                                                                                                                                  |
| 1 | <a href="#">embryonic</a>            | 7 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                  |
| 2 | <a href="#">development</a>          | 9 | 6 | 8 | 6 | 8 | 7 | Cyclin B1, Notch, SRB7, NOTCH1 precursor, Cyclin B, Adult hemoglobin, ERK1/2                                                                                                                                                                                                                                     |
|   |                                      |   | 1 | 6 | 1 | 6 |   |                                                                                                                                                                                                                                                                                                                  |
|   |                                      |   | 5 | 2 | 5 | 2 |   |                                                                                                                                                                                                                                                                                                                  |
|   |                                      |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                  |
|   |                                      |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                  |
|   |                                      |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                  |
|   |                                      |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                  |
| 3 |                                      |   | 2 | 1 | 2 | 1 |   |                                                                                                                                                                                                                                                                                                                  |
| 1 |                                      |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                  |
| 3 | <a href="#">response to</a>          | 2 | 6 | 8 | 6 | 8 |   |                                                                                                                                                                                                                                                                                                                  |
| 1 | <a href="#">external stimulus</a>    | 5 | 3 | 6 | 3 | 6 | 1 | Tissue kallikreins, Kallikrein 1, Cyclin B1, LHX1, IRT-1, TIRAP (Mal), Olfactory receptor, Notch, ERK1 (MAPK3), NOTCH1 precursor, CD43, NFKBIL1, Spinophilin, Cyclin B, RIG-G, ERK1/2, 14-3-3                                                                                                                    |
| 3 |                                      | 5 | 5 | 5 | 5 | 5 | 7 |                                                                                                                                                                                                                                                                                                                  |
|   |                                      |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                  |
|   |                                      |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                  |
|   |                                      |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                  |
|   |                                      |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                  |
| 3 |                                      |   | 2 | 1 | 2 | 1 |   |                                                                                                                                                                                                                                                                                                                  |
| 1 | <a href="#">kidney epithelium</a>    | 8 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                  |
| 4 | <a href="#">development</a>          | 5 | 6 | 8 | 6 | 8 | 3 | LHX1, Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                    |
|   |                                      |   | 4 | 6 | 4 | 6 |   |                                                                                                                                                                                                                                                                                                                  |
|   |                                      |   | 0 | 5 | 0 | 5 |   |                                                                                                                                                                                                                                                                                                                  |
|   |                                      |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                  |
|   |                                      |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                  |
|   |                                      |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                  |
|   |                                      |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                  |
| 3 |                                      |   | 2 | 1 | 2 | 1 |   |                                                                                                                                                                                                                                                                                                                  |
| 1 | <a href="#">response to</a>          | 5 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                  |
| 5 | <a href="#">chemical</a>             | 2 | 6 | 8 | 6 | 8 | 2 | Tissue kallikreins, Kallikrein 1, Cyclin B1, AL1A1, LHX1, IRT-1, TIRAP (Mal), Olfactory receptor, Notch, ERK1 (MAPK3), CALCOCO2, NOTCH1 precursor, SULT1E1, CD43, 14-3-3 zeta/delta, NFKBIL1, MTL5, OR10G3, PLEKHG2, Annexin XI, Spinophilin, Cyclin B, Adult hemoglobin, Protrudin, RIG-G, ERK1/2, UGDH, 14-3-3 |
|   |                                      |   | 4 | 6 | 4 | 6 | 8 |                                                                                                                                                                                                                                                                                                                  |
|   |                                      |   | 5 | 5 | 5 | 5 |   |                                                                                                                                                                                                                                                                                                                  |
|   |                                      |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                  |
|   |                                      |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                  |
|   |                                      |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                  |
|   |                                      |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                  |
| 3 |                                      |   | 2 | 1 | 2 | 1 |   |                                                                                                                                                                                                                                                                                                                  |
| 1 | <a href="#">regulation of</a>        | 1 | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                  |
| 6 | <a href="#">transferase activity</a> | 9 | 6 | 8 | 6 | 8 | 1 | Ajuba, Tissue kallikreins, Cyclin B1, TIRAP (Mal), ERK1 (MAPK3), CKS2, Cyclin B, Kallikrein 3 (PSA), ERK1/2, 14-3-3                                                                                                                                                                                              |
|   |                                      |   | 6 | 7 | 6 | 7 | 0 |                                                                                                                                                                                                                                                                                                                  |
|   |                                      |   | 5 | 3 | 5 | 3 |   |                                                                                                                                                                                                                                                                                                                  |
|   |                                      |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                  |
|   |                                      |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                  |
|   |                                      |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                  |
|   |                                      |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                  |

|     |                                                                            |    |            |              |            |   |                               |
|-----|----------------------------------------------------------------------------|----|------------|--------------|------------|---|-------------------------------|
| 317 | <a href="#">cellular response to follicle-stimulating hormone stimulus</a> | 24 | 2714EE--03 | 187184EE--02 | 2714EE--03 | 2 | Notch, NOTCH1 precursor       |
| 318 | <a href="#">apoptotic process involved in morphogenesis</a>                | 24 | 2714EE--03 | 187184EE--02 | 2714EE--03 | 2 | Notch, NOTCH1 precursor       |
| 319 | <a href="#">cardiac right ventricle morphogenesis</a>                      | 24 | 2714EE--03 | 187184EE--02 | 2714EE--03 | 2 | Notch, NOTCH1 precursor       |
| 320 | <a href="#">cellular response to ammonium ion</a>                          | 24 | 2714EE--03 | 187184EE--02 | 2714EE--03 | 2 | IRT-1, Spinophilin            |
| 321 | <a href="#">regulation of mRNA 3'-end processing</a>                       | 24 | 2714EE--03 | 187184EE--02 | 2714EE--03 | 2 | Cyclin B1, Cyclin B           |
| 32  | <a href="#">endoderm development</a>                                       | 86 | 2714EE--03 | 187184EE--02 | 2714EE--03 | 3 | LHX1, Notch, NOTCH1 precursor |

|             |                                                                      |                  |                                      |                                      |                                      |                                      |        |                                                                                                             |
|-------------|----------------------------------------------------------------------|------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------|-------------------------------------------------------------------------------------------------------------|
| 2           |                                                                      |                  | 7<br>2<br>9<br>E<br>-<br>0<br>3      | 8<br>8<br>0<br>E<br>-<br>0<br>2      | 7<br>2<br>9<br>E<br>-<br>0<br>3      | 8<br>8<br>0<br>E<br>-<br>0<br>2      |        |                                                                                                             |
| 3<br>2<br>3 | <a href="#">DNA-templated transcription, initiation</a>              | 2<br>9<br>7      | 2<br>7<br>3<br>4<br>E<br>-<br>0<br>3 | 1<br>8<br>8<br>0<br>E<br>-<br>0<br>2 | 2<br>7<br>3<br>4<br>E<br>-<br>0<br>3 | 1<br>8<br>8<br>0<br>E<br>-<br>0<br>2 | 5      | TEF-5, Notch, ERK1 (MAPK3), NOTCH1 precursor, ERK1/2                                                        |
| 3<br>2<br>4 | <a href="#">negative regulation of cellular biosynthetic process</a> | 1<br>4<br>9<br>4 | 2<br>7<br>7<br>4<br>E<br>-<br>0<br>3 | 1<br>9<br>0<br>1<br>E<br>-<br>0<br>2 | 2<br>7<br>7<br>4<br>E<br>-<br>0<br>3 | 1<br>9<br>0<br>1<br>E<br>-<br>0<br>2 | 1<br>2 | Ajuba, TIPIN, LHX1, HBG, HBGA, Notch, DR1, NOTCH1 precursor, Adult hemoglobin, ZHX3, 14-3-3, RBBP7 (RbAp46) |
| 3<br>2<br>5 | <a href="#">regulation of chromosome organization</a>                | 1<br>8<br>1      | 2<br>8<br>1<br>1<br>E<br>-<br>0<br>3 | 1<br>9<br>2<br>1<br>E<br>-<br>0<br>2 | 2<br>8<br>1<br>1<br>E<br>-<br>0<br>3 | 1<br>9<br>2<br>1<br>E<br>-<br>0<br>2 | 4      | Cyclin B1, ERK1 (MAPK3), Cyclin B, ERK1/2                                                                   |
| 3<br>2<br>6 | <a href="#">cellular response to oxygen levels</a>                   | 1<br>8<br>2      | 2<br>8<br>6<br>7<br>E<br>-<br>0<br>3 | 1<br>9<br>5<br>2<br>E<br>-<br>0<br>2 | 2<br>8<br>6<br>7<br>E<br>-<br>0<br>3 | 1<br>9<br>5<br>2<br>E<br>-<br>0<br>2 | 4      | Cyclin B1, Notch, NOTCH1 precursor, Cyclin B                                                                |
| 3<br>2<br>7 | <a href="#">cellular response to growth factor stimulus</a>          | 7<br>5<br>3      | 2<br>7<br>5                          | 1<br>8<br>5                          | 2<br>8<br>7                          | 1<br>9<br>5                          | 8      | LHX1, Notch, ERK1 (MAPK3), NOTCH1 precursor, PLEKHG2, Protrudin, ERK1/2, 14-3-3                             |

|             |                                                                                       |             |                                 |                                 |                                 |                                 |   |                                                              |
|-------------|---------------------------------------------------------------------------------------|-------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---|--------------------------------------------------------------|
|             |                                                                                       |             | 8<br>E<br>-<br>0<br>3           | 2<br>E<br>-<br>0<br>2           | 8<br>E<br>-<br>0<br>3           | 2<br>E<br>-<br>0<br>2           |   |                                                              |
| 3<br>2<br>8 | <a href="#">regulation of vesicle-mediated transport</a>                              | 4<br>3<br>9 | 2<br>.<br>9<br>3<br>0<br>E<br>- | 1<br>.<br>9<br>5<br>2<br>E<br>- | 2<br>.<br>9<br>3<br>0<br>E<br>- | 1<br>.<br>9<br>5<br>2<br>E<br>- | 6 | Notch, Rab-3B, ERK1 (MAPK3), NOTCH1 precursor, Rab-3, ERK1/2 |
| 3<br>2<br>9 | <a href="#">metaphase plate congression</a>                                           | 2<br>5      | 2<br>.<br>9<br>4<br>4<br>E<br>- | 1<br>.<br>9<br>5<br>2<br>E<br>- | 2<br>.<br>9<br>4<br>4<br>E<br>- | 1<br>.<br>9<br>5<br>2<br>E<br>- | 2 | Cyclin B1, Cyclin B                                          |
| 3<br>3<br>0 | <a href="#">regulation of blood volume by renin-angiotensin</a>                       | 2<br>5      | 2<br>.<br>9<br>4<br>4<br>E<br>- | 1<br>.<br>9<br>5<br>2<br>E<br>- | 2<br>.<br>9<br>4<br>4<br>E<br>- | 1<br>.<br>9<br>5<br>2<br>E<br>- | 2 | Tissue kallikreins, Kallikrein 3 (PSA)                       |
| 3<br>3<br>1 | <a href="#">regulation of synaptic transmission, dopaminergic</a>                     | 2<br>5      | 2<br>.<br>9<br>4<br>4<br>E<br>- | 1<br>.<br>9<br>5<br>2<br>E<br>- | 2<br>.<br>9<br>4<br>4<br>E<br>- | 1<br>.<br>9<br>5<br>2<br>E<br>- | 2 | Rab-3B, Rab-3                                                |
| 3<br>3<br>2 | <a href="#">cell surface receptor signaling pathway involved in heart development</a> | 2<br>5      | 2<br>.<br>9<br>4<br>4<br>E      | 1<br>.<br>9<br>5<br>2<br>E      | 2<br>.<br>9<br>4<br>4<br>E      | 1<br>.<br>9<br>5<br>2<br>E      | 2 | Notch, NOTCH1 precursor                                      |

|   |                                                                           |   |   |   |   |   |   |                                                                                                                                                                                                                          |
|---|---------------------------------------------------------------------------|---|---|---|---|---|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                           |   | - | - | - | - |   |                                                                                                                                                                                                                          |
|   |                                                                           |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                          |
|   |                                                                           |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                          |
| 3 |                                                                           |   | 2 | 1 | 2 | 1 |   |                                                                                                                                                                                                                          |
| 3 |                                                                           |   | . | . | . | . |   |                                                                                                                                                                                                                          |
| 3 | <a href="#">response to insecticide</a>                                   | 2 | 9 | 9 | 9 | 9 |   |                                                                                                                                                                                                                          |
|   |                                                                           | 5 | 4 | 5 | 4 | 5 |   |                                                                                                                                                                                                                          |
|   |                                                                           |   | 4 | 2 | 4 | 2 |   |                                                                                                                                                                                                                          |
|   |                                                                           |   | E | E | E | E |   |                                                                                                                                                                                                                          |
|   |                                                                           |   | - | - | - | - |   |                                                                                                                                                                                                                          |
|   |                                                                           |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                          |
|   |                                                                           |   | 3 | 2 | 3 | 2 | 2 | Cyclin B1, Cyclin B                                                                                                                                                                                                      |
| 3 |                                                                           |   | 2 | 1 | 2 | 1 |   |                                                                                                                                                                                                                          |
| 3 |                                                                           |   | . | . | . | . |   |                                                                                                                                                                                                                          |
| 4 | <a href="#">positive regulation of histone acetylation</a>                | 2 | 9 | 9 | 9 | 9 |   |                                                                                                                                                                                                                          |
|   |                                                                           | 5 | 4 | 5 | 4 | 5 |   |                                                                                                                                                                                                                          |
|   |                                                                           |   | 4 | 2 | 4 | 2 |   |                                                                                                                                                                                                                          |
|   |                                                                           |   | E | E | E | E |   |                                                                                                                                                                                                                          |
|   |                                                                           |   | - | - | - | - |   |                                                                                                                                                                                                                          |
|   |                                                                           |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                          |
|   |                                                                           |   | 3 | 2 | 3 | 2 | 2 | ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                     |
| 3 |                                                                           |   | 2 | 1 | 2 | 1 |   |                                                                                                                                                                                                                          |
| 3 |                                                                           |   | . | . | . | . |   |                                                                                                                                                                                                                          |
| 5 | <a href="#">cardiac epithelial to mesenchymal transition</a>              | 2 | 9 | 9 | 9 | 9 |   |                                                                                                                                                                                                                          |
|   |                                                                           | 5 | 4 | 5 | 4 | 5 |   |                                                                                                                                                                                                                          |
|   |                                                                           |   | 4 | 2 | 4 | 2 |   |                                                                                                                                                                                                                          |
|   |                                                                           |   | E | E | E | E |   |                                                                                                                                                                                                                          |
|   |                                                                           |   | - | - | - | - |   |                                                                                                                                                                                                                          |
|   |                                                                           |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                          |
|   |                                                                           |   | 3 | 2 | 3 | 2 | 2 | Notch, NOTCH1 precursor                                                                                                                                                                                                  |
| 3 |                                                                           |   | 2 | 1 | 2 | 1 |   |                                                                                                                                                                                                                          |
| 3 |                                                                           |   | . | . | . | . |   |                                                                                                                                                                                                                          |
| 6 | <a href="#">cell morphogenesis</a>                                        | 1 | 9 | 9 | 9 | 9 |   |                                                                                                                                                                                                                          |
|   |                                                                           | 1 | 5 | 5 | 5 | 5 |   |                                                                                                                                                                                                                          |
|   |                                                                           | 1 | 7 | 5 | 7 | 5 |   |                                                                                                                                                                                                                          |
|   |                                                                           | 5 | E | E | E | E |   |                                                                                                                                                                                                                          |
|   |                                                                           |   | - | - | - | - |   |                                                                                                                                                                                                                          |
|   |                                                                           |   | 0 | 0 | 0 | 0 | 1 | Tissue kallikreins, LST1, LHX1, Olfactory receptor, Notch, ERK1 (MAPK3), NOTCH1 precursor, Rab-3, ERK1/2, 14-3-3                                                                                                         |
|   |                                                                           |   | 3 | 2 | 3 | 2 | 0 |                                                                                                                                                                                                                          |
| 3 |                                                                           |   | 3 | 1 | 3 | 1 |   |                                                                                                                                                                                                                          |
| 3 |                                                                           |   | . | . | . | . |   |                                                                                                                                                                                                                          |
| 3 | <a href="#">regulation of cellular macromolecule biosynthetic process</a> | 4 | 0 | 9 | 0 | 9 |   |                                                                                                                                                                                                                          |
| 7 |                                                                           | 2 | 2 | 9 | 2 | 9 |   |                                                                                                                                                                                                                          |
|   |                                                                           | 2 | 8 | 5 | 8 | 5 |   | Ajuba, TIPIN, LHX1, HBG, HBGA, Gbp1, TEF-5, TIRAP (Mal), Olfactory receptor, PTD015, Notch, ERK1 (MAPK3), DR1, SRB7, NOTCH1 precursor, NFKBIL1, AO7, OBFC1, Adult hemoglobin, ZHX3, ERK1/2, DEAF, 14-3-3, RBBP7 (RbAp46) |
|   |                                                                           | 9 | - | - | - | - | 2 |                                                                                                                                                                                                                          |
|   |                                                                           | 2 | 0 | 0 | 0 | 0 | 4 |                                                                                                                                                                                                                          |

|   |                                                                      |   |   |   |   |   |   |                                                                                                                                                                                                                                                                                     |
|---|----------------------------------------------------------------------|---|---|---|---|---|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                      |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                     |
| 3 | <a href="#">regulation of macromolecule metabolic process</a>        | 6 | 3 | 2 | 3 | 2 | 3 | Ajuba, Cyclin B1, TIPIN, LHX1, HBG, IRT-1, HBGA, Gbp1, SNX1, TEF-5, TIRAP (Mal), Olfactory receptor, PTD015, Notch, ERK1 (MAPK3), DR1, SRB7, NOTCH1 precursor, CD43, NFKBIL1, AO7, CKS2, OBFC1, Spinophilin, Cyclin B, Adult hemoglobin, ZHX3, ERK1/2, DEAF, 14-3-3, RBBP7 (RbAp46) |
| 3 | <a href="#">regulation of multicellular organismal process</a>       | 3 | 3 | 2 | 3 | 2 | 1 | Tissue kallikreins, Kallikrein 1, Cyclin B1, LHX1, IRT-1, Rab-11A, TIRAP (Mal), Notch, Thioredoxin-like 2, NOTCH1 precursor, CD43, NFKBIL1, Cyclin B, Kallikrein 3 (PSA), Adult hemoglobin, ZHX3, DEAF, 14-3-3                                                                      |
| 3 | <a href="#">regulation of heart morphogenesis</a>                    | 2 | 3 | 2 | 3 | 2 | 2 | Notch, NOTCH1 precursor                                                                                                                                                                                                                                                             |
| 3 | <a href="#">glomerulus vasculature development</a>                   | 2 | 3 | 2 | 3 | 2 | 2 | Notch, NOTCH1 precursor                                                                                                                                                                                                                                                             |
| 3 | <a href="#">TIRAP-dependent toll-like receptor signaling pathway</a> | 1 | 3 | 2 | 3 | 2 | 1 | TIRAP (Mal)                                                                                                                                                                                                                                                                         |



|             |                                                                                    |   |                                                |                                           |                                           |                                           |   |             |
|-------------|------------------------------------------------------------------------------------|---|------------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|-------------|
| 3<br>4<br>3 | <a href="#">oviduct epithelium development</a>                                     | 1 | 3<br>.<br>2<br>3<br>3<br>3<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>3<br>4<br>E<br>-<br>0<br>2 | 3<br>.<br>2<br>3<br>3<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>3<br>4<br>E<br>-<br>0<br>2 | 1 | LHX1        |
| 3<br>4<br>4 | <a href="#">TIRAP-dependent toll-like receptor 4 signaling pathway</a>             | 1 | 3<br>.<br>2<br>3<br>3<br>E<br>-<br>0<br>3      | 2<br>.<br>0<br>3<br>4<br>E<br>-<br>0<br>2 | 3<br>.<br>2<br>3<br>3<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>3<br>4<br>E<br>-<br>0<br>2 | 1 | TIRAP (Mal) |
| 3<br>4<br>5 | <a href="#">regulation of interleukin-15 production</a>                            | 1 | 3<br>.<br>2<br>3<br>3<br>E<br>-<br>0<br>3      | 2<br>.<br>0<br>3<br>4<br>E<br>-<br>0<br>2 | 3<br>.<br>2<br>3<br>3<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>3<br>4<br>E<br>-<br>0<br>2 | 1 | TIRAP (Mal) |
| 3<br>4<br>6 | <a href="#">positive regulation of chemokine (C-X-C motif) ligand 1 production</a> | 1 | 3<br>.<br>2<br>3<br>3<br>E<br>-<br>0<br>3      | 2<br>.<br>0<br>3<br>4<br>E<br>-<br>0<br>2 | 3<br>.<br>2<br>3<br>3<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>3<br>4<br>E<br>-<br>0<br>2 | 1 | TIRAP (Mal) |
| 3<br>4<br>7 | <a href="#">uterine epithelium development</a>                                     | 1 | 3<br>.<br>2<br>3<br>3<br>E<br>-<br>0<br>3      | 2<br>.<br>0<br>3<br>4<br>E<br>-<br>0<br>2 | 3<br>.<br>2<br>3<br>3<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>3<br>4<br>E<br>-<br>0<br>2 | 1 | LHX1        |
| 3<br>4      | <a href="#">positive regulation of muscle hyperplasia</a>                          | 1 | 3<br>.<br>2<br>3<br>3<br>E<br>-<br>0<br>3      | 2<br>.<br>0<br>3<br>4<br>E<br>-<br>0<br>2 | 3<br>.<br>2<br>3<br>3<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>3<br>4<br>E<br>-<br>0<br>2 | 1 | IRT-1       |

|             |                                                                           |   |                                      |                                      |                                      |                                      |   |             |
|-------------|---------------------------------------------------------------------------|---|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---|-------------|
| 8           |                                                                           |   | 2<br>3<br>3<br>E<br>-<br>0<br>3      | 0<br>3<br>4<br>E<br>-<br>0<br>2      | 2<br>3<br>3<br>E<br>-<br>0<br>3      | 0<br>3<br>4<br>E<br>-<br>0<br>2      |   |             |
| 3<br>4<br>9 | <a href="#">regulation of chemokine (C-X-C motif) ligand 1 production</a> | 1 | 3<br>2<br>3<br>3<br>E<br>-<br>0<br>3 | 2<br>0<br>3<br>4<br>E<br>-<br>0<br>2 | 3<br>2<br>3<br>3<br>E<br>-<br>0<br>3 | 2<br>0<br>3<br>4<br>E<br>-<br>0<br>2 | 1 | TIRAP (Mal) |
| 3<br>5<br>0 | <a href="#">horizontal cell localization</a>                              | 1 | 3<br>2<br>3<br>3<br>E<br>-<br>0<br>3 | 2<br>0<br>3<br>4<br>E<br>-<br>0<br>2 | 3<br>2<br>3<br>3<br>E<br>-<br>0<br>2 | 2<br>0<br>3<br>4<br>E<br>-<br>0<br>2 | 1 | LHX1        |
| 3<br>5<br>1 | <a href="#">nephric duct elongation</a>                                   | 1 | 3<br>2<br>3<br>3<br>E<br>-<br>0<br>3 | 2<br>0<br>3<br>4<br>E<br>-<br>0<br>2 | 3<br>2<br>3<br>3<br>E<br>-<br>0<br>2 | 2<br>0<br>3<br>4<br>E<br>-<br>0<br>2 | 1 | LHX1        |
| 3<br>5<br>2 | <a href="#">positive regulation of interleukin-15 production</a>          | 1 | 3<br>2<br>3<br>3<br>E<br>-<br>0<br>3 | 2<br>0<br>3<br>4<br>E<br>-<br>0<br>2 | 3<br>2<br>3<br>3<br>E<br>-<br>0<br>2 | 2<br>0<br>3<br>4<br>E<br>-<br>0<br>2 | 1 | TIRAP (Mal) |
| 3<br>5<br>3 | <a href="#">thymocyte aggregation</a>                                     | 1 | 3<br>2<br>3<br>3<br>3                | 2<br>0<br>3<br>3<br>3                | 3<br>2<br>3<br>3<br>3                | 2<br>0<br>3<br>3<br>3                | 1 | CD43        |

|             |                                                                   |             |                                           |                                           |                                           |                                           |   |                                                                                |
|-------------|-------------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|--------------------------------------------------------------------------------|
|             |                                                                   |             | 3<br>E<br>-<br>0<br>3                     | 4<br>E<br>-<br>0<br>2                     | 3<br>E<br>-<br>0<br>3                     | 4<br>E<br>-<br>0<br>2                     |   |                                                                                |
| 3<br>5<br>4 | <a href="#">cell division</a>                                     | 7<br>7<br>2 | 3<br>.<br>3<br>5<br>0<br>E<br>-<br>7<br>2 | 2<br>.<br>0<br>9<br>3<br>E<br>-<br>0<br>3 | 3<br>.<br>3<br>5<br>0<br>E<br>-<br>0<br>2 | 2<br>.<br>0<br>9<br>3<br>E<br>-<br>0<br>2 | 8 | Cyclin B1, TIPIN, Rab-11A, Notch, NOTCH1 precursor, CKS2, Annexin XI, Cyclin B |
| 3<br>5<br>5 | <a href="#">regulation of neural precursor cell proliferation</a> | 9<br>3      | 3<br>.<br>4<br>0<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>9<br>3<br>E<br>-<br>0<br>2 | 3<br>.<br>4<br>0<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>9<br>3<br>E<br>-<br>0<br>2 | 3 | LHX1, Notch, NOTCH1 precursor                                                  |
| 3<br>5<br>6 | <a href="#">cardiocyte differentiation</a>                        | 1<br>9<br>1 | 3<br>.<br>4<br>0<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>9<br>3<br>E<br>-<br>0<br>2 | 3<br>.<br>4<br>0<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>9<br>3<br>E<br>-<br>0<br>2 | 4 | Cyclin B1, Notch, NOTCH1 precursor, Cyclin B                                   |
| 3<br>5<br>7 | <a href="#">mast cell activation involved in immune response</a>  | 2<br>7      | 3<br>.<br>4<br>3<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>9<br>3<br>E<br>-<br>0<br>2 | 3<br>.<br>4<br>3<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>9<br>3<br>E<br>-<br>0<br>2 | 2 | 14-3-3 zeta/delta, 14-3-3                                                      |
| 3<br>5<br>8 | <a href="#">kidney vasculature development</a>                    | 2<br>7      | 3<br>.<br>4<br>3<br>0<br>E                | 2<br>.<br>0<br>9<br>3<br>E                | 3<br>.<br>4<br>3<br>0<br>E                | 2<br>.<br>0<br>9<br>3<br>E                | 2 | Notch, NOTCH1 precursor                                                        |

|   |                                                                    |   |   |   |   |   |   |                           |
|---|--------------------------------------------------------------------|---|---|---|---|---|---|---------------------------|
|   |                                                                    |   | - | - | - | - |   |                           |
|   |                                                                    |   | 0 | 0 | 0 | 0 |   |                           |
|   |                                                                    |   | 3 | 2 | 3 | 2 |   |                           |
| 3 | <a href="#">positive regulation of peptidyl-lysine acetylation</a> | 2 | . | . | . | . |   |                           |
| 5 |                                                                    | 7 | 4 | 0 | 4 | 0 |   |                           |
| 9 |                                                                    |   | 3 | 9 | 3 | 9 |   |                           |
|   |                                                                    |   | 0 | 3 | 0 | 3 |   |                           |
|   |                                                                    |   | E | E | E | E |   |                           |
|   |                                                                    |   | - | - | - | - |   |                           |
|   |                                                                    |   | 0 | 0 | 0 | 0 | 2 | ERK1 (MAPK3), ERK1/2      |
|   |                                                                    | 7 | 3 | 2 | 3 | 2 |   |                           |
| 3 |                                                                    |   | 3 | 2 | 3 | 2 |   |                           |
| 6 | <a href="#">mast cell degranulation</a>                            | 2 | . | . | . | . |   |                           |
| 0 |                                                                    | 7 | 4 | 0 | 4 | 0 |   |                           |
|   |                                                                    |   | 3 | 9 | 3 | 9 |   |                           |
|   |                                                                    |   | 0 | 3 | 0 | 3 |   |                           |
|   |                                                                    |   | E | E | E | E |   |                           |
|   |                                                                    |   | - | - | - | - |   |                           |
|   |                                                                    |   | 0 | 0 | 0 | 0 | 2 | 14-3-3 zeta/delta, 14-3-3 |
|   |                                                                    | 7 | 3 | 2 | 3 | 2 |   |                           |
| 3 |                                                                    |   | 3 | 2 | 3 | 2 |   |                           |
| 6 | <a href="#">epithelial cell fate commitment</a>                    | 2 | . | . | . | . |   |                           |
| 1 |                                                                    | 7 | 4 | 0 | 4 | 0 |   |                           |
|   |                                                                    |   | 3 | 9 | 3 | 9 |   |                           |
|   |                                                                    |   | 0 | 3 | 0 | 3 |   |                           |
|   |                                                                    |   | E | E | E | E |   |                           |
|   |                                                                    |   | - | - | - | - |   |                           |
|   |                                                                    |   | 0 | 0 | 0 | 0 | 2 | Notch, NOTCH1 precursor   |
|   |                                                                    | 7 | 3 | 2 | 3 | 2 |   |                           |
| 3 |                                                                    |   | 3 | 2 | 3 | 2 |   |                           |
| 6 | <a href="#">renal system vasculature development</a>               | 2 | . | . | . | . |   |                           |
| 2 |                                                                    | 7 | 4 | 0 | 4 | 0 |   |                           |
|   |                                                                    |   | 3 | 9 | 3 | 9 |   |                           |
|   |                                                                    |   | 0 | 3 | 0 | 3 |   |                           |
|   |                                                                    |   | E | E | E | E |   |                           |
|   |                                                                    |   | - | - | - | - |   |                           |
|   |                                                                    |   | 0 | 0 | 0 | 0 | 2 | Notch, NOTCH1 precursor   |
|   |                                                                    | 7 | 3 | 2 | 3 | 2 |   |                           |
| 3 |                                                                    |   | 3 | 2 | 3 | 2 |   |                           |
| 6 | <a href="#">positive regulation of neurotransmitter transport</a>  | 2 | . | . | . | . |   |                           |
| 3 |                                                                    | 7 | 4 | 0 | 4 | 0 |   |                           |
|   |                                                                    |   | 3 | 9 | 3 | 9 |   |                           |
|   |                                                                    |   | 0 | 3 | 0 | 3 |   |                           |
|   |                                                                    |   | E | E | E | E |   |                           |
|   |                                                                    |   | - | - | - | - |   |                           |
|   |                                                                    |   | 0 | 0 | 0 | 0 | 2 | Rab-3B, Rab-3             |
|   |                                                                    | 7 | 0 | 0 | 0 | 0 |   |                           |

|             |                                                        |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------|--------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                        |                  | 3                                         | 2                                         | 3                                         | 2                                         |        |                                                                                                                                                                                                                                                                                                                                                                                            |
| 3<br>6<br>4 | <a href="#">hair follicle maturation</a>               | 2<br>7           | 3<br>.<br>4<br>3<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>9<br>3<br>E<br>-<br>0<br>2 | 3<br>.<br>4<br>3<br>0<br>E<br>-<br>3<br>2 | 2<br>.<br>0<br>9<br>3<br>E<br>-<br>0<br>2 | 2      | Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                    |
| 3<br>6<br>5 | <a href="#">cellular response to stimulus</a>          | 7<br>6<br>2<br>8 | 3<br>.<br>4<br>4<br>6<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>9<br>6<br>E<br>-<br>0<br>2 | 3<br>.<br>4<br>4<br>6<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>9<br>6<br>E<br>-<br>0<br>2 | 3<br>6 | Tissue kallikreins, IGHG4, Kallikrein 1, Cyclin B1, TIPIN, AL1A1, LHX1, IRT-1, Rab-11A, TEF-5, TIRAP (Mal), Olfactory receptor, Notch, Rab-3B, IGHG1, ERK1 (MAPK3), NOTCH1 precursor, SULT1E1, CD43, 14-3-3 zeta/delta, NFKBIL1, CKS2, OR10G3, PLEKHG2, Spinophilin, Cyclin B, Rab-3, Kallikrein 3 (PSA), Adult hemoglobin, Protrudin, RIG-G, ERK1/2, UGDH, 14-3-3, CapZIP, RBBP7 (RbAp46) |
| 3<br>6<br>6 | <a href="#">reproduction</a>                           | 1<br>7<br>4<br>2 | 3<br>.<br>4<br>5<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>9<br>6<br>E<br>-<br>0<br>2 | 3<br>.<br>4<br>5<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>9<br>6<br>E<br>-<br>0<br>2 | 1<br>3 | Tissue kallikreins, Cyclin B1, AL1A1, LHX1, TEF-5, Olfactory receptor, Notch, NOTCH1 precursor, SULT1E1, CKS2, MTL5, Cyclin B, DEAF                                                                                                                                                                                                                                                        |
| 3<br>6<br>7 | <a href="#">localization</a>                           | 5<br>3<br>8<br>8 | 3<br>.<br>4<br>8<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>1<br>1<br>E<br>-<br>0<br>2 | 3<br>.<br>4<br>8<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>1<br>1<br>E<br>-<br>0<br>2 | 2<br>8 | Ajuba, IGHG4, Cyclin B1, LHX1, HBG, IRT-1, HBGA, Rab-11A, SNX1, TIP47, Olfactory receptor, Notch, Rab-3B, IGHG1, ERK1 (MAPK3), NOTCH1 precursor, CD43, 14-3-3 zeta/delta, NFKBIL1, OATP-C, Annexin XI, Spinophilin, Cyclin B, Rab-3, Adult hemoglobin, Protrudin, ERK1/2, 14-3-3                                                                                                           |
| 3<br>6<br>8 | <a href="#">toll-like receptor 5 signaling pathway</a> | 9<br>4           | 3<br>.<br>5<br>1<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>1<br>7<br>E<br>-<br>0<br>2 | 3<br>.<br>5<br>1<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>1<br>7<br>E<br>-<br>0<br>2 | 3      | TIRAP (Mal), ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                                                                                                                                                                          |

|     |                                                                  |      |            |            |            |            |    |                                                                                                             |
|-----|------------------------------------------------------------------|------|------------|------------|------------|------------|----|-------------------------------------------------------------------------------------------------------------|
| 369 | <a href="#">negative regulation of biosynthetic process</a>      | 1538 | 3517E-5032 | 2117E-5032 | 3117E-5032 | 2117E-5032 | 12 | Ajuba, TIPIN, LHX1, HBG, HBGA, Notch, DR1, NOTCH1 precursor, Adult hemoglobin, ZHX3, 14-3-3, RBBP7 (RbAp46) |
| 370 | <a href="#">cardiac chamber development</a>                      | 194  | 3603E-934  | 21023      | 31023      | 21023      | 4  | Tissue kallikreins, Notch, NOTCH1 precursor, Kallikrein 3 (PSA)                                             |
| 371 | <a href="#">muscle cell development</a>                          | 194  | 3603E-934  | 21023      | 31023      | 21023      | 4  | Cyclin B1, Notch, NOTCH1 precursor, Cyclin B                                                                |
| 372 | <a href="#">immune effector process</a>                          | 614  | 3617E-634  | 210032     | 310032     | 210032     | 7  | IGHG4, IGHG1, ERK1 (MAPK3), 14-3-3 zeta/delta, RIG-G, ERK1/2, 14-3-3                                        |
| 373 | <a href="#">regulation of anatomical structure morphogenesis</a> | 962  | 3670E-632  | 210632     | 310632     | 210632     | 9  | Tissue kallikreins, ZNF261, LST1, LHX1, Rab-11A, Notch, NOTCH1 precursor, Kallikrein 3 (PSA), 14-3-3        |
| 377 | <a href="#">regulation of cell cycle process</a>                 | 61   | 361        | 21         | 31         | 21         | 7  | Cyclin B1, TIPIN, IRT-1, Olfactory receptor, Spinophilin, Cyclin B, 14-3-3                                  |

|             |                                                                                    |                  |                                           |                                           |                                           |                                           |        |                                                                                                                        |
|-------------|------------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|------------------------------------------------------------------------------------------------------------------------|
| 4           |                                                                                    | 6                | 6<br>8<br>2<br>E<br>-<br>0<br>3           | 1<br>6<br>6<br>E<br>-<br>0<br>2           | 6<br>8<br>2<br>E<br>-<br>0<br>3           | 1<br>6<br>6<br>E<br>-<br>0<br>2           |        |                                                                                                                        |
| 3<br>7<br>5 | <a href="#">production of molecular mediator involved in inflammatory response</a> | 2<br>8           | 3<br>.<br>6<br>8<br>6<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>6<br>6<br>E<br>-<br>0<br>2 | 3<br>.<br>6<br>8<br>6<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>6<br>6<br>E<br>-<br>0<br>2 | 2      | 14-3-3 zeta/delta, 14-3-3                                                                                              |
| 3<br>7<br>6 | <a href="#">apoptotic process involved in development</a>                          | 2<br>8           | 3<br>.<br>6<br>8<br>6<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>6<br>6<br>E<br>-<br>0<br>2 | 3<br>.<br>6<br>8<br>6<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>6<br>6<br>E<br>-<br>0<br>2 | 2      | Notch, NOTCH1 precursor                                                                                                |
| 3<br>7<br>7 | <a href="#">response to stilbenoid</a>                                             | 2<br>8           | 3<br>.<br>6<br>8<br>6<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>6<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>6<br>8<br>6<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>6<br>6<br>E<br>-<br>0<br>3 | 2      | Adult hemoglobin, RIG-G                                                                                                |
| 3<br>7<br>8 | <a href="#">positive regulation of protein acetylation</a>                         | 2<br>8           | 3<br>.<br>6<br>8<br>6<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>6<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>6<br>8<br>6<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>6<br>6<br>E<br>-<br>0<br>3 | 2      | ERK1 (MAPK3), ERK1/2                                                                                                   |
| 3<br>7<br>9 | <a href="#">response to abiotic stimulus</a>                                       | 1<br>5<br>5<br>1 | 3<br>.<br>7<br>6                          | 2<br>.<br>2<br>0                          | 3<br>.<br>7<br>6                          | 2<br>.<br>2<br>0                          | 1<br>2 | Ajuba, Cyclin B1, TIPIN, IRT-1, Notch, ERK1 (MAPK3), NOTCH1 precursor, Cyclin B, Rab-3, ERK1/2, CapZIP, RBBP7 (RbAp46) |

|             |                                                                     |        |                                 |                                 |                                 |                                 |   |                         |
|-------------|---------------------------------------------------------------------|--------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---|-------------------------|
|             |                                                                     |        | 6<br>E<br>-<br>0<br>3           | 7<br>E<br>-<br>0<br>2           | 6<br>E<br>-<br>0<br>3           | 7<br>E<br>-<br>0<br>2           |   |                         |
| 3<br>8<br>0 | <a href="#">Notch receptor processing</a>                           | 2<br>9 | 3<br>.<br>9<br>5<br>1<br>E<br>- | 2<br>.<br>2<br>7<br>4<br>E<br>- | 3<br>.<br>9<br>5<br>1<br>E<br>- | 2<br>.<br>2<br>7<br>4<br>E<br>- | 2 | Notch, NOTCH1 precursor |
| 3<br>8<br>1 | <a href="#">hippo signaling</a>                                     | 2<br>9 | 3<br>.<br>9<br>5<br>1<br>E<br>- | 2<br>.<br>2<br>7<br>4<br>E<br>- | 3<br>.<br>9<br>5<br>1<br>E<br>- | 2<br>.<br>2<br>7<br>4<br>E<br>- | 2 | TEF-5, 14-3-3           |
| 3<br>8<br>2 | <a href="#">positive regulation of neuroblast proliferation</a>     | 2<br>9 | 3<br>.<br>9<br>5<br>1<br>E<br>- | 2<br>.<br>2<br>7<br>4<br>E<br>- | 3<br>.<br>9<br>5<br>1<br>E<br>- | 2<br>.<br>2<br>7<br>4<br>E<br>- | 2 | Notch, NOTCH1 precursor |
| 3<br>8<br>3 | <a href="#">negative regulation of exocytosis</a>                   | 2<br>9 | 3<br>.<br>9<br>5<br>1<br>E<br>- | 2<br>.<br>2<br>7<br>4<br>E<br>- | 3<br>.<br>9<br>5<br>1<br>E<br>- | 2<br>.<br>2<br>7<br>4<br>E<br>- | 2 | Notch, NOTCH1 precursor |
| 3<br>8<br>4 | <a href="#">negative regulation of microtubule depolymerization</a> | 2<br>9 | 3<br>.<br>9<br>5<br>1<br>E      | 2<br>.<br>2<br>7<br>4<br>E      | 3<br>.<br>9<br>5<br>1<br>E      | 2<br>.<br>2<br>7<br>4<br>E      | 2 | Cyclin B1, Cyclin B     |



|   |                                     |   |   |   |   |   |   |                                                     |
|---|-------------------------------------|---|---|---|---|---|---|-----------------------------------------------------|
|   |                                     |   | - | - | - | - |   |                                                     |
|   |                                     |   | 0 | 0 | 0 | 0 |   |                                                     |
|   |                                     |   | 3 | 2 | 3 | 2 |   |                                                     |
|   |                                     |   | . | . | . | . |   |                                                     |
|   |                                     |   | 9 | 2 | 9 | 2 |   |                                                     |
|   |                                     |   | 5 | 7 | 5 | 7 |   |                                                     |
|   |                                     |   | 1 | 4 | 1 | 4 |   |                                                     |
|   |                                     |   | E | E | E | E |   |                                                     |
|   |                                     |   | - | - | - | - |   |                                                     |
| 3 | <a href="#">mast cell</a>           | 2 | 0 | 0 | 0 | 0 |   |                                                     |
| 8 | <a href="#">mediated</a>            | 9 | 3 | 2 | 3 | 2 | 2 | 14-3-3 zeta/delta, 14-3-3                           |
| 5 | <a href="#">immunity</a>            |   |   |   |   |   |   |                                                     |
|   |                                     |   | 3 | 2 | 3 | 2 |   |                                                     |
|   |                                     |   | . | . | . | . |   |                                                     |
|   |                                     |   | 9 | 2 | 9 | 2 |   |                                                     |
|   |                                     |   | 5 | 7 | 5 | 7 |   |                                                     |
|   |                                     |   | 1 | 4 | 1 | 4 |   |                                                     |
|   |                                     |   | E | E | E | E |   |                                                     |
|   |                                     |   | - | - | - | - |   |                                                     |
| 3 |                                     | 2 | 0 | 0 | 0 | 0 |   |                                                     |
| 8 | <a href="#">oocyte maturation</a>   | 9 | 3 | 2 | 3 | 2 | 2 | Cyclin B1, Cyclin B                                 |
| 6 |                                     |   |   |   |   |   |   |                                                     |
|   |                                     |   | 3 | 2 | 3 | 2 |   |                                                     |
|   |                                     |   | . | . | . | . |   |                                                     |
|   |                                     |   | 9 | 2 | 9 | 2 |   |                                                     |
|   |                                     |   | 6 | 7 | 6 | 7 |   |                                                     |
|   |                                     |   | 3 | 4 | 3 | 4 |   |                                                     |
|   |                                     |   | E | E | E | E |   |                                                     |
|   |                                     | 3 | - | - | - | - |   |                                                     |
| 3 | <a href="#">Fc receptor</a>         | 2 | 0 | 0 | 0 | 0 |   |                                                     |
| 8 | <a href="#">signaling pathway</a>   | 4 | 3 | 2 | 3 | 2 | 5 | IGHG4, IGHG1, ERK1 (MAPK3), ERK1/2, 14-3-3          |
| 7 |                                     |   |   |   |   |   |   |                                                     |
|   |                                     |   | 3 | 2 | 3 | 2 |   |                                                     |
|   |                                     |   | . | . | . | . |   |                                                     |
|   |                                     |   | 9 | 2 | 9 | 2 |   |                                                     |
|   |                                     |   | 9 | 8 | 9 | 8 |   |                                                     |
|   |                                     |   | 5 | 7 | 5 | 7 |   |                                                     |
|   |                                     | 1 | E | E | E | E |   |                                                     |
|   |                                     | 1 | - | - | - | - |   |                                                     |
| 3 | <a href="#">positive regulation</a> | 6 | 0 | 0 | 0 | 0 | 1 | Cyclin B1, LHX1, Rab-11A, PTD015, Notch, NOTCH1     |
| 8 | <a href="#">of developmental</a>    | 3 | 3 | 2 | 3 | 2 | 0 | precursor, Cyclin B, Adult hemoglobin, ZHX3, 14-3-3 |
| 8 | <a href="#">process</a>             |   |   |   |   |   |   |                                                     |
|   |                                     |   | 4 | 2 | 4 | 2 |   |                                                     |
|   |                                     |   | . | . | . | . |   |                                                     |
|   |                                     |   | 0 | 2 | 0 | 2 |   |                                                     |
|   |                                     |   | 1 | 8 | 1 | 8 |   |                                                     |
|   |                                     |   | 6 | 7 | 6 | 7 |   |                                                     |
|   |                                     | 2 | E | E | E | E |   |                                                     |
| 3 | <a href="#">G2/M transition of</a>  | 0 | - | - | - | - |   |                                                     |
| 8 | <a href="#">mitotic cell cycle</a>  | 0 | 0 | 0 | 0 | 0 | 4 | Ajuba, Cyclin B1, Cyclin B, 14-3-3                  |
| 9 |                                     |   |   |   |   |   |   |                                                     |

|             |                                                                |                  |                                           |                                           |                                           |                                           |        |                                                                                                                        |
|-------------|----------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|------------------------------------------------------------------------------------------------------------------------|
|             |                                                                |                  | 3                                         | 2                                         | 3                                         | 2                                         |        |                                                                                                                        |
| 3<br>9<br>0 | <a href="#">cell cycle G2/M phase transition</a>               | 2<br>0<br>0      | 4<br>.<br>0<br>1<br>6<br>E<br>-<br>0<br>0 | 2<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>3 | 4<br>.<br>0<br>1<br>6<br>E<br>-<br>0<br>2 | 2<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>0 | 4      | Ajuba, Cyclin B1, Cyclin B, 14-3-3                                                                                     |
| 3<br>9<br>1 | <a href="#">toll-like receptor TLR6:TLR2 signaling pathway</a> | 9<br>9           | 4<br>.<br>0<br>6<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>2<br>9<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>0<br>6<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>2<br>9<br>5<br>E<br>-<br>0<br>2 | 3      | TIRAP (Mal), ERK1 (MAPK3), ERK1/2                                                                                      |
| 3<br>9<br>2 | <a href="#">toll-like receptor TLR1:TLR2 signaling pathway</a> | 9<br>9           | 4<br>.<br>0<br>6<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>2<br>9<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>0<br>6<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>2<br>9<br>5<br>E<br>-<br>0<br>2 | 3      | TIRAP (Mal), ERK1 (MAPK3), ERK1/2                                                                                      |
| 3<br>9<br>3 | <a href="#">response to growth factor</a>                      | 7<br>9<br>7      | 4<br>.<br>0<br>6<br>2<br>E<br>-<br>0<br>3 | 2<br>.<br>2<br>9<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>0<br>6<br>2<br>E<br>-<br>0<br>3 | 2<br>.<br>2<br>9<br>5<br>E<br>-<br>0<br>2 | 8      | LHX1, Notch, ERK1 (MAPK3), NOTCH1 precursor, PLEKHG2, Protrudin, ERK1/2, 14-3-3                                        |
| 3<br>9<br>4 | <a href="#">response to organic cyclic compound</a>            | 1<br>3<br>6<br>7 | 4<br>.<br>1<br>7<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>2<br>3<br>E<br>-<br>0<br>2 | 4<br>.<br>1<br>7<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>2<br>3<br>E<br>-<br>0<br>2 | 1<br>1 | Cyclin B1, AL1A1, IRT-1, Notch, ERK1 (MAPK3), NOTCH1 precursor, Spinophilin, Cyclin B, Adult hemoglobin, RIG-G, ERK1/2 |

|     |                                                                               |      |                                           |                                                |                                           |                                                |    |                                                                                                       |
|-----|-------------------------------------------------------------------------------|------|-------------------------------------------|------------------------------------------------|-------------------------------------------|------------------------------------------------|----|-------------------------------------------------------------------------------------------------------|
| 395 | <a href="#">embryo development</a>                                            | 1369 | 4<br>.<br>2<br>1<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>2<br>3<br>E<br>-<br>0<br>2      | 4<br>.<br>2<br>1<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>2<br>3<br>E<br>-<br>0<br>2      | 11 | Cyclin B1, AL1A1, LHX1, Notch, SRB7, NOTCH1 precursor, Cyclin B, Adult hemoglobin, ERK1/2, UGDH, DEAF |
| 396 | <a href="#">negative regulation of striated muscle cell differentiation</a>   | 30   | 4<br>.<br>2<br>2<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>2<br>2<br>3<br>E<br>-<br>0<br>2 | 4<br>.<br>2<br>2<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>2<br>2<br>3<br>E<br>-<br>0<br>2 | 2  | Notch, NOTCH1 precursor                                                                               |
| 397 | <a href="#">positive regulation of mRNA processing</a>                        | 30   | 4<br>.<br>2<br>2<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>2<br>2<br>3<br>E<br>-<br>0<br>2 | 4<br>.<br>2<br>2<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>2<br>2<br>3<br>E<br>-<br>0<br>2 | 2  | Cyclin B1, Cyclin B                                                                                   |
| 398 | <a href="#">JAK-STAT cascade involved in growth hormone signaling pathway</a> | 30   | 4<br>.<br>2<br>2<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>2<br>2<br>3<br>E<br>-<br>0<br>2 | 4<br>.<br>2<br>2<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>2<br>2<br>3<br>E<br>-<br>0<br>2 | 2  | ERK1 (MAPK3), ERK1/2                                                                                  |
| 399 | <a href="#">heart valve morphogenesis</a>                                     | 30   | 4<br>.<br>2<br>2<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>2<br>2<br>3<br>E<br>-<br>0<br>2 | 4<br>.<br>2<br>2<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>2<br>2<br>3<br>E<br>-<br>0<br>2 | 2  | Notch, NOTCH1 precursor                                                                               |
| 400 | <a href="#">response to follicle-stimulating hormone</a>                      | 30   | 4<br>.<br>2<br>2<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>2<br>2<br>3<br>E<br>-<br>0<br>2 | 4<br>.<br>2<br>2<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>2<br>2<br>3<br>E<br>-<br>0<br>2 | 2  | Notch, NOTCH1 precursor                                                                               |

|   |                                                             |   |   |   |   |   |   |                                                                                          |
|---|-------------------------------------------------------------|---|---|---|---|---|---|------------------------------------------------------------------------------------------|
| 0 |                                                             |   | 2 | 3 | 2 | 3 |   |                                                                                          |
|   |                                                             |   | 2 | 2 | 2 | 2 |   |                                                                                          |
|   |                                                             |   | 5 | 3 | 5 | 3 |   |                                                                                          |
|   |                                                             |   | E | E | E | E |   |                                                                                          |
|   |                                                             |   | - | - | - | - |   |                                                                                          |
|   |                                                             |   | 0 | 0 | 0 | 0 |   |                                                                                          |
|   |                                                             |   | 3 | 2 | 3 | 2 |   |                                                                                          |
| 4 | <a href="#">vascular smooth muscle cell differentiation</a> | 3 | 4 | 2 | 4 | 2 | 2 | Notch, NOTCH1 precursor                                                                  |
| 0 |                                                             | 0 | . | . | . | . |   |                                                                                          |
| 1 |                                                             | 0 | 2 | 3 | 2 | 3 |   |                                                                                          |
|   |                                                             |   | 2 | 2 | 2 | 2 |   |                                                                                          |
|   |                                                             |   | 5 | 3 | 5 | 3 |   |                                                                                          |
|   |                                                             |   | E | E | E | E |   |                                                                                          |
|   |                                                             |   | - | - | - | - |   |                                                                                          |
|   |                                                             |   | 0 | 0 | 0 | 0 |   |                                                                                          |
|   |                                                             |   | 3 | 2 | 3 | 2 |   |                                                                                          |
| 4 | <a href="#">left/right pattern formation</a>                | 3 | 4 | 2 | 4 | 2 | 2 | Notch, NOTCH1 precursor                                                                  |
| 0 |                                                             | 0 | . | . | . | . |   |                                                                                          |
| 2 |                                                             | 0 | 2 | 3 | 2 | 3 |   |                                                                                          |
|   |                                                             |   | 2 | 2 | 2 | 2 |   |                                                                                          |
|   |                                                             |   | 5 | 3 | 5 | 3 |   |                                                                                          |
|   |                                                             |   | E | E | E | E |   |                                                                                          |
|   |                                                             |   | - | - | - | - |   |                                                                                          |
|   |                                                             |   | 0 | 0 | 0 | 0 |   |                                                                                          |
|   |                                                             |   | 3 | 2 | 3 | 2 |   |                                                                                          |
| 4 | <a href="#">establishment of chromosome localization</a>    | 3 | 4 | 2 | 4 | 2 | 2 | Cyclin B1, Cyclin B                                                                      |
| 0 |                                                             | 0 | . | . | . | . |   |                                                                                          |
| 3 |                                                             | 0 | 2 | 3 | 2 | 3 |   |                                                                                          |
|   |                                                             |   | 2 | 2 | 2 | 2 |   |                                                                                          |
|   |                                                             |   | 5 | 3 | 5 | 3 |   |                                                                                          |
|   |                                                             |   | E | E | E | E |   |                                                                                          |
|   |                                                             |   | - | - | - | - |   |                                                                                          |
|   |                                                             |   | 0 | 0 | 0 | 0 |   |                                                                                          |
|   |                                                             |   | 3 | 2 | 3 | 2 |   |                                                                                          |
| 4 | <a href="#">histone phosphorylation</a>                     | 3 | 4 | 2 | 4 | 2 | 2 | Cyclin B1, Cyclin B                                                                      |
| 0 |                                                             | 0 | . | . | . | . |   |                                                                                          |
| 4 |                                                             | 0 | 2 | 3 | 2 | 3 |   |                                                                                          |
|   |                                                             |   | 2 | 2 | 2 | 2 |   |                                                                                          |
|   |                                                             |   | 5 | 3 | 5 | 3 |   |                                                                                          |
|   |                                                             |   | E | E | E | E |   |                                                                                          |
|   |                                                             |   | - | - | - | - |   |                                                                                          |
|   |                                                             |   | 0 | 0 | 0 | 0 |   |                                                                                          |
|   |                                                             |   | 3 | 2 | 3 | 2 |   |                                                                                          |
| 4 | <a href="#">positive regulation of kinase activity</a>      | 6 | 4 | 2 | 4 | 2 | 7 | Ajuba, Tissue kallikreins, TIRAP (Mal), ERK1 (MAPK3), Kallikrein 3 (PSA), ERK1/2, 14-3-3 |
| 0 |                                                             | 3 | . | . | . | . |   |                                                                                          |
| 5 |                                                             | 2 | 2 | 3 | 2 | 3 |   |                                                                                          |
|   |                                                             |   | 3 | 2 | 3 | 2 |   |                                                                                          |

|             |                                                            |                  |                                                |                                           |                                                |                                                |        |                                                                                                                                                   |
|-------------|------------------------------------------------------------|------------------|------------------------------------------------|-------------------------------------------|------------------------------------------------|------------------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                            |                  | 5<br>E<br>-<br>0<br>3                          | 3<br>E<br>-<br>0<br>2                     | 5<br>E<br>-<br>0<br>3                          | 3<br>E<br>-<br>0<br>2                          |        |                                                                                                                                                   |
| 4<br>0<br>6 | <a href="#">toll-like receptor 2 signaling pathway</a>     | 1<br>0<br>1      | 4<br>.<br>2<br>9<br>4<br>E<br>-<br>0<br>1      | 2<br>.<br>3<br>4<br>3<br>E<br>-<br>0<br>3 | 4<br>.<br>2<br>9<br>4<br>E<br>-<br>0<br>2      | 2<br>.<br>3<br>4<br>3<br>E<br>-<br>0<br>2      | 3      | TIRAP (Mal), ERK1 (MAPK3), ERK1/2                                                                                                                 |
| 4<br>0<br>7 | <a href="#">cellular response to interleukin-1</a>         | 1<br>0<br>1      | 4<br>.<br>2<br>9<br>4<br>E<br>-<br>0<br>1      | 2<br>.<br>3<br>4<br>3<br>E<br>-<br>0<br>3 | 4<br>.<br>2<br>9<br>4<br>E<br>-<br>0<br>2      | 2<br>.<br>3<br>4<br>3<br>E<br>-<br>0<br>2      | 3      | TIRAP (Mal), ERK1 (MAPK3), ERK1/2                                                                                                                 |
| 4<br>0<br>8 | <a href="#">positive regulation of cell death</a>          | 6<br>3<br>8      | 4<br>.<br>4<br>5<br>8<br>E<br>-<br>0<br>3      | 2<br>.<br>4<br>1<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>5<br>8<br>E<br>-<br>0<br>3      | 2<br>.<br>4<br>1<br>7<br>E<br>-<br>0<br>2      | 7      | Tissue kallikreins, Kallikrein 1, AL1A1, Notch, NOTCH1 precursor, PLEKHG2, Adult hemoglobin                                                       |
| 4<br>0<br>9 | <a href="#">regulation of protein modification process</a> | 1<br>5<br>8<br>4 | 4<br>.<br>4<br>6<br>1<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>4<br>1<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>6<br>1<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>4<br>6<br>1<br>7<br>E<br>-<br>0<br>2 | 1<br>2 | Ajuba, Cyclin B1, IRT-1, TIRAP (Mal), ERK1 (MAPK3), CD43, CKS2, Spinophilin, Cyclin B, Adult hemoglobin, ERK1/2, 14-3-3                           |
| 4<br>1<br>0 | <a href="#">generation of neurons</a>                      | 1<br>7<br>9<br>5 | 4<br>.<br>4<br>6<br>3<br>E                     | 2<br>.<br>4<br>1<br>7<br>E                | 4<br>.<br>4<br>6<br>3<br>E                     | 2<br>.<br>4<br>6<br>3<br>E                     | 1<br>3 | Tissue kallikreins, LST1, LHX1, Rab-11A, Olfactory receptor, Notch, ERK1 (MAPK3), NOTCH1 precursor, Spinophilin, Rab-3, Protrudin, ERK1/2, 14-3-3 |

|   |                                                  |   |   |   |   |   |   |                                                                                                                            |
|---|--------------------------------------------------|---|---|---|---|---|---|----------------------------------------------------------------------------------------------------------------------------|
|   |                                                  |   | - | - | - | - |   |                                                                                                                            |
|   |                                                  |   | 0 | 0 | 0 | 0 |   |                                                                                                                            |
|   |                                                  |   | 3 | 2 | 3 | 2 |   |                                                                                                                            |
| 4 |                                                  |   | 4 | 2 | 4 | 2 |   |                                                                                                                            |
| 1 |                                                  |   | . | . | . | . |   |                                                                                                                            |
| 1 | <a href="#">protein transport</a>                |   | 4 | 4 | 4 | 4 |   |                                                                                                                            |
|   |                                                  |   | 7 | 2 | 7 | 2 |   |                                                                                                                            |
|   |                                                  | 1 | 9 | 0 | 9 | 0 |   |                                                                                                                            |
|   |                                                  | 3 | E | E | E | E |   |                                                                                                                            |
|   |                                                  | 8 | - | - | - | - | 1 | Rab-11A, SNX1, Olfactory receptor, Notch, Rab-3B, ERK1 (MAPK3), NOTCH1 precursor, 14-3-3 zeta/delta, Rab-3, ERK1/2, 14-3-3 |
|   |                                                  | 0 | 3 | 2 | 3 | 2 | 1 |                                                                                                                            |
| 4 |                                                  |   | 4 | 2 | 4 | 2 |   |                                                                                                                            |
| 1 |                                                  |   | . | . | . | . |   |                                                                                                                            |
| 2 | <a href="#">negative regulation of anoikis</a>   |   | 5 | 4 | 5 | 4 |   |                                                                                                                            |
|   |                                                  |   | 0 | 2 | 0 | 2 |   |                                                                                                                            |
|   |                                                  |   | 7 | 9 | 7 | 9 |   |                                                                                                                            |
|   |                                                  |   | E | E | E | E |   |                                                                                                                            |
|   |                                                  | 3 | - | - | - | - |   |                                                                                                                            |
|   |                                                  | 1 | 0 | 0 | 0 | 0 | 2 | Notch, NOTCH1 precursor                                                                                                    |
|   |                                                  | 1 | 3 | 2 | 3 | 2 |   |                                                                                                                            |
| 4 |                                                  |   | 4 | 2 | 4 | 2 |   |                                                                                                                            |
| 1 |                                                  |   | . | . | . | . |   |                                                                                                                            |
| 3 | <a href="#">regulation of hormone levels</a>     |   | 5 | 4 | 5 | 4 |   |                                                                                                                            |
|   |                                                  |   | 6 | 5 | 6 | 5 |   |                                                                                                                            |
|   |                                                  |   | 2 | 0 | 2 | 0 |   |                                                                                                                            |
|   |                                                  |   | E | E | E | E |   |                                                                                                                            |
|   |                                                  | 3 | - | - | - | - |   |                                                                                                                            |
|   |                                                  | 3 | 0 | 0 | 0 | 0 | 5 | Tissue kallikreins, AL1A1, SULT1E1, 14-3-3 zeta/delta, 14-3-3                                                              |
|   |                                                  | 5 | 3 | 2 | 3 | 2 |   |                                                                                                                            |
| 4 |                                                  |   | 4 | 2 | 4 | 2 |   |                                                                                                                            |
| 1 |                                                  |   | . | . | . | . |   |                                                                                                                            |
| 4 | <a href="#">regulation of cell morphogenesis</a> |   | 5 | 4 | 5 | 4 |   |                                                                                                                            |
|   |                                                  |   | 7 | 5 | 7 | 5 |   |                                                                                                                            |
|   |                                                  |   | 7 | 0 | 7 | 0 |   |                                                                                                                            |
|   |                                                  |   | E | E | E | E |   |                                                                                                                            |
|   |                                                  | 4 | - | - | - | - |   |                                                                                                                            |
|   |                                                  | 8 | 0 | 0 | 0 | 0 | 6 | ZNF261, LST1, Rab-11A, Notch, NOTCH1 precursor, 14-3-3                                                                     |
|   |                                                  | 1 | 3 | 2 | 3 | 2 |   |                                                                                                                            |
| 4 |                                                  |   | 4 | 2 | 4 | 2 |   |                                                                                                                            |
| 1 |                                                  |   | . | . | . | . |   |                                                                                                                            |
| 5 | <a href="#">response to lipopolysaccharide</a>   |   | 5 | 4 | 5 | 4 |   |                                                                                                                            |
|   |                                                  |   | 7 | 5 | 7 | 5 |   |                                                                                                                            |
|   |                                                  |   | 7 | 0 | 7 | 0 |   |                                                                                                                            |
|   |                                                  |   | E | E | E | E |   |                                                                                                                            |
|   |                                                  | 4 | - | - | - | - |   |                                                                                                                            |
|   |                                                  | 8 | - | - | - | - | 6 | TIRAP (Mal), Notch, ERK1 (MAPK3), NOTCH1 precursor, NFKBIL1, ERK1/2                                                        |
|   |                                                  | 1 | 0 | 0 | 0 | 0 |   |                                                                                                                            |

|             |                                                                             |             |                                           |                                           |                                           |                                           |   |                                                                                              |
|-------------|-----------------------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|----------------------------------------------------------------------------------------------|
|             |                                                                             |             | 3                                         | 2                                         | 3                                         | 2                                         |   |                                                                                              |
| 4<br>1<br>6 | <a href="#">regulation of response to external stimulus</a>                 | 8<br>1<br>6 | 4<br>.<br>6<br>7<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>4<br>9<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>6<br>7<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>4<br>9<br>7<br>E<br>-<br>0<br>2 | 8 | Tissue kallikreins, Kallikrein 1, IRT-1, TIRAP (Mal), Notch, NOTCH1 precursor, CD43, NFKBIL1 |
| 4<br>1<br>7 | <a href="#">regulation of cellular response to stress</a>                   | 4<br>8<br>5 | 4<br>.<br>7<br>6<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>1<br>9<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>6<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>1<br>9<br>E<br>-<br>0<br>2 | 6 | Ajuba, Tissue kallikreins, TIRAP (Mal), ERK1 (MAPK3), Adult hemoglobin, ERK1/2               |
| 4<br>1<br>8 | <a href="#">prostate glandular acinus development</a>                       | 3<br>2      | 4<br>.<br>7<br>9<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>1<br>9<br>E<br>-<br>0<br>3 | 4<br>.<br>7<br>9<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>1<br>9<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor                                                                      |
| 4<br>1<br>9 | <a href="#">regulation of hematopoietic progenitor cell differentiation</a> | 3<br>2      | 4<br>.<br>7<br>9<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>1<br>9<br>E<br>-<br>0<br>3 | 4<br>.<br>7<br>9<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>1<br>9<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor                                                                      |
| 4<br>2<br>0 | <a href="#">endocardial cushion development</a>                             | 3<br>2      | 4<br>.<br>7<br>9<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>1<br>9<br>E<br>-<br>0<br>3 | 4<br>.<br>7<br>9<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>1<br>9<br>E<br>-<br>0<br>3 | 2 | Notch, NOTCH1 precursor                                                                      |

|             |                                                                   |                  |                                           |                                           |                                           |                                           |                                                                                                                                                                                                            |
|-------------|-------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4<br>2<br>1 | <a href="#">negative regulation of glial cell differentiation</a> | 3<br>2           | 4<br>.<br>7<br>9<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>1<br>9<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>9<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>1<br>9<br>E<br>-<br>0<br>2 | 2<br>Notch, NOTCH1 precursor                                                                                                                                                                               |
| 4<br>2<br>2 | <a href="#">heart valve development</a>                           | 3<br>2           | 4<br>.<br>7<br>9<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>1<br>9<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>9<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>1<br>9<br>E<br>-<br>0<br>2 | 2<br>Notch, NOTCH1 precursor                                                                                                                                                                               |
| 4<br>2<br>3 | <a href="#">heart trabecula morphogenesis</a>                     | 3<br>2           | 4<br>.<br>7<br>9<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>1<br>9<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>9<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>1<br>9<br>E<br>-<br>0<br>2 | 2<br>Notch, NOTCH1 precursor                                                                                                                                                                               |
| 4<br>2<br>4 | <a href="#">neurotrophin TRK receptor signaling pathway</a>       | 3<br>4<br>1      | 4<br>.<br>9<br>1<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>7<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>9<br>1<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>7<br>5<br>E<br>-<br>0<br>2 | 5<br>ERK1 (MAPK3), PLEKHG2, Protrudin, ERK1/2, 14-3-3                                                                                                                                                      |
| 4<br>2<br>5 | <a href="#">regulation of transcription, DNA-templated</a>        | 3<br>9<br>3<br>8 | 4<br>.<br>9<br>3<br>8<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>8<br>0<br>E<br>-<br>0<br>2 | 4<br>.<br>9<br>3<br>8<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>8<br>0<br>E<br>-<br>0<br>2 | Ajuba, LHX1, HBG, HBGA, Gbp1, TEF-5, TIRAP (Mal), Olfactory receptor, PTD015, Notch, ERK1 (MAPK3), DR1, SRB7, NOTCH1 precursor, NFKBIL1, AO7, Adult hemoglobin, ZHX3, ERK1/2, DEAF, 14-3-3, RBBP7 (RbAp46) |
| 4<br>2      | <a href="#">macromolecular complex subunit organization</a>       | 1<br>8           | 5<br>.<br>.<br>.<br>.                     | 2<br>.<br>.<br>.<br>.                     | 5<br>.<br>.<br>.<br>.                     | 2<br>.<br>.<br>.<br>.                     | 1<br>3<br>Cyclin B1, AL1A1, HBG, IRT-1, HBGA, ERK1 (MAPK3), CKS2, Spinophilin, Cyclin B, Adult hemoglobin, ERK1/2,                                                                                         |



|             |                                                        |                  |                                      |                                      |                                      |                                      |                                                                                                                                                                                             |
|-------------|--------------------------------------------------------|------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6           |                                                        | 2<br>3           | 0<br>8<br>5<br>E<br>-<br>0<br>3      | 6<br>4<br>5<br>E<br>-<br>0<br>2      | 0<br>8<br>5<br>E<br>-<br>0<br>3      | 6<br>4<br>5<br>E<br>-<br>0<br>2      | 14-3-3, RBBP7 (RbAp46)                                                                                                                                                                      |
| 4<br>2<br>7 | <a href="#">cytoplasmic sequestering of protein</a>    | 3<br>3           | 5<br>0<br>9<br>6<br>E<br>-<br>0<br>3 | 2<br>6<br>4<br>5<br>E<br>-<br>0<br>2 | 5<br>0<br>9<br>6<br>E<br>-<br>0<br>3 | 2<br>6<br>4<br>5<br>E<br>-<br>0<br>2 | NFKBIL1, 14-3-3                                                                                                                                                                             |
| 4<br>2<br>8 | <a href="#">chromosome localization</a>                | 3<br>3           | 5<br>0<br>9<br>6<br>E<br>-<br>0<br>3 | 2<br>6<br>4<br>5<br>E<br>-<br>0<br>2 | 5<br>0<br>9<br>6<br>E<br>-<br>0<br>2 | 2<br>6<br>4<br>5<br>E<br>-<br>0<br>2 | Cyclin B1, Cyclin B                                                                                                                                                                         |
| 4<br>2<br>9 | <a href="#">multi-organism process</a>                 | 2<br>9<br>6<br>4 | 5<br>1<br>1<br>5<br>E<br>-<br>0<br>3 | 2<br>6<br>4<br>8<br>E<br>-<br>0<br>2 | 5<br>1<br>1<br>5<br>E<br>-<br>0<br>3 | 2<br>6<br>4<br>8<br>E<br>-<br>0<br>2 | Tissue kallikreins, Cyclin B1, TEF-5, TIRAP (Mal), Olfactory receptor, Notch, ERK1 (MAPK3), CALCOCO2, NOTCH1 precursor, SULT1E1, CD43, NFKBIL1, MTL5, Cyclin B, RIG-G, ERK1/2, DEAF, 14-3-3 |
| 4<br>3<br>0 | <a href="#">positive regulation of phosphorylation</a> | 1<br>0<br>1<br>4 | 5<br>1<br>7<br>2<br>E<br>-<br>0<br>3 | 2<br>6<br>7<br>1<br>E<br>-<br>0<br>2 | 5<br>1<br>7<br>2<br>E<br>-<br>0<br>3 | 2<br>6<br>7<br>1<br>E<br>-<br>0<br>2 | Ajuba, Cyclin B1, IRT-1, TIRAP (Mal), ERK1 (MAPK3), CD43, Cyclin B, ERK1/2, 14-3-3                                                                                                          |
| 4<br>3<br>1 | <a href="#">neurotrophin signaling pathway</a>         | 3<br>4<br>6      | 5<br>2<br>2                          | 5<br>2<br>9                          | 5<br>2<br>2                          | 5<br>2<br>9                          | ERK1 (MAPK3), PLEKHG2, Protrudin, ERK1/2, 14-3-3                                                                                                                                            |

|             |                                                                |                  |                                           |                                           |                                           |                                           |        |                                                                                                                               |
|-------------|----------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                |                  | 4<br>E<br>-<br>0<br>3                     | 2<br>E<br>-<br>0<br>2                     | 4<br>E<br>-<br>0<br>3                     | 2<br>E<br>-<br>0<br>2                     |        |                                                                                                                               |
| 4<br>3<br>2 | <a href="#">reproductive process</a>                           | 1<br>6<br>1<br>7 | 5<br>.<br>2<br>5<br>6<br>E<br>-<br>0<br>3 | 2<br>.<br>7<br>0<br>2<br>E<br>-<br>0<br>2 | 5<br>.<br>2<br>5<br>6<br>E<br>-<br>0<br>3 | 2<br>.<br>7<br>0<br>2<br>E<br>-<br>0<br>2 | 1<br>2 | Tissue kallikreins, Cyclin B1, AL1A1, LHX1, TEF-5, Olfactory receptor, Notch, NOTCH1 precursor, SULT1E1, MTL5, Cyclin B, DEAF |
| 4<br>3<br>3 | <a href="#">cellular component morphogenesis</a>               | 1<br>2<br>1<br>1 | 5<br>.<br>3<br>0<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>7<br>1<br>8<br>E<br>-<br>0<br>2 | 5<br>.<br>3<br>0<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>7<br>1<br>8<br>E<br>-<br>0<br>2 | 1<br>0 | Tissue kallikreins, LST1, LHX1, Olfactory receptor, Notch, ERK1 (MAPK3), NOTCH1 precursor, Rab-3, ERK1/2, 14-3-3              |
| 4<br>3<br>4 | <a href="#">regulation of acute inflammatory response</a>      | 1<br>0<br>9      | 5<br>.<br>3<br>1<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>7<br>1<br>8<br>E<br>-<br>0<br>2 | 5<br>.<br>3<br>1<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>7<br>1<br>8<br>E<br>-<br>0<br>2 | 3      | Tissue kallikreins, Kallikrein 1, CD43                                                                                        |
| 4<br>3<br>5 | <a href="#">cell morphogenesis involved in differentiation</a> | 8<br>3<br>4      | 5<br>.<br>3<br>2<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>7<br>1<br>8<br>E<br>-<br>0<br>2 | 5<br>.<br>3<br>2<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>7<br>1<br>8<br>E<br>-<br>0<br>2 | 8      | LHX1, Olfactory receptor, Notch, ERK1 (MAPK3), NOTCH1 precursor, Rab-3, ERK1/2, 14-3-3                                        |
| 4<br>3<br>6 | <a href="#">macromolecular complex assembly</a>                | 1<br>4<br>1<br>5 | 5<br>.<br>4<br>0<br>1<br>E                | 2<br>.<br>7<br>2<br>7<br>E                | 5<br>.<br>4<br>0<br>1<br>E                | 2<br>.<br>7<br>2<br>7<br>E                | 1<br>1 | Cyclin B1, AL1A1, HBG, IRT-1, HBGA, ERK1 (MAPK3), Cyclin B, Adult hemoglobin, ERK1/2, 14-3-3, RBBP7 (RbAp46)                  |

|   |                                                                                                        |   |   |   |   |   |   |                                                                                                               |
|---|--------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---------------------------------------------------------------------------------------------------------------|
|   |                                                                                                        |   | - | - | - | - |   |                                                                                                               |
|   |                                                                                                        |   | 0 | 0 | 0 | 0 |   |                                                                                                               |
|   |                                                                                                        |   | 3 | 2 | 3 | 2 |   |                                                                                                               |
| 4 | <a href="#">regulation of microtubule depolymerization</a>                                             | 3 | 5 | 2 | 5 | 2 | 2 | Cyclin B1, Cyclin B                                                                                           |
| 3 |                                                                                                        | 4 | . | . | . | . |   |                                                                                                               |
| 7 |                                                                                                        |   | 4 | 7 | 4 | 7 |   |                                                                                                               |
|   |                                                                                                        |   | 0 | 2 | 0 | 2 |   |                                                                                                               |
|   |                                                                                                        |   | 3 | 7 | 3 | 7 |   |                                                                                                               |
|   |                                                                                                        |   | E | E | E | E |   |                                                                                                               |
|   |                                                                                                        |   | - | - | - | - |   |                                                                                                               |
|   |                                                                                                        |   | 0 | 0 | 0 | 0 |   |                                                                                                               |
|   |                                                                                                        |   | 3 | 2 | 3 | 2 |   |                                                                                                               |
| 4 | <a href="#">positive regulation of BMP signaling pathway</a>                                           | 3 | 5 | 2 | 5 | 2 | 2 | Notch, NOTCH1 precursor                                                                                       |
| 3 |                                                                                                        | 4 | . | . | . | . |   |                                                                                                               |
| 8 |                                                                                                        |   | 4 | 7 | 4 | 7 |   |                                                                                                               |
|   |                                                                                                        |   | 0 | 2 | 0 | 2 |   |                                                                                                               |
|   |                                                                                                        |   | 3 | 7 | 3 | 7 |   |                                                                                                               |
|   |                                                                                                        |   | E | E | E | E |   |                                                                                                               |
|   |                                                                                                        |   | - | - | - | - |   |                                                                                                               |
|   |                                                                                                        |   | 0 | 0 | 0 | 0 |   |                                                                                                               |
|   |                                                                                                        |   | 3 | 2 | 3 | 2 |   |                                                                                                               |
| 4 | <a href="#">regulation of keratinocyte differentiation</a>                                             | 3 | 5 | 2 | 5 | 2 | 2 | Notch, NOTCH1 precursor                                                                                       |
| 3 |                                                                                                        | 4 | . | . | . | . |   |                                                                                                               |
| 9 |                                                                                                        |   | 4 | 7 | 4 | 7 |   |                                                                                                               |
|   |                                                                                                        |   | 0 | 2 | 0 | 2 |   |                                                                                                               |
|   |                                                                                                        |   | 3 | 7 | 3 | 7 |   |                                                                                                               |
|   |                                                                                                        |   | E | E | E | E |   |                                                                                                               |
|   |                                                                                                        |   | - | - | - | - |   |                                                                                                               |
|   |                                                                                                        |   | 0 | 0 | 0 | 0 |   |                                                                                                               |
|   |                                                                                                        |   | 3 | 2 | 3 | 2 |   |                                                                                                               |
| 4 | <a href="#">neurological system process involved in regulation of systemic arterial blood pressure</a> | 3 | 5 | 2 | 5 | 2 | 2 | Tissue kallikreins, Kallikrein 3 (PSA)                                                                        |
| 4 |                                                                                                        | 4 | . | . | . | . |   |                                                                                                               |
| 0 |                                                                                                        |   | 4 | 7 | 4 | 7 |   |                                                                                                               |
|   |                                                                                                        |   | 0 | 2 | 0 | 2 |   |                                                                                                               |
|   |                                                                                                        |   | 3 | 7 | 3 | 7 |   |                                                                                                               |
|   |                                                                                                        |   | E | E | E | E |   |                                                                                                               |
|   |                                                                                                        |   | - | - | - | - |   |                                                                                                               |
|   |                                                                                                        |   | 0 | 0 | 0 | 0 |   |                                                                                                               |
|   |                                                                                                        |   | 3 | 2 | 3 | 2 |   |                                                                                                               |
| 4 | <a href="#">cellular protein localization</a>                                                          | 1 | 5 | 2 | 5 | 2 | 1 | Ajuba, Rab-11A, SNX1, Olfactory receptor, ERK1 (MAPK3), 14-3-3 zeta/delta, NFKBIL1, Protrudin, ERK1/2, 14-3-3 |
| 4 |                                                                                                        | 2 | . | . | . | . | 0 |                                                                                                               |
| 1 |                                                                                                        | 7 | 4 | 7 | 4 | 7 |   |                                                                                                               |
|   |                                                                                                        |   | 8 | 6 | 8 | 6 |   |                                                                                                               |
|   |                                                                                                        |   | 9 | 4 | 9 | 4 |   |                                                                                                               |
|   |                                                                                                        |   | E | E | E | E |   |                                                                                                               |
|   |                                                                                                        |   | - | - | - | - |   |                                                                                                               |
|   |                                                                                                        |   | 0 | 0 | 0 | 0 |   |                                                                                                               |

|   |                                                                |   |   |   |   |   |   |                                                                                                                                                                                                                                     |
|---|----------------------------------------------------------------|---|---|---|---|---|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                     |
| 4 |                                                                |   | 5 | 2 | 5 | 2 |   |                                                                                                                                                                                                                                     |
| 4 |                                                                |   | . | . | . | . |   |                                                                                                                                                                                                                                     |
| 2 | <a href="#">cell differentiation</a>                           |   | 5 | 7 | 5 | 7 |   |                                                                                                                                                                                                                                     |
|   |                                                                |   | 2 | 7 | 2 | 7 |   |                                                                                                                                                                                                                                     |
|   |                                                                |   | 4 | 6 | 4 | 6 |   |                                                                                                                                                                                                                                     |
|   |                                                                | 3 | E | E | E | E |   |                                                                                                                                                                                                                                     |
|   |                                                                | 9 | - | - | - | - |   |                                                                                                                                                                                                                                     |
|   |                                                                | 7 | 0 | 0 | 0 | 0 | 2 |                                                                                                                                                                                                                                     |
|   |                                                                | 4 | 3 | 2 | 3 | 2 | 2 | Tissue kallikreins, LST1, Cyclin B1, LHX1, Rab-11A, TIRAP (Mal), Olfactory receptor, Notch, ERK1 (MAPK3), SRB7, NOTCH1 precursor, CD43, MTL5, Spinophilin, Cyclin B, Rab-3, Adult hemoglobin, Protrudin, ZHX3, ERK1/2, DEAF, 14-3-3 |
| 4 |                                                                |   | 5 | 2 | 5 | 2 |   |                                                                                                                                                                                                                                     |
| 4 |                                                                |   | . | . | . | . |   |                                                                                                                                                                                                                                     |
| 3 | <a href="#">regulation of mitotic cell cycle</a>               |   | 5 | 7 | 5 | 7 |   |                                                                                                                                                                                                                                     |
|   |                                                                |   | 6 | 9 | 6 | 9 |   |                                                                                                                                                                                                                                     |
|   |                                                                |   | 6 | 1 | 6 | 1 |   |                                                                                                                                                                                                                                     |
|   |                                                                |   | E | E | E | E |   |                                                                                                                                                                                                                                     |
|   |                                                                | 5 | - | - | - | - |   |                                                                                                                                                                                                                                     |
|   |                                                                | 0 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                     |
|   |                                                                | 1 | 3 | 2 | 3 | 2 | 6 | Cyclin B1, TIPIN, IRT-1, Spinophilin, Cyclin B, 14-3-3                                                                                                                                                                              |
| 4 |                                                                |   | 5 | 2 | 5 | 2 |   |                                                                                                                                                                                                                                     |
| 4 |                                                                |   | . | . | . | . |   |                                                                                                                                                                                                                                     |
| 4 | <a href="#">regulation of tumor necrosis factor production</a> |   | 5 | 7 | 5 | 7 |   |                                                                                                                                                                                                                                     |
|   |                                                                |   | 8 | 9 | 8 | 9 |   |                                                                                                                                                                                                                                     |
|   |                                                                |   | 6 | 4 | 6 | 4 |   |                                                                                                                                                                                                                                     |
|   |                                                                |   | E | E | E | E |   |                                                                                                                                                                                                                                     |
|   |                                                                | 1 | - | - | - | - |   |                                                                                                                                                                                                                                     |
|   |                                                                | 1 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                     |
|   |                                                                | 1 | 3 | 2 | 3 | 2 | 3 | TIRAP (Mal), CD43, NFKBIL1                                                                                                                                                                                                          |
| 4 |                                                                |   | 5 | 2 | 5 | 2 |   |                                                                                                                                                                                                                                     |
| 4 |                                                                |   | . | . | . | . |   |                                                                                                                                                                                                                                     |
| 5 | <a href="#">regulation of RNA biosynthetic process</a>         |   | 6 | 8 | 6 | 8 |   |                                                                                                                                                                                                                                     |
|   |                                                                |   | 2 | 0 | 2 | 0 |   |                                                                                                                                                                                                                                     |
|   |                                                                |   | 8 | 9 | 8 | 9 |   |                                                                                                                                                                                                                                     |
|   |                                                                | 3 | E | E | E | E |   |                                                                                                                                                                                                                                     |
|   |                                                                | 9 | - | - | - | - |   |                                                                                                                                                                                                                                     |
|   |                                                                | 8 | 0 | 0 | 0 | 0 | 2 |                                                                                                                                                                                                                                     |
|   |                                                                | 0 | 3 | 2 | 3 | 2 | 2 | Ajuba, LHX1, HBG, HBGA, Gbbp1, TEF-5, TIRAP (Mal), Olfactory receptor, PTD015, Notch, ERK1 (MAPK3), DR1, SRB7, NOTCH1 precursor, NFKBIL1, AO7, Adult hemoglobin, ZHX3, ERK1/2, DEAF, 14-3-3, RBBP7 (RbAp46)                         |
| 4 |                                                                |   | 5 | 2 | 5 | 2 |   |                                                                                                                                                                                                                                     |
| 4 |                                                                |   | . | . | . | . |   |                                                                                                                                                                                                                                     |
| 6 | <a href="#">cellular macromolecule localization</a>            |   | 6 | 8 | 6 | 8 |   |                                                                                                                                                                                                                                     |
|   |                                                                |   | 7 | 1 | 7 | 1 |   |                                                                                                                                                                                                                                     |
|   |                                                                |   | 9 | 5 | 9 | 5 |   |                                                                                                                                                                                                                                     |
|   |                                                                | 1 | E | E | E | E |   |                                                                                                                                                                                                                                     |
|   |                                                                | 2 | - | - | - | - |   |                                                                                                                                                                                                                                     |
|   |                                                                | 2 | 0 | 0 | 0 | 0 | 1 |                                                                                                                                                                                                                                     |
|   |                                                                | 3 | 3 | 2 | 3 | 2 | 0 | Ajuba, Rab-11A, SNX1, Olfactory receptor, ERK1 (MAPK3), 14-3-3 zeta/delta, NFKBIL1, Protrudin, ERK1/2, 14-3-3                                                                                                                       |

|             |                                                                                        |             |                                           |                                           |                                           |                                           |        |                                                                                                            |
|-------------|----------------------------------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|------------------------------------------------------------------------------------------------------------|
| 4<br>4<br>7 | <a href="#">growth hormone receptor signaling pathway</a>                              | 3<br>5      | 5<br>.<br>7<br>1<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>1<br>5<br>E<br>-<br>0<br>2 | 5<br>.<br>7<br>1<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>1<br>5<br>E<br>-<br>0<br>2 | 2      | ERK1 (MAPK3), ERK1/2                                                                                       |
| 4<br>4<br>8 | <a href="#">regulation of anoikis</a>                                                  | 3<br>5      | 5<br>.<br>7<br>1<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>1<br>5<br>E<br>-<br>0<br>2 | 5<br>.<br>7<br>1<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>1<br>5<br>E<br>-<br>0<br>2 | 2      | Notch, NOTCH1 precursor                                                                                    |
| 4<br>4<br>9 | <a href="#">cardiac atrium morphogenesis</a>                                           | 3<br>5      | 5<br>.<br>7<br>1<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>1<br>5<br>E<br>-<br>0<br>2 | 5<br>.<br>7<br>1<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>1<br>5<br>E<br>-<br>0<br>2 | 2      | Notch, NOTCH1 precursor                                                                                    |
| 4<br>5<br>0 | <a href="#">epithelial cell differentiation involved in prostate gland development</a> | 3<br>5      | 5<br>.<br>7<br>1<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>1<br>5<br>E<br>-<br>0<br>2 | 5<br>.<br>7<br>1<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>1<br>5<br>E<br>-<br>0<br>2 | 2      | Notch, NOTCH1 precursor                                                                                    |
| 4<br>5<br>1 | <a href="#">MyD88-dependent toll-like receptor signaling pathway</a>                   | 1<br>1<br>2 | 5<br>.<br>7<br>2<br>6<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>1<br>5<br>E<br>-<br>0<br>2 | 5<br>.<br>7<br>2<br>6<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>1<br>5<br>E<br>-<br>0<br>2 | 3      | TIRAP (Mal), ERK1 (MAPK3), ERK1/2                                                                          |
| 4<br>5      | <a href="#">negative regulation of metabolic process</a>                               | 2<br>2      | 5<br>.<br>.<br>.<br>.<br>.                | 2<br>.<br>.<br>.<br>.<br>.                | 5<br>.<br>.<br>.<br>.<br>.                | 2<br>.<br>.<br>.<br>.<br>.                | 1<br>5 | Ajuba, Cyclin B1, TIPIN, LHX1, HBG, IRT-1, HBGA, Notch, DR1, NOTCH1 precursor, Cyclin B, Adult hemoglobin, |

|             |                                                                             |                       |                                 |                                 |                                 |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------|-----------------------------------------------------------------------------|-----------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2           |                                                                             | 9<br>4                | 7<br>2<br>8<br>E<br>-<br>0<br>3 | 8<br>1<br>5<br>E<br>-<br>0<br>2 | 7<br>2<br>8<br>E<br>-<br>0<br>3 | 8<br>1<br>5<br>E<br>-<br>0<br>2 | ZHX3, 14-3-3, RBBP7 (RbAp46)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 4<br>5<br>3 | <a href="#">regulation of body fluid levels</a>                             | 8<br>4<br>7           | 5<br>0<br>3                     | 2<br>0<br>2                     | 5<br>0<br>3                     | 2<br>0<br>2                     | 8<br>HBG, HBGA, ERK1 (MAPK3), CD43, 14-3-3 zeta/delta, Adult hemoglobin, ERK1/2, 14-3-3                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 4<br>5<br>4 | <a href="#">response to molecule of bacterial origin</a>                    | 5<br>0<br>8           | 5<br>0<br>3                     | 2<br>0<br>2                     | 5<br>0<br>3                     | 2<br>0<br>2                     | 6<br>TIRAP (Mal), Notch, ERK1 (MAPK3), NOTCH1 precursor, NFKBIL1, ERK1/2                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 4<br>5<br>5 | <a href="#">biological regulation</a>                                       | 1<br>2<br>9<br>4<br>7 | 6<br>0<br>1<br>9<br>3           | 2<br>9<br>2<br>8<br>2           | 6<br>0<br>1<br>9<br>3           | 2<br>9<br>2<br>8<br>2           | 5<br>2<br>Ajuba, Tissue kallikreins, IGHG4, ZNF261, Kallikrein 1, LST1, Cyclin B1, TIPIN, AL1A1, LHX1, HBG, IRT-1, HBGA, Gbp1, Rab-11A, SNX1, TEF-5, TIRAP (Mal), Olfactory receptor, PTD015, Notch, Thioredoxin-like 2, Rab-3B, PAP41, IGHG1, ERK1 (MAPK3), DR1, SRB7, NOTCH1 precursor, SULT1E1, CD43, 14-3-3 zeta/delta, NFKBIL1, AO7, CKS2, MTL5, OR10G3, OBFC1, PLEKHG2, G18, Spinophilin, Cyclin B, Rab-3, Kallikrein 3 (PSA), Adult hemoglobin, Protrudin, RIG-G, ZHX3, ERK1/2, DEAF, 14-3-3, RBBP7 (RbAp46) |
| 4<br>5<br>6 | <a href="#">developmental programmed cell death</a>                         | 3<br>6                | 6<br>0<br>4<br>3<br>E<br>-      | 2<br>9<br>2<br>8<br>E<br>-      | 6<br>0<br>4<br>3<br>E<br>-      | 2<br>9<br>2<br>8<br>E<br>-      | 2<br>Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 4<br>5<br>7 | <a href="#">positive regulation of epithelial to mesenchymal transition</a> | 3<br>6                | 6<br>0                          | 2<br>9                          | 6<br>0                          | 2<br>9                          | 2<br>Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|             |                                                                                  |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                  |
|-------------|----------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|----------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                                  |                  | 4<br>3<br>E<br>-<br>0<br>3                | 2<br>8<br>E<br>-<br>0<br>2                | 4<br>3<br>E<br>-<br>0<br>3                | 2<br>8<br>E<br>-<br>0<br>2                |        |                                                                                                                                  |
| 4<br>5<br>8 | <a href="#">cellular response to vascular endothelial growth factor stimulus</a> | 3<br>6           | 6<br>.<br>0<br>4<br>3<br>E<br>-<br>0<br>6 | 2<br>.<br>9<br>2<br>8<br>E<br>-<br>0<br>3 | 6<br>.<br>0<br>4<br>3<br>E<br>-<br>0<br>2 | 2<br>.<br>9<br>2<br>8<br>E<br>-<br>0<br>2 | 2      | Notch, NOTCH1 precursor                                                                                                          |
| 4<br>5<br>9 | <a href="#">negative regulation of cellular metabolic process</a>                | 2<br>0<br>8<br>2 | 6<br>.<br>0<br>5<br>1<br>E<br>0<br>8<br>2 | 2<br>.<br>9<br>2<br>8<br>E<br>-<br>0<br>3 | 6<br>.<br>0<br>5<br>1<br>E<br>0<br>3      | 2<br>.<br>9<br>2<br>8<br>E<br>-<br>0<br>2 | 1<br>4 | Ajuba, Cyclin B1, TIPIN, LHX1, HBG, HBGA, Notch, DR1, NOTCH1 precursor, Cyclin B, Adult hemoglobin, ZHX3, 14-3-3, RBBP7 (RbAp46) |
| 4<br>6<br>0 | <a href="#">cell cycle process</a>                                               | 1<br>2<br>3<br>7 | 6<br>.<br>1<br>4<br>2<br>E<br>-<br>0<br>3 | 2<br>.<br>9<br>6<br>6<br>E<br>-<br>0<br>2 | 6<br>.<br>1<br>4<br>2<br>E<br>-<br>0<br>3 | 2<br>.<br>9<br>6<br>6<br>E<br>-<br>0<br>2 | 1<br>0 | Ajuba, Cyclin B1, TIPIN, Rab-11A, Notch, CKS2, Annexin XI, Spinophilin, Cyclin B, 14-3-3                                         |
| 4<br>6<br>1 | <a href="#">positive regulation of defense response</a>                          | 3<br>6<br>2      | 6<br>.<br>3<br>0<br>4<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>0<br>2 | 6<br>.<br>3<br>0<br>4<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>0<br>2 | 5      | Tissue kallikreins, Kallikrein 1, TIRAP (Mal), ERK1 (MAPK3), ERK1/2                                                              |
| 4<br>6<br>2 | <a href="#">nephron development</a>                                              | 1<br>1<br>6      | 6<br>.<br>3<br>1<br>0                     | 3<br>.<br>0<br>1<br>5                     | 6<br>.<br>3<br>0<br>0                     | 3<br>.<br>0<br>1<br>5                     | 3      | LHX1, Notch, NOTCH1 precursor                                                                                                    |

|             |                                                                                |                  |                                           |                                           |                                           |                                           |        |                                                                                              |
|-------------|--------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|----------------------------------------------------------------------------------------------|
|             |                                                                                |                  | E<br>-<br>0<br>3                          | E<br>-<br>0<br>2                          | E<br>-<br>0<br>3                          | E<br>-<br>0<br>2                          |        |                                                                                              |
| 4<br>6<br>3 | <a href="#">epithelial cell proliferation</a>                                  | 1<br>1<br>6      | 6<br>.<br>3<br>1<br>0<br>E<br>-<br>1<br>6 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>0<br>3 | 6<br>.<br>3<br>1<br>0<br>E<br>-<br>3<br>2 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>0<br>2 | 3      | Tissue kallikreins, ERK1/2, 14-3-3                                                           |
| 4<br>6<br>4 | <a href="#">peptide biosynthetic process</a>                                   | 3<br>7           | 6<br>.<br>3<br>7<br>5<br>E<br>-<br>3<br>7 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>2<br>3 | 6<br>.<br>3<br>7<br>5<br>E<br>-<br>3<br>2 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>2<br>2 | 2      | Tissue kallikreins, Kallikrein 3 (PSA)                                                       |
| 4<br>6<br>5 | <a href="#">epithelial cell differentiation involved in kidney development</a> | 3<br>7           | 6<br>.<br>3<br>7<br>5<br>E<br>-<br>3<br>7 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>2<br>3 | 6<br>.<br>3<br>7<br>5<br>E<br>-<br>3<br>2 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>2<br>2 | 2      | Notch, NOTCH1 precursor                                                                      |
| 4<br>6<br>6 | <a href="#">positive regulation of phosphatidylinositol 3-kinase activity</a>  | 3<br>7           | 6<br>.<br>3<br>7<br>5<br>E<br>-<br>3<br>7 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>2<br>3 | 6<br>.<br>3<br>7<br>5<br>E<br>-<br>3<br>2 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>2<br>2 | 2      | Tissue kallikreins, Kallikrein 3 (PSA)                                                       |
| 4<br>6<br>7 | <a href="#">positive regulation of transcription, DNA-templated</a>            | 1<br>4<br>4<br>8 | 6<br>.<br>4<br>0<br>2<br>E<br>-           | 3<br>.<br>0<br>1<br>5<br>E<br>-           | 6<br>.<br>4<br>0<br>2<br>E<br>-           | 3<br>.<br>0<br>1<br>5<br>E<br>-           | 1<br>1 | LHX1, Gbp1, TEF-5, PTD015, Notch, ERK1 (MAPK3), SRB7, NOTCH1 precursor, ERK1/2, DEAF, 14-3-3 |



|             |                                                                          |   |                                           |                                           |                                           |                                           |   |         |
|-------------|--------------------------------------------------------------------------|---|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|---------|
|             |                                                                          |   | 0<br>3                                    | 0<br>2                                    | 0<br>3                                    | 0<br>2                                    |   |         |
| 4<br>6<br>8 | <a href="#">negative regulation of peptidyl-serine dephosphorylation</a> | 2 | 6<br>.<br>4<br>5<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>0<br>2 | 6<br>.<br>4<br>5<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>0<br>2 | 1 | 14-3-3  |
| 4<br>6<br>9 | <a href="#">regulation of anterior head development</a>                  | 2 | 6<br>.<br>4<br>5<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>0<br>2 | 6<br>.<br>4<br>5<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>0<br>2 | 1 | LHX1    |
| 4<br>7<br>0 | <a href="#">negative regulation of smooth muscle cell chemotaxis</a>     | 2 | 6<br>.<br>4<br>5<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>0<br>2 | 6<br>.<br>4<br>5<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>0<br>2 | 1 | IRT-1   |
| 4<br>7<br>1 | <a href="#">T cell aggregation</a>                                       | 2 | 6<br>.<br>4<br>5<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>0<br>2 | 6<br>.<br>4<br>5<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>0<br>2 | 1 | CD43    |
| 4<br>7<br>2 | <a href="#">plasma membrane to endosome transport</a>                    | 2 | 6<br>.<br>4<br>5<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>0<br>2 | 6<br>.<br>4<br>5<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>0<br>2 | 1 | Rab-11A |

|             |                                                                  |                  |                                           |                                           |                                           |                                           |        |                                                                                                                  |
|-------------|------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|------------------------------------------------------------------------------------------------------------------|
| 4<br>7<br>3 | <a href="#">seminal clot liquefaction</a>                        | 2                | 6<br>.<br>4<br>5<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>0<br>2 | 6<br>.<br>4<br>5<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>0<br>2 | 1      | Tissue kallikreins                                                                                               |
| 4<br>7<br>4 | <a href="#">positive regulation of anterior head development</a> | 2                | 6<br>.<br>4<br>5<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>0<br>2 | 6<br>.<br>4<br>5<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>0<br>2 | 1      | LHX1                                                                                                             |
| 4<br>7<br>5 | <a href="#">maintenance of presynaptic active zone structure</a> | 2                | 6<br>.<br>4<br>5<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>0<br>2 | 6<br>.<br>4<br>5<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>0<br>2 | 1      | Rab-3                                                                                                            |
| 4<br>7<br>6 | <a href="#">axis specification</a>                               | 1<br>1<br>7      | 6<br>.<br>4<br>6<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>0<br>2 | 6<br>.<br>4<br>6<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>1<br>5<br>E<br>-<br>0<br>2 | 3      | LHX1, Notch, NOTCH1 precursor                                                                                    |
| 4<br>7<br>7 | <a href="#">innate immune response</a>                           | 1<br>0<br>5<br>1 | 6<br>.<br>5<br>0<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>2<br>9<br>E<br>-<br>0<br>2 | 6<br>.<br>5<br>0<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>2<br>9<br>E<br>-<br>0<br>2 | 9      | IGHG4, IRT-1, TIRAP (Mal), IGHG1, ERK1 (MAPK3), CALCOCO2, RIG-G, ERK1/2, 14-3-3                                  |
| 4<br>7      | <a href="#">tissue development</a>                               | 1<br>8           | 6<br>.<br>.<br>.<br>.                     | 3<br>.<br>.<br>.<br>.                     | 6<br>.<br>.<br>.<br>.                     | 3<br>.<br>.<br>.<br>.                     | 1<br>3 | Ajuba, Tissue kallikreins, Cyclin B1, AL1A1, LHX1, Notch, ERK1 (MAPK3), NOTCH1 precursor, Cyclin B, Kallikrein 3 |

|             |                                                                         |        |                                           |                                           |                                           |                                           |                                          |
|-------------|-------------------------------------------------------------------------|--------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|------------------------------------------|
| 8           |                                                                         | 7<br>9 | 5<br>4<br>2<br>E<br>-<br>0<br>3           | 0<br>4<br>0<br>E<br>-<br>0<br>2           | 5<br>4<br>2<br>E<br>-<br>0<br>3           | 0<br>4<br>0<br>E<br>-<br>0<br>2           | (PSA), ERK1/2, DEAF, 14-3-3              |
| 4<br>7<br>9 | <a href="#">cytokine secretion</a>                                      | 3<br>8 | 6<br>.<br>7<br>1<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>8<br>8<br>E<br>-<br>0<br>2 | 6<br>.<br>7<br>1<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>8<br>8<br>E<br>-<br>0<br>2 | 2 Notch, NOTCH1 precursor                |
| 4<br>8<br>0 | <a href="#">positive regulation of lipid kinase activity</a>            | 3<br>8 | 6<br>.<br>7<br>1<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>8<br>8<br>E<br>-<br>0<br>2 | 6<br>.<br>7<br>1<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>8<br>8<br>E<br>-<br>0<br>2 | 2 Tissue kallikreins, Kallikrein 3 (PSA) |
| 4<br>8<br>1 | <a href="#">transcription initiation from RNA polymerase I promoter</a> | 3<br>8 | 6<br>.<br>7<br>1<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>8<br>8<br>E<br>-<br>0<br>2 | 6<br>.<br>7<br>1<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>8<br>8<br>E<br>-<br>0<br>2 | 2 ERK1 (MAPK3), ERK1/2                   |
| 4<br>8<br>2 | <a href="#">regulation of astrocyte differentiation</a>                 | 3<br>8 | 6<br>.<br>7<br>1<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>8<br>8<br>E<br>-<br>0<br>2 | 6<br>.<br>7<br>1<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>8<br>8<br>E<br>-<br>0<br>2 | 2 Notch, NOTCH1 precursor                |
| 4<br>8<br>3 | <a href="#">cardiac muscle cell proliferation</a>                       | 3<br>8 | 6<br>.<br>7<br>1<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>8<br>8<br>E<br>-<br>0<br>2 | 6<br>.<br>7<br>1<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>8<br>8<br>E<br>-<br>0<br>2 | 2 Notch, NOTCH1 precursor                |

|             |                                                                        |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                   |
|-------------|------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                        |                  | 5<br>E<br>-<br>0<br>3                     | 8<br>E<br>-<br>0<br>2                     | 5<br>E<br>-<br>0<br>3                     | 8<br>E<br>-<br>0<br>2                     |        |                                                                                                                                                   |
| 4<br>8<br>4 | <a href="#">cellular response to fibroblast growth factor stimulus</a> | 2<br>3<br>2      | 6<br>.<br>7<br>6<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>0<br>3<br>E<br>-<br>0<br>2 | 6<br>.<br>7<br>6<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>0<br>3<br>E<br>-<br>0<br>2 | 4      | LHX1, ERK1 (MAPK3), ERK1/2, 14-3-3                                                                                                                |
| 4<br>8<br>5 | <a href="#">establishment of protein localization</a>                  | 1<br>4<br>6<br>1 | 6<br>.<br>8<br>3<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>3<br>0<br>E<br>-<br>0<br>2 | 6<br>.<br>8<br>3<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>3<br>0<br>E<br>-<br>0<br>2 | 1<br>1 | Rab-11A, SNX1, Olfactory receptor, Notch, Rab-3B, ERK1 (MAPK3), NOTCH1 precursor, 14-3-3 zeta/delta, Rab-3, ERK1/2, 14-3-3                        |
| 4<br>8<br>6 | <a href="#">neurogenesis</a>                                           | 1<br>8<br>9<br>1 | 6<br>.<br>8<br>9<br>4<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>5<br>1<br>E<br>-<br>0<br>2 | 6<br>.<br>8<br>9<br>4<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>5<br>1<br>E<br>-<br>0<br>2 | 1<br>3 | Tissue kallikreins, LST1, LHX1, Rab-11A, Olfactory receptor, Notch, ERK1 (MAPK3), NOTCH1 precursor, Spinophilin, Rab-3, Protrudin, ERK1/2, 14-3-3 |
| 4<br>8<br>7 | <a href="#">regulation of cell cycle</a>                               | 1<br>0<br>6<br>2 | 6<br>.<br>9<br>5<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>7<br>0<br>E<br>-<br>0<br>2 | 6<br>.<br>9<br>5<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>7<br>0<br>E<br>-<br>0<br>2 | 9      | Cyclin B1, TIPIN, IRT-1, Olfactory receptor, Notch, CKS2, Spinophilin, Cyclin B, 14-3-3                                                           |
| 4<br>8<br>8 | <a href="#">prostate gland epithelium morphogenesis</a>                | 3<br>9           | 7<br>.<br>0<br>6<br>3<br>E                | 3<br>.<br>1<br>8<br>9<br>E                | 7<br>.<br>0<br>6<br>3<br>E                | 3<br>.<br>1<br>8<br>9<br>E                | 2      | Notch, NOTCH1 precursor                                                                                                                           |

|   |                                                                                       |   |   |   |   |   |   |                                                |
|---|---------------------------------------------------------------------------------------|---|---|---|---|---|---|------------------------------------------------|
|   |                                                                                       |   | - | - | - | - |   |                                                |
|   |                                                                                       |   | 0 | 0 | 0 | 0 |   |                                                |
|   |                                                                                       |   | 3 | 2 | 3 | 2 |   |                                                |
| 4 | <a href="#">regulation of chromosome segregation</a>                                  | 3 | 7 | 3 | 7 | 3 | 2 | Cyclin B1, Cyclin B                            |
| 8 |                                                                                       |   | . | . | . | . |   |                                                |
| 9 |                                                                                       |   | 0 | 1 | 0 | 1 |   |                                                |
|   |                                                                                       |   | 6 | 8 | 6 | 8 |   |                                                |
|   |                                                                                       |   | 3 | 9 | 3 | 9 |   |                                                |
|   |                                                                                       |   | E | E | E | E |   |                                                |
|   |                                                                                       |   | - | - | - | - |   |                                                |
|   |                                                                                       |   | 0 | 0 | 0 | 0 |   |                                                |
|   |                                                                                       | 9 | 3 | 2 | 3 | 2 |   |                                                |
| 4 | <a href="#">striated muscle cell proliferation</a>                                    | 3 | 7 | 3 | 7 | 3 | 2 | Notch, NOTCH1 precursor                        |
| 9 |                                                                                       |   | . | . | . | . |   |                                                |
| 0 |                                                                                       |   | 0 | 1 | 0 | 1 |   |                                                |
|   |                                                                                       |   | 6 | 8 | 6 | 8 |   |                                                |
|   |                                                                                       |   | 3 | 9 | 3 | 9 |   |                                                |
|   |                                                                                       |   | E | E | E | E |   |                                                |
|   |                                                                                       |   | - | - | - | - |   |                                                |
|   |                                                                                       |   | 0 | 0 | 0 | 0 |   |                                                |
|   |                                                                                       | 9 | 3 | 2 | 3 | 2 |   |                                                |
| 4 | <a href="#">cardiac atrium development</a>                                            | 3 | 7 | 3 | 7 | 3 | 2 | Notch, NOTCH1 precursor                        |
| 9 |                                                                                       |   | . | . | . | . |   |                                                |
| 1 |                                                                                       |   | 0 | 1 | 0 | 1 |   |                                                |
|   |                                                                                       |   | 6 | 8 | 6 | 8 |   |                                                |
|   |                                                                                       |   | 3 | 9 | 3 | 9 |   |                                                |
|   |                                                                                       |   | E | E | E | E |   |                                                |
|   |                                                                                       |   | - | - | - | - |   |                                                |
|   |                                                                                       |   | 0 | 0 | 0 | 0 |   |                                                |
|   |                                                                                       | 9 | 3 | 2 | 3 | 2 |   |                                                |
| 4 | <a href="#">negative regulation of microtubule polymerization or depolymerization</a> | 3 | 7 | 3 | 7 | 3 | 2 | Cyclin B1, Cyclin B                            |
| 9 |                                                                                       |   | . | . | . | . |   |                                                |
| 2 |                                                                                       |   | 0 | 1 | 0 | 1 |   |                                                |
|   |                                                                                       |   | 6 | 8 | 6 | 8 |   |                                                |
|   |                                                                                       |   | 3 | 9 | 3 | 9 |   |                                                |
|   |                                                                                       |   | E | E | E | E |   |                                                |
|   |                                                                                       |   | - | - | - | - |   |                                                |
|   |                                                                                       |   | 0 | 0 | 0 | 0 |   |                                                |
|   |                                                                                       | 9 | 3 | 2 | 3 | 2 |   |                                                |
| 4 | <a href="#">striated muscle contraction</a>                                           | 1 | 7 | 3 | 7 | 3 | 3 | Tissue kallikreins, Kallikrein 3 (PSA), CapZIP |
| 9 |                                                                                       | 2 | . | . | . | . |   |                                                |
| 3 |                                                                                       | 1 | 0 | 1 | 0 | 1 |   |                                                |
|   |                                                                                       |   | 8 | 9 | 8 | 9 |   |                                                |
|   |                                                                                       |   | 8 | 3 | 8 | 3 |   |                                                |
|   |                                                                                       |   | E | E | E | E |   |                                                |
|   |                                                                                       |   | - | - | - | - |   |                                                |
|   |                                                                                       |   | 0 | 0 | 0 | 0 |   |                                                |

|             |                                                              |             |                                           |                                           |                                           |                                           |   |                                                                                |
|-------------|--------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|--------------------------------------------------------------------------------|
|             |                                                              |             | 3                                         | 2                                         | 3                                         | 2                                         |   |                                                                                |
| 4<br>9<br>4 | <a href="#">response to fibroblast growth factor</a>         | 2<br>3<br>6 | 7<br>.<br>1<br>7<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>2<br>6<br>E<br>-<br>0<br>2 | 7<br>.<br>1<br>7<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>2<br>6<br>E<br>-<br>0<br>2 | 4 | LHX1, ERK1 (MAPK3), ERK1/2, 14-3-3                                             |
| 4<br>9<br>5 | <a href="#">positive regulation of cell differentiation</a>  | 8<br>7<br>8 | 7<br>.<br>1<br>9<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>2<br>6<br>E<br>-<br>0<br>2 | 7<br>.<br>1<br>9<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>2<br>6<br>E<br>-<br>0<br>2 | 8 | LHX1, Rab-11A, PTD015, Notch, NOTCH1 precursor, Adult hemoglobin, ZHX3, 14-3-3 |
| 4<br>9<br>6 | <a href="#">morphogenesis of an epithelium</a>               | 5<br>2<br>9 | 7<br>.<br>2<br>0<br>3<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>2<br>6<br>E<br>-<br>0<br>2 | 7<br>.<br>2<br>0<br>3<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>2<br>6<br>E<br>-<br>0<br>2 | 6 | Ajuba, AL1A1, LHX1, Notch, NOTCH1 precursor, DEAF                              |
| 4<br>9<br>7 | <a href="#">regulation of organ formation</a>                | 4<br>0      | 7<br>.<br>4<br>2<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>9<br>6<br>E<br>-<br>0<br>2 | 7<br>.<br>4<br>2<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>9<br>6<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor                                                        |
| 4<br>9<br>8 | <a href="#">cellular response to growth hormone stimulus</a> | 4<br>0      | 7<br>.<br>4<br>2<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>9<br>6<br>E<br>-<br>0<br>2 | 7<br>.<br>4<br>2<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>9<br>6<br>E<br>-<br>0<br>2 | 2 | ERK1 (MAPK3), ERK1/2                                                           |

|     |                                                                                                                              |      |                                           |                                           |                                           |                                           |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----|------------------------------------------------------------------------------------------------------------------------------|------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 499 | <a href="#">somatic stem cell division</a>                                                                                   | 400  | 7<br>.<br>4<br>2<br>0<br>E<br>-<br>0      | 3<br>.<br>2<br>9<br>6<br>E<br>-<br>0      | 7<br>.<br>4<br>2<br>0<br>E<br>-<br>0      | 3<br>.<br>2<br>9<br>6<br>E<br>-<br>0      | 2  | Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 500 | <a href="#">cellular response to gonadotropin stimulus</a>                                                                   | 400  | 7<br>.<br>4<br>2<br>0<br>E<br>-<br>0      | 3<br>.<br>2<br>9<br>6<br>E<br>-<br>0      | 7<br>.<br>4<br>2<br>0<br>E<br>-<br>0      | 3<br>.<br>2<br>9<br>6<br>E<br>-<br>0      | 2  | Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 501 | <a href="#">regulation of cellular process</a>                                                                               | 1707 | 7<br>.<br>6<br>8<br>1<br>1<br>7<br>0<br>7 | 3<br>.<br>4<br>0<br>3<br>E<br>-<br>0<br>3 | 7<br>.<br>6<br>8<br>3<br>E<br>-<br>0<br>2 | 3<br>.<br>4<br>0<br>0<br>E<br>-<br>0<br>3 | 48 | Ajuba, Tissue kallikreins, IGHG4, ZNF261, Kallikrein 1, LST1, Cyclin B1, TIPIN, AL1A1, LHX1, HBG, IRT-1, HBGA, Gbp1, Rab-11A, TEF-5, TIRAP (Mal), Olfactory receptor, PTD015, Notch, Thioredoxin-like 2, Rab-3B, IGHG1, ERK1 (MAPK3), DR1, SRB7, NOTCH1 precursor, CD43, 14-3-3 zeta/delta, NFKBIL1, AO7, CKS2, OR10G3, OBFC1, PLEKHG2, G18, Spinophilin, Cyclin B, Rab-3, Kallikrein 3 (PSA), Adult hemoglobin, Protrudin, RIG-G, ZHX3, ERK1/2, DEAF, 14-3-3, RBBP7 (RbAp46) |
| 502 | <a href="#">positive regulation of protein insertion into mitochondrial membrane involved in apoptotic signaling pathway</a> | 41   | 7<br>.<br>7<br>8<br>4<br>E<br>-<br>4<br>1 | 3<br>.<br>4<br>0<br>3<br>E<br>-<br>0<br>3 | 7<br>.<br>7<br>8<br>4<br>E<br>-<br>0<br>2 | 3<br>.<br>4<br>0<br>3<br>E<br>-<br>0<br>2 | 2  | 14-3-3 zeta/delta, 14-3-3                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 503 | <a href="#">negative regulation of blood vessel endothelial cell migration</a>                                               | 41   | 7<br>.<br>7<br>8<br>4<br>E<br>-<br>4<br>1 | 3<br>.<br>4<br>0<br>3<br>E<br>-<br>0<br>2 | 7<br>.<br>7<br>8<br>4<br>E<br>-<br>0<br>2 | 3<br>.<br>4<br>0<br>3<br>E<br>-<br>0<br>2 | 2  | Notch, NOTCH1 precursor                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 50  | <a href="#">response to phenylpropanoid</a>                                                                                  | 41   | 7<br>.<br>.<br>.<br>.                     | 3<br>.<br>.<br>.<br>.                     | 7<br>.<br>.<br>.<br>.                     | 3<br>.<br>.<br>.<br>.                     | 2  | Adult hemoglobin, RIG-G                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

|             |                                                                                                                     |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                    |
|-------------|---------------------------------------------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4           |                                                                                                                     |                  | 7<br>8<br>4<br>E<br>-<br>0<br>3           | 4<br>0<br>3<br>E<br>-<br>0<br>2           | 7<br>8<br>4<br>E<br>-<br>0<br>3           | 4<br>0<br>3<br>E<br>-<br>0<br>2           |        |                                                                                                                                                                    |
| 5<br>0<br>5 | <a href="#">negative regulation of gliogenesis</a>                                                                  | 4<br>1           | 7<br>.<br>7<br>8<br>4<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>0<br>3<br>E<br>-<br>0<br>2 | 7<br>.<br>7<br>8<br>4<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>0<br>3<br>E<br>-<br>0<br>2 | 2      | Notch, NOTCH1 precursor                                                                                                                                            |
| 5<br>0<br>6 | <a href="#">regulation of protein insertion into mitochondrial membrane involved in apoptotic signaling pathway</a> | 4<br>1           | 7<br>.<br>7<br>8<br>4<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>0<br>3<br>E<br>-<br>0<br>2 | 7<br>.<br>7<br>8<br>4<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>0<br>3<br>E<br>-<br>0<br>2 | 2      | 14-3-3 zeta/delta, 14-3-3                                                                                                                                          |
| 5<br>0<br>7 | <a href="#">lipopolysaccharide-mediated signaling pathway</a>                                                       | 4<br>1           | 7<br>.<br>7<br>8<br>4<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>0<br>3<br>E<br>-<br>0<br>2 | 7<br>.<br>7<br>8<br>4<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>0<br>3<br>E<br>-<br>0<br>2 | 2      | ERK1 (MAPK3), ERK1/2                                                                                                                                               |
| 5<br>0<br>8 | <a href="#">prostate gland morphogenesis</a>                                                                        | 4<br>1           | 7<br>.<br>7<br>8<br>4<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>0<br>3<br>E<br>-<br>0<br>2 | 7<br>.<br>7<br>8<br>4<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>0<br>3<br>E<br>-<br>0<br>2 | 2      | Notch, NOTCH1 precursor                                                                                                                                            |
| 5<br>0<br>9 | <a href="#">cellular localization</a>                                                                               | 2<br>3<br>7<br>4 | 7<br>.<br>8<br>8<br>3                     | 3<br>.<br>4<br>1<br>1                     | 7<br>.<br>8<br>4<br>3                     | 3<br>.<br>4<br>1<br>1                     | 1<br>5 | Ajuba, Cyclin B1, Rab-11A, SNX1, Olfactory receptor, Notch, ERK1 (MAPK3), NOTCH1 precursor, 14-3-3 zeta/delta, NFKBIL1, Cyclin B, Rab-3, Protrudin, ERK1/2, 14-3-3 |



|             |                                                                   |                       |                                                |                                           |                                                |                                           |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------|-------------------------------------------------------------------|-----------------------|------------------------------------------------|-------------------------------------------|------------------------------------------------|-------------------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                   |                       | 2<br>E<br>-<br>0<br>3                          | 7<br>E<br>-<br>0<br>2                     | 2<br>E<br>-<br>0<br>3                          | 7<br>E<br>-<br>0<br>2                     |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 5<br>1<br>0 | <a href="#">cellular response to molecule of bacterial origin</a> | 2<br>4<br>3           | 7<br>.<br>9<br>3<br>6<br>E<br>-<br>4<br>3      | 3<br>.<br>4<br>5<br>6<br>E<br>-<br>0<br>2 | 7<br>.<br>9<br>3<br>6<br>E<br>-<br>0<br>3      | 3<br>.<br>4<br>5<br>6<br>E<br>-<br>0<br>2 | 4      | TIRAP (Mal), ERK1 (MAPK3), NFKBIL1, ERK1/2                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 5<br>1<br>1 | <a href="#">regulation of biological process</a>                  | 1<br>2<br>3<br>9<br>1 | 7<br>.<br>9<br>6<br>4<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>6<br>2<br>E<br>-<br>0<br>2 | 7<br>.<br>9<br>6<br>4<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>6<br>2<br>E<br>-<br>0<br>2 | 5<br>0 | Ajuba, Tissue kallikreins, IGHG4, ZNF261, Kallikrein 1, LST1, Cyclin B1, TIPIN, AL1A1, LHX1, HBG, IRT-1, HBGA, Gbp1, Rab-11A, SNX1, TEF-5, TIRAP (Mal), Olfactory receptor, PTD015, Notch, Thioredoxin-like 2, Rab-3B, PAP41, IGHG1, ERK1 (MAPK3), DR1, SRB7, NOTCH1 precursor, CD43, 14-3-3 zeta/delta, NFKBIL1, AO7, CKS2, OR10G3, OBFC1, PLEKHG2, G18, Spinophilin, Cyclin B, Rab-3, Kallikrein 3 (PSA), Adult hemoglobin, Protrudin, RIG-G, ZHX3, ERK1/2, DEAF, 14-3-3, RBBP7 (RbAp46) |
| 5<br>1<br>2 | <a href="#">positive regulation of catalytic activity</a>         | 1<br>4<br>9<br>3      | 8<br>.<br>0<br>0<br>0<br>E<br>-<br>0<br>3      | 3<br>.<br>4<br>7<br>0<br>0<br>E<br>-<br>2 | 8<br>.<br>0<br>7<br>0<br>0<br>E<br>-<br>3      | 3<br>.<br>4<br>7<br>0<br>0<br>E<br>-<br>2 | 1<br>1 | Ajuba, Tissue kallikreins, Cyclin B1, AL1A1, TIRAP (Mal), ERK1 (MAPK3), Cyclin B, Rab-3, Kallikrein 3 (PSA), ERK1/2, 14-3-3                                                                                                                                                                                                                                                                                                                                                                |
| 5<br>1<br>3 | <a href="#">regulation of protein kinase activity</a>             | 8<br>9<br>6           | 8<br>.<br>0<br>9<br>0<br>E<br>-<br>0<br>3      | 3<br>.<br>4<br>7<br>3<br>E<br>-<br>2      | 8<br>.<br>0<br>9<br>0<br>E<br>-<br>3           | 3<br>.<br>4<br>7<br>0<br>3<br>E<br>-<br>2 | 8      | Ajuba, Cyclin B1, TIRAP (Mal), ERK1 (MAPK3), CKS2, Cyclin B, ERK1/2, 14-3-3                                                                                                                                                                                                                                                                                                                                                                                                                |
| 5<br>1<br>4 | <a href="#">peptide metabolic process</a>                         | 1<br>2<br>7           | 8<br>.<br>0<br>9<br>4<br>E                     | 3<br>.<br>4<br>7<br>3<br>E                | 8<br>.<br>0<br>9<br>4<br>E                     | 3<br>.<br>4<br>7<br>3<br>E                | 3      | Tissue kallikreins, Kallikrein 3 (PSA), Adult hemoglobin                                                                                                                                                                                                                                                                                                                                                                                                                                   |

|   |                                                        |   |   |   |   |   |   |                           |
|---|--------------------------------------------------------|---|---|---|---|---|---|---------------------------|
|   |                                                        |   | - | - | - | - |   |                           |
|   |                                                        |   | 0 | 0 | 0 | 0 |   |                           |
|   |                                                        |   | 3 | 2 | 3 | 2 |   |                           |
| 5 | <a href="#">regulation of neuroblast proliferation</a> | 4 | 8 | 3 | 8 | 3 | 2 | Notch, NOTCH1 precursor   |
| 1 |                                                        |   | . | . | . | . |   |                           |
| 5 |                                                        |   | 1 | 4 | 1 | 4 |   |                           |
|   |                                                        |   | 5 | 7 | 5 | 7 |   |                           |
|   |                                                        |   | 6 | 3 | 6 | 3 |   |                           |
|   |                                                        |   | E | E | E | E |   |                           |
|   |                                                        |   | - | - | - | - |   |                           |
|   |                                                        |   | 0 | 0 | 0 | 0 |   |                           |
|   |                                                        |   | 3 | 2 | 3 | 2 |   |                           |
| 5 | <a href="#">mast cell activation</a>                   | 4 | 8 | 3 | 8 | 3 | 2 | 14-3-3 zeta/delta, 14-3-3 |
| 1 |                                                        |   | . | . | . | . |   |                           |
| 6 |                                                        |   | 1 | 4 | 1 | 4 |   |                           |
|   |                                                        |   | 5 | 7 | 5 | 7 |   |                           |
|   |                                                        |   | 6 | 3 | 6 | 3 |   |                           |
|   |                                                        |   | E | E | E | E |   |                           |
|   |                                                        |   | - | - | - | - |   |                           |
|   |                                                        |   | 0 | 0 | 0 | 0 |   |                           |
|   |                                                        |   | 3 | 2 | 3 | 2 |   |                           |
| 5 | <a href="#">response to epidermal growth factor</a>    | 4 | 8 | 3 | 8 | 3 | 2 | ERK1 (MAPK3), ERK1/2      |
| 1 |                                                        |   | . | . | . | . |   |                           |
| 7 |                                                        |   | 1 | 4 | 1 | 4 |   |                           |
|   |                                                        |   | 5 | 7 | 5 | 7 |   |                           |
|   |                                                        |   | 6 | 3 | 6 | 3 |   |                           |
|   |                                                        |   | E | E | E | E |   |                           |
|   |                                                        |   | - | - | - | - |   |                           |
|   |                                                        |   | 0 | 0 | 0 | 0 |   |                           |
|   |                                                        |   | 3 | 2 | 3 | 2 |   |                           |
| 5 | <a href="#">auditory receptor cell differentiation</a> | 4 | 8 | 3 | 8 | 3 | 2 | Notch, NOTCH1 precursor   |
| 1 |                                                        |   | . | . | . | . |   |                           |
| 8 |                                                        |   | 1 | 4 | 1 | 4 |   |                           |
|   |                                                        |   | 5 | 7 | 5 | 7 |   |                           |
|   |                                                        |   | 6 | 3 | 6 | 3 |   |                           |
|   |                                                        |   | E | E | E | E |   |                           |
|   |                                                        |   | - | - | - | - |   |                           |
|   |                                                        |   | 0 | 0 | 0 | 0 |   |                           |
|   |                                                        |   | 3 | 2 | 3 | 2 |   |                           |
| 5 | <a href="#">leukocyte degranulation</a>                | 4 | 8 | 3 | 8 | 3 | 2 | 14-3-3 zeta/delta, 14-3-3 |
| 1 |                                                        |   | . | . | . | . |   |                           |
| 9 |                                                        |   | 1 | 4 | 1 | 4 |   |                           |
|   |                                                        |   | 5 | 7 | 5 | 7 |   |                           |
|   |                                                        |   | 6 | 3 | 6 | 3 |   |                           |
|   |                                                        |   | E | E | E | E |   |                           |
|   |                                                        |   | - | - | - | - |   |                           |
|   |                                                        |   | 0 | 0 | 0 | 0 |   |                           |
|   |                                                        |   | 0 | 0 | 0 | 0 |   |                           |

|             |                                                                 |                  |                                           |                                           |                                           |                                           |        |                                                                                               |
|-------------|-----------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|-----------------------------------------------------------------------------------------------|
|             |                                                                 |                  | 3                                         | 2                                         | 3                                         | 2                                         |        |                                                                                               |
| 5<br>2<br>0 | <a href="#">mitotic nuclear envelope disassembly</a>            | 4<br>2           | 8<br>.<br>1<br>5<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>7<br>3<br>E<br>-<br>0<br>2 | 8<br>.<br>1<br>5<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>7<br>3<br>E<br>-<br>0<br>2 | 2      | Cyclin B1, Cyclin B                                                                           |
| 5<br>2<br>1 | <a href="#">gastrulation with mouth forming second</a>          | 4<br>2           | 8<br>.<br>1<br>5<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>7<br>3<br>E<br>-<br>0<br>2 | 8<br>.<br>1<br>5<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>7<br>3<br>E<br>-<br>0<br>2 | 2      | LHX1, UGDH                                                                                    |
| 5<br>2<br>2 | <a href="#">regulation of behavior</a>                          | 2<br>4<br>5      | 8<br>.<br>1<br>6<br>3<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>7<br>3<br>E<br>-<br>0<br>2 | 8<br>.<br>1<br>6<br>3<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>7<br>3<br>E<br>-<br>0<br>2 | 4      | IRT-1, TIRAP (Mal), Notch, NOTCH1 precursor                                                   |
| 5<br>2<br>3 | <a href="#">positive regulation of RNA biosynthetic process</a> | 1<br>4<br>9<br>8 | 8<br>.<br>1<br>9<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>8<br>0<br>E<br>-<br>0<br>2 | 8<br>.<br>1<br>9<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>8<br>0<br>E<br>-<br>0<br>2 | 1<br>1 | LHX1, Gbbp1, TEF-5, PTD015, Notch, ERK1 (MAPK3), SRB7, NOTCH1 precursor, ERK1/2, DEAF, 14-3-3 |
| 5<br>2<br>4 | <a href="#">negative regulation of neurogenesis</a>             | 1<br>2<br>9      | 8<br>.<br>4<br>4<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>7<br>7<br>E<br>-<br>0<br>2 | 8<br>.<br>4<br>4<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>4<br>7<br>E<br>-<br>0<br>2 | 3      | Notch, NOTCH1 precursor, 14-3-3                                                               |

|   |                                                                                     |   |                                           |                                           |                                           |                                           |   |                                                                                                                  |
|---|-------------------------------------------------------------------------------------|---|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|------------------------------------------------------------------------------------------------------------------|
| 5 | <a href="#">multi-organism reproductive process</a>                                 | 1 | 8<br>.<br>4<br>7<br>7<br>E<br>2<br>9<br>7 | 3<br>.<br>5<br>7<br>7<br>E<br>-<br>0<br>2 | 8<br>.<br>4<br>7<br>7<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>7<br>7<br>E<br>-<br>0<br>2 | 1 | Tissue kallikreins, Cyclin B1, TEF-5, Olfactory receptor, Notch, NOTCH1 precursor, SULT1E1, MTL5, Cyclin B, DEAF |
| 5 | <a href="#">regulation of systemic arterial blood pressure by renin-angiotensin</a> | 4 | 8<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>7<br>7<br>E<br>-<br>0<br>2 | 8<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>7<br>7<br>E<br>-<br>0<br>2 | 2 | Tissue kallikreins, Kallikrein 3 (PSA)                                                                           |
| 5 | <a href="#">muscle cell proliferation</a>                                           | 4 | 8<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>7<br>7<br>E<br>-<br>0<br>2 | 8<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>7<br>7<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor                                                                                          |
| 5 | <a href="#">myoblast differentiation</a>                                            | 4 | 8<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>7<br>7<br>E<br>-<br>0<br>2 | 8<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>7<br>7<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor                                                                                          |
| 5 | <a href="#">ventricular septum morphogenesis</a>                                    | 4 | 8<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>7<br>7<br>E<br>-<br>0<br>2 | 8<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>7<br>7<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor                                                                                          |
| 5 | <a href="#">regulation of myoblast differentiation</a>                              | 4 | 8<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>7<br>7<br>E<br>-<br>0<br>2 | 8<br>.<br>5<br>3<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>7<br>7<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor                                                                                          |

|             |                                                        |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                     |
|-------------|--------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0           |                                                        |                  | 5<br>3<br>6<br>E<br>-<br>0<br>3           | 5<br>7<br>7<br>E<br>-<br>0<br>2           | 5<br>3<br>6<br>E<br>-<br>0<br>3           | 5<br>7<br>7<br>E<br>-<br>0<br>2           |        |                                                                                                                                                                                                                                     |
| 5<br>3<br>1 | <a href="#">regulation of blood vessel size</a>        | 1<br>3<br>0      | 8<br>.<br>6<br>2<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>6<br>0<br>3<br>E<br>-<br>0<br>2 | 8<br>.<br>6<br>2<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>6<br>0<br>3<br>E<br>-<br>0<br>2 | 3      | Tissue kallikreins, Kallikrein 3 (PSA), Adult hemoglobin                                                                                                                                                                            |
| 5<br>3<br>2 | <a href="#">humoral immune response</a>                | 2<br>4<br>9      | 8<br>.<br>6<br>3<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>6<br>0<br>3<br>E<br>-<br>0<br>2 | 8<br>.<br>6<br>3<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>6<br>0<br>3<br>E<br>-<br>0<br>2 | 4      | IGHG4, Notch, IGHG1, NOTCH1 precursor                                                                                                                                                                                               |
| 5<br>3<br>3 | <a href="#">cellular developmental process</a>         | 4<br>1<br>2<br>8 | 8<br>.<br>7<br>4<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>6<br>4<br>2<br>E<br>-<br>0<br>2 | 8<br>.<br>7<br>4<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>6<br>4<br>2<br>E<br>-<br>0<br>2 | 2<br>2 | Tissue kallikreins, LST1, Cyclin B1, LHX1, Rab-11A, TIRAP (Mal), Olfactory receptor, Notch, ERK1 (MAPK3), SRB7, NOTCH1 precursor, CD43, MTL5, Spinophilin, Cyclin B, Rab-3, Adult hemoglobin, Protrudin, ZHX3, ERK1/2, DEAF, 14-3-3 |
| 5<br>3<br>4 | <a href="#">cellular response to organic substance</a> | 2<br>4<br>0<br>4 | 8<br>.<br>7<br>6<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>6<br>4<br>6<br>E<br>-<br>0<br>2 | 8<br>.<br>7<br>6<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>6<br>4<br>6<br>E<br>-<br>0<br>2 | 1<br>5 | Cyclin B1, LHX1, IRT-1, TIRAP (Mal), Notch, ERK1 (MAPK3), NOTCH1 precursor, NFKBIL1, PLEKHG2, Spinophilin, Cyclin B, Protrudin, RIG-G, ERK1/2, 14-3-3                                                                               |
| 5<br>3<br>5 | <a href="#">camera-type eye morphogenesis</a>          | 1<br>3<br>1      | 8<br>.<br>8<br>0                          | 3<br>.<br>6<br>5                          | 8<br>.<br>8<br>0                          | 3<br>.<br>6<br>5                          | 3      | AL1A1, LHX1, Notch                                                                                                                                                                                                                  |

|             |                                                    |  |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                                      |
|-------------|----------------------------------------------------|--|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                    |  | 8<br>E<br>-<br>0<br>3                     | 7<br>E<br>-<br>0<br>2                     | 8<br>E<br>-<br>0<br>3                     | 7<br>E<br>-<br>0<br>2                     |                                                                                                                                                                                                                                                      |
| 5<br>3<br>6 | <a href="#">regulation of response to stimulus</a> |  | 8<br>.<br>9<br>1<br>9<br>3<br>8<br>7<br>8 | 3<br>.<br>6<br>7<br>1<br>E<br>-<br>0<br>3 | 8<br>.<br>9<br>1<br>9<br>E<br>-<br>0<br>2 | 3<br>.<br>6<br>7<br>1<br>E<br>-<br>0<br>2 | 2<br>1<br>Ajuba, Tissue kallikreins, IGHG4, Kallikrein 1, AL1A1, IRT-1, TIRAP (Mal), Notch, Thioredoxin-like 2, IGHG1, ERK1 (MAPK3), NOTCH1 precursor, CD43, 14-3-3 zeta/delta, NFKBIL1, PLEKHG2, G18, Spinophilin, Adult hemoglobin, ERK1/2, 14-3-3 |
| 5<br>3<br>7 | <a href="#">hair follicle morphogenesis</a>        |  | 8<br>.<br>9<br>2<br>4<br>E<br>-<br>4<br>4 | 3<br>.<br>6<br>7<br>1<br>E<br>-<br>3<br>2 | 8<br>.<br>9<br>2<br>4<br>E<br>-<br>3<br>2 | 3<br>.<br>6<br>7<br>1<br>E<br>-<br>2<br>2 | 2<br>Notch, NOTCH1 precursor                                                                                                                                                                                                                         |
| 5<br>3<br>8 | <a href="#">response to iron ion</a>               |  | 8<br>.<br>9<br>2<br>4<br>E<br>-<br>4<br>4 | 3<br>.<br>6<br>7<br>1<br>E<br>-<br>3<br>2 | 8<br>.<br>9<br>2<br>4<br>E<br>-<br>3<br>2 | 3<br>.<br>6<br>7<br>1<br>E<br>-<br>2<br>2 | 2<br>Cyclin B1, Cyclin B                                                                                                                                                                                                                             |
| 5<br>3<br>9 | <a href="#">nuclear envelope disassembly</a>       |  | 8<br>.<br>9<br>2<br>4<br>E<br>-<br>4<br>4 | 3<br>.<br>6<br>7<br>1<br>E<br>-<br>3<br>2 | 8<br>.<br>9<br>2<br>4<br>E<br>-<br>3<br>2 | 3<br>.<br>6<br>7<br>1<br>E<br>-<br>2<br>2 | 2<br>Cyclin B1, Cyclin B                                                                                                                                                                                                                             |
| 5<br>4<br>0 | <a href="#">membrane disassembly</a>               |  | 8<br>.<br>9<br>2<br>4<br>4<br>4           | 3<br>.<br>6<br>7<br>1<br>E<br>E           | 8<br>.<br>9<br>2<br>4<br>E<br>E           | 3<br>.<br>6<br>7<br>1<br>E<br>E           | 2<br>Cyclin B1, Cyclin B                                                                                                                                                                                                                             |

|   |                                                                     |   |   |   |   |   |   |                                                                                                        |
|---|---------------------------------------------------------------------|---|---|---|---|---|---|--------------------------------------------------------------------------------------------------------|
|   |                                                                     |   | - | - | - | - |   |                                                                                                        |
|   |                                                                     |   | 0 | 0 | 0 | 0 |   |                                                                                                        |
|   |                                                                     |   | 3 | 2 | 3 | 2 |   |                                                                                                        |
| 5 |                                                                     |   | 8 | 3 | 8 | 3 |   |                                                                                                        |
| 4 |                                                                     |   | . | . | . | . |   |                                                                                                        |
| 1 | <a href="#">response to lipid</a>                                   | 1 | 9 | 6 | 9 | 6 |   |                                                                                                        |
|   |                                                                     | 3 | 7 | 7 | 7 | 7 |   |                                                                                                        |
|   |                                                                     | 0 | 1 | 8 | 1 | 8 |   |                                                                                                        |
|   |                                                                     | 8 | E | E | E | E | 1 | Cyclin B1, AL1A1, IRT-1, TIRAP (Mal), Notch, ERK1 (MAPK3), NOTCH1 precursor, NFKBIL1, Cyclin B, ERK1/2 |
|   |                                                                     |   | - | - | - | - | 0 |                                                                                                        |
| 5 |                                                                     |   | 8 | 3 | 8 | 3 |   |                                                                                                        |
| 4 |                                                                     |   | . | . | . | . |   |                                                                                                        |
| 2 | <a href="#">regulation of tube size</a>                             | 1 | 9 | 6 | 9 | 6 |   |                                                                                                        |
|   |                                                                     | 3 | 9 | 7 | 9 | 7 |   |                                                                                                        |
|   |                                                                     | 2 | 3 | 8 | 3 | 8 | 3 | Tissue kallikreins, Kallikrein 3 (PSA), Adult hemoglobin                                               |
|   |                                                                     |   | E | E | E | E |   |                                                                                                        |
|   |                                                                     |   | - | - | - | - |   |                                                                                                        |
| 5 |                                                                     |   | 8 | 3 | 8 | 3 |   |                                                                                                        |
| 4 | <a href="#">toll-like receptor 4 signaling pathway</a>              | 1 | . | . | . | . |   |                                                                                                        |
| 3 |                                                                     | 3 | 9 | 6 | 9 | 6 |   |                                                                                                        |
|   |                                                                     | 2 | 9 | 7 | 9 | 7 |   |                                                                                                        |
|   |                                                                     |   | 3 | 8 | 3 | 8 |   |                                                                                                        |
|   |                                                                     |   | E | E | E | E |   |                                                                                                        |
|   |                                                                     |   | - | - | - | - |   |                                                                                                        |
|   |                                                                     |   | 0 | 0 | 0 | 0 | 3 | TIRAP (Mal), ERK1 (MAPK3), ERK1/2                                                                      |
|   |                                                                     |   | 3 | 2 | 3 | 2 |   |                                                                                                        |
| 5 |                                                                     |   | 9 | 3 | 9 | 3 |   |                                                                                                        |
| 4 | <a href="#">positive regulation of protein modification process</a> | 1 | . | . | . | . |   |                                                                                                        |
| 4 |                                                                     | 1 | 1 | 7 | 1 | 7 |   |                                                                                                        |
|   |                                                                     | 0 | 1 | 2 | 1 | 2 |   |                                                                                                        |
|   |                                                                     | 9 | 7 | 2 | 7 | 2 |   |                                                                                                        |
|   |                                                                     |   | E | E | E | E |   |                                                                                                        |
|   |                                                                     |   | - | - | - | - |   |                                                                                                        |
|   |                                                                     |   | 0 | 0 | 0 | 0 | 9 | Ajuba, Cyclin B1, IRT-1, TIRAP (Mal), ERK1 (MAPK3), CD43, Cyclin B, ERK1/2, 14-3-3                     |
|   |                                                                     |   | 3 | 2 | 3 | 2 |   |                                                                                                        |
| 5 |                                                                     |   | 9 | 3 | 9 | 3 |   |                                                                                                        |
| 4 | <a href="#">pericardium development</a>                             | 4 | . | . | . | . |   |                                                                                                        |
| 5 |                                                                     | 5 | 3 | 7 | 3 | 7 |   |                                                                                                        |
|   |                                                                     |   | 2 | 9 | 2 | 9 |   |                                                                                                        |
|   |                                                                     |   | 0 | 1 | 0 | 1 |   |                                                                                                        |
|   |                                                                     |   | E | E | E | E |   |                                                                                                        |
|   |                                                                     |   | - | - | - | - |   |                                                                                                        |
|   |                                                                     |   | 0 | 0 | 0 | 0 | 2 | Notch, NOTCH1 precursor                                                                                |

|             |                                                                                                       |             |                                 |                                 |                                 |                                 |   |                                 |
|-------------|-------------------------------------------------------------------------------------------------------|-------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---|---------------------------------|
|             |                                                                                                       |             | 3                               | 2                               | 3                               | 2                               |   |                                 |
| 5<br>4<br>6 | <a href="#">nephron tubule development</a>                                                            | 4<br>5      | 9<br>.<br>3<br>2<br>0<br>E<br>- | 3<br>.<br>7<br>9<br>1<br>E<br>- | 9<br>.<br>3<br>2<br>0<br>E<br>- | 3<br>.<br>7<br>9<br>1<br>E<br>- | 2 | Notch, NOTCH1 precursor         |
| 5<br>4<br>7 | <a href="#">stem cell maintenance</a>                                                                 | 1<br>3<br>4 | 9<br>.<br>3<br>6<br>8<br>E<br>- | 3<br>.<br>7<br>9<br>7<br>E<br>- | 9<br>.<br>3<br>6<br>8<br>E<br>- | 3<br>.<br>7<br>9<br>7<br>E<br>- | 3 | Notch, SRB7, NOTCH1 precursor   |
| 5<br>4<br>8 | <a href="#">keratinocyte differentiation</a>                                                          | 1<br>3<br>4 | 9<br>.<br>3<br>6<br>8<br>E<br>- | 3<br>.<br>7<br>9<br>7<br>E<br>- | 9<br>.<br>3<br>6<br>8<br>E<br>- | 3<br>.<br>7<br>9<br>7<br>E<br>- | 3 | Notch, NOTCH1 precursor, 14-3-3 |
| 5<br>4<br>9 | <a href="#">cytokinesis, completion of separation</a>                                                 | 3           | 9<br>.<br>6<br>6<br>8<br>E<br>- | 3<br>.<br>8<br>0<br>2<br>E<br>- | 9<br>.<br>6<br>6<br>8<br>E<br>- | 3<br>.<br>8<br>0<br>2<br>E<br>- | 1 | Annexin XI                      |
| 5<br>5<br>0 | <a href="#">positive regulation of epithelial cell differentiation involved in kidney development</a> | 3           | 9<br>.<br>6<br>6<br>8<br>E<br>- | 3<br>.<br>8<br>0<br>2<br>E<br>- | 9<br>.<br>6<br>6<br>8<br>E<br>- | 3<br>.<br>8<br>0<br>2<br>E<br>- | 1 | LHX1                            |



|     |                                                                                       |   |                                           |                                           |                                           |                                           |   |             |
|-----|---------------------------------------------------------------------------------------|---|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|-------------|
| 551 | <a href="#">UDP-glucuronate biosynthetic process</a>                                  | 3 | 9<br>.<br>6<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>0<br>2<br>E<br>-<br>0<br>2 | 9<br>.<br>6<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>0<br>2<br>E<br>-<br>0<br>2 | 1 | UGDH        |
| 552 | <a href="#">regulation of heart rate by hormone</a>                                   | 3 | 9<br>.<br>6<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>0<br>2<br>E<br>-<br>0<br>2 | 9<br>.<br>6<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>0<br>2<br>E<br>-<br>0<br>2 | 1 | 14-3-3      |
| 553 | <a href="#">positive regulation of toll-like receptor 2 signaling pathway</a>         | 3 | 9<br>.<br>6<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>0<br>2<br>E<br>-<br>0<br>2 | 9<br>.<br>6<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>0<br>2<br>E<br>-<br>0<br>2 | 1 | TIRAP (Mal) |
| 554 | <a href="#">glucocorticoid catabolic process</a>                                      | 3 | 9<br>.<br>6<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>0<br>2<br>E<br>-<br>0<br>2 | 9<br>.<br>6<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>0<br>2<br>E<br>-<br>0<br>2 | 1 | 14-3-3      |
| 555 | <a href="#">positive regulation of nephron tubule epithelial cell differentiation</a> | 3 | 9<br>.<br>6<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>0<br>2<br>E<br>-<br>0<br>2 | 9<br>.<br>6<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>0<br>2<br>E<br>-<br>0<br>2 | 1 | LHX1        |
| 555 | <a href="#">regulation of peptidyl-serine dephosphorylation</a>                       | 3 | 9<br>.<br>6<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>0<br>2<br>E<br>-<br>0<br>2 | 9<br>.<br>6<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>0<br>2<br>E<br>-<br>0<br>2 | 1 | 14-3-3      |

|             |                                                                  |   |                                           |                                           |                                           |                                           |   |        |
|-------------|------------------------------------------------------------------|---|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|--------|
| 6           | <a href="#">n</a>                                                |   | 6<br>6<br>8<br>E<br>-<br>0<br>3           | 8<br>0<br>2<br>E<br>-<br>0<br>2           | 6<br>6<br>8<br>E<br>-<br>0<br>3           | 8<br>0<br>2<br>E<br>-<br>0<br>2           |   |        |
| 5<br>5<br>7 | <a href="#">positive regulation<br/>of muscle<br/>adaptation</a> | 3 | 9<br>.<br>6<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>0<br>2<br>E<br>-<br>0<br>2 | 9<br>.<br>6<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>0<br>2<br>E<br>-<br>0<br>2 | 1 | IRT-1  |
| 5<br>5<br>8 | <a href="#">cervix<br/>development</a>                           | 3 | 9<br>.<br>6<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>0<br>2<br>E<br>-<br>0<br>2 | 9<br>.<br>6<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>0<br>2<br>E<br>-<br>0<br>2 | 1 | LHX1   |
| 5<br>5<br>9 | <a href="#">lateral motor<br/>column neuron<br/>migration</a>    | 3 | 9<br>.<br>6<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>0<br>2<br>E<br>-<br>0<br>2 | 9<br>.<br>6<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>0<br>2<br>E<br>-<br>0<br>2 | 1 | LHX1   |
| 5<br>6<br>0 | <a href="#">cytosine<br/>metabolic process</a>                   | 3 | 9<br>.<br>6<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>0<br>2<br>E<br>-<br>0<br>2 | 9<br>.<br>6<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>0<br>2<br>E<br>-<br>0<br>2 | 1 | ERK1/2 |
| 5<br>6<br>1 | <a href="#">lymphocyte<br/>aggregation</a>                       | 3 | 9<br>.<br>6<br>6<br>0                     | 3<br>.<br>8<br>6<br>0                     | 9<br>.<br>6<br>6<br>0                     | 3<br>.<br>8<br>6<br>0                     | 1 | CD43   |

|             |                                                                 |        |                                        |                                        |                                        |                                        |   |                         |
|-------------|-----------------------------------------------------------------|--------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|---|-------------------------|
|             |                                                                 |        | 8<br>E<br>-<br>0<br>3                  | 2<br>E<br>-<br>0<br>2                  | 8<br>E<br>-<br>0<br>3                  | 2<br>E<br>-<br>0<br>2                  |   |                         |
| 5<br>6<br>2 | <a href="#">regulation of muscle hyperplasia</a>                | 3      | 9<br>. 6<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>. 8<br>0<br>2<br>E<br>-<br>0<br>2 | 9<br>. 6<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>. 8<br>0<br>2<br>E<br>-<br>0<br>2 | 1 | IRT-1                   |
| 5<br>6<br>3 | <a href="#">negative regulation of hippo signaling</a>          | 3      | 9<br>. 6<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>. 8<br>0<br>2<br>E<br>-<br>0<br>2 | 9<br>. 6<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>. 8<br>0<br>2<br>E<br>-<br>0<br>2 | 1 | Ajuba                   |
| 5<br>6<br>4 | <a href="#">transcription from RNA polymerase I promoter</a>    | 4<br>6 | 9<br>. 7<br>2<br>4<br>E<br>-<br>0<br>3 | 3<br>. 8<br>0<br>2<br>E<br>-<br>0<br>2 | 9<br>. 7<br>2<br>4<br>E<br>-<br>0<br>3 | 3<br>. 8<br>0<br>2<br>E<br>-<br>0<br>2 | 2 | ERK1 (MAPK3), ERK1/2    |
| 5<br>6<br>5 | <a href="#">ventricular cardiac muscle cell differentiation</a> | 4<br>6 | 9<br>. 7<br>2<br>4<br>E<br>-<br>0<br>3 | 3<br>. 8<br>0<br>2<br>E<br>-<br>0<br>2 | 9<br>. 7<br>2<br>4<br>E<br>-<br>0<br>3 | 3<br>. 8<br>0<br>2<br>E<br>-<br>0<br>2 | 2 | Cyclin B1, Cyclin B     |
| 5<br>6<br>6 | <a href="#">regulation of oligodendrocyte differentiation</a>   | 4<br>6 | 9<br>. 7<br>2<br>4<br>E                | 3<br>. 8<br>0<br>2<br>E                | 9<br>. 7<br>2<br>4<br>E                | 3<br>. 8<br>0<br>2<br>E                | 2 | Notch, NOTCH1 precursor |

|   |                                     |   |   |   |   |   |   |                                                                                                                                                       |
|---|-------------------------------------|---|---|---|---|---|---|-------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                     |   | - | - | - | - |   |                                                                                                                                                       |
|   |                                     |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                       |
|   |                                     |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                       |
| 5 | <a href="#">embryonic</a>           |   | 9 | 3 | 9 | 3 |   |                                                                                                                                                       |
| 6 | <a href="#">hindlimb</a>            |   | . | . | . | . |   |                                                                                                                                                       |
| 7 | <a href="#">morphogenesis</a>       | 4 | 7 | 8 | 7 | 8 |   |                                                                                                                                                       |
|   |                                     | 6 | 2 | 0 | 2 | 0 |   |                                                                                                                                                       |
|   |                                     |   | 4 | 2 | 4 | 2 |   |                                                                                                                                                       |
|   |                                     |   | E | E | E | E |   |                                                                                                                                                       |
|   |                                     |   | - | - | - | - |   |                                                                                                                                                       |
|   |                                     | 4 | 0 | 0 | 0 | 0 |   |                                                                                                                                                       |
|   |                                     | 6 | 3 | 2 | 3 | 2 | 2 | Notch, NOTCH1 precursor                                                                                                                               |
| 5 | <a href="#">regulation of toll-</a> |   | 9 | 3 | 9 | 3 |   |                                                                                                                                                       |
| 6 | <a href="#">like receptor</a>       |   | . | . | . | . |   |                                                                                                                                                       |
| 8 | <a href="#">signaling pathway</a>   | 4 | 7 | 8 | 7 | 8 |   |                                                                                                                                                       |
|   |                                     | 6 | 2 | 0 | 2 | 0 |   |                                                                                                                                                       |
|   |                                     |   | 4 | 2 | 4 | 2 |   |                                                                                                                                                       |
|   |                                     |   | E | E | E | E |   |                                                                                                                                                       |
|   |                                     |   | - | - | - | - |   |                                                                                                                                                       |
|   |                                     | 4 | 0 | 0 | 0 | 0 |   |                                                                                                                                                       |
|   |                                     | 6 | 3 | 2 | 3 | 2 | 2 | TIRAP (Mal), NFKBIL1                                                                                                                                  |
| 5 | <a href="#">spinal cord</a>         |   | 9 | 3 | 9 | 3 |   |                                                                                                                                                       |
| 6 | <a href="#">development</a>         |   | . | . | . | . |   |                                                                                                                                                       |
| 9 |                                     | 1 | 7 | 8 | 7 | 8 |   |                                                                                                                                                       |
|   |                                     | 3 | 5 | 0 | 5 | 0 |   |                                                                                                                                                       |
|   |                                     | 6 | 2 | 7 | 2 | 7 |   |                                                                                                                                                       |
|   |                                     |   | E | E | E | E |   |                                                                                                                                                       |
|   |                                     |   | - | - | - | - |   |                                                                                                                                                       |
|   |                                     | 3 | 0 | 0 | 0 | 0 |   |                                                                                                                                                       |
|   |                                     | 6 | 3 | 2 | 3 | 2 | 3 | LHX1, Notch, NOTCH1 precursor                                                                                                                         |
| 5 | <a href="#">regulation of</a>       |   | 9 | 3 | 9 | 3 |   |                                                                                                                                                       |
| 7 | <a href="#">lymphocyte</a>          |   | . | . | . | . |   |                                                                                                                                                       |
| 0 | <a href="#">proliferation</a>       | 2 | 8 | 8 | 8 | 8 |   |                                                                                                                                                       |
|   |                                     | 5 | 7 | 4 | 7 | 4 |   |                                                                                                                                                       |
|   |                                     | 9 | 3 | 7 | 3 | 7 |   |                                                                                                                                                       |
|   |                                     |   | E | E | E | E |   |                                                                                                                                                       |
|   |                                     |   | - | - | - | - |   |                                                                                                                                                       |
|   |                                     | 2 | 0 | 0 | 0 | 0 |   |                                                                                                                                                       |
|   |                                     | 9 | 3 | 2 | 3 | 2 | 4 | LST1, IRT-1, TIRAP (Mal), CD43                                                                                                                        |
| 5 | <a href="#">macromolecule</a>       |   | 9 | 3 | 9 | 3 |   |                                                                                                                                                       |
| 7 | <a href="#">localization</a>        |   | . | . | . | . |   |                                                                                                                                                       |
| 1 |                                     | 2 | 9 | 8 | 9 | 8 |   |                                                                                                                                                       |
|   |                                     | 2 | 4 | 6 | 4 | 6 |   |                                                                                                                                                       |
|   |                                     | 2 | 3 | 7 | 3 | 7 |   |                                                                                                                                                       |
|   |                                     | 2 | E | E | E | E |   |                                                                                                                                                       |
|   |                                     | 0 | - | - | - | - | 1 | Ajuba, Rab-11A, SNX1, Olfactory receptor, Notch, Rab-3B, ERK1 (MAPK3), NOTCH1 precursor, 14-3-3 zeta/delta, NFKBIL1, Rab-3, Protrudin, ERK1/2, 14-3-3 |
|   |                                     | 6 | 0 | 0 | 0 | 0 | 4 |                                                                                                                                                       |

|   |                                                               |   |                                                |                                           |                                           |                                           |   |                                                                                                         |
|---|---------------------------------------------------------------|---|------------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|---------------------------------------------------------------------------------------------------------|
|   |                                                               |   | 3                                              | 2                                         | 3                                         | 2                                         |   |                                                                                                         |
| 5 | <a href="#">regulation of mononuclear cell proliferation</a>  | 2 | 1<br>.<br>0<br>0<br>0<br>E<br>-<br>0<br>0<br>0 | 3<br>.<br>8<br>8<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>0<br>0<br>0<br>E<br>-<br>0<br>2 | 3<br>.<br>8<br>8<br>4<br>E<br>-<br>0<br>2 | 4 | LST1, IRT-1, TIRAP (Mal), CD43                                                                          |
| 5 | <a href="#">leukocyte mediated immunity</a>                   | 2 | 1<br>.<br>0<br>2<br>7<br>E<br>-<br>0<br>2      | 3<br>.<br>9<br>8<br>0<br>E<br>-<br>0<br>2 | 1<br>.<br>0<br>2<br>7<br>E<br>-<br>0<br>2 | 3<br>.<br>9<br>8<br>0<br>E<br>-<br>0<br>2 | 4 | IGHG4, IGHG1, 14-3-3 zeta/delta, 14-3-3                                                                 |
| 5 | <a href="#">immune response-regulating signaling pathway</a>  | 5 | 1<br>.<br>0<br>3<br>6<br>E<br>-<br>0<br>2      | 4<br>.<br>0<br>0<br>9<br>E<br>-<br>0<br>2 | 1<br>.<br>0<br>3<br>6<br>E<br>-<br>0<br>2 | 4<br>.<br>0<br>0<br>9<br>E<br>-<br>0<br>2 | 6 | IGHG4, TIRAP (Mal), IGHG1, ERK1 (MAPK3), ERK1/2, 14-3-3                                                 |
| 5 | <a href="#">cellular response to biotic stimulus</a>          | 2 | 1<br>.<br>0<br>4<br>0<br>E<br>-<br>0<br>3      | 4<br>.<br>0<br>0<br>9<br>E<br>-<br>0<br>2 | 1<br>.<br>0<br>4<br>0<br>E<br>-<br>0<br>2 | 4<br>.<br>0<br>0<br>9<br>E<br>-<br>0<br>2 | 4 | TIRAP (Mal), ERK1 (MAPK3), NFKBIL1, ERK1/2                                                              |
| 5 | <a href="#">multicellular organismal reproductive process</a> | 1 | 1<br>.<br>0<br>5<br>2<br>E<br>-<br>0<br>2      | 4<br>.<br>0<br>0<br>9<br>E<br>-<br>0<br>2 | 1<br>.<br>0<br>5<br>2<br>E<br>-<br>0<br>2 | 4<br>.<br>0<br>0<br>9<br>E<br>-<br>0<br>2 | 9 | Tissue kallikreins, Cyclin B1, AL1A1, Olfactory receptor, Notch, NOTCH1 precursor, MTL5, Cyclin B, DEAF |

|     |                                                |              |              |              |   |   |                                          |
|-----|------------------------------------------------|--------------|--------------|--------------|---|---|------------------------------------------|
| 577 | <a href="#">protein import into nucleus</a>    | 14055EE-402  | 140559EE-022 | 140559EE-022 | 4 | 3 | Olfactory receptor, ERK1 (MAPK3), ERK1/2 |
| 578 | <a href="#">protein targeting to nucleus</a>   | 140559EE-402 | 140559EE-022 | 140559EE-022 | 4 | 3 | Olfactory receptor, ERK1 (MAPK3), ERK1/2 |
| 579 | <a href="#">single-organism nuclear import</a> | 140559EE-402 | 140559EE-022 | 140559EE-022 | 4 | 3 | Olfactory receptor, ERK1 (MAPK3), ERK1/2 |
| 580 | <a href="#">mitotic spindle checkpoint</a>     | 4802         | 140559EE-022 | 140559EE-022 | 4 | 2 | Cyclin B1, Cyclin B                      |
| 581 | <a href="#">trabecula morphogenesis</a>        | 4802         | 140559EE-022 | 140559EE-022 | 4 | 2 | Notch, NOTCH1 precursor                  |
| 588 | <a href="#">cellular response to alkaloid</a>  | 4802         | 140559EE-022 | 140559EE-022 | 4 | 2 | IRT-1, Spinophilin                       |

|             |                                                                                                    |                  |                                      |                                      |                                      |                                      |        |                                                                                                                                                           |
|-------------|----------------------------------------------------------------------------------------------------|------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2           |                                                                                                    |                  | 0<br>5<br>5<br>E<br>-<br>0<br>2      | 0<br>0<br>9<br>E<br>-<br>0<br>2      | 0<br>5<br>5<br>E<br>-<br>0<br>2      | 0<br>0<br>9<br>E<br>-<br>0<br>2      |        |                                                                                                                                                           |
| 5<br>8<br>3 | <a href="#">regulation of transcription from RNA polymerase II promoter in response to hypoxia</a> | 4<br>8           | 1<br>0<br>5<br>5<br>E<br>-<br>0<br>2 | 4<br>0<br>0<br>9<br>E<br>-<br>0<br>2 | 1<br>0<br>5<br>5<br>E<br>-<br>0<br>2 | 4<br>0<br>0<br>9<br>E<br>-<br>0<br>2 | 2      | Notch, NOTCH1 precursor                                                                                                                                   |
| 5<br>8<br>4 | <a href="#">coronary vasculature morphogenesis</a>                                                 | 4<br>8           | 1<br>0<br>5<br>5<br>E<br>-<br>0<br>2 | 4<br>0<br>0<br>9<br>E<br>-<br>0<br>2 | 1<br>0<br>5<br>5<br>E<br>-<br>0<br>2 | 4<br>0<br>0<br>9<br>E<br>-<br>0<br>2 | 2      | Notch, NOTCH1 precursor                                                                                                                                   |
| 5<br>8<br>5 | <a href="#">regulation of localization</a>                                                         | 2<br>4<br>5      | 1<br>0<br>5<br>6<br>E<br>-<br>0<br>2 | 4<br>0<br>0<br>9<br>E<br>-<br>0<br>2 | 1<br>0<br>5<br>6<br>E<br>-<br>0<br>2 | 4<br>0<br>0<br>9<br>E<br>-<br>0<br>2 | 1<br>5 | Ajuba, Cyclin B1, IRT-1, Rab-11A, TIRAP (Mal), Notch, Rab-3B, ERK1 (MAPK3), NOTCH1 precursor, 14-3-3 zeta/delta, NFKBIL1, Cyclin B, Rab-3, ERK1/2, 14-3-3 |
| 5<br>8<br>6 | <a href="#">establishment of protein localization to organelle</a>                                 | 4<br>1<br>1      | 1<br>0<br>5<br>8<br>E<br>-<br>0<br>2 | 4<br>0<br>0<br>9<br>E<br>-<br>0<br>2 | 1<br>0<br>5<br>8<br>E<br>-<br>0<br>2 | 4<br>0<br>0<br>9<br>E<br>-<br>0<br>2 | 5      | Olfactory receptor, ERK1 (MAPK3), 14-3-3 zeta/delta, ERK1/2, 14-3-3                                                                                       |
| 5<br>8<br>7 | <a href="#">positive regulation of phosphorus metabolic process</a>                                | 1<br>1<br>3<br>8 | 1<br>0<br>0<br>6                     | 4<br>0<br>0<br>6                     | 1<br>0<br>0<br>6                     | 4<br>0<br>0<br>6                     | 9      | Ajuba, Cyclin B1, IRT-1, TIRAP (Mal), ERK1 (MAPK3), CD43, Cyclin B, ERK1/2, 14-3-3                                                                        |

|             |                                                                    |                  |                                      |                                      |                                      |                                      |   |                                                                                    |
|-------------|--------------------------------------------------------------------|------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---|------------------------------------------------------------------------------------|
|             |                                                                    |                  | 9<br>E<br>-<br>0<br>2                | 8<br>E<br>-<br>0<br>2                | 9<br>E<br>-<br>0<br>2                | 8<br>E<br>-<br>0<br>2                |   |                                                                                    |
| 5<br>8<br>8 | <a href="#">positive regulation of phosphate metabolic process</a> | 1<br>1<br>3<br>8 | 1<br>0<br>6<br>9<br>E<br>-<br>0<br>2 | 4<br>0<br>3<br>8<br>E<br>-<br>0<br>2 | 1<br>0<br>6<br>9<br>E<br>-<br>0<br>2 | 4<br>0<br>3<br>8<br>E<br>-<br>0<br>2 | 9 | Ajuba, Cyclin B1, IRT-1, TIRAP (Mal), ERK1 (MAPK3), CD43, Cyclin B, ERK1/2, 14-3-3 |
| 5<br>8<br>9 | <a href="#">positive regulation of apoptotic process</a>           | 5<br>7<br>8      | 1<br>0<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>0<br>9<br>9<br>E<br>-<br>0<br>2 | 1<br>0<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>0<br>9<br>9<br>E<br>-<br>0<br>2 | 6 | Tissue kallikreins, Kallikrein 1, AL1A1, Notch, NOTCH1 precursor, PLEKHG2          |
| 5<br>9<br>0 | <a href="#">regulation of leukocyte proliferation</a>              | 2<br>6<br>7      | 1<br>0<br>9<br>5<br>E<br>-<br>0<br>2 | 4<br>1<br>0<br>5<br>E<br>-<br>0<br>2 | 1<br>0<br>9<br>5<br>E<br>-<br>0<br>2 | 4<br>1<br>0<br>5<br>E<br>-<br>0<br>2 | 4 | LST1, IRT-1, TIRAP (Mal), CD43                                                     |
| 5<br>9<br>1 | <a href="#">response to interleukin-1</a>                          | 1<br>4<br>2      | 1<br>0<br>9<br>6<br>E<br>-<br>0<br>2 | 4<br>1<br>0<br>5<br>E<br>-<br>0<br>2 | 1<br>0<br>9<br>6<br>E<br>-<br>0<br>2 | 4<br>1<br>0<br>5<br>E<br>-<br>0<br>2 | 3 | TIRAP (Mal), ERK1 (MAPK3), ERK1/2                                                  |
| 5<br>9<br>2 | <a href="#">astrocyte differentiation</a>                          | 4<br>9           | 1<br>0<br>9<br>8<br>E                | 4<br>1<br>0<br>5<br>E                | 1<br>0<br>9<br>8<br>E                | 4<br>1<br>0<br>5<br>E                | 2 | Notch, NOTCH1 precursor                                                            |



|   |                                                                      |   |   |   |   |   |   |                                                                 |
|---|----------------------------------------------------------------------|---|---|---|---|---|---|-----------------------------------------------------------------|
|   |                                                                      |   | - | - | - | - |   |                                                                 |
|   |                                                                      |   | 0 | 0 | 0 | 0 |   |                                                                 |
|   |                                                                      |   | 2 | 2 | 2 | 2 |   |                                                                 |
| 5 | <a href="#">regulation of histone acetylation</a>                    | 4 | 1 | 4 | 1 | 4 | 2 | ERK1 (MAPK3), ERK1/2                                            |
| 9 |                                                                      | 9 | . | . | . | . |   |                                                                 |
| 3 |                                                                      |   | 0 | 1 | 0 | 1 |   |                                                                 |
|   |                                                                      |   | 9 | 0 | 9 | 0 |   |                                                                 |
|   |                                                                      |   | 8 | 5 | 8 | 5 |   |                                                                 |
|   |                                                                      |   | E | E | E | E |   |                                                                 |
|   |                                                                      |   | - | - | - | - |   |                                                                 |
|   |                                                                      |   | 0 | 0 | 0 | 0 |   |                                                                 |
|   |                                                                      |   | 2 | 2 | 2 | 2 |   |                                                                 |
| 5 | <a href="#">negative regulation of BMP signaling pathway</a>         | 4 | 1 | 4 | 1 | 4 | 2 | Notch, NOTCH1 precursor                                         |
| 9 |                                                                      | 9 | . | . | . | . |   |                                                                 |
| 4 |                                                                      |   | 0 | 1 | 0 | 1 |   |                                                                 |
|   |                                                                      |   | 9 | 0 | 9 | 0 |   |                                                                 |
|   |                                                                      |   | 8 | 5 | 8 | 5 |   |                                                                 |
|   |                                                                      |   | E | E | E | E |   |                                                                 |
|   |                                                                      |   | - | - | - | - |   |                                                                 |
|   |                                                                      |   | 0 | 0 | 0 | 0 |   |                                                                 |
|   |                                                                      |   | 2 | 2 | 2 | 2 |   |                                                                 |
| 5 | <a href="#">regulation of angiogenesis</a>                           | 2 | 1 | 4 | 1 | 4 | 4 | Tissue kallikreins, Notch, NOTCH1 precursor, Kallikrein 3 (PSA) |
| 9 |                                                                      | 6 | . | . | . | . |   |                                                                 |
| 5 |                                                                      | 8 | 1 | 1 | 1 | 1 |   |                                                                 |
|   |                                                                      |   | 0 | 3 | 0 | 3 |   |                                                                 |
|   |                                                                      |   | 9 | 0 | 9 | 0 |   |                                                                 |
|   |                                                                      |   | E | E | E | E |   |                                                                 |
|   |                                                                      |   | - | - | - | - |   |                                                                 |
|   |                                                                      |   | 0 | 0 | 0 | 0 |   |                                                                 |
|   |                                                                      |   | 2 | 2 | 2 | 2 |   |                                                                 |
| 5 | <a href="#">positive regulation of response to external stimulus</a> | 2 | 1 | 4 | 1 | 4 | 4 | Tissue kallikreins, Kallikrein 1, IRT-1, TIRAP (Mal)            |
| 9 |                                                                      | 6 | . | . | . | . |   |                                                                 |
| 6 |                                                                      | 8 | 1 | 1 | 1 | 1 |   |                                                                 |
|   |                                                                      |   | 0 | 3 | 0 | 3 |   |                                                                 |
|   |                                                                      |   | 9 | 0 | 9 | 0 |   |                                                                 |
|   |                                                                      |   | E | E | E | E |   |                                                                 |
|   |                                                                      |   | - | - | - | - |   |                                                                 |
|   |                                                                      |   | 0 | 0 | 0 | 0 |   |                                                                 |
|   |                                                                      |   | 2 | 2 | 2 | 2 |   |                                                                 |
| 5 | <a href="#">cell cycle phase transition</a>                          | 4 | 1 | 4 | 1 | 4 | 5 | Ajuba, Cyclin B1, TIPIN, Cyclin B, 14-3-3                       |
| 9 |                                                                      | 1 | . | . | . | . |   |                                                                 |
| 7 |                                                                      | 6 | 1 | 1 | 1 | 1 |   |                                                                 |
|   |                                                                      |   | 1 | 3 | 1 | 3 |   |                                                                 |
|   |                                                                      |   | 0 | 0 | 0 | 0 |   |                                                                 |
|   |                                                                      |   | E | E | E | E |   |                                                                 |
|   |                                                                      |   | - | - | - | - |   |                                                                 |
|   |                                                                      |   | 0 | 0 | 0 | 0 |   |                                                                 |

|     |                                                                |     |                                      |                                      |                                      |                                      |   |                                          |
|-----|----------------------------------------------------------------|-----|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---|------------------------------------------|
|     |                                                                |     | 2                                    | 2                                    | 2                                    | 2                                    |   |                                          |
| 598 | <a href="#">positive regulation of MAP kinase activity</a>     | 270 | 1<br>.<br>1<br>3<br>7<br>E<br>-<br>0 | 4<br>.<br>2<br>0<br>9<br>E<br>-<br>0 | 1<br>.<br>1<br>3<br>7<br>E<br>-<br>0 | 4<br>.<br>2<br>0<br>9<br>E<br>-<br>0 | 4 | Ajuba, TIRAP (Mal), ERK1 (MAPK3), ERK1/2 |
| 599 | <a href="#">regulation of embryonic development</a>            | 144 | 1<br>.<br>1<br>3<br>8<br>E<br>-<br>0 | 4<br>.<br>2<br>0<br>9<br>E<br>-<br>0 | 1<br>.<br>1<br>3<br>8<br>E<br>-<br>0 | 4<br>.<br>2<br>0<br>9<br>E<br>-<br>0 | 3 | LHX1, Notch, NOTCH1 precursor            |
| 600 | <a href="#">nuclear import</a>                                 | 144 | 1<br>.<br>1<br>3<br>8<br>E<br>-<br>0 | 4<br>.<br>2<br>0<br>9<br>E<br>-<br>0 | 1<br>.<br>1<br>3<br>8<br>E<br>-<br>0 | 4<br>.<br>2<br>0<br>9<br>E<br>-<br>0 | 3 | Olfactory receptor, ERK1 (MAPK3), ERK1/2 |
| 601 | <a href="#">negative regulation of cell-substrate adhesion</a> | 50  | 1<br>.<br>4<br>1<br>E<br>-<br>0      | 4<br>.<br>2<br>0<br>9<br>E<br>-<br>0 | 1<br>.<br>1<br>4<br>1<br>E<br>-<br>0 | 4<br>.<br>2<br>0<br>9<br>E<br>-<br>0 | 2 | Notch, NOTCH1 precursor                  |
| 602 | <a href="#">negative regulation of ossification</a>            | 50  | 1<br>.<br>4<br>1<br>E<br>-<br>0      | 4<br>.<br>2<br>0<br>9<br>E<br>-<br>0 | 1<br>.<br>1<br>4<br>1<br>E<br>-<br>0 | 4<br>.<br>2<br>0<br>9<br>E<br>-<br>0 | 2 | Notch, NOTCH1 precursor                  |

|     |                                                              |      |                                           |                                                |                                           |                                                |   |                                                                                                         |
|-----|--------------------------------------------------------------|------|-------------------------------------------|------------------------------------------------|-------------------------------------------|------------------------------------------------|---|---------------------------------------------------------------------------------------------------------|
| 603 | <a href="#">positive regulation of cell migration</a>        | 419  | 1<br>.<br>1<br>4<br>3<br>E<br>-<br>0<br>2 | 4<br>.<br>2<br>0<br>9<br>E<br>-<br>0<br>2      | 1<br>.<br>1<br>4<br>3<br>E<br>-<br>0<br>2 | 4<br>.<br>2<br>0<br>9<br>E<br>-<br>0<br>2      | 5 | IRT-1, TIRAP (Mal), Notch, NOTCH1 precursor, ERK1/2                                                     |
| 604 | <a href="#">positive regulation of programmed cell death</a> | 585  | 1<br>.<br>1<br>4<br>9<br>E<br>-<br>0<br>2 | 4<br>.<br>2<br>2<br>4<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>1<br>4<br>9<br>E<br>-<br>0<br>2 | 4<br>.<br>2<br>2<br>4<br>4<br>E<br>-<br>0<br>2 | 6 | Tissue kallikreins, Kallikrein 1, AL1A1, Notch, NOTCH1 precursor, PLEKHG2                               |
| 605 | <a href="#">multicellular organism reproduction</a>          | 1156 | 1<br>.<br>1<br>7<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>3<br>1<br>9<br>E<br>-<br>0<br>2      | 1<br>.<br>1<br>7<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>3<br>1<br>9<br>E<br>-<br>0<br>2      | 9 | Tissue kallikreins, Cyclin B1, AL1A1, Olfactory receptor, Notch, NOTCH1 precursor, MTL5, Cyclin B, DEAF |
| 606 | <a href="#">placenta blood vessel development</a>            | 51   | 1<br>.<br>1<br>8<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>3<br>4<br>5<br>E<br>-<br>0<br>2      | 1<br>.<br>1<br>8<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>3<br>4<br>5<br>E<br>-<br>0<br>2      | 2 | Notch, ERK1/2                                                                                           |
| 607 | <a href="#">connective tissue development</a>                | 274  | 1<br>.<br>1<br>9<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>3<br>7<br>1<br>E<br>-<br>0<br>2      | 1<br>.<br>1<br>9<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>3<br>7<br>1<br>E<br>-<br>0<br>2      | 4 | Notch, ERK1 (MAPK3), NOTCH1 precursor, ERK1/2                                                           |
| 60  | <a href="#">inflammatory response to antigenic stimulus</a>  | 52   | 1<br>.<br>.<br>.<br>.<br>.                | 4<br>.<br>.<br>.<br>.<br>.                     | 1<br>.<br>.<br>.<br>.<br>.                | 4<br>.<br>.<br>.<br>.<br>.                     | 2 | Notch, NOTCH1 precursor                                                                                 |

|             |                                                                  |                  |                                           |                                           |                                           |                                           |             |                                                                                          |
|-------------|------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------|------------------------------------------------------------------------------------------|
| 8           |                                                                  |                  | 2<br>3<br>0<br>E<br>-<br>0<br>2           | 4<br>7<br>9<br>E<br>-<br>0<br>2           | 2<br>3<br>0<br>E<br>-<br>0<br>2           | 4<br>7<br>9<br>E<br>-<br>0<br>2           |             |                                                                                          |
| 6<br>0<br>9 | <a href="#">cardiac muscle tissue growth</a>                     | 5<br>2           | 1<br>.<br>2<br>3<br>0<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>7<br>9<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>3<br>0<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>7<br>9<br>E<br>-<br>0<br>2 | 2           | Notch, NOTCH1 precursor                                                                  |
| 6<br>1<br>0 | <a href="#">positive regulation of vasoconstriction</a>          | 5<br>2           | 1<br>.<br>2<br>3<br>0<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>7<br>9<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>3<br>0<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>7<br>9<br>E<br>-<br>0<br>2 | 2           | Tissue kallikreins, Kallikrein 1                                                         |
| 6<br>1<br>1 | <a href="#">response to hypoxia</a>                              | 4<br>2<br>7      | 1<br>.<br>2<br>3<br>2<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>7<br>9<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>3<br>2<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>7<br>9<br>E<br>-<br>0<br>2 | 5           | Ajuba, Cyclin B1, Notch, NOTCH1 precursor, Cyclin B                                      |
| 6<br>1<br>2 | <a href="#">response to toxic substance</a>                      | 2<br>7<br>7      | 1<br>.<br>2<br>3<br>9<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>E<br>-<br>0<br>2      | 1<br>.<br>2<br>3<br>9<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>E<br>-<br>0<br>2      | 4           | Cyclin B1, ERK1 (MAPK3), Cyclin B, ERK1/2                                                |
| 6<br>1<br>3 | <a href="#">positive regulation of protein metabolic process</a> | 1<br>3<br>7<br>4 | 1<br>.<br>2<br>4<br>9                     | 4<br>.<br>4<br>2<br>9                     | 1<br>.<br>2<br>4<br>2                     | 4<br>.<br>4<br>9<br>9                     | 1<br>0<br>0 | Ajuba, Cyclin B1, IRT-1, SNX1, TIRAP (Mal), ERK1 (MAPK3), CD43, Cyclin B, ERK1/2, 14-3-3 |

|             |                                                          |             |                                           |                                           |                                           |                                           |   |                                                     |
|-------------|----------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|-----------------------------------------------------|
|             |                                                          |             | 2<br>E<br>-<br>0<br>2                     | 4<br>E<br>-<br>0<br>2                     | 2<br>E<br>-<br>0<br>2                     | 4<br>E<br>-<br>0<br>2                     |   |                                                     |
| 6<br>1<br>4 | <a href="#">positive regulation of cell motility</a>     | 4<br>3<br>0 | 1<br>.<br>2<br>6<br>7<br>E<br>-<br>0      | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0      | 1<br>.<br>2<br>6<br>7<br>E<br>-<br>0      | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0      | 5 | IRT-1, TIRAP (Mal), Notch, NOTCH1 precursor, ERK1/2 |
| 6<br>1<br>5 | <a href="#">regulation of osteoblast differentiation</a> | 1<br>5<br>0 | 1<br>.<br>2<br>7<br>0<br>E<br>-<br>0      | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0      | 1<br>.<br>2<br>7<br>0<br>E<br>-<br>0      | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0      | 3 | Notch, NOTCH1 precursor, ZHX3                       |
| 6<br>1<br>6 | <a href="#">oocyte development</a>                       | 5<br>3      | 1<br>.<br>2<br>7<br>6<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>7<br>6<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 2 | Cyclin B1, Cyclin B                                 |
| 6<br>1<br>7 | <a href="#">hair cell differentiation</a>                | 5<br>3      | 1<br>.<br>2<br>7<br>6<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>7<br>6<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor                             |
| 6<br>1<br>8 | <a href="#">spindle checkpoint</a>                       | 5<br>3      | 1<br>.<br>2<br>7<br>6<br>E                | 4<br>.<br>4<br>9<br>4<br>E                | 1<br>.<br>2<br>7<br>6<br>E                | 4<br>.<br>4<br>9<br>4<br>E                | 2 | Cyclin B1, Cyclin B                                 |

|   |                                     |   |   |   |   |   |   |                                                                                       |
|---|-------------------------------------|---|---|---|---|---|---|---------------------------------------------------------------------------------------|
|   |                                     |   | - | - | - | - |   |                                                                                       |
|   |                                     |   | 0 | 0 | 0 | 0 |   |                                                                                       |
|   |                                     |   | 2 | 2 | 2 | 2 |   |                                                                                       |
| 6 | <a href="#">regulation of</a>       |   | 1 | 4 | 1 | 4 |   |                                                                                       |
| 1 | <a href="#">skeletal muscle</a>     |   | . | . | . | . |   |                                                                                       |
| 9 | <a href="#">fiber development</a>   | 5 | 2 | 4 | 2 | 4 | 2 | Notch, NOTCH1 precursor                                                               |
|   |                                     | 3 | 7 | 9 | 7 | 9 |   |                                                                                       |
|   |                                     |   | 6 | 4 | 6 | 4 |   |                                                                                       |
|   |                                     |   | E | E | E | E |   |                                                                                       |
|   |                                     |   | - | - | - | - |   |                                                                                       |
|   |                                     |   | 0 | 0 | 0 | 0 |   |                                                                                       |
|   |                                     |   | 2 | 2 | 2 | 2 |   |                                                                                       |
| 6 | <a href="#">regulation of</a>       | 4 | 1 | 4 | 1 | 4 |   |                                                                                       |
| 2 | <a href="#">cytoskeleton</a>        | 3 | . | . | . | . |   |                                                                                       |
| 0 | <a href="#">organization</a>        | 1 | 2 | 4 | 2 | 4 | 5 | Cyclin B1, Olfactory receptor, ERK1 (MAPK3), Cyclin B, ERK1/2                         |
|   |                                     |   | 7 | 9 | 7 | 9 |   |                                                                                       |
|   |                                     |   | 9 | 4 | 9 | 4 |   |                                                                                       |
|   |                                     |   | E | E | E | E |   |                                                                                       |
|   |                                     |   | - | - | - | - |   |                                                                                       |
|   |                                     |   | 0 | 0 | 0 | 0 |   |                                                                                       |
|   |                                     |   | 2 | 2 | 2 | 2 |   |                                                                                       |
| 6 | <a href="#">regulation of</a>       | 5 | 1 | 4 | 1 | 4 |   |                                                                                       |
| 2 | <a href="#">system process</a>      | 9 | . | . | . | . |   |                                                                                       |
| 1 |                                     | 9 | 2 | 4 | 2 | 4 | 6 | Tissue kallikreins, Kallikrein 1, IRT-1, Thioredoxin-like 2, Adult hemoglobin, 14-3-3 |
|   |                                     |   | 7 | 9 | 7 | 9 |   |                                                                                       |
|   |                                     |   | 9 | 4 | 9 | 4 |   |                                                                                       |
|   |                                     |   | E | E | E | E |   |                                                                                       |
|   |                                     |   | - | - | - | - |   |                                                                                       |
|   |                                     |   | 0 | 0 | 0 | 0 |   |                                                                                       |
|   |                                     |   | 2 | 2 | 2 | 2 |   |                                                                                       |
| 6 | <a href="#">positive regulation</a> |   | 1 | 4 | 1 | 4 |   |                                                                                       |
| 2 | <a href="#">of</a>                  |   | . | . | . | . |   |                                                                                       |
| 2 | <a href="#">posttranscriptional</a> | 4 | 2 | 4 | 2 | 4 | 1 | Ajuba                                                                                 |
|   | <a href="#">gene silencing</a>      |   | 8 | 9 | 8 | 9 |   |                                                                                       |
|   |                                     |   | 7 | 4 | 7 | 4 |   |                                                                                       |
|   |                                     |   | E | E | E | E |   |                                                                                       |
|   |                                     |   | - | - | - | - |   |                                                                                       |
|   |                                     |   | 0 | 0 | 0 | 0 |   |                                                                                       |
|   |                                     |   | 0 | 0 | 0 | 0 |   |                                                                                       |
| 6 | <a href="#">ectoderm</a>            | 4 | 1 | 4 | 1 | 4 |   |                                                                                       |
| 2 | <a href="#">formation</a>           |   | . | . | . | . |   |                                                                                       |
| 3 |                                     |   | 2 | 4 | 2 | 4 | 1 | LHX1                                                                                  |
|   |                                     |   | 8 | 9 | 8 | 9 |   |                                                                                       |
|   |                                     |   | 7 | 4 | 7 | 4 |   |                                                                                       |
|   |                                     |   | E | E | E | E |   |                                                                                       |
|   |                                     |   | - | - | - | - |   |                                                                                       |
|   |                                     |   | 0 | 0 | 0 | 0 |   |                                                                                       |

|             |                                                                               |   |                                           |                                           |                                           |                                           |   |             |
|-------------|-------------------------------------------------------------------------------|---|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|-------------|
|             |                                                                               |   | 2                                         | 2                                         | 2                                         | 2                                         |   |             |
| 6<br>2<br>4 | <a href="#">positive regulation of toll-like receptor 3 signaling pathway</a> | 4 | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1 | TIRAP (Mal) |
| 6<br>2<br>5 | <a href="#">motor neuron migration</a>                                        | 4 | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1 | LHX1        |
| 6<br>2<br>6 | <a href="#">ciliary body morphogenesis</a>                                    | 4 | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1 | Notch       |
| 6<br>2<br>7 | <a href="#">positive regulation of smooth muscle cell chemotaxis</a>          | 4 | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1 | IRT-1       |
| 6<br>2<br>8 | <a href="#">metanephric part of ureteric bud development</a>                  | 4 | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1 | LHX1        |

|     |                                                                 |   |                                           |                                           |                                           |                                           |   |        |
|-----|-----------------------------------------------------------------|---|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|--------|
| 629 | <a href="#">spinal cord motor neuron migration</a>              | 4 | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1 | LHX1   |
| 630 | <a href="#">negative regulation of type IV hypersensitivity</a> | 4 | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1 | CD43   |
| 631 | <a href="#">regulation of cellular response to hypoxia</a>      | 4 | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1 | Ajuba  |
| 632 | <a href="#">replication fork protection</a>                     | 4 | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1 | TIPIN  |
| 633 | <a href="#">oviduct development</a>                             | 4 | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1 | LHX1   |
| 633 | <a href="#">regulation of epidermal cell division</a>           | 4 | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1 | 14-3-3 |



|             |                                                                           |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                  |
|-------------|---------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|----------------------------------------------------------------------------------------------------------------------------------|
| 4           |                                                                           |                  | 2<br>8<br>7<br>E<br>-<br>0<br>2           | 4<br>9<br>4<br>E<br>-<br>0<br>2           | 2<br>8<br>7<br>E<br>-<br>0<br>2           | 4<br>9<br>4<br>E<br>-<br>0<br>2           |        |                                                                                                                                  |
| 6<br>3<br>5 | <a href="#">UDP-glucuronate metabolic process</a>                         | 4                | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1      | UGDH                                                                                                                             |
| 6<br>3<br>6 | <a href="#">positive regulation of gene silencing by miRNA</a>            | 4                | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>8<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1      | Ajuba                                                                                                                            |
| 6<br>3<br>7 | <a href="#">positive regulation of molecular function</a>                 | 1<br>8<br>1<br>8 | 1<br>.<br>2<br>8<br>9<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>8<br>9<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>9<br>4<br>E<br>-<br>0<br>2 | 1<br>2 | Ajuba, Tissue kallikreins, Cyclin B1, AL1A1, TIRAP (Mal), ERK1 (MAPK3), AO7, Cyclin B, Rab-3, Kallikrein 3 (PSA), ERK1/2, 14-3-3 |
| 6<br>3<br>8 | <a href="#">response to decreased oxygen levels</a>                       | 4<br>3<br>3      | 1<br>.<br>3<br>0<br>2<br>E<br>-<br>0<br>2 | 4<br>.<br>5<br>3<br>3<br>E<br>-<br>0<br>2 | 1<br>.<br>3<br>0<br>2<br>E<br>-<br>0<br>2 | 4<br>.<br>5<br>3<br>3<br>E<br>-<br>0<br>2 | 5      | Ajuba, Cyclin B1, Notch, NOTCH1 precursor, Cyclin B                                                                              |
| 6<br>3<br>9 | <a href="#">regulation of systemic arterial blood pressure by hormone</a> | 5<br>4           | 1<br>.<br>3<br>2                          | 4<br>.<br>5<br>6                          | 1<br>.<br>3<br>2                          | 4<br>.<br>5<br>6                          | 2      | Tissue kallikreins, Kallikrein 3 (PSA)                                                                                           |

|             |                                                                             |             |                                       |                                       |                                       |                                       |   |                                           |
|-------------|-----------------------------------------------------------------------------|-------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---|-------------------------------------------|
|             |                                                                             |             | 2<br>E<br>-<br>0<br>2                 | 7<br>E<br>-<br>0<br>2                 | 2<br>E<br>-<br>0<br>2                 | 7<br>E<br>-<br>0<br>2                 |   |                                           |
| 6<br>4<br>0 | <a href="#">regulation of<br/>peptidyl-lysine<br/>acetylation</a>           | 5<br>4      | 1<br>.3<br>2<br>2<br>E<br>-<br>0<br>2 | 4<br>.5<br>6<br>7<br>E<br>-<br>0<br>2 | 1<br>.3<br>2<br>2<br>E<br>-<br>0<br>2 | 4<br>.5<br>6<br>7<br>E<br>-<br>0<br>2 | 2 | ERK1 (MAPK3), ERK1/2                      |
| 6<br>4<br>1 | <a href="#">glandular<br/>epithelial cell<br/>differentiation</a>           | 5<br>4      | 1<br>.3<br>2<br>2<br>E<br>-<br>0<br>2 | 4<br>.5<br>6<br>7<br>E<br>-<br>0<br>2 | 1<br>.3<br>2<br>2<br>E<br>-<br>0<br>2 | 4<br>.5<br>6<br>7<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor                   |
| 6<br>4<br>2 | <a href="#">regulation of<br/>calcium ion-<br/>dependent<br/>exocytosis</a> | 5<br>4      | 1<br>.3<br>2<br>2<br>E<br>-<br>0<br>2 | 4<br>.5<br>6<br>7<br>E<br>-<br>0<br>2 | 1<br>.3<br>2<br>2<br>E<br>-<br>0<br>2 | 4<br>.5<br>6<br>7<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor                   |
| 6<br>4<br>3 | <a href="#">renal tubule<br/>development</a>                                | 5<br>4      | 1<br>.3<br>2<br>2<br>E<br>-<br>0<br>2 | 4<br>.5<br>6<br>7<br>E<br>-<br>0<br>2 | 1<br>.3<br>2<br>2<br>E<br>-<br>0<br>2 | 4<br>.5<br>6<br>7<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor                   |
| 6<br>4<br>4 | <a href="#">MAPK cascade</a>                                                | 2<br>8<br>3 | 1<br>.3<br>3<br>1<br>E                | 4<br>.5<br>9<br>2<br>E                | 1<br>.3<br>3<br>1<br>E                | 4<br>.5<br>9<br>2<br>E                | 4 | TIRAP (Mal), ERK1 (MAPK3), ERK1/2, 14-3-3 |

|   |                                     |   |   |   |   |   |   |                                                                                  |
|---|-------------------------------------|---|---|---|---|---|---|----------------------------------------------------------------------------------|
|   |                                     |   | - | - | - | - |   |                                                                                  |
|   |                                     |   | 0 | 0 | 0 | 0 |   |                                                                                  |
|   |                                     |   | 2 | 2 | 2 | 2 |   |                                                                                  |
| 6 | <a href="#">cellular</a>            |   | 1 | 4 | 1 | 4 |   |                                                                                  |
| 4 | <a href="#">component</a>           |   | . | . | . | . |   |                                                                                  |
| 5 | <a href="#">assembly</a>            |   | 3 | 6 | 3 | 6 |   |                                                                                  |
|   |                                     |   | 3 | 0 | 3 | 0 |   |                                                                                  |
|   |                                     |   | 7 | 2 | 7 | 2 |   |                                                                                  |
|   |                                     | 2 | E | E | E | E |   |                                                                                  |
|   |                                     | 0 | - | - | - | - |   |                                                                                  |
|   |                                     | 5 | 0 | 0 | 0 | 0 | 1 | Ajuba, Cyclin B1, AL1A1, HBG, IRT-1, HBGA, ERK1                                  |
|   |                                     | 4 | 2 | 2 | 2 | 2 | 3 | (MAPK3), Spinophilin, Cyclin B, Adult hemoglobin, ERK1/2, 14-3-3, RBBP7 (RbAp46) |
| 6 | <a href="#">positive regulation</a> |   | 1 | 4 | 1 | 4 |   |                                                                                  |
| 4 | <a href="#">of gene</a>             |   | . | . | . | . |   |                                                                                  |
| 6 | <a href="#">expression</a>          |   | 3 | 6 | 3 | 6 |   |                                                                                  |
|   |                                     |   | 4 | 2 | 4 | 2 |   |                                                                                  |
|   |                                     |   | 6 | 9 | 6 | 9 |   |                                                                                  |
|   |                                     | 1 | E | E | E | E |   |                                                                                  |
|   |                                     | 6 | - | - | - | - |   |                                                                                  |
|   |                                     | 0 | 0 | 0 | 0 | 0 | 1 | LHX1, Gpbp1, TEF-5, PTD015, Notch, ERK1 (MAPK3),                                 |
|   |                                     | 7 | 2 | 2 | 2 | 2 | 1 | SRB7, NOTCH1 precursor, ERK1/2, DEAF, 14-3-3                                     |
| 6 | <a href="#">negative</a>            |   | 1 | 4 | 1 | 4 |   |                                                                                  |
| 4 | <a href="#">regulation of</a>       |   | . | . | . | . |   |                                                                                  |
| 7 | <a href="#">endothelial cell</a>    |   | 3 | 6 | 3 | 6 |   |                                                                                  |
|   | <a href="#">migration</a>           |   | 6 | 7 | 6 | 7 |   |                                                                                  |
|   |                                     |   | 9 | 9 | 9 | 9 |   |                                                                                  |
|   |                                     |   | E | E | E | E |   |                                                                                  |
|   |                                     |   | - | - | - | - |   |                                                                                  |
|   |                                     | 5 | 0 | 0 | 0 | 0 |   |                                                                                  |
|   |                                     | 5 | 2 | 2 | 2 | 2 | 2 | Notch, NOTCH1 precursor                                                          |
| 6 | <a href="#">regulated</a>           |   | 1 | 4 | 1 | 4 |   |                                                                                  |
| 4 | <a href="#">secretory</a>           |   | . | . | . | . |   |                                                                                  |
| 8 | <a href="#">pathway</a>             |   | 3 | 6 | 3 | 6 |   |                                                                                  |
|   |                                     |   | 6 | 7 | 6 | 7 |   |                                                                                  |
|   |                                     |   | 9 | 9 | 9 | 9 |   |                                                                                  |
|   |                                     |   | E | E | E | E |   |                                                                                  |
|   |                                     |   | - | - | - | - |   |                                                                                  |
|   |                                     | 5 | 0 | 0 | 0 | 0 |   |                                                                                  |
|   |                                     | 5 | 2 | 2 | 2 | 2 | 2 | 14-3-3 zeta/delta, 14-3-3                                                        |
| 6 | <a href="#">positive regulation</a> |   | 1 | 4 | 1 | 4 |   |                                                                                  |
| 4 | <a href="#">of acute</a>            |   | . | . | . | . |   |                                                                                  |
| 9 | <a href="#">inflammatory</a>        |   | 3 | 6 | 3 | 6 |   |                                                                                  |
|   | <a href="#">response</a>            |   | 6 | 7 | 6 | 7 |   |                                                                                  |
|   |                                     |   | 9 | 9 | 9 | 9 |   |                                                                                  |
|   |                                     |   | E | E | E | E |   |                                                                                  |
|   |                                     | 5 | - | - | - | - |   |                                                                                  |
|   |                                     | 5 | 0 | 0 | 0 | 0 | 2 | Tissue kallikreins, Kallikrein 1                                                 |

|     |                                                                     |     |                                           |                                           |                                           |                                           |   |                                                                           |
|-----|---------------------------------------------------------------------|-----|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|---------------------------------------------------------------------------|
|     |                                                                     |     | 2                                         | 2                                         | 2                                         | 2                                         |   |                                                                           |
| 650 | <a href="#">cell differentiation involved in kidney development</a> | 55  | 1<br>.<br>3<br>6<br>9<br>E<br>-<br>0<br>2 | 4<br>.<br>6<br>7<br>9<br>E<br>-<br>0<br>2 | 1<br>.<br>3<br>6<br>9<br>E<br>-<br>0<br>2 | 4<br>.<br>6<br>7<br>9<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor                                                   |
| 651 | <a href="#">growth</a>                                              | 611 | 1<br>.<br>3<br>9<br>9<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>5<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>3<br>9<br>9<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>5<br>5<br>E<br>-<br>0<br>2 | 6 | Tissue kallikreins, Cyclin B1, LHX1, Notch, NOTCH1 precursor, Cyclin B    |
| 652 | <a href="#">response to bacterium</a>                               | 795 | 1<br>.<br>4<br>0<br>8<br>E<br>-<br>9<br>5 | 4<br>.<br>7<br>5<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>4<br>0<br>8<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>5<br>5<br>E<br>-<br>0<br>2 | 7 | TIRAP (Mal), Notch, ERK1 (MAPK3), NOTCH1 precursor, CD43, NFKBIL1, ERK1/2 |
| 653 | <a href="#">positive regulation of ERK1 and ERK2 cascade</a>        | 156 | 1<br>.<br>4<br>1<br>0<br>E<br>-<br>5<br>6 | 4<br>.<br>7<br>5<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>4<br>1<br>0<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>5<br>5<br>E<br>-<br>0<br>2 | 3 | TIRAP (Mal), ERK1 (MAPK3), ERK1/2                                         |
| 654 | <a href="#">striated muscle cell differentiation</a>                | 288 | 1<br>.<br>4<br>1<br>2<br>E<br>-<br>8<br>2 | 4<br>.<br>7<br>5<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>4<br>1<br>2<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>5<br>5<br>E<br>-<br>0<br>2 | 4 | Cyclin B1, Notch, NOTCH1 precursor, Cyclin B                              |

|     |                                                                   |     |                                           |                                           |                                           |                                           |   |                                                                 |
|-----|-------------------------------------------------------------------|-----|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|-----------------------------------------------------------------|
| 655 | <a href="#">regulation of vasculature development</a>             | 288 | 1<br>.<br>4<br>1<br>2<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>5<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>4<br>1<br>2<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>5<br>5<br>E<br>-<br>0<br>2 | 4 | Tissue kallikreins, Notch, NOTCH1 precursor, Kallikrein 3 (PSA) |
| 656 | <a href="#">negative regulation of osteoblast differentiation</a> | 56  | 1<br>.<br>4<br>1<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>5<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>4<br>1<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>5<br>5<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor                                         |
| 657 | <a href="#">oocyte differentiation</a>                            | 56  | 1<br>.<br>4<br>1<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>5<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>4<br>1<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>5<br>5<br>E<br>-<br>0<br>2 | 2 | Cyclin B1, Cyclin B                                             |
| 658 | <a href="#">stem cell division</a>                                | 56  | 1<br>.<br>4<br>1<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>5<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>4<br>1<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>5<br>5<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor                                         |
| 659 | <a href="#">regulation of protein acetylation</a>                 | 56  | 1<br>.<br>4<br>1<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>5<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>4<br>1<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>5<br>5<br>E<br>-<br>0<br>2 | 2 | ERK1 (MAPK3), ERK1/2                                            |
| 66  | <a href="#">heart growth</a>                                      | 56  | 1<br>.<br>4<br>1<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>5<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>4<br>1<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>5<br>5<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor                                         |

|             |                                                                    |             |                                           |                                           |                                           |                                           |   |                                                           |
|-------------|--------------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|-----------------------------------------------------------|
| 0           |                                                                    |             | 4<br>1<br>7<br>E<br>-<br>0<br>2           | 7<br>5<br>5<br>E<br>-<br>0<br>2           | 4<br>1<br>7<br>E<br>-<br>0<br>2           | 7<br>5<br>5<br>E<br>-<br>0<br>2           |   |                                                           |
| 6<br>6<br>1 | <a href="#">positive regulation of glial cell differentiation</a>  | 5<br>6      | 1<br>.<br>4<br>1<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>5<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>4<br>1<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>5<br>5<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor                                   |
| 6<br>6<br>2 | <a href="#">negative regulation of muscle cell differentiation</a> | 5<br>6      | 1<br>.<br>4<br>1<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>5<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>4<br>1<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>5<br>5<br>E<br>-<br>0<br>2 | 2 | Notch, NOTCH1 precursor                                   |
| 6<br>6<br>3 | <a href="#">positive regulation of cellular component movement</a> | 4<br>4<br>3 | 1<br>.<br>4<br>2<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>7<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>4<br>2<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>7<br>4<br>E<br>-<br>0<br>2 | 5 | IRT-1, TIRAP (Mal), Notch, NOTCH1 precursor, ERK1/2       |
| 6<br>6<br>4 | <a href="#">muscle contraction</a>                                 | 2<br>8<br>9 | 1<br>.<br>4<br>2<br>8<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>7<br>7<br>E<br>-<br>0<br>2 | 1<br>.<br>4<br>2<br>8<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>7<br>7<br>E<br>-<br>0<br>2 | 4 | Tissue kallikreins, Leiomodin, Kallikrein 3 (PSA), CapZIP |
| 6<br>6<br>5 | <a href="#">platelet activation</a>                                | 2<br>9<br>0 | 1<br>.<br>4<br>8<br>4                     | 4<br>.<br>8<br>4<br>2                     | 1<br>.<br>4<br>4<br>4                     | 4<br>.<br>8<br>4<br>2                     | 4 | ERK1 (MAPK3), 14-3-3 zeta/delta, ERK1/2, 14-3-3           |

|             |                                                                |             |                                           |                                           |                                           |                                           |   |                                                                                    |
|-------------|----------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|------------------------------------------------------------------------------------|
|             |                                                                |             | 5<br>E<br>-<br>0<br>2                     | 5<br>E<br>-<br>0<br>2                     | 5<br>E<br>-<br>0<br>2                     | 5<br>E<br>-<br>0<br>2                     |   |                                                                                    |
| 6<br>6<br>6 | <a href="#">immune response-activating signal transduction</a> | 4<br>4<br>5 | 1<br>.<br>4<br>5<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>8<br>3<br>7<br>E<br>-<br>0<br>2 | 1<br>.<br>4<br>5<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>8<br>3<br>7<br>E<br>-<br>0<br>2 | 5 | IGHG4, TIRAP (Mal), IGHG1, ERK1 (MAPK3), ERK1/2                                    |
| 6<br>6<br>7 | <a href="#">establishment of organelle localization</a>        | 2<br>9<br>1 | 1<br>.<br>4<br>6<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>8<br>6<br>6<br>E<br>-<br>0<br>2 | 1<br>.<br>4<br>6<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>8<br>6<br>6<br>E<br>-<br>0<br>2 | 4 | Cyclin B1, Rab-11A, Cyclin B, Rab-3                                                |
| 6<br>6<br>8 | <a href="#">positive regulation of amine transport</a>         | 5<br>7      | 1<br>.<br>4<br>6<br>6<br>E<br>-<br>0<br>2 | 4<br>.<br>8<br>7<br>3<br>E<br>-<br>0<br>2 | 1<br>.<br>4<br>6<br>6<br>E<br>-<br>0<br>2 | 4<br>.<br>8<br>7<br>3<br>E<br>-<br>0<br>2 | 2 | Rab-3B, Rab-3                                                                      |
| 6<br>6<br>9 | <a href="#">cytoplasmic transport</a>                          | 8<br>0<br>3 | 1<br>.<br>4<br>8<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>9<br>1<br>6<br>E<br>-<br>0<br>2 | 1<br>.<br>4<br>8<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>9<br>1<br>6<br>E<br>-<br>0<br>2 | 7 | Rab-11A, SNX1, Olfactory receptor, ERK1 (MAPK3), 14-3-3 zeta/delta, ERK1/2, 14-3-3 |
| 6<br>7<br>0 | <a href="#">positive regulation of locomotion</a>              | 4<br>4<br>9 | 1<br>.<br>5<br>0<br>2<br>E                | 4<br>.<br>9<br>8<br>1<br>E                | 1<br>.<br>5<br>0<br>2<br>E                | 4<br>.<br>9<br>8<br>1<br>E                | 5 | IRT-1, TIRAP (Mal), Notch, NOTCH1 precursor, ERK1/2                                |

|   |                                                                      |   |   |   |   |   |   |                                        |
|---|----------------------------------------------------------------------|---|---|---|---|---|---|----------------------------------------|
|   |                                                                      |   | - | - | - | - |   |                                        |
|   |                                                                      |   | 0 | 0 | 0 | 0 |   |                                        |
|   |                                                                      |   | 2 | 2 | 2 | 2 |   |                                        |
| 6 |                                                                      |   | 1 | 4 | 1 | 4 |   |                                        |
| 7 |                                                                      |   | . | . | . | . |   |                                        |
| 1 | <a href="#">response to growth hormone</a>                           | 5 | 5 | 9 | 5 | 9 |   |                                        |
|   |                                                                      | 8 | 1 | 8 | 1 | 8 |   |                                        |
|   |                                                                      |   | 5 | 4 | 5 | 4 |   |                                        |
|   |                                                                      |   | E | E | E | E |   |                                        |
|   |                                                                      |   | - | - | - | - |   |                                        |
|   |                                                                      |   | 0 | 0 | 0 | 0 |   |                                        |
|   |                                                                      |   | 2 | 2 | 2 | 2 | 2 | ERK1 (MAPK3), ERK1/2                   |
| 6 |                                                                      |   | 1 | 4 | 1 | 4 |   |                                        |
| 7 |                                                                      |   | . | . | . | . |   |                                        |
| 2 | <a href="#">positive regulation of mitotic cell cycle</a>            | 5 | 5 | 9 | 5 | 9 |   |                                        |
|   |                                                                      | 8 | 1 | 8 | 1 | 8 |   |                                        |
|   |                                                                      |   | 5 | 4 | 5 | 4 |   |                                        |
|   |                                                                      |   | E | E | E | E |   |                                        |
|   |                                                                      |   | - | - | - | - |   |                                        |
|   |                                                                      |   | 0 | 0 | 0 | 0 |   |                                        |
|   |                                                                      |   | 2 | 2 | 2 | 2 | 2 | Cyclin B1, Cyclin B                    |
| 6 |                                                                      |   | 1 | 4 | 1 | 4 |   |                                        |
| 7 |                                                                      |   | . | . | . | . |   |                                        |
| 3 | <a href="#">regulation of phosphatidylinositol 3-kinase activity</a> | 5 | 5 | 9 | 5 | 9 |   |                                        |
|   |                                                                      | 8 | 1 | 8 | 1 | 8 |   |                                        |
|   |                                                                      |   | 5 | 4 | 5 | 4 |   |                                        |
|   |                                                                      |   | E | E | E | E |   |                                        |
|   |                                                                      |   | - | - | - | - |   |                                        |
|   |                                                                      |   | 0 | 0 | 0 | 0 |   |                                        |
|   |                                                                      |   | 2 | 2 | 2 | 2 | 2 | Tissue kallikreins, Kallikrein 3 (PSA) |
| 6 |                                                                      |   | 1 | 4 | 1 | 4 |   |                                        |
| 7 |                                                                      |   | . | . | . | . |   |                                        |
| 4 | <a href="#">hindlimb morphogenesis</a>                               | 5 | 5 | 9 | 5 | 9 |   |                                        |
|   |                                                                      | 8 | 1 | 8 | 1 | 8 |   |                                        |
|   |                                                                      |   | 5 | 4 | 5 | 4 |   |                                        |
|   |                                                                      |   | E | E | E | E |   |                                        |
|   |                                                                      |   | - | - | - | - |   |                                        |
|   |                                                                      |   | 0 | 0 | 0 | 0 |   |                                        |
|   |                                                                      |   | 2 | 2 | 2 | 2 | 2 | Notch, NOTCH1 precursor                |
| 6 |                                                                      |   | 1 | 4 | 1 | 4 |   |                                        |
| 7 |                                                                      |   | . | . | . | . |   |                                        |
| 5 | <a href="#">myeloid cell activation involved in immune response</a>  | 5 | 5 | 9 | 5 | 9 |   |                                        |
|   |                                                                      | 8 | 1 | 8 | 1 | 8 |   |                                        |
|   |                                                                      |   | 5 | 4 | 5 | 4 |   |                                        |
|   |                                                                      |   | E | E | E | E |   |                                        |
|   |                                                                      |   | - | - | - | - |   |                                        |
|   |                                                                      |   | 0 | 0 | 0 | 0 | 2 | 14-3-3 zeta/delta, 14-3-3              |



|   |                                                      |   |   |   |   |   |   |                                                                                                                                                                                                                                         |
|---|------------------------------------------------------|---|---|---|---|---|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                      |   | 2 | 2 | 2 | 2 |   |                                                                                                                                                                                                                                         |
| 6 |                                                      |   | 1 | 4 | 1 | 4 |   |                                                                                                                                                                                                                                         |
| 7 |                                                      |   | . | . | . | . |   |                                                                                                                                                                                                                                         |
| 6 | <a href="#">regulation of gene expression</a>        |   | 5 | 9 | 5 | 9 |   |                                                                                                                                                                                                                                         |
|   |                                                      |   | 2 | 9 | 2 | 9 |   |                                                                                                                                                                                                                                         |
|   |                                                      |   | 2 | 5 | 2 | 5 |   |                                                                                                                                                                                                                                         |
|   |                                                      | 5 | E | E | E | E |   | Ajuba, Cyclin B1, LHX1, HBG, IRT-1, HBGA, Gbbp1, TEF-5, TIRAP (Mal), Olfactory receptor, PTD015, Notch, ERK1 (MAPK3), DR1, SRB7, NOTCH1 precursor, NFKBIL1, AO7, Cyclin B, Adult hemoglobin, ZHX3, ERK1/2, DEAF, 14-3-3, RBBP7 (RbAp46) |
|   |                                                      | 1 | - | - | - | - | 2 |                                                                                                                                                                                                                                         |
|   |                                                      | 3 | 0 | 0 | 0 | 0 | 5 |                                                                                                                                                                                                                                         |
|   |                                                      | 5 | 2 | 2 | 2 | 2 |   |                                                                                                                                                                                                                                         |
| 6 |                                                      |   | 1 | 4 | 1 | 4 |   |                                                                                                                                                                                                                                         |
| 7 |                                                      |   | . | . | . | . |   |                                                                                                                                                                                                                                         |
| 7 | <a href="#">single organism reproductive process</a> |   | 5 | 9 | 5 | 9 |   |                                                                                                                                                                                                                                         |
|   |                                                      |   | 2 | 9 | 2 | 9 |   |                                                                                                                                                                                                                                         |
|   |                                                      |   | 3 | 5 | 3 | 5 |   |                                                                                                                                                                                                                                         |
|   |                                                      | 1 | E | E | E | E |   |                                                                                                                                                                                                                                         |
|   |                                                      | 4 | - | - | - | - |   |                                                                                                                                                                                                                                         |
|   |                                                      | 1 | 0 | 0 | 0 | 0 | 1 | Tissue kallikreins, Cyclin B1, AL1A1, LHX1, Olfactory receptor, Notch, NOTCH1 precursor, MTL5, Cyclin B, DEAF                                                                                                                           |
|   |                                                      | 8 | 2 | 2 | 2 | 2 | 0 |                                                                                                                                                                                                                                         |

**Table 9S: Enrichment analysis report.** Enrichment by GO Processes (healthy control vs SVZn)

| Enrichment by GO Processes |                                                                     |       |                            | SVZn<br>Limma<br>Input_gene<br>list |                                 |             |                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------|---------------------------------------------------------------------|-------|----------------------------|-------------------------------------|---------------------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #                          | Processes                                                           | Total | p<br>V<br>a<br>l<br>u<br>e | M<br>i<br>n<br>F<br>D<br>R          | p<br>-<br>v<br>a<br>l<br>u<br>e | F<br>D<br>R | I<br>n<br>D<br>a<br>t<br>a                                                                                                                                                                                                                                                                                                                         |
| 1                          | <a href="#">single-organism organelle organization</a>              | 1878  | 2.340E-07                  | 5.607                               | 2.340E-07                       | 5.607       | Network Objects from Active Data<br>RBBP8 (CtIP), Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, TIPIN, PPM1F, HDAC7, MENA, VAMP5, Histone deacetylase class II, Calmyrin, HSP70, ARID4A, SET, SMYD3, POLE3-POLE4 complex, HSPA2, HSPA1A, CKS2, OBFC1, POLE3 (YBL1), DYNLL, SET/NUP214 fusion protein, Cyclin B, EYA1, Pleckstrin, FOP, PDXP, PP2C, RUVBL1 |
| 2                          | <a href="#">negative regulation of phosphorus metabolic process</a> | 487   | 3.705E-06                  | 2.179                               | 3.705E-06                       | 2.179       | Cyclin B1, DLC1 (Dynein LC8a), PSMD10 (Gankyrin), PPM1F, HEXIM1, Calmyrin, HSP70, SMYD3, DYNLL, Cyclin B, Pleckstrin, PTPN2, FOP, CAMK2N1, PP2C                                                                                                                                                                                                    |
| 3                          | <a href="#">negative regulation of phosphate metabolic process</a>  | 487   | 3.705E-06                  | 2.179                               | 3.705E-06                       | 2.179       | Cyclin B1, DLC1 (Dynein LC8a), PSMD10 (Gankyrin), PPM1F, HEXIM1, Calmyrin, HSP70, SMYD3, DYNLL, Cyclin B, Pleckstrin, PTPN2, FOP, CAMK2N1, PP2C                                                                                                                                                                                                    |
| 4                          | <a href="#">chromosome organization</a>                             | 491   | 4.259E-06                  | 2.169                               | 4.259E-06                       | 2.169       | Cyclin B1, HSPA1B, PPM1F, HDAC7, Histone deacetylase class II, HSP70, ARID4A, LOC646817, SET, SMYD3, POLE3-POLE4 complex, HSPA2, HSPA1A, OBFC1, POLE3 (YBL1), SET/NUP214 fusion protein, Cyclin B, EYA1, PP2C, RUVBL1                                                                                                                              |

|    |                                                                                         |                  |                  |                  |                  |                  |             |                                                                                                                                                                                                                                                                  |
|----|-----------------------------------------------------------------------------------------|------------------|------------------|------------------|------------------|------------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5  | <a href="#">negative regulation of phosphorylation</a>                                  | 4<br>1<br>8      | 4<br>0<br>9      | 2<br>0<br>6      | 4<br>0<br>9      | 2<br>0<br>6      | 1<br>0<br>4 | Cyclin B1, DLC1 (Dynein LC8a), PSMD10 (Gankyrin), PPM1F, HEXIM1, Calmyrin, HSP70, SMYD3, DYNLL, Cyclin B, PTPN2, FOP, CAMK2N1, PP2C                                                                                                                              |
| 6  | <a href="#">protein refolding</a>                                                       | 2<br>2           | 0<br>8           | 0<br>5           | 0<br>8           | 0<br>5           | 5           | HSPA1B, HSP70, HSPA2, HSPA1A, HSC70                                                                                                                                                                                                                              |
| 7  | <a href="#">macromolecular complex subunit organization</a>                             | 1<br>8<br>2<br>3 | E<br>-<br>0<br>8 | E<br>-<br>0<br>5 | E<br>-<br>0<br>8 | E<br>-<br>0<br>5 | 2<br>6      | Annexin V, eEF1A, Cyclin B1, PSMD10 (Gankyrin), Clp1, AL1A1, MENA, DARS, Histone deacetylase class II, Calmyrin, COLEC12, HSP70, Annexin VI, LOC646817, SET, TXNRD1, SMYD3, eEF1A1, CKS2, SET/NUP214 fusion protein, Cyclin B, IMD2, PDXP, HSC70, RUVBL1, PQBP-1 |
| 8  | <a href="#">regulation of cyclin-dependent protein serine/threonine kinase activity</a> | 1<br>1<br>9      | -<br>0<br>8      | -<br>0<br>5      | -<br>0<br>8      | -<br>0<br>5      | 8           | Cyclin T1, Cyclin B1, PSMD10 (Gankyrin), HEXIM1, HSP70, HSPA2, CKS2, Cyclin B                                                                                                                                                                                    |
| 9  | <a href="#">negative regulation of protein modification process</a>                     | 5<br>1<br>9      | -<br>0<br>8      | -<br>0<br>5      | -<br>0<br>8      | -<br>0<br>5      | 1<br>4      | Cyclin B1, PSMD10 (Gankyrin), PPM1F, HEXIM1, Calmyrin, HSP70, SET, SMYD3, SET/NUP214 fusion protein, Cyclin B, PTPN2, FOP, CAMK2N1, PP2C                                                                                                                         |
| 10 | <a href="#">negative regulation of inclusion body assembly</a>                          | 1<br>0           | 7<br>0           | 1<br>0           | 7<br>0           | 1<br>0           | 4           | HSPA1B, HSP70, HSPA2, HSPA1A                                                                                                                                                                                                                                     |

|        |                                                      |                  |                                           |                                           |                                           |                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------|------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                      |                  | 4<br>8<br>2<br>E<br>-<br>0<br>8           | 5<br>7<br>2<br>E<br>-<br>0<br>5           | 4<br>8<br>2<br>E<br>-<br>0<br>8           | 5<br>7<br>2<br>E<br>-<br>0<br>5                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 1<br>1 | <a href="#">protein complex subunit organization</a> | 1<br>5<br>9<br>6 | 7<br>.<br>7<br>1<br>7<br>E<br>-<br>0<br>8 | 1<br>.<br>5<br>7<br>2<br>E<br>-<br>0<br>5 | 7<br>.<br>7<br>1<br>7<br>E<br>-<br>0<br>8 | 1<br>.<br>5<br>7<br>2<br>E<br>-<br>0<br>5      | Annexin V, eEF1A, Cyclin B1, PSMD10 (Gankyrin), AL1A1, MENA, DARS, Histone deacetylase class II, Calmyrin, COLEC12, HSP70, Annexin VI, LOC646817, SET, TXNRD1, SMYD3, eEF1A1, CKS2, SET/NUP214 fusion protein, Cyclin B, IMD2, PDXP, HSC70, RUVBL1                                                                                                                                                                                                                                             |
| 1<br>2 | <a href="#">histone modification</a>                 | 3<br>6<br>8      | 8<br>.<br>3<br>2<br>6<br>E<br>-<br>0<br>8 | 1<br>.<br>5<br>7<br>2<br>E<br>-<br>0<br>5 | 8<br>.<br>3<br>2<br>6<br>E<br>-<br>0<br>8 | 1<br>.<br>5<br>7<br>2<br>E<br>-<br>0<br>5      | Cyclin B1, PPM1F, HDAC7, Histone deacetylase class II, ARID4A, SMYD3, POLE3-POLE4 complex, POLE3 (YBL1), Cyclin B, EYA1, PP2C, RUVBL1                                                                                                                                                                                                                                                                                                                                                          |
| 1<br>3 | <a href="#">cellular component organization</a>      | 5<br>4<br>1<br>9 | 8<br>.<br>9<br>7<br>6<br>E<br>-<br>0<br>8 | 1<br>.<br>5<br>7<br>2<br>E<br>-<br>0<br>5 | 8<br>.<br>9<br>7<br>6<br>E<br>-<br>0<br>8 | 1<br>.<br>5<br>7<br>7<br>2<br>E<br>-<br>0<br>5 | Annexin V, eEF1A, Reticulon 4, RBBP8 (CtIP), Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, Clp1, AL1A1, PPM1F, HDAC7, MENA, DARS, VAMP5, Histone deacetylase class II, Olfactory receptor, Calmyrin, COLEC12, HSP70, ARID4A, Annexin VI, LOC646817, SET, TXNRD1, SMYD3, POLE3-POLE4 complex, Calmodulin, HSPA2, HSPA1A, eEF1A1, CKS2, OBFC1, POLE3 (YBL1), DYNLL, ICMT, SET/NUP214 fusion protein, Cyclin B, IMD2, EYA1, Pleckstrin, FOP, PDXP, PP2C, HSC70, RUVBL1, PQBP-1 |
| 1<br>4 | <a href="#">covalent chromatin modification</a>      | 3<br>7<br>1      | 9<br>.<br>0<br>9<br>3<br>E<br>-<br>0<br>8 | 1<br>.<br>5<br>7<br>2<br>E<br>-<br>0<br>5 | 9<br>.<br>0<br>9<br>3<br>E<br>-<br>0<br>8 | 1<br>.<br>5<br>7<br>2<br>E<br>-<br>0<br>5      | Cyclin B1, PPM1F, HDAC7, Histone deacetylase class II, ARID4A, SMYD3, POLE3-POLE4 complex, POLE3 (YBL1), Cyclin B, EYA1, PP2C, RUVBL1                                                                                                                                                                                                                                                                                                                                                          |
| 1<br>5 | <a href="#">mitotic cell cycle</a>                   | 9<br>3<br>0      | 1<br>.<br>1<br>9                          | 1<br>.<br>.<br>9                          | 1<br>.<br>.<br>9                          | 1<br>.<br>.<br>9                               | RBBP8 (CtIP), Cyclin B1, DLC1 (Dynein LC8a), PSMD10 (Gankyrin), TIPIN, Calmyrin, HSP70, SET, Calmodulin, HSPA2, DYNLL, SET/NUP214 fusion protein, Cyclin B,                                                                                                                                                                                                                                                                                                                                    |

|        |                                                                           |                  |                                           |                                                |                                                |                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------|---------------------------------------------------------------------------|------------------|-------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                           |                  | 7<br>8<br>E<br>-<br>0<br>7                | 0<br>0<br>E<br>-<br>0<br>5                     | 7<br>8<br>E<br>-<br>0<br>7                     | 0<br>0<br>E<br>-<br>0<br>5                     | EYA1, FOP, PP2C, PRCC, RUVBL1                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 1<br>6 | <a href="#">cellular component organization or biogenesis</a>             | 5<br>5<br>5<br>7 | 2<br>.<br>0<br>5<br>6<br>E<br>5<br>7      | 3<br>.<br>1<br>0<br>9<br>6<br>E<br>-<br>0<br>7 | 2<br>.<br>0<br>5<br>9<br>6<br>E<br>-<br>0<br>5 | 3<br>.<br>1<br>0<br>0<br>9<br>E<br>-<br>0<br>7 | Annexin V, eEF1A, Reticulon 4, RBBP8 (CtIP), Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, Clp1, AL1A1, PPM1F, HDAC7, MENA, DARS, VAMP5, Histone deacetylase class II, Olfactory receptor, Calmyrin, COLEC12, HSP70, ARID4A, Annexin VI, LOC646817, SET, TXNRD1, SMYD3, POLE3-POLE4 complex, Calmodulin, HSPA2, HSPA1A, eEF1A1, CKS2, OBFC1, POLE3 (YBL1), DYNLL, ICMT, SET/NUP214 fusion protein, Cyclin B, IMD2, EYA1, Pleckstrin, FOP, PDXP, PP2C, HSC70, RUVBL1, PQBP-1 |
| 1<br>7 | <a href="#">organelle organization</a>                                    | 2<br>9<br>7<br>6 | 2<br>.<br>1<br>9<br>6<br>E<br>-<br>0<br>7 | 3<br>.<br>1<br>2<br>7<br>E<br>-<br>0<br>5      | 2<br>.<br>1<br>9<br>6<br>E<br>-<br>0<br>7      | 3<br>.<br>1<br>2<br>7<br>E<br>-<br>0<br>5      | Reticulon 4, RBBP8 (CtIP), Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, TIPIN, PPM1F, HDAC7, MENA, VAMP5, Histone deacetylase class II, Calmyrin, HSP70, ARID4A, LOC646817, SET, SMYD3, POLE3-POLE4 complex, HSPA2, HSPA1A, CKS2, OBFC1, POLE3 (YBL1), DYNLL, SET/NUP214 fusion protein, Cyclin B, EYA1, Pleckstrin, FOP, PDXP, PP2C, RUVBL1, PQBP-1                                                                                                                                                 |
| 1<br>8 | <a href="#">G2/M transition of mitotic cell cycle</a>                     | 2<br>0<br>0      | 2<br>.<br>6<br>4<br>0<br>E<br>-<br>0<br>0 | 3<br>.<br>3<br>6<br>2<br>E<br>-<br>0<br>7      | 2<br>.<br>6<br>4<br>0<br>E<br>-<br>0<br>5      | 3<br>.<br>3<br>6<br>2<br>E<br>-<br>0<br>5      | Cyclin B1, DLC1 (Dynein LC8a), HSP70, Calmodulin, HSPA2, DYNLL, Cyclin B, FOP, PP2C                                                                                                                                                                                                                                                                                                                                                                                                            |
| 1<br>9 | <a href="#">cell cycle G2/M phase transition</a>                          | 2<br>0<br>0      | 2<br>.<br>6<br>4<br>0<br>E<br>-<br>0<br>7 | 3<br>.<br>3<br>6<br>2<br>E<br>-<br>0<br>5      | 2<br>.<br>6<br>4<br>0<br>E<br>-<br>0<br>7      | 3<br>.<br>3<br>6<br>2<br>E<br>-<br>0<br>5      | Cyclin B1, DLC1 (Dynein LC8a), HSP70, Calmodulin, HSPA2, DYNLL, Cyclin B, FOP, PP2C                                                                                                                                                                                                                                                                                                                                                                                                            |
| 2<br>0 | <a href="#">negative regulation of cellular protein metabolic process</a> | 6<br>7<br>9      | 2<br>.<br>9<br>1                          | 3<br>.<br>5<br>2                               | 2<br>.<br>9<br>1                               | 3<br>.<br>5<br>2                               | Cyclin B1, PSMD10 (Gankyrin), PPM1F, HEXIM1, Histone deacetylase class II, Calmyrin, HSP70, SET, SMYD3, SET/NUP214 fusion protein, Cyclin B, PTPN2, FOP, CAMK2N1, PP2C                                                                                                                                                                                                                                                                                                                         |

|        |                                                                        |             |                                           |                                           |                                           |                                           |                                                                                                                                                                                  |
|--------|------------------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                        |             | 5<br>E<br>-<br>0<br>7                     | 7<br>E<br>-<br>0<br>5                     | 5<br>E<br>-<br>0<br>7                     | 7<br>E<br>-<br>0<br>5                     |                                                                                                                                                                                  |
| 2<br>1 | <a href="#">cell cycle phase transition</a>                            | 4<br>1<br>6 | 3<br>.<br>1<br>1<br>5<br>E<br>-<br>0<br>7 | 3<br>.<br>5<br>9<br>0<br>E<br>-<br>0<br>5 | 3<br>.<br>1<br>1<br>5<br>E<br>-<br>0<br>7 | 3<br>.<br>5<br>9<br>0<br>E<br>-<br>0<br>5 | RBBP8 (CtIP), Cyclin B1, DLC1 (Dynein LC8a), PSMD10 (Gankyrin), TIPIN, HSP70, Calmodulin, HSPA2, DYNLL, Cyclin B, FOP, PP2C                                                      |
| 2<br>2 | <a href="#">chromatin organization</a>                                 | 7<br>0<br>4 | 4<br>.<br>6<br>1<br>3<br>E<br>-<br>0<br>7 | 5<br>.<br>0<br>7<br>4<br>E<br>-<br>5<br>5 | 4<br>.<br>6<br>1<br>3<br>E<br>-<br>0<br>7 | 5<br>.<br>0<br>7<br>4<br>E<br>-<br>0<br>5 | Cyclin B1, PPM1F, HDAC7, Histone deacetylase class II, ARID4A, LOC646817, SET, SMYD3, POLE3-POLE4 complex, POLE3 (YBL1), SET/NUP214 fusion protein, Cyclin B, EYA1, PP2C, RUVBL1 |
| 2<br>3 | <a href="#">negative regulation of protein phosphorylation</a>         | 3<br>5<br>4 | 4<br>.<br>8<br>3<br>8<br>E<br>-<br>0<br>7 | 5<br>.<br>0<br>9<br>0<br>E<br>-<br>0<br>5 | 4<br>.<br>8<br>3<br>8<br>E<br>-<br>0<br>7 | 5<br>.<br>0<br>9<br>0<br>E<br>-<br>0<br>5 | Cyclin B1, PPM1F, HEXIM1, Calmyrin, HSP70, SMYD3, Cyclin B, PTPN2, FOP, CAMK2N1, PP2C                                                                                            |
| 2<br>4 | <a href="#">negative regulation of cellular component organization</a> | 6<br>1<br>5 | 5<br>.<br>3<br>0<br>0<br>E<br>-<br>0<br>7 | 5<br>.<br>3<br>4<br>0<br>E<br>-<br>5<br>5 | 5<br>.<br>3<br>0<br>0<br>E<br>-<br>7<br>5 | 5<br>.<br>3<br>4<br>0<br>E<br>-<br>5<br>5 | Reticulon 4, Cyclin B1, HSPA1B, PSMD10 (Gankyrin), Histone deacetylase class II, Calmyrin, HSP70, SET, HSPA2, HSPA1A, SET/NUP214 fusion protein, Cyclin B, PP2C, HSC70           |
| 2<br>5 | <a href="#">histone dephosphorylation</a>                              | 5           | 8<br>.<br>4<br>1<br>2<br>E                | 8<br>.<br>1<br>4<br>3<br>E                | 8<br>.<br>4<br>1<br>2<br>E                | 8<br>.<br>1<br>4<br>3<br>E                | PPM1F, EYA1, PP2C                                                                                                                                                                |

|        |                                                                   |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                                                       |
|--------|-------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                   |                  | -<br>0<br>7                               | -<br>0<br>5                               | -<br>0<br>7                               | -<br>0<br>5                               |        |                                                                                                                                                                                                                                                                                       |
| 2<br>6 | <a href="#">mitotic cell cycle process</a>                        | 8<br>5<br>0      | 9<br>.<br>4<br>7<br>2<br>E<br>-<br>0<br>7 | 8<br>.<br>8<br>1<br>6<br>E<br>-<br>0<br>5 | 9<br>.<br>4<br>7<br>2<br>E<br>-<br>0<br>7 | 8<br>.<br>8<br>1<br>6<br>E<br>-<br>0<br>5 | 1<br>6 | RBBP8 (CtIP), Cyclin B1, DLC1 (Dynein LC8a), PSMD10 (Gankyrin), TIPIN, HSP70, Calmodulin, HSPA2, DYNLL, SET/NUP214 fusion protein, Cyclin B, EYA1, FOP, PP2C, PRCC, RUVBL1                                                                                                            |
| 2<br>7 | <a href="#">cell cycle</a>                                        | 1<br>5<br>8<br>0 | 1<br>.<br>1<br>3<br>1<br>E<br>-<br>0<br>6 | 1<br>.<br>0<br>1<br>4<br>E<br>-<br>0<br>4 | 1<br>.<br>1<br>3<br>1<br>E<br>-<br>0<br>6 | 1<br>.<br>0<br>1<br>4<br>E<br>-<br>0<br>4 | 2<br>2 | RBBP8 (CtIP), Cyclin T1, Cyclin B1, DLC1 (Dynein LC8a), PSMD10 (Gankyrin), TIPIN, Calmyrin, HSP70, SET, Calmodulin, HSPA2, CKS2, Annexin XI, DYNLL, Septin 3, SET/NUP214 fusion protein, Cyclin B, EYA1, FOP, PP2C, PRCC, RUVBL1                                                      |
| 2<br>8 | <a href="#">negative regulation of protein metabolic process</a>  | 7<br>8<br>0      | 1<br>.<br>6<br>6<br>1<br>E<br>-<br>0<br>6 | 1<br>.<br>4<br>3<br>6<br>E<br>-<br>0<br>4 | 1<br>.<br>6<br>6<br>1<br>E<br>-<br>0<br>6 | 1<br>.<br>4<br>3<br>6<br>E<br>-<br>0<br>4 | 1<br>5 | Cyclin B1, PSMD10 (Gankyrin), PPM1F, HEXIM1, Histone deacetylase class II, Calmyrin, HSP70, SET, SMYD3, SET/NUP214 fusion protein, Cyclin B, PTPN2, FOP, CAMK2N1, PP2C                                                                                                                |
| 2<br>9 | <a href="#">mitotic cell cycle phase transition</a>               | 4<br>1<br>3      | 2<br>.<br>1<br>7<br>9<br>E<br>-<br>0<br>6 | 1<br>.<br>8<br>1<br>9<br>E<br>-<br>0<br>4 | 2<br>.<br>1<br>7<br>9<br>E<br>-<br>0<br>6 | 1<br>.<br>8<br>1<br>9<br>E<br>-<br>0<br>4 | 1<br>1 | RBBP8 (CtIP), Cyclin B1, DLC1 (Dynein LC8a), PSMD10 (Gankyrin), HSP70, Calmodulin, HSPA2, DYNLL, Cyclin B, FOP, PP2C                                                                                                                                                                  |
| 3<br>0 | <a href="#">negative regulation of cellular metabolic process</a> | 2<br>0<br>8<br>2 | 2<br>.<br>6<br>7<br>0<br>E<br>-<br>0<br>0 | 2<br>.<br>1<br>6<br>0<br>E<br>-<br>0<br>0 | 2<br>.<br>6<br>7<br>0<br>E<br>-<br>0<br>0 | 2<br>.<br>1<br>6<br>0<br>E<br>-<br>0<br>0 | 2<br>5 | RBBP8 (CtIP), Cyclin B1, DLC1 (Dynein LC8a), PSMD10 (Gankyrin), TIPIN, PPM1F, HDAC7, HEXIM1, Histone deacetylase class II, Calmyrin, HSP70, ARID4A, SET, Follistatin, SMYD3, DYNLL, SET/NUP214 fusion protein, Cyclin B, Pleckstrin, PTPN2, FOP, CAMK2N1, PP2C, HSC70, TARDBP (TDP43) |

|        |                                                          |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                                                             |
|--------|----------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                          |                  | 6                                         | 4                                         | 6                                         | 4                                         |        |                                                                                                                                                                                                                                                                                             |
| 3<br>1 | <a href="#">regulation of protein depolymerization</a>   | 8<br>9           | 2<br>.<br>8<br>0<br>5<br>E<br>-<br>0<br>6 | 2<br>.<br>1<br>8<br>9<br>E<br>-<br>0<br>4 | 2<br>.<br>8<br>0<br>5<br>E<br>-<br>0<br>6 | 2<br>.<br>1<br>8<br>9<br>E<br>-<br>0<br>4 | 6      | Cyclin B1, Histone deacetylase class II, Calmyrin, Cyclin B, Pleckstrin, PDXP                                                                                                                                                                                                               |
| 3<br>2 | <a href="#">macromolecular complex assembly</a>          | 1<br>4<br>1<br>5 | 3<br>.<br>0<br>8<br>4<br>E<br>-<br>0<br>6 | 2<br>.<br>3<br>3<br>2<br>E<br>-<br>4<br>6 | 3<br>.<br>0<br>8<br>4<br>E<br>-<br>0<br>6 | 2<br>.<br>3<br>3<br>2<br>E<br>-<br>4<br>6 | 2<br>0 | Annexin V, eEF1A, Cyclin B1, PSMD10 (Gankyrin), Clp1, AL1A1, DARS, COLEC12, HSP70, Annexin VI, LOC646817, SET, TXNRD1, SMYD3, eEF1A1, SET/NUP214 fusion protein, Cyclin B, IMD2, RUVBL1, PQBP-1                                                                                             |
| 3<br>3 | <a href="#">negative regulation of metabolic process</a> | 2<br>2<br>9<br>4 | 4<br>.<br>6<br>3<br>0<br>E<br>-<br>0<br>6 | 3<br>.<br>3<br>1<br>0<br>E<br>-<br>0<br>4 | 4<br>.<br>6<br>3<br>0<br>E<br>-<br>0<br>6 | 3<br>.<br>3<br>1<br>0<br>E<br>-<br>0<br>4 | 2<br>6 | RBBP8 (CtIP), Cyclin B1, DLC1 (Dynein LC8a), PSMD10 (Gankyrin), TIPIN, Clp1, PPM1F, HDAC7, HEXIM1, Histone deacetylase class II, Calmyrin, HSP70, ARID4A, SET, Follistatin, SMYD3, DYNLL, SET/NUP214 fusion protein, Cyclin B, Pleckstrin, PTPN2, FOP, CAMK2N1, PP2C, HSC70, TARDBP (TDP43) |
| 3<br>4 | <a href="#">protein complex assembly</a>                 | 1<br>2<br>0<br>0 | 4<br>.<br>6<br>5<br>1<br>E<br>-<br>0<br>6 | 3<br>.<br>3<br>1<br>0<br>E<br>-<br>4<br>6 | 4<br>.<br>6<br>5<br>1<br>E<br>-<br>0<br>6 | 3<br>.<br>3<br>1<br>0<br>E<br>-<br>4<br>6 | 1<br>8 | Annexin V, eEF1A, Cyclin B1, PSMD10 (Gankyrin), AL1A1, DARS, COLEC12, HSP70, Annexin VI, LOC646817, SET, TXNRD1, SMYD3, eEF1A1, SET/NUP214 fusion protein, Cyclin B, IMD2, RUVBL1                                                                                                           |
| 3<br>5 | <a href="#">protein complex biogenesis</a>               | 1<br>2<br>0<br>3 | 4<br>.<br>8<br>1<br>5<br>E<br>-<br>0<br>6 | 3<br>.<br>3<br>2<br>9<br>E<br>-<br>0<br>4 | 4<br>.<br>8<br>1<br>5<br>E<br>-<br>0<br>6 | 3<br>.<br>3<br>2<br>9<br>E<br>-<br>0<br>4 | 1<br>8 | Annexin V, eEF1A, Cyclin B1, PSMD10 (Gankyrin), AL1A1, DARS, COLEC12, HSP70, Annexin VI, LOC646817, SET, TXNRD1, SMYD3, eEF1A1, SET/NUP214 fusion protein, Cyclin B, IMD2, RUVBL1                                                                                                           |



|    |                                                           |     |                                           |                                           |                                           |                                           |    |                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----|-----------------------------------------------------------|-----|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 36 | <a href="#">negative regulation of catalytic activity</a> | 975 | 5<br>.<br>5<br>5<br>4<br>E<br>-<br>0<br>6 | 3<br>.<br>7<br>3<br>3<br>E<br>-<br>0<br>4 | 5<br>.<br>5<br>5<br>4<br>E<br>-<br>0<br>6 | 3<br>.<br>7<br>3<br>3<br>E<br>-<br>0<br>4 | 16 | Annexin V, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), PPM1F, HEXIM1, Histone deacetylase class II, HSP70, SET, SMYD3, HSPA1A, DYNLL, SET/NUP214 fusion protein, FOP, CAMK2N1, PP2C                                                                                                                                                                                                                                              |
| 37 | <a href="#">regulation of protein complex disassembly</a> | 101 | 5<br>.<br>8<br>6<br>2<br>E<br>-<br>0<br>6 | 3<br>.<br>8<br>3<br>4<br>E<br>-<br>0<br>4 | 5<br>.<br>8<br>6<br>2<br>E<br>-<br>0<br>6 | 3<br>.<br>8<br>3<br>4<br>E<br>-<br>0<br>4 | 6  | Cyclin B1, Histone deacetylase class II, Calmyrin, Cyclin B, Pleckstrin, PDXP                                                                                                                                                                                                                                                                                                                                                       |
| 38 | <a href="#">heat acclimation</a>                          | 9   | 6<br>.<br>9<br>7<br>6<br>E<br>-<br>0<br>6 | 4<br>.<br>1<br>7<br>7<br>E<br>-<br>0<br>4 | 6<br>.<br>9<br>7<br>6<br>E<br>-<br>0<br>6 | 4<br>.<br>1<br>7<br>7<br>E<br>-<br>0<br>4 | 3  | HSPA1B, HSP70, HSPA1A                                                                                                                                                                                                                                                                                                                                                                                                               |
| 39 | <a href="#">cellular heat acclimation</a>                 | 9   | 6<br>.<br>9<br>7<br>6<br>E<br>-<br>0<br>6 | 4<br>.<br>1<br>7<br>7<br>E<br>-<br>0<br>4 | 6<br>.<br>9<br>7<br>6<br>E<br>-<br>0<br>6 | 4<br>.<br>1<br>7<br>7<br>E<br>-<br>0<br>4 | 3  | HSPA1B, HSP70, HSPA1A                                                                                                                                                                                                                                                                                                                                                                                                               |
| 40 | <a href="#">positive regulation of biological process</a> | 549 | 7<br>.<br>0<br>4<br>2<br>E<br>-<br>0<br>6 | 4<br>.<br>1<br>7<br>7<br>E<br>-<br>0<br>4 | 7<br>.<br>0<br>4<br>2<br>E<br>-<br>0<br>6 | 4<br>.<br>1<br>7<br>7<br>E<br>-<br>0<br>4 | 43 | Annexin V, eEF1A, Reticulon 4, IGHG4, Cyclin T1, Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, ECE1, AL1A1, PPM1F, HDAC7, MENA, SNX1, Histone deacetylase class II, Olfactory receptor, Calmyrin, EPS8L1, COLEC12, HSP70, IGHG1, Cyclophilin E, LOC646817, Follistatin, TXNRD1, SMYD3, Calmodulin, HSPA2, HSPA1A, eEF1A1, OBFC1, DYNLL, ICMT, Cyclin B, EYA1, Pleckstrin, PTPN2, FOP, PDXP, PP2C, TARDBP (TDP43) |
| 41 | <a href="#">cell cycle process</a>                        | 12  | 7<br>.<br>.<br>.<br>.                     | 4<br>.<br>.<br>.<br>.                     | 7<br>.<br>.<br>.<br>.                     | 4<br>.<br>.<br>.<br>.                     | 18 | RBBP8 (CtIP), Cyclin B1, DLC1 (Dynein LC8a), PSMD10 (Gankyrin), TIPIN, HSP70, Calmodulin, HSPA2, CKS2,                                                                                                                                                                                                                                                                                                                              |

|        |                                                                     |                       |                                      |                                 |                                 |                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------|---------------------------------------------------------------------|-----------------------|--------------------------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                     | 3<br>7                | 0<br>7<br>6<br>E<br>-<br>0<br>6      | 1<br>7<br>7<br>E<br>-<br>0<br>4 | 0<br>7<br>6<br>E<br>-<br>0<br>6 | 1<br>7<br>7<br>E<br>-<br>0<br>4 | Annexin XI, DYNLL, SET/NUP214 fusion protein, Cyclin B, EYA1, FOP, PP2C, PRCC, RUVBL1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 4<br>2 | <a href="#">negative regulation of microtubule depolymerization</a> | 2<br>9                | 7<br>9<br>3<br>4<br>E<br>-           | 4<br>5<br>7<br>1<br>E<br>-      | 7<br>9<br>3<br>4<br>E<br>-      | 4<br>5<br>7<br>1<br>E<br>-      | Cyclin B1, Histone deacetylase class II, Calmyrin, Cyclin B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4<br>3 | <a href="#">primary metabolic process</a>                           | 1<br>0<br>1<br>8<br>5 | 8<br>.<br>5<br>9<br>0<br>E<br>1<br>- | 4<br>.<br>8<br>4<br>0<br>E<br>- | 8<br>.<br>5<br>9<br>0<br>E<br>- | 4<br>.<br>8<br>4<br>0<br>E<br>- | FLJ22494, P5CR1, eEF1A, RBBP8 (CtIP), PGMU, IGHG4, Cyclin T1, RY1, Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, Clp1, ECE1, AL1A1, Fbxo3, PPM1F, HDAC7, CDO1, HEXIM1, DARS, Histone deacetylase class II, Calmyrin, HSP70, IGHG1, Cyclophilin E, ARID4A, PGM2, eEF2K, LOC646817, SET, COASY, DPP3, TXNRD1, SMYD3, POLE3-POLE4 complex, Calmodulin, HSPA2, HSPA1A, RBP1, eEF1A1, SAE2, OBFC1, ZNF397OS, POLE3 (YBL1), DYNLL, ICMT, DOHH, ZNF397, SET/NUP214 fusion protein, Cyclin B, IMD2, EYA1, GMEB1, Pleckstrin, PTPN2, FOP, PDXP, Fructosamine-3-kinase, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1 |
| 4<br>4 | <a href="#">single-organism metabolic process</a>                   | 5<br>4<br>9<br>4      | 9<br>.<br>3<br>1<br>8<br>E<br>-      | 5<br>.<br>1<br>2<br>5<br>E<br>- | 9<br>.<br>3<br>1<br>8<br>E<br>- | 5<br>.<br>3<br>1<br>8<br>E<br>- | FLJ22494, P5CR1, eEF1A, RBBP8 (CtIP), PGMU, IGHG4, Cyclin B1, HSPA1B, PSMD10 (Gankyrin), AL1A1, PPM1F, HDAC7, CDO1, Cytochrome b5, DARS, Histone deacetylase class II, Thioredoxin-like 2, Calmyrin, HSP70, IGHG1, ARID4A, PGM2, COASY, TXNRD1, SMYD3, POLE3-POLE4 complex, Calmodulin, HSPA1A, RBP1, eEF1A1, OBFC1, POLE3 (YBL1), ICMT, DOHH, SET/NUP214 fusion protein, Cyclin B, IMD2, EYA1, Pleckstrin, PDXP, Fructosamine-3-kinase, PP2C, HSC70, RUVBL1                                                                                                                                                                        |
| 4<br>5 | <a href="#">chromatin modification</a>                              | 5<br>8<br>1           | 9<br>.<br>9<br>0<br>6<br>E<br>-      | 5<br>.<br>3<br>2<br>7<br>E<br>- | 9<br>.<br>9<br>0<br>6<br>E<br>- | 5<br>.<br>3<br>2<br>7<br>E<br>- | Cyclin B1, PPM1F, HDAC7, Histone deacetylase class II, ARID4A, SMYD3, POLE3-POLE4 complex, POLE3 (YBL1), Cyclin B, EYA1, PP2C, RUVBL1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

|   |                                                              |   |                                                |                                           |                                           |                                           |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| 4 | <a href="#">regulation of inclusion body assembly</a>        | 3 | 1<br>.<br>0<br>4<br>4<br>4<br>E<br>-<br>0<br>5 | 5<br>.<br>4<br>9<br>2<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>4<br>4<br>E<br>-<br>0<br>5 | 5<br>.<br>4<br>9<br>2<br>E<br>-<br>0<br>4 | 4 | HSPA1B, HSP70, HSPA2, HSPA1A                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4 | <a href="#">regulation of catalytic activity</a>             | 2 | 1<br>.<br>1<br>5<br>7<br>E<br>-<br>0<br>5      | 5<br>.<br>9<br>5<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>1<br>5<br>7<br>E<br>-<br>0<br>5 | 5<br>.<br>9<br>5<br>8<br>E<br>-<br>0<br>4 | 2 | Annexin V, Cyclin T1, Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), AL1A1, PPM1F, HEXIM1, Histone deacetylase class II, Calmyrin, EPS8L1, HSP70, SET, SMYD3, Calmodulin, HSPA2, HSPA1A, SAE2, CKS2, DYNLL, SET/NUP214 fusion protein, Cyclin B, Pleckstrin, FOP, CAMK2N1, PP2C                                                                                                                                                                                                           |
| 4 | <a href="#">regulation of primary metabolic process</a>      | 6 | 1<br>.<br>2<br>5<br>2<br>E<br>-<br>0<br>5      | 6<br>.<br>3<br>1<br>0<br>E<br>-<br>4      | 1<br>.<br>2<br>5<br>2<br>E<br>-<br>4      | 6<br>.<br>3<br>1<br>0<br>E<br>-<br>5      | 4 | eEF1A, RBBP8 (CtIP), Cyclin T1, Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, ECE1, AL1A1, PPM1F, HDAC7, SNX1, HEXIM1, Histone deacetylase class II, Olfactory receptor, Calmyrin, EPS8L1, HSP70, Cyclophilin E, ARID4A, eEF2K, LOC646817, SET, Follistatin, SMYD3, Calmodulin, HSPA2, HSPA1A, eEF1A1, CKS2, OBFC1, ZNF397OS, DYNLL, ICMT, ZNF397, SET/NUP214 fusion protein, Cyclin B, EYA1, GMEB1, Pleckstrin, PTPN2, FOP, CAMK2N1, PP2C, HSC70, TARDBP (TDP43), RUVBL1, PQBP-1 |
| 4 | <a href="#">cellular nitrogen compound metabolic process</a> | 5 | 1<br>.<br>2<br>9<br>4<br>E<br>-<br>0<br>5      | 6<br>.<br>3<br>8<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>9<br>4<br>E<br>-<br>0<br>5 | 6<br>.<br>3<br>8<br>8<br>E<br>-<br>0<br>4 | 4 | FLJ22494, P5CR1, eEF1A, RBBP8 (CtIP), Cyclin T1, RY1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, Clp1, ECE1, HDAC7, CDO1, HEXIM1, DARS, Histone deacetylase class II, Calmyrin, HSP70, Cyclophilin E, ARID4A, LOC646817, SET, COASY, TXNRD1, SMYD3, POLE3-POLE4 complex, HSPA1A, eEF1A1, OBFC1, ZNF397OS, POLE3 (YBL1), DYNLL, ICMT, ZNF397, SET/NUP214 fusion protein, IMD2, EYA1, GMEB1, PDXP, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1                                       |
| 5 | <a href="#">response to ischemia</a>                         | 3 | 1<br>.<br>3<br>4<br>8<br>E<br>-<br>0<br>5      | 6<br>.<br>4<br>6<br>0<br>E<br>-<br>4      | 1<br>.<br>3<br>4<br>8<br>E<br>-<br>4      | 6<br>.<br>4<br>6<br>0<br>E<br>-<br>4      | 4 | HSPA1B, Calmyrin, HSP70, HSPA1A                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

|        |                                                                                          |                  |                  |                  |                  |                  |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------|------------------------------------------------------------------------------------------|------------------|------------------|------------------|------------------|------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5<br>1 | <a href="#">positive regulation of cell migration involved in sprouting angiogenesis</a> | 1<br>1           | 1<br>5           | 6<br>4           | 1<br>5           | 6<br>4           | 3      | HDAC7, Histone deacetylase class II, Calmyrin                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 5<br>2 | <a href="#">regulation of macromolecule metabolic process</a>                            | 6<br>6<br>3      | 1<br>0<br>5      | 6<br>0<br>4      | 1<br>0<br>5      | 6<br>0<br>4      | 4<br>7 | eEF1A, RBBP8 (CtIP), Cyclin T1, Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, Clp1, ECE1, PPM1F, HDAC7, SNX1, HEXIM1, Histone deacetylase class II, Olfactory receptor, Calmyrin, HSP70, Cyclophilin E, ARID4A, eEF2K, LOC646817, SET, Follistatin, SMYD3, Calmodulin, HSPA2, HSPA1A, eEF1A1, CKS2, OBFC1, ZNF397OS, DYNLL, ICMT, ZNF397, SET/NUP214 fusion protein, Cyclin B, EYA1, GMEB1, PTPN2, FOP, CAMK2N1, PP2C, HSC70, TARDBP (TDP43), RUVBL1, PQBP-1 |
| 5<br>3 | <a href="#">regulation of microtubule depolymerization</a>                               | 3<br>4           | 1<br>5           | 6<br>4           | 1<br>5           | 6<br>4           | 4      | Cyclin B1, Histone deacetylase class II, Calmyrin, Cyclin B                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 5<br>4 | <a href="#">regulation of cell cycle</a>                                                 | 1<br>0<br>6<br>2 | 7<br>-<br>0<br>5 | 1<br>-<br>0<br>4 | 7<br>-<br>0<br>5 | 1<br>-<br>0<br>4 | 1<br>6 | Cyclin T1, Cyclin B1, PSMD10 (Gankyrin), TIPIN, HEXIM1, Olfactory receptor, HSP70, Calmodulin, HSPA2, CKS2, SET/NUP214 fusion protein, Cyclin B, PDXP, PP2C, HSC70, PRCC                                                                                                                                                                                                                                                                                                        |
| 5<br>5 | <a href="#">regulation of protein modification process</a>                               | 1<br>5<br>8<br>4 | 7<br>-<br>0<br>5 | 1<br>-<br>0<br>4 | 7<br>-<br>0<br>5 | 1<br>-<br>0<br>4 | 2<br>0 | Cyclin T1, Cyclin B1, PSMD10 (Gankyrin), PPM1F, HEXIM1, Histone deacetylase class II, Calmyrin, HSP70, eEF2K, SET, SMYD3, Calmodulin, HSPA2, CKS2, SET/NUP214 fusion protein, Cyclin B, PTPN2, FOP, CAMK2N1, PP2C                                                                                                                                                                                                                                                               |
| 5<br>6 | <a href="#">response to DDT</a>                                                          | 2                | 1<br>.           | 7<br>.           | 1<br>.           | 7<br>.           | 2      | Cyclin B1, Cyclin B                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

|        |                                                            |                  |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------|------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                            |                  | 9<br>4<br>9<br>E<br>-<br>0<br>5           | 9<br>9<br>6<br>E<br>-<br>0<br>4           | 9<br>4<br>9<br>E<br>-<br>0<br>5           | 9<br>9<br>6<br>E<br>-<br>0<br>4           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 5<br>7 | <a href="#">synaptonemal complex disassembly</a>           | 2                | 1<br>.<br>9<br>4<br>9<br>E<br>-<br>0<br>5 | 7<br>.<br>9<br>9<br>6<br>E<br>-<br>0<br>4 | 1<br>.<br>9<br>4<br>9<br>E<br>-<br>0<br>5 | 7<br>.<br>9<br>9<br>6<br>E<br>-<br>0<br>4 | HSP70, HSPA2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 5<br>8 | <a href="#">negative regulation of fibril organization</a> | 2                | 1<br>.<br>9<br>4<br>9<br>E<br>-<br>0<br>5 | 7<br>.<br>9<br>9<br>6<br>E<br>-<br>0<br>4 | 1<br>.<br>9<br>4<br>9<br>E<br>-<br>0<br>5 | 7<br>.<br>9<br>9<br>6<br>E<br>-<br>0<br>4 | HSP70, HSC70                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 5<br>9 | <a href="#">regulation of fibril organization</a>          | 2                | 1<br>.<br>9<br>4<br>9<br>E<br>-<br>0<br>5 | 7<br>.<br>9<br>9<br>6<br>E<br>-<br>0<br>4 | 1<br>.<br>9<br>4<br>9<br>E<br>-<br>0<br>5 | 7<br>.<br>9<br>9<br>6<br>E<br>-<br>0<br>4 | HSP70, HSC70                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 6<br>0 | <a href="#">nitrogen compound metabolic process</a>        | 6<br>4<br>5<br>2 | 2<br>.<br>1<br>0<br>6<br>E<br>-<br>5<br>2 | 8<br>.<br>4<br>9<br>6<br>E<br>-<br>0<br>4 | 2<br>.<br>1<br>0<br>6<br>E<br>-<br>5<br>4 | 8<br>.<br>4<br>9<br>6<br>E<br>-<br>0<br>4 | FLJ22494, P5CR1, eEF1A, RBBP8 (CtIP), Cyclin T1, RY1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, Clp1, ECE1, HDAC7, CDO1, HEXIM1, DARS, Histone deacetylase class II, Calmyrin, HSP70, Cyclophilin E, ARID4A, LOC646817, SET, COASY, TXNRD1, SMYD3, POLE3-POLE4 complex, Calmodulin, HSPA1A, eEF1A1, OBFC1, ZNF397OS, POLE3 (YBL1), DYNLL, ICMT, ZNF397, SET/NUP214 fusion protein, IMD2, EYA1, GMEB1, PDXP, Fructosamine-3-kinase, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1 |
| 6<br>1 | <a href="#">cellular metabolic process</a>                 | 9<br>9<br>4      | 2<br>.<br>1<br>6                          | 8<br>.<br>.<br>6                          | 2<br>.<br>.<br>1                          | 8<br>.<br>.<br>6                          | FLJ22494, P5CR1, eEF1A, RBBP8 (CtIP), PGMU, Cyclin T1, RY1, Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, Clp1, ECE1, AL1A1, Fbxo3, PPM1F,                                                                                                                                                                                                                                                                                                                                     |

|        |                                                           |   |                                                |                                           |                                                |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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|        |                                                           | 1 | 8<br>0<br>E<br>-<br>0<br>5                     | 5<br>0<br>E<br>-<br>0<br>4                | 8<br>0<br>E<br>-<br>0<br>5                     | 5<br>0<br>E<br>-<br>0<br>4                | HDAC7, CDO1, HEXIM1, DARS, Histone deacetylase class II, Calmyrin, HSP70, Cyclophilin E, ARID4A, PGM2, eEF2K, LOC646817, SET, COASY, TXNRD1, SMYD3, POLE3-POLE4 complex, Calmodulin, HSPA2, HSPA1A, RBP1, eEF1A1, SAE2, CKS2, OBFC1, ZNF397OS, POLE3 (YBL1), DYNLL, ICMT, DOHH, ZNF397, SET/NUP214 fusion protein, Cyclin B, IMD2, EYA1, GMEB1, Pleckstrin, PTPN2, FOP, PDXP, Fructosamine-3-kinase, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1                                                                     |
| 6<br>2 | <a href="#">negative regulation of molecular function</a> |   | 2<br>.<br>2<br>6<br>8<br>1<br>E<br>2<br>1<br>8 | 8<br>.<br>8<br>5<br>1<br>E<br>-<br>0<br>5 | 2<br>.<br>2<br>6<br>8<br>1<br>E<br>-<br>0<br>4 | 8<br>.<br>8<br>5<br>1<br>E<br>-<br>0<br>4 | Annexin V, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), PPM1F, HEXIM1, Histone deacetylase class II, HSP70, SET, SMYD3, Calmodulin, HSPA1A, DYNLL, SET/NUP214 fusion protein, FOP, CAMK2N1, PP2C                                                                                                                                                                                                                                                                                                                          |
| 6<br>3 | <a href="#">cellular component assembly</a>               |   | 2<br>.<br>3<br>4<br>9<br>2<br>0<br>5<br>4      | 8<br>.<br>9<br>9<br>6<br>E<br>-<br>0<br>4 | 2<br>.<br>3<br>4<br>9<br>6<br>E<br>-<br>0<br>4 | 8<br>.<br>9<br>9<br>6<br>E<br>-<br>0<br>4 | Annexin V, eEF1A, Cyclin B1, PSMD10 (Gankyrin), Clp1, AL1A1, HDAC7, DARS, Histone deacetylase class II, COLEC12, HSP70, Annexin VI, LOC646817, SET, TXNRD1, SMYD3, eEF1A1, SET/NUP214 fusion protein, Cyclin B, IMD2, PDXP, RUVBL1, PQBP-1                                                                                                                                                                                                                                                                                  |
| 6<br>4 | <a href="#">regulation of metabolic process</a>           |   | 2<br>.<br>3<br>7<br>9<br>7<br>3<br>0<br>2      | 8<br>.<br>9<br>9<br>6<br>E<br>-<br>0<br>5 | 2<br>.<br>3<br>7<br>9<br>6<br>E<br>-<br>0<br>4 | 8<br>.<br>9<br>9<br>6<br>E<br>-<br>0<br>4 | Annexin V, eEF1A, RBBP8 (CtIP), Cyclin T1, Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, Clp1, ECE1, AL1A1, PPM1F, HDAC7, SNX1, HEXIM1, Histone deacetylase class II, Olfactory receptor, Calmyrin, EPS8L1, HSP70, Cyclophilin E, ARID4A, eEF2K, LOC646817, SET, Follistatin, SMYD3, Calmodulin, HSPA2, HSPA1A, eEF1A1, SAE2, CKS2, OBFC1, ZNF397OS, DYNLL, ICMT, ZNF397, SET/NUP214 fusion protein, Cyclin B, EYA1, GMEB1, Pleckstrin, PTPN2, FOP, CAMK2N1, PP2C, HSC70, TARDBP (TDP43), RUVBL1, PQBP-1 |
| 6<br>5 | <a href="#">heterocycle metabolic process</a>             |   | 2<br>.<br>6<br>4<br>6<br>5<br>7<br>0<br>9      | 9<br>.<br>7<br>3<br>8<br>E<br>-<br>0<br>4 | 2<br>.<br>6<br>4<br>6<br>E<br>-<br>0<br>4      | 9<br>.<br>7<br>3<br>8<br>E<br>-<br>0<br>4 | FLJ22494, P5CR1, eEF1A, RBBP8 (CtIP), Cyclin T1, RY1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, Clp1, HDAC7, HEXIM1, DARS, Histone deacetylase class II, Calmyrin, HSP70, Cyclophilin E, ARID4A, LOC646817, SET, COASY, TXNRD1, SMYD3, POLE3-POLE4 complex, HSPA1A, eEF1A1, OBFC1, ZNF397OS, POLE3 (YBL1), DYNLL, ICMT, ZNF397, SET/NUP214 fusion protein, IMD2, EYA1, GMEB1, PDXP, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1                                                                          |

|   |                                                                                       |   |                                           |                                           |                                                |                                                |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---|---------------------------------------------------------------------------------------|---|-------------------------------------------|-------------------------------------------|------------------------------------------------|------------------------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6 | <a href="#">negative regulation of microtubule polymerization or depolymerization</a> | 3 | 2<br>.<br>6<br>5<br>6<br>E<br>-<br>0<br>5 | 9<br>.<br>7<br>3<br>8<br>E<br>-<br>0<br>4 | 2<br>.<br>6<br>5<br>6<br>E<br>-<br>0<br>5      | 9<br>.<br>7<br>3<br>8<br>E<br>-<br>0<br>4      | 4      | Cyclin B1, Histone deacetylase class II, Calmyrin, Cyclin B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 6 | <a href="#">organic substance metabolic process</a>                                   | 7 | 1<br>0<br>4<br>7<br>6                     | 2<br>.<br>7<br>6<br>1<br>E<br>-<br>0<br>5 | 9<br>.<br>9<br>9<br>6<br>1<br>E<br>-<br>0<br>4 | 2<br>.<br>7<br>9<br>6<br>6<br>E<br>-<br>0<br>4 | 6<br>6 | FLJ22494, P5CR1, eEF1A, RBBP8 (CtIP), PGMU, IGHG4, Cyclin T1, RY1, Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, Clp1, ECE1, AL1A1, Fbxo3, PPM1F, HDAC7, CDO1, HEXIM1, DARS, Histone deacetylase class II, Calmyrin, HSP70, IGHG1, Cyclophilin E, ARID4A, PGM2, eEF2K, LOC646817, SET, COASY, DPP3, TXNRD1, SMYD3, POLE3-POLE4 complex, Calmodulin, HSPA2, HSPA1A, RBP1, eEF1A1, SAE2, OBFC1, ZNF397OS, POLE3 (YBL1), DYNLL, ICMT, DOHH, ZNF397, SET/NUP214 fusion protein, Cyclin B, IMD2, EYA1, GMEB1, Pleckstrin, PTPN2, FOP, PDXP, Fructosamine-3-kinase, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1 |
| 6 | <a href="#">cellular macromolecule metabolic process</a>                              | 8 | 7<br>4<br>7                               | 2<br>.<br>8<br>8<br>3<br>7<br>3<br>4<br>7 | 1<br>.<br>0<br>2<br>6<br>E<br>-<br>0<br>5      | 2<br>.<br>8<br>8<br>3<br>E<br>-<br>0<br>3      | 5      | eEF1A, RBBP8 (CtIP), PGMU, Cyclin T1, RY1, Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, Clp1, Fbxo3, PPM1F, HDAC7, HEXIM1, DARS, Histone deacetylase class II, Calmyrin, HSP70, Cyclophilin E, ARID4A, PGM2, eEF2K, LOC646817, SET, SMYD3, POLE3-POLE4 complex, Calmodulin, HSPA2, HSPA1A, eEF1A1, SAE2, OBFC1, ZNF397OS, POLE3 (YBL1), DYNLL, ICMT, DOHH, ZNF397, SET/NUP214 fusion protein, Cyclin B, EYA1, GMEB1, PTPN2, FOP, PDXP, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1                                                                                                                       |
| 6 | <a href="#">macromolecule metabolic process</a>                                       | 9 | 2<br>2<br>9                               | 3<br>.<br>1<br>1<br>3<br>8<br>2<br>9      | 1<br>.<br>1<br>2<br>7<br>E<br>-<br>0<br>3      | 3<br>.<br>2<br>1<br>3<br>E<br>-<br>0<br>5      | 6      | eEF1A, RBBP8 (CtIP), PGMU, IGHG4, Cyclin T1, RY1, Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, Clp1, ECE1, Fbxo3, PPM1F, HDAC7, HEXIM1, DARS, Histone deacetylase class II, Calmyrin, HSP70, IGHG1, Cyclophilin E, ARID4A, PGM2, eEF2K, LOC646817, SET, DPP3, SMYD3, POLE3-POLE4 complex, Calmodulin, HSPA2, HSPA1A, eEF1A1, SAE2, OBFC1, ZNF397OS, POLE3 (YBL1), DYNLL, ICMT, DOHH, ZNF397, SET/NUP214 fusion protein, Cyclin B, EYA1, GMEB1, PTPN2, FOP, PDXP, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1                                                                                             |
| 7 | <a href="#">nucleic acid metabolic process</a>                                        | 0 | 4<br>4<br>3<br>5                          | 3<br>.<br>2<br>9<br>6                     | 1<br>.<br>1<br>3<br>9<br>9                     | 3<br>.<br>2<br>9<br>6                          | 3      | eEF1A, RBBP8 (CtIP), Cyclin T1, RY1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, Clp1, HDAC7, HEXIM1, DARS, Histone deacetylase class II, Calmyrin, HSP70, Cyclophilin E, ARID4A, LOC646817, SET, SMYD3, POLE3-POLE4 complex, HSPA1A, eEF1A1, OBFC1,                                                                                                                                                                                                                                                                                                                                                                      |

|   |                                                                        |   |   |   |   |   |   |                                                                                                                                                                                                                                                                     |
|---|------------------------------------------------------------------------|---|---|---|---|---|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                        |   | E | E | E | E |   | ZNF397OS, POLE3 (YBL1), DYNLL, ZNF397, SET/NUP214 fusion protein, EYA1, GMEB1, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1                                                                                                                                   |
|   |                                                                        |   | - | - | - | - |   |                                                                                                                                                                                                                                                                     |
|   |                                                                        |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                     |
|   |                                                                        |   | 5 | 3 | 5 | 3 |   |                                                                                                                                                                                                                                                                     |
| 7 | <a href="#">negative regulation of macromolecule metabolic process</a> | 2 | 3 | 1 | 3 | 1 | 2 | RBBP8 (CtIP), Cyclin B1, PSMD10 (Gankyrin), TIPIN, Clp1, PPM1F, HDAC7, HEXIM1, Histone deacetylase class II, Calmyrin, HSP70, ARID4A, SET, Follistatin, SMYD3, SET/NUP214 fusion protein, Cyclin B, PTPN2, FOP, CAMK2N1, PP2C, HSC70, TARDBP (TDP43)                |
| 1 |                                                                        | 1 | . | . | . | . | 3 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 0 | 4 | 1 | 4 | 1 | 2 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 3 | 1 | 6 | 1 | 6 | 3 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 3 | 7 | 5 | 7 | 5 | 3 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 3 | E | E | E | E | 3 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 3 | - | - | - | - | 3 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 3 | 0 | 0 | 0 | 0 | 3 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 3 | 5 | 3 | 5 | 3 | 3 |                                                                                                                                                                                                                                                                     |
| 7 | <a href="#">regulation of cellular component organization</a>          | 2 | 3 | 1 | 3 | 1 | 2 | Reticulon 4, Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), PPM1F, Histone deacetylase class II, Olfactory receptor, Calmyrin, EPS8L1, HSP70, SET, HSPA2, HSPA1A, DYNLL, SET/NUP214 fusion protein, Cyclin B, Pleckstrin, FOP, PDXP, PP2C, HSC70, PQBP-1 |
| 2 |                                                                        | 1 | . | . | . | . | 3 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 0 | 5 | 1 | 5 | 1 | 3 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 7 | 2 | 8 | 2 | 8 | 3 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 7 | 2 | 4 | 2 | 4 | 3 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 7 | E | E | E | E | 3 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 7 | - | - | - | - | 3 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 7 | 0 | 0 | 0 | 0 | 3 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 7 | 5 | 3 | 5 | 3 | 3 |                                                                                                                                                                                                                                                                     |
| 7 | <a href="#">negative regulation of vasoconstriction</a>                | 1 | 3 | 1 | 3 | 1 | 1 | HSPA1B, HSP70, HSPA1A                                                                                                                                                                                                                                               |
| 3 |                                                                        | 5 | . | . | . | . | 3 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 5 | 7 | 2 | 7 | 2 | 3 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 5 | 0 | 2 | 0 | 2 | 3 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 5 | 6 | 9 | 6 | 9 | 3 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 5 | E | E | E | E | 3 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 5 | - | - | - | - | 3 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 5 | 0 | 0 | 0 | 0 | 3 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 5 | 5 | 3 | 5 | 3 | 3 |                                                                                                                                                                                                                                                                     |
| 7 | <a href="#">DNA metabolic process</a>                                  | 1 | 3 | 1 | 3 | 1 | 1 | RBBP8 (CtIP), HSPA1B, TIPIN, Calmyrin, HSP70, LOC646817, SET, SMYD3, POLE3-POLE4 complex, HSPA1A, OBFC1, POLE3 (YBL1), SET/NUP214 fusion protein, EYA1, RUVBL1                                                                                                      |
| 4 |                                                                        | 4 | . | . | . | . | 5 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 4 | 7 | 2 | 7 | 2 | 5 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 4 | 9 | 3 | 9 | 3 | 5 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 4 | 6 | 3 | 6 | 3 | 5 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 4 | E | E | E | E | 5 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 4 | - | - | - | - | 5 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 4 | 0 | 0 | 0 | 0 | 5 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 4 | 5 | 3 | 5 | 3 | 5 |                                                                                                                                                                                                                                                                     |
| 7 | <a href="#">regulation of phosphorylation</a>                          | 1 | 3 | 1 | 3 | 1 | 1 | Cyclin T1, Cyclin B1, DLC1 (Dynein LC8a), PSMD10 (Gankyrin), ECE1, PPM1F, HEXIM1, Calmyrin, HSP70, eEF2K, SMYD3, HSPA2, CKS2, DYNLL, Cyclin B, PTPN2, FOP, CAMK2N1, PP2C                                                                                            |
| 5 |                                                                        | 9 | . | . | . | . | 9 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 9 | 8 | 2 | 8 | 2 | 9 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 9 | 1 | 2 | 3 | 2 | 9 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 9 | 5 | 1 | 3 | 1 | 9 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 9 | 3 | E | E | E | 9 |                                                                                                                                                                                                                                                                     |
|   |                                                                        | 9 | - | - | - | - | 9 |                                                                                                                                                                                                                                                                     |



|        |                                                                                                   |             |                                           |                                           |                                           |                                           |                                           |                                                                                                                                                                                              |
|--------|---------------------------------------------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                                                   |             | 0<br>5                                    | 0<br>3                                    | 0<br>5                                    | 0<br>3                                    |                                           |                                                                                                                                                                                              |
| 7<br>6 | <a href="#">regulation of protein kinase activity</a>                                             | 8<br>9<br>6 | 3<br>.<br>9<br>3<br>1<br>E<br>-<br>0<br>5 | 1<br>.<br>2<br>5<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>9<br>3<br>1<br>E<br>-<br>0<br>5 | 1<br>.<br>2<br>5<br>2<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>5<br>2<br>E<br>-<br>0<br>3 | Cyclin T1, Cyclin B1, PSMD10 (Gankyrin), PPM1F, HEXIM1, Calmyrin, HSP70, SMYD3, HSPA2, CKS2, Cyclin B, FOP, CAMK2N1, PP2C                                                                    |
| 7<br>7 | <a href="#">peptidyl-lysine modification</a>                                                      | 2<br>0<br>9 | 4<br>.<br>0<br>7<br>0<br>E<br>-<br>0<br>5 | 1<br>.<br>2<br>7<br>9<br>E<br>-<br>0<br>3 | 4<br>.<br>0<br>7<br>0<br>E<br>-<br>0<br>5 | 1<br>.<br>2<br>7<br>9<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>7<br>9<br>E<br>-<br>0<br>3 | Histone deacetylase class II, ARID4A, SMYD3, POLE3-POLE4 complex, POLE3 (YBL1), DOHH, RUVBL1                                                                                                 |
| 7<br>8 | <a href="#">regulation of organelle organization</a>                                              | 9<br>0<br>1 | 4<br>.<br>1<br>7<br>6<br>E<br>-<br>0<br>5 | 1<br>.<br>2<br>9<br>6<br>E<br>-<br>0<br>3 | 4<br>.<br>1<br>7<br>6<br>E<br>-<br>0<br>5 | 1<br>.<br>2<br>9<br>6<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>9<br>6<br>E<br>-<br>0<br>3 | Cyclin B1, DLC1 (Dynein LC8a), PSMD10 (Gankyrin), PPM1F, Histone deacetylase class II, Olfactory receptor, Calmyrin, SET, DYNLL, SET/NUP214 fusion protein, Cyclin B, Pleckstrin, PDXP, PP2C |
| 7<br>9 | <a href="#">negative regulation of extrinsic apoptotic signaling pathway in absence of ligand</a> | 4<br>6      | 5<br>.<br>1<br>4<br>5<br>E<br>-<br>0<br>5 | 1<br>.<br>5<br>5<br>7<br>E<br>-<br>0<br>3 | 5<br>.<br>1<br>4<br>5<br>E<br>-<br>0<br>3 | 1<br>.<br>5<br>4<br>5<br>E<br>-<br>0<br>3 | 1<br>.<br>5<br>5<br>7<br>E<br>-<br>0<br>3 | HSPA1B, HSP70, HSPA1A, EYA1                                                                                                                                                                  |
| 8<br>0 | <a href="#">negative regulation of signal transduction in absence of ligand</a>                   | 4<br>6      | 5<br>.<br>1<br>4<br>5<br>E<br>-<br>0<br>5 | 1<br>.<br>5<br>5<br>7<br>E<br>-<br>0<br>3 | 5<br>.<br>1<br>4<br>5<br>E<br>-<br>0<br>3 | 1<br>.<br>5<br>4<br>5<br>E<br>-<br>0<br>3 | 1<br>.<br>5<br>5<br>7<br>E<br>-<br>0<br>3 | HSPA1B, HSP70, HSPA1A, EYA1                                                                                                                                                                  |

|   |                                                                  |   |   |   |   |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---|------------------------------------------------------------------|---|---|---|---|---|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8 |                                                                  |   | 5 | 1 | 5 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  |   | 3 | 5 | 3 | 5 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  |   | 5 | 9 | 5 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  |   | 4 | 9 | 4 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  | 1 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 1 | <a href="#">cell recognition</a>                                 | 4 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  | 9 | 5 | 3 | 5 | 3 | 6 | Reticulon 4, HSPA1B, COLEC12, HSP70, HSPA1A, DYNLL                                                                                                                                                                                                                                                                                                                                                                                          |
| 8 |                                                                  |   | 5 | 1 | 5 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  |   | 8 | 7 | 8 | 7 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  |   | 6 | 0 | 6 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  | 5 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  | 4 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 2 | <a href="#">nucleobase-containing compound metabolic process</a> | 9 | 0 | 0 | 0 | 0 | 4 | FLJ22494, eEF1A, RBBP8 (CtIP), Cyclin T1, RY1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, Clp1, HDAC7, HEXIM1, DARS, Histone deacetylase class II, Calmyrin, HSP70, Cyclophilin E, ARID4A, LOC646817, SET, COASY, TXNRD1, SMYD3, POLE3-POLE4 complex, HSPA1A, eEF1A1, OBFC1, ZNF397OS, POLE3 (YBL1), DYNLL, ICMT, ZNF397, SET/NUP214 fusion protein, IMD2, EYA1, GMEB1, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1       |
|   |                                                                  | 1 | 5 | 3 | 5 | 3 | 2 |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 8 |                                                                  |   | 5 | 1 | 5 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  |   | 8 | 7 | 8 | 7 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  |   | 3 | 0 | 3 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  |   | 1 | 0 | 1 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 3 | <a href="#">mitotic spindle stabilization</a>                    | 3 | 0 | 0 | 0 | 0 | 2 | Cyclin B1, Cyclin B                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                                  |   | 5 | 3 | 5 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 8 |                                                                  |   | 6 | 1 | 6 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  |   | 9 | 9 | 9 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  |   | 2 | 9 | 2 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  |   | 6 | 5 | 6 | 5 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  | 5 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 4 | <a href="#">regulation of system process</a>                     | 9 | 0 | 0 | 0 | 0 | 1 | Reticulon 4, HSPA1B, ECE1, Histone deacetylase class II, Thioredoxin-like 2, HSP70, Annexin VI, Follistatin, Calmodulin, HSPA1A, PP2C                                                                                                                                                                                                                                                                                                       |
|   |                                                                  | 9 | 5 | 3 | 5 | 3 | 1 |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 8 |                                                                  |   | 7 | 2 | 7 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  |   | 5 | 1 | 5 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  |   | 0 | 3 | 0 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  |   | 3 | 6 | 3 | 6 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  | 5 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                  | 7 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 5 | <a href="#">cellular aromatic compound metabolic process</a>     | 4 | 0 | 0 | 0 | 0 | 4 | FLJ22494, eEF1A, RBBP8 (CtIP), Cyclin T1, RY1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, Clp1, HDAC7, HEXIM1, DARS, Histone deacetylase class II, Calmyrin, HSP70, Cyclophilin E, ARID4A, LOC646817, SET, COASY, TXNRD1, SMYD3, POLE3-POLE4 complex, HSPA1A, eEF1A1, OBFC1, ZNF397OS, POLE3 (YBL1), DYNLL, ICMT, ZNF397, SET/NUP214 fusion protein, IMD2, EYA1, GMEB1, PDXP, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1 |
|   |                                                                  | 3 | 5 | 3 | 5 | 3 | 3 |                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 8 | <a href="#">regulation of nucleobase-containing</a>              | 4 | 7 | 2 | 7 | 2 | 3 | eEF1A, RBBP8 (CtIP), Cyclin T1, Cyclin B1, DLC1 (Dynein LC8a), PSMD10 (Gankyrin), TIPIN, ECE1, AL1A1, PPM1F,                                                                                                                                                                                                                                                                                                                                |
| 6 |                                                                  | 9 | . | . | . | . | 9 |                                                                                                                                                                                                                                                                                                                                                                                                                                             |

|        |                                                                                 |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                                                                              |
|--------|---------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        | <a href="#">compound metabolic process</a>                                      | 8<br>6           | 9<br>6<br>0<br>E<br>-<br>0<br>5           | 2<br>4<br>0<br>E<br>-<br>0<br>3           | 9<br>6<br>0<br>E<br>-<br>0<br>5           | 2<br>4<br>0<br>E<br>-<br>0<br>3           |        | HDAC7, HEXIM1, Histone deacetylase class II, Olfactory receptor, Calmyrin, EPS8L1, HSP70, Cyclophilin E, ARID4A, LOC646817, SET, Follistatin, SMYD3, Calmodulin, eEF1A1, OBFC1, ZNF397OS, DYNLL, ICMT, ZNF397, SET/NUP214 fusion protein, Cyclin B, EYA1, GMEB1, PP2C, HSC70, TARDBP (TDP43), RUVBL1, PQBP-1 |
| 8<br>7 | <a href="#">negative regulation of cellular biosynthetic process</a>            | 1<br>4<br>9<br>4 | 8<br>.<br>6<br>8<br>2<br>E<br>-<br>0<br>5 | 2<br>.<br>4<br>1<br>5<br>E<br>-<br>0<br>3 | 8<br>.<br>6<br>8<br>2<br>E<br>-<br>0<br>5 | 2<br>.<br>4<br>1<br>5<br>E<br>-<br>0<br>3 | 1<br>8 | RBBP8 (CtIP), DLC1 (Dynein LC8a), PSMD10 (Gankyrin), TIPIN, PPM1F, HDAC7, HEXIM1, Histone deacetylase class II, HSP70, ARID4A, SET, Follistatin, DYNLL, SET/NUP214 fusion protein, Pleckstrin, PP2C, HSC70, TARDBP (TDP43)                                                                                   |
| 8<br>8 | <a href="#">regulation of kinase activity</a>                                   | 9<br>6<br>6      | 8<br>.<br>8<br>2<br>1<br>E<br>-<br>0<br>5 | 2<br>.<br>4<br>2<br>6<br>E<br>-<br>0<br>3 | 8<br>.<br>8<br>2<br>1<br>E<br>-<br>0<br>5 | 2<br>.<br>4<br>2<br>6<br>E<br>-<br>0<br>3 | 1<br>4 | Cyclin T1, Cyclin B1, PSMD10 (Gankyrin), PPM1F, HEXIM1, Calmyrin, HSP70, SMYD3, HSPA2, CKS2, Cyclin B, FOP, CAMK2N1, PP2C                                                                                                                                                                                    |
| 8<br>9 | <a href="#">cellular component biogenesis</a>                                   | 2<br>2<br>3<br>9 | 9<br>.<br>0<br>5<br>9<br>E<br>-<br>0<br>5 | 2<br>.<br>4<br>3<br>0<br>E<br>-<br>0<br>3 | 9<br>.<br>0<br>5<br>9<br>E<br>-<br>0<br>5 | 2<br>.<br>4<br>3<br>0<br>E<br>-<br>0<br>3 | 2<br>3 | Annexin V, eEF1A, Cyclin B1, PSMD10 (Gankyrin), Clp1, AL1A1, HDAC7, DARS, Histone deacetylase class II, COLEC12, HSP70, Annexin VI, LOC646817, SET, TXNRD1, SMYD3, eEF1A1, SET/NUP214 fusion protein, Cyclin B, IMD2, PDXP, RUVBL1, PQBP-1                                                                   |
| 9<br>0 | <a href="#">positive regulation of cytoskeleton organization</a>                | 1<br>6<br>4      | 9<br>.<br>1<br>1<br>2<br>E<br>-<br>0<br>5 | 2<br>.<br>4<br>3<br>0<br>E<br>-<br>0<br>3 | 9<br>.<br>4<br>1<br>2<br>E<br>-<br>0<br>5 | 2<br>.<br>4<br>1<br>2<br>E<br>-<br>0<br>3 | 6      | Cyclin B1, PPM1F, Cyclin B, Pleckstrin, PDXP, PP2C                                                                                                                                                                                                                                                           |
| 9<br>1 | <a href="#">regulation of cell migration involved in sprouting angiogenesis</a> | 2<br>0           | 9<br>.<br>1<br>3<br>0                     | 2<br>.<br>4<br>3                          | 9<br>.<br>4<br>1<br>3                     | 2<br>.<br>4<br>1<br>3                     | 3      | HDAC7, Histone deacetylase class II, Calmyrin                                                                                                                                                                                                                                                                |

|        |                                                             |                       |                                           |                                                |                                           |                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------|-------------------------------------------------------------|-----------------------|-------------------------------------------|------------------------------------------------|-------------------------------------------|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                             |                       | 8<br>E<br>-<br>0<br>5                     | 0<br>E<br>-<br>0<br>3                          | 8<br>E<br>-<br>0<br>5                     | 0<br>E<br>-<br>0<br>3                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 9<br>2 | <a href="#">regulation of cellular biosynthetic process</a> | 4<br>6<br>6<br>1      | 1<br>.<br>0<br>0<br>7<br>E<br>-<br>0<br>4 | 2<br>.<br>6<br>2<br>3<br>E<br>-<br>0<br>3      | 1<br>.<br>0<br>0<br>7<br>E<br>-<br>0<br>4 | 2<br>.<br>6<br>2<br>3<br>E<br>-<br>0<br>3      | eEF1A, RBBP8 (CtIP), Cyclin T1, DLC1 (Dynein LC8a), PSMD10 (Gankyrin), TIPIN, ECE1, PPM1F, HDAC7, HEXIM1, Histone deacetylase class II, Olfactory receptor, Calmyrin, HSP70, Cyclophilin E, ARID4A, LOC646817, SET, Follistatin, SMYD3, Calmodulin, eEF1A1, OBFC1, ZNF397OS, DYNLL, ICMT, ZNF397, SET/NUP214 fusion protein, EYA1, GMEB1, Pleckstrin, PTPN2, PP2C, HSC70, TARDBP (TDP43), RUVBL1, PQBP-1                                                                                                                                                                                                                                                                     |
| 9<br>3 | <a href="#">regulation of phosphate metabolic process</a>   | 2<br>2<br>5<br>7      | 1<br>.<br>0<br>2<br>4<br>E<br>-<br>0<br>4 | 2<br>.<br>6<br>2<br>3<br>E<br>-<br>0<br>3      | 1<br>.<br>0<br>2<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>6<br>2<br>3<br>E<br>-<br>0<br>3      | Cyclin T1, Cyclin B1, DLC1 (Dynein LC8a), PSMD10 (Gankyrin), ECE1, AL1A1, PPM1F, HEXIM1, Calmyrin, EPS8L1, HSP70, eEF2K, SMYD3, Calmodulin, HSPA2, CKS2, DYNLL, Cyclin B, Pleckstrin, PTPN2, FOP, CAMK2N1, PP2C                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 9<br>4 | <a href="#">organic cyclic compound metabolic process</a>   | 6<br>0<br>1<br>4      | 1<br>.<br>0<br>3<br>1<br>E<br>-<br>0<br>4 | 2<br>.<br>6<br>2<br>3<br>E<br>-<br>0<br>3      | 1<br>.<br>0<br>3<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>6<br>2<br>3<br>E<br>-<br>0<br>3      | FLJ22494, P5CR1, eEF1A, RBBP8 (CtIP), Cyclin T1, RY1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, Clp1, HDAC7, HEXIM1, DARS, Histone deacetylase class II, Calmyrin, HSP70, Cyclophilin E, ARID4A, LOC646817, SET, COASY, TXNRD1, SMYD3, POLE3-POLE4 complex, HSPA1A, eEF1A1, OBFC1, ZNF397OS, POLE3 (YBL1), DYNLL, ICMT, ZNF397, SET/NUP214 fusion protein, IMD2, EYA1, GMEB1, PDXP, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1                                                                                                                                                                                                                           |
| 9<br>5 | <a href="#">metabolic process</a>                           | 1<br>1<br>5<br>6<br>2 | 1<br>.<br>0<br>3<br>9<br>E<br>-<br>0<br>4 | 2<br>.<br>6<br>2<br>3<br>9<br>E<br>-<br>0<br>3 | 1<br>.<br>0<br>3<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>6<br>2<br>3<br>9<br>E<br>-<br>0<br>3 | FLJ22494, P5CR1, eEF1A, RBBP8 (CtIP), PGMU, IGHG4, Cyclin T1, RY1, Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, Clp1, ECE1, AL1A1, Fbxo3, PPM1F, HDAC7, CDO1, Cytochrome b5, HEXIM1, DARS, Histone deacetylase class II, Thioredoxin-like 2, Calmyrin, HSP70, IGHG1, Cyclophilin E, ARID4A, PGM2, eEF2K, LOC646817, SET, COASY, DPP3, TXNRD1, SMYD3, POLE3-POLE4 complex, Calmodulin, HSPA2, HSPA1A, RBP1, eEF1A1, SAE2, CKS2, OBFC1, ZNF397OS, POLE3 (YBL1), DYNLL, ICMT, DOHH, ZNF397, SET/NUP214 fusion protein, Cyclin B, IMD2, EYA1, GMEB1, Pleckstrin, PTPN2, FOP, PDXP, Fructosamine-3-kinase, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1 |
| 9<br>6 | <a href="#">negative regulation of biological process</a>   | 4<br>6                | 1<br>.                                    | 2<br>.                                         | 1<br>.                                    | 2<br>.                                         | Annexin V, Reticulon 4, RBBP8 (CtIP), Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, Clp1,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

|             |                                                                                                  |                  |                                      |                                      |                                      |                                      |                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------|--------------------------------------------------------------------------------------------------|------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                                                  | 6<br>8           | 0<br>4<br>1<br>E<br>-<br>0<br>4      | 6<br>2<br>3<br>E<br>-<br>0<br>3      | 0<br>4<br>1<br>E<br>-<br>0<br>4      | 6<br>2<br>3<br>E<br>-<br>0<br>3      | PPM1F, HDAC7, HEXIM1, Histone deacetylase class II, Thioredoxin-like 2, Calmyrin, HSP70, ARID4A, CLEC2D, SET, Follistatin, SMYD3, Calmodulin, HSPA2, HSPA1A, DYNLL, SET/NUP214 fusion protein, Cyclin B, EYA1, Pleckstrin, PTPN2, FOP, RIG-G, CAMK2N1, PP2C, HSC70, TARDBP (TDP43), PRCC                                                                                            |
| 9<br>7      | <a href="#">positive regulation of epithelial cell migration</a>                                 | 1<br>0<br>5      | 1<br>0<br>5<br>2<br>E<br>-<br>0<br>4 | 2<br>6<br>2<br>3<br>E<br>-<br>0<br>3 | 1<br>0<br>5<br>2<br>E<br>-<br>0<br>4 | 2<br>6<br>2<br>3<br>E<br>-<br>0<br>3 | PPM1F, HDAC7, Histone deacetylase class II, Calmyrin, PP2C                                                                                                                                                                                                                                                                                                                          |
| 9<br>8      | <a href="#">positive regulation of cellular process</a>                                          | 4<br>6<br>7<br>5 | 1<br>0<br>5<br>E<br>-<br>0<br>4      | 2<br>6<br>7<br>E<br>-<br>0<br>3      | 1<br>0<br>5<br>E<br>-<br>0<br>4      | 2<br>6<br>7<br>E<br>-<br>0<br>3      | Annexin V, eEF1A, Reticulon 4, Cyclin T1, Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, ECE1, AL1A1, PPM1F, HDAC7, Histone deacetylase class II, Olfactory receptor, Calmyrin, EPS8L1, HSP70, Cyclophilin E, LOC646817, TXNRD1, SMYD3, Calmodulin, HSPA2, HSPA1A, eEF1A1, OBFC1, DYNLL, ICMT, Cyclin B, EYA1, Pleckstrin, PTPN2, FOP, PDXP, PP2C, TARDBP (TDP43) |
| 9<br>9      | <a href="#">regulation of phosphorus metabolic process</a>                                       | 2<br>2<br>7<br>5 | 1<br>1<br>5<br>E<br>-<br>0<br>4      | 2<br>7<br>2<br>E<br>-<br>0<br>3      | 1<br>1<br>5<br>E<br>-<br>0<br>4      | 2<br>7<br>2<br>E<br>-<br>0<br>3      | Cyclin T1, Cyclin B1, DLC1 (Dynein LC8a), PSMD10 (Gankyrin), ECE1, AL1A1, PPM1F, HEXIM1, Calmyrin, EPS8L1, HSP70, eEF2K, SMYD3, Calmodulin, HSPA2, CKS2, DYNLL, Cyclin B, Pleckstrin, PTPN2, FOP, CAMK2N1, PP2C                                                                                                                                                                     |
| 1<br>0<br>0 | <a href="#">cellular response to iron(III) ion</a>                                               | 4                | 1<br>1<br>6<br>3<br>E<br>-<br>0<br>4 | 2<br>7<br>2<br>5<br>E<br>-<br>0<br>3 | 1<br>1<br>6<br>3<br>E<br>-<br>0<br>4 | 2<br>7<br>2<br>5<br>E<br>-<br>0<br>3 | Cyclin B1, Cyclin B                                                                                                                                                                                                                                                                                                                                                                 |
| 1<br>0<br>1 | <a href="#">positive regulation of cyclin-dependent protein serine/threonine kinase activity</a> | 4                | 1<br>1<br>6                          | 2<br>7<br>2                          | 1<br>1<br>6                          | 2<br>7<br>2                          | HSP70, HSPA2                                                                                                                                                                                                                                                                                                                                                                        |

|             |                                                                                                                                           |                       |                                                     |                                                |                                                     |                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------|------------------------------------------------|-----------------------------------------------------|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             | <a href="#">involved in G2/M transition of mitotic cell cycle</a>                                                                         |                       | 3<br>E<br>-<br>0<br>4                               | 5<br>E<br>-<br>0<br>3                          | 3<br>E<br>-<br>0<br>4                               | 5<br>E<br>-<br>0<br>3                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 1<br>0<br>2 | <a href="#">clathrin coat disassembly</a>                                                                                                 | 4                     | 1<br>.<br>1<br>6<br>3<br>E<br>-<br>0<br>4           | 2<br>.<br>7<br>2<br>5<br>E<br>-<br>0<br>3      | 1<br>.<br>1<br>6<br>3<br>E<br>-<br>0<br>4           | 2<br>.<br>7<br>2<br>5<br>E<br>-<br>0<br>3      | 2<br><br>HSP70, HSC70                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 1<br>0<br>3 | <a href="#">regulation of cyclin-dependent protein serine/threonine kinase activity involved in G2/M transition of mitotic cell cycle</a> | 4                     | 1<br>.<br>1<br>6<br>3<br>E<br>-<br>0<br>4           | 2<br>.<br>7<br>2<br>5<br>E<br>-<br>0<br>3      | 1<br>.<br>1<br>6<br>3<br>E<br>-<br>0<br>4           | 2<br>.<br>7<br>2<br>5<br>E<br>-<br>0<br>3      | 2<br><br>HSP70, HSPA2                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 1<br>0<br>4 | <a href="#">regulation of cellular metabolic process</a>                                                                                  | 6<br>4<br>4<br>6      | 1<br>.<br>1<br>7<br>7<br>1<br>E<br>-<br>0<br>4<br>6 | 2<br>.<br>7<br>2<br>5<br>E<br>-<br>0<br>3<br>4 | 1<br>.<br>1<br>7<br>2<br>5<br>E<br>-<br>0<br>3<br>4 | 2<br>.<br>7<br>2<br>5<br>E<br>-<br>0<br>3<br>4 | eEF1A, RBBP8 (CtIP), Cyclin T1, Cyclin B1, DLC1 (Dynein LC8a), PSMD10 (Gankyrin), TIPIN, ECE1, AL1A1, PPM1F, HDAC7, HEXIM1, Histone deacetylase class II, Olfactory receptor, Calmyrin, EPS8L1, HSP70, Cyclophilin E, ARID4A, eEF2K, LOC646817, SET, Follistatin, SMYD3, Calmodulin, HSPA2, eEF1A1, CKS2, OBFC1, ZNF397OS, DYNLL, ICMT, ZNF397, SET/NUP214 fusion protein, Cyclin B, EYA1, GMEB1, Pleckstrin, PTPN2, FOP, CAMK2N1, PP2C, HSC70, TARDBP (TDP43), RUVBL1, PQBP-1 |
| 1<br>0<br>5 | <a href="#">cellular protein metabolic process</a>                                                                                        | 3<br>6<br>1<br>7      | 1<br>.<br>2<br>3<br>3<br>E<br>-<br>0<br>7           | 2<br>.<br>8<br>1<br>2<br>E<br>-<br>0<br>4      | 1<br>.<br>3<br>3<br>E<br>-<br>0<br>3                | 2<br>.<br>8<br>1<br>2<br>E<br>-<br>0<br>4      | eEF1A, Cyclin T1, Cyclin B1, HSPA1B, PSMD10 (Gankyrin), Fbxo3, PPM1F, HDAC7, DARS, Histone deacetylase class II, HSP70, Cyclophilin E, ARID4A, eEF2K, SMYD3, POLE3-POLE4 complex, HSPA2, HSPA1A, eEF1A1, SAE2, POLE3 (YBL1), ICMT, DOHH, Cyclin B, EYA1, PTPN2, FOP, PDXP, PP2C, HSC70, RUVBL1                                                                                                                                                                                 |
| 1<br>0<br>6 | <a href="#">single-organism process</a>                                                                                                   | 1<br>5<br>1<br>1<br>6 | 1<br>.<br>2<br>4<br>0<br>2                          | 2<br>.<br>8<br>1<br>2<br>0<br>2                | 1<br>.<br>3<br>4<br>1<br>2                          | 2<br>.<br>8<br>1<br>2<br>0<br>2                | Annexin V, FLJ22494, P5CR1, eEF1A, Reticulon 4, RBBP8 (CtIP), PGMU, IGHG4, Cyclin T1, Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, Clp1, ECE1, AL1A1, ARL5B, PPM1F, Beta crystallin B2, HDAC7, MENA, CDO1, Cytooglobin, SNX1, HEXIM1, DARS,                                                                                                                                                                                                                |

|             |                                                             |                  |                                           |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------|-------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                             |                  | E<br>-<br>0<br>4                          | E<br>-<br>0<br>3                          | E<br>-<br>0<br>4                          | E<br>-<br>0<br>3                          |                                           | VAMP5, Histone deacetylase class II, Olfactory receptor, Thioredoxin-like 2, Calmyrin, EPS8L1, COLEC12, HSP70, IGHG1, ARID4A, Annexin VI, PGM2, CLEC2D, eEF2K, LOC646817, SET, COASY, Follistatin, TXNRD1, SMYD3, POLE3-POLE4 complex, Calmodulin, HSPA2, HSPA1A, RBP1, eEF1A1, CKS2, OR10G3, OBFC1, Annexin XI, POLE3 (YBL1), DYNLL, ICMT, DOHH, Septin 3, SET/NUP214 fusion protein, Cyclin B, IMD2, EYA1, Pleckstrin, PTPN2, FOP, RIG-G, PDXP, CAMK2N1, Fructosamine-3-kinase, PP2C, HSC70, TARDBP (TDP43), PRCC, TCOF1, RUVBL1, CapZIP, PQBP-1, VILIP1 |
| 1<br>0<br>7 | <a href="#">negative regulation of biosynthetic process</a> | 1<br>5<br>3<br>8 | 1<br>.<br>2<br>5<br>5<br>E<br>-<br>0<br>4 | 2<br>.<br>8<br>1<br>2<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>5<br>5<br>E<br>-<br>0<br>4 | 2<br>.<br>8<br>1<br>2<br>E<br>-<br>0<br>4 | 1<br>.<br>8<br>1<br>2<br>E<br>-<br>0<br>3 | RBBP8 (CtIP), DLC1 (Dynein LC8a), PSMD10 (Gankyrin), TIPIN, PPM1F, HDAC7, HEXIM1, Histone deacetylase class II, HSP70, ARID4A, SET, Follistatin, DYNLL, SET/NUP214 fusion protein, Pleckstrin, PP2C, HSC70, TARDBP (TDP43)                                                                                                                                                                                                                                                                                                                                 |
| 1<br>0<br>8 | <a href="#">response to stress</a>                          | 4<br>1<br>5<br>6 | 1<br>.<br>2<br>5<br>8<br>E<br>-<br>0<br>4 | 2<br>.<br>8<br>1<br>2<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>5<br>8<br>E<br>-<br>0<br>4 | 2<br>.<br>8<br>1<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>1<br>2<br>E<br>-<br>0<br>4 | Annexin V, IGHM, P5CR1, RBBP8 (CtIP), IGHG4, Cyclin B1, HSPA1B, PSMD10 (Gankyrin), TIPIN, ECE1, AL1A1, HDAC7, CDO1, Cytochrome, Histone deacetylase class II, Olfactory receptor, Calmyrin, COLEC12, HSP70, IGHG1, TXNRD1, Calmodulin, HSPA2, HSPA1A, Cyclin B, EYA1, Pleckstrin, PTPN2, RIG-G, PP2C, HSC70, TARDBP (TDP43), RUVBL1, CapZIP                                                                                                                                                                                                                |
| 1<br>0<br>9 | <a href="#">regulation of cytoskeleton organization</a>     | 4<br>3<br>1      | 1<br>.<br>3<br>2<br>9<br>E<br>-<br>0<br>4 | 2<br>.<br>9<br>2<br>5<br>E<br>-<br>0<br>3 | 1<br>.<br>3<br>2<br>9<br>E<br>-<br>0<br>4 | 2<br>.<br>9<br>2<br>5<br>E<br>-<br>0<br>3 | 9<br>.<br>9<br>2<br>5<br>E<br>-<br>0<br>3 | Cyclin B1, PPM1F, Histone deacetylase class II, Olfactory receptor, Calmyrin, Cyclin B, Pleckstrin, PDXP, PP2C                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 1<br>1<br>0 | <a href="#">regulation of protein phosphorylation</a>       | 1<br>2<br>6<br>7 | 1<br>.<br>3<br>2<br>9<br>E<br>-<br>0<br>4 | 2<br>.<br>9<br>2<br>5<br>E<br>-<br>0<br>3 | 1<br>.<br>3<br>2<br>9<br>E<br>-<br>0<br>4 | 2<br>.<br>9<br>2<br>5<br>E<br>-<br>0<br>3 | 6<br>.<br>9<br>2<br>5<br>E<br>-<br>0<br>3 | Cyclin T1, Cyclin B1, PSMD10 (Gankyrin), PPM1F, HEXIM1, Calmyrin, HSP70, eEF2K, SMYD3, HSPA2, CKS2, Cyclin B, PTPN2, FOP, CAMK2N1, PP2C                                                                                                                                                                                                                                                                                                                                                                                                                    |

|   |                                                                       |   |   |   |   |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---|-----------------------------------------------------------------------|---|---|---|---|---|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | <a href="#">negative regulation of myeloid cell apoptotic process</a> | 1 | 1 | 3 | 1 | 3 | 3 | HSPA1B, HSP70, HSPA1A                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1 | <a href="#">regulation of nitrogen compound metabolic process</a>     | 5 | 1 | 3 | 1 | 3 | 3 | eEF1A, RBBP8 (CtIP), Cyclin T1, Cyclin B1, DLC1 (Dynein LC8a), PSMD10 (Gankyrin), TIPIN, ECE1, AL1A1, PPM1F, HDAC7, HEXIM1, Histone deacetylase class II, Olfactory receptor, Calmyrin, EPS8L1, HSP70, Cyclophilin E, ARID4A, LOC646817, SET, Follistatin, SMYD3, Calmodulin, eEF1A1, OBFC1, ZNF397OS, DYNLL, ICMT, ZNF397, SET/NUP214 fusion protein, Cyclin B, EYA1, GMEB1, PP2C, HSC70, TARDBP (TDP43), RUVBL1, PQBP-1 |
| 1 | <a href="#">regulation of biosynthetic process</a>                    | 4 | 1 | 3 | 1 | 3 | 3 | eEF1A, RBBP8 (CtIP), Cyclin T1, DLC1 (Dynein LC8a), PSMD10 (Gankyrin), TIPIN, ECE1, PPM1F, HDAC7, HEXIM1, Histone deacetylase class II, Olfactory receptor, Calmyrin, HSP70, Cyclophilin E, ARID4A, LOC646817, SET, Follistatin, SMYD3, Calmodulin, eEF1A1, OBFC1, ZNF397OS, DYNLL, ICMT, ZNF397, SET/NUP214 fusion protein, EYA1, GMEB1, Pleckstrin, PTPN2, PP2C, HSC70, TARDBP (TDP43), RUVBL1, PQBP-1                  |
| 1 | <a href="#">regulation of myeloid cell differentiation</a>            | 2 | 1 | 3 | 1 | 3 | 7 | HSPA1B, Calmyrin, HSP70, CLEC2D, HSPA1A, RBP1, PTPN2                                                                                                                                                                                                                                                                                                                                                                      |
| 1 | <a href="#">cell division</a>                                         | 7 | 1 | 3 | 1 | 3 | 2 | RBBP8 (CtIP), Cyclin T1, Cyclin B1, TIPIN, Calmyrin, HSP70, HSPA2, CKS2, Annexin XI, Septin 3, Cyclin B, RUVBL1                                                                                                                                                                                                                                                                                                           |
| 1 | <a href="#">response to topologically incorrect protein</a>           | 8 | 1 | 3 | 1 | 3 | 6 | HSPA1B, Histone deacetylase class II, HSP70, HSPA2, HSPA1A, HSC70                                                                                                                                                                                                                                                                                                                                                         |



|             |                                                                            |                  |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                                                                                                                                                             |
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| 6           |                                                                            | 3                | 6<br>6<br>0<br>E<br>-<br>0<br>4           | 4<br>6<br>4<br>E<br>-<br>0<br>3           | 6<br>6<br>0<br>E<br>-<br>0<br>4           | 4<br>6<br>4<br>E<br>-<br>0<br>3           |                                                                                                                                                                                                                                                                                                                                                                             |
| 1<br>1<br>7 | <a href="#">regulation of protein serine/threonine kinase activity</a>     | 5<br>5<br>3      | 1<br>.<br>7<br>1<br>1<br>E<br>-<br>0<br>4 | 3<br>.<br>5<br>3<br>9<br>E<br>-<br>0<br>3 | 1<br>.<br>7<br>1<br>1<br>E<br>-<br>0<br>4 | 3<br>.<br>5<br>3<br>9<br>E<br>-<br>0<br>3 | Cyclin T1, Cyclin B1, PSMD10 (Gankyrin), HEXIM1, Calmyrin, HSP70, HSPA2, CKS2, Cyclin B, PP2C                                                                                                                                                                                                                                                                               |
| 1<br>1<br>8 | <a href="#">glycogen catabolic process</a>                                 | 2<br>5           | 1<br>.<br>8<br>1<br>4<br>E<br>-<br>0<br>4 | 3<br>.<br>7<br>2<br>1<br>E<br>-<br>0<br>3 | 1<br>.<br>8<br>1<br>4<br>E<br>-<br>0<br>4 | 3<br>.<br>7<br>2<br>1<br>E<br>-<br>0<br>3 | PGMU, PGM2, Calmodulin                                                                                                                                                                                                                                                                                                                                                      |
| 1<br>1<br>9 | <a href="#">negative regulation of nitrogen compound metabolic process</a> | 1<br>4<br>4<br>6 | 1<br>.<br>8<br>8<br>9<br>E<br>-<br>0<br>4 | 3<br>.<br>8<br>4<br>2<br>E<br>-<br>0<br>3 | 1<br>.<br>8<br>8<br>9<br>E<br>-<br>0<br>4 | 3<br>.<br>8<br>4<br>2<br>E<br>-<br>0<br>3 | RBBP8 (CtIP), DLC1 (Dynein LC8a), PSMD10 (Gankyrin), TIPIN, PPM1F, HDAC7, HEXIM1, Histone deacetylase class II, HSP70, ARID4A, SET, Follistatin, DYNLL, SET/NUP214 fusion protein, PP2C, HSC70, TARDBP (TDP43)                                                                                                                                                              |
| 1<br>2<br>0 | <a href="#">cellular biosynthetic process</a>                              | 4<br>9<br>9<br>1 | 1<br>.<br>9<br>2<br>0<br>E<br>-<br>0<br>4 | 3<br>.<br>8<br>6<br>5<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>2<br>0<br>E<br>-<br>0<br>4 | 3<br>.<br>8<br>6<br>5<br>E<br>-<br>0<br>3 | P5CR1, eEF1A, RBBP8 (CtIP), PGMU, Cyclin T1, DLC1 (Dynein LC8a), TIPIN, Clp1, AL1A1, HDAC7, CDO1, HEXIM1, DARS, Histone deacetylase class II, HSP70, ARID4A, PGM2, eEF2K, LOC646817, SET, COASY, POLE3-POLE4 complex, RBP1, eEF1A1, ZNF397OS, POLE3 (YBL1), DYNLL, ZNF397, SET/NUP214 fusion protein, IMD2, EYA1, GMEB1, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1 |
| 1<br>2<br>1 | <a href="#">spindle stabilization</a>                                      | 5                | 1<br>.<br>9<br>3                          | 3<br>.<br>8<br>6                          | 1<br>.<br>9<br>3                          | 3<br>.<br>8<br>6                          | Cyclin B1, Cyclin B                                                                                                                                                                                                                                                                                                                                                         |

|             |                                                                              |                  |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------|------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                              |                  | 3<br>E<br>-<br>0<br>4                     | 5<br>E<br>-<br>0<br>3                     | 3<br>E<br>-<br>0<br>4                     | 5<br>E<br>-<br>0<br>3                     |                                                                                                                                                                                                                                                                                                                                                                                 |
| 1<br>2<br>2 | <a href="#">regulation of microtubule polymerization or depolymerization</a> | 6<br>5           | 2<br>.<br>0<br>0<br>2<br>E<br>-<br>0<br>4 | 3<br>.<br>9<br>6<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>0<br>2<br>E<br>-<br>0<br>4 | 3<br>.<br>9<br>6<br>0<br>E<br>-<br>0<br>3 | 4<br>Cyclin B1, Histone deacetylase class II, Calmyrin, Cyclin B                                                                                                                                                                                                                                                                                                                |
| 1<br>2<br>3 | <a href="#">regulation of protein metabolic process</a>                      | 2<br>5<br>2<br>2 | 2<br>.<br>0<br>1<br>6<br>E<br>-<br>0<br>4 | 3<br>.<br>9<br>6<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>1<br>6<br>E<br>-<br>0<br>4 | 3<br>.<br>9<br>6<br>0<br>E<br>-<br>0<br>3 | 2<br>4<br>Cyclin T1, Cyclin B1, HSPA1B, PSMD10 (Gankyrin), ECE1, PPM1F, SNX1, HEXIM1, Histone deacetylase class II, Calmyrin, HSP70, eEF2K, SET, SMYD3, Calmodulin, HSPA2, HSPA1A, CKS2, SET/NUP214 fusion protein, Cyclin B, PTPN2, FOP, CAMK2N1, PP2C                                                                                                                         |
| 1<br>2<br>4 | <a href="#">glucan catabolic process</a>                                     | 2<br>6           | 2<br>.<br>0<br>4<br>4<br>E<br>-<br>0<br>4 | 3<br>.<br>9<br>6<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>4<br>4<br>E<br>-<br>0<br>3 | 3<br>.<br>9<br>6<br>0<br>E<br>-<br>0<br>3 | 3<br>PGMU, PGM2, Calmodulin                                                                                                                                                                                                                                                                                                                                                     |
| 1<br>2<br>5 | <a href="#">regulation of RNA metabolic process</a>                          | 4<br>0<br>7<br>5 | 2<br>.<br>0<br>4<br>6<br>E<br>-<br>0<br>4 | 3<br>.<br>9<br>6<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>4<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>9<br>6<br>0<br>E<br>-<br>0<br>3 | 3<br>eEF1A, RBBP8 (CtIP), Cyclin T1, Cyclin B1, DLC1 (Dynein LC8a), PSMD10 (Gankyrin), PPM1F, HDAC7, HEXIM1, Histone deacetylase class II, Olfactory receptor, Calmyrin, HSP70, Cyclophilin E, ARID4A, LOC646817, SET, Follistatin, SMYD3, eEF1A1, ZNF397OS, DYNLL, ICMT, ZNF397, SET/NUP214 fusion protein, Cyclin B, EYA1, GMEB1, PP2C, HSC70, TARDBP (TDP43), RUVBL1, PQBP-1 |
| 1<br>2<br>6 | <a href="#">regulation of cell death</a>                                     | 1<br>8<br>9<br>9 | 2<br>.<br>0<br>8<br>6<br>E                | 4<br>.<br>0<br>8<br>6<br>E                | 2<br>.<br>0<br>8<br>6<br>E                | 4<br>.<br>0<br>8<br>6<br>E                | 2<br>Annexin V, eEF1A, Reticulon 4, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), AL1A1, PPM1F, Histone deacetylase class II, Calmyrin, HSP70, SET, TXNRD1, HSPA1A, eEF1A1, DYNLL, SET/NUP214 fusion protein, EYA1, RIG-G, PP2C                                                                                                                                                |

|             |                                                                              |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                                                                                                |
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|             |                                                                              |                  | -<br>0<br>4                               | -<br>0<br>3                               | -<br>0<br>4                               | -<br>0<br>3                               |        |                                                                                                                                                                                                                                                                                                                                |
| 1<br>2<br>7 | <a href="#">phosphate-<br/>containing<br/>compound<br/>metabolic process</a> | 2<br>8<br>5<br>9 | 2<br>.<br>1<br>0<br>8<br>E<br>-<br>0<br>4 | 4<br>.<br>0<br>1<br>6<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>0<br>8<br>E<br>-<br>0<br>4 | 4<br>.<br>0<br>1<br>6<br>E<br>-<br>0<br>3 | 2<br>6 | FLJ22494, eEF1A, Cyclin T1, Cyclin B1, HSPA1B, Clp1, PPM1F, HSP70, PGM2, eEF2K, COASY, TXNRD1, Calmodulin, HSPA1A, eEF1A1, CKS2, Cyclin B, IMD2, EYA1, Pleckstrin, PTPN2, FOP, PDXP, Fructosamine-3-kinase, PP2C, HSC70                                                                                                        |
| 1<br>2<br>8 | <a href="#">regulation of growth</a>                                         | 8<br>0<br>2      | 2<br>.<br>2<br>0<br>0<br>E<br>-<br>0<br>4 | 4<br>.<br>1<br>5<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>2<br>0<br>0<br>E<br>-<br>0<br>4 | 4<br>.<br>1<br>5<br>9<br>E<br>-<br>0<br>3 | 1<br>2 | Reticulon 4, Cyclin B1, HSPA1B, PSMD10 (Gankyrin), PPM1F, Calmyrin, HSP70, HSPA1A, Cyclin B, FOP, PP2C, RUVBL1                                                                                                                                                                                                                 |
| 1<br>2<br>9 | <a href="#">cell cycle<br/>checkpoint</a>                                    | 2<br>7<br>5      | 2<br>.<br>4<br>9<br>E<br>-<br>0<br>4      | 4<br>.<br>2<br>1<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>2<br>4<br>9<br>E<br>-<br>0<br>4 | 4<br>.<br>2<br>1<br>9<br>E<br>-<br>0<br>3 | 7      | RBBP8 (CtIP), Cyclin B1, PSMD10 (Gankyrin), TIPIN, Cyclin B, PP2C, PRCC                                                                                                                                                                                                                                                        |
| 1<br>3<br>0 | <a href="#">cellular<br/>polysaccharide<br/>catabolic process</a>            | 2<br>7           | 2<br>.<br>9<br>2<br>E<br>-<br>0<br>4      | 4<br>.<br>6<br>7<br>E<br>-<br>0<br>3      | 2<br>.<br>2<br>9<br>2<br>E<br>-<br>0<br>4 | 4<br>.<br>2<br>6<br>7<br>E<br>-<br>0<br>3 | 3      | PGMU, PGM2, Calmodulin                                                                                                                                                                                                                                                                                                         |
| 1<br>3<br>1 | <a href="#">RNA metabolic<br/>process</a>                                    | 3<br>7<br>4<br>7 | 2<br>.<br>3<br>8<br>7<br>E<br>-<br>0<br>0 | 4<br>.<br>4<br>0<br>9<br>E<br>-<br>0<br>0 | 2<br>.<br>3<br>8<br>7<br>E<br>-<br>0<br>0 | 4<br>.<br>4<br>0<br>9<br>E<br>-<br>0<br>0 | 3<br>1 | eEF1A, RBBP8 (CtIP), Cyclin T1, RY1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), Clp1, HDAC7, HEXIM1, DARS, Histone deacetylase class II, HSP70, Cyclophilin E, ARID4A, LOC646817, SET, HSPA1A, eEF1A1, ZNF397OS, DYNLL, ZNF397, SET/NUP214 fusion protein, EYA1, GMEB1, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1 |

|             |                                                                                          |                  |                                                |                                           |                                                |                                           |        |                                                                                                                                                                                                                     |
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|             |                                                                                          |                  | 4                                              | 3                                         | 4                                              | 3                                         |        |                                                                                                                                                                                                                     |
| 1<br>3<br>2 | <a href="#">negative regulation of protein depolymerization</a>                          | 7<br>1           | 2<br>.<br>8<br>1<br>5<br>E<br>-<br>0<br>4      | 5<br>.<br>0<br>9<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>1<br>5<br>E<br>-<br>0<br>4      | 5<br>.<br>0<br>9<br>1<br>E<br>-<br>0<br>3 | 4      | Cyclin B1, Histone deacetylase class II, Calmyrin, Cyclin B                                                                                                                                                         |
| 1<br>3<br>3 | <a href="#">regulation of apoptotic process</a>                                          | 1<br>7<br>9<br>4 | 2<br>.<br>8<br>8<br>9<br>1<br>E<br>-<br>0<br>4 | 5<br>.<br>0<br>9<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>8<br>9<br>1<br>E<br>-<br>0<br>4 | 5<br>.<br>0<br>9<br>1<br>E<br>-<br>0<br>3 | 1<br>9 | Annexin V, eEF1A, Reticulon 4, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), AL1A1, PPM1F, Histone deacetylase class II, Calmyrin, HSP70, SET, HSPA1A, eEF1A1, DYNLL, SET/NUP214 fusion protein, EYA1, RIG-G, PP2C |
| 1<br>3<br>4 | <a href="#">positive regulation of attachment of spindle microtubules to kinetochore</a> | 6                | 2<br>.<br>8<br>9<br>0<br>E<br>-<br>0<br>4      | 5<br>.<br>0<br>9<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>9<br>0<br>E<br>-<br>0<br>4      | 5<br>.<br>0<br>9<br>1<br>E<br>-<br>0<br>3 | 2      | Cyclin B1, Cyclin B                                                                                                                                                                                                 |
| 1<br>3<br>5 | <a href="#">regulation of chromosome condensation</a>                                    | 6                | 2<br>.<br>8<br>9<br>0<br>E<br>-<br>0<br>4      | 5<br>.<br>0<br>9<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>9<br>0<br>E<br>-<br>0<br>4      | 5<br>.<br>0<br>9<br>1<br>E<br>-<br>0<br>3 | 2      | Cyclin B1, Cyclin B                                                                                                                                                                                                 |
| 1<br>3<br>6 | <a href="#">vesicle uncoating</a>                                                        | 6                | 2<br>.<br>8<br>9<br>0<br>E<br>-<br>0<br>4      | 5<br>.<br>0<br>9<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>9<br>0<br>E<br>-<br>0<br>4      | 5<br>.<br>0<br>9<br>1<br>E<br>-<br>0<br>3 | 2      | HSP70, HSC70                                                                                                                                                                                                        |

|             |                                                        |                                      |                                                                                        |                                                                                   |                                                                                   |                                                                                   |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------|--------------------------------------------------------|--------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1<br>3<br>7 | <a href="#">protein metabolic process</a>              | 4<br>5<br>1<br>9                     | 2<br>.<br>9<br>0<br>0<br>2<br>1<br>E<br>E<br>E<br>E<br>-<br>-<br>0<br>0<br>4           | 5<br>.<br>0<br>9<br>0<br>1<br>2<br>E<br>E<br>E<br>E<br>-<br>-<br>0<br>0<br>3      | 2<br>.<br>9<br>0<br>0<br>1<br>2<br>E<br>E<br>E<br>E<br>-<br>-<br>0<br>0<br>4      | 5<br>.<br>0<br>9<br>0<br>1<br>2<br>E<br>E<br>E<br>E<br>-<br>-<br>0<br>0<br>3      | 3<br>5 | eEF1A, IGHG4, Cyclin T1, Cyclin B1, HSPA1B, PSMD10 (Gankyrin), ECE1, Fbxo3, PPM1F, HDAC7, DARS, Histone deacetylase class II, HSP70, IGHG1, Cyclophilin E, ARID4A, eEF2K, DPP3, SMYD3, POLE3-POLE4 complex, HSPA2, HSPA1A, eEF1A1, SAE2, POLE3 (YBL1), ICMT, DOHH, Cyclin B, EYA1, PTPN2, FOP, PDXP, PP2C, HSC70, RUVBL1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 1<br>3<br>8 | <a href="#">organic substance biosynthetic process</a> | 5<br>0<br>8<br>7                     | 2<br>.<br>9<br>0<br>0<br>3<br>1<br>E<br>E<br>E<br>E<br>-<br>-<br>0<br>0<br>4           | 5<br>.<br>0<br>9<br>0<br>1<br>2<br>E<br>E<br>E<br>E<br>-<br>-<br>0<br>0<br>3      | 2<br>.<br>9<br>0<br>0<br>1<br>2<br>E<br>E<br>E<br>E<br>-<br>-<br>0<br>0<br>4      | 5<br>.<br>0<br>9<br>0<br>1<br>2<br>E<br>E<br>E<br>E<br>-<br>-<br>0<br>0<br>3      | 3<br>8 | P5CR1, eEF1A, RBBP8 (CtIP), PGMU, Cyclin T1, DLC1 (Dynein LC8a), TIPIN, Clp1, AL1A1, HDAC7, CDO1, HEXIM1, DARS, Histone deacetylase class II, HSP70, ARID4A, PGM2, eEF2K, LOC646817, SET, COASY, POLE3-POLE4 complex, RBP1, eEF1A1, ZNF397OS, POLE3 (YBL1), DYNLL, ZNF397, SET/NUP214 fusion protein, IMD2, EYA1, GMEB1, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 1<br>3<br>9 | <a href="#">phosphorus metabolic process</a>           | 2<br>9<br>9<br>3<br>2<br>9<br>2<br>2 | 2<br>.<br>9<br>2<br>9<br>0<br>3<br>5<br>E<br>E<br>E<br>E<br>-<br>-<br>0<br>0<br>4      | 5<br>.<br>9<br>2<br>9<br>0<br>3<br>5<br>E<br>E<br>E<br>E<br>-<br>-<br>0<br>0<br>3 | 2<br>.<br>9<br>2<br>9<br>0<br>3<br>5<br>E<br>E<br>E<br>E<br>-<br>-<br>0<br>0<br>4 | 5<br>.<br>9<br>2<br>9<br>0<br>3<br>5<br>E<br>E<br>E<br>E<br>-<br>-<br>0<br>0<br>3 | 2<br>6 | FLJ22494, eEF1A, Cyclin T1, Cyclin B1, HSPA1B, Clp1, PPM1F, HSP70, PGM2, eEF2K, COASY, TXNRD1, Calmodulin, HSPA1A, eEF1A1, CKS2, Cyclin B, IMD2, EYA1, Pleckstrin, PTPN2, FOP, PDXP, Fructosamine-3-kinase, PP2C, HSC70                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 1<br>4<br>0 | <a href="#">cellular process</a>                       | 1<br>6<br>5<br>9<br>9                | 3<br>.<br>0<br>2<br>1<br>0<br>1<br>1<br>5<br>E<br>E<br>E<br>E<br>-<br>-<br>0<br>0<br>4 | 5<br>.<br>2<br>0<br>0<br>1<br>5<br>E<br>E<br>E<br>E<br>-<br>-<br>0<br>0<br>3      | 3<br>.<br>0<br>2<br>1<br>0<br>1<br>5<br>E<br>E<br>E<br>E<br>-<br>-<br>0<br>0<br>4 | 5<br>.<br>2<br>0<br>1<br>5<br>E<br>E<br>E<br>E<br>-<br>-<br>0<br>0<br>3           | 8<br>6 | Annexin V, FLJ22494, P5CR1, eEF1A, Reticulon 4, RBBP8 (CtIP), PGMU, IGHG4, Cyclin T1, RY1, Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, Clp1, ECE1, AL1A1, ARL5B, Fbxo3, PPM1F, HDAC7, MENA, CDO1, HEXIM1, DARS, VAMP5, Histone deacetylase class II, Olfactory receptor, Thioredoxin-like 2, Calmyrin, EPS8L1, COLEC12, HSP70, IGHG1, Cyclophilin E, ARID4A, Annexin VI, PGM2, CLEC2D, eEF2K, LOC646817, SET, COASY, Follistatin, TXNRD1, SMYD3, POLE3-POLE4 complex, Calmodulin, HSPA2, HSPA1A, RBP1, eEF1A1, SAE2, CKS2, OR10G3, OBFC1, ZNF397OS, Annexin XI, POLE3 (YBL1), DYNLL, ICMT, DOHH, ZNF397, Septin 3, SET/NUP214 fusion protein, Cyclin B, IMD2, EYA1, GMEB1, Pleckstrin, PTPN2, FOP, RIG-G, PDXP, CAMK2N1, Fructosamine-3-kinase, PP2C, HSC70, TARDBP (TDP43), PRCC, TCOF1, RUVBL1, CapZIP, PQBP-1, VILIP1 |
| 1<br>4<br>1 | <a href="#">polysaccharide catabolic process</a>       | 3<br>3<br>0                          | 3<br>.<br>1<br>5                                                                       | 5<br>.<br>3<br>7                                                                  | 3<br>.<br>1<br>5                                                                  | 5<br>.<br>3<br>7                                                                  | 3      | PGMU, PGM2, Calmodulin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|             |                                                                                 |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                     |
|-------------|---------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                                 |                  | 1<br>E<br>-<br>0<br>4                     | 1<br>E<br>-<br>0<br>3                     | 1<br>E<br>-<br>0<br>4                     | 1<br>E<br>-<br>0<br>3                     |        |                                                                                                                                                                                                                     |
| 1<br>4<br>2 | <a href="#">positive regulation of cyclin-dependent protein kinase activity</a> | 3<br>0           | 3<br>.<br>1<br>5<br>1<br>E<br>-<br>0<br>4 | 5<br>.<br>3<br>7<br>1<br>E<br>-<br>0<br>4 | 3<br>.<br>1<br>5<br>1<br>E<br>-<br>0<br>3 | 5<br>.<br>3<br>7<br>1<br>E<br>-<br>0<br>3 | 3      | PSMD10 (Gankyrin), HSP70, HSPA2                                                                                                                                                                                     |
| 1<br>4<br>3 | <a href="#">regulation of programmed cell death</a>                             | 1<br>8<br>1<br>1 | 3<br>.<br>2<br>5<br>5<br>E<br>-<br>0<br>4 | 5<br>.<br>4<br>9<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>5<br>E<br>-<br>0<br>4      | 5<br>.<br>4<br>9<br>2<br>E<br>-<br>0<br>3 | 1<br>9 | Annexin V, eEF1A, Reticulon 4, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), AL1A1, PPM1F, Histone deacetylase class II, Calmyrin, HSP70, SET, HSPA1A, eEF1A1, DYNLL, SET/NUP214 fusion protein, EYA1, RIG-G, PP2C |
| 1<br>4<br>4 | <a href="#">substantia nigra development</a>                                    | 7<br>4           | 3<br>.<br>3<br>0<br>0<br>E<br>-<br>0<br>4 | 5<br>.<br>4<br>9<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>3<br>0<br>0<br>E<br>-<br>0<br>4 | 5<br>.<br>4<br>9<br>2<br>E<br>-<br>0<br>3 | 4      | DLC1 (Dynein LC8a), HSP70, Calmodulin, DYNLL                                                                                                                                                                        |
| 1<br>4<br>5 | <a href="#">negative regulation of protein complex disassembly</a>              | 7<br>4           | 3<br>.<br>3<br>0<br>0<br>E<br>-<br>0<br>4 | 5<br>.<br>4<br>9<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>3<br>0<br>0<br>E<br>-<br>0<br>4 | 5<br>.<br>4<br>9<br>2<br>E<br>-<br>0<br>3 | 4      | Cyclin B1, Histone deacetylase class II, Calmyrin, Cyclin B                                                                                                                                                         |
| 1<br>4<br>6 | <a href="#">regulation of cellular protein metabolic process</a>                | 1<br>9<br>6<br>8 | 3<br>.<br>3<br>4<br>4<br>E<br>E           | 5<br>.<br>4<br>9<br>2<br>E<br>E           | 3<br>.<br>3<br>4<br>4<br>E<br>E           | 5<br>.<br>4<br>9<br>2<br>E<br>E           | 2<br>0 | Cyclin T1, Cyclin B1, PSMD10 (Gankyrin), PPM1F, HEXIM1, Histone deacetylase class II, Calmyrin, HSP70, eEF2K, SET, SMYD3, Calmodulin, HSPA2, CKS2, SET/NUP214 fusion protein, Cyclin B, PTPN2, FOP, CAMK2N1, PP2C   |

|             |                                                               |                  |                                           |                                           |                                                |                                           |        |                                                                                                                                                                                                                                                                                                                                      |
|-------------|---------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------|-------------------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                               |                  | -<br>0<br>4                               | -<br>0<br>3                               | -<br>0<br>4                                    | -<br>0<br>3                               |        |                                                                                                                                                                                                                                                                                                                                      |
| 1<br>4<br>7 | <a href="#">mRNA metabolic process</a>                        | 7<br>1<br>8      | 3<br>.<br>3<br>5<br>4<br>E<br>-<br>0<br>4 | 5<br>.<br>4<br>9<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>3<br>5<br>4<br>E<br>-<br>0<br>4      | 5<br>.<br>4<br>9<br>2<br>E<br>-<br>0<br>3 | 1<br>1 | RY1, HSPA1B, PSMD10 (Gankyrin), Clp1, HSP70, Cyclophilin E, SET, HSPA1A, SET/NUP214 fusion protein, HSC70, TARDBP (TDP43)                                                                                                                                                                                                            |
| 1<br>4<br>8 | <a href="#">regulation of transferase activity</a>            | 1<br>0<br>9<br>9 | 3<br>.<br>3<br>5<br>9<br>E<br>-<br>0<br>4 | 5<br>.<br>4<br>9<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>3<br>5<br>9<br>2<br>E<br>-<br>0<br>4 | 5<br>.<br>4<br>9<br>2<br>E<br>-<br>0<br>3 | 1<br>4 | Cyclin T1, Cyclin B1, PSMD10 (Gankyrin), PPM1F, HEXIM1, Calmyrin, HSP70, SMYD3, HSPA2, CKS2, Cyclin B, FOP, CAMK2N1, PP2C                                                                                                                                                                                                            |
| 1<br>4<br>9 | <a href="#">cellular macromolecule biosynthetic process</a>   | 4<br>0<br>0<br>1 | 3<br>.<br>3<br>9<br>9<br>E<br>-<br>0<br>4 | 5<br>.<br>5<br>2<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>3<br>9<br>1<br>E<br>-<br>0<br>4      | 5<br>.<br>5<br>2<br>1<br>E<br>-<br>0<br>3 | 3<br>2 | eEF1A, RBBP8 (CtIP), PGMU, Cyclin T1, DLC1 (Dynein LC8a), TIPIN, Clp1, HDAC7, HEXIM1, DARS, Histone deacetylase class II, HSP70, ARID4A, PGM2, eEF2K, LOC646817, SET, POLE3-POLE4 complex, eEF1A1, ZNF397OS, POLE3 (YBL1), DYNLL, ZNF397, SET/NUP214 fusion protein, EYA1, GMEB1, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1 |
| 1<br>5<br>0 | <a href="#">negative regulation of organelle organization</a> | 2<br>9<br>7      | 3<br>.<br>5<br>8<br>3<br>E<br>-<br>0<br>4 | 5<br>.<br>7<br>8<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>8<br>3<br>E<br>-<br>0<br>4      | 5<br>.<br>7<br>8<br>1<br>E<br>-<br>0<br>3 | 7      | Cyclin B1, PSMD10 (Gankyrin), Histone deacetylase class II, Calmyrin, SET, SET/NUP214 fusion protein, Cyclin B                                                                                                                                                                                                                       |
| 1<br>5<br>1 | <a href="#">positive regulation of organelle organization</a> | 3<br>9<br>4      | 3<br>.<br>6<br>8<br>1<br>E<br>-<br>0<br>0 | 5<br>.<br>9<br>0<br>0<br>E<br>-<br>0<br>0 | 3<br>.<br>6<br>8<br>1<br>E<br>-<br>0<br>0      | 5<br>.<br>9<br>0<br>0<br>E<br>-<br>0<br>0 | 8      | Cyclin B1, DLC1 (Dynein LC8a), PPM1F, DYNLL, Cyclin B, Pleckstrin, PDXP, PP2C                                                                                                                                                                                                                                                        |

|   |                                                                                          |   |   |   |   |   |   |                                                                                                                                                                                                                                                                                                                                             |
|---|------------------------------------------------------------------------------------------|---|---|---|---|---|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                                          |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                                                                                                                             |
| 1 |                                                                                          |   | 3 | 5 | 3 | 5 |   |                                                                                                                                                                                                                                                                                                                                             |
| 5 |                                                                                          |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                             |
| 2 |                                                                                          |   | 7 | 9 | 7 | 9 |   |                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                                          |   | 1 | 0 | 1 | 0 |   |                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                                          |   | 0 | 7 | 0 | 7 |   |                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                                          | 3 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                                          | 1 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                             |
|   | <a href="#">regulation of molecular function</a>                                         | 3 | 0 | 0 | 0 | 0 | 2 | Annexin V, Cyclin T1, Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), AL1A1, PPM1F, HEXIM1, Histone deacetylase class II, Calmyrin, EPS8L1, HSP70, SET, SMYD3, Calmodulin, HSPA2, HSPA1A, SAE2, CKS2, DYNLL, SET/NUP214 fusion protein, Cyclin B, Pleckstrin, FOP, CAMK2N1, PP2C                                                  |
|   |                                                                                          | 3 | 4 | 3 | 4 | 3 | 7 |                                                                                                                                                                                                                                                                                                                                             |
| 1 |                                                                                          |   | 3 | 5 | 3 | 5 |   |                                                                                                                                                                                                                                                                                                                                             |
| 5 |                                                                                          |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                             |
| 3 |                                                                                          |   | 7 | 9 | 7 | 9 |   |                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                                          |   | 9 | 4 | 9 | 4 |   |                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                                          |   | 3 | 7 | 3 | 7 |   |                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                                          | 1 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                                          | 3 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                             |
|   | <a href="#">negative regulation of gene expression</a>                                   | 9 | 0 | 0 | 0 | 0 | 1 | RBBP8 (CtIP), Cyclin B1, PSMD10 (Gankyrin), Clp1, PPM1F, HDAC7, HEXIM1, Histone deacetylase class II, HSP70, ARID4A, SET, Follistatin, SET/NUP214 fusion protein, Cyclin B, PP2C, HSC70                                                                                                                                                     |
|   |                                                                                          | 0 | 4 | 3 | 4 | 3 | 6 |                                                                                                                                                                                                                                                                                                                                             |
| 1 |                                                                                          |   | 3 | 5 | 3 | 5 |   |                                                                                                                                                                                                                                                                                                                                             |
| 5 |                                                                                          |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                             |
| 4 |                                                                                          |   | 8 | 9 | 8 | 9 |   |                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                                          |   | 2 | 4 | 2 | 4 |   |                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                                          |   | 8 | 7 | 8 | 7 |   |                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                                          | 4 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                                          | 2 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                                          | 1 | 0 | 0 | 0 | 0 | 3 | eEF1A, RBBP8 (CtIP), Cyclin T1, RY1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), Clp1, ECE1, HDAC7, HEXIM1, DARS, Histone deacetylase class II, HSP70, Cyclophilin E, ARID4A, eEF2K, LOC646817, SET, HSPA1A, eEF1A1, ZNF397OS, DYNLL, ZNF397, SET/NUP214 fusion protein, EYA1, GMEB1, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1 |
|   | <a href="#">gene expression</a>                                                          | 0 | 4 | 3 | 4 | 3 | 3 |                                                                                                                                                                                                                                                                                                                                             |
| 1 |                                                                                          |   | 3 | 5 | 3 | 5 |   |                                                                                                                                                                                                                                                                                                                                             |
| 5 |                                                                                          |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                             |
| 5 |                                                                                          |   | 8 | 9 | 8 | 9 |   |                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                                          |   | 4 | 4 | 4 | 4 |   |                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                                          |   | 2 | 7 | 2 | 7 |   |                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                                          |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                                          |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                                          | 7 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                             |
|   | <a href="#">subthalamus development</a>                                                  | 7 | 4 | 3 | 4 | 3 | 4 | DLC1 (Dynein LC8a), HSP70, Calmodulin, DYNLL                                                                                                                                                                                                                                                                                                |
|   |                                                                                          |   | 3 | 5 | 3 | 5 |   |                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                                          |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                                          |   | 8 | 9 | 8 | 9 |   |                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                                          |   | 4 | 4 | 4 | 4 |   |                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                                          |   | 2 | 7 | 2 | 7 |   |                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                                          |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                                          |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                             |
|   |                                                                                          | 7 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                             |
|   | <a href="#">regulation of extrinsic apoptotic signaling pathway in absence of ligand</a> | 7 | 4 | 3 | 4 | 3 | 4 | HSPA1B, HSP70, HSPA1A, EYA1                                                                                                                                                                                                                                                                                                                 |



|     |                                                                                                         |       |       |       |       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----|---------------------------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 157 | <a href="#">single-organism cellular process</a>                                                        | 13489 | 38743 | 59474 | 38743 | 59474 | Annexin V, FLJ22494, P5CR1, eEF1A, Reticulon 4, RBBP8 (CtIP), PGMU, IGHG4, Cyclin T1, Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, Clp1, ECE1, AL1A1, ARL5B, PPM1F, HDAC7, MENA, CDO1, DARS, VAMP5, Histone deacetylase class II, Olfactory receptor, Thioredoxin-like 2, Calmyrin, EPS8L1, COLEC12, HSP70, IGHG1, ARID4A, Annexin VI, PGM2, CLEC2D, eEF2K, LOC646817, SET, COASY, Follistatin, TXNRD1, SMYD3, POLE3-POLE4 complex, Calmodulin, HSPA2, HSPA1A, RBP1, eEF1A1, CKS2, OR10G3, OBFC1, Annexin XI, POLE3 (YBL1), DYNLL, ICMT, Septin 3, SET/NUP214 fusion protein, Cyclin B, IMD2, EYA1, Pleckstrin, PTPN2, FOP, RIG-G, PDXP, CAMK2N1, Fructosamine-3-kinase, PP2C, HSC70, TARDBP (TDP43), PRCC, RUVBL1, PQBP-1, VILIP1 |
| 158 | <a href="#">protein homooligomerization</a>                                                             | 301   | 38743 | 59474 | 38743 | 59474 | Annexin V, eEF1A, AL1A1, COLEC12, Annexin VI, eEF1A1, IMD2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 159 | <a href="#">response to iron(III) ion</a>                                                               | 7     | 4034  | 6034  | 4034  | 6034  | Cyclin B1, Cyclin B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 160 | <a href="#">positive regulation of chromosome segregation</a>                                           | 7     | 4034  | 6034  | 4034  | 6034  | Cyclin B1, Cyclin B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 161 | <a href="#">negative regulation of protein kinase activity by regulation of protein phosphorylation</a> | 7     | 4034  | 6034  | 4034  | 6034  | PPM1F, PP2C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

|             |                                                         |                  |                                           |                                                |                                           |                                                |        |                                                                                                                                                                                                                                                                                                                                                                             |
|-------------|---------------------------------------------------------|------------------|-------------------------------------------|------------------------------------------------|-------------------------------------------|------------------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                         |                  | -<br>0<br>4                               | -<br>0<br>3                                    | -<br>0<br>4                               | -<br>0<br>3                                    |        |                                                                                                                                                                                                                                                                                                                                                                             |
| 1<br>6<br>2 | <a href="#">biosynthetic process</a>                    | 5<br>1<br>7<br>8 | 4<br>.<br>2<br>3<br>8<br>E<br>-<br>0<br>4 | 6<br>.<br>3<br>3<br>1<br>E<br>-<br>0<br>3      | 4<br>.<br>2<br>3<br>8<br>E<br>-<br>0<br>4 | 6<br>.<br>3<br>3<br>1<br>E<br>-<br>0<br>3      | 3<br>8 | P5CR1, eEF1A, RBBP8 (CtIP), PGMU, Cyclin T1, DLC1 (Dynein LC8a), TIPIN, Clp1, AL1A1, HDAC7, CDO1, HEXIM1, DARS, Histone deacetylase class II, HSP70, ARID4A, PGM2, eEF2K, LOC646817, SET, COASY, POLE3-POLE4 complex, RBP1, eEF1A1, ZNF397OS, POLE3 (YBL1), DYNLL, ZNF397, SET/NUP214 fusion protein, IMD2, EYA1, GMEB1, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1 |
| 1<br>6<br>3 | <a href="#">nucleosome assembly</a>                     | 1<br>4<br>2      | 4<br>.<br>2<br>9<br>0<br>E<br>-<br>0<br>4 | 6<br>.<br>3<br>6<br>9<br>0<br>E<br>-<br>0<br>3 | 4<br>.<br>2<br>9<br>0<br>E<br>-<br>0<br>4 | 6<br>.<br>3<br>6<br>9<br>0<br>E<br>-<br>0<br>3 | 5      | LOC646817, SET, SMYD3, SET/NUP214 fusion protein, RUVBL1                                                                                                                                                                                                                                                                                                                    |
| 1<br>6<br>4 | <a href="#">telomere maintenance</a>                    | 8<br>0           | 4<br>.<br>4<br>4<br>5<br>E<br>-<br>0<br>4 | 6<br>.<br>5<br>3<br>5<br>E<br>-<br>0<br>3      | 4<br>.<br>4<br>4<br>5<br>E<br>-<br>0<br>4 | 6<br>.<br>5<br>3<br>5<br>E<br>-<br>0<br>3      | 4      | HSPA1B, HSP70, HSPA1A, OBFC1                                                                                                                                                                                                                                                                                                                                                |
| 1<br>6<br>5 | <a href="#">macromolecule biosynthetic process</a>      | 4<br>0<br>6<br>0 | 4<br>.<br>4<br>5<br>6<br>E<br>-<br>0<br>4 | 6<br>.<br>5<br>3<br>5<br>E<br>-<br>0<br>3      | 4<br>.<br>4<br>4<br>5<br>E<br>-<br>0<br>4 | 6<br>.<br>5<br>3<br>5<br>E<br>-<br>0<br>3      | 3<br>2 | eEF1A, RBBP8 (CtIP), PGMU, Cyclin T1, DLC1 (Dynein LC8a), TIPIN, Clp1, HDAC7, HEXIM1, DARS, Histone deacetylase class II, HSP70, ARID4A, PGM2, eEF2K, LOC646817, SET, POLE3-POLE4 complex, eEF1A1, ZNF397OS, POLE3 (YBL1), DYNLL, ZNF397, SET/NUP214 fusion protein, EYA1, GMEB1, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1                                        |
| 1<br>6<br>6 | <a href="#">negative regulation of cellular process</a> | 4<br>2<br>5<br>4 | 4<br>.<br>6<br>5<br>7<br>E<br>-<br>0<br>4 | 6<br>.<br>7<br>5<br>3<br>E<br>-<br>0<br>0      | 4<br>.<br>6<br>5<br>7<br>E<br>-<br>0<br>0 | 6<br>.<br>7<br>5<br>3<br>E<br>-<br>0<br>0      | 3<br>3 | Annexin V, Reticulon 4, RBBP8 (CtIP), Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, PPM1F, HDAC7, HEXIM1, Histone deacetylase class II, Calmyrin, HSP70, ARID4A, CLEC2D, SET, Follistatin, SMYD3, HSPA1A, DYNLL, SET/NUP214 fusion protein, Cyclin B, EYA1, Pleckstrin, PTPN2, FOP, RIG-G, CAMK2N1, PP2C, HSC70, TARDBP (TDP43), PRCC                    |

|             |                                                                                |        |                                           |                                           |                                           |                                           |   |                                               |
|-------------|--------------------------------------------------------------------------------|--------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|-----------------------------------------------|
|             |                                                                                |        | 4                                         | 3                                         | 4                                         | 3                                         |   |                                               |
| 1<br>6<br>7 | <a href="#">telomere organization</a>                                          | 8<br>1 | 4<br>.<br>6<br>6<br>0<br>E<br>-<br>0<br>4 | 6<br>.<br>7<br>5<br>3<br>E<br>-<br>0<br>3 | 4<br>.<br>6<br>6<br>0<br>E<br>-<br>0<br>4 | 6<br>.<br>7<br>5<br>3<br>E<br>-<br>0<br>3 | 4 | HSPA1B, HSP70, HSPA1A, OBFC1                  |
| 1<br>6<br>8 | <a href="#">positive regulation of blood vessel endothelial cell migration</a> | 3<br>5 | 4<br>.<br>9<br>9<br>9<br>E<br>-<br>0<br>4 | 7<br>.<br>2<br>0<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>9<br>9<br>9<br>E<br>-<br>0<br>4 | 7<br>.<br>2<br>0<br>1<br>E<br>-<br>0<br>3 | 3 | HDAC7, Histone deacetylase class II, Calmyrin |
| 1<br>6<br>9 | <a href="#">galactose catabolic process</a>                                    | 8      | 5<br>.<br>3<br>6<br>4<br>E<br>-<br>0<br>4 | 7<br>.<br>6<br>3<br>6<br>E<br>-<br>0<br>3 | 5<br>.<br>3<br>6<br>4<br>E<br>-<br>0<br>4 | 7<br>.<br>6<br>3<br>6<br>E<br>-<br>0<br>3 | 2 | PGMU, PGM2                                    |
| 1<br>7<br>0 | <a href="#">positive regulation of histone phosphorylation</a>                 | 8      | 5<br>.<br>3<br>6<br>4<br>E<br>-<br>0<br>4 | 7<br>.<br>6<br>3<br>6<br>E<br>-<br>0<br>3 | 5<br>.<br>3<br>6<br>4<br>E<br>-<br>0<br>4 | 7<br>.<br>6<br>3<br>6<br>E<br>-<br>0<br>3 | 2 | Cyclin B1, Cyclin B                           |
| 1<br>7<br>1 | <a href="#">positive regulation of erythrocyte differentiation</a>             | 3<br>6 | 5<br>.<br>4<br>3<br>6<br>E<br>-<br>0<br>4 | 7<br>.<br>6<br>9<br>3<br>E<br>-<br>0<br>3 | 5<br>.<br>4<br>3<br>6<br>E<br>-<br>0<br>4 | 7<br>.<br>6<br>9<br>3<br>E<br>-<br>0<br>3 | 3 | HSPA1B, HSP70, HSPA1A                         |

|             |                                                                      |                  |                                           |                                           |                                           |                                                |        |                                                                                                                                                                                                                                                                                                                                                       |
|-------------|----------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1<br>7<br>2 | <a href="#">cellular<br/>carbohydrate<br/>catabolic process</a>      | 3<br>7           | 5<br>.<br>8<br>9<br>7<br>E<br>-<br>0<br>4 | 8<br>.<br>2<br>4<br>9<br>E<br>-<br>0<br>3 | 5<br>.<br>8<br>9<br>7<br>E<br>-<br>0<br>4 | 8<br>.<br>2<br>4<br>9<br>E<br>-<br>0<br>0<br>3 | 3      | PGMU, PGM2, Calmodulin                                                                                                                                                                                                                                                                                                                                |
| 1<br>7<br>3 | <a href="#">nitric oxide<br/>metabolic process</a>                   | 3<br>7           | 5<br>.<br>8<br>9<br>7<br>E<br>-<br>0<br>4 | 8<br>.<br>2<br>4<br>9<br>E<br>-<br>0<br>3 | 5<br>.<br>8<br>9<br>7<br>E<br>-<br>0<br>4 | 8<br>.<br>2<br>4<br>9<br>E<br>-<br>0<br>0<br>3 | 3      | DLC1 (Dynein LC8a), Calmodulin, DYNLL                                                                                                                                                                                                                                                                                                                 |
| 1<br>7<br>4 | <a href="#">chromatin<br/>assembly</a>                               | 1<br>5<br>6      | 6<br>.<br>5<br>8<br>2<br>E<br>-<br>0<br>4 | 9<br>.<br>1<br>5<br>4<br>E<br>-<br>0<br>3 | 6<br>.<br>5<br>8<br>2<br>E<br>-<br>0<br>4 | 9<br>.<br>1<br>5<br>4<br>E<br>-<br>0<br>3      | 5      | LOC646817, SET, SMYD3, SET/NUP214 fusion protein, RUVBL1                                                                                                                                                                                                                                                                                              |
| 1<br>7<br>5 | <a href="#">regulation of RNA<br/>biosynthetic<br/>process</a>       | 3<br>9<br>8<br>0 | 7<br>.<br>0<br>6<br>2<br>E<br>-<br>0<br>4 | 9<br>.<br>7<br>6<br>5<br>E<br>-<br>0<br>3 | 7<br>.<br>0<br>6<br>2<br>E<br>-<br>0<br>4 | 9<br>.<br>7<br>6<br>5<br>E<br>-<br>0<br>3      | 3<br>1 | eEF1A, RBBP8 (CtIP), Cyclin T1, DLC1 (Dynein LC8a), PSMD10 (Gankyrin), PPM1F, HDAC7, HEXIM1, Histone deacetylase class II, Olfactory receptor, Calmyrin, HSP70, Cyclophilin E, ARID4A, LOC646817, SET, Follistatin, SMYD3, eEF1A1, ZNF397OS, DYNLL, ICMT, ZNF397, SET/NUP214 fusion protein, EYA1, GMEB1, PP2C, HSC70, TARDBP (TDP43), RUVBL1, PQBP-1 |
| 1<br>7<br>6 | <a href="#">regulation of<br/>myeloid cell<br/>apoptotic process</a> | 4<br>1           | 7<br>.<br>9<br>8<br>7<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>9<br>7<br>E<br>-<br>0<br>2 | 7<br>.<br>9<br>8<br>7<br>E<br>-<br>0<br>4 | 1<br>.<br>0<br>9<br>7<br>E<br>-<br>0<br>2      | 3      | HSPA1B, HSP70, HSPA1A                                                                                                                                                                                                                                                                                                                                 |
| 1<br>7      | <a href="#">protein complex<br/>disassembly</a>                      | 1<br>6           | 8<br>.<br>1<br>.<br>.<br>.                | 1<br>.<br>8<br>.<br>.<br>.                | 1<br>.<br>8<br>.<br>.<br>.                | 1<br>.<br>8<br>.<br>.<br>.                     | 5      | Histone deacetylase class II, HSP70, SET, SET/NUP214 fusion protein, HSC70                                                                                                                                                                                                                                                                            |

|             |                                                                        |        |                                           |                                           |                                           |                                           |   |                                                |
|-------------|------------------------------------------------------------------------|--------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|------------------------------------------------|
| 7           |                                                                        | 3      | 0<br>2<br>3<br>E<br>-<br>0<br>4           | 0<br>9<br>7<br>E<br>-<br>0<br>2           | 0<br>2<br>3<br>E<br>-<br>0<br>4           | 0<br>9<br>7<br>E<br>-<br>0<br>2           |   |                                                |
| 1<br>7<br>8 | <a href="#">regulation of mitotic spindle organization</a>             | 1<br>0 | 8<br>.<br>5<br>7<br>1<br>E<br>-<br>0<br>4 | 1<br>.<br>1<br>4<br>0<br>E<br>-<br>0<br>2 | 8<br>.<br>5<br>7<br>1<br>E<br>-<br>0<br>4 | 1<br>.<br>1<br>4<br>0<br>E<br>-<br>0<br>2 | 2 | Cyclin B1, Cyclin B                            |
| 1<br>7<br>9 | <a href="#">retinoic acid biosynthetic process</a>                     | 1<br>0 | 8<br>.<br>5<br>7<br>1<br>E<br>-<br>0<br>4 | 1<br>.<br>1<br>4<br>0<br>E<br>-<br>0<br>2 | 8<br>.<br>5<br>7<br>1<br>E<br>-<br>0<br>4 | 1<br>.<br>1<br>4<br>0<br>E<br>-<br>0<br>2 | 2 | AL1A1, RBP1                                    |
| 1<br>8<br>0 | <a href="#">peptidyl-threonine dephosphorylation</a>                   | 1<br>0 | 8<br>.<br>5<br>7<br>1<br>E<br>-<br>0<br>4 | 1<br>.<br>1<br>4<br>0<br>E<br>-<br>0<br>2 | 8<br>.<br>5<br>7<br>1<br>E<br>-<br>0<br>4 | 1<br>.<br>1<br>4<br>0<br>E<br>-<br>0<br>2 | 2 | PPM1F, PP2C                                    |
| 1<br>8<br>1 | <a href="#">positive regulation of actin filament depolymerization</a> | 1<br>0 | 8<br>.<br>5<br>7<br>1<br>E<br>-<br>0<br>4 | 1<br>.<br>1<br>4<br>0<br>E<br>-<br>0<br>2 | 8<br>.<br>5<br>7<br>1<br>E<br>-<br>0<br>4 | 1<br>.<br>1<br>4<br>0<br>E<br>-<br>0<br>2 | 2 | Pleckstrin, PDXP                               |
| 1<br>8<br>2 | <a href="#">mitotic nuclear envelope disassembly</a>                   | 4<br>2 | 8<br>.<br>5<br>7                          | 1<br>.<br>1<br>4                          | 8<br>.<br>5<br>7                          | 1<br>.<br>1<br>4                          | 3 | Cyclin B1, SET/NUP214 fusion protein, Cyclin B |

|             |                                                                |                  |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------|----------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                |                  | 4<br>E<br>-<br>0<br>4                     | 0<br>E<br>-<br>0<br>2                     | 4<br>E<br>-<br>0<br>4                     | 0<br>E<br>-<br>0<br>2                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1<br>8<br>3 | <a href="#">cellular response to stimulus</a>                  | 7<br>6<br>2<br>8 | 9<br>.<br>2<br>2<br>3<br>E<br>0<br>4      | 1<br>.<br>2<br>1<br>8<br>E<br>0<br>2      | 9<br>.<br>2<br>2<br>3<br>E<br>0<br>4      | 1<br>.<br>2<br>1<br>8<br>E<br>0<br>2      | Annexin V, P5CR1, eEF1A, Reticulon 4, RBBP8 (CtIP), IGHG4, Cyclin T1, Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, AL1A1, ARL5B, PPM1F, HDAC7, MENA, Histone deacetylase class II, Olfactory receptor, Calmyrin, EPS8L1, COLEC12, HSP70, IGHG1, CLEC2D, eEF2K, Follistatin, TXNRD1, SMYD3, Calmodulin, HSPA1A, RBP1, eEF1A1, CKS2, OR10G3, DYNLL, SET/NUP214 fusion protein, Cyclin B, IMD2, EYA1, Pleckstrin, PTPN2, RIG-G, PDXP, PP2C, TARDBP (TDP43), RUVBL1, CapZIP, VILIP1 |
| 1<br>8<br>4 | <a href="#">negative regulation of protein kinase activity</a> | 2<br>5<br>3      | 9<br>.<br>2<br>6<br>4<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>1<br>8<br>E<br>-<br>0<br>2 | 9<br>.<br>2<br>6<br>4<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>1<br>8<br>E<br>-<br>0<br>2 | PPM1F, HEXIM1, SMYD3, FOP, CAMK2N1, PP2C                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 1<br>8<br>5 | <a href="#">response to unfolded protein</a>                   | 1<br>7<br>0      | 9<br>.<br>6<br>8<br>7<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>6<br>5<br>E<br>-<br>0<br>2 | 9<br>.<br>6<br>8<br>7<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>6<br>5<br>E<br>-<br>0<br>2 | HSPA1B, HSP70, HSPA2, HSPA1A, HSC70                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 1<br>8<br>6 | <a href="#">nuclear envelope disassembly</a>                   | 4<br>4           | 9<br>.<br>8<br>2<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>6<br>5<br>E<br>-<br>0<br>2 | 9<br>.<br>8<br>2<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>6<br>5<br>E<br>-<br>0<br>2 | Cyclin B1, SET/NUP214 fusion protein, Cyclin B                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 1<br>8<br>7 | <a href="#">membrane disassembly</a>                           | 4<br>4           | 9<br>.<br>8<br>2<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>6<br>5<br>E<br>-<br>0<br>2 | 9<br>.<br>8<br>2<br>8<br>E<br>-<br>0<br>4 | 1<br>.<br>2<br>6<br>5<br>E<br>-<br>0<br>2 | Cyclin B1, SET/NUP214 fusion protein, Cyclin B                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

|   |                                                                 |   |   |   |   |   |   |                                                                                                                                                                              |
|---|-----------------------------------------------------------------|---|---|---|---|---|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                 |   | E | E | E | E |   |                                                                                                                                                                              |
|   |                                                                 |   | - | - | - | - |   |                                                                                                                                                                              |
|   |                                                                 |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                              |
|   |                                                                 |   | 4 | 2 | 4 | 2 |   |                                                                                                                                                                              |
| 1 |                                                                 |   | 9 | 1 | 9 | 1 |   |                                                                                                                                                                              |
| 8 |                                                                 |   | . | . | . | . |   |                                                                                                                                                                              |
| 8 | <a href="#">positive regulation of cell-matrix adhesion</a>     | 4 | 8 | 2 | 8 | 2 |   |                                                                                                                                                                              |
| 8 |                                                                 | 4 | 2 | 6 | 2 | 6 |   |                                                                                                                                                                              |
|   |                                                                 |   | 8 | 5 | 8 | 5 |   |                                                                                                                                                                              |
|   |                                                                 |   | E | E | E | E |   |                                                                                                                                                                              |
|   |                                                                 |   | - | - | - | - |   |                                                                                                                                                                              |
|   |                                                                 |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                              |
|   |                                                                 | 4 | 4 | 2 | 4 | 2 | 3 | PPM1F, Calmyrin, PP2C                                                                                                                                                        |
| 1 |                                                                 |   | 9 | 1 | 9 | 1 |   |                                                                                                                                                                              |
| 8 |                                                                 |   | . | . | . | . |   |                                                                                                                                                                              |
| 8 | <a href="#">negative regulation of RNA biosynthetic process</a> | 1 | 8 | 2 | 8 | 2 |   |                                                                                                                                                                              |
| 9 |                                                                 | 2 | 9 | 6 | 9 | 6 |   |                                                                                                                                                                              |
|   |                                                                 | 2 | 0 | 6 | 0 | 6 |   |                                                                                                                                                                              |
|   |                                                                 | 6 | E | E | E | E |   |                                                                                                                                                                              |
|   |                                                                 |   | - | - | - | - |   |                                                                                                                                                                              |
|   |                                                                 |   | 0 | 0 | 0 | 0 | 1 | RBBP8 (CtIP), PSMD10 (Gankyrin), PPM1F, HDAC7, HEXIM1, Histone deacetylase class II, HSP70, ARID4A, SET, Follistatin, SET/NUP214 fusion protein, PP2C, HSC70, TARDBP (TDP43) |
|   |                                                                 | 4 | 4 | 2 | 4 | 2 | 4 |                                                                                                                                                                              |
| 1 |                                                                 |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                              |
| 9 |                                                                 |   | . | . | . | . |   |                                                                                                                                                                              |
| 0 | <a href="#">regulation of vasoconstriction</a>                  | 1 | 0 | 3 | 0 | 3 |   |                                                                                                                                                                              |
|   |                                                                 | 0 | 3 | 0 | 3 | 0 |   |                                                                                                                                                                              |
|   |                                                                 |   | 0 | 7 | 0 | 7 |   |                                                                                                                                                                              |
|   |                                                                 |   | E | E | E | E |   |                                                                                                                                                                              |
|   |                                                                 |   | - | - | - | - |   |                                                                                                                                                                              |
|   |                                                                 |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                              |
|   |                                                                 | 0 | 3 | 2 | 3 | 2 | 4 | HSPA1B, ECE1, HSP70, HSPA1A                                                                                                                                                  |
| 1 |                                                                 |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                              |
| 9 |                                                                 |   | . | . | . | . |   |                                                                                                                                                                              |
| 1 | <a href="#">regulation of histone phosphorylation</a>           | 1 | 0 | 3 | 0 | 3 |   |                                                                                                                                                                              |
|   |                                                                 | 1 | 4 | 0 | 4 | 0 |   |                                                                                                                                                                              |
|   |                                                                 |   | 5 | 7 | 5 | 7 |   |                                                                                                                                                                              |
|   |                                                                 |   | E | E | E | E |   |                                                                                                                                                                              |
|   |                                                                 |   | - | - | - | - |   |                                                                                                                                                                              |
|   |                                                                 |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                              |
|   |                                                                 | 1 | 3 | 2 | 3 | 2 | 2 | Cyclin B1, Cyclin B                                                                                                                                                          |
| 1 |                                                                 |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                              |
| 9 |                                                                 |   | . | . | . | . |   |                                                                                                                                                                              |
| 2 | <a href="#">cellular response to iron ion</a>                   | 1 | 0 | 3 | 0 | 3 |   |                                                                                                                                                                              |
|   |                                                                 | 1 | 4 | 0 | 4 | 0 |   |                                                                                                                                                                              |
|   |                                                                 |   | 5 | 7 | 5 | 7 |   |                                                                                                                                                                              |
|   |                                                                 |   | E | E | E | E |   |                                                                                                                                                                              |
|   |                                                                 |   | - | - | - | - |   |                                                                                                                                                                              |
|   |                                                                 |   | - | - | - | - | 2 | Cyclin B1, Cyclin B                                                                                                                                                          |

|             |                                                                  |                  |                            |                            |                            |                            |        |                                                                                                                                                                                                                                                                                                                                                                     |
|-------------|------------------------------------------------------------------|------------------|----------------------------|----------------------------|----------------------------|----------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                  |                  | 0<br>3                     | 0<br>2                     | 0<br>3                     | 0<br>2                     |        |                                                                                                                                                                                                                                                                                                                                                                     |
| 1<br>9<br>3 | <a href="#">diterpenoid biosynthetic process</a>                 | 1<br>1           | 1<br>0<br>4<br>5<br>E<br>- | 1<br>3<br>0<br>7<br>E<br>- | 1<br>0<br>4<br>5<br>E<br>- | 1<br>3<br>0<br>7<br>E<br>- | 2      | AL1A1, RBP1                                                                                                                                                                                                                                                                                                                                                         |
| 1<br>9<br>4 | <a href="#">nucleosome organization</a>                          | 1<br>7<br>3      | 1<br>0<br>3<br>7<br>E<br>- | 1<br>0<br>2<br>7<br>E<br>- | 1<br>0<br>3<br>7<br>E<br>- | 1<br>3<br>2<br>7<br>E<br>- | 5      | LOC646817, SET, SMYD3, SET/NUP214 fusion protein, RUVBL1                                                                                                                                                                                                                                                                                                            |
| 1<br>9<br>5 | <a href="#">macromolecular complex disassembly</a>               | 1<br>7<br>4      | 1<br>0<br>3<br>5<br>E<br>- | 1<br>0<br>2<br>4<br>E<br>- | 1<br>0<br>3<br>5<br>E<br>- | 1<br>3<br>2<br>4<br>E<br>- | 5      | Histone deacetylase class II, HSP70, SET, SET/NUP214 fusion protein, HSC70                                                                                                                                                                                                                                                                                          |
| 1<br>9<br>6 | <a href="#">regulation of macromolecule biosynthetic process</a> | 4<br>4<br>5<br>5 | 1<br>0<br>8<br>8<br>E<br>- | 1<br>3<br>4<br>2<br>E<br>- | 1<br>0<br>8<br>2<br>E<br>- | 1<br>3<br>4<br>8<br>E<br>- | 3<br>3 | eEF1A, RBBP8 (CtIP), Cyclin T1, DLC1 (Dynein LC8a), PSMD10 (Gankyrin), TIPIN, PPM1F, HDAC7, HEXIM1, Histone deacetylase class II, Olfactory receptor, Calmyrin, HSP70, Cyclophilin E, ARID4A, LOC646817, SET, Follistatin, SMYD3, eEF1A1, OBFC1, ZNF397OS, DYNLL, ICMT, ZNF397, SET/NUP214 fusion protein, EYA1, GMEB1, PP2C, HSC70, TARDBP (TDP43), RUVBL1, PQBP-1 |
| 1<br>9<br>7 | <a href="#">cellular response to stress</a>                      | 1<br>6<br>8<br>5 | 1<br>0<br>9<br>2<br>E<br>- | 1<br>3<br>4<br>2<br>E<br>- | 1<br>0<br>9<br>2<br>E<br>- | 1<br>3<br>4<br>2<br>E<br>- | 1<br>7 | P5CR1, RBBP8 (CtIP), Cyclin B1, HSPA1B, PSMD10 (Gankyrin), TIPIN, Histone deacetylase class II, Calmyrin, HSP70, TXNRD1, HSPA1A, Cyclin B, EYA1, PP2C, TARDBP (TDP43), RUVBL1, CapZIP                                                                                                                                                                               |



|             |                                                                 |                  |                                                |                                           |                                                |                                           |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------|-----------------------------------------------------------------|------------------|------------------------------------------------|-------------------------------------------|------------------------------------------------|-------------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1<br>9<br>8 | <a href="#">regulation of<br/>epithelial cell<br/>migration</a> | 1<br>7<br>6      | 1<br>.<br>1<br>3<br>7<br>1<br>E<br>E           | 1<br>.<br>3<br>7<br>5<br>E<br>E           | 1<br>.<br>1<br>3<br>7<br>1<br>E<br>E           | 1<br>.<br>3<br>7<br>5<br>E<br>E           | 5      | PPM1F, HDAC7, Histone deacetylase class II, Calmyrin, PP2C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 1<br>9<br>9 | <a href="#">protein-DNA<br/>complex assembly</a>                | 1<br>7<br>6      | 1<br>.<br>1<br>3<br>7<br>1<br>E<br>E           | 1<br>.<br>3<br>7<br>5<br>E<br>E           | 1<br>.<br>1<br>3<br>7<br>1<br>E<br>E           | 1<br>.<br>3<br>7<br>5<br>E<br>E           | 5      | LOC646817, SET, SMYD3, SET/NUP214 fusion protein, RUVBL1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 2<br>0<br>0 | <a href="#">response to<br/>stimulus</a>                        | 9<br>6<br>8<br>0 | 1<br>.<br>1<br>3<br>5<br>8<br>E<br>-<br>0<br>3 | 1<br>.<br>3<br>9<br>9<br>E<br>-<br>0<br>2 | 1<br>.<br>1<br>3<br>5<br>8<br>E<br>-<br>0<br>3 | 1<br>.<br>3<br>9<br>9<br>E<br>-<br>0<br>2 | 5<br>8 | Annexin V, IGHM, P5CR1, eEF1A, Reticulon 4, RBBP8 (CtIP), PGMU, IGHG4, Cyclin T1, Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, ECE1, AL1A1, ARL5B, PPM1F, Beta crystallin B2, HDAC7, MENA, CDO1, Cytoglobin, Histone deacetylase class II, Olfactory receptor, Calmyrin, EPS8L1, COLEC12, HSP70, IGHG1, CLEC2D, eEF2K, Follistatin, TXNRD1, SMYD3, Calmodulin, HSPA2, HSPA1A, RBP1, eEF1A1, CKS2, OR10G3, Annexin XI, DYNLL, SET/NUP214 fusion protein, Cyclin B, IMD2, EYA1, Pleckstrin, PTPN2, RIG-G, PDXP, PP2C, HSC70, TARDBP (TDP43), RUVBL1, CapZIP, VILIP1 |
| 2<br>0<br>1 | <a href="#">cellular component<br/>disassembly</a>              | 4<br>7<br>0      | 1<br>.<br>1<br>6<br>2<br>E<br>-<br>0<br>3      | 1<br>.<br>3<br>9<br>9<br>E<br>-<br>0<br>2 | 1<br>.<br>1<br>6<br>2<br>E<br>-<br>0<br>3      | 1<br>.<br>1<br>6<br>2<br>E<br>-<br>0<br>2 | 8      | Cyclin B1, Histone deacetylase class II, HSP70, SET, HSPA2, SET/NUP214 fusion protein, Cyclin B, HSC70                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 2<br>0<br>2 | <a href="#">protein<br/>dephosphorylation</a>                   | 1<br>7<br>8      | 1<br>.<br>1<br>8<br>9<br>E<br>-<br>0<br>3      | 1<br>.<br>4<br>2<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>1<br>8<br>9<br>E<br>-<br>0<br>3      | 1<br>.<br>4<br>2<br>9<br>E<br>-<br>0<br>2 | 5      | PPM1F, EYA1, PTPN2, PDXP, PP2C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|     |                                                                                         |      |                                           |                                           |                                                |                                           |        |                                                                                                                                                                                                                                                                                                                                                               |
|-----|-----------------------------------------------------------------------------------------|------|-------------------------------------------|-------------------------------------------|------------------------------------------------|-------------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 203 | <a href="#">regulation of cellular macromolecule biosynthetic process</a>               | 422  | 1<br>.<br>2<br>0<br>5<br>E                | 1<br>.<br>4<br>3<br>4<br>E                | 1<br>.<br>2<br>0<br>5<br>E                     | 1<br>.<br>4<br>3<br>4<br>E                | 3<br>1 | eEF1A, RBBP8 (CtIP), Cyclin T1, DLC1 (Dynein LC8a), PSMD10 (Gankyrin), TIPIN, PPM1F, HDAC7, HEXIM1, Histone deacetylase class II, Olfactory receptor, Calmyrin, HSP70, Cyclophilin E, ARID4A, LOC646817, SET, Follistatin, SMYD3, eEF1A1, OBFC1, ZNF397OS, DYNLL, ZNF397, SET/NUP214 fusion protein, EYA1, GMEB1, PP2C, HSC70, TARDBP (TDP43), RUVBL1, PQBP-1 |
| 204 | <a href="#">negative regulation of nucleobase-containing compound metabolic process</a> | 1398 | 1<br>.<br>2<br>0<br>9<br>E<br>3<br>9<br>8 | 1<br>.<br>4<br>3<br>4<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>0<br>9<br>E<br>-<br>0<br>2      | 1<br>.<br>4<br>3<br>4<br>E<br>-<br>0<br>3 | 1<br>5 | RBBP8 (CtIP), PSMD10 (Gankyrin), TIPIN, PPM1F, HDAC7, HEXIM1, Histone deacetylase class II, HSP70, ARID4A, SET, Follistatin, SET/NUP214 fusion protein, PP2C, HSC70, TARDBP (TDP43)                                                                                                                                                                           |
| 205 | <a href="#">regulation of cellular component biogenesis</a>                             | 591  | 1<br>.<br>2<br>4<br>6<br>E<br>-<br>9<br>1 | 1<br>.<br>4<br>6<br>8<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>4<br>6<br>8<br>E<br>-<br>0<br>2 | 1<br>.<br>4<br>6<br>8<br>E<br>-<br>0<br>3 | 9      | HSPA1B, PPM1F, Histone deacetylase class II, EPS8L1, HSP70, HSPA2, HSPA1A, Pleckstrin, PP2C                                                                                                                                                                                                                                                                   |
| 206 | <a href="#">positive regulation of cell cycle</a>                                       | 180  | 1<br>.<br>2<br>4<br>9<br>E<br>-<br>8<br>0 | 1<br>.<br>4<br>6<br>8<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>4<br>9<br>E<br>-<br>0<br>2      | 1<br>.<br>4<br>6<br>8<br>E<br>-<br>0<br>3 | 5      | Cyclin B1, PSMD10 (Gankyrin), HSP70, HSPA2, Cyclin B                                                                                                                                                                                                                                                                                                          |
| 207 | <a href="#">binding of sperm to zona pellucida</a>                                      | 48   | 1<br>.<br>2<br>6<br>7<br>E<br>-<br>4<br>8 | 1<br>.<br>4<br>8<br>1<br>E<br>-<br>3<br>2 | 1<br>.<br>2<br>6<br>7<br>E<br>-<br>0<br>3      | 1<br>.<br>4<br>8<br>1<br>E<br>-<br>0<br>2 | 3      | HSPA1B, HSP70, HSPA1A                                                                                                                                                                                                                                                                                                                                         |
| 208 | <a href="#">cellular protein modification process</a>                                   | 26   | 1<br>.<br>1<br>.<br>1<br>.<br>1<br>.      | 1<br>.<br>1<br>.<br>1<br>.<br>1<br>.      | 1<br>.<br>1<br>.<br>1<br>.<br>1<br>.           | 1<br>.<br>1<br>.<br>1<br>.<br>1<br>.      | 23     | Cyclin T1, Cyclin B1, PSMD10 (Gankyrin), Fbxo3, PPM1F, HDAC7, Histone deacetylase class II, Cyclophilin E,                                                                                                                                                                                                                                                    |

|             |                                                              |                  |                                                |                                                |                                                |                                                |                                                                                                                                                                                                                                                                                                                                                 |
|-------------|--------------------------------------------------------------|------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8           |                                                              | 9<br>0           | 2<br>8<br>5<br>E<br>-<br>0<br>3                | 4<br>8<br>8<br>E<br>-<br>0<br>2                | 2<br>8<br>5<br>E<br>-<br>0<br>3                | 4<br>8<br>8<br>E<br>-<br>0<br>2                | ARID4A, eEF2K, SMYD3, POLE3-POLE4 complex, SAE2, POLE3 (YBL1), ICMT, DOHH, Cyclin B, EYA1, PTPN2, FOP, PDXP, PP2C, RUVBL1                                                                                                                                                                                                                       |
| 2<br>0<br>9 | <a href="#">protein modification process</a>                 | 2<br>6<br>9<br>0 | 1<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>3      | 1<br>.<br>4<br>8<br>8<br>E<br>-<br>0<br>2      | 1<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>3      | 1<br>.<br>4<br>8<br>5<br>E<br>-<br>0<br>2      | Cyclin T1, Cyclin B1, PSMD10 (Gankyrin), Fbxo3, PPM1F, HDAC7, Histone deacetylase class II, Cyclophilin E, ARID4A, eEF2K, SMYD3, POLE3-POLE4 complex, SAE2, POLE3 (YBL1), ICMT, DOHH, Cyclin B, EYA1, PTPN2, FOP, PDXP, PP2C, RUVBL1                                                                                                            |
| 2<br>1<br>0 | <a href="#">regulation of transcription, DNA-templated</a>   | 3<br>9<br>3<br>8 | 1<br>.<br>2<br>9<br>9<br>E<br>-<br>0<br>3<br>8 | 1<br>.<br>4<br>9<br>7<br>E<br>-<br>0<br>2<br>3 | 1<br>.<br>2<br>9<br>7<br>E<br>-<br>0<br>3<br>2 | 1<br>.<br>4<br>9<br>7<br>E<br>-<br>0<br>2<br>3 | eEF1A, RBBP8 (CtIP), Cyclin T1, DLC1 (Dynein LC8a), PSMD10 (Gankyrin), PPM1F, HDAC7, HEXIM1, Histone deacetylase class II, Olfactory receptor, Calmyrin, HSP70, Cyclophilin E, ARID4A, LOC646817, SET, Follistatin, SMYD3, eEF1A1, ZNF397OS, DYNLL, ZNF397, SET/NUP214 fusion protein, EYA1, GMEB1, PP2C, HSC70, TARDBP (TDP43), RUVBL1, PQBP-1 |
| 2<br>1<br>1 | <a href="#">cellular response to heat</a>                    | 4<br>9           | 1<br>.<br>3<br>4<br>6<br>E<br>-<br>0<br>3      | 1<br>.<br>5<br>4<br>3<br>E<br>-<br>0<br>2      | 1<br>.<br>3<br>4<br>6<br>E<br>-<br>0<br>3      | 1<br>.<br>5<br>4<br>3<br>E<br>-<br>0<br>2      | HSPA1B, HSP70, HSPA1A                                                                                                                                                                                                                                                                                                                           |
| 2<br>1<br>2 | <a href="#">negative regulation of RNA metabolic process</a> | 1<br>2<br>6<br>7 | 1<br>.<br>3<br>5<br>4<br>E<br>-<br>0<br>3      | 1<br>.<br>5<br>4<br>6<br>E<br>-<br>0<br>2      | 1<br>.<br>3<br>5<br>4<br>E<br>-<br>0<br>3      | 1<br>.<br>5<br>4<br>6<br>E<br>-<br>0<br>2      | RBBP8 (CtIP), PSMD10 (Gankyrin), PPM1F, HDAC7, HEXIM1, Histone deacetylase class II, HSP70, ARID4A, SET, Follistatin, SET/NUP214 fusion protein, PP2C, HSC70, TARDBP (TDP43)                                                                                                                                                                    |
| 2<br>1<br>3 | <a href="#">chromatin assembly or disassembly</a>            | 1<br>8<br>4      | 1<br>.<br>3<br>7                               | 1<br>.<br>5<br>6                               | 1<br>.<br>3<br>7                               | 1<br>.<br>5<br>6                               | LOC646817, SET, SMYD3, SET/NUP214 fusion protein, RUVBL1                                                                                                                                                                                                                                                                                        |

|             |                                                                                 |                  |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                                                     |
|-------------|---------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                                 |                  | 7<br>E<br>-<br>0<br>3                     | 5<br>E<br>-<br>0<br>2                     | 7<br>E<br>-<br>0<br>3                     | 5<br>E<br>-<br>0<br>2                     |                                                                                                                                                                                                                                                                     |
| 2<br>1<br>4 | <a href="#">single organism reproductive process</a>                            | 1<br>4<br>1<br>8 | 1<br>.<br>3<br>9<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>5<br>7<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>3<br>9<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>5<br>7<br>5<br>E<br>-<br>0<br>2 | Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, AL1A1, CDO1, Olfactory receptor, Calmyrin, HSP70, Follistatin, HSPA2, HSPA1A, DYNLL, Cyclin B, PP2C, RUVBL1                                                                                                                  |
| 2<br>1<br>5 | <a href="#">response to organic substance</a>                                   | 3<br>4<br>1<br>4 | 1<br>.<br>4<br>3<br>2<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>1<br>1<br>E<br>-<br>0<br>2 | 1<br>.<br>4<br>3<br>2<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>1<br>1<br>E<br>-<br>0<br>2 | Annexin V, eEF1A, Reticulon 4, Cyclin T1, Cyclin B1, HSPA1B, AL1A1, CDO1, Histone deacetylase class II, Calmyrin, COLEC12, HSP70, eEF2K, SMYD3, Calmodulin, HSPA2, HSPA1A, RBP1, eEF1A1, SET/NUP214 fusion protein, Cyclin B, IMD2, PTPN2, RIG-G, PDXP, PP2C, HSC70 |
| 2<br>1<br>6 | <a href="#">negative regulation of transferase activity</a>                     | 3<br>7<br>7      | 1<br>.<br>4<br>5<br>2<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>2<br>7<br>E<br>-<br>0<br>2 | 1<br>.<br>4<br>5<br>2<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>2<br>7<br>E<br>-<br>0<br>2 | PSMD10 (Gankyrin), PPM1F, HEXIM1, SMYD3, FOP, CAMK2N1, PP2C                                                                                                                                                                                                         |
| 2<br>1<br>7 | <a href="#">regulation of attachment of spindle microtubules to kinetochore</a> | 1<br>3           | 1<br>.<br>4<br>7<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>3<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>4<br>7<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>3<br>5<br>E<br>-<br>0<br>2 | Cyclin B1, Cyclin B                                                                                                                                                                                                                                                 |
| 2<br>1<br>8 | <a href="#">regulation of neurotransmitter levels</a>                           | 1<br>8<br>7      | 1<br>.<br>4<br>7<br>9<br>E                | 1<br>.<br>6<br>3<br>5<br>E                | 1<br>.<br>4<br>7<br>9<br>E                | 1<br>.<br>6<br>3<br>5<br>E                | DLC1 (Dynein LC8a), VAMP5, HSP70, DYNLL, HSC70                                                                                                                                                                                                                      |

|   |                                     |   |   |   |   |   |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|---|-------------------------------------|---|---|---|---|---|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                     |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                     |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                     |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2 | <a href="#">multicellular</a>       |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1 | <a href="#">organismal</a>          |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
| 9 | <a href="#">reproductive</a>        |   | 4 | 6 | 4 | 6 |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|   | <a href="#">process</a>             |   | 8 | 3 | 8 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                     |   | 0 | 5 | 0 | 5 |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                     | 1 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                     | 1 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                     | 3 | 0 | 0 | 0 | 0 | 1 | Cyclin B1, DLC1 (Dynein LC8a), AL1A1, CDO1, Olfactory receptor, Calmyrin, HSP70, Follistatin, HSPA2, DYNLL, Cyclin B, PP2C, RUVBL1                                                                                                                                                                                                                                                                      |
|   |                                     | 5 | 3 | 2 | 3 | 2 | 3 |                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2 | <a href="#">negative regulation</a> |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2 | <a href="#">of macromolecule</a>    |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2 | <a href="#">biosynthetic</a>        |   | 5 | 6 | 5 | 6 |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
| 0 | <a href="#">process</a>             |   | 1 | 6 | 1 | 6 |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                     |   | 4 | 6 | 4 | 6 |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                     | 1 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                     | 4 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                     | 3 | 0 | 0 | 0 | 0 | 1 | RBBP8 (CtIP), PSMD10 (Gankyrin), TIPIN, PPM1F, HDAC7, HEXIM1, Histone deacetylase class II, HSP70, ARID4A, SET, Follistatin, SET/NUP214 fusion protein, PP2C, HSC70, TARDBP (TDP43)                                                                                                                                                                                                                     |
|   |                                     | 0 | 3 | 2 | 3 | 2 | 5 |                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2 | <a href="#">anatomical</a>          |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2 | <a href="#">structure</a>           |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1 | <a href="#">development</a>         |   | 5 | 7 | 5 | 7 |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                     |   | 5 | 0 | 5 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                     |   | 9 | 7 | 9 | 7 |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                     | 5 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                     | 7 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                     | 1 | 0 | 0 | 0 | 0 | 3 | Reticulon 4, RBBP8 (CtIP), Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, Clp1, ECE1, AL1A1, Beta crystallin B2, HDAC7, MENA, CDO1, HEXIM1, VAMP5, Histone deacetylase class II, Olfactory receptor, Calmyrin, HSP70, ARID4A, LOC646817, Follistatin, TXNRD1, SMYD3, Calmodulin, HSPA2, HSPA1A, DYNLL, ICMT, Cyclin B, IMD2, EYA1, Pleckstrin, PTPN2, Fructosamine-3-kinase, PP2C, HSC70, TCOF1, PQBP-1, VILIP1 |
|   |                                     | 8 | 3 | 2 | 3 | 2 | 9 |                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2 | <a href="#">reproduction</a>        |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2 |                                     |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2 |                                     |   | 5 | 7 | 5 | 7 |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2 |                                     |   | 7 | 1 | 7 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                     |   | 0 | 1 | 0 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                     | 1 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                     | 7 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                     | 4 | 0 | 0 | 0 | 0 | 1 | RBBP8 (CtIP), Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, AL1A1, CDO1, Olfactory receptor, Calmyrin, HSP70, Follistatin, HSPA2, HSPA1A, CKS2, DYNLL, Cyclin B, PP2C, RUVBL1                                                                                                                                                                                                                                  |
|   |                                     | 2 | 3 | 2 | 3 | 2 | 7 |                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2 | <a href="#">negative regulation</a> |   | 1 | 1 | 1 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
| 2 | <a href="#">of kinase activity</a>  |   | . | . | . | . |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3 |                                     |   | 6 | 7 | 6 | 7 |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                     |   | 1 | 5 | 1 | 5 |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                     |   | 4 | 1 | 4 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                     | 2 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                     | 8 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                     | 2 | 0 | 0 | 0 | 0 | 6 | PPM1F, HEXIM1, SMYD3, FOP, CAMK2N1, PP2C                                                                                                                                                                                                                                                                                                                                                                |

|   |                                                     |   |   |   |   |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---|-----------------------------------------------------|---|---|---|---|---|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                     |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 2 | <a href="#">regulation of spindle organization</a>  | 1 | 1 | 1 | 1 | 1 | 2 | Cyclin B1, Cyclin B                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 2 |                                                     | 4 | 7 | 8 | 7 | 8 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 4 |                                                     |   | 1 | 4 | 1 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                                                     |   | 3 | 3 | 3 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                                                     |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                                                     |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                                                     |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                                                     |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 2 | <a href="#">terpenoid biosynthetic process</a>      | 1 | 1 | 1 | 1 | 1 | 2 | AL1A1, RBP1                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 2 |                                                     | 4 | 7 | 8 | 7 | 8 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 5 |                                                     |   | 1 | 4 | 1 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                                                     |   | 3 | 3 | 3 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                                                     |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                                                     |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                                                     |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                                                     |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 2 | <a href="#">multicellular organism reproduction</a> | 1 | 1 | 1 | 1 | 1 | 1 | Cyclin B1, DLC1 (Dynein LC8a), AL1A1, CDO1, Olfactory receptor, Calmyrin, HSP70, Follistatin, HSPA2, DYNLL, Cyclin B, PP2C, RUVBL1                                                                                                                                                                                                                                                                                                                                               |
| 2 |                                                     | 5 | 7 | 8 | 7 | 8 | 3 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 6 |                                                     | 6 | 4 | 6 | 4 | 6 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                                                     |   | 2 | 6 | 2 | 6 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                                                     |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                                                     |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                                                     |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                                                     |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 2 | <a href="#">sexual reproduction</a>                 | 1 | 1 | 1 | 1 | 1 | 2 | Annexin V, eEF1A, Reticulon 4, RBBP8 (CtIP), PGMU, IGHG4, Cyclin T1, Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, Clp1, ECE1, AL1A1, ARL5B, PPM1F, HDAC7, MENA, CDO1, SNX1, HEXIM1, VAMP5, Histone deacetylase class II, Olfactory receptor, Thioredoxin-like 2, Calmyrin, EPS8L1, COLEC12, HSP70, IGHG1, Cyclophilin E, ARID4A, Annexin VI, CLEC2D, eEF2K, LOC646817, SET, Follistatin, TXNRD1, SMYD3, Calmodulin, HSPA2, HSPA1A, RBP1, eEF1A1, SAE2, CKS2, |
| 2 |                                                     | 0 | 8 | 9 | 8 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 2 |                                                     | 1 | 0 | 2 | 0 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 7 |                                                     | 9 | 4 | 4 | 4 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                                                     |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                                                     |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                                                     |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                                                     |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 2 | <a href="#">biological regulation</a>               | 1 | 1 | 1 | 1 | 1 | 7 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 2 |                                                     | 4 | 8 | 9 | 8 | 9 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 8 |                                                     | 7 | 7 | 8 | 7 | 8 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                                                     |   | 1 | 7 | 6 | 7 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                                                     |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                                                     |   | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                                                     |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|   |                                                     |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

|             |                                                                          |             |                                           |                                           |                                           |                                           |                                                                                                                                                                                                         |
|-------------|--------------------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                          |             |                                           |                                           |                                           |                                           | OR10G3, OBFC1, ZNF397OS, DYNLL, ICMT, ZNF397, SET/NUP214 fusion protein, Cyclin B, EYA1, GMEB1, Pleckstrin, PTPN2, FOP, RIG-G, PDXP, CAMK2N1, PP2C, HSC70, TARDBP (TDP43), PRCC, RUVBL1, PQBP-1, VILIP1 |
| 2<br>2<br>9 | <a href="#">positive regulation of actin filament bundle assembly</a>    | 5<br>5      | 1<br>.<br>8<br>8<br>0<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>8<br>6<br>E<br>-<br>0<br>2 | 1<br>.<br>8<br>8<br>0<br>E<br>-<br>0<br>3 | 1<br>.<br>9<br>8<br>6<br>E<br>-<br>0<br>2 | 3<br>PPM1F, Pleckstrin, PP2C                                                                                                                                                                            |
| 2<br>3<br>0 | <a href="#">protein folding</a>                                          | 2<br>9<br>2 | 1<br>.<br>9<br>2<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>2<br>4<br>E<br>-<br>0<br>2 | 1<br>.<br>9<br>2<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>2<br>4<br>E<br>-<br>0<br>2 | 6<br>HSPA1B, HSP70, Cyclophilin E, HSPA2, HSPA1A, HSC70                                                                                                                                                 |
| 2<br>3<br>1 | <a href="#">negative regulation of nitric oxide biosynthetic process</a> | 1<br>5      | 1<br>.<br>9<br>7<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>5<br>6<br>E<br>-<br>0<br>2 | 1<br>.<br>9<br>7<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>5<br>6<br>E<br>-<br>0<br>2 | 2<br>DLC1 (Dynein LC8a), DYNLL                                                                                                                                                                          |
| 2<br>3<br>2 | <a href="#">negative regulation of interleukin-2 production</a>          | 1<br>5      | 1<br>.<br>9<br>7<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>5<br>6<br>E<br>-<br>0<br>2 | 1<br>.<br>9<br>7<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>5<br>6<br>E<br>-<br>0<br>2 | 2<br>HDAC7, Histone deacetylase class II                                                                                                                                                                |
| 2<br>3<br>3 | <a href="#">regulation of erythrocyte differentiation</a>                | 5<br>7      | 2<br>.<br>0<br>8<br>3<br>E<br>-           | 2<br>.<br>1<br>6<br>3<br>E<br>-           | 2<br>.<br>0<br>8<br>3<br>E<br>-           | 2<br>.<br>1<br>6<br>3<br>E<br>-           | 3<br>HSPA1B, HSP70, HSPA1A                                                                                                                                                                              |

|             |                                                          |                  |                                           |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                                       |
|-------------|----------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                          |                  | 0<br>3                                    | 0<br>2                                    | 0<br>3                                    | 0<br>2                                    |                                           |                                                                                                                                                                                                                                                       |
| 2<br>3<br>4 | <a href="#">heterocycle biosynthetic process</a>         | 3<br>3<br>2<br>4 | 2<br>.<br>1<br>2<br>2<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>9<br>5<br>E<br>-<br>0<br>2 | 2<br>.<br>1<br>2<br>2<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>9<br>5<br>E<br>-<br>0<br>2 | 2<br>.<br>1<br>9<br>5<br>E<br>-<br>0<br>2 | P5CR1, eEF1A, RBBP8 (CtIP), Cyclin T1, DLC1 (Dynein LC8a), Clp1, HDAC7, HEXIM1, Histone deacetylase class II, HSP70, ARID4A, LOC646817, COASY, eEF1A1, ZNF397OS, DYNLL, ZNF397, IMD2, EYA1, GMEB1, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1 |
| 2<br>3<br>5 | <a href="#">mitotic cell cycle checkpoint</a>            | 2<br>0<br>5      | 2<br>.<br>2<br>1<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>2<br>7<br>7<br>E<br>-<br>0<br>2 | 2<br>.<br>2<br>1<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>2<br>7<br>7<br>E<br>-<br>0<br>2 | 2<br>.<br>2<br>7<br>7<br>E<br>-<br>0<br>2 | Cyclin B1, PSMD10 (Gankyrin), TIPIN, Cyclin B, PRCC                                                                                                                                                                                                   |
| 2<br>3<br>6 | <a href="#">cellular macromolecular complex assembly</a> | 6<br>4<br>4      | 2<br>.<br>2<br>4<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>2<br>9<br>4<br>E<br>-<br>0<br>2 | 2<br>.<br>2<br>4<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>2<br>9<br>4<br>E<br>-<br>0<br>2 | 2<br>.<br>2<br>9<br>4<br>E<br>-<br>0<br>2 | PSMD10 (Gankyrin), Clp1, HSP70, LOC646817, SET, SMYD3, SET/NUP214 fusion protein, RUVBL1, PQBP-1                                                                                                                                                      |
| 2<br>3<br>7 | <a href="#">galactose metabolic process</a>              | 1<br>6           | 2<br>.<br>2<br>4<br>6<br>E<br>-<br>0<br>3 | 2<br>.<br>2<br>9<br>4<br>E<br>-<br>0<br>2 | 2<br>.<br>2<br>9<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>2<br>9<br>4<br>E<br>-<br>0<br>2 | 2<br>.<br>2<br>9<br>4<br>E<br>-<br>0<br>2 | PGMU, PGM2                                                                                                                                                                                                                                            |
| 2<br>3<br>8 | <a href="#">protein-DNA complex subunit organization</a> | 2<br>0<br>7      | 2<br>.<br>3<br>0<br>6<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>4<br>5<br>E<br>-<br>0<br>2 | 2<br>.<br>3<br>0<br>6<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>4<br>5<br>E<br>-<br>0<br>2 | 2<br>.<br>3<br>4<br>5<br>E<br>-<br>0<br>2 | LOC646817, SET, SMYD3, SET/NUP214 fusion protein, RUVBL1                                                                                                                                                                                              |



|             |                                                                                    |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                     |
|-------------|------------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2<br>3<br>9 | <a href="#">negative regulation of cytoskeleton organization</a>                   | 1<br>2<br>5      | 2<br>.<br>3<br>4<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>7<br>0<br>E<br>-<br>0<br>2 | 2<br>.<br>3<br>4<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>7<br>0<br>E<br>-<br>0<br>2 | 4      | Cyclin B1, Histone deacetylase class II, Calmyrin, Cyclin B                                                                                                         |
| 2<br>4<br>0 | <a href="#">positive regulation of T cell mediated cytotoxicity</a>                | 6<br>0           | 2<br>.<br>4<br>1<br>3<br>E<br>-<br>0<br>3 | 2<br>.<br>4<br>2<br>3<br>E<br>-<br>0<br>2 | 2<br>.<br>4<br>1<br>3<br>E<br>-<br>0<br>3 | 2<br>.<br>4<br>2<br>3<br>E<br>-<br>0<br>2 | 3      | HSPA1B, HSP70, HSPA1A                                                                                                                                               |
| 2<br>4<br>1 | <a href="#">regulation of cytokinesis</a>                                          | 6<br>0           | 2<br>.<br>4<br>1<br>3<br>E<br>-<br>0<br>3 | 2<br>.<br>4<br>2<br>3<br>E<br>-<br>0<br>2 | 2<br>.<br>4<br>1<br>3<br>E<br>-<br>0<br>3 | 2<br>.<br>4<br>2<br>3<br>E<br>-<br>0<br>2 | 3      | Olfactory receptor, Calmodulin, PDXP                                                                                                                                |
| 2<br>4<br>2 | <a href="#">negative regulation of cellular macromolecule biosynthetic process</a> | 1<br>3<br>4<br>9 | 2<br>.<br>4<br>3<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>4<br>2<br>7<br>E<br>-<br>0<br>2 | 2<br>.<br>4<br>3<br>1<br>E<br>-<br>0<br>3 | 2<br>.<br>4<br>2<br>7<br>E<br>-<br>0<br>2 | 1<br>4 | RBBP8 (CtIP), PSMD10 (Gankyrin), TIPIN, PPM1F, HDAC7, HEXIM1, Histone deacetylase class II, HSP70, ARID4A, SET, Follistatin, SET/NUP214 fusion protein, PP2C, HSC70 |
| 2<br>4<br>3 | <a href="#">negative regulation of transcription, DNA-templated</a>                | 1<br>2<br>0<br>1 | 2<br>.<br>4<br>3<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>4<br>2<br>7<br>E<br>-<br>0<br>2 | 2<br>.<br>4<br>3<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>4<br>2<br>7<br>E<br>-<br>0<br>2 | 1<br>3 | RBBP8 (CtIP), PSMD10 (Gankyrin), PPM1F, HDAC7, HEXIM1, Histone deacetylase class II, HSP70, ARID4A, SET, Follistatin, SET/NUP214 fusion protein, PP2C, HSC70        |
| 2<br>4      | <a href="#">sperm-egg recognition</a>                                              | 6<br>1           | 2<br>.<br>.<br>.<br>.                     | 2<br>.<br>.<br>.<br>.                     | 2<br>.<br>.<br>.<br>.                     | 2<br>.<br>.<br>.<br>.                     | 3      | HSPA1B, HSP70, HSPA1A                                                                                                                                               |

|             |                                                                |                  |                                      |                                      |                                      |                                      |        |                                                                                                                                                                                                                                              |
|-------------|----------------------------------------------------------------|------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4           |                                                                |                  | 5<br>3<br>0<br>E<br>-<br>0<br>3      | 5<br>0<br>8<br>E<br>-<br>0<br>2      | 5<br>3<br>0<br>E<br>-<br>0<br>3      | 5<br>0<br>8<br>E<br>-<br>0<br>2      |        |                                                                                                                                                                                                                                              |
| 2<br>4<br>5 | <a href="#">pharyngeal system development</a>                  | 1<br>7           | 2<br>5<br>3<br>9<br>E<br>-<br>0<br>3 | 2<br>5<br>0<br>8<br>E<br>-<br>0<br>2 | 2<br>5<br>3<br>9<br>E<br>-<br>0<br>3 | 2<br>5<br>0<br>8<br>E<br>-<br>0<br>2 | 2      | ECE1, EYA1                                                                                                                                                                                                                                   |
| 2<br>4<br>6 | <a href="#">regulation of multicellular organismal process</a> | 2<br>8<br>3<br>3 | 2<br>5<br>5<br>7<br>E<br>-<br>0<br>3 | 2<br>5<br>1<br>5<br>E<br>-<br>0<br>3 | 2<br>5<br>5<br>7<br>E<br>-<br>0<br>3 | 2<br>5<br>1<br>5<br>E<br>-<br>0<br>3 | 2<br>3 | Annexin V, Reticulon 4, Cyclin B1, HSPA1B, ECE1, PPM1F, HDAC7, Histone deacetylase class II, Thioredoxin-like 2, Calmyrin, HSP70, Annexin VI, CLEC2D, Follistatin, Calmodulin, HSPA1A, RBP1, Cyclin B, EYA1, Pleckstrin, PTPN2, PP2C, PQBP-1 |
| 2<br>4<br>7 | <a href="#">regulation of histone modification</a>             | 1<br>2<br>9      | 2<br>6<br>2<br>4<br>E<br>-<br>0<br>3 | 2<br>5<br>6<br>7<br>E<br>-<br>0<br>3 | 2<br>5<br>2<br>4<br>E<br>-<br>0<br>3 | 2<br>5<br>6<br>7<br>E<br>-<br>0<br>3 | 4      | Cyclin B1, SET, SET/NUP214 fusion protein, Cyclin B                                                                                                                                                                                          |
| 2<br>4<br>8 | <a href="#">positive regulation of cell migration</a>          | 4<br>1<br>9      | 2<br>6<br>3<br>4<br>E<br>-<br>0<br>3 | 2<br>5<br>6<br>7<br>E<br>-<br>0<br>3 | 2<br>5<br>3<br>4<br>E<br>-<br>0<br>3 | 2<br>5<br>6<br>7<br>E<br>-<br>0<br>3 | 7      | PPM1F, HDAC7, Histone deacetylase class II, Calmyrin, HSP70, FOP, PP2C                                                                                                                                                                       |
| 2<br>4<br>9 | <a href="#">response to radiation</a>                          | 6<br>6<br>0      | 2<br>6<br>4                          | 2<br>5<br>6                          | 2<br>5<br>4                          | 2<br>5<br>6                          | 9      | PGMU, HSPA1B, TIPIN, HSP70, Calmodulin, HSPA1A, RBP1, EYA1, PP2C                                                                                                                                                                             |

|             |                                                                              |                  |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                                |
|-------------|------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                              |                  | 1<br>E<br>-<br>0<br>3                     | 7<br>E<br>-<br>0<br>2                     | 1<br>E<br>-<br>0<br>3                     | 7<br>E<br>-<br>0<br>2                     |                                                                                                                                                                                                                                                |
| 2<br>5<br>0 | <a href="#">DNA packaging</a>                                                | 2<br>1<br>4      | 2<br>.<br>6<br>6<br>2<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>7<br>7<br>E<br>-<br>0<br>2 | 2<br>.<br>6<br>6<br>2<br>E<br>-<br>0<br>3 | 2<br>.<br>5<br>7<br>7<br>E<br>-<br>0<br>2 | 5<br>LOC646817, SET, SMYD3, SET/NUP214 fusion protein, RUVBL1                                                                                                                                                                                  |
| 2<br>5<br>1 | <a href="#">macromolecule modification</a>                                   | 2<br>8<br>4<br>7 | 2<br>.<br>7<br>2<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>6<br>2<br>8<br>E<br>-<br>0<br>2 | 2<br>.<br>7<br>2<br>5<br>E<br>-<br>0<br>3 | 2<br>.<br>6<br>2<br>8<br>E<br>-<br>0<br>2 | 2<br>3<br>Cyclin T1, Cyclin B1, PSMD10 (Gankyrin), Fbxo3, PPM1F, HDAC7, Histone deacetylase class II, Cyclophilin E, ARID4A, eEF2K, SMYD3, POLE3-POLE4 complex, SAE2, POLE3 (YBL1), ICMT, DOHH, Cyclin B, EYA1, PTPN2, FOP, PDXP, PP2C, RUVBL1 |
| 2<br>5<br>2 | <a href="#">negative regulation of extrinsic apoptotic signaling pathway</a> | 1<br>3<br>1      | 2<br>.<br>7<br>7<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>6<br>6<br>4<br>E<br>-<br>0<br>2 | 2<br>.<br>7<br>6<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>6<br>6<br>4<br>E<br>-<br>0<br>2 | 4<br>HSPA1B, HSP70, HSPA1A, EYA1                                                                                                                                                                                                               |
| 2<br>5<br>3 | <a href="#">protein oligomerization</a>                                      | 5<br>4<br>2      | 2<br>.<br>8<br>2<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>6<br>8<br>5<br>E<br>-<br>0<br>2 | 2<br>.<br>8<br>2<br>9<br>E<br>-<br>0<br>3 | 2<br>.<br>6<br>8<br>5<br>E<br>-<br>0<br>2 | 8<br>Annexin V, eEF1A, AL1A1, COLEC12, Annexin VI, TXNRD1, eEF1A1, IMD2                                                                                                                                                                        |
| 2<br>5<br>4 | <a href="#">mitotic metaphase plate congression</a>                          | 1<br>8           | 2<br>.<br>8<br>4<br>1<br>8                | 2<br>.<br>6<br>8<br>5<br>E                | 2<br>.<br>8<br>4<br>8<br>E                | 2<br>.<br>6<br>8<br>5<br>E                | 2<br>Cyclin B1, Cyclin B                                                                                                                                                                                                                       |

|   |                                     |   |   |   |   |   |   |                                                                                                                                                                                                                                   |
|---|-------------------------------------|---|---|---|---|---|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                     |   | - | - | - | - |   |                                                                                                                                                                                                                                   |
|   |                                     |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                   |
|   |                                     |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                   |
| 2 | <a href="#">ventricular cardiac</a> |   | 2 | 2 | 2 | 2 |   |                                                                                                                                                                                                                                   |
| 5 | <a href="#">muscle cell</a>         |   | . | . | . | . |   |                                                                                                                                                                                                                                   |
| 5 | <a href="#">development</a>         | 1 | 8 | 6 | 8 | 6 |   |                                                                                                                                                                                                                                   |
|   |                                     | 8 | 4 | 8 | 4 | 8 |   |                                                                                                                                                                                                                                   |
|   |                                     |   | 8 | 5 | 8 | 5 |   |                                                                                                                                                                                                                                   |
|   |                                     |   | E | E | E | E |   |                                                                                                                                                                                                                                   |
|   |                                     |   | - | - | - | - |   |                                                                                                                                                                                                                                   |
|   |                                     | 1 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                   |
|   |                                     | 8 | 3 | 2 | 3 | 2 | 2 | Cyclin B1, Cyclin B                                                                                                                                                                                                               |
| 2 | <a href="#">regulation of</a>       |   | 2 | 2 | 2 | 2 |   |                                                                                                                                                                                                                                   |
| 5 | <a href="#">microtubule</a>         |   | . | . | . | . |   |                                                                                                                                                                                                                                   |
| 6 | <a href="#">cytoskeleton</a>        |   | 8 | 6 | 8 | 6 |   |                                                                                                                                                                                                                                   |
|   | <a href="#">organization</a>        | 1 | 5 | 8 | 5 | 8 |   |                                                                                                                                                                                                                                   |
|   |                                     | 3 | 1 | 5 | 1 | 5 |   |                                                                                                                                                                                                                                   |
|   |                                     | 2 | E | E | E | E |   |                                                                                                                                                                                                                                   |
|   |                                     | 3 | - | - | - | - |   |                                                                                                                                                                                                                                   |
|   |                                     | 2 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                   |
|   |                                     | 2 | 3 | 2 | 3 | 2 | 4 | Cyclin B1, Histone deacetylase class II, Calmyrin, Cyclin B                                                                                                                                                                       |
| 2 | <a href="#">transcription, DNA-</a> |   | 2 | 2 | 2 | 2 |   |                                                                                                                                                                                                                                   |
| 5 | <a href="#">templated</a>           |   | . | . | . | . |   |                                                                                                                                                                                                                                   |
| 7 |                                     |   | 8 | 6 | 8 | 6 |   |                                                                                                                                                                                                                                   |
|   |                                     |   | 5 | 8 | 5 | 8 |   |                                                                                                                                                                                                                                   |
|   |                                     | 2 | 2 | 5 | 2 | 5 |   |                                                                                                                                                                                                                                   |
|   |                                     | 8 | E | E | E | E |   |                                                                                                                                                                                                                                   |
|   |                                     | 5 | - | - | - | - |   |                                                                                                                                                                                                                                   |
|   |                                     | 7 | 0 | 0 | 0 | 0 | 2 | eEF1A, RBBP8 (CtIP), Cyclin T1, DLC1 (Dynein LC8a), Clp1, HDAC7, HEXIM1, Histone deacetylase class II, HSP70, ARID4A, LOC646817, eEF1A1, ZNF397OS, DYNLL, ZNF397, EYA1, GMEB1, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1 |
|   |                                     |   | 3 | 2 | 3 | 2 | 3 |                                                                                                                                                                                                                                   |
| 2 | <a href="#">positive regulation</a> |   | 2 | 2 | 2 | 2 |   |                                                                                                                                                                                                                                   |
| 5 | <a href="#">of cellular</a>         |   | . | . | . | . |   |                                                                                                                                                                                                                                   |
| 8 | <a href="#">component</a>           |   | 8 | 6 | 8 | 6 |   |                                                                                                                                                                                                                                   |
|   | <a href="#">organization</a>        | 9 | 6 | 8 | 6 | 8 |   |                                                                                                                                                                                                                                   |
|   |                                     | 3 | 3 | 5 | 3 | 5 |   |                                                                                                                                                                                                                                   |
|   |                                     | 6 | E | E | E | E |   |                                                                                                                                                                                                                                   |
|   |                                     |   | - | - | - | - |   |                                                                                                                                                                                                                                   |
|   |                                     | 3 | 0 | 0 | 0 | 0 | 1 | Cyclin B1, DLC1 (Dynein LC8a), PPM1F, Histone deacetylase class II, Calmyrin, EPS8L1, DYNLL, Cyclin B, Pleckstrin, PDXP, PP2C                                                                                                     |
|   |                                     | 6 | 3 | 2 | 3 | 2 | 1 |                                                                                                                                                                                                                                   |
| 2 | <a href="#">regulation of</a>       |   | 2 | 2 | 2 | 2 |   |                                                                                                                                                                                                                                   |
| 5 | <a href="#">locomotion</a>          |   | . | . | . | . |   |                                                                                                                                                                                                                                   |
| 9 |                                     |   | 9 | 7 | 9 | 7 |   |                                                                                                                                                                                                                                   |
|   |                                     |   | 8 | 8 | 8 | 8 |   |                                                                                                                                                                                                                                   |
|   |                                     | 8 | 6 | 2 | 6 | 2 |   |                                                                                                                                                                                                                                   |
|   |                                     | 0 | E | E | E | E |   |                                                                                                                                                                                                                                   |
|   |                                     | 4 | - | - | - | - | 1 | Annexin V, Reticulon 4, PPM1F, HDAC7, Histone deacetylase class II, Calmyrin, HSP70, PTPN2, FOP, PP2C                                                                                                                             |
|   |                                     |   | 0 | 0 | 0 | 0 | 0 |                                                                                                                                                                                                                                   |

|     |                                                                         |  |                                                |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                                               |
|-----|-------------------------------------------------------------------------|--|------------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                                                                         |  | 3                                              | 2                                         | 3                                         | 2                                         |                                           |                                                                                                                                                                                                                                                               |
| 260 | <a href="#">regulation of biological quality</a>                        |  | 2<br>.<br>9<br>8<br>9<br>3<br>5<br>8<br>8      | 2<br>.<br>7<br>8<br>2<br>E<br>-<br>0<br>3 | 2<br>.<br>9<br>8<br>9<br>E<br>-<br>0<br>2 | 2<br>.<br>7<br>8<br>2<br>E<br>-<br>0<br>3 | 2<br>.<br>7<br>8<br>2<br>E<br>-<br>0<br>2 | Annexin V, Reticulon 4, PGMU, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), ECE1, AL1A1, CDO1, VAMP5, Thioredoxin-like 2, HSP70, ARID4A, TXNRD1, Calmodulin, HSPA1A, RBP1, OBFC1, DYNLL, Cyclin B, Pleckstrin, PTPN2, FOP, PDXP, PP2C, HSC70, TARDBP (TDP43) |
| 261 | <a href="#">negative regulation of multicellular organismal process</a> |  | 3<br>.<br>0<br>2<br>5<br>E<br>5<br>4<br>8      | 2<br>.<br>8<br>0<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>2<br>5<br>E<br>-<br>0<br>2 | 2<br>.<br>8<br>0<br>5<br>E<br>-<br>0<br>2 | 8                                         | Annexin V, HSPA1B, HDAC7, Histone deacetylase class II, Thioredoxin-like 2, HSP70, HSPA1A, PP2C                                                                                                                                                               |
| 262 | <a href="#">positive regulation of cell motility</a>                    |  | 3<br>.<br>0<br>4<br>0<br>E<br>-<br>3<br>0      | 2<br>.<br>8<br>0<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>0<br>4<br>0<br>E<br>-<br>0<br>2 | 2<br>.<br>8<br>0<br>8<br>E<br>-<br>0<br>2 | 7                                         | PPM1F, HDAC7, Histone deacetylase class II, Calmyrin, HSP70, FOP, PP2C                                                                                                                                                                                        |
| 263 | <a href="#">meiotic nuclear division</a>                                |  | 3<br>.<br>1<br>1<br>7<br>E<br>2<br>2<br>2      | 2<br>.<br>8<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>6<br>7<br>E<br>-<br>0<br>2 | 2<br>.<br>8<br>6<br>8<br>E<br>-<br>0<br>2 | 5                                         | RBBP8 (CtIP), HSP70, HSPA2, CKS2, Cyclin B                                                                                                                                                                                                                    |
| 264 | <a href="#">cellular response to DNA damage stimulus</a>                |  | 3<br>.<br>1<br>4<br>9<br>E<br>8<br>1<br>0<br>0 | 2<br>.<br>8<br>8<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>4<br>9<br>E<br>-<br>0<br>2 | 2<br>.<br>8<br>8<br>6<br>E<br>-<br>0<br>3 | 10                                        | RBBP8 (CtIP), HSPA1B, PSMD10 (Gankyrin), TIPIN, Calmyrin, HSP70, HSPA1A, EYA1, PP2C, RUVBL1                                                                                                                                                                   |

|   |                                                                 |   |                                           |                                           |                                           |                                           |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---|-----------------------------------------------------------------|---|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2 | <a href="#">positive regulation of protein depolymerization</a> | 1 | 3<br>.<br>1<br>7<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>8<br>7<br>E<br>-<br>0<br>2 | 3<br>.<br>1<br>7<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>8<br>7<br>E<br>-<br>0<br>2 | 2 | Pleckstrin, PDXP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 2 | <a href="#">negative regulation of histone acetylation</a>      | 1 | 3<br>.<br>1<br>7<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>8<br>7<br>E<br>-<br>0<br>2 | 3<br>.<br>1<br>7<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>8<br>7<br>E<br>-<br>0<br>2 | 2 | SET, SET/NUP214 fusion protein                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 2 | <a href="#">nuclear division</a>                                | 5 | 3<br>.<br>1<br>9<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>8<br>9<br>7<br>E<br>-<br>0<br>3 | 3<br>.<br>1<br>9<br>7<br>E<br>-<br>0<br>2 | 2<br>.<br>8<br>9<br>7<br>E<br>-<br>0<br>2 | 8 | RBBP8 (CtIP), Cyclin B1, TIPIN, HSP70, HSPA2, CKS2, Cyclin B, RUVBL1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 2 | <a href="#">regulation of biological process</a>                | 1 | 3<br>.<br>2<br>3<br>1<br>2<br>3<br>9<br>1 | 2<br>.<br>9<br>1<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>3<br>0<br>E<br>-<br>2<br>3 | 2<br>.<br>9<br>1<br>2<br>E<br>-<br>0<br>2 | 6 | Annexin V, eEF1A, Reticulon 4, RBBP8 (CtIP), IGHG4, Cyclin T1, Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, Clp1, ECE1, AL1A1, ARL5B, PPM1F, HDAC7, MENA, SNX1, HEXIM1, Histone deacetylase class II, Olfactory receptor, Thioredoxin-like 2, Calmyrin, EPS8L1, COLEC12, HSP70, IGHG1, Cyclophilin E, ARID4A, Annexin VI, CLEC2D, eEF2K, LOC646817, SET, Follistatin, TXNRD1, SMYD3, Calmodulin, HSPA2, HSPA1A, RBP1, eEF1A1, SAE2, CKS2, OR10G3, OBFC1, ZNF397OS, DYNLL, ICMT, ZNF397, SET/NUP214 fusion protein, Cyclin B, EYA1, GMEB1, Pleckstrin, PTPN2, FOP, RIG-G, PDXP, CAMK2N1, PP2C, HSC70, TARDBP (TDP43), PRCC, RUVBL1, PQBP-1, VILIP1 |
| 2 | <a href="#">regulation of gene expression</a>                   | 5 | 3<br>.<br>2<br>3<br>5<br>1<br>3<br>5      | 2<br>.<br>9<br>1<br>2<br>E<br>-<br>0<br>0 | 3<br>.<br>2<br>3<br>7<br>E<br>-<br>0<br>0 | 2<br>.<br>9<br>1<br>2<br>E<br>-<br>0<br>0 | 3 | eEF1A, RBBP8 (CtIP), Cyclin T1, Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), Clp1, PPM1F, HDAC7, HEXIM1, Histone deacetylase class II, Olfactory receptor, Calmyrin, HSP70, Cyclophilin E, ARID4A, LOC646817, SET, Follistatin, SMYD3, HSPA1A, eEF1A1, ZNF397OS, DYNLL, ZNF397, SET/NUP214 fusion protein, Cyclin B, EYA1, GMEB1, PP2C, HSC70, TARDBP (TDP43), RUVBL1, PQBP-1                                                                                                                                                                                                                                                                            |

|     |                                                                      |      |          |           |          |           |    |                                                                                                                                                                                                                                                |
|-----|----------------------------------------------------------------------|------|----------|-----------|----------|-----------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|     |                                                                      |      | 3        | 2         | 3        | 2         |    |                                                                                                                                                                                                                                                |
| 270 | <a href="#">nucleobase-containing compound biosynthetic process</a>  | 3245 | 3267E245 | 29263EE03 | 3267E245 | 29263EE03 | 25 | eEF1A, RBBP8 (CtIP), Cyclin T1, DLC1 (Dynein LC8a), Clp1, HDAC7, HEXIM1, Histone deacetylase class II, HSP70, ARID4A, LOC646817, COASY, eEF1A1, ZNF397OS, DYNLL, ZNF397, IMD2, EYA1, GMEB1, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1 |
| 271 | <a href="#">response to mechanical stimulus</a>                      | 325  | 327E45   | 29263EE03 | 327E45   | 29263EE03 | 6  | Cyclin B1, HSPA1B, ECE1, HSP70, HSPA1A, Cyclin B                                                                                                                                                                                               |
| 272 | <a href="#">negative regulation of NF-kappaB import into nucleus</a> | 20   | 3516EE-- | 303232    | 3516EE-- | 303232    | 2  | PSMD10 (Gankyrin), PP2C                                                                                                                                                                                                                        |
| 273 | <a href="#">positive regulation of cell junction assembly</a>        | 20   | 3516EE-- | 303232    | 3516EE-- | 303232    | 2  | PPM1F, PP2C                                                                                                                                                                                                                                    |
| 274 | <a href="#">positive regulation of focal adhesion assembly</a>       | 20   | 3516EE-- | 303232    | 3516EE-- | 303232    | 2  | PPM1F, PP2C                                                                                                                                                                                                                                    |

|     |                                                                    |     |          |          |          |          |    |                                                                                                          |
|-----|--------------------------------------------------------------------|-----|----------|----------|----------|----------|----|----------------------------------------------------------------------------------------------------------|
| 275 | <a href="#">nitric oxide biosynthetic process</a>                  | 20  | 3516E-03 | 3516E-03 | 3516E-03 | 3516E-03 | 2  | DLC1 (Dynein LC8a), DYNLL                                                                                |
| 276 | <a href="#">regulation of chromatin organization</a>               | 140 | 3516E-03 | 3516E-03 | 3516E-03 | 3516E-03 | 4  | Cyclin B1, SET, SET/NUP214 fusion protein, Cyclin B                                                      |
| 277 | <a href="#">positive regulation of cellular component movement</a> | 443 | 3516E-03 | 3516E-03 | 3516E-03 | 3516E-03 | 7  | PPM1F, HDAC7, Histone deacetylase class II, Calmyrin, HSP70, FOP, PP2C                                   |
| 278 | <a href="#">nuclear envelope organization</a>                      | 69  | 3516E-03 | 3516E-03 | 3516E-03 | 3516E-03 | 3  | Cyclin B1, SET/NUP214 fusion protein, Cyclin B                                                           |
| 279 | <a href="#">regulation of T cell mediated cytotoxicity</a>         | 70  | 3516E-03 | 3516E-03 | 3516E-03 | 3516E-03 | 3  | HSPA1B, HSP70, HSPA1A                                                                                    |
| 28  | <a href="#">gamete generation</a>                                  | 83  | 3516E-03 | 3516E-03 | 3516E-03 | 3516E-03 | 10 | Cyclin B1, DLC1 (Dynein LC8a), Olfactory receptor, Calmyrin, HSP70, Follistatin, HSPA2, DYNLL, Cyclin B, |



|             |                                                               |             |                                           |                                                |                                           |                                                |                                                                                                                                                                                                                                                                                                                                           |
|-------------|---------------------------------------------------------------|-------------|-------------------------------------------|------------------------------------------------|-------------------------------------------|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0           |                                                               | 3           | 8<br>3<br>9<br>E<br>-<br>0<br>3           | 2<br>8<br>5<br>E<br>-<br>0<br>2                | 8<br>3<br>9<br>E<br>-<br>0<br>3           | 2<br>8<br>5<br>E<br>-<br>0<br>2                | RUVBL1                                                                                                                                                                                                                                                                                                                                    |
| 2<br>8<br>1 | <a href="#">positive regulation of locomotion</a>             | 4<br>4<br>9 | 3<br>.<br>8<br>5<br>4<br>E<br>-<br>0<br>9 | 3<br>.<br>2<br>8<br>5<br>4<br>E<br>-<br>0<br>3 | 3<br>.<br>8<br>5<br>4<br>E<br>-<br>0<br>2 | 3<br>.<br>2<br>8<br>5<br>4<br>E<br>-<br>0<br>2 | PPM1F, HDAC7, Histone deacetylase class II, Calmyrin, HSP70, FOP, PP2C                                                                                                                                                                                                                                                                    |
| 2<br>8<br>2 | <a href="#">system development</a>                            | 4<br>9<br>0 | 3<br>.<br>8<br>6<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>0<br>E<br>-<br>0<br>2 | 3<br>.<br>8<br>6<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>0<br>E<br>-<br>0<br>2 | Reticulon 4, Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, Clp1, ECE1, AL1A1, Beta crystallin B2, HDAC7, MENA, CDO1, HEXIM1, VAMP5, Histone deacetylase class II, Olfactory receptor, Calmyrin, HSP70, ARID4A, Follistatin, TXNRD1, Calmodulin, HSPA1A, DYNLL, ICMT, Cyclin B, IMD2, EYA1, Pleckstrin, PTPN2, PP2C, HSC70, TCOF1, PQBP-1, VILIP1 |
| 2<br>8<br>3 | <a href="#">positive regulation of mRNA 3'-end processing</a> | 2<br>1      | 3<br>.<br>8<br>7<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>7<br>5<br>E<br>-<br>0<br>2 | 3<br>.<br>8<br>7<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>7<br>5<br>E<br>-<br>0<br>2 | Cyclin B1, Cyclin B                                                                                                                                                                                                                                                                                                                       |
| 2<br>8<br>4 | <a href="#">deoxyribose phosphate catabolic process</a>       | 2<br>1      | 3<br>.<br>8<br>7<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>7<br>5<br>E<br>-<br>0<br>2 | 3<br>.<br>8<br>7<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>7<br>5<br>E<br>-<br>0<br>2 | FLJ22494, PGM2                                                                                                                                                                                                                                                                                                                            |
| 2<br>8<br>5 | <a href="#">regulation of muscle adaptation</a>               | 7<br>1      | 3<br>.<br>8<br>9                          | 3<br>.<br>2<br>8                               | 3<br>.<br>8<br>9                          | 3<br>.<br>2<br>8                               | ECE1, Histone deacetylase class II, Thioredoxin-like 2                                                                                                                                                                                                                                                                                    |

|             |                                                                            |                  |                                                |                                                |                                                |                                                |        |                                                                                                                                                                                                                                                       |
|-------------|----------------------------------------------------------------------------|------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                            |                  | 1<br>E<br>-<br>0<br>3                          | 5<br>E<br>-<br>0<br>2                          | 1<br>E<br>-<br>0<br>3                          | 5<br>E<br>-<br>0<br>2                          |        |                                                                                                                                                                                                                                                       |
| 2<br>8<br>6 | <a href="#">meiotic cell cycle</a>                                         | 2<br>3<br>5      | 3<br>.<br>9<br>7<br>1<br>E<br>-<br>0<br>3      | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>3      | 3<br>.<br>9<br>7<br>1<br>E<br>-<br>0<br>3      | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>3      | 5      | RBBP8 (CtIP), HSP70, HSPA2, CKS2, Cyclin B                                                                                                                                                                                                            |
| 2<br>8<br>7 | <a href="#">cellular process involved in reproduction</a>                  | 7<br>0<br>3      | 4<br>.<br>0<br>0<br>5<br>E<br>-<br>0<br>3      | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>3      | 4<br>.<br>0<br>0<br>5<br>E<br>-<br>0<br>3      | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>3      | 9      | RBBP8 (CtIP), Cyclin B1, HSPA1B, Calmyrin, HSP70, HSPA2, HSPA1A, CKS2, Cyclin B                                                                                                                                                                       |
| 2<br>8<br>8 | <a href="#">organic cyclic compound biosynthetic process</a>               | 3<br>4<br>8<br>2 | 4<br>.<br>0<br>7<br>9<br>E<br>-<br>0<br>3      | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>3      | 4<br>.<br>0<br>7<br>9<br>E<br>-<br>0<br>3      | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>3      | 2<br>6 | P5CR1, eEF1A, RBBP8 (CtIP), Cyclin T1, DLC1 (Dynein LC8a), Clp1, HDAC7, HEXIM1, Histone deacetylase class II, HSP70, ARID4A, LOC646817, COASY, eEF1A1, ZNF397OS, DYNLL, ZNF397, IMD2, EYA1, GMEB1, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1 |
| 2<br>8<br>9 | <a href="#">negative regulation of mitotic cell cycle phase transition</a> | 2<br>3<br>8      | 4<br>.<br>1<br>8<br>9<br>E<br>-<br>0<br>3<br>8 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>3<br>2 | 4<br>.<br>1<br>8<br>9<br>E<br>-<br>0<br>3<br>2 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>3<br>2 | 5      | Cyclin B1, PSMD10 (Gankyrin), TIPIN, Cyclin B, PRCC                                                                                                                                                                                                   |
| 2<br>9<br>0 | <a href="#">cellular response to chemical stimulus</a>                     | 2<br>9<br>4<br>5 | 4<br>.<br>1<br>9<br>4<br>5                     | 3<br>.<br>2<br>8<br>5<br>E                     | 4<br>.<br>1<br>9<br>4<br>5                     | 3<br>.<br>2<br>8<br>5<br>E                     | 2<br>3 | P5CR1, eEF1A, Reticulon 4, Cyclin T1, Cyclin B1, AL1A1, PPM1F, Histone deacetylase class II, Calmyrin, COLEC12, HSP70, eEF2K, TXNRD1, SMYD3, Calmodulin, eEF1A1, SET/NUP214 fusion protein, Cyclin B, IMD2, PTPN2, RIG-G, PDXP, PP2C                  |

|   |                                                                       |   |   |   |   |   |   |                                                                                                                                                                                                                                   |
|---|-----------------------------------------------------------------------|---|---|---|---|---|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                       |   | - | - | - | - |   |                                                                                                                                                                                                                                   |
|   |                                                                       |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                   |
|   |                                                                       |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                   |
| 2 |                                                                       |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                   |
| 9 |                                                                       |   | . | . | . | . |   |                                                                                                                                                                                                                                   |
| 1 | <a href="#">cell-cell recognition</a>                                 | 7 | 2 | 2 | 2 | 2 | 3 | HSPA1B, HSP70, HSPA1A                                                                                                                                                                                                             |
|   |                                                                       | 3 | 0 | 8 | 0 | 8 |   |                                                                                                                                                                                                                                   |
|   |                                                                       |   | 7 | 5 | 7 | 5 |   |                                                                                                                                                                                                                                   |
|   |                                                                       |   | E | E | E | E |   |                                                                                                                                                                                                                                   |
|   |                                                                       |   | - | - | - | - |   |                                                                                                                                                                                                                                   |
|   |                                                                       |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                   |
|   |                                                                       | 3 | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                   |
| 2 |                                                                       |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                   |
| 9 |                                                                       |   | . | . | . | . |   |                                                                                                                                                                                                                                   |
| 2 | <a href="#">chaperone mediated protein folding requiring cofactor</a> | 2 | 2 | 2 | 2 | 2 | 2 | HSP70, HSC70                                                                                                                                                                                                                      |
|   |                                                                       | 2 | 5 | 8 | 5 | 8 |   |                                                                                                                                                                                                                                   |
|   |                                                                       |   | 0 | 5 | 0 | 5 |   |                                                                                                                                                                                                                                   |
|   |                                                                       |   | E | E | E | E |   |                                                                                                                                                                                                                                   |
|   |                                                                       |   | - | - | - | - |   |                                                                                                                                                                                                                                   |
|   |                                                                       |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                   |
|   |                                                                       | 2 | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                   |
| 2 |                                                                       |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                   |
| 9 | <a href="#">negative regulation of peptidyl-lysine acetylation</a>    | 2 | . | . | . | . |   |                                                                                                                                                                                                                                   |
| 3 |                                                                       | 2 | 2 | 2 | 2 | 2 | 2 | SET, SET/NUP214 fusion protein                                                                                                                                                                                                    |
|   |                                                                       |   | 5 | 8 | 5 | 8 |   |                                                                                                                                                                                                                                   |
|   |                                                                       |   | 0 | 5 | 0 | 5 |   |                                                                                                                                                                                                                                   |
|   |                                                                       |   | E | E | E | E |   |                                                                                                                                                                                                                                   |
|   |                                                                       |   | - | - | - | - |   |                                                                                                                                                                                                                                   |
|   |                                                                       |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                   |
|   |                                                                       | 2 | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                   |
| 2 |                                                                       |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                   |
| 9 |                                                                       |   | . | . | . | . |   |                                                                                                                                                                                                                                   |
| 4 | <a href="#">single fertilization</a>                                  | 1 | 2 | 2 | 2 | 2 | 4 | HSPA1B, Olfactory receptor, HSP70, HSPA1A                                                                                                                                                                                         |
|   |                                                                       | 4 | 9 | 8 | 9 | 8 |   |                                                                                                                                                                                                                                   |
|   |                                                                       |   | 1 | 5 | 1 | 5 |   |                                                                                                                                                                                                                                   |
|   |                                                                       |   | E | E | E | E |   |                                                                                                                                                                                                                                   |
|   |                                                                       |   | - | - | - | - |   |                                                                                                                                                                                                                                   |
|   |                                                                       |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                   |
|   |                                                                       | 8 | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                   |
| 2 |                                                                       |   | 4 | 3 | 4 | 3 |   |                                                                                                                                                                                                                                   |
| 9 |                                                                       |   | . | . | . | . |   |                                                                                                                                                                                                                                   |
| 5 | <a href="#">RNA biosynthetic process</a>                              | 2 | 3 | 2 | 3 | 2 | 2 | eEF1A, RBBP8 (CtIP), Cyclin T1, DLC1 (Dynein LC8a), Clp1, HDAC7, HEXIM1, Histone deacetylase class II, HSP70, ARID4A, LOC646817, eEF1A1, ZNF397OS, DYNLL, ZNF397, EYA1, GMEB1, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1 |
|   |                                                                       | 9 | 4 | 8 | 4 | 8 |   |                                                                                                                                                                                                                                   |
|   |                                                                       |   | 1 | 5 | 1 | 5 |   |                                                                                                                                                                                                                                   |
|   |                                                                       |   | E | E | E | E |   |                                                                                                                                                                                                                                   |
|   |                                                                       |   | - | - | - | - |   |                                                                                                                                                                                                                                   |
|   |                                                                       |   | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                   |
|   |                                                                       | 3 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                   |

|     |                                                                    |     |                                           |                                           |                                           |                                           |   |                                                                      |
|-----|--------------------------------------------------------------------|-----|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|----------------------------------------------------------------------|
|     |                                                                    |     | 3                                         | 2                                         | 3                                         | 2                                         |   |                                                                      |
| 296 | <a href="#">positive regulation of endothelial cell migration</a>  | 74  | 4<br>.<br>3<br>7<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>3<br>7<br>1<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 3 | HDAC7, Histone deacetylase class II, Calmyrin                        |
| 297 | <a href="#">organelle fission</a>                                  | 583 | 4<br>.<br>3<br>9<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>3<br>9<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 8 | RBBP8 (CtIP), Cyclin B1, TIPIN, HSP70, HSPA2, CKS2, Cyclin B, RUVBL1 |
| 298 | <a href="#">endothelin maturation</a>                              | 1   | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 1 | ECE1                                                                 |
| 299 | <a href="#">negative regulation of prolactin signaling pathway</a> | 1   | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 1 | PTPN2                                                                |
| 300 | <a href="#">dADP catabolic process</a>                             | 1   | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 1 | FLJ22494                                                             |



|             |                                                                                              |   |                                           |                                           |                                           |                                           |                         |
|-------------|----------------------------------------------------------------------------------------------|---|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------|
| 6           | <a href="#">pathway</a>                                                                      |   | 4<br>3<br>9<br>E<br>-<br>0<br>3           | 2<br>8<br>5<br>E<br>-<br>0<br>2           | 4<br>3<br>9<br>E<br>-<br>0<br>3           | 2<br>8<br>5<br>E<br>-<br>0<br>2           |                         |
| 3<br>0<br>7 | <a href="#">organomercury<br/>metabolic process</a>                                          | 1 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 1 TXNRD1                |
| 3<br>0<br>8 | <a href="#">pyridoxal<br/>phosphate<br/>catabolic process</a>                                | 1 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 1 PDXP                  |
| 3<br>0<br>9 | <a href="#">negative regulation<br/>of interleukin-2-<br/>mediated signaling<br/>pathway</a> | 1 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 1 PTPN2                 |
| 3<br>1<br>0 | <a href="#">halogen metabolic<br/>process</a>                                                | 1 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 1 TXNRD1                |
| 3<br>1<br>1 | <a href="#">fructoselysine<br/>metabolic process</a>                                         | 1 | 4<br>.<br>4<br>3                          | 3<br>.<br>2<br>8                          | 4<br>.<br>4<br>3                          | 3<br>.<br>2<br>8                          | 1 Fructosamine-3-kinase |

|             |                                                                   |   |                                           |                                           |                                           |                                           |   |          |
|-------------|-------------------------------------------------------------------|---|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|----------|
|             |                                                                   |   | 9<br>E<br>-<br>0<br>3                     | 5<br>E<br>-<br>0<br>2                     | 9<br>E<br>-<br>0<br>3                     | 5<br>E<br>-<br>0<br>2                     |   |          |
| 3<br>1<br>2 | <a href="#">dGDP catabolic process</a>                            | 1 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 1 | FLJ22494 |
| 3<br>1<br>3 | <a href="#">organometal metabolic process</a>                     | 1 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 1 | TXNRD1   |
| 3<br>1<br>4 | <a href="#">deoxyribonucleoside diphosphate catabolic process</a> | 1 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 1 | FLJ22494 |
| 3<br>1<br>5 | <a href="#">GDP catabolic process</a>                             | 1 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 1 | FLJ22494 |
| 3<br>1<br>6 | <a href="#">aspartyl-tRNA aminoacylation</a>                      | 1 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 1 | DARS     |

|   |                                                                                 |   |   |   |   |   |   |       |
|---|---------------------------------------------------------------------------------|---|---|---|---|---|---|-------|
|   |                                                                                 |   | - | - | - | - |   |       |
|   |                                                                                 |   | 0 | 0 | 0 | 0 |   |       |
|   |                                                                                 |   | 3 | 2 | 3 | 2 |   |       |
| 3 | <a href="#">regulation of positive thymic T cell selection</a>                  | 1 | 4 | 3 | 4 | 3 | 1 | PTPN2 |
| 1 |                                                                                 |   | . | . | . | . |   |       |
| 7 |                                                                                 |   | 4 | 2 | 4 | 2 |   |       |
|   |                                                                                 |   | 3 | 8 | 3 | 8 |   |       |
|   |                                                                                 |   | 9 | 5 | 9 | 5 |   |       |
|   |                                                                                 |   | E | E | E | E |   |       |
|   |                                                                                 |   | - | - | - | - |   |       |
|   |                                                                                 |   | 0 | 0 | 0 | 0 |   |       |
|   |                                                                                 |   | 3 | 2 | 3 | 2 |   |       |
| 3 | <a href="#">siRNA loading onto RISC involved in RNA interference</a>            | 1 | 4 | 3 | 4 | 3 | 1 | Clp1  |
| 1 |                                                                                 |   | . | . | . | . |   |       |
| 8 |                                                                                 |   | 4 | 2 | 4 | 2 |   |       |
|   |                                                                                 |   | 3 | 8 | 3 | 8 |   |       |
|   |                                                                                 |   | 9 | 5 | 9 | 5 |   |       |
|   |                                                                                 |   | E | E | E | E |   |       |
|   |                                                                                 |   | - | - | - | - |   |       |
|   |                                                                                 |   | 0 | 0 | 0 | 0 |   |       |
|   |                                                                                 |   | 3 | 2 | 3 | 2 |   |       |
| 3 | <a href="#">negative regulation of interleukin-4-mediated signaling pathway</a> | 1 | 4 | 3 | 4 | 3 | 1 | PTPN2 |
| 1 |                                                                                 |   | . | . | . | . |   |       |
| 9 |                                                                                 |   | 4 | 2 | 4 | 2 |   |       |
|   |                                                                                 |   | 3 | 8 | 3 | 8 |   |       |
|   |                                                                                 |   | 9 | 5 | 9 | 5 |   |       |
|   |                                                                                 |   | E | E | E | E |   |       |
|   |                                                                                 |   | - | - | - | - |   |       |
|   |                                                                                 |   | 0 | 0 | 0 | 0 |   |       |
|   |                                                                                 |   | 3 | 2 | 3 | 2 |   |       |
| 3 | <a href="#">negative regulation of positive thymic T cell selection</a>         | 1 | 4 | 3 | 4 | 3 | 1 | PTPN2 |
| 2 |                                                                                 |   | . | . | . | . |   |       |
| 0 |                                                                                 |   | 4 | 2 | 4 | 2 |   |       |
|   |                                                                                 |   | 3 | 8 | 3 | 8 |   |       |
|   |                                                                                 |   | 9 | 5 | 9 | 5 |   |       |
|   |                                                                                 |   | E | E | E | E |   |       |
|   |                                                                                 |   | - | - | - | - |   |       |
|   |                                                                                 |   | 0 | 0 | 0 | 0 |   |       |
|   |                                                                                 |   | 3 | 2 | 3 | 2 |   |       |
| 3 | <a href="#">regulation of interleukin-2-mediated signaling pathway</a>          | 1 | 4 | 3 | 4 | 3 | 1 | PTPN2 |
| 2 |                                                                                 |   | . | . | . | . |   |       |
| 1 |                                                                                 |   | 4 | 2 | 4 | 2 |   |       |
|   |                                                                                 |   | 3 | 8 | 3 | 8 |   |       |
|   |                                                                                 |   | 9 | 5 | 9 | 5 |   |       |
|   |                                                                                 |   | E | E | E | E |   |       |
|   |                                                                                 |   | - | - | - | - |   |       |
|   |                                                                                 |   | 0 | 0 | 0 | 0 |   |       |
|   |                                                                                 |   | 0 | 0 | 0 | 0 |   |       |



|             |                                                                                         |   |                                           |                                           |                                           |                                           |   |            |
|-------------|-----------------------------------------------------------------------------------------|---|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|------------|
|             |                                                                                         |   | 3                                         | 2                                         | 3                                         | 2                                         |   |            |
| 3<br>2<br>2 | <a href="#">regulation of prolactin signaling pathway</a>                               | 1 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 1 | PTPN2      |
| 3<br>2<br>3 | <a href="#">methylmercury metabolic process</a>                                         | 1 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 1 | TXNRD1     |
| 3<br>2<br>4 | <a href="#">calcitonin catabolic process</a>                                            | 1 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 1 | ECE1       |
| 3<br>2<br>5 | <a href="#">phospholipase C-inhibiting G-protein coupled receptor signaling pathway</a> | 1 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 1 | Pleckstrin |
| 3<br>2<br>6 | <a href="#">purine deoxyribonucleoside diphosphate catabolic process</a>                | 1 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 1 | FLJ22494   |

|             |                                                                             |             |                                           |                                           |                                           |                                           |   |                                                                      |
|-------------|-----------------------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|----------------------------------------------------------------------|
| 3<br>2<br>7 | <a href="#">regulation of inositol-polyphosphate 5-phosphatase activity</a> | 1           | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>8<br>5<br>E<br>-<br>0<br>2 | 1 | Pleckstrin                                                           |
| 3<br>2<br>8 | <a href="#">negative regulation of cell cycle phase transition</a>          | 2<br>4<br>3 | 4<br>.<br>5<br>7<br>3<br>E<br>-<br>0<br>3 | 3<br>.<br>3<br>7<br>3<br>E<br>-<br>0<br>2 | 4<br>.<br>5<br>7<br>3<br>E<br>-<br>0<br>3 | 3<br>.<br>3<br>7<br>3<br>E<br>-<br>0<br>2 | 5 | Cyclin B1, PSMD10 (Gankyrin), TIPIN, Cyclin B, PRCC                  |
| 3<br>2<br>9 | <a href="#">response to metal ion</a>                                       | 4<br>6<br>4 | 4<br>.<br>6<br>0<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>3<br>7<br>3<br>E<br>-<br>0<br>2 | 4<br>.<br>6<br>0<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>3<br>7<br>3<br>E<br>-<br>0<br>2 | 7 | Annexin V, Cyclin B1, ECE1, TXNRD1, Calmodulin, Annexin XI, Cyclin B |
| 3<br>3<br>0 | <a href="#">platelet formation</a>                                          | 2<br>3      | 4<br>.<br>6<br>4<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>3<br>7<br>3<br>E<br>-<br>0<br>2 | 4<br>.<br>6<br>4<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>3<br>7<br>3<br>E<br>-<br>0<br>2 | 2 | Calmyrin, PP2C                                                       |
| 3<br>3<br>1 | <a href="#">negative regulation of peptidyl-serine phosphorylation</a>      | 2<br>3      | 4<br>.<br>6<br>4<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>3<br>7<br>3<br>E<br>-<br>0<br>2 | 4<br>.<br>6<br>4<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>3<br>7<br>3<br>E<br>-<br>0<br>2 | 2 | PPM1F, PP2C                                                          |
| 3<br>3      | <a href="#">platelet morphogenesis</a>                                      | 2<br>3      | 4<br>.<br>.<br>.<br>.<br>.                | 3<br>.<br>.<br>.<br>.<br>.                | 4<br>.<br>.<br>.<br>.<br>.                | 3<br>.<br>.<br>.<br>.<br>.                | 2 | Calmyrin, PP2C                                                       |

|             |                                                                       |             |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                                |
|-------------|-----------------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2           |                                                                       |             | 6<br>4<br>2<br>E<br>-<br>0<br>3           | 3<br>7<br>3<br>E<br>-<br>0<br>2           | 6<br>4<br>2<br>E<br>-<br>0<br>3           | 3<br>7<br>3<br>E<br>-<br>0<br>2           |                                                                                                                                                                                                                                                |
| 3<br>3<br>3 | <a href="#">negative regulation of protein acetylation</a>            | 2<br>3      | 4<br>.<br>6<br>4<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>3<br>7<br>3<br>E<br>-<br>0<br>3 | 4<br>.<br>6<br>4<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>3<br>7<br>3<br>E<br>-<br>0<br>3 | SET, SET/NUP214 fusion protein                                                                                                                                                                                                                 |
| 3<br>3<br>4 | <a href="#">regulation of blood vessel endothelial cell migration</a> | 7<br>6      | 4<br>.<br>7<br>1<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>0<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>1<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>0<br>7<br>E<br>-<br>0<br>2 | HDAC7, Histone deacetylase class II, Calmyrin                                                                                                                                                                                                  |
| 3<br>3<br>5 | <a href="#">female gamete generation</a>                              | 1<br>5<br>2 | 4<br>.<br>7<br>1<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>0<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>1<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>0<br>7<br>E<br>-<br>0<br>2 | Cyclin B1, DLC1 (Dynein LC8a), DYNLL, Cyclin B                                                                                                                                                                                                 |
| 3<br>3<br>6 | <a href="#">aromatic compound biosynthetic process</a>                | 3<br>3<br>6 | 4<br>.<br>7<br>3<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>0<br>8<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>3<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>0<br>8<br>E<br>-<br>0<br>2 | eEF1A, RBBP8 (CtIP), Cyclin T1, DLC1 (Dynein LC8a), Clp1, HDAC7, HEXIM1, Histone deacetylase class II, HSP70, ARID4A, LOC646817, COASY, eEF1A1, ZNF397OS, DYNLL, ZNF397, IMD2, EYA1, GMEB1, PP2C, HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1 |
| 3<br>3<br>7 | <a href="#">positive regulation of T cell mediated immunity</a>       | 7<br>7      | 4<br>.<br>8<br>8                          | 3<br>.<br>5<br>0                          | 4<br>.<br>8<br>8                          | 3<br>.<br>5<br>0                          | HSPA1B, HSP70, HSPA1A                                                                                                                                                                                                                          |

|             |                                                                                   |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                    |
|-------------|-----------------------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                                                   |                  | 6<br>E<br>-<br>0<br>3                     | 6<br>E<br>-<br>0<br>2                     | 6<br>E<br>-<br>0<br>3                     | 6<br>E<br>-<br>0<br>2                     |        |                                                                                                                                                    |
| 3<br>3<br>8 | <a href="#">reproductive process</a>                                              | 1<br>6<br>1<br>7 | 4<br>.<br>8<br>9<br>7<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>0<br>6<br>E<br>-<br>0<br>2 | 4<br>.<br>8<br>9<br>7<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>0<br>6<br>E<br>-<br>0<br>2 | 1<br>5 | Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, AL1A1, CDO1, Olfactory receptor, Calmyrin, HSP70, Follistatin, HSPA2, HSPA1A, DYNLL, Cyclin B, PP2C, RUVBL1 |
| 3<br>3<br>9 | <a href="#">regulation of cardiac muscle contraction by calcium ion signaling</a> | 2<br>4           | 5<br>.<br>0<br>4<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>8<br>3<br>E<br>-<br>0<br>2 | 5<br>.<br>0<br>4<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>8<br>3<br>E<br>-<br>0<br>2 | 2      | Histone deacetylase class II, Calmodulin                                                                                                           |
| 3<br>4<br>0 | <a href="#">regulation of mRNA 3'-end processing</a>                              | 2<br>4           | 5<br>.<br>0<br>4<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>8<br>3<br>E<br>-<br>0<br>2 | 5<br>.<br>0<br>4<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>8<br>3<br>E<br>-<br>0<br>2 | 2      | Cyclin B1, Cyclin B                                                                                                                                |
| 3<br>4<br>1 | <a href="#">positive regulation of cardiac muscle cell proliferation</a>          | 2<br>4           | 5<br>.<br>0<br>4<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>8<br>3<br>E<br>-<br>0<br>2 | 5<br>.<br>0<br>4<br>9<br>E<br>-<br>0<br>3 | 3<br>.<br>5<br>8<br>3<br>E<br>-<br>0<br>2 | 2      | Cyclin B1, Cyclin B                                                                                                                                |
| 3<br>4<br>2 | <a href="#">regulation of microtubule-based process</a>                           | 1<br>5<br>6      | 5<br>.<br>1<br>6<br>5<br>8<br>6           | 3<br>.<br>6<br>5<br>7<br>E<br>E           | 5<br>.<br>1<br>6<br>5<br>8<br>E<br>E      | 3<br>.<br>6<br>5<br>7<br>E<br>E           | 4      | Cyclin B1, Histone deacetylase class II, Calmyrin, Cyclin B                                                                                        |

|   |                                                                  |   |   |   |   |   |   |                                                                                                |
|---|------------------------------------------------------------------|---|---|---|---|---|---|------------------------------------------------------------------------------------------------|
|   |                                                                  |   | - | - | - | - |   |                                                                                                |
|   |                                                                  |   | 0 | 0 | 0 | 0 |   |                                                                                                |
|   |                                                                  |   | 3 | 2 | 3 | 2 |   |                                                                                                |
| 3 |                                                                  |   | 5 | 3 | 5 | 3 |   |                                                                                                |
| 4 |                                                                  |   | . | . | . | . |   |                                                                                                |
| 3 | <a href="#">regulation of cell growth</a>                        | 4 | 2 | 7 | 2 | 7 |   |                                                                                                |
|   |                                                                  |   | 8 | 0 | 8 | 0 |   |                                                                                                |
|   |                                                                  |   | 3 | 7 | 3 | 7 |   |                                                                                                |
|   |                                                                  |   | E | E | E | E |   |                                                                                                |
|   |                                                                  |   | - | - | - | - |   |                                                                                                |
|   |                                                                  | 7 | 0 | 0 | 0 | 0 |   | Reticulon 4, HSPA1B, PSMD10 (Gankyrin), Calmyrin, HSP70, HSPA1A, FOP                           |
|   |                                                                  | 6 | 3 | 2 | 3 | 2 | 7 |                                                                                                |
| 3 |                                                                  |   | 5 | 3 | 5 | 3 |   |                                                                                                |
| 4 |                                                                  |   | . | . | . | . |   |                                                                                                |
| 4 | <a href="#">positive regulation of angiogenesis</a>              | 1 | 2 | 7 | 2 | 7 |   |                                                                                                |
|   |                                                                  |   | 8 | 0 | 8 | 0 |   |                                                                                                |
|   |                                                                  |   | 5 | 7 | 5 | 7 |   |                                                                                                |
|   |                                                                  |   | E | E | E | E |   |                                                                                                |
|   |                                                                  |   | - | - | - | - |   |                                                                                                |
|   |                                                                  | 5 | 0 | 0 | 0 | 0 |   |                                                                                                |
|   |                                                                  | 7 | 3 | 2 | 3 | 2 | 4 | HDAC7, Histone deacetylase class II, Calmyrin, HSP70                                           |
| 3 |                                                                  |   | 5 | 3 | 5 | 3 |   |                                                                                                |
| 4 | <a href="#">regulation of striated muscle tissue development</a> | 1 | . | . | . | . |   |                                                                                                |
| 5 |                                                                  |   | 2 | 7 | 2 | 7 |   |                                                                                                |
|   |                                                                  |   | 8 | 0 | 8 | 0 |   |                                                                                                |
|   |                                                                  |   | 5 | 7 | 5 | 7 |   |                                                                                                |
|   |                                                                  |   | E | E | E | E |   |                                                                                                |
|   |                                                                  |   | - | - | - | - |   |                                                                                                |
|   |                                                                  | 5 | 0 | 0 | 0 | 0 |   |                                                                                                |
|   |                                                                  | 7 | 3 | 2 | 3 | 2 | 4 | Cyclin B1, HDAC7, Histone deacetylase class II, Cyclin B                                       |
| 3 |                                                                  |   | 5 | 3 | 5 | 3 |   |                                                                                                |
| 4 | <a href="#">regulation of muscle system process</a>              | 2 | . | . | . | . |   |                                                                                                |
| 6 |                                                                  |   | 4 | 7 | 4 | 7 |   |                                                                                                |
|   |                                                                  |   | 1 | 3 | 1 | 3 |   |                                                                                                |
|   |                                                                  |   | 4 | 0 | 4 | 0 |   |                                                                                                |
|   |                                                                  |   | E | E | E | E |   |                                                                                                |
|   |                                                                  |   | - | - | - | - |   |                                                                                                |
|   |                                                                  | 5 | 0 | 0 | 0 | 0 |   |                                                                                                |
|   |                                                                  | 3 | 3 | 2 | 3 | 2 | 5 | ECE1, Histone deacetylase class II, Thioredoxin-like 2, Annexin VI, Calmodulin                 |
| 3 |                                                                  |   | 5 | 3 | 5 | 3 |   |                                                                                                |
| 4 | <a href="#">regulation of cell motility</a>                      | 7 | . | . | . | . |   |                                                                                                |
| 7 |                                                                  |   | 4 | 7 | 4 | 7 |   |                                                                                                |
|   |                                                                  |   | 3 | 3 | 3 | 3 |   |                                                                                                |
|   |                                                                  |   | 3 | 0 | 3 | 0 |   |                                                                                                |
|   |                                                                  |   | E | E | E | E |   |                                                                                                |
|   |                                                                  |   | - | - | - | - |   |                                                                                                |
|   |                                                                  | 7 | 0 | 0 | 0 | 0 | 9 | Annexin V, Reticulon 4, PPM1F, HDAC7, Histone deacetylase class II, Calmyrin, HSP70, FOP, PP2C |

|   |                                                              |   |                                                |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                                                                                                               |
|---|--------------------------------------------------------------|---|------------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                              |   | 3                                              | 2                                         | 3                                         | 2                                         |        |                                                                                                                                                                                                                                                                                                                                               |
| 3 | <a href="#">regulation of actin filament bundle assembly</a> | 8 | 5<br>.<br>4<br>3<br>5<br>E<br>-<br>0<br>3      | 3<br>.<br>7<br>3<br>0<br>E<br>-<br>0<br>2 | 5<br>.<br>4<br>3<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>7<br>3<br>0<br>E<br>-<br>0<br>2 | 3      | PPM1F, Pleckstrin, PP2C                                                                                                                                                                                                                                                                                                                       |
| 3 | <a href="#">response to chemical</a>                         | 9 | 5<br>.<br>4<br>5<br>3<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>7<br>3<br>0<br>E<br>-<br>0<br>2 | 5<br>.<br>4<br>5<br>3<br>E<br>-<br>0<br>3 | 3<br>.<br>7<br>3<br>0<br>E<br>-<br>0<br>2 | 3<br>5 | Annexin V, P5CR1, eEF1A, Reticulon 4, Cyclin T1, Cyclin B1, HSPA1B, ECE1, AL1A1, PPM1F, MENA, CDO1, Histone deacetylase class II, Olfactory receptor, Calmyrin, COLEC12, HSP70, eEF2K, TXNRD1, SMYD3, Calmodulin, HSPA2, HSPA1A, RBP1, eEF1A1, OR10G3, Annexin XI, SET/NUP214 fusion protein, Cyclin B, IMD2, PTPN2, RIG-G, PDXP, PP2C, HSC70 |
| 3 | <a href="#">regulation of apoptotic signaling pathway</a>    | 4 | 5<br>.<br>4<br>6<br>4<br>E<br>-<br>7<br>9      | 3<br>.<br>7<br>3<br>0<br>E<br>-<br>0<br>3 | 5<br>.<br>4<br>6<br>4<br>E<br>-<br>0<br>2 | 3<br>.<br>7<br>3<br>0<br>E<br>-<br>0<br>2 | 7      | DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), HSP70, HSPA1A, DYNLL, EYA1                                                                                                                                                                                                                                                                     |
| 3 | <a href="#">metaphase plate congression</a>                  | 5 | 5<br>.<br>4<br>7<br>2<br>E<br>-<br>0<br>3      | 3<br>.<br>7<br>3<br>0<br>E<br>-<br>0<br>2 | 5<br>.<br>4<br>7<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>7<br>3<br>0<br>E<br>-<br>0<br>2 | 2      | Cyclin B1, Cyclin B                                                                                                                                                                                                                                                                                                                           |
| 3 | <a href="#">synaptonemal complex organization</a>            | 5 | 5<br>.<br>4<br>7<br>2<br>E<br>-<br>0<br>3      | 3<br>.<br>7<br>3<br>0<br>E<br>-<br>0<br>2 | 5<br>.<br>4<br>7<br>2<br>E<br>-<br>0<br>3 | 3<br>.<br>7<br>3<br>0<br>E<br>-<br>0<br>2 | 2      | HSP70, HSPA2                                                                                                                                                                                                                                                                                                                                  |

|   |                                                                    |   |   |   |   |   |   |                                                          |
|---|--------------------------------------------------------------------|---|---|---|---|---|---|----------------------------------------------------------|
| 3 |                                                                    |   | 5 | 3 | 5 | 3 |   |                                                          |
| 5 |                                                                    |   | . | . | . | . |   |                                                          |
| 3 |                                                                    |   | 4 | 7 | 4 | 7 |   |                                                          |
|   |                                                                    |   | 7 | 3 | 7 | 3 |   |                                                          |
|   |                                                                    |   | 2 | 0 | 2 | 0 |   |                                                          |
|   |                                                                    |   | E | E | E | E |   |                                                          |
|   |                                                                    |   | - | - | - | - |   |                                                          |
|   | <a href="#">response to insecticide</a>                            | 2 | 0 | 0 | 0 | 0 |   |                                                          |
|   |                                                                    | 5 | 3 | 2 | 3 | 2 | 2 | Cyclin B1, Cyclin B                                      |
| 3 |                                                                    |   | 5 | 3 | 5 | 3 |   |                                                          |
| 5 |                                                                    |   | . | . | . | . |   |                                                          |
| 4 |                                                                    |   | 4 | 7 | 4 | 7 |   |                                                          |
|   |                                                                    |   | 7 | 3 | 7 | 3 |   |                                                          |
|   |                                                                    |   | 2 | 0 | 2 | 0 |   |                                                          |
|   |                                                                    |   | E | E | E | E |   |                                                          |
|   |                                                                    |   | - | - | - | - |   |                                                          |
|   | <a href="#">positive regulation of protein complex disassembly</a> | 2 | 0 | 0 | 0 | 0 |   |                                                          |
|   |                                                                    | 5 | 3 | 2 | 3 | 2 | 2 | Pleckstrin, PDXP                                         |
| 3 |                                                                    |   | 5 | 3 | 5 | 3 |   |                                                          |
| 5 |                                                                    |   | . | . | . | . |   |                                                          |
| 5 |                                                                    |   | 4 | 7 | 4 | 7 |   |                                                          |
|   |                                                                    |   | 7 | 3 | 7 | 3 |   |                                                          |
|   |                                                                    |   | 2 | 0 | 2 | 0 |   |                                                          |
|   |                                                                    |   | E | E | E | E |   |                                                          |
|   |                                                                    |   | - | - | - | - |   |                                                          |
|   | <a href="#">histone H4 deacetylation</a>                           | 2 | 0 | 0 | 0 | 0 |   |                                                          |
|   |                                                                    | 5 | 3 | 2 | 3 | 2 | 2 | HDAC7, Histone deacetylase class II                      |
| 3 |                                                                    |   | 5 | 3 | 5 | 3 |   |                                                          |
| 5 |                                                                    |   | . | . | . | . |   |                                                          |
| 6 |                                                                    |   | 5 | 7 | 5 | 7 |   |                                                          |
|   |                                                                    |   | 2 | 4 | 2 | 4 |   |                                                          |
|   |                                                                    |   | 6 | 6 | 6 | 6 |   |                                                          |
|   |                                                                    |   | E | E | E | E |   |                                                          |
|   |                                                                    | 1 | - | - | - | - |   |                                                          |
|   | <a href="#">regulation of muscle organ development</a>             | 5 | 0 | 0 | 0 | 0 |   |                                                          |
|   |                                                                    | 9 | 3 | 2 | 3 | 2 | 4 | Cyclin B1, HDAC7, Histone deacetylase class II, Cyclin B |
| 3 |                                                                    |   | 5 | 3 | 5 | 3 |   |                                                          |
| 5 |                                                                    |   | . | . | . | . |   |                                                          |
| 7 |                                                                    |   | 5 | 7 | 5 | 7 |   |                                                          |
|   |                                                                    |   | 2 | 4 | 2 | 4 |   |                                                          |
|   |                                                                    |   | 6 | 6 | 6 | 6 |   |                                                          |
|   |                                                                    |   | E | E | E | E |   |                                                          |
|   |                                                                    | 1 | - | - | - | - |   |                                                          |
|   | <a href="#">regulation of muscle tissue development</a>            | 5 | 0 | 0 | 0 | 0 |   |                                                          |
|   |                                                                    | 9 | 3 | 2 | 3 | 2 | 4 | Cyclin B1, HDAC7, Histone deacetylase class II, Cyclin B |
| 3 |                                                                    | 1 | 5 | 3 | 5 | 3 | 1 | RBBP8 (CtIP), PGMU, Cyclin B1, HSPA1B, PSMD10            |
| 5 | <a href="#">macromolecule catabolic process</a>                    | 0 | . | . | . | . | 1 | (Gankyrin), Histone deacetylase class II, HSP70, PGM2,   |

|             |                                                                                                  |                  |                                      |                                      |                                      |                                      |                                                                                                                                                                                                   |
|-------------|--------------------------------------------------------------------------------------------------|------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8           |                                                                                                  | 2<br>6           | 7<br>0<br>0<br>E<br>-<br>0<br>3      | 8<br>5<br>3<br>E<br>-<br>0<br>2      | 7<br>0<br>0<br>E<br>-<br>0<br>3      | 8<br>5<br>3<br>E<br>-<br>0<br>2      | Calmodulin, HSPA1A, Cyclin B                                                                                                                                                                      |
| 3<br>5<br>9 | <a href="#">RNA splicing</a>                                                                     | 3<br>6<br>5      | 5<br>7<br>3<br>7<br>E<br>-<br>0<br>3 | 3<br>8<br>6<br>7<br>E<br>-<br>0<br>2 | 5<br>7<br>3<br>7<br>E<br>-<br>0<br>3 | 3<br>8<br>6<br>7<br>E<br>-<br>0<br>2 | RY1, Clp1, HSP70, Cyclophilin E, HSC70, TARDBP (TDP43)                                                                                                                                            |
| 3<br>6<br>0 | <a href="#">response to ethanol</a>                                                              | 2<br>5<br>8      | 5<br>8<br>7<br>3<br>E<br>-<br>0<br>3 | 3<br>9<br>4<br>8<br>E<br>-<br>0<br>2 | 5<br>8<br>7<br>3<br>E<br>-<br>0<br>3 | 3<br>9<br>4<br>8<br>E<br>-<br>0<br>2 | HSPA1B, AL1A1, CDO1, HSP70, HSPA1A                                                                                                                                                                |
| 3<br>6<br>1 | <a href="#">male meiosis I</a>                                                                   | 2<br>6           | 5<br>9<br>1<br>1<br>E<br>-<br>0<br>3 | 3<br>9<br>6<br>3<br>E<br>-<br>0<br>2 | 5<br>9<br>1<br>1<br>E<br>-<br>0<br>3 | 3<br>9<br>6<br>3<br>E<br>-<br>0<br>2 | HSP70, HSPA2                                                                                                                                                                                      |
| 3<br>6<br>2 | <a href="#">regulation of cysteine-type endopeptidase activity involved in apoptotic process</a> | 2<br>5<br>9      | 5<br>9<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>9<br>6<br>0<br>E<br>-<br>0<br>2 | 5<br>9<br>6<br>8<br>E<br>-<br>0<br>3 | 3<br>9<br>6<br>0<br>E<br>-<br>0<br>2 | HSPA1B, PPM1F, HSP70, HSPA1A, PP2C                                                                                                                                                                |
| 3<br>6<br>3 | <a href="#">cellular nitrogen compound biosynthetic process</a>                                  | 3<br>3<br>9<br>7 | 5<br>.<br>9<br>9<br>9<br>9           | 3<br>.<br>9<br>9<br>9<br>9           | 5<br>.<br>9<br>9<br>9<br>9           | 3<br>.<br>9<br>9<br>9<br>9           | eEF1A, RBBP8 (CtIP), Cyclin T1, DLC1 (Dynein LC8a), Clp1, HDAC7, HEXIM1, Histone deacetylase class II, HSP70, ARID4A, LOC646817, COASY, eEF1A1, ZNF397OS, DYNLL, ZNF397, IMD2, EYA1, GMEB1, PP2C, |



|             |                                                  |             |                                           |                                           |                                           |                                           |                                                                                                           |
|-------------|--------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------|
|             |                                                  |             | 8<br>E<br>-<br>0<br>3                     | 9<br>E<br>-<br>0<br>2                     | 8<br>E<br>-<br>0<br>3                     | 9<br>E<br>-<br>0<br>2                     | HSC70, TARDBP (TDP43), TCOF1, RUVBL1, PQBP-1                                                              |
| 3<br>6<br>4 | <a href="#">regulation of cell cycle process</a> | 6<br>1<br>6 | 6<br>.<br>0<br>7<br>8<br>E<br>-<br>1<br>6 | 4<br>.<br>0<br>4<br>1<br>E<br>-<br>0<br>3 | 6<br>.<br>0<br>7<br>8<br>E<br>-<br>0<br>2 | 4<br>.<br>0<br>4<br>1<br>E<br>-<br>0<br>2 | Cyclin B1, PSMD10 (Gankyrin), TIPIN, Olfactory receptor, Calmodulin, Cyclin B, PDXP, PRCC                 |
| 3<br>6<br>5 | <a href="#">glycogen metabolic process</a>       | 8<br>4      | 6<br>.<br>2<br>2<br>4<br>E<br>-<br>0<br>3 | 4<br>.<br>1<br>2<br>6<br>E<br>-<br>0<br>2 | 6<br>.<br>2<br>2<br>4<br>E<br>-<br>0<br>3 | 4<br>.<br>1<br>2<br>6<br>E<br>-<br>0<br>2 | PGMU, PGM2, Calmodulin                                                                                    |
| 3<br>6<br>6 | <a href="#">DNA replication</a>                  | 2<br>6<br>2 | 6<br>.<br>2<br>6<br>0<br>E<br>-<br>0<br>3 | 4<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>2 | 6<br>.<br>2<br>6<br>0<br>E<br>-<br>0<br>3 | 4<br>.<br>1<br>3<br>9<br>E<br>-<br>0<br>2 | TIPIN, SET, POLE3-POLE4 complex, POLE3 (YBL1), SET/NUP214 fusion protein                                  |
| 3<br>6<br>7 | <a href="#">response to inorganic substance</a>  | 7<br>5<br>6 | 6<br>.<br>3<br>8<br>7<br>E<br>-<br>0<br>3 | 4<br>.<br>2<br>1<br>2<br>E<br>-<br>0<br>2 | 6<br>.<br>3<br>8<br>7<br>E<br>-<br>0<br>3 | 4<br>.<br>2<br>1<br>2<br>E<br>-<br>0<br>2 | Annexin V, eEF1A, Cyclin B1, ECE1, Histone deacetylase class II, TXNRD1, Calmodulin, Annexin XI, Cyclin B |
| 3<br>6<br>8 | <a href="#">glucan metabolic process</a>         | 8<br>5      | 6<br>.<br>4<br>3<br>1<br>E<br>E           | 4<br>.<br>2<br>1<br>8<br>E<br>E           | 6<br>.<br>4<br>3<br>1<br>E<br>E           | 4<br>.<br>2<br>1<br>8<br>E<br>E           | PGMU, PGM2, Calmodulin                                                                                    |

|   |                                                                        |   |   |   |   |   |   |                                                             |
|---|------------------------------------------------------------------------|---|---|---|---|---|---|-------------------------------------------------------------|
|   |                                                                        |   | - | - | - | - |   |                                                             |
|   |                                                                        |   | 0 | 0 | 0 | 0 |   |                                                             |
|   |                                                                        |   | 3 | 2 | 3 | 2 |   |                                                             |
| 3 |                                                                        |   | 6 | 4 | 6 | 4 |   |                                                             |
| 6 |                                                                        |   | . | . | . | . |   |                                                             |
| 9 | <a href="#">cellular glucan metabolic process</a>                      | 8 | 4 | 2 | 4 | 2 |   |                                                             |
|   |                                                                        | 5 | 3 | 1 | 3 | 1 |   |                                                             |
|   |                                                                        |   | 1 | 8 | 1 | 8 |   |                                                             |
|   |                                                                        |   | E | E | E | E |   |                                                             |
|   |                                                                        |   | - | - | - | - |   |                                                             |
|   |                                                                        |   | 0 | 0 | 0 | 0 |   |                                                             |
|   |                                                                        |   | 3 | 2 | 3 | 2 | 3 | PGMU, PGM2, Calmodulin                                      |
| 3 |                                                                        |   | 6 | 4 | 6 | 4 |   |                                                             |
| 7 |                                                                        |   | . | . | . | . |   |                                                             |
| 0 | <a href="#">DNA repair</a>                                             | 4 | 7 | 4 | 7 | 4 |   |                                                             |
|   |                                                                        | 9 | 8 | 3 | 8 | 3 |   |                                                             |
|   |                                                                        | 9 | 9 | 8 | 9 | 8 |   |                                                             |
|   |                                                                        |   | E | E | E | E |   |                                                             |
|   |                                                                        |   | - | - | - | - |   |                                                             |
|   |                                                                        |   | 0 | 0 | 0 | 0 |   |                                                             |
|   |                                                                        |   | 3 | 2 | 3 | 2 | 7 | RBBP8 (CtIP), HSPA1B, Calmyrin, HSP70, HSPA1A, EYA1, RUVBL1 |
| 3 |                                                                        |   | 6 | 4 | 6 | 4 |   |                                                             |
| 7 |                                                                        |   | . | . | . | . |   |                                                             |
| 1 | <a href="#">protein depolymerization</a>                               | 2 | 8 | 4 | 8 | 4 |   |                                                             |
|   |                                                                        | 8 | 3 | 3 | 3 | 3 |   |                                                             |
|   |                                                                        |   | 6 | 8 | 6 | 8 |   |                                                             |
|   |                                                                        |   | E | E | E | E |   |                                                             |
|   |                                                                        |   | - | - | - | - |   |                                                             |
|   |                                                                        |   | 0 | 0 | 0 | 0 |   |                                                             |
|   |                                                                        |   | 3 | 2 | 3 | 2 | 2 | HSP70, HSC70                                                |
| 3 |                                                                        |   | 6 | 4 | 6 | 4 |   |                                                             |
| 7 |                                                                        |   | . | . | . | . |   |                                                             |
| 2 | <a href="#">retinoic acid metabolic process</a>                        | 2 | 8 | 4 | 8 | 4 |   |                                                             |
|   |                                                                        | 8 | 3 | 3 | 3 | 3 |   |                                                             |
|   |                                                                        |   | 6 | 8 | 6 | 8 |   |                                                             |
|   |                                                                        |   | E | E | E | E |   |                                                             |
|   |                                                                        |   | - | - | - | - |   |                                                             |
|   |                                                                        |   | 0 | 0 | 0 | 0 |   |                                                             |
|   |                                                                        |   | 3 | 2 | 3 | 2 | 2 | AL1A1, RBP1                                                 |
| 3 |                                                                        |   | 6 | 4 | 6 | 4 |   |                                                             |
| 7 |                                                                        |   | . | . | . | . |   |                                                             |
| 3 | <a href="#">positive regulation of leukocyte mediated cytotoxicity</a> | 8 | 8 | 4 | 8 | 4 |   |                                                             |
|   |                                                                        | 7 | 5 | 3 | 5 | 3 |   |                                                             |
|   |                                                                        |   | 8 | 8 | 8 | 8 |   |                                                             |
|   |                                                                        |   | E | E | E | E |   |                                                             |
|   |                                                                        |   | - | - | - | - |   |                                                             |
|   |                                                                        |   | 0 | 0 | 0 | 0 | 3 | HSPA1B, HSP70, HSPA1A                                       |

|   |                                                                                                         |   |   |   |   |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---|---------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                                                                                         |   | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3 | <a href="#">regulation of cellular process</a>                                                          | 1 | 6 | 4 | 6 | 4 | 6 | Annexin V, eEF1A, Reticulon 4, RBBP8 (CtIP), IGHG4, Cyclin T1, Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, ECE1, AL1A1, ARL5B, PPM1F, HDAC7, MENA, HEXIM1, Histone deacetylase class II, Olfactory receptor, Thioredoxin-like 2, Calmyrin, EPS8L1, COLEC12, HSP70, IGHG1, Cyclophilin E, ARID4A, CLEC2D, eEF2K, LOC646817, SET, Follistatin, TXNRD1, SMYD3, Calmodulin, HSPA2, HSPA1A, RBP1, eEF1A1, CKS2, OR10G3, OBFC1, ZNF397OS, DYNLL, ICMT, ZNF397, SET/NUP214 fusion protein, Cyclin B, EYA1, GMEB1, Pleckstrin, PTPN2, FOP, RIG-G, PDXP, CAMK2N1, PP2C, HSC70, TARDBP (TDP43), PRCC, RUVBL1, PQBP-1, VILIP1 |
| 7 |                                                                                                         | 1 | 8 | 4 | 8 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 4 |                                                                                                         | 5 | 5 | 3 | 5 | 3 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                                                                         | 7 | 9 | 8 | 9 | 8 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                                                                         | 1 | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                                                                         | 7 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                                                                         | 0 | 0 | 0 | 0 | 0 | 6 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                                                                         | 7 | 3 | 2 | 3 | 2 | 4 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3 | <a href="#">positive regulation of ubiquitin-protein ligase activity involved in mitotic cell cycle</a> | 8 | 7 | 4 | 7 | 4 | 3 | Cyclin B1, PSMD10 (Gankyrin), Cyclin B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 7 |                                                                                                         | 8 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5 |                                                                                                         | 8 | 3 | 2 | 3 | 2 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                                                                         |   | 7 | 4 | 7 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                                                                         |   | 0 | 5 | 0 | 5 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                                                                         |   | 8 | 6 | 8 | 6 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                                                                         |   | 6 | 1 | 6 | 1 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                                                                         |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3 | <a href="#">positive regulation of growth</a>                                                           | 2 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 7 |                                                                                                         | 7 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 6 |                                                                                                         | 0 | 3 | 2 | 3 | 2 | 5 | PSMD10 (Gankyrin), PPM1F, Calmyrin, FOP, PP2C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|   |                                                                                                         |   | 7 | 4 | 7 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                                                                         |   | 3 | 6 | 3 | 6 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                                                                         |   | 0 | 5 | 0 | 5 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                                                                         |   | 5 | 0 | 5 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                                                                         |   | E | E | E | E |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3 | <a href="#">cellular amino acid metabolic process</a>                                                   | 5 | - | - | - | - |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 7 |                                                                                                         | 0 | 0 | 0 | 0 | 0 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 7 |                                                                                                         | 6 | 3 | 2 | 3 | 2 | 7 | P5CR1, CDO1, DARS, COASY, TXNRD1, ICMT, Fructosamine-3-kinase                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|   |                                                                                                         |   | 7 | 4 | 7 | 4 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|   |                                                                                                         |   | 3 | 6 | 3 | 6 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 3 | <a href="#">protein-DNA complex disassembly</a>                                                         | 2 | 2 | 5 | 2 | 5 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 7 |                                                                                                         | 9 | 1 | 0 | 1 | 0 | 2 | SET, SET/NUP214 fusion protein                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 8 |                                                                                                         |   |   |   |   |   |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|             |                                                                                |             |                                           |                                           |                                           |                                           |   |                                    |
|-------------|--------------------------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|------------------------------------|
|             |                                                                                |             | E<br>-<br>0<br>3                          | E<br>-<br>0<br>2                          | E<br>-<br>0<br>3                          | E<br>-<br>0<br>2                          |   |                                    |
| 3<br>7<br>9 | <a href="#">chromatin<br/>disassembly</a>                                      | 2<br>9      | 7<br>.<br>3<br>2<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>6<br>5<br>0<br>E<br>-<br>0<br>2 | 7<br>.<br>3<br>2<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>6<br>5<br>0<br>E<br>-<br>0<br>2 | 2 | SET, SET/NUP214 fusion protein     |
| 3<br>8<br>0 | <a href="#">nucleosome<br/>disassembly</a>                                     | 2<br>9      | 7<br>.<br>3<br>2<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>6<br>5<br>0<br>E<br>-<br>0<br>2 | 7<br>.<br>3<br>2<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>6<br>5<br>0<br>E<br>-<br>0<br>2 | 2 | SET, SET/NUP214 fusion protein     |
| 3<br>8<br>1 | <a href="#">oocyte maturation</a>                                              | 2<br>9      | 7<br>.<br>3<br>2<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>6<br>5<br>0<br>E<br>-<br>0<br>2 | 7<br>.<br>3<br>2<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>6<br>5<br>0<br>E<br>-<br>0<br>2 | 2 | Cyclin B1, Cyclin B                |
| 3<br>8<br>2 | <a href="#">regulation of<br/>cysteine-type<br/>endopeptidase<br/>activity</a> | 2<br>7<br>4 | 7<br>5<br>2<br>7<br>E<br>-<br>0<br>3      | 4<br>7<br>5<br>7<br>E<br>-<br>0<br>2      | 7<br>5<br>2<br>7<br>E<br>-<br>0<br>3      | 4<br>7<br>5<br>7<br>E<br>-<br>0<br>2      | 5 | HSPA1B, PPM1F, HSP70, HSPA1A, PP2C |
| 3<br>8<br>3 | <a href="#">regulation of cell-<br/>matrix adhesion</a>                        | 9<br>0      | 7<br>.<br>5<br>2<br>9<br>E<br>-<br>0      | 4<br>.<br>7<br>5<br>7<br>E<br>-<br>0      | 7<br>.<br>5<br>2<br>9<br>E<br>-<br>0      | 4<br>.<br>7<br>5<br>7<br>E<br>-<br>0      | 3 | PPM1F, Calmyrin, PP2C              |

|             |                                                                           |        |                                           |                                           |                                           |                                           |   |                                     |
|-------------|---------------------------------------------------------------------------|--------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|-------------------------------------|
|             |                                                                           |        | 0<br>3                                    | 0<br>2                                    | 0<br>3                                    | 0<br>2                                    |   |                                     |
| 3<br>8<br>4 | <a href="#">histone H3 deacetylation</a>                                  | 3<br>0 | 7<br>.<br>8<br>2<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>8<br>6<br>6<br>E<br>-<br>0<br>2 | 7<br>.<br>8<br>2<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>8<br>6<br>6<br>E<br>-<br>0<br>2 | 2 | HDAC7, Histone deacetylase class II |
| 3<br>8<br>5 | <a href="#">negative regulation of striated muscle tissue development</a> | 3<br>0 | 7<br>.<br>8<br>2<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>8<br>6<br>6<br>E<br>-<br>0<br>2 | 7<br>.<br>8<br>2<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>8<br>6<br>6<br>E<br>-<br>0<br>2 | 2 | HDAC7, Histone deacetylase class II |
| 3<br>8<br>6 | <a href="#">protein sumoylation</a>                                       | 3<br>0 | 7<br>.<br>8<br>2<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>8<br>6<br>6<br>E<br>-<br>0<br>2 | 7<br>.<br>8<br>2<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>8<br>6<br>6<br>E<br>-<br>0<br>2 | 2 | SAE2, EYA1                          |
| 3<br>8<br>7 | <a href="#">positive regulation of mRNA processing</a>                    | 3<br>0 | 7<br>.<br>8<br>2<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>8<br>6<br>6<br>E<br>-<br>0<br>2 | 7<br>.<br>8<br>2<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>8<br>6<br>6<br>E<br>-<br>0<br>2 | 2 | Cyclin B1, Cyclin B                 |
| 3<br>8<br>8 | <a href="#">establishment of chromosome localization</a>                  | 3<br>0 | 7<br>.<br>8<br>2<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>8<br>6<br>6<br>E<br>-<br>0<br>2 | 7<br>.<br>8<br>2<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>8<br>6<br>6<br>E<br>-<br>0<br>2 | 2 | Cyclin B1, Cyclin B                 |

|     |                                         |     |            |             |            |             |   |                                                                                          |
|-----|-----------------------------------------|-----|------------|-------------|------------|-------------|---|------------------------------------------------------------------------------------------|
| 389 | <a href="#">histone phosphorylation</a> | 30  | 7821EE--03 | 48661EE--02 | 7821EE--03 | 48661EE--02 | 2 | Cyclin B1, Cyclin B                                                                      |
| 390 | <a href="#">DNA damage checkpoint</a>   | 176 | 7866EE--03 | 48661EE--02 | 7866EE--03 | 48661EE--02 | 4 | RBBP8 (CtIP), PSMD10 (Gankyrin), TIPIN, PP2C                                             |
| 391 | <a href="#">heart development</a>       | 646 | 804EE--03  | 4954EE--02  | 804EE--03  | 4954EE--02  | 8 | Reticulon 4, Cyclin B1, ECE1, HEXIM1, Histone deacetylase class II, Cyclin B, EYA1, PP2C |

**Table 9S: Enrichment analysis report.** Enrichment by GO Processes (SVZp vs SVZn)

| Enrichment by GO Processes |                                                                       |       | SVZp VS SVZn Limma List_genelist |           |           |           |         |                                  |
|----------------------------|-----------------------------------------------------------------------|-------|----------------------------------|-----------|-----------|-----------|---------|----------------------------------|
| #                          | Processes                                                             | Total | pValue                           | Min FDR   | p-value   | FDR       | In Data | Network Objects from Active Data |
| 1                          | <a href="#">hexose catabolic process</a>                              | 39    | 8.005E-06                        | 3.021E-03 | 8.005E-06 | 3.021E-03 | 3       | PGMU, PGM2, 3HIDH                |
| 2                          | <a href="#">monosaccharide catabolic process</a>                      | 45    | 1.238E-05                        | 3.021E-03 | 1.238E-05 | 3.021E-03 | 3       | PGMU, PGM2, 3HIDH                |
| 3                          | <a href="#">galactose catabolic process</a>                           | 8     | 2.728E-05                        | 4.438E-03 | 2.728E-05 | 4.438E-03 | 2       | PGMU, PGM2                       |
| 4                          | <a href="#">positive regulation of guanylate cyclase activity</a>     | 14    | 8.834E-05                        | 9.464E-03 | 8.834E-05 | 9.464E-03 | 2       | GCAP, GCAP1                      |
| 5                          | <a href="#">regulation of guanylate cyclase activity</a>              | 15    | 1.019E-04                        | 9.464E-03 | 1.019E-04 | 9.464E-03 | 2       | GCAP, GCAP1                      |
| 6                          | <a href="#">galactose metabolic process</a>                           | 16    | 1.164E-04                        | 9.464E-03 | 1.164E-04 | 9.464E-03 | 2       | PGMU, PGM2                       |
| 7                          | <a href="#">glycogen catabolic process</a>                            | 25    | 2.893E-04                        | 1.660E-02 | 2.893E-04 | 1.660E-02 | 2       | PGMU, PGM2                       |
| 8                          | <a href="#">glucan catabolic process</a>                              | 26    | 3.132E-04                        | 1.660E-02 | 3.132E-04 | 1.660E-02 | 2       | PGMU, PGM2                       |
| 9                          | <a href="#">cellular polysaccharide catabolic process</a>             | 27    | 3.381E-04                        | 1.660E-02 | 3.381E-04 | 1.660E-02 | 2       | PGMU, PGM2                       |
| 10                         | <a href="#">single-organism carbohydrate catabolic process</a>        | 137   | 3.445E-04                        | 1.660E-02 | 3.445E-04 | 1.660E-02 | 3       | PGMU, PGM2, 3HIDH                |
| 11                         | <a href="#">polysaccharide catabolic process</a>                      | 30    | 4.182E-04                        | 1.660E-02 | 4.182E-04 | 1.660E-02 | 2       | PGMU, PGM2                       |
| 12                         | <a href="#">carbohydrate catabolic process</a>                        | 147   | 4.234E-04                        | 1.660E-02 | 4.234E-04 | 1.660E-02 | 3       | PGMU, PGM2, 3HIDH                |
| 13                         | <a href="#">cellular response to epidermal growth factor stimulus</a> | 31    | 4.468E-04                        | 1.660E-02 | 4.468E-04 | 1.660E-02 | 2       | eEF1A1, eEF1A                    |
| 14                         | <a href="#">positive regulation of cGMP biosynthetic</a>              | 32    | 4.763E-04                        | 1.660E-02 | 4.763E-04 | 1.660E-02 | 2       | GCAP, GCAP1                      |

|        |                                                                    |             |                   |                   |                   |                   |   |                   |
|--------|--------------------------------------------------------------------|-------------|-------------------|-------------------|-------------------|-------------------|---|-------------------|
|        | <a href="#">process</a>                                            |             | -04               | -02               | -04               | -02               |   |                   |
| 1<br>5 | <a href="#">glycogen biosynthetic process</a>                      | 3<br>5      | 5.7<br>03E<br>-04 | 1.7<br>28E<br>-02 | 5.7<br>03E<br>-04 | 1.7<br>28E<br>-02 | 2 | PGMU, PGM2        |
| 1<br>6 | <a href="#">glucan biosynthetic process</a>                        | 3<br>5      | 5.7<br>03E<br>-04 | 1.7<br>28E<br>-02 | 5.7<br>03E<br>-04 | 1.7<br>28E<br>-02 | 2 | PGMU, PGM2        |
| 1<br>7 | <a href="#">positive regulation of cGMP metabolic process</a>      | 3<br>6      | 6.0<br>34E<br>-04 | 1.7<br>28E<br>-02 | 6.0<br>34E<br>-04 | 1.7<br>28E<br>-02 | 2 | GCAP, GCAP1       |
| 1<br>8 | <a href="#">cellular carbohydrate catabolic process</a>            | 3<br>7      | 6.3<br>75E<br>-04 | 1.7<br>28E<br>-02 | 6.3<br>75E<br>-04 | 1.7<br>28E<br>-02 | 2 | PGMU, PGM2        |
| 1<br>9 | <a href="#">response to epidermal growth factor</a>                | 4<br>2      | 8.2<br>17E<br>-04 | 2.0<br>05E<br>-02 | 8.2<br>17E<br>-04 | 2.0<br>05E<br>-02 | 2 | eEF1A1, eEF1A     |
| 2<br>0 | <a href="#">regulation of cGMP biosynthetic process</a>            | 4<br>2      | 8.2<br>17E<br>-04 | 2.0<br>05E<br>-02 | 8.2<br>17E<br>-04 | 2.0<br>05E<br>-02 | 2 | GCAP, GCAP1       |
| 2<br>1 | <a href="#">glucose metabolic process</a>                          | 2<br>0<br>8 | 1.1<br>60E<br>-03 | 2.5<br>81E<br>-02 | 1.1<br>60E<br>-03 | 2.5<br>81E<br>-02 | 3 | PGMU, PGM2, 3HIDH |
| 2<br>2 | <a href="#">regulation of cGMP metabolic process</a>               | 5<br>0      | 1.1<br>63E<br>-03 | 2.5<br>81E<br>-02 | 1.1<br>63E<br>-03 | 2.5<br>81E<br>-02 | 2 | GCAP, GCAP1       |
| 2<br>3 | <a href="#">regulation of rhodopsin mediated signaling pathway</a> | 5<br>5      | 1.4<br>06E<br>-03 | 2.9<br>83E<br>-02 | 1.4<br>06E<br>-03 | 2.9<br>83E<br>-02 | 2 | GCAP, GCAP1       |
| 2<br>4 | <a href="#">cellular polysaccharide biosynthetic process</a>       | 5<br>7      | 1.5<br>09E<br>-03 | 3.0<br>49E<br>-02 | 1.5<br>09E<br>-03 | 3.0<br>49E<br>-02 | 2 | PGMU, PGM2        |
| 2<br>5 | <a href="#">polysaccharide biosynthetic process</a>                | 5<br>8      | 1.5<br>62E<br>-03 | 3.0<br>49E<br>-02 | 1.5<br>62E<br>-03 | 3.0<br>49E<br>-02 | 2 | PGMU, PGM2        |
| 2<br>6 | <a href="#">rhodopsin mediated signaling pathway</a>               | 6<br>2      | 1.7<br>83E<br>-03 | 3.3<br>46E<br>-02 | 1.7<br>83E<br>-03 | 3.3<br>46E<br>-02 | 2 | GCAP, GCAP1       |
| 2<br>7 | <a href="#">hexose metabolic process</a>                           | 2<br>5<br>1 | 1.9<br>87E<br>-03 | 3.5<br>30E<br>-02 | 1.9<br>87E<br>-03 | 3.5<br>30E<br>-02 | 3 | PGMU, PGM2, 3HIDH |
| 2<br>8 | <a href="#">trehalose biosynthetic process</a>                     |             | 2.0<br>26E<br>-03 | 3.5<br>30E<br>-02 | 2.0<br>26E<br>-03 | 3.5<br>30E<br>-02 | 1 | PGMU              |
| 2<br>9 | <a href="#">cellular carbohydrate biosynthetic process</a>         | 7<br>0      | 2.2<br>66E<br>-03 | 3.8<br>13E<br>-02 | 2.2<br>66E<br>-03 | 3.8<br>13E<br>-02 | 2 | PGMU, PGM2        |



|    |                                                             |     |                   |                   |                   |                   |    |                                                                                    |
|----|-------------------------------------------------------------|-----|-------------------|-------------------|-------------------|-------------------|----|------------------------------------------------------------------------------------|
| 30 | <a href="#">positive regulation of cyclase activity</a>     | 76  | 2.6<br>64E<br>-03 | 4.3<br>34E<br>-02 | 2.6<br>64E<br>-03 | 4.3<br>34E<br>-02 | 2  | GCAP, GCAP1                                                                        |
| 31 | <a href="#">positive regulation of lyase activity</a>       | 78  | 2.8<br>04E<br>-03 | 4.3<br>77E<br>-02 | 2.8<br>04E<br>-03 | 4.3<br>77E<br>-02 | 2  | GCAP, GCAP1                                                                        |
| 32 | <a href="#">trehalose metabolic process</a>                 | 3   | 3.0<br>37E<br>-03 | 4.3<br>77E<br>-02 | 3.0<br>37E<br>-03 | 4.3<br>77E<br>-02 | 1  | PGMU                                                                               |
| 33 | <a href="#">cellular macromolecule biosynthetic process</a> | 401 | 3.0<br>91E<br>-03 | 4.3<br>77E<br>-02 | 3.0<br>91E<br>-03 | 4.3<br>77E<br>-02 | 10 | eEF1A1, eEF1A, MJD (ataxin-3), PGMU, KIAA1838, DR1, PGM2, GABP alpha, GMEB1, Gbbp1 |
| 34 | <a href="#">glycogen metabolic process</a>                  | 84  | 3.2<br>43E<br>-03 | 4.3<br>77E<br>-02 | 3.2<br>43E<br>-03 | 4.3<br>77E<br>-02 | 2  | PGMU, PGM2                                                                         |
| 35 | <a href="#">monosaccharide metabolic process</a>            | 299 | 3.2<br>62E<br>-03 | 4.3<br>77E<br>-02 | 3.2<br>62E<br>-03 | 4.3<br>77E<br>-02 | 3  | PGMU, PGM2, 3HIDH                                                                  |
| 36 | <a href="#">cellular glucan metabolic process</a>           | 85  | 3.3<br>19E<br>-03 | 4.3<br>77E<br>-02 | 3.3<br>19E<br>-03 | 4.3<br>77E<br>-02 | 2  | PGMU, PGM2                                                                         |
| 37 | <a href="#">glucan metabolic process</a>                    | 85  | 3.3<br>19E<br>-03 | 4.3<br>77E<br>-02 | 3.3<br>19E<br>-03 | 4.3<br>77E<br>-02 | 2  | PGMU, PGM2                                                                         |
| 38 | <a href="#">macromolecule biosynthetic process</a>          | 406 | 3.4<br>60E<br>-03 | 4.4<br>43E<br>-02 | 3.4<br>60E<br>-03 | 4.4<br>43E<br>-02 | 10 | eEF1A1, eEF1A, MJD (ataxin-3), PGMU, KIAA1838, DR1, PGM2, GABP alpha, GMEB1, Gbbp1 |

**Table 10S: Enrichment analysis report.** Enrichment by Diseases (by Biomarkers) (healthy control vs Grade II)

| Enrichment by Diseases (by Biomarkers) |                                                         |       |           | GRADE II_INPUT_genelist |           |           |        |                                            |
|----------------------------------------|---------------------------------------------------------|-------|-----------|-------------------------|-----------|-----------|--------|--------------------------------------------|
| #                                      | Diseases                                                | Total | pValue    | Min FDR                 | p-value   | FDR       | Indata | Network Objects from Active Data           |
| 1                                      | <a href="#">Papilloma, Intraductal</a>                  | 4     | 1.934E-13 | 5.590E-11               | 1.934E-13 | 5.590E-11 | 4      | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD) |
| 2                                      | <a href="#">Lymphangiomyoma</a>                         | 11    | 6.363E-11 | 6.130E-09               | 6.363E-11 | 6.130E-09 | 4      | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD) |
| 3                                      | <a href="#">Lymphangiroleiomyomatosis</a>               | 11    | 6.363E-11 | 6.130E-09               | 6.363E-11 | 6.130E-09 | 4      | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD) |
| 4                                      | <a href="#">Smooth Muscle Tumor</a>                     | 12    | 9.540E-11 | 6.893E-09               | 9.540E-11 | 6.893E-09 | 4      | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD) |
| 5                                      | <a href="#">Lymphatic Vessel Tumors</a>                 | 13    | 1.377E-10 | 7.962E-09               | 1.377E-10 | 7.962E-09 | 4      | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD) |
| 6                                      | <a href="#">Arthritis, Experimental</a>                 | 17    | 4.577E-10 | 2.205E-08               | 4.577E-10 | 2.205E-08 | 4      | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD) |
| 7                                      | <a href="#">Keratoacanthoma</a>                         | 19    | 7.447E-10 | 3.075E-08               | 7.447E-10 | 3.075E-08 | 4      | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD) |
| 8                                      | <a href="#">Lymphatic Metastasis</a>                    | 21    | 1.149E-09 | 4.151E-08               | 1.149E-09 | 4.151E-08 | 4      | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD) |
| 9                                      | <a href="#">Perivascular Epithelioid Cell Neoplasms</a> | 22    | 1.404E-09 | 4.507E-08               | 1.404E-09 | 4.507E-08 | 4      | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD) |
| 10                                     | <a href="#">Leukemia, Erythroblastic, Acute</a>         | 27    | 3.360E-07 | 9.711E-11               | 3.360E-07 | 9.711E-11 | 4      | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD) |

|        |                                               |             |                       |                       |                       |                       |   |                                                          |
|--------|-----------------------------------------------|-------------|-----------------------|-----------------------|-----------------------|-----------------------|---|----------------------------------------------------------|
|        |                                               |             | 09                    | 08                    | 09                    | 08                    |   |                                                          |
| 1<br>1 | <a href="#">Leukemia, Monocytic, Acute</a>    | 2<br>8      | 3.9<br>19<br>E-<br>09 | 1.0<br>30<br>E-<br>07 | 3.9<br>19<br>E-<br>09 | 1.0<br>30<br>E-<br>07 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)               |
| 1<br>2 | <a href="#">Acute Lung Injury</a>             | 6           | 6.4<br>78<br>E-<br>09 | 1.4<br>40<br>E-<br>07 | 6.4<br>78<br>E-<br>09 | 1.4<br>40<br>E-<br>07 | 3 | MYLK1, MLCK, Telokin                                     |
| 1<br>3 | <a href="#">Rhabdomyolysis</a>                | 6           | 6.4<br>78<br>E-<br>09 | 1.4<br>40<br>E-<br>07 | 6.4<br>78<br>E-<br>09 | 1.4<br>40<br>E-<br>07 | 3 | MYLK1, MLCK, Telokin                                     |
| 1<br>4 | <a href="#">Lichen Planus, Oral</a>           | 3<br>6      | 1.1<br>23<br>E-<br>08 | 2.1<br>82<br>E-<br>07 | 1.1<br>23<br>E-<br>08 | 2.1<br>82<br>E-<br>07 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)               |
| 1<br>5 | <a href="#">Craniofacial Abnormalities</a>    | 2<br>3<br>7 | 1.1<br>33<br>E-<br>08 | 2.1<br>82<br>E-<br>07 | 1.1<br>33<br>E-<br>08 | 2.1<br>82<br>E-<br>07 | 6 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD), PQBP-1, EYA1 |
| 1<br>6 | <a href="#">Leukemia, Plasma Cell</a>         | 4<br>5      | 2.8<br>30<br>E-<br>08 | 5.1<br>12<br>E-<br>07 | 2.8<br>30<br>E-<br>08 | 5.1<br>12<br>E-<br>07 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)               |
| 1<br>7 | <a href="#">Lichen Planus</a>                 | 5<br>1      | 4.7<br>34<br>E-<br>08 | 8.0<br>49<br>E-<br>07 | 4.7<br>34<br>E-<br>08 | 8.0<br>49<br>E-<br>07 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)               |
| 1<br>8 | <a href="#">Lichenoid Eruptions</a>           | 5<br>6      | 6.9<br>43<br>E-<br>08 | 1.1<br>15<br>E-<br>06 | 6.9<br>43<br>E-<br>08 | 1.1<br>15<br>E-<br>06 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)               |
| 1<br>9 | <a href="#">Musculoskeletal Abnormalities</a> | 3<br>4<br>0 | 9.6<br>65<br>E-<br>08 | 1.4<br>70<br>E-<br>06 | 9.6<br>65<br>E-<br>08 | 1.4<br>70<br>E-<br>06 | 6 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD), PQBP-1, EYA1 |
| 2<br>0 | <a href="#">Papilloma</a>                     | 6<br>3      | 1.1<br>23<br>E-<br>07 | 1.6<br>22<br>E-<br>06 | 1.1<br>23<br>E-<br>07 | 1.6<br>22<br>E-<br>06 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)               |
| 2<br>1 | <a href="#">Carcinoma, Transitional Cell</a>  | 6<br>8      | 1.5<br>31<br>E-<br>07 | 2.1<br>07<br>E-<br>06 | 1.5<br>31<br>E-<br>07 | 2.1<br>07<br>E-<br>06 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)               |

|        |                                                 |             |                       |                       |                       |                       |    |                                                                                       |
|--------|-------------------------------------------------|-------------|-----------------------|-----------------------|-----------------------|-----------------------|----|---------------------------------------------------------------------------------------|
| 2      |                                                 |             | 1.6<br>25<br>E-<br>07 | 2.1<br>34<br>E-<br>06 | 1.6<br>25<br>E-<br>07 | 2.1<br>34<br>E-<br>06 |    | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                            |
| 2<br>2 | <a href="#">Gastrointestinal Stromal Tumors</a> | 6<br>9      |                       |                       |                       |                       | 4  |                                                                                       |
| 2<br>3 | <a href="#">Fractures, Bone</a>                 | 7<br>9      | 2.8<br>12<br>E-<br>07 | 3.5<br>33<br>E-<br>06 | 2.8<br>12<br>E-<br>07 | 3.5<br>33<br>E-<br>06 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                            |
| 2<br>4 | <a href="#">Adenomatous Polyposis Coli</a>      | 8<br>2      | 3.2<br>69<br>E-<br>07 | 3.9<br>36<br>E-<br>06 | 3.2<br>69<br>E-<br>07 | 3.9<br>36<br>E-<br>06 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                            |
| 2<br>5 | <a href="#">Intestinal Polyposis</a>            | 9<br>0      | 4.7<br>58<br>E-<br>07 | 5.5<br>01<br>E-<br>06 | 4.7<br>58<br>E-<br>07 | 5.5<br>01<br>E-<br>06 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                            |
| 2<br>6 | <a href="#">Adenomatous Polyps</a>              | 9<br>2      | 5.1<br>99<br>E-<br>07 | 5.5<br>65<br>E-<br>06 | 5.1<br>99<br>E-<br>07 | 5.5<br>65<br>E-<br>06 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                            |
| 2<br>7 | <a href="#">Wilms Tumor</a>                     | 9<br>2      | 5.1<br>99<br>E-<br>07 | 5.5<br>65<br>E-<br>06 | 5.1<br>99<br>E-<br>07 | 5.5<br>65<br>E-<br>06 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                            |
| 2<br>8 | <a href="#">Aortic Aneurysm, Abdominal</a>      | 9<br>8      | 6.7<br>03<br>E-<br>07 | 6.9<br>19<br>E-<br>06 | 6.7<br>03<br>E-<br>07 | 6.9<br>19<br>E-<br>06 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                            |
| 2<br>9 | <a href="#">Thyroid Carcinoma, Follicular</a>   | 1<br>1<br>1 | 1.1<br>05<br>E-<br>06 | 1.1<br>01<br>E-<br>05 | 1.1<br>05<br>E-<br>06 | 1.1<br>01<br>E-<br>05 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                            |
| 3<br>0 | <a href="#">Hodgkin Disease</a>                 | 1<br>1<br>3 | 1.1<br>87<br>E-<br>06 | 1.1<br>43<br>E-<br>05 | 1.1<br>87<br>E-<br>06 | 1.1<br>43<br>E-<br>05 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                            |
| 3<br>1 | <a href="#">Epstein-Barr Virus Infections</a>   | 1<br>1<br>9 | 1.4<br>60<br>E-<br>06 | 1.3<br>61<br>E-<br>05 | 1.4<br>60<br>E-<br>06 | 1.3<br>61<br>E-<br>05 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                            |
| 3<br>2 | <a href="#">Inflammation</a>                    | 8<br>9<br>1 | 1.5<br>40<br>E-<br>06 | 1.3<br>91<br>E-<br>05 | 1.5<br>40<br>E-<br>06 | 1.3<br>91<br>E-<br>05 | 7  | CD44 (EXT), CD44, CD44 soluble, MYLK1, MLCK, CD44 (ICD), Telokin                      |
| 3<br>3 | <a href="#">Musculoskeletal Diseases</a>        | 2<br>5<br>1 | 1.6<br>75<br>E-<br>06 | 1.4<br>67<br>E-<br>06 | 1.6<br>75<br>E-<br>06 | 1.4<br>67<br>E-<br>06 | 10 | CD44 (EXT), CD44, CD44 soluble, IGHG1, MYLK1, MLCK, CD44 (ICD), PQBP-1, EYA1, Telokin |

|        |                                                               |                  |                       |                       |                       |                       |   |                                                                         |
|--------|---------------------------------------------------------------|------------------|-----------------------|-----------------------|-----------------------|-----------------------|---|-------------------------------------------------------------------------|
|        |                                                               | 1                | 06                    | 05                    | 06                    | 05                    |   |                                                                         |
| 3<br>4 | <a href="#">Aortic Aneurysm</a>                               | 1<br>2<br>9      | 2.0<br>15<br>E-<br>06 | 1.7<br>13<br>E-<br>05 | 2.0<br>15<br>E-<br>06 | 1.7<br>13<br>E-<br>05 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                              |
| 3<br>5 | <a href="#">Colorectal Neoplasms, Hereditary Nonpolyposis</a> | 1<br>3<br>7      | 2.5<br>62<br>E-<br>06 | 2.1<br>15<br>E-<br>05 | 2.5<br>62<br>E-<br>06 | 2.1<br>15<br>E-<br>05 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                              |
| 3<br>6 | <a href="#">Leukemia, Promyelocytic, Acute</a>                | 1<br>4<br>6      | 3.3<br>00<br>E-<br>06 | 2.5<br>77<br>E-<br>05 | 3.3<br>00<br>E-<br>06 | 2.5<br>77<br>E-<br>05 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                              |
| 3<br>7 | <a href="#">Neoplasms, Experimental</a>                       | 1<br>4<br>6      | 3.3<br>00<br>E-<br>06 | 2.5<br>77<br>E-<br>05 | 3.3<br>00<br>E-<br>06 | 2.5<br>77<br>E-<br>05 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                              |
| 3<br>8 | <a href="#">Hypersensitivity</a>                              | 1<br>4<br>9<br>9 | 3.8<br>30<br>E-<br>06 | 2.9<br>13<br>E-<br>05 | 3.8<br>30<br>E-<br>06 | 2.9<br>13<br>E-<br>05 | 8 | CD44 (EXT), CD44, CD44 soluble, IGHG1, MYLK1, MLCK, CD44 (ICD), Telokin |
| 3<br>9 | <a href="#">Leukemia-Lymphoma, Adult T-Cell</a>               | 1<br>5<br>4      | 4.0<br>79<br>E-<br>06 | 3.0<br>23<br>E-<br>05 | 4.0<br>79<br>E-<br>06 | 3.0<br>23<br>E-<br>05 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                              |
| 4<br>0 | <a href="#">Aortic Diseases</a>                               | 1<br>6<br>3      | 5.1<br>11<br>E-<br>06 | 3.6<br>92<br>E-<br>05 | 5.1<br>11<br>E-<br>06 | 3.6<br>92<br>E-<br>05 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                              |
| 4<br>1 | <a href="#">Eosinophilia</a>                                  | 4<br>9           | 5.8<br>53<br>E-<br>06 | 4.1<br>26<br>E-<br>05 | 5.8<br>53<br>E-<br>06 | 4.1<br>26<br>E-<br>05 | 3 | MYLK1, MLCK, Telokin                                                    |
| 4<br>2 | <a href="#">Celiac Disease</a>                                | 1<br>7<br>7      | 7.0<br>83<br>E-<br>06 | 4.8<br>74<br>E-<br>05 | 7.0<br>83<br>E-<br>06 | 4.8<br>74<br>E-<br>05 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                              |
| 4<br>3 | <a href="#">Asthma</a>                                        | 1<br>1<br>2<br>8 | 7.3<br>81<br>E-<br>06 | 4.9<br>61<br>E-<br>05 | 7.3<br>81<br>E-<br>06 | 4.9<br>61<br>E-<br>05 | 7 | CD44 (EXT), CD44, CD44 soluble, MYLK1, MLCK, CD44 (ICD), Telokin        |
| 4<br>4 | <a href="#">Respiratory Hypersensitivity</a>                  | 1<br>1<br>4<br>3 | 8.0<br>52<br>E-<br>06 | 5.2<br>89<br>E-<br>05 | 8.0<br>52<br>E-<br>06 | 5.2<br>89<br>E-<br>05 | 7 | CD44 (EXT), CD44, CD44 soluble, MYLK1, MLCK, CD44 (ICD), Telokin        |

|        |                                                      |                  |                       |                       |                       |                       |   |                                                                  |
|--------|------------------------------------------------------|------------------|-----------------------|-----------------------|-----------------------|-----------------------|---|------------------------------------------------------------------|
| 4<br>5 | <a href="#">Aneurysm</a>                             | 1<br>8<br>5      | 8.4<br>35<br>E-<br>06 | 5.4<br>17<br>E-<br>05 | 8.4<br>35<br>E-<br>06 | 5.4<br>17<br>E-<br>05 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                       |
| 4<br>6 | <a href="#">Infection</a>                            | 1<br>1<br>7<br>0 | 9.3<br>90<br>E-<br>06 | 5.8<br>14<br>E-<br>05 | 9.3<br>90<br>E-<br>06 | 5.8<br>14<br>E-<br>05 | 7 | CD44 (EXT), CD44, CD44 soluble, MYLK1, MLCK, CD44 (ICD), Telokin |
| 4<br>7 | <a href="#">Biliary Tract Neoplasms</a>              | 1<br>9<br>1      | 9.5<br>69<br>E-<br>06 | 5.8<br>14<br>E-<br>05 | 9.5<br>69<br>E-<br>06 | 5.8<br>14<br>E-<br>05 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                       |
| 4<br>8 | <a href="#">Bronchial Diseases</a>                   | 1<br>1<br>7<br>5 | 9.6<br>57<br>E-<br>06 | 5.8<br>14<br>E-<br>05 | 9.6<br>57<br>E-<br>06 | 5.8<br>14<br>E-<br>05 | 7 | CD44 (EXT), CD44, CD44 soluble, MYLK1, MLCK, CD44 (ICD), Telokin |
| 4<br>9 | <a href="#">Leukemia, T-Cell</a>                     | 2<br>0<br>0      | 1.1<br>47<br>E-<br>05 | 6.7<br>68<br>E-<br>05 | 1.1<br>47<br>E-<br>05 | 6.7<br>68<br>E-<br>05 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                       |
| 5<br>0 | <a href="#">Colonic Neoplasms</a>                    | 1<br>2<br>3<br>2 | 1.3<br>18<br>E-<br>05 | 7.6<br>18<br>E-<br>05 | 1.3<br>18<br>E-<br>05 | 7.6<br>18<br>E-<br>05 | 7 | CD44 (EXT), CD44, CD44 soluble, IGHG1, NOL3, CD44 (ICD), SNX1    |
| 5<br>1 | <a href="#">Respiratory Distress Syndrome, Adult</a> | 6<br>5           | 1.3<br>78<br>E-<br>05 | 7.8<br>08<br>E-<br>05 | 1.3<br>78<br>E-<br>05 | 7.8<br>08<br>E-<br>05 | 3 | MYLK1, MLCK, Telokin                                             |
| 5<br>2 | <a href="#">Tumor Virus Infections</a>               | 2<br>1<br>3      | 1.4<br>70<br>E-<br>05 | 8.1<br>72<br>E-<br>05 | 1.4<br>70<br>E-<br>05 | 8.1<br>72<br>E-<br>05 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                       |
| 5<br>3 | <a href="#">Bacterial Infections and Mycoses</a>     | 1<br>2<br>9<br>4 | 1.8<br>17<br>E-<br>05 | 9.9<br>07<br>E-<br>05 | 1.8<br>17<br>E-<br>05 | 9.9<br>07<br>E-<br>05 | 7 | CD44 (EXT), CD44, CD44 soluble, MYLK1, MLCK, CD44 (ICD), Telokin |
| 5<br>4 | <a href="#">Prostatic Intraepithelial Neoplasia</a>  | 2<br>2<br>6      | 1.8<br>56<br>E-<br>05 | 9.9<br>33<br>E-<br>05 | 1.8<br>56<br>E-<br>05 | 9.9<br>33<br>E-<br>05 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                       |
| 5<br>5 | <a href="#">Hypersensitivity, Immediate</a>          | 1<br>3<br>2<br>5 | 2.1<br>20<br>E-<br>05 | 1.1<br>14<br>E-<br>04 | 2.1<br>20<br>E-<br>05 | 1.1<br>14<br>E-<br>04 | 7 | CD44 (EXT), CD44, CD44 soluble, MYLK1, MLCK, CD44 (ICD), Telokin |
| 5<br>6 | <a href="#">Malabsorption Syndromes</a>              | 2<br>3<br>5      | 2.1<br>63<br>E-<br>05 | 1.1<br>16<br>E-<br>05 | 2.1<br>63<br>E-<br>05 | 1.1<br>16<br>E-<br>05 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                       |

|        |                                                 |                  |                       |                       |                       |                       |    |                                                                                       |
|--------|-------------------------------------------------|------------------|-----------------------|-----------------------|-----------------------|-----------------------|----|---------------------------------------------------------------------------------------|
|        |                                                 |                  | 05                    | 04                    | 05                    | 04                    |    |                                                                                       |
| 5<br>7 | <a href="#">Dermatitis, Allergic Contact</a>    | 2<br>4<br>2      | 2.4<br>27<br>E-<br>05 | 1.2<br>29<br>E-<br>04 | 2.4<br>27<br>E-<br>05 | 1.2<br>29<br>E-<br>04 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                            |
| 5<br>8 | <a href="#">Hypersensitivity, Delayed</a>       | 2<br>4<br>3      | 2.4<br>67<br>E-<br>05 | 1.2<br>29<br>E-<br>04 | 2.4<br>67<br>E-<br>05 | 1.2<br>29<br>E-<br>04 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                            |
| 5<br>9 | <a href="#">Carcinoma, Pancreatic Ductal</a>    | 5<br>1<br>9      | 2.6<br>36<br>E-<br>05 | 1.2<br>91<br>E-<br>04 | 2.6<br>36<br>E-<br>05 | 1.2<br>91<br>E-<br>04 | 5  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD), LHX1                                      |
| 6<br>0 | <a href="#">Dermatitis, Contact</a>             | 2<br>5<br>7      | 3.0<br>71<br>E-<br>05 | 1.4<br>79<br>E-<br>04 | 3.0<br>71<br>E-<br>05 | 1.4<br>79<br>E-<br>04 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                            |
| 6<br>1 | <a href="#">Congenital Abnormalities</a>        | 1<br>5<br>3<br>6 | 5.5<br>17<br>E-<br>05 | 2.6<br>14<br>E-<br>04 | 5.5<br>17<br>E-<br>05 | 2.6<br>14<br>E-<br>04 | 7  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD), PQBP-1, LHX1, EYA1                        |
| 6<br>2 | <a href="#">Lung Injury</a>                     | 1<br>0<br>4      | 5.6<br>45<br>E-<br>05 | 2.6<br>31<br>E-<br>04 | 5.6<br>45<br>E-<br>05 | 2.6<br>31<br>E-<br>04 | 3  | MYLK1, MLCK, Telokin                                                                  |
| 6<br>3 | <a href="#">Neoplasms, Muscle Tissue</a>        | 3<br>0<br>4      | 5.9<br>10<br>E-<br>05 | 2.7<br>11<br>E-<br>04 | 5.9<br>10<br>E-<br>05 | 2.7<br>11<br>E-<br>04 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                            |
| 6<br>4 | <a href="#">DNA Repair-Deficiency Disorders</a> | 3<br>0<br>8      | 6.2<br>18<br>E-<br>05 | 2.8<br>08<br>E-<br>04 | 6.2<br>18<br>E-<br>05 | 2.8<br>08<br>E-<br>04 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                            |
| 6<br>5 | <a href="#">Oligodendroglioma</a>               | 3<br>1<br>3      | 6.6<br>19<br>E-<br>05 | 2.9<br>43<br>E-<br>04 | 6.6<br>19<br>E-<br>05 | 2.9<br>43<br>E-<br>04 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                            |
| 6<br>6 | <a href="#">Lung Diseases, Obstructive</a>      | 1<br>5<br>8<br>8 | 6.8<br>31<br>E-<br>05 | 2.9<br>91<br>E-<br>04 | 6.8<br>31<br>E-<br>05 | 2.9<br>91<br>E-<br>04 | 7  | CD44 (EXT), CD44, CD44 soluble, MYLK1, MLCK, CD44 (ICD), Telokin                      |
| 6<br>7 | <a href="#">Stomach Neoplasms</a>               | 3<br>7<br>9<br>3 | 7.2<br>22<br>E-<br>05 | 3.1<br>15<br>E-<br>04 | 7.2<br>22<br>E-<br>05 | 3.1<br>15<br>E-<br>04 | 10 | CD44 (EXT), CD44, CD44 soluble, VDAC 1, IGHG1, MYLK1, MLCK, CD44 (ICD), LHX1, Telokin |

|        |                                              |                  |                       |                       |                       |                       |    |                                                                                             |
|--------|----------------------------------------------|------------------|-----------------------|-----------------------|-----------------------|-----------------------|----|---------------------------------------------------------------------------------------------|
| 6<br>8 | <a href="#">Myeloproliferative Disorders</a> | 3<br>2<br>2      | 7.3<br>89<br>E-<br>05 | 3.1<br>40<br>E-<br>04 | 7.3<br>89<br>E-<br>05 | 3.1<br>40<br>E-<br>04 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                  |
| 6<br>9 | <a href="#">Stomach Diseases</a>             | 3<br>8<br>4<br>0 | 8.0<br>58<br>E-<br>05 | 3.3<br>75<br>E-<br>04 | 8.0<br>58<br>E-<br>05 | 3.3<br>75<br>E-<br>04 | 10 | CD44 (EXT), CD44, CD44 soluble, VDAC 1, IGHG1, MYLK1, MLCK, CD44 (ICD), LHX1, Telokin       |
| 7<br>0 | <a href="#">Endocrine Gland Neoplasms</a>    | 4<br>8<br>1<br>1 | 8.5<br>10<br>E-<br>05 | 3.5<br>13<br>E-<br>04 | 8.5<br>10<br>E-<br>05 | 3.5<br>13<br>E-<br>04 | 11 | CD44 (EXT), CD44, CD44 soluble, IGHG1, MYLK1, NOL3, MLCK, CCDC32, CD44 (ICD), LHX1, Telokin |
| 7<br>1 | <a href="#">Neoplasms, Complex and Mixed</a> | 3<br>3<br>9      | 9.0<br>17<br>E-<br>05 | 3.6<br>70<br>E-<br>04 | 9.0<br>17<br>E-<br>05 | 3.6<br>70<br>E-<br>04 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                  |
| 7<br>2 | <a href="#">Endometriosis</a>                | 3<br>5<br>6      | 1.0<br>89<br>E-<br>04 | 4.3<br>73<br>E-<br>04 | 1.0<br>89<br>E-<br>04 | 4.3<br>73<br>E-<br>04 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                  |
| 7<br>3 | <a href="#">Osteosarcoma</a>                 | 3<br>6<br>0      | 1.1<br>37<br>E-<br>04 | 4.5<br>03<br>E-<br>04 | 1.1<br>37<br>E-<br>04 | 4.5<br>03<br>E-<br>04 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                  |
| 7<br>4 | <a href="#">Neoplasms, Bone Tissue</a>       | 3<br>6<br>9      | 1.2<br>51<br>E-<br>04 | 4.8<br>71<br>E-<br>04 | 1.2<br>51<br>E-<br>04 | 4.8<br>71<br>E-<br>04 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                  |
| 7<br>5 | <a href="#">Carcinoma in Situ</a>            | 3<br>7<br>0      | 1.2<br>64<br>E-<br>04 | 4.8<br>71<br>E-<br>04 | 1.2<br>64<br>E-<br>04 | 4.8<br>71<br>E-<br>04 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                  |
| 7<br>6 | <a href="#">Sclerosis</a>                    | 3<br>7<br>5      | 1.3<br>31<br>E-<br>04 | 5.0<br>62<br>E-<br>04 | 1.3<br>31<br>E-<br>04 | 5.0<br>62<br>E-<br>04 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                  |
| 7<br>7 | <a href="#">Thyroid Carcinoma, Papillary</a> | 3<br>7<br>7      | 1.3<br>59<br>E-<br>04 | 5.0<br>99<br>E-<br>04 | 1.3<br>59<br>E-<br>04 | 5.0<br>99<br>E-<br>04 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                  |
| 7<br>8 | <a href="#">Leukocyte Disorders</a>          | 1<br>4<br>2      | 1.4<br>24<br>E-<br>04 | 5.2<br>75<br>E-<br>04 | 1.4<br>24<br>E-<br>04 | 5.2<br>75<br>E-<br>04 | 3  | MYLK1, MLCK, Telokin                                                                        |
| 7<br>9 | <a href="#">Herpesviridae Infections</a>     | 3<br>9<br>1      | 1.5<br>63<br>E-<br>04 | 5.7<br>18<br>E-<br>04 | 1.5<br>63<br>E-<br>04 | 5.7<br>18<br>E-<br>04 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                  |



|    |                                                     |      |            |            |            |            |   |                                                                         |
|----|-----------------------------------------------------|------|------------|------------|------------|------------|---|-------------------------------------------------------------------------|
|    |                                                     |      | 04         | 04         | 04         | 04         |   |                                                                         |
| 80 | <a href="#">Peripheral Nervous System Neoplasms</a> | 406  | 1.806 E-04 | 6.505 E-04 | 1.806 E-04 | 6.505 E-04 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                              |
| 81 | <a href="#">Biliary Tract Diseases</a>              | 407  | 1.823 E-04 | 6.505 E-04 | 1.823 E-04 | 6.505 E-04 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                              |
| 82 | <a href="#">Small Cell Lung Carcinoma</a>           | 446  | 2.587 E-04 | 9.119 E-04 | 2.587 E-04 | 9.119 E-04 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                              |
| 83 | <a href="#">Skin Diseases, Papulosquamous</a>       | 453  | 2.746 E-04 | 9.560 E-04 | 2.746 E-04 | 9.560 E-04 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                              |
| 84 | <a href="#">Arthritis, Rheumatoid</a>               | 1367 | 2.787 E-04 | 9.590 E-04 | 2.787 E-04 | 9.590 E-04 | 6 | CD44 (EXT), CD44, CD44 soluble, IGHG1, CD44 (ICD), EYA1                 |
| 85 | <a href="#">Carcinoma, Ductal</a>                   | 1414 | 3.350 E-04 | 1.139 E-03 | 3.350 E-04 | 1.139 E-03 | 6 | CD44 (EXT), CD44, CD44 soluble, NOL3, CD44 (ICD), LHX1                  |
| 86 | <a href="#">Respiration Disorders</a>               | 191  | 3.408 E-04 | 1.145 E-03 | 3.408 E-04 | 1.145 E-03 | 3 | MYLK1, MLCK, Telokin                                                    |
| 87 | <a href="#">Neoplastic Syndromes, Hereditary</a>    | 489  | 3.672 E-04 | 1.220 E-03 | 3.672 E-04 | 1.220 E-03 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                              |
| 88 | <a href="#">Connective Tissue Diseases</a>          | 2088 | 3.840 E-04 | 1.249 E-03 | 3.840 E-04 | 1.249 E-03 | 7 | CD44 (EXT), CD44, CD44 soluble, VDAC 1, IGHG1, CD44 (ICD), EYA1         |
| 89 | <a href="#">Esophageal Neoplasms</a>                | 495  | 3.846 E-04 | 1.249 E-03 | 3.846 E-04 | 1.249 E-03 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                              |
| 90 | <a href="#">Hematologic Diseases</a>                | 2844 | 4.027 E-04 | 1.293 E-03 | 4.027 E-04 | 1.293 E-03 | 8 | CD44 (EXT), CD44, CD44 soluble, IGHG1, MYLK1, MLCK, CD44 (ICD), Telokin |

|             |                                                               |                  |                       |                       |                       |                       |    |                                                                                             |
|-------------|---------------------------------------------------------------|------------------|-----------------------|-----------------------|-----------------------|-----------------------|----|---------------------------------------------------------------------------------------------|
| 9<br>1      | <a href="#">Neoplasms, Ductal, Lobular, and Medullary</a>     | 1<br>4<br>6<br>7 | 4.0<br>89<br>E-<br>04 | 1.2<br>99<br>E-<br>03 | 4.0<br>89<br>E-<br>04 | 1.2<br>99<br>E-<br>03 | 6  | CD44 (EXT), CD44, CD44 soluble, NOL3, CD44 (ICD), LHX1                                      |
| 9<br>2      | <a href="#">Crohn Disease</a>                                 | 5<br>0<br>6      | 4.1<br>80<br>E-<br>04 | 1.3<br>13<br>E-<br>03 | 4.1<br>80<br>E-<br>04 | 1.3<br>13<br>E-<br>03 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                  |
| 9<br>3      | <a href="#">Neuroblastoma</a>                                 | 5<br>2<br>0      | 4.6<br>35<br>E-<br>04 | 1.4<br>40<br>E-<br>03 | 4.6<br>35<br>E-<br>04 | 1.4<br>40<br>E-<br>03 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                  |
| 9<br>4      | <a href="#">Rheumatic Diseases</a>                            | 1<br>5<br>0<br>9 | 4.7<br>62<br>E-<br>04 | 1.4<br>53<br>E-<br>03 | 4.7<br>62<br>E-<br>04 | 1.4<br>53<br>E-<br>03 | 6  | CD44 (EXT), CD44, CD44 soluble, IGHG1, CD44 (ICD), EYA1                                     |
| 9<br>5      | <a href="#">Endocrine System Diseases</a>                     | 5<br>7<br>5<br>8 | 4.7<br>77<br>E-<br>04 | 1.4<br>53<br>E-<br>03 | 4.7<br>77<br>E-<br>04 | 1.4<br>53<br>E-<br>03 | 11 | CD44 (EXT), CD44, CD44 soluble, IGHG1, MYLK1, NOL3, MLCK, CCDC32, CD44 (ICD), LHX1, Telokin |
| 9<br>6      | <a href="#">Skin Diseases, Eczematous</a>                     | 5<br>2<br>9      | 4.9<br>46<br>E-<br>04 | 1.4<br>89<br>E-<br>03 | 4.9<br>46<br>E-<br>04 | 1.4<br>89<br>E-<br>03 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                  |
| 9<br>7      | <a href="#">Neuroectodermal Tumors, Primitive, Peripheral</a> | 5<br>3<br>1      | 5.0<br>17<br>E-<br>04 | 1.4<br>95<br>E-<br>03 | 5.0<br>17<br>E-<br>04 | 1.4<br>95<br>E-<br>03 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                  |
| 9<br>8      | <a href="#">Nerve Sheath Neoplasms</a>                        | 5<br>3<br>3      | 5.0<br>88<br>E-<br>04 | 1.5<br>01<br>E-<br>03 | 5.0<br>88<br>E-<br>04 | 1.5<br>01<br>E-<br>03 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                  |
| 9<br>9      | <a href="#">Wounds and Injuries</a>                           | 9<br>8<br>2      | 5.2<br>89<br>E-<br>04 | 1.5<br>44<br>E-<br>03 | 5.2<br>89<br>E-<br>04 | 1.5<br>44<br>E-<br>03 | 5  | CD44 (EXT), CD44, CD44 soluble, MLCK, CD44 (ICD)                                            |
| 1<br>0<br>0 | <a href="#">Ovarian Neoplasms</a>                             | 3<br>0<br>2<br>7 | 6.2<br>07<br>E-<br>04 | 1.7<br>94<br>E-<br>03 | 6.2<br>07<br>E-<br>04 | 1.7<br>94<br>E-<br>03 | 8  | CD44 (EXT), CD44, CD44 soluble, MYLK1, NOL3, MLCK, CD44 (ICD), Telokin                      |
| 1<br>0<br>1 | <a href="#">Dermatitis</a>                                    | 5<br>6<br>6      | 6.3<br>80<br>E-<br>04 | 1.8<br>26<br>E-<br>03 | 6.3<br>80<br>E-<br>04 | 1.8<br>26<br>E-<br>03 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                  |
| 1<br>0<br>2 | <a href="#">Arthritis</a>                                     | 1<br>5<br>9      | 6.4<br>55<br>E-<br>04 | 1.8<br>26<br>E-<br>03 | 6.4<br>55<br>E-<br>04 | 1.8<br>26<br>E-<br>03 | 6  | CD44 (EXT), CD44, CD44 soluble, IGHG1, CD44 (ICD), EYA1                                     |

|             |                                          |                  |                       |                       |                       |                       |   |                                                                        |
|-------------|------------------------------------------|------------------|-----------------------|-----------------------|-----------------------|-----------------------|---|------------------------------------------------------------------------|
|             |                                          | 7                | 04                    | 03                    | 04                    | 03                    |   |                                                                        |
| 1<br>0<br>3 | <a href="#">Esophageal Diseases</a>      | 5<br>6<br>9      | 6.5<br>08<br>E-<br>04 | 1.8<br>26<br>E-<br>03 | 6.5<br>08<br>E-<br>04 | 1.8<br>26<br>E-<br>03 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                             |
| 1<br>0<br>4 | <a href="#">Laryngeal Neoplasms</a>      | 2<br>2<br>9<br>1 | 6.7<br>97<br>E-<br>04 | 1.8<br>89<br>E-<br>03 | 6.7<br>97<br>E-<br>04 | 1.8<br>89<br>E-<br>03 | 7 | CD44 (EXT), CD44, CD44 soluble, MYLK1, MLCK, CD44 (ICD), Telokin       |
| 1<br>0<br>5 | <a href="#">Laryngeal Diseases</a>       | 2<br>3<br>0<br>8 | 7.1<br>11<br>E-<br>04 | 1.9<br>26<br>E-<br>03 | 7.1<br>11<br>E-<br>04 | 1.9<br>26<br>E-<br>03 | 7 | CD44 (EXT), CD44, CD44 soluble, MYLK1, MLCK, CD44 (ICD), Telokin       |
| 1<br>0<br>6 | <a href="#">Adenoma</a>                  | 5<br>8<br>3      | 7.1<br>30<br>E-<br>04 | 1.9<br>26<br>E-<br>03 | 7.1<br>30<br>E-<br>04 | 1.9<br>26<br>E-<br>03 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                             |
| 1<br>0<br>7 | <a href="#">Joint Diseases</a>           | 1<br>6<br>2<br>7 | 7.1<br>30<br>E-<br>04 | 1.9<br>26<br>E-<br>03 | 7.1<br>30<br>E-<br>04 | 1.9<br>26<br>E-<br>03 | 6 | CD44 (EXT), CD44, CD44 soluble, IGHG1, CD44 (ICD), EYA1                |
| 1<br>0<br>8 | <a href="#">Retrognathia</a>             |                  | 7.3<br>39<br>E-<br>04 | 1.9<br>46<br>E-<br>03 | 7.3<br>39<br>E-<br>04 | 1.9<br>46<br>E-<br>03 | 1 | EYA1                                                                   |
| 1<br>0<br>9 | <a href="#">Funnel Chest</a>             |                  | 7.3<br>39<br>E-<br>04 | 1.9<br>46<br>E-<br>03 | 7.3<br>39<br>E-<br>04 | 1.9<br>46<br>E-<br>03 | 1 | EYA1                                                                   |
| 1<br>1<br>0 | <a href="#">Carcinoma, Squamous Cell</a> | 5<br>9<br>5      | 7.6<br>96<br>E-<br>04 | 2.0<br>22<br>E-<br>03 | 7.6<br>96<br>E-<br>04 | 2.0<br>22<br>E-<br>03 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                             |
| 1<br>1<br>1 | <a href="#">Ovarian Diseases</a>         | 3<br>1<br>3<br>9 | 7.9<br>69<br>E-<br>04 | 2.0<br>70<br>E-<br>03 | 7.9<br>69<br>E-<br>04 | 2.0<br>70<br>E-<br>03 | 8 | CD44 (EXT), CD44, CD44 soluble, MYLK1, NOL3, MLCK, CD44 (ICD), Telokin |
| 1<br>1<br>2 | <a href="#">Adnexal Diseases</a>         | 3<br>1<br>4<br>2 | 8.0<br>22<br>E-<br>04 | 2.0<br>70<br>E-<br>03 | 8.0<br>22<br>E-<br>04 | 2.0<br>70<br>E-<br>03 | 8 | CD44 (EXT), CD44, CD44 soluble, MYLK1, NOL3, MLCK, CD44 (ICD), Telokin |
| 1<br>1<br>3 | <a href="#">Sepsis</a>                   | 2<br>6<br>0      | 8.3<br>70<br>E-<br>04 | 2.1<br>41<br>E-<br>03 | 8.3<br>70<br>E-<br>04 | 2.1<br>41<br>E-<br>03 | 3 | MYLK1, MLCK, Telokin                                                   |

|   |                                                         |   |      |      |      |      |   |                                                                        |
|---|---------------------------------------------------------|---|------|------|------|------|---|------------------------------------------------------------------------|
| 1 |                                                         | 2 | 8.6  | 2.1  | 8.6  | 2.1  |   |                                                                        |
| 1 |                                                         | 6 | 53   | 94   | 53   | 94   |   |                                                                        |
| 4 | <a href="#">Systemic Inflammatory Response Syndrome</a> | 3 | E-04 | E-03 | E-04 | E-03 | 3 | MYLK1, MLCK, Telokin                                                   |
| 1 |                                                         | 1 | 9.1  | 2.3  | 9.1  | 2.3  |   |                                                                        |
| 1 |                                                         | 1 | 70   | 04   | 70   | 04   |   |                                                                        |
| 5 | <a href="#">Carcinoma, Ductal, Breast</a>               | 8 | E-04 | E-03 | E-04 | E-03 | 5 | CD44 (EXT), CD44, CD44 soluble, NOL3, CD44 (ICD)                       |
| 1 |                                                         | 3 | 9.5  | 2.3  | 9.5  | 2.3  |   |                                                                        |
| 1 |                                                         | 2 | 06   | 68   | 06   | 68   |   |                                                                        |
| 6 | <a href="#">Gonadal Disorders</a>                       | 1 | E-04 | E-03 | E-04 | E-03 | 8 | CD44 (EXT), CD44, CD44 soluble, MYLK1, NOL3, MLCK, CD44 (ICD), Telokin |
| 1 |                                                         | 6 | 1.0  | 2.6  | 1.0  | 2.6  |   |                                                                        |
| 1 |                                                         | 4 | 64   | 29   | 64   | 29   |   |                                                                        |
| 7 | <a href="#">Peripheral Nervous System Diseases</a>      | 9 | E-03 | E-03 | E-03 | E-03 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                             |
| 1 |                                                         | 6 | 1.0  | 2.6  | 1.0  | 2.6  |   |                                                                        |
| 1 |                                                         | 5 | 89   | 65   | 89   | 65   |   |                                                                        |
| 8 | <a href="#">Neoplasms, Squamous Cell</a>                | 3 | E-03 | E-03 | E-03 | E-03 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                             |
| 1 |                                                         | 2 | 1.0  | 2.6  | 1.0  | 2.6  |   |                                                                        |
| 1 |                                                         | 4 | 97   | 65   | 97   | 65   |   |                                                                        |
| 9 | <a href="#">Pancreatic Neoplasms</a>                    | 9 | E-03 | E-03 | E-03 | E-03 | 7 | CD44 (EXT), CD44, CD44 soluble, IGHG1, CCDC32, CD44 (ICD), LHX1        |
| 1 |                                                         | 1 | 1.1  | 2.7  | 1.1  | 2.7  |   |                                                                        |
| 2 |                                                         | 1 | 32   | 27   | 32   | 27   |   |                                                                        |
| 0 | <a href="#">Lupus Erythematosus, Systemic</a>           | 6 | E-03 | E-03 | E-03 | E-03 | 5 | CD44 (EXT), CD44, CD44 soluble, VDAC 1, CD44 (ICD)                     |
| 1 |                                                         | 3 | 1.1  | 2.8  | 1.1  | 2.8  |   |                                                                        |
| 2 |                                                         | 3 | 99   | 64   | 99   | 64   |   |                                                                        |
| 1 | <a href="#">Neuroectodermal Tumors, Primitive</a>       | 3 | E-03 | E-03 | E-03 | E-03 | 8 | CD44 (EXT), CD44, CD44 soluble, MYLK1, MLCK, CD44 (ICD), LHX1, Telokin |
| 1 |                                                         | 6 | 1.2  | 2.9  | 1.2  | 2.9  |   |                                                                        |
| 2 |                                                         | 7 | 38   | 33   | 38   | 33   |   |                                                                        |
| 2 | <a href="#">Neoplasm Metastasis</a>                     | 6 | E-03 | E-03 | E-03 | E-03 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                             |
| 1 |                                                         | 7 | 1.6  | 3.8  | 1.6  | 3.8  |   |                                                                        |
| 2 |                                                         | 2 | 28   | 26   | 28   | 26   |   |                                                                        |
| 3 | <a href="#">Neoplastic Processes</a>                    | 8 | E-03 | E-03 | E-03 | E-03 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                             |
| 1 |                                                         | 7 | 1.6  | 3.8  | 1.6  | 3.8  |   |                                                                        |
| 2 |                                                         | 3 | 53   | 53   | 53   | 53   |   |                                                                        |
| 4 | <a href="#">DNA Virus Infections</a>                    | 1 | E-03 | E-03 | E-03 | E-03 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                             |
| 1 |                                                         | 2 | 1.7  | 4.0  | 1.7  | 4.0  |   |                                                                        |
| 2 |                                                         | 6 | 42   | 28   | 42   | 28   |   |                                                                        |
| 5 | <a href="#">Pathologic Processes</a>                    | 7 | E-   | E-   | E-   | E-   | 7 | CD44 (EXT), CD44, CD44 soluble, MYLK1, MLCK, CD44 (ICD), Telokin       |

|             |                                                        |                  |                       |                       |                       |                       |    |                                                                                     |
|-------------|--------------------------------------------------------|------------------|-----------------------|-----------------------|-----------------------|-----------------------|----|-------------------------------------------------------------------------------------|
|             |                                                        | 8                | 03                    | 03                    | 03                    | 03                    |    |                                                                                     |
| 1<br>2<br>6 | <a href="#">Leukemia, Myeloid, Acute</a>               | 1<br>2<br>9<br>2 | 1.8<br>27<br>E-<br>03 | 4.1<br>91<br>E-<br>03 | 1.8<br>27<br>E-<br>03 | 4.1<br>91<br>E-<br>03 | 5  | CD44 (EXT), CD44, CD44 soluble, MLCK, CD44 (ICD)                                    |
| 1<br>2<br>7 | <a href="#">Melanoma, Cutaneous Malignant</a>          | 7<br>6<br>3      | 1.9<br>35<br>E-<br>03 | 4.4<br>03<br>E-<br>03 | 1.9<br>35<br>E-<br>03 | 4.4<br>03<br>E-<br>03 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                          |
| 1<br>2<br>8 | <a href="#">Autoimmune Diseases</a>                    | 2<br>7<br>5<br>1 | 2.0<br>43<br>E-<br>03 | 4.6<br>13<br>E-<br>03 | 2.0<br>43<br>E-<br>03 | 4.6<br>13<br>E-<br>03 | 7  | CD44 (EXT), CD44, CD44 soluble, VDAC 1, IGHG1, CD44 (ICD), EYA1                     |
| 1<br>2<br>9 | <a href="#">Bone Marrow Diseases</a>                   | 7<br>8<br>5      | 2.1<br>47<br>E-<br>03 | 4.8<br>11<br>E-<br>03 | 2.1<br>47<br>E-<br>03 | 4.8<br>11<br>E-<br>03 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                          |
| 1<br>3<br>0 | <a href="#">Thyroid Neoplasms</a>                      | 7<br>8<br>7      | 2.1<br>67<br>E-<br>03 | 4.8<br>18<br>E-<br>03 | 2.1<br>67<br>E-<br>03 | 4.8<br>18<br>E-<br>03 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                          |
| 1<br>3<br>1 | <a href="#">Branchio-Oto-Renal Syndrome</a>            |                  | 2.2<br>00<br>E-<br>03 | 4.8<br>54<br>E-<br>03 | 2.2<br>00<br>E-<br>03 | 4.8<br>54<br>E-<br>03 | 1  | EYA1                                                                                |
| 1<br>3<br>2 | <a href="#">Stomatognathic Diseases</a>                | 5<br>8<br>2<br>1 | 2.8<br>09<br>E-<br>03 | 6.1<br>51<br>E-<br>03 | 2.8<br>09<br>E-<br>03 | 6.1<br>51<br>E-<br>03 | 10 | CD44 (EXT), CD44, CD44 soluble, IGHG1, MYLK1, MLCK, CD44 (ICD), EYA1, Telokin, SNX1 |
| 1<br>3<br>3 | <a href="#">Mouth Diseases</a>                         | 4<br>7<br>7<br>6 | 2.8<br>87<br>E-<br>03 | 6.2<br>73<br>E-<br>03 | 2.8<br>87<br>E-<br>03 | 6.2<br>73<br>E-<br>03 | 9  | CD44 (EXT), CD44, CD44 soluble, IGHG1, MYLK1, MLCK, CD44 (ICD), Telokin, SNX1       |
| 1<br>3<br>4 | <a href="#">Neoplasms, Connective Tissue</a>           | 8<br>5<br>4      | 2.9<br>18<br>E-<br>03 | 6.2<br>94<br>E-<br>03 | 2.9<br>18<br>E-<br>03 | 6.2<br>94<br>E-<br>03 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                          |
| 1<br>3<br>5 | <a href="#">Pulmonary Disease, Chronic Obstructive</a> | 8<br>6<br>4      | 3.0<br>44<br>E-<br>03 | 6.5<br>16<br>E-<br>03 | 3.0<br>44<br>E-<br>03 | 6.5<br>16<br>E-<br>03 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                          |
| 1<br>3<br>6 | <a href="#">Pancreatic Diseases</a>                    | 2<br>9<br>8<br>0 | 3.2<br>65<br>E-<br>03 | 6.9<br>38<br>E-<br>03 | 3.2<br>65<br>E-<br>03 | 6.9<br>38<br>E-<br>03 | 7  | CD44 (EXT), CD44, CD44 soluble, IGHG1, CCDC32, CD44 (ICD), LHX1                     |

|             |                                                                                 |                  |                       |                       |                       |                       |    |                                                                                                                  |
|-------------|---------------------------------------------------------------------------------|------------------|-----------------------|-----------------------|-----------------------|-----------------------|----|------------------------------------------------------------------------------------------------------------------|
| 1<br>3<br>7 | <a href="#">Leukemia, Myeloid</a>                                               | 1<br>4<br>8<br>8 | 3.4<br>03<br>E-<br>03 | 7.1<br>78<br>E-<br>03 | 3.4<br>03<br>E-<br>03 | 7.1<br>78<br>E-<br>03 | 5  | CD44 (EXT), CD44, CD44 soluble, MLCK, CD44 (ICD)                                                                 |
| 1<br>3<br>8 | <a href="#">Virus Diseases</a>                                                  | 1<br>5<br>0<br>6 | 3.5<br>86<br>E-<br>03 | 7.5<br>09<br>E-<br>03 | 3.5<br>86<br>E-<br>03 | 7.5<br>09<br>E-<br>03 | 5  | CD44 (EXT), CD44, CD44 soluble, VDAC 1, CD44 (ICD)                                                               |
| 1<br>3<br>9 | <a href="#">Immune System Diseases</a>                                          | 6<br>0<br>3<br>7 | 3.7<br>71<br>E-<br>03 | 7.8<br>39<br>E-<br>03 | 3.7<br>71<br>E-<br>03 | 7.8<br>39<br>E-<br>03 | 10 | CD44 (EXT), CD44, CD44 soluble, VDAC 1, IGHG1, MYLK1, MLCK, CD44 (ICD), EYA1, Telokin                            |
| 1<br>4<br>0 | <a href="#">Inflammatory Bowel Diseases</a>                                     | 9<br>2<br>3      | 3.8<br>63<br>E-<br>03 | 7.9<br>74<br>E-<br>03 | 3.8<br>63<br>E-<br>03 | 7.9<br>74<br>E-<br>03 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                                       |
| 1<br>4<br>1 | <a href="#">Digestive System Neoplasms</a>                                      | 1<br>5<br>0<br>8 | 4.0<br>34<br>E-<br>03 | 8.2<br>69<br>E-<br>03 | 4.0<br>34<br>E-<br>03 | 8.2<br>69<br>E-<br>03 | 14 | CD44 (EXT), CD44, CD44 soluble, VDAC 1, IGHG1, MYLK1, NOL3, MLCK, CCDC32, CD44 (ICD), LHX1, RRP42, Telokin, SNX1 |
| 1<br>4<br>2 | <a href="#">Congenital, Hereditary, and Neonatal Diseases and Abnormalities</a> | 4<br>0<br>1<br>3 | 4.1<br>06<br>E-<br>03 | 8.3<br>57<br>E-<br>03 | 4.1<br>06<br>E-<br>03 | 8.3<br>57<br>E-<br>03 | 8  | CD44 (EXT), CD44, CD44 soluble, IGHG1, CD44 (ICD), PQBP-1, LHX1, EYA1                                            |
| 1<br>4<br>3 | <a href="#">Thyroid Diseases</a>                                                | 9<br>6<br>4      | 4.5<br>14<br>E-<br>03 | 9.1<br>22<br>E-<br>03 | 4.5<br>14<br>E-<br>03 | 9.1<br>22<br>E-<br>03 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                                       |
| 1<br>4<br>4 | <a href="#">Carcinoma, Renal Cell</a>                                           | 1<br>5<br>9<br>4 | 4.5<br>85<br>E-<br>03 | 9.2<br>01<br>E-<br>03 | 4.5<br>85<br>E-<br>03 | 9.2<br>01<br>E-<br>03 | 5  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD), LHX1                                                                 |
| 1<br>4<br>5 | <a href="#">Sarcoma</a>                                                         | 9<br>9<br>5      | 5.0<br>53<br>E-<br>03 | 1.0<br>07<br>E-<br>02 | 5.0<br>53<br>E-<br>03 | 1.0<br>07<br>E-<br>02 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                                       |
| 1<br>4<br>6 | <a href="#">Gastroenteritis</a>                                                 | 1<br>0<br>1<br>4 | 5.4<br>05<br>E-<br>03 | 1.0<br>70<br>E-<br>02 | 5.4<br>05<br>E-<br>03 | 1.0<br>70<br>E-<br>02 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                                       |
| 1<br>4<br>7 | <a href="#">Multiple Sclerosis</a>                                              | 1<br>0<br>1<br>7 | 5.4<br>62<br>E-<br>03 | 1.0<br>74<br>E-<br>02 | 5.4<br>62<br>E-<br>03 | 1.0<br>74<br>E-<br>02 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                                       |
| 1<br>4      | <a href="#">Lymphoma, Non-Hodgkin</a>                                           | 1<br>0           | 5.5<br>19             | 1.0<br>78             | 5.5<br>19             | 1.0<br>78             | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                                       |

|     |                                                             |       |           |           |           |           |    |                                                                                                                  |
|-----|-------------------------------------------------------------|-------|-----------|-----------|-----------|-----------|----|------------------------------------------------------------------------------------------------------------------|
| 8   |                                                             | 20    | E-03      | E-02      | E-03      | E-02      |    |                                                                                                                  |
| 149 | <a href="#">Gastrointestinal Neoplasms</a>                  | 10272 | 5.661E-03 | 1.093E-02 | 5.661E-03 | 1.093E-02 | 13 | CD44 (EXT), CD44, CD44 soluble, VDAC 1, IGHG1, MYLK1, NOL3, MLCK, CD44 (ICD), LHX1, RRP42, Telokin, SNX1         |
| 150 | <a href="#">Demyelinating Autoimmune Diseases, CNS</a>      | 1028  | 5.674E-03 | 1.093E-02 | 5.674E-03 | 1.093E-02 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                                       |
| 151 | <a href="#">Mayer-Rokitansky-Kuster-Hauser Syndrome</a>     | 8     | 5.857E-03 | 1.121E-02 | 5.857E-03 | 1.121E-02 | 1  | LHX1                                                                                                             |
| 152 | <a href="#">Mouth Neoplasms</a>                             | 4270  | 6.116E-03 | 1.159E-02 | 6.116E-03 | 1.159E-02 | 8  | CD44 (EXT), CD44, CD44 soluble, MYLK1, MLCK, CD44 (ICD), Telokin, SNX1                                           |
| 153 | <a href="#">Colonic Diseases</a>                            | 4272  | 6.135E-03 | 1.159E-02 | 6.135E-03 | 1.159E-02 | 8  | CD44 (EXT), CD44, CD44 soluble, VDAC 1, IGHG1, NOL3, CD44 (ICD), SNX1                                            |
| 154 | <a href="#">Digestive System Diseases</a>                   | 11984 | 6.562E-03 | 1.231E-02 | 6.562E-03 | 1.231E-02 | 14 | CD44 (EXT), CD44, CD44 soluble, VDAC 1, IGHG1, MYLK1, NOL3, MLCK, CCDC32, CD44 (ICD), LHX1, RRP42, Telokin, SNX1 |
| 155 | <a href="#">Pathological Conditions, Signs and Symptoms</a> | 4332  | 6.702E-03 | 1.250E-02 | 6.702E-03 | 1.250E-02 | 8  | CD44 (EXT), CD44, CD44 soluble, MYLK1, MLCK, CD44 (ICD), PQBP-1, Telokin                                         |
| 156 | <a href="#">Colorectal Neoplasms</a>                        | 9025  | 6.798E-03 | 1.258E-02 | 6.798E-03 | 1.258E-02 | 12 | CD44 (EXT), CD44, CD44 soluble, VDAC 1, IGHG1, MYLK1, NOL3, MLCK, CD44 (ICD), RRP42, Telokin, SNX1               |
| 157 | <a href="#">Autoimmune Diseases of the Nervous System</a>   | 1084  | 6.843E-03 | 1.258E-02 | 6.843E-03 | 1.258E-02 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                                       |
| 158 | <a href="#">Intestinal Neoplasms</a>                        | 9036  | 6.878E-03 | 1.258E-02 | 6.878E-03 | 1.258E-02 | 12 | CD44 (EXT), CD44, CD44 soluble, VDAC 1, IGHG1, MYLK1, NOL3, MLCK, CD44 (ICD), RRP42, Telokin, SNX1               |
| 159 | <a href="#">Gastrointestinal Diseases</a>                   | 1055  | 7.197E-03 | 1.308E-02 | 7.197E-03 | 1.308E-02 | 13 | CD44 (EXT), CD44, CD44 soluble, VDAC 1, IGHG1, MYLK1, NOL3, MLCK, CD44 (ICD), LHX1, RRP42, Telokin, SNX1         |

|     |                                                       |      |           |           |           |           |    |                                                                                                    |
|-----|-------------------------------------------------------|------|-----------|-----------|-----------|-----------|----|----------------------------------------------------------------------------------------------------|
|     |                                                       | 06   | 03        | 02        | 03        | 02        |    |                                                                                                    |
| 160 | <a href="#">Demyelinating Diseases</a>                | 1105 | 7.321E-03 | 1.322E-02 | 7.321E-03 | 1.322E-02 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                         |
| 161 | <a href="#">Genetic Diseases, Inborn</a>              | 3437 | 7.373E-03 | 1.323E-02 | 7.373E-03 | 1.323E-02 | 7  | CD44 (EXT), CD44, CD44 soluble, IGHG1, CD44 (ICD), PQBP-1, EYA1                                    |
| 162 | <a href="#">Muscular Diseases</a>                     | 574  | 7.873E-03 | 1.405E-02 | 7.873E-03 | 1.405E-02 | 3  | MYLK1, MLCK, Telokin                                                                               |
| 163 | <a href="#">Hemic and Lymphatic Diseases</a>          | 4547 | 9.087E-03 | 1.611E-02 | 9.087E-03 | 1.611E-02 | 8  | CD44 (EXT), CD44, CD44 soluble, IGHG1, MYLK1, MLCK, CD44 (ICD), Telokin                            |
| 164 | <a href="#">Multiple Myeloma</a>                      | 1882 | 9.275E-03 | 1.634E-02 | 9.275E-03 | 1.634E-02 | 5  | CD44 (EXT), CD44, CD44 soluble, IGHG1, CD44 (ICD)                                                  |
| 165 | <a href="#">Intestinal Diseases</a>                   | 9340 | 9.422E-03 | 1.637E-02 | 9.422E-03 | 1.637E-02 | 12 | CD44 (EXT), CD44, CD44 soluble, VDAC 1, IGHG1, MYLK1, NOL3, MLCK, CD44 (ICD), RRP42, Telokin, SNX1 |
| 166 | <a href="#">Neoplasms, Plasma Cell</a>                | 1891 | 9.462E-03 | 1.637E-02 | 9.462E-03 | 1.637E-02 | 5  | CD44 (EXT), CD44, CD44 soluble, IGHG1, CD44 (ICD)                                                  |
| 167 | <a href="#">Paraproteinemias</a>                      | 1891 | 9.462E-03 | 1.637E-02 | 9.462E-03 | 1.637E-02 | 5  | CD44 (EXT), CD44, CD44 soluble, IGHG1, CD44 (ICD)                                                  |
| 168 | <a href="#">Neoplasms, Connective and Soft Tissue</a> | 1199 | 9.732E-03 | 1.674E-02 | 9.732E-03 | 1.674E-02 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                         |
| 169 | <a href="#">Blood Protein Disorders</a>               | 1922 | 1.012E-02 | 1.731E-02 | 1.012E-02 | 1.731E-02 | 5  | CD44 (EXT), CD44, CD44 soluble, IGHG1, CD44 (ICD)                                                  |
| 170 | <a href="#">Hemostatic Disorders</a>                  | 1940 | 1.052E-02 | 1.789E-02 | 1.052E-02 | 1.789E-02 | 5  | CD44 (EXT), CD44, CD44 soluble, IGHG1, CD44 (ICD)                                                  |



|             |                                                     |                  |                       |                       |                       |                       |    |                                                                                                           |
|-------------|-----------------------------------------------------|------------------|-----------------------|-----------------------|-----------------------|-----------------------|----|-----------------------------------------------------------------------------------------------------------|
| 1<br>7<br>1 | <a href="#">Melanoma</a>                            | 3<br>6<br>7<br>6 | 1.0<br>71<br>E-<br>02 | 1.8<br>09<br>E-<br>02 | 1.0<br>71<br>E-<br>02 | 1.8<br>09<br>E-<br>02 | 7  | CD44 (EXT), CD44, CD44 soluble, MYLK1, MLCK, CD44 (ICD), Telokin                                          |
| 1<br>7<br>2 | <a href="#">Nevi and Melanomas</a>                  | 3<br>6<br>8<br>1 | 1.0<br>79<br>E-<br>02 | 1.8<br>12<br>E-<br>02 | 1.0<br>79<br>E-<br>02 | 1.8<br>12<br>E-<br>02 | 7  | CD44 (EXT), CD44, CD44 soluble, MYLK1, MLCK, CD44 (ICD), Telokin                                          |
| 1<br>7<br>3 | <a href="#">Lymphoma</a>                            | 1<br>2<br>5<br>0 | 1.1<br>24<br>E-<br>02 | 1.8<br>77<br>E-<br>02 | 1.1<br>24<br>E-<br>02 | 1.8<br>77<br>E-<br>02 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                                |
| 1<br>7<br>4 | <a href="#">Otorhinolaryngologic Neoplasms</a>      | 3<br>7<br>2<br>5 | 1.1<br>51<br>E-<br>02 | 1.9<br>02<br>E-<br>02 | 1.1<br>51<br>E-<br>02 | 1.9<br>02<br>E-<br>02 | 7  | CD44 (EXT), CD44, CD44 soluble, MYLK1, MLCK, CD44 (ICD), Telokin                                          |
| 1<br>7<br>5 | <a href="#">Neuromuscular Diseases</a>              | 1<br>2<br>5<br>9 | 1.1<br>52<br>E-<br>02 | 1.9<br>02<br>E-<br>02 | 1.1<br>52<br>E-<br>02 | 1.9<br>02<br>E-<br>02 | 4  | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                                                |
| 1<br>7<br>6 | <a href="#">Hemorrhagic Disorders</a>               | 2<br>0<br>2<br>4 | 1.2<br>54<br>E-<br>02 | 2.0<br>58<br>E-<br>02 | 1.2<br>54<br>E-<br>02 | 2.0<br>58<br>E-<br>02 | 5  | CD44 (EXT), CD44, CD44 soluble, IGHG1, CD44 (ICD)                                                         |
| 1<br>7<br>7 | <a href="#">Neuroendocrine Tumors</a>               | 3<br>8<br>1<br>3 | 1.3<br>07<br>E-<br>02 | 2.1<br>34<br>E-<br>02 | 1.3<br>07<br>E-<br>02 | 2.1<br>34<br>E-<br>02 | 7  | CD44 (EXT), CD44, CD44 soluble, MYLK1, MLCK, CD44 (ICD), Telokin                                          |
| 1<br>7<br>8 | <a href="#">Mandibular Diseases</a>                 |                  | 1.4<br>58<br>E-<br>02 | 2.3<br>68<br>E-<br>02 | 1.4<br>58<br>E-<br>02 | 2.3<br>68<br>E-<br>02 | 1  | EYA1                                                                                                      |
| 1<br>7<br>9 | <a href="#">Skin and Connective Tissue Diseases</a> | 1<br>3<br>2<br>8 | 1.5<br>81<br>E-<br>02 | 2.5<br>52<br>E-<br>02 | 1.5<br>81<br>E-<br>02 | 2.5<br>52<br>E-<br>02 | 13 | CD44 (EXT), CD44, CD44 soluble, VDAC 1, IGHG1, MYLK1, NOL3, MLCK, CD44 (ICD), PQBP-1, EYA1, Telokin, SNX1 |
| 1<br>8<br>0 | <a href="#">Glioma</a>                              | 5<br>0<br>8<br>8 | 1.8<br>06<br>E-<br>02 | 2.9<br>00<br>E-<br>02 | 1.8<br>06<br>E-<br>02 | 2.9<br>00<br>E-<br>02 | 8  | CD44 (EXT), CD44, CD44 soluble, MYLK1, MLCK, CD44 (ICD), LHX1, Telokin                                    |
| 1<br>8<br>1 | <a href="#">Otorhinolaryngologic Diseases</a>       | 4<br>0<br>9<br>6 | 1.9<br>19<br>E-<br>02 | 3.0<br>64<br>E-<br>02 | 1.9<br>19<br>E-<br>02 | 3.0<br>64<br>E-<br>02 | 7  | CD44 (EXT), CD44, CD44 soluble, MYLK1, MLCK, CD44 (ICD), Telokin                                          |
| 1<br>8      | <a href="#">Microcephaly</a>                        | 2<br>7           | 1.9<br>64             | 3.1<br>19             | 1.9<br>64             | 3.1<br>19             | 1  | PQBP-1                                                                                                    |

|     |                                            |      |            |            |            |            |   |                                                                               |
|-----|--------------------------------------------|------|------------|------------|------------|------------|---|-------------------------------------------------------------------------------|
| 2   |                                            |      | E-02       | E-02       | E-02       | E-02       |   |                                                                               |
| 183 | <a href="#">Lip Neoplasms</a>              | 809  | 1.987 E-02 | 3.137 E-02 | 1.987 E-02 | 3.137 E-02 | 3 | MYLK1, MLCK, Telokin                                                          |
| 184 | <a href="#">Nervous System Neoplasms</a>   | 1546 | 2.303 E-02 | 3.617 E-02 | 2.303 E-02 | 3.617 E-02 | 4 | CD44 (EXT), CD44, CD44 soluble, CD44 (ICD)                                    |
| 185 | <a href="#">Lip Diseases</a>               | 867  | 2.383 E-02 | 3.723 E-02 | 2.383 E-02 | 3.723 E-02 | 3 | MYLK1, MLCK, Telokin                                                          |
| 186 | <a href="#">Neoplasms, Neuroepithelial</a> | 5355 | 2.444 E-02 | 3.797 E-02 | 2.444 E-02 | 3.797 E-02 | 8 | CD44 (EXT), CD44, CD44 soluble, MYLK1, MLCK, CD44 (ICD), LHX1, Telokin        |
| 187 | <a href="#">Rectal Neoplasms</a>           | 6533 | 2.544 E-02 | 3.932 E-02 | 2.544 E-02 | 3.932 E-02 | 9 | CD44 (EXT), CD44, CD44 soluble, MYLK1, MLCK, CD44 (ICD), RRP42, Telokin, SNX1 |
| 188 | <a href="#">Glioblastoma</a>               | 2493 | 2.886 E-02 | 4.437 E-02 | 2.886 E-02 | 4.437 E-02 | 5 | CD44 (EXT), CD44, CD44 soluble, MLCK, CD44 (ICD)                              |
| 189 | <a href="#">Cardiovascular Diseases</a>    | 3460 | 3.035 E-02 | 4.641 E-02 | 3.035 E-02 | 4.641 E-02 | 6 | CD44 (EXT), CD44, CD44 soluble, IGHG1, MLCK, CD44 (ICD)                       |
| 190 | <a href="#">Astrocytoma</a>                | 2542 | 3.113 E-02 | 4.734 E-02 | 3.113 E-02 | 4.734 E-02 | 5 | CD44 (EXT), CD44, CD44 soluble, MLCK, CD44 (ICD)                              |

**Table 10S: Enrichment analysis report.** Enrichment by Diseases (by Biomarkers) (healthy control vs Grade III)

| Enrichment by Diseases (by Biomarkers) |                                                      |       |           |           | GRADE III_INPUT_4_genelist |           |        |                                                                                                                                                       |
|----------------------------------------|------------------------------------------------------|-------|-----------|-----------|----------------------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| #                                      | Diseases                                             | Total | p-value   | Min FDR   | p-value                    | FDR       | Indata | Network Objects from Active Data                                                                                                                      |
| 1                                      | <a href="#">Leukemia, Large Granular Lymphocytic</a> | 7     | 1.798E-09 | 1.638E-06 | 1.798E-09                  | 1.638E-06 | 5      | NOTCH1 (NICD), NOTCH1 receptor, Notch, NOTCH1 (NEXT), NOTCH1 precursor                                                                                |
| 2                                      | <a href="#">Neoplasm, Residual</a>                   | 26    | 4.469E-09 | 2.036E-06 | 4.469E-09                  | 2.036E-06 | 7      | NOTCH1 (NICD), NOTCH1 receptor, DDC, Metallothionein-II, Notch, NOTCH1 (NEXT), NOTCH1 precursor                                                       |
| 3                                      | <a href="#">Tongue Neoplasms</a>                     | 65    | 1.420E-08 | 4.312E-06 | 1.420E-08                  | 4.312E-06 | 9      | NOTCH1 (NICD), Metallothionein-I, NOTCH1 receptor, Metallothionein-IG, Metallothionein-II, Notch, NOTCH1 (NEXT), NOTCH1 precursor, Metallothionein-1M |
| 4                                      | <a href="#">Tongue Diseases</a>                      | 69    | 2.434E-08 | 5.542E-06 | 2.434E-08                  | 5.542E-06 | 9      | NOTCH1 (NICD), Metallothionein-I, NOTCH1 receptor, Metallothionein-IG, Metallothionein-II, Notch, NOTCH1 (NEXT), NOTCH1 precursor, Metallothionein-1M |
| 5                                      | <a href="#">Aortic Aneurysm, Thoracic</a>            | 32    | 6.107E-07 | 1.113E-04 | 6.107E-07                  | 1.113E-04 | 6      | Reticulon 4, NOTCH1 (NICD), NOTCH1 receptor, Notch, NOTCH1 (NEXT), NOTCH1 precursor                                                                   |
| 6                                      | <a href="#">Histiocytosis, Langerhans-Cell</a>       | 20    | 1.196E-06 | 1.816E-04 | 1.196E-06                  | 1.816E-04 | 5      | NOTCH1 (NICD), NOTCH1 receptor, Notch, NOTCH1 (NEXT), NOTCH1 precursor                                                                                |
| 7                                      | <a href="#">Paget's Disease, Mammary</a>             | 38    | 1.771E-06 | 2.124E-04 | 1.771E-06                  | 2.124E-04 | 6      | STAT5A, p38 MAPK, ERK1 (MAPK3), STAT5, KLC3, ERK1/2                                                                                                   |
| 8                                      | <a href="#">Leukemia</a>                             | 1     | 1.        | 2.        | 1.                         | 2.        | 1      | Annexin VIII, NOTCH1 (NICD), TCL1A, STAT5, NOTCH1                                                                                                     |

|    |                                             |     |           |           |           |           |    |                                                                                                                                                                                                                       |
|----|---------------------------------------------|-----|-----------|-----------|-----------|-----------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <a href="#">Promyelocytic, Acute</a>        | 46  | 866E-06   | 124E-04   | 866E-06   | 124E-04   | 0  | receptor, ANXA8L2, Notch, NOTCH1 (NEXT), NOTCH1 precursor, 4E-BP1                                                                                                                                                     |
| 9  | <a href="#">Carcinoma, Squamous Cell</a>    | 595 | 7.073E-06 | 7.159E-04 | 7.073E-06 | 7.159E-04 | 19 | NOTCH1 (NICD), STAT5A, p38 MAPK, ERK1 (MAPK3), STAT5, NOTCH1 receptor, Fatty acid-binding protein, ERK1/2, MAGE-4 antigen, Notch, BMF, NOTCH1 (NEXT), NOTCH1 precursor, Cystatin B, WWOX, E-FABP, DKK3, MAGEA5, SPRR3 |
| 10 | <a href="#">Paget Disease, Extramammary</a> | 31  | 1.200E-05 | 1.049E-03 | 1.200E-05 | 1.049E-03 | 5  | STAT5A, p38 MAPK, ERK1 (MAPK3), STAT5, ERK1/2                                                                                                                                                                         |

No significant enrichment was found in healthy control vs Grade IV comparison by Diseases (by Biomarkers).

| Table 10S: Enrichment analysis report. Enrichment by Diseases (by Biomarkers) (healthy control vs SVZp) |                                                      |                       |                                           |                                           |                                           |                                           |                            |                                                                                             |  |
|---------------------------------------------------------------------------------------------------------|------------------------------------------------------|-----------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------|---------------------------------------------------------------------------------------------|--|
| Enrichment by Diseases (by Biomarkers)                                                                  |                                                      |                       |                                           |                                           | SVZp<br>Limma<br>Input_ge<br>nelist       |                                           |                            |                                                                                             |  |
| #                                                                                                       | Diseases                                             | T<br>o<br>t<br>a<br>l | p<br>V<br>a<br>l<br>u<br>e                | M<br>i<br>n<br>F<br>D<br>R                | p<br>-<br>v<br>a<br>l<br>u<br>e           | F<br>D<br>R                               | I<br>n<br>D<br>a<br>t<br>a | Network Objects from<br>Active Data                                                         |  |
| 1                                                                                                       | <a href="#">Leukemia, Large Granular Lymphocytic</a> | 7                     | 1<br>.<br>0<br>0<br>6<br>E<br>-<br>1<br>1 | 5<br>.<br>8<br>2<br>4<br>E<br>-<br>9      | 1<br>.<br>0<br>6<br>E<br>-<br>1<br>1      | 5<br>.<br>8<br>2<br>4<br>E<br>-<br>9      | 5                          | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor                      |  |
| 2                                                                                                       | <a href="#">Tongue Neoplasms</a>                     | 65                    | 3<br>.<br>0<br>6<br>5<br>E<br>-<br>0<br>9 | 8<br>.<br>8<br>7<br>3<br>E<br>-<br>7      | 3<br>.<br>0<br>6<br>5<br>E<br>-<br>0<br>9 | 8<br>.<br>8<br>7<br>3<br>E<br>-<br>0<br>7 | 7                          | Cyclin B1, NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor, Cyclin B |  |
| 3                                                                                                       | <a href="#">Tongue Diseases</a>                      | 69                    | 4<br>.<br>6<br>9<br>7<br>E<br>-<br>0<br>9 | 9<br>.<br>0<br>6<br>5<br>E<br>-<br>7      | 4<br>.<br>6<br>9<br>7<br>E<br>-<br>0<br>9 | 9<br>.<br>0<br>6<br>5<br>E<br>-<br>7      | 7                          | Cyclin B1, NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor, Cyclin B |  |
| 4                                                                                                       | <a href="#">Histiocytosis, Langerhans-Cell</a>       | 20                    | 7<br>.<br>1<br>6<br>5<br>E<br>-<br>0<br>0 | 1<br>.<br>0<br>3<br>7<br>E<br>-<br>0<br>0 | 7<br>.<br>1<br>6<br>5<br>E<br>-<br>0<br>0 | 1<br>.<br>0<br>3<br>7<br>E<br>-<br>0<br>0 | 5                          | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor                      |  |

|   |                                             |     |                                 |                                 |                                 |                                 |    |                                                                                                                                                          |
|---|---------------------------------------------|-----|---------------------------------|---------------------------------|---------------------------------|---------------------------------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------|
|   |                                             |     | 9                               | 6                               | 9                               | 6                               |    |                                                                                                                                                          |
| 5 | <a href="#">Neoplasm, Residual</a>          | 26  | 2<br>.<br>9<br>9<br>0<br>E<br>- | 3<br>.<br>4<br>6<br>3<br>E<br>- | 2<br>.<br>9<br>9<br>0<br>E<br>- | 3<br>.<br>4<br>6<br>3<br>E<br>- | 5  | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor                                                                                   |
| 6 | <a href="#">Dry Eye Syndromes</a>           | 553 | 6<br>.<br>5<br>1<br>5<br>E<br>- | 5<br>.<br>3<br>8<br>9<br>E<br>- | 6<br>.<br>5<br>1<br>5<br>E<br>- | 5<br>.<br>3<br>8<br>9<br>E<br>- | 13 | Tissue kallikreins, LST1, NOTCH1 (NICD), Notch, NOTCH1 (NEXT), IGHG1, NOTCH1 precursor, NFKBIL1, NOTCH1 receptor, Rab-3, Adult hemoglobin, RIG-G, ERK1/2 |
| 7 | <a href="#">Lacrimal Apparatus Diseases</a> | 553 | 6<br>.<br>5<br>1<br>5<br>E<br>- | 5<br>.<br>3<br>8<br>9<br>E<br>- | 6<br>.<br>5<br>1<br>5<br>E<br>- | 5<br>.<br>3<br>8<br>9<br>E<br>- | 13 | Tissue kallikreins, LST1, NOTCH1 (NICD), Notch, NOTCH1 (NEXT), IGHG1, NOTCH1 precursor, NFKBIL1, NOTCH1 receptor, Rab-3, Adult hemoglobin, RIG-G, ERK1/2 |
| 8 | <a href="#">Aortic Aneurysm, Thoracic</a>   | 32  | 9<br>.<br>0<br>0<br>4<br>E<br>- | 6<br>.<br>5<br>1<br>7<br>E<br>- | 9<br>.<br>0<br>1<br>4<br>E<br>- | 6<br>.<br>5<br>0<br>7<br>E<br>- | 5  | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor                                                                                   |
| 9 | <a href="#">Carcinoma, Embryonal</a>        | 34  | 1<br>.<br>2<br>3<br>7<br>E<br>- | 7<br>.<br>9<br>6<br>0<br>E<br>- | 1<br>.<br>2<br>3<br>7<br>E<br>- | 7<br>.<br>9<br>6<br>0<br>E<br>- | 5  | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor                                                                                   |

|    |                                                   |    |                                                |                                                |                                                |                                                |   |                                                                                                                     |
|----|---------------------------------------------------|----|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|---|---------------------------------------------------------------------------------------------------------------------|
| 10 | <a href="#">Pick Disease of the Brain</a>         | 77 | 3<br>.<br>0<br>9<br>4<br>E<br>E<br>-<br>0<br>7 | 1<br>.<br>7<br>4<br>0<br>E<br>E<br>-<br>0<br>5 | 3<br>.<br>0<br>4<br>0<br>E<br>E<br>-<br>0<br>7 | 1<br>.<br>7<br>4<br>0<br>E<br>E<br>-<br>0<br>5 | 6 | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor, ERK1/2                                      |
| 11 | <a href="#">Frontotemporal Lobar Degeneration</a> | 79 | 3<br>.<br>6<br>0<br>7<br>E<br>-<br>0<br>7      | 1<br>.<br>7<br>4<br>0<br>E<br>-<br>0<br>5      | 3<br>.<br>6<br>0<br>7<br>E<br>-<br>0<br>7      | 1<br>.<br>7<br>4<br>0<br>E<br>-<br>0<br>5      | 6 | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor, ERK1/2                                      |
| 12 | <a href="#">Frontotemporal Dementia</a>           | 79 | 3<br>.<br>6<br>0<br>7<br>E<br>-<br>0<br>7      | 1<br>.<br>7<br>4<br>0<br>E<br>-<br>0<br>5      | 3<br>.<br>6<br>0<br>7<br>E<br>-<br>0<br>7      | 1<br>.<br>7<br>4<br>0<br>E<br>-<br>0<br>5      | 6 | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor, ERK1/2                                      |
| 13 | <a href="#">Ameloblastoma</a>                     | 48 | 7<br>.<br>3<br>2<br>6<br>E<br>-<br>0<br>7      | 3<br>.<br>2<br>6<br>3<br>E<br>-<br>0<br>5      | 7<br>.<br>3<br>2<br>6<br>3<br>E<br>-<br>0<br>7 | 3<br>.<br>2<br>6<br>3<br>E<br>-<br>0<br>5      | 5 | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor                                              |
| 14 | <a href="#">Carcinoid Tumor</a>                   | 49 | 8<br>.<br>1<br>3<br>6<br>E<br>-<br>0<br>7      | 3<br>.<br>3<br>6<br>5<br>E<br>-<br>0<br>5      | 8<br>.<br>1<br>3<br>6<br>5<br>E<br>-<br>0<br>7 | 3<br>.<br>3<br>6<br>5<br>E<br>-<br>0<br>5      | 5 | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor                                              |
| 15 | <a href="#">Neoplasms, Squamous</a>               | 65 | 6<br>.<br>2<br>.<br>1<br>.<br>.                | 2<br>.<br>1<br>.<br>2<br>.<br>.                | 1<br>.<br>2<br>.<br>1<br>.<br>.                | 1<br>.<br>2<br>.<br>1<br>.<br>.                | 2 | Tissue kallikreins, Cyclin B1, NOTCH1 (NICD), Rab-11A, Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, NOTCH1 |

|        |                                              |             |                                           |                                           |                                           |                                           |                                                                                                                                                     |
|--------|----------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
|        | <a href="#">s Cell</a>                       | 3           | 9<br>2<br>4<br>E<br>-<br>0<br>6           | 1<br>2<br>9<br>E<br>-<br>0<br>4           | 9<br>2<br>4<br>E<br>-<br>0<br>6           | 1<br>2<br>9<br>E<br>-<br>0<br>4           | receptor, Cyclin B, ERK1/2, 14-3-3                                                                                                                  |
| 1<br>6 | <a href="#">Odontogenic Tumors</a>           | 6<br>5      | 3<br>.<br>3<br>7<br>3<br>E<br>-<br>0<br>6 | 1<br>.<br>2<br>2<br>0<br>E<br>-<br>0<br>4 | 3<br>.<br>3<br>7<br>3<br>E<br>-<br>0<br>6 | 1<br>.<br>2<br>2<br>0<br>E<br>-<br>0<br>4 | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor                                                                              |
| 1<br>7 | <a href="#">Neoplasms Metastasis</a>         | 6<br>7<br>6 | 4<br>.<br>1<br>6<br>7<br>E<br>-<br>0<br>6 | 1<br>.<br>4<br>1<br>9<br>E<br>-<br>0<br>4 | 4<br>.<br>1<br>6<br>7<br>E<br>-<br>0<br>6 | 1<br>.<br>4<br>1<br>9<br>E<br>-<br>0<br>4 | Tissue kallikreins, Cyclin B1, NOTCH1 (NICD), Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, NOTCH1 receptor, Cyclin B, ERK1/2, UGDH, 14-3-3 |
| 1<br>8 | <a href="#">Lymphoma, B-Cell</a>             | 3<br>7<br>2 | 6<br>.<br>4<br>6<br>2<br>E<br>-<br>0<br>6 | 1<br>.<br>9<br>6<br>2<br>E<br>-<br>0<br>4 | 6<br>.<br>4<br>6<br>2<br>E<br>-<br>0<br>6 | 1<br>.<br>9<br>6<br>2<br>E<br>-<br>0<br>4 | LST1, Cyclin B1, NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, CD43, NOTCH1 receptor, Cyclin B                                             |
| 1<br>9 | <a href="#">Sclerosis</a>                    | 3<br>7<br>5 | 6<br>.<br>8<br>9<br>4<br>E<br>-<br>0<br>6 | 1<br>.<br>9<br>6<br>2<br>E<br>-<br>0<br>4 | 6<br>.<br>8<br>9<br>4<br>E<br>-<br>0<br>6 | 1<br>.<br>9<br>6<br>2<br>E<br>-<br>0<br>4 | NOTCH1 (NICD), IRT-1, Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, NOTCH1 receptor, ERK1/2, 14-3-3                                         |
| 2<br>0 | <a href="#">Thyroid Carcinoma, Papillary</a> | 3<br>7<br>7 | 7<br>.<br>1<br>9<br>9                     | 1<br>.<br>9<br>6<br>9                     | 7<br>.<br>1<br>9<br>6                     | 1<br>.<br>9<br>6<br>9                     | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, CKS2, NOTCH1 receptor, ERK1/2, 14-3-3                                          |



|        |                                            |             |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                                                  |
|--------|--------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                            |             | 5<br>E<br>-<br>0<br>6                     | 2<br>E<br>-<br>0<br>4                     | 5<br>E<br>-<br>0<br>6                     | 2<br>E<br>-<br>0<br>4                     |                                                                                                                                                                                                                                                                  |
| 2<br>1 | <a href="#">Connective Tissue Diseases</a> | 2<br>0<br>8 | 7<br>.<br>4<br>4<br>9<br>E<br>-<br>0<br>8 | 1<br>.<br>9<br>6<br>2<br>E<br>-<br>0<br>6 | 7<br>.<br>4<br>4<br>9<br>E<br>-<br>0<br>6 | 1<br>.<br>9<br>6<br>2<br>E<br>-<br>0<br>4 | 2<br>1<br>1<br>Tissue kallikreins, IGHG4, Kallikrein 1, LST1, NOTCH1 (NICD), IRT-1, TIRAP (Mal), Olfactory receptor, Notch, NOTCH1 (NEXT), IGHG1, ERK1 (MAPK3), NOTCH1 precursor, CD43, NFKBIL1, NOTCH1 receptor, Rab-3, Adult hemoglobin, RIG-G, ERK1/2, 14-3-3 |
| 2<br>2 | <a href="#">Carcinoma, Squamous Cell</a>   | 5<br>9<br>5 | 7<br>.<br>4<br>5<br>6<br>E<br>-<br>0<br>6 | 1<br>.<br>9<br>6<br>2<br>E<br>-<br>0<br>4 | 7<br>.<br>4<br>5<br>6<br>E<br>-<br>0<br>6 | 1<br>.<br>9<br>6<br>2<br>E<br>-<br>0<br>4 | 1<br>1<br>Cyclin B1, NOTCH1 (NICD), Rab-11A, Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, NOTCH1 receptor, Cyclin B, ERK1/2, 14-3-3                                                                                                                     |
| 2<br>3 | <a href="#">Carcinoma, Adenoid Cystic</a>  | 3<br>7      | 8<br>.<br>6<br>9<br>5<br>E<br>-<br>0<br>6 | 2<br>.<br>1<br>3<br>0<br>E<br>-<br>0<br>4 | 8<br>.<br>6<br>9<br>5<br>E<br>-<br>0<br>6 | 2<br>.<br>1<br>3<br>0<br>E<br>-<br>0<br>4 | 4<br>ERK1 (MAPK3), CD43, ERK1/2, 14-3-3                                                                                                                                                                                                                          |
| 2<br>4 | <a href="#">Neoplastic Processes</a>       | 7<br>2<br>8 | 8<br>.<br>8<br>2<br>8<br>E<br>-<br>0<br>6 | 2<br>.<br>1<br>3<br>0<br>E<br>-<br>0<br>4 | 8<br>.<br>8<br>2<br>8<br>E<br>-<br>0<br>6 | 2<br>.<br>1<br>3<br>0<br>E<br>-<br>0<br>4 | 1<br>2<br>Tissue kallikreins, Cyclin B1, NOTCH1 (NICD), Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, NOTCH1 receptor, Cyclin B, ERK1/2, UGDH, 14-3-3                                                                                                    |
| 2<br>5 | <a href="#">Histiocytosis</a>              | 8<br>4      | 1<br>.<br>1<br>9<br>6<br>E                | 2<br>.<br>7<br>7<br>1<br>E                | 1<br>.<br>1<br>9<br>6<br>E                | 2<br>.<br>7<br>7<br>1<br>E                | 5<br>NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor                                                                                                                                                                                      |

|        |                                                                    |                  |                                           |                                                |                                           |                                                |        |                                                                                                                                                                                                   |
|--------|--------------------------------------------------------------------|------------------|-------------------------------------------|------------------------------------------------|-------------------------------------------|------------------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                    |                  | -<br>0<br>5                               | -<br>0<br>4                                    | -<br>0<br>5                               | -<br>0<br>4                                    |        |                                                                                                                                                                                                   |
| 2<br>6 | <a href="#">Hyperparathyroidism, Primary</a>                       | 1<br>4           | 1<br>.<br>4<br>9<br>9<br>E<br>-<br>0<br>5 | 3<br>.<br>3<br>3<br>9<br>9<br>E<br>-<br>0<br>4 | 1<br>.<br>4<br>9<br>9<br>E<br>-<br>0<br>5 | 3<br>.<br>3<br>3<br>9<br>9<br>E<br>-<br>0<br>4 | 3      | HBG, HBGA, Adult hemoglobin                                                                                                                                                                       |
| 2<br>7 | <a href="#">Arthritis, Rheumatoid</a>                              | 1<br>3<br>6<br>7 | 1<br>.<br>8<br>7<br>6<br>E<br>-<br>0<br>5 | 4<br>.<br>0<br>2<br>4<br>E<br>-<br>0<br>4      | 1<br>.<br>8<br>7<br>6<br>E<br>-<br>0<br>5 | 4<br>.<br>0<br>2<br>4<br>E<br>-<br>0<br>4      | 1<br>6 | Tissue kallikreins, IGHG4, Kallikrein 1, LST1, NOTCH1 (NICD), IRT-1, Notch, NOTCH1 (NEXT), IGHG1, NOTCH1 precursor, NFKBIL1, NOTCH1 receptor, Rab-3, Adult hemoglobin, RIG-G, ERK1/2              |
| 2<br>8 | <a href="#">Colonic Neoplasms</a>                                  | 1<br>2<br>3<br>2 | 2<br>.<br>2<br>6<br>6<br>E<br>-<br>0<br>5 | 4<br>.<br>6<br>8<br>6<br>E<br>-<br>0<br>4      | 2<br>.<br>2<br>6<br>6<br>E<br>-<br>0<br>5 | 4<br>.<br>6<br>8<br>6<br>E<br>-<br>0<br>4      | 1<br>5 | Tissue kallikreins, IGHG4, Cyclin B1, AL1A1, NOTCH1 (NICD), SNX1, Notch, NOTCH1 (NEXT), IGHG1, ERK1 (MAPK3), NOTCH1 precursor, SULT1E1, NOTCH1 receptor, Cyclin B, ERK1/2                         |
| 2<br>9 | <a href="#">Lymphoma</a>                                           | 1<br>2<br>5<br>0 | 2<br>.<br>6<br>8<br>3<br>E<br>-<br>0<br>5 | 5<br>.<br>3<br>5<br>7<br>E<br>-<br>0<br>4      | 2<br>.<br>6<br>8<br>3<br>E<br>-<br>0<br>5 | 5<br>.<br>3<br>5<br>7<br>E<br>-<br>0<br>4      | 1<br>5 | Tissue kallikreins, LST1, Cyclin B1, NOTCH1 (NICD), Olfactory receptor, Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, CD43, NOTCH1 receptor, NMRAL1, Cyclin B, Kallikrein 3 (PSA), ERK1/2 |
| 3<br>0 | <a href="#">Precursor T-Cell Lymphoblastic Leukemia - Lymphoma</a> | 2<br>4<br>9      | 2<br>.<br>8<br>3<br>8<br>E<br>-<br>0<br>0 | 5<br>.<br>4<br>7<br>8<br>E<br>-<br>0<br>0      | 2<br>.<br>8<br>3<br>8<br>E<br>-<br>0<br>0 | 5<br>.<br>4<br>7<br>8<br>E<br>-<br>0<br>0      | 7      | Tissue kallikreins, NOTCH1 (NICD), Olfactory receptor, Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor                                                                                    |

|        |                                           |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------|-------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                           |                  | 5                                         | 4                                         | 5                                         | 4                                         |        |                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 3<br>1 | <a href="#">Carcinoma, Ductal, Breast</a> | 1<br>1<br>0<br>8 | 2<br>.<br>9<br>5<br>4<br>E<br>-<br>0<br>5 | 5<br>.<br>5<br>1<br>7<br>E<br>-<br>0<br>4 | 2<br>.<br>9<br>5<br>4<br>E<br>-<br>0<br>5 | 5<br>.<br>5<br>1<br>7<br>E<br>-<br>0<br>4 | 1<br>4 | Tissue kallikreins, Cyclin B1, NOTCH1 (NICD), Rab-11A, Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, SUL1E1, NOTCH1 receptor, RNF11, Cyclin B, ERK1/2, 14-3-3                                                                                                                                                                                                                                                      |
| 3<br>2 | <a href="#">Esophageal Diseases</a>       | 5<br>6<br>9      | 3<br>.<br>0<br>9<br>2<br>E<br>-<br>0<br>5 | 5<br>.<br>5<br>9<br>5<br>E<br>-<br>0<br>4 | 3<br>.<br>0<br>9<br>2<br>E<br>-<br>0<br>5 | 5<br>.<br>5<br>9<br>5<br>E<br>-<br>0<br>4 | 1<br>0 | Cyclin B1, NOTCH1 (NICD), Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, CKS2, NOTCH1 receptor, Cyclin B, ERK1/2                                                                                                                                                                                                                                                                                                    |
| 3<br>3 | <a href="#">Wounds and Injuries</a>       | 9<br>8<br>2      | 3<br>.<br>6<br>6<br>3<br>E<br>-<br>0<br>5 | 6<br>.<br>4<br>2<br>7<br>E<br>-<br>0<br>4 | 3<br>.<br>6<br>6<br>3<br>E<br>-<br>0<br>5 | 6<br>.<br>4<br>2<br>7<br>E<br>-<br>0<br>4 | 1<br>3 | Tissue kallikreins, Kallikrein 1, NOTCH1 (NICD), IRT-1, Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, NOTCH1 receptor, Kallikrein 3 (PSA), Adult hemoglobin, ERK1/2, 14-3-3                                                                                                                                                                                                                                        |
| 3<br>4 | <a href="#">Immune System Diseases</a>    | 6<br>0<br>3<br>7 | 4<br>.<br>3<br>6<br>4<br>E<br>-<br>0<br>5 | 7<br>.<br>4<br>3<br>1<br>E<br>-<br>0<br>4 | 4<br>.<br>3<br>6<br>4<br>E<br>-<br>0<br>5 | 7<br>.<br>4<br>3<br>1<br>E<br>-<br>0<br>4 | 3<br>8 | Tissue kallikreins, IGHG4, ZNF261, Kallikrein 1, LST1, Cyclin B1, AL1A1, HBG, Leiomodin, NOTCH1 (NICD), IRT-1, HBGA, TIP47, TIRAP (Mal), PROSC, Olfactory receptor, Notch, NOTCH1 (NEXT), IGHG1, ERK1 (MAPK3), NOTCH1 precursor, CD43, 14-3-3 zeta/delta, NFKBIL1, OATP-C, CKS2, Annexin XI, NOTCH1 receptor, Cyclin B, Rab-3, Kallikrein 3 (PSA), Adult hemoglobin, RIG-G, VILIP3, ERK1/2, 14-3-3, CapZIP, RBBP7 (RbAp46) |
| 3<br>5 | <a href="#">Stroke</a>                    | 3<br>7<br>1      | 4<br>.<br>9<br>3<br>5<br>E<br>-<br>0<br>5 | 8<br>.<br>1<br>6<br>3<br>E<br>-<br>0<br>4 | 4<br>.<br>9<br>3<br>5<br>E<br>-<br>0<br>5 | 8<br>.<br>1<br>6<br>3<br>E<br>-<br>0<br>4 | 8      | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, NOTCH1 receptor, Adult hemoglobin, ERK1/2                                                                                                                                                                                                                                                                                                             |

|    |                                           |      |                                           |                                           |                                           |                                           |    |                                                                                                                                                                                                       |
|----|-------------------------------------------|------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 36 | <a href="#">Cerebrovascular Disorders</a> | 605  | 5<br>.<br>1<br>8<br>4<br>E<br>-<br>0<br>5 | 8<br>.<br>3<br>3<br>7<br>E<br>-<br>0<br>4 | 5<br>.<br>1<br>8<br>4<br>E<br>-<br>0<br>5 | 8<br>.<br>3<br>3<br>7<br>E<br>-<br>0<br>4 | 10 | Tissue kallikreins, Kallikrein 1, NOTCH1 (NICD), Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, NOTCH1 receptor, Adult hemoglobin, ERK1/2                                                      |
| 37 | <a href="#">Lymphoma, Non-Hodgkin</a>     | 120  | 5<br>.<br>4<br>1<br>1<br>E<br>-<br>0<br>5 | 8<br>.<br>4<br>6<br>8<br>E<br>-<br>0<br>4 | 5<br>.<br>4<br>1<br>1<br>E<br>-<br>0<br>5 | 8<br>.<br>4<br>6<br>8<br>E<br>-<br>0<br>4 | 13 | Tissue kallikreins, LST1, Cyclin B1, NOTCH1 (NICD), Olfactory receptor, Notch, NOTCH1 (NEXT), NOTCH1 precursor, CD43, NOTCH1 receptor, NMRAL1, Cyclin B, Kallikrein 3 (PSA)                           |
| 38 | <a href="#">Rheumatic Diseases</a>        | 1509 | 6<br>.<br>2<br>1<br>4<br>E<br>-<br>0<br>5 | 9<br>.<br>4<br>6<br>8<br>E<br>-<br>0<br>4 | 6<br>.<br>2<br>1<br>4<br>E<br>-<br>0<br>5 | 9<br>.<br>4<br>6<br>8<br>E<br>-<br>0<br>4 | 16 | Tissue kallikreins, IGHG4, Kallikrein 1, LST1, NOTCH1 (NICD), IRT-1, Notch, NOTCH1 (NEXT), IGHG1, NOTCH1 precursor, NFKBIL1, NOTCH1 receptor, Rab-3, Adult hemoglobin, RIG-G, ERK1/2                  |
| 39 | <a href="#">Dementia</a>                  | 155  | 6<br>.<br>5<br>1<br>4<br>E<br>-<br>0<br>5 | 9<br>.<br>6<br>7<br>1<br>E<br>-<br>0<br>4 | 6<br>.<br>5<br>1<br>4<br>E<br>-<br>0<br>5 | 9<br>.<br>6<br>7<br>1<br>E<br>-<br>0<br>4 | 16 | Tissue kallikreins, Kallikrein 1, HBG, NOTCH1 (NICD), IRT-1, HBGA, Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, 14-3-3 zeta/delta, NOTCH1 receptor, Adult hemoglobin, VILIP3, ERK1/2, 14-3-3 |
| 40 | <a href="#">Hirsutism</a>                 | 4    | 7<br>.<br>3<br>5<br>4<br>E<br>-<br>0<br>5 | 1<br>.<br>0<br>6<br>5<br>E<br>-<br>0<br>3 | 7<br>.<br>3<br>5<br>4<br>E<br>-<br>0<br>5 | 1<br>.<br>0<br>6<br>5<br>E<br>-<br>0<br>3 | 2  | Tissue kallikreins, Kallikrein 3 (PSA)                                                                                                                                                                |
| 41 | <a href="#">Aortic Aneurysm</a>           | 12   | 9<br>.                                    | 1<br>.                                    | 9<br>.                                    | 1<br>.                                    | 5  | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor                                                                                                                                |

|        |                                                                    |                  |                                           |                                           |                                           |                                           |                                                                                                                                                                                      |
|--------|--------------------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                                    | 9                | 4<br>2<br>7<br>E<br>-<br>0<br>5           | 3<br>3<br>1<br>E<br>-<br>0<br>3           | 4<br>2<br>7<br>E<br>-<br>0<br>5           | 3<br>3<br>1<br>E<br>-<br>0<br>3           |                                                                                                                                                                                      |
| 4<br>2 | <a href="#">Lymphoma, Large B-Cell, Diffuse</a>                    | 1<br>3<br>2      | 1<br>.<br>0<br>5<br>1<br>E<br>-<br>0<br>4 | 1<br>.<br>4<br>4<br>9<br>E<br>-<br>0<br>3 | 1<br>.<br>0<br>5<br>1<br>E<br>-<br>0<br>4 | 1<br>.<br>4<br>4<br>9<br>E<br>-<br>0<br>3 | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor                                                                                                               |
| 4<br>3 | <a href="#">Carcinoma, Ductal</a>                                  | 1<br>4<br>1<br>4 | 1<br>.<br>0<br>9<br>1<br>E<br>-<br>0<br>4 | 1<br>.<br>4<br>7<br>0<br>E<br>-<br>0<br>3 | 1<br>.<br>0<br>9<br>1<br>E<br>-<br>0<br>4 | 1<br>.<br>4<br>7<br>0<br>E<br>-<br>0<br>3 | Tissue kallikreins, Cyclin B1, LHX1, NOTCH1 (NICD), Rab-11A, Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, SULT1E1, NOTCH1 receptor, RNF11, Cyclin B, ERK1/2, 14-3-3         |
| 4<br>4 | <a href="#">Monoclonal Gammopathy of Undetermined Significance</a> | 1<br>3<br>6      | 1<br>.<br>2<br>0<br>9<br>E<br>-<br>0<br>4 | 1<br>.<br>5<br>5<br>9<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>0<br>9<br>E<br>-<br>0<br>4 | 1<br>.<br>5<br>2<br>9<br>E<br>-<br>0<br>3 | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor                                                                                                               |
| 4<br>5 | <a href="#">Arthritis</a>                                          | 1<br>5<br>9<br>7 | 1<br>.<br>2<br>1<br>1<br>E<br>-<br>0<br>4 | 1<br>.<br>5<br>5<br>9<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>1<br>1<br>E<br>-<br>0<br>4 | 1<br>.<br>5<br>2<br>9<br>E<br>-<br>0<br>3 | Tissue kallikreins, IGHG4, Kallikrein 1, LST1, NOTCH1 (NICD), IRT-1, Notch, NOTCH1 (NEXT), IGHG1, NOTCH1 precursor, NFKBIL1, NOTCH1 receptor, Rab-3, Adult hemoglobin, RIG-G, ERK1/2 |
| 4<br>6 | <a href="#">Hypergammaglobulinemia</a>                             | 1<br>4<br>0      | 1<br>.<br>3<br>8                          | 1<br>.<br>7<br>4                          | 1<br>.<br>3<br>8                          | 1<br>.<br>7<br>4                          | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor                                                                                                               |

|        |                                                           |                  |                                                |                                           |                                           |                                           |                                                                                                                                                                                                                                                                                                                             |
|--------|-----------------------------------------------------------|------------------|------------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                           |                  | 6<br>E<br>-<br>0<br>4                          | 4<br>E<br>-<br>0<br>3                     | 6<br>E<br>-<br>0<br>4                     | 4<br>E<br>-<br>0<br>3                     |                                                                                                                                                                                                                                                                                                                             |
| 4<br>7 | <a href="#">Stomach<br/>Neoplasms</a>                     | 3<br>7<br>9<br>3 | 1<br>.<br>4<br>7<br>7<br>9<br>E<br>-<br>0<br>4 | 1<br>.<br>7<br>7<br>6<br>E<br>-<br>0<br>3 | 1<br>.<br>4<br>7<br>9<br>E<br>-<br>0<br>4 | 1<br>.<br>7<br>7<br>6<br>E<br>-<br>0<br>3 | 2<br>7<br>Ajuba, Tissue kallikreins, IGHG4, Kallikrein 1, Cyclin B1, FLJ11017, AL1A1, LHX1, Leiomodrin, NOTCH1 (NICD), IRT-1, Rab-11A, Olfactory receptor, Notch, NOTCH1 (NEXT), IGHG1, ERK1 (MAPK3), NOTCH1 precursor, SULT1E1, CD43, 14-3-3 zeta/delta, CKS2, NOTCH1 receptor, Cyclin B, Adult hemoglobin, ERK1/2, 14-3-3 |
| 4<br>8 | <a href="#">Autoimmune<br/>Diseases</a>                   | 2<br>7<br>5<br>1 | 1<br>.<br>4<br>8<br>7<br>E<br>-<br>0<br>4      | 1<br>.<br>7<br>6<br>E<br>-<br>0<br>3      | 1<br>.<br>4<br>8<br>7<br>E<br>-<br>0<br>4 | 1<br>.<br>7<br>6<br>E<br>-<br>0<br>3      | 2<br>2<br>Tissue kallikreins, IGHG4, Kallikrein 1, LST1, Leiomodrin, NOTCH1 (NICD), IRT-1, TIRAP (Mal), Olfactory receptor, Notch, NOTCH1 (NEXT), IGHG1, NOTCH1 precursor, CD43, NFKBIL1, Annexin XI, NOTCH1 receptor, Rab-3, Adult hemoglobin, RIG-G, ERK1/2, 14-3-3                                                       |
| 4<br>9 | <a href="#">Joint<br/>Diseases</a>                        | 1<br>6<br>2<br>7 | 1<br>.<br>5<br>0<br>3<br>E<br>-<br>0<br>4      | 1<br>.<br>7<br>7<br>6<br>E<br>-<br>0<br>3 | 1<br>.<br>5<br>0<br>3<br>E<br>-<br>0<br>4 | 1<br>.<br>7<br>7<br>6<br>E<br>-<br>0<br>3 | 1<br>6<br>Tissue kallikreins, IGHG4, Kallikrein 1, LST1, NOTCH1 (NICD), IRT-1, Notch, NOTCH1 (NEXT), IGHG1, NOTCH1 precursor, NFKBIL1, NOTCH1 receptor, Rab-3, Adult hemoglobin, RIG-G, ERK1/2                                                                                                                              |
| 5<br>0 | <a href="#">Neoplasms, Ductal, Lobular, and Medullary</a> | 1<br>4<br>6<br>7 | 1<br>.<br>6<br>4<br>0<br>E<br>-<br>0<br>4      | 1<br>.<br>8<br>9<br>9<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>4<br>0<br>E<br>-<br>0<br>4 | 1<br>.<br>8<br>9<br>9<br>E<br>-<br>0<br>3 | 1<br>5<br>Tissue kallikreins, Cyclin B1, LHX1, NOTCH1 (NICD), Rab-11A, Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, SULT1E1, NOTCH1 receptor, RNF11, Cyclin B, ERK1/2, 14-3-3                                                                                                                                      |
| 5<br>1 | <a href="#">Leukemia<br/>Promyelocytic, Acute</a>         | 1<br>4<br>6      | 1<br>.<br>6<br>8<br>6<br>E                     | 1<br>.<br>9<br>1<br>5<br>E                | 1<br>.<br>6<br>8<br>6<br>E                | 1<br>.<br>9<br>1<br>5<br>E                | 5<br>NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor                                                                                                                                                                                                                                                 |

|        |                                                   |                  |                                      |                                 |                                 |                                 |        |                                                                                                                                                                                                                                                                                                                    |
|--------|---------------------------------------------------|------------------|--------------------------------------|---------------------------------|---------------------------------|---------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                   |                  | -<br>0<br>4                          | -<br>0<br>3                     | -<br>0<br>4                     | -<br>0<br>3                     |        |                                                                                                                                                                                                                                                                                                                    |
| 5<br>2 | <a href="#">Small Cell Lung Carcinoma</a>         | 4<br>4<br>6      | 1<br>.<br>7<br>6<br>5<br>E<br>-      | 1<br>.<br>9<br>6<br>5<br>E<br>- | 1<br>.<br>7<br>6<br>5<br>E<br>- | 1<br>.<br>9<br>6<br>5<br>E<br>- | 8      | Cyclin B1, NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor, Cyclin B, 14-3-3                                                                                                                                                                                                                |
| 5<br>3 | <a href="#">Stomach Diseases</a>                  | 3<br>8<br>4<br>0 | 1<br>.<br>8<br>2<br>6<br>E<br>-      | 1<br>.<br>9<br>9<br>5<br>E<br>- | 1<br>.<br>8<br>2<br>6<br>E<br>- | 1<br>.<br>9<br>9<br>5<br>E<br>- | 2<br>7 | Ajuba, Tissue kallikreins, IGHG4, Kallikrein 1, Cyclin B1, FLJ11017, AL1A1, LHX1, Leiomodulin, NOTCH1 (NICD), IRT-1, Rab-11A, Olfactory receptor, Notch, NOTCH1 (NEXT), IGHG1, ERK1 (MAPK3), NOTCH1 precursor, SULT1E1, CD43, 14-3-3 zeta/delta, CKS2, NOTCH1 receptor, Cyclin B, Adult hemoglobin, ERK1/2, 14-3-3 |
| 5<br>4 | <a href="#">Adenoma</a>                           | 5<br>8<br>3      | 2<br>.<br>1<br>0<br>4<br>E<br>-      | 2<br>.<br>2<br>5<br>6<br>E<br>- | 2<br>.<br>1<br>0<br>4<br>E<br>- | 2<br>.<br>2<br>5<br>6<br>E<br>- | 9      | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, CD43, NOTCH1 receptor, Cyclin B, ERK1/2                                                                                                                                                                                                       |
| 5<br>5 | <a href="#">Leukemia - Lymphoma, Adult T-Cell</a> | 1<br>5<br>4      | 2<br>.<br>1<br>6<br>2<br>E<br>-      | 2<br>.<br>2<br>7<br>6<br>E<br>- | 2<br>.<br>1<br>6<br>2<br>E<br>- | 2<br>.<br>2<br>7<br>6<br>E<br>- | 5      | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor                                                                                                                                                                                                                                             |
| 5<br>6 | <a href="#">Eye Diseases</a>                      | 1<br>6<br>9<br>2 | 2<br>.<br>3<br>5<br>1<br>6<br>9<br>2 | 2<br>.<br>4<br>3<br>5<br>E<br>- | 2<br>.<br>3<br>5<br>5<br>E<br>- | 2<br>.<br>4<br>3<br>5<br>E<br>- | 1<br>6 | Tissue kallikreins, LST1, Leiomodulin, NOTCH1 (NICD), Notch, NOTCH1 (NEXT), IGHG1, ERK1 (MAPK3), NOTCH1 precursor, NFKBIL1, NOTCH1 receptor, Rab-3, Adult hemoglobin, RIG-G, ERK1/2, RBBP7 (RbAp46)                                                                                                                |

|    |                                                                  |     |                                 |                                 |                                 |                                 |   |                                                                                                                                |
|----|------------------------------------------------------------------|-----|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---|--------------------------------------------------------------------------------------------------------------------------------|
|    |                                                                  |     | 4                               | 3                               | 4                               | 3                               |   |                                                                                                                                |
| 57 | <a href="#">Salivary Gland Diseases</a>                          | 594 | 2<br>.<br>4<br>1<br>6<br>E<br>- | 2<br>.<br>4<br>5<br>5<br>E<br>0 | 2<br>.<br>4<br>1<br>6<br>E<br>0 | 2<br>.<br>4<br>5<br>5<br>E<br>0 | 9 | Tissue kallikreins, LST1, IGHG1, ERK1 (MAPK3), NFKBIL1, Rab-3, Adult hemoglobin, RIG-G, ERK1/2                                 |
| 58 | <a href="#">Precursor Cell Lymphoblastic Leukemia - Lymphoma</a> | 605 | 2<br>.<br>7<br>6<br>6<br>E<br>- | 2<br>.<br>7<br>1<br>4<br>E<br>0 | 2<br>.<br>7<br>6<br>6<br>E<br>0 | 2<br>.<br>7<br>1<br>4<br>E<br>0 | 9 | Tissue kallikreins, NOTCH1 (NICD), Olfactory receptor, Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor, ERK1/2, CapZIP |
| 59 | <a href="#">Hyperparathyroidism</a>                              | 36  | 2<br>.<br>7<br>8<br>1<br>E<br>- | 2<br>.<br>7<br>1<br>4<br>E<br>0 | 2<br>.<br>7<br>8<br>1<br>E<br>0 | 2<br>.<br>7<br>1<br>4<br>E<br>0 | 3 | HBG, HBGA, Adult hemoglobin                                                                                                    |
| 60 | <a href="#">Aortic Diseases</a>                                  | 163 | 2<br>.<br>8<br>1<br>2<br>E<br>- | 2<br>.<br>7<br>1<br>4<br>E<br>0 | 2<br>.<br>8<br>1<br>2<br>E<br>0 | 2<br>.<br>7<br>1<br>4<br>E<br>0 | 5 | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor                                                         |
| 61 | <a href="#">Virilism</a>                                         | 8   | 3<br>.<br>4<br>0<br>1<br>E<br>- | 3<br>.<br>2<br>0<br>2<br>E<br>0 | 3<br>.<br>4<br>0<br>1<br>E<br>0 | 3<br>.<br>2<br>0<br>2<br>E<br>0 | 2 | Tissue kallikreins, Kallikrein 3 (PSA)                                                                                         |



|    |                                               |     |                            |                            |                            |                            |    |                                                                                                                                       |
|----|-----------------------------------------------|-----|----------------------------|----------------------------|----------------------------|----------------------------|----|---------------------------------------------------------------------------------------------------------------------------------------|
| 62 | <a href="#">Melanoma Cutaneous Malignant</a>  | 763 | 3<br>.<br>4<br>2<br>9<br>E | 3<br>.<br>2<br>0<br>2<br>E | 3<br>.<br>4<br>2<br>9<br>E | 3<br>.<br>2<br>0<br>2<br>E | 10 | Tissue kallikreins, Cyclin B1, NOTCH1 (NICD), Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, NOTCH1 receptor, Cyclin B, ERK1/2 |
| 63 | <a href="#">Esophageal Neoplasms</a>          | 495 | 3<br>.<br>5<br>6<br>1<br>E | 3<br>.<br>2<br>5<br>2<br>E | 3<br>.<br>5<br>6<br>1<br>E | 3<br>.<br>2<br>5<br>2<br>E | 8  | Cyclin B1, NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, CKS2, NOTCH1 receptor, Cyclin B                                     |
| 64 | <a href="#">Sjogren's Syndrome</a>            | 497 | 3<br>.<br>6<br>5<br>8<br>E | 3<br>.<br>2<br>5<br>2<br>E | 3<br>.<br>6<br>5<br>8<br>E | 3<br>.<br>2<br>5<br>2<br>E | 8  | Tissue kallikreins, LST1, IGHG1, NFKBIL1, Rab-3, Adult hemoglobin, RIG-G, ERK1/2                                                      |
| 65 | <a href="#">Xerostomia</a>                    | 497 | 3<br>.<br>6<br>5<br>8<br>E | 3<br>.<br>2<br>5<br>2<br>E | 3<br>.<br>6<br>5<br>8<br>E | 3<br>.<br>2<br>5<br>2<br>E | 8  | Tissue kallikreins, LST1, IGHG1, NFKBIL1, Rab-3, Adult hemoglobin, RIG-G, ERK1/2                                                      |
| 66 | <a href="#">Anoxia</a>                        | 498 | 3<br>.<br>7<br>0<br>7<br>E | 3<br>.<br>2<br>5<br>2<br>E | 3<br>.<br>7<br>0<br>7<br>E | 3<br>.<br>2<br>5<br>2<br>E | 8  | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, NOTCH1 receptor, ERK1/2, UGDH                                    |
| 67 | <a href="#">Immunoproliferative Disorders</a> | 37  | 3<br>.<br>.<br>.<br>.      | 3<br>.<br>.<br>.<br>.      | 3<br>.<br>.<br>.<br>.      | 3<br>.<br>.<br>.<br>.      | 26 | Tissue kallikreins, ZNF261, LST1, Cyclin B1, HBG, NOTCH1 (NICD), HBGA, PROSC, Olfactory receptor, Notch, NOTCH1 (NEXT),               |

|        |                                               |                  |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                             |
|--------|-----------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                               | 9<br>3           | 8<br>5<br>3<br>E<br>-<br>0<br>4           | 3<br>3<br>0<br>E<br>-<br>0<br>3           | 8<br>5<br>3<br>E<br>-<br>0<br>4           | 3<br>3<br>0<br>E<br>-<br>0<br>3           | IGHG1, ERK1 (MAPK3), NOTCH1 precursor, CD43, 14-3-3 zeta/delta, OATP-C, CKS2, NOTCH1 receptor, Cyclin B, Kallikrein 3 (PSA), Adult hemoglobin, ERK1/2, 14-3-3, CapZIP, RBBP7 (RbAp46)                                                       |
| 6<br>8 | <a href="#">Carcinoma, Renal Cell</a>         | 1<br>5<br>9<br>4 | 4<br>.<br>0<br>1<br>8<br>E<br>-<br>0<br>4 | 3<br>.<br>4<br>2<br>1<br>E<br>-<br>0<br>3 | 4<br>.<br>0<br>1<br>8<br>E<br>-<br>0<br>4 | 3<br>.<br>4<br>2<br>1<br>E<br>-<br>0<br>3 | Tissue kallikreins, Kallikrein 1, Cyclin B1, LHX1, HBG, NOTCH1 (NICD), HBGA, Notch, NOTCH1 (NEXT), NOTCH1 precursor, CKS2, NOTCH1 receptor, Cyclin B, Kallikrein 3 (PSA), Adult hemoglobin                                                  |
| 6<br>9 | <a href="#">beta-Thalassemia</a>              | 4<br>1           | 4<br>.<br>1<br>0<br>0<br>E<br>-<br>0<br>4 | 3<br>.<br>4<br>4<br>0<br>E<br>-<br>3<br>4 | 4<br>.<br>1<br>0<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>4<br>0<br>E<br>-<br>3<br>4 | HBG, HBGA, Adult hemoglobin                                                                                                                                                                                                                 |
| 7<br>0 | <a href="#">Thyroid Neoplasms</a>             | 7<br>8<br>7      | 4<br>.<br>3<br>7<br>5<br>E<br>-<br>0<br>4 | 3<br>.<br>6<br>1<br>9<br>E<br>-<br>3<br>4 | 4<br>.<br>3<br>7<br>5<br>E<br>-<br>0<br>3 | 3<br>.<br>6<br>1<br>9<br>E<br>-<br>0<br>3 | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, CKS2, NOTCH1 receptor, Cyclin B, ERK1/2, 14-3-3                                                                                                                        |
| 7<br>1 | <a href="#">Osteoarthritis</a>                | 2<br>7<br>8      | 4<br>.<br>5<br>2<br>6<br>E<br>-<br>0<br>4 | 3<br>.<br>6<br>9<br>1<br>E<br>-<br>3<br>4 | 4<br>.<br>5<br>2<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>6<br>9<br>1<br>E<br>-<br>0<br>3 | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor, ERK1/2                                                                                                                                                              |
| 7<br>2 | <a href="#">Lymphoproliferative Disorders</a> | 3<br>8<br>4<br>7 | 4<br>.<br>8<br>2                          | 3<br>.<br>8<br>8<br>2                     | 4<br>.<br>8<br>8<br>2                     | 3<br>.<br>8<br>8<br>2                     | Tissue kallikreins, ZNF261, LST1, Cyclin B1, HBG, NOTCH1 (NICD), HBGA, PROSC, Olfactory receptor, Notch, NOTCH1 (NEXT), IGHG1, ERK1 (MAPK3), NOTCH1 precursor, CD43, 14-3-3 zeta/delta, OATP-C, CKS2, NOTCH1 receptor, Cyclin B, Kallikrein |

|        |                                                               |             |                                           |                                           |                                           |                                           |                                                                                                                                            |
|--------|---------------------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                               |             | 9<br>E<br>-<br>0<br>4                     | 3<br>E<br>-<br>0<br>3                     | 9<br>E<br>-<br>0<br>4                     | 3<br>E<br>-<br>0<br>3                     | 3 (PSA), Adult hemoglobin, ERK1/2, 14-3-3, CapZIP, RBBP7 (RbAp46)                                                                          |
| 7<br>3 | <a href="#">Neuroblastoma</a>                                 | 5<br>2<br>0 | 4<br>.<br>9<br>3<br>6<br>E<br>-<br>0<br>4 | 3<br>.<br>9<br>1<br>5<br>E<br>-<br>0<br>3 | 4<br>.<br>9<br>3<br>6<br>E<br>-<br>0<br>4 | 3<br>.<br>9<br>1<br>5<br>E<br>-<br>0<br>3 | 8<br>NOTCH1 (NICD), Notch, NOTCH1 (NEXT), ERK1 (MAPK3), DR1, NOTCH1 precursor, NOTCH1 receptor, ERK1/2                                     |
| 7<br>4 | <a href="#">Aneurysm</a>                                      | 1<br>8<br>5 | 5<br>.<br>0<br>2<br>4<br>E<br>-<br>0<br>4 | 3<br>.<br>9<br>3<br>1<br>E<br>-<br>0<br>3 | 5<br>.<br>0<br>2<br>4<br>E<br>-<br>0<br>4 | 3<br>.<br>9<br>3<br>1<br>E<br>-<br>0<br>3 | 5<br>NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor                                                                |
| 7<br>5 | <a href="#">Thyroid Diseases</a>                              | 9<br>6<br>4 | 5<br>.<br>5<br>1<br>0<br>E<br>-<br>0<br>4 | 4<br>.<br>2<br>5<br>4<br>E<br>-<br>0<br>3 | 5<br>.<br>5<br>1<br>0<br>E<br>-<br>0<br>4 | 4<br>.<br>2<br>5<br>4<br>E<br>-<br>0<br>3 | 1<br>1<br>Leiomodrin, NOTCH1 (NICD), Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, CKS2, NOTCH1 receptor, Cyclin B, ERK1/2, 14-3-3 |
| 7<br>6 | <a href="#">Neuroectodermal Tumors, Primitive, Peripheral</a> | 5<br>3<br>1 | 5<br>.<br>6<br>6<br>4<br>E<br>-<br>0<br>4 | 4<br>.<br>3<br>1<br>5<br>E<br>-<br>0<br>3 | 5<br>.<br>6<br>6<br>4<br>E<br>-<br>0<br>4 | 4<br>.<br>3<br>1<br>5<br>E<br>-<br>0<br>3 | 8<br>NOTCH1 (NICD), Notch, NOTCH1 (NEXT), ERK1 (MAPK3), DR1, NOTCH1 precursor, NOTCH1 receptor, ERK1/2                                     |
| 7<br>7 | <a href="#">Leukemia, T-Cell</a>                              | 2<br>0<br>0 | 7<br>.<br>1<br>5<br>0<br>E                | 5<br>.<br>3<br>7<br>7<br>E                | 7<br>.<br>1<br>5<br>7<br>E                | 5<br>.<br>3<br>7<br>7<br>E                | 5<br>NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor                                                                |

|        |                                                |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                                                                                             |
|--------|------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                |                  | -<br>0<br>4                               | -<br>0<br>3                               | -<br>0<br>4                               | -<br>0<br>3                               |        |                                                                                                                                                                                                                                                                                                                             |
| 7<br>8 | <a href="#">Lupus Erythema tosus. Systemic</a> | 1<br>1<br>6<br>1 | 7<br>.<br>3<br>0<br>6<br>E<br>-<br>0<br>4 | 5<br>.<br>4<br>2<br>3<br>E<br>-<br>0<br>3 | 7<br>.<br>3<br>0<br>6<br>E<br>-<br>0<br>4 | 5<br>.<br>4<br>2<br>3<br>E<br>-<br>0<br>3 | 1<br>2 | NOTCH1 (NICD), TIRAP (Mal), Olfactory receptor, Notch, NOTCH1 (NEXT), NOTCH1 precursor, CD43, NFKBIL1, NOTCH1 receptor, RIG-G, ERK1/2, 14-3-3                                                                                                                                                                               |
| 7<br>9 | <a href="#">Neoplasm S. Neuroepithelial</a>    | 5<br>3<br>5<br>5 | 7<br>.<br>5<br>5<br>2<br>E<br>-<br>0<br>4 | 5<br>.<br>5<br>3<br>5<br>E<br>-<br>0<br>3 | 7<br>.<br>5<br>5<br>2<br>E<br>-<br>0<br>4 | 5<br>.<br>5<br>3<br>5<br>E<br>-<br>0<br>3 | 3<br>2 | CDH26, Tissue kallikreins, ZNF261, LRFN1, Cyclin B1, TIPIN, LHX1, NOTCH1 (NICD), Gpbp1, PROSC, Olfactory receptor, Notch, C14orf119, NOTCH1 (NEXT), ERK1 (MAPK3), DR1, NOTCH1 precursor, SULT1E1, AO7, OATP-C, CKS2, OR10G3, PLEKHG2, NOTCH1 receptor, NMRAL1, DOHH, Cyclin B, Rab-3, RIG-G, ERK1/2, CapZIP, RBBP7 (RbAp46) |
| 8<br>0 | <a href="#">Hemangioma</a>                     | 5<br>1           | 7<br>.<br>8<br>0<br>9<br>E<br>-<br>0<br>4 | 5<br>.<br>6<br>0<br>8<br>E<br>-<br>0<br>3 | 7<br>.<br>8<br>0<br>9<br>E<br>-<br>0<br>4 | 5<br>.<br>6<br>0<br>8<br>E<br>-<br>0<br>3 | 3      | IRT-1, ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                                                                                                                 |
| 8<br>1 | <a href="#">Pathologic Processes</a>           | 2<br>6<br>7<br>8 | 7<br>.<br>9<br>3<br>0<br>E<br>-<br>0<br>4 | 5<br>.<br>6<br>0<br>8<br>E<br>-<br>0<br>3 | 7<br>.<br>9<br>3<br>0<br>E<br>-<br>0<br>4 | 5<br>.<br>6<br>0<br>8<br>E<br>-<br>0<br>3 | 2<br>0 | Tissue kallikreins, Kallikrein 1, LST1, Cyclin B1, NOTCH1 (NICD), IRT-1, Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, 14-3-3 zeta/delta, NFKBIL1, OATP-C, NOTCH1 receptor, Cyclin B, Kallikrein 3 (PSA), Adult hemoglobin, ERK1/2, UGDH, 14-3-3                                                                    |
| 8<br>2 | <a href="#">Bowen's Disease</a>                | 1<br>2           | 7<br>.<br>9<br>4<br>2<br>E<br>-<br>0<br>0 | 5<br>.<br>6<br>0<br>8<br>E<br>-<br>0<br>0 | 7<br>.<br>9<br>4<br>2<br>E<br>-<br>0<br>0 | 5<br>.<br>6<br>0<br>8<br>E<br>-<br>0<br>0 | 2      | ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                                                                                                                        |

|        |                                                         |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                                         |
|--------|---------------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                                         |                  | 4                                         | 3                                         | 4                                         | 3                                         |        |                                                                                                                                                                                                                                                                         |
| 8<br>3 | <a href="#">Lymphoma, T-Cell</a>                        | 4<br>3<br>1      | 8<br>.<br>2<br>2<br>1<br>E<br>-<br>0<br>4 | 5<br>.<br>7<br>3<br>5<br>E<br>-<br>0<br>3 | 8<br>.<br>2<br>2<br>1<br>E<br>-<br>0<br>4 | 5<br>.<br>7<br>3<br>5<br>E<br>-<br>0<br>3 | 7      | NOTCH1 (NICD), Olfactory receptor, Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor, NMRAL1                                                                                                                                                                      |
| 8<br>4 | <a href="#">Glioblastoma</a>                            | 2<br>4<br>9<br>3 | 8<br>.<br>6<br>8<br>5<br>E<br>-<br>0<br>4 | 5<br>.<br>9<br>3<br>6<br>E<br>-<br>0<br>3 | 8<br>.<br>6<br>8<br>5<br>E<br>-<br>0<br>4 | 5<br>.<br>9<br>3<br>6<br>E<br>-<br>0<br>3 | 1<br>9 | CDH26, Tissue kallikreins, NOTCH1 (NICD), Gbbp1, PROSC, Olfactory receptor, Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, AO7, OATP-C, CKS2, OR10G3, NOTCH1 receptor, Rab-3, RIG-G, ERK1/2, CapZIP                                                              |
| 8<br>5 | <a href="#">Carcinoma, Intraductal, Noninfiltrating</a> | 2<br>0<br>9      | 8<br>.<br>7<br>1<br>4<br>E<br>-<br>0<br>4 | 5<br>.<br>9<br>3<br>6<br>E<br>-<br>0<br>3 | 8<br>.<br>7<br>1<br>4<br>E<br>-<br>0<br>4 | 5<br>.<br>9<br>3<br>6<br>E<br>-<br>0<br>3 | 5      | Cyclin B1, ERK1 (MAPK3), Cyclin B, ERK1/2, 14-3-3                                                                                                                                                                                                                       |
| 8<br>6 | <a href="#">Vascular Diseases</a>                       | 3<br>1<br>2<br>3 | 8<br>.<br>9<br>3<br>3<br>E<br>-<br>0<br>4 | 5<br>.<br>9<br>7<br>4<br>E<br>-<br>0<br>3 | 8<br>.<br>9<br>3<br>3<br>E<br>-<br>0<br>4 | 5<br>.<br>9<br>7<br>4<br>E<br>-<br>0<br>3 | 2<br>2 | Tissue kallikreins, Kallikrein 1, HBG, NOTCH1 (NICD), IRT-1, HBGA, Olfactory receptor, Notch, NOTCH1 (NEXT), IGHG1, ERK1 (MAPK3), NOTCH1 precursor, 14-3-3 zeta/delta, NFKBIL1, OATP-C, CKS2, NOTCH1 receptor, Adult hemoglobin, VILIP3, ERK1/2, 14-3-3, RBBP7 (RbAp46) |
| 8<br>7 | <a href="#">Phenomena and Processes</a>                 | 1<br>1<br>8<br>9 | 8<br>.<br>9<br>9<br>7<br>E<br>-<br>0<br>4 | 5<br>.<br>9<br>7<br>4<br>E<br>-<br>0<br>3 | 8<br>.<br>9<br>7<br>4<br>E<br>-<br>0<br>4 | 5<br>.<br>9<br>7<br>4<br>E<br>-<br>0<br>3 | 1<br>2 | Tissue kallikreins, NOTCH1 (NICD), Notch, NOTCH1 (NEXT), ERK1 (MAPK3), SRB7, NOTCH1 precursor, MTL5, NOTCH1 receptor, Kallikrein 3 (PSA), RIG-G, ERK1/2                                                                                                                 |

|    |                                                  |      |                                           |                                           |                                           |                                           |    |                                                                                                                                                                                                                                |
|----|--------------------------------------------------|------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 88 | <a href="#">Signs and Symptom S. Respiratory</a> | 571  | 9<br>.<br>0<br>8<br>0<br>E<br>-<br>0<br>4 | 5<br>.<br>9<br>7<br>4<br>E<br>-<br>0<br>3 | 9<br>.<br>0<br>8<br>0<br>E<br>-<br>0<br>4 | 5<br>.<br>9<br>7<br>4<br>E<br>-<br>0<br>3 | 8  | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, NOTCH1 receptor, ERK1/2, UGDH                                                                                                                             |
| 89 | <a href="#">Musculoskeletal Diseases</a>         | 2511 | 9<br>.<br>4<br>7<br>8<br>E<br>-<br>0<br>4 | 6<br>.<br>1<br>6<br>6<br>E<br>-<br>0<br>3 | 9<br>.<br>4<br>7<br>8<br>E<br>-<br>0<br>4 | 6<br>.<br>1<br>6<br>6<br>E<br>-<br>0<br>3 | 19 | Tissue kallikreins, IGHG4, Kallikrein 1, LST1, NOTCH1 (NICD), IRT-1, Notch, NOTCH1 (NEXT), IGHG1, ERK1 (MAPK3), NOTCH1 precursor, NFKBIL1, OATP-C, NOTCH1 receptor, Rab-3, Kallikrein 3 (PSA), Adult hemoglobin, RIG-G, ERK1/2 |
| 90 | <a href="#">Cholesteatoma</a>                    | 14   | 1<br>.<br>0<br>9<br>0<br>E<br>-<br>0<br>3 | 6<br>.<br>9<br>1<br>8<br>E<br>-<br>0<br>3 | 1<br>.<br>0<br>9<br>0<br>E<br>-<br>0<br>3 | 6<br>.<br>9<br>1<br>8<br>E<br>-<br>0<br>3 | 2  | ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                           |
| 91 | <a href="#">Ganglioglioma</a>                    | 14   | 1<br>.<br>0<br>9<br>0<br>E<br>-<br>0<br>3 | 6<br>.<br>9<br>1<br>8<br>E<br>-<br>0<br>3 | 1<br>.<br>0<br>9<br>0<br>E<br>-<br>0<br>3 | 6<br>.<br>9<br>1<br>8<br>E<br>-<br>0<br>3 | 2  | Cyclin B1, Cyclin B                                                                                                                                                                                                            |
| 92 | <a href="#">Astrocytoma</a>                      | 2542 | 1<br>.<br>0<br>9<br>9<br>E<br>-<br>0<br>3 | 6<br>.<br>9<br>1<br>8<br>E<br>-<br>0<br>3 | 1<br>.<br>0<br>9<br>9<br>E<br>-<br>0<br>3 | 6<br>.<br>9<br>1<br>8<br>E<br>-<br>0<br>3 | 19 | CDH26, Tissue kallikreins, NOTCH1 (NICD), Gbbp1, PROSC, Olfactory receptor, Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, AO7, OATP-C, CKS2, OR10G3, NOTCH1 receptor, Rab-3, RIG-G, ERK1/2, CapZIP                     |
| 93 | <a href="#">Dementia, Vascular</a>               | 60   | 1<br>.<br>.<br>.<br>.                     | 7<br>.<br>.<br>.<br>.                     | 1<br>.<br>.<br>.<br>.                     | 7<br>.<br>.<br>.<br>.                     | 3  | Tissue kallikreins, Kallikrein 1, Notch                                                                                                                                                                                        |

|        |                                           |                  |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                                                                                                                                                     |
|--------|-------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        |                                           |                  | 2<br>5<br>4<br>E<br>-<br>0<br>3           | 7<br>3<br>0<br>E<br>-<br>0<br>3           | 2<br>5<br>4<br>E<br>-<br>0<br>3           | 7<br>3<br>0<br>E<br>-<br>0<br>3           |                                                                                                                                                                                                                                                                                                                                                                     |
| 9<br>4 | <a href="#">Pneumococcal Infections</a>   | 1<br>5           | 1<br>.<br>2<br>5<br>5<br>E<br>-<br>0<br>3 | 7<br>.<br>7<br>3<br>0<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>5<br>5<br>E<br>-<br>0<br>3 | 7<br>.<br>7<br>3<br>0<br>E<br>-<br>0<br>3 | 2<br>ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                                                                                                                                                           |
| 9<br>5 | <a href="#">Endocrine System Diseases</a> | 5<br>7<br>5<br>8 | 1<br>.<br>2<br>7<br>8<br>E<br>-<br>0<br>3 | 7<br>.<br>7<br>9<br>2<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>7<br>8<br>E<br>-<br>0<br>3 | 7<br>.<br>7<br>9<br>2<br>E<br>-<br>0<br>3 | 3<br>CDH26, Tissue kallikreins, Kallikrein 1, Cyclin B1, AL1A1, LHX1, HBG, Leiomodrin, NOTCH1 (NICD), IRT-1, HBGA, TIP47, Olfactory receptor, Notch, NOTCH1 (NEXT), IGHG1, ERK1 (MAPK3), NOTCH1 precursor, Lemd1, Hn1, NFKBIL1, OATP-C, CKS2, NOTCH1 receptor, RNF11, Cyclin B, Kallikrein 3 (PSA), Adult hemoglobin, ZHX3, ERK1/2, 14-3-3, CCDC28A, RBBP7 (RbAp46) |
| 9<br>6 | <a href="#">Ovarian Neoplasms</a>         | 3<br>0<br>2<br>7 | 1<br>.<br>4<br>7<br>8<br>E<br>-<br>0<br>3 | 8<br>.<br>9<br>1<br>1<br>E<br>-<br>0<br>3 | 1<br>.<br>4<br>7<br>8<br>E<br>-<br>0<br>3 | 8<br>.<br>9<br>1<br>1<br>E<br>-<br>0<br>3 | 2<br>1<br>Tissue kallikreins, Kallikrein 1, Cyclin B1, AL1A1, NOTCH1 (NICD), IRT-1, TIP47, Olfactory receptor, Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, Hn1, OATP-C, NOTCH1 receptor, Cyclin B, Kallikrein 3 (PSA), ZHX3, ERK1/2, 14-3-3, CCDC28A                                                                                                      |
| 9<br>7 | <a href="#">Glioma</a>                    | 5<br>0<br>8<br>8 | 1<br>.<br>5<br>4<br>9<br>E<br>-<br>0<br>3 | 9<br>.<br>2<br>4<br>4<br>E<br>-<br>0<br>3 | 1<br>.<br>5<br>4<br>9<br>E<br>-<br>0<br>3 | 9<br>.<br>2<br>4<br>4<br>E<br>-<br>0<br>3 | 3<br>0<br>CDH26, Tissue kallikreins, ZNF261, LRFN1, Cyclin B1, TIPIN, LHX1, NOTCH1 (NICD), Gbp1, PROSC, Olfactory receptor, Notch, C14orf119, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, SULT1E1, AO7, OATP-C, CKS2, OR10G3, PLEKHG2, NOTCH1 receptor, NMRAL1, DOHH, Cyclin B, Rab-3, RIG-G, ERK1/2, CapZIP                                                     |
| 9<br>8 | <a href="#">Schizophrenia, Paranoid</a>   | 1<br>7           | 1<br>.<br>6<br>1                          | 9<br>.<br>5<br>5                          | 1<br>.<br>6<br>1                          | 9<br>.<br>5<br>5                          | 2<br>14-3-3 zeta/delta, 14-3-3                                                                                                                                                                                                                                                                                                                                      |

|             |                                                   |             |                                           |                                           |                                           |                                           |   |                                                       |
|-------------|---------------------------------------------------|-------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|-------------------------------------------------------|
|             |                                                   |             | 8<br>E<br>-<br>0<br>3                     | 9<br>E<br>-<br>0<br>3                     | 8<br>E<br>-<br>0<br>3                     | 9<br>E<br>-<br>0<br>3                     |   |                                                       |
| 9<br>9      | <a href="#">Thalassemia</a>                       | 6<br>6      | 1<br>.<br>6<br>5<br>2<br>E<br>-<br>0<br>3 | 9<br>.<br>6<br>6<br>2<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>5<br>2<br>E<br>-<br>0<br>3 | 9<br>.<br>6<br>6<br>2<br>E<br>-<br>0<br>3 | 3 | HBG, HBGA, Adult hemoglobin                           |
| 1<br>0<br>0 | <a href="#">Central Nervous System Infections</a> | 2<br>4<br>6 | 1<br>.<br>7<br>9<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>0<br>3<br>8<br>E<br>-<br>0<br>2 | 1<br>.<br>7<br>9<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>0<br>3<br>8<br>E<br>-<br>0<br>2 | 5 | IRT-1, ERK1 (MAPK3), Adult hemoglobin, ERK1/2, 14-3-3 |
| 1<br>0<br>1 | <a href="#">Carcinoma, Mucoepidermoid</a>         | 1<br>8      | 1<br>.<br>8<br>1<br>6<br>E<br>-<br>0<br>3 | 1<br>.<br>0<br>4<br>1<br>E<br>-<br>0<br>2 | 1<br>.<br>8<br>1<br>6<br>E<br>-<br>0<br>3 | 1<br>.<br>0<br>4<br>1<br>E<br>-<br>0<br>2 | 2 | ERK1 (MAPK3), ERK1/2                                  |
| 1<br>0<br>2 | <a href="#">Leiomyoma</a>                         | 1<br>4<br>8 | 1<br>.<br>8<br>8<br>0<br>E<br>-<br>0<br>3 | 1<br>.<br>0<br>6<br>7<br>E<br>-<br>0<br>2 | 1<br>.<br>8<br>8<br>0<br>E<br>-<br>0<br>3 | 1<br>.<br>0<br>6<br>7<br>E<br>-<br>0<br>2 | 4 | AL1A1, ERK1 (MAPK3), ERK1/2, 14-3-3                   |
| 1<br>0<br>3 | <a href="#">Neoplasms, Multiple Primary</a>       | 7<br>1      | 2<br>.<br>0<br>3<br>8<br>E                | 1<br>.<br>1<br>4<br>5<br>E                | 2<br>.<br>0<br>3<br>8<br>E                | 1<br>.<br>1<br>4<br>5<br>E                | 3 | RNF11, ERK1/2, 14-3-3                                 |



|             |                                                   |                  |                                           |                                           |                                           |                                           |   |                                                                                                                                                                                                                                              |
|-------------|---------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                   |                  | -<br>0<br>3                               | -<br>0<br>2                               | -<br>0<br>3                               | -<br>0<br>2                               |   |                                                                                                                                                                                                                                              |
| 1<br>0<br>4 | <a href="#">Neuroectodermal Tumors, Primitive</a> | 3<br>3<br>3<br>3 | 2<br>.<br>1<br>1<br>5<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>7<br>8<br>E<br>-<br>0<br>2 | 2<br>.<br>1<br>1<br>5<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>7<br>8<br>E<br>-<br>0<br>2 | 2 | Tissue kallikreins, ZNF261, LRFN1, Cyclin B1, TIPIN, LHX1, NOTCH1 (NICD), Olfactory receptor, Notch, C14orf119, NOTCH1 (NEXT), ERK1 (MAPK3), DR1, NOTCH1 precursor, SULT1E1, PLEKHG2, NOTCH1 receptor, NMRAL1, DOHH, Cyclin B, RIG-G, ERK1/2 |
| 1<br>0<br>5 | <a href="#">Alzheimer Disease</a>                 | 1<br>1<br>4<br>1 | 2<br>.<br>1<br>5<br>2<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>8<br>2<br>E<br>-<br>0<br>2 | 2<br>.<br>1<br>5<br>2<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>8<br>2<br>E<br>-<br>0<br>2 | 1 | Tissue kallikreins, NOTCH1 (NICD), Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, 14-3-3 zeta/delta, NOTCH1 receptor, VILIP3, ERK1/2, 14-3-3                                                                                          |
| 1<br>0<br>6 | <a href="#">Multiple Myeloma</a>                  | 1<br>8<br>8<br>2 | 2<br>.<br>1<br>8<br>4<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>8<br>2<br>E<br>-<br>0<br>2 | 2<br>.<br>1<br>8<br>4<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>8<br>2<br>E<br>-<br>0<br>2 | 1 | Tissue kallikreins, HBG, NOTCH1 (NICD), HBGA, Olfactory receptor, Notch, NOTCH1 (NEXT), IGHG1, NOTCH1 precursor, 14-3-3 zeta/delta, CKS2, NOTCH1 receptor, Adult hemoglobin, 14-3-3, RBBP7 (RbAp46)                                          |
| 1<br>0<br>7 | <a href="#">Neurodegenerative Diseases</a>        | 2<br>0<br>7<br>9 | 2<br>.<br>1<br>8<br>4<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>8<br>2<br>E<br>-<br>0<br>2 | 2<br>.<br>1<br>8<br>4<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>8<br>2<br>E<br>-<br>0<br>2 | 1 | Tissue kallikreins, HBG, NOTCH1 (NICD), HBGA, Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, 14-3-3 zeta/delta, NOTCH1 receptor, RNF11, Adult hemoglobin, Protrudin, VILIP3, ERK1/2, 14-3-3                                           |
| 1<br>0<br>8 | <a href="#">Paranasal Sinus Diseases</a>          | 1<br>5<br>5      | 2<br>.<br>2<br>2<br>4<br>E<br>-<br>0      | 1<br>.<br>1<br>9<br>2<br>E<br>-<br>0      | 2<br>.<br>1<br>2<br>4<br>E<br>-<br>0      | 1<br>.<br>1<br>9<br>2<br>E<br>-<br>0      | 4 | Tissue kallikreins, Olfactory receptor, Notch, Spinophilin                                                                                                                                                                                   |

|             |                                        |                  |                                           |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                                      |
|-------------|----------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                        |                  | 3                                         | 2                                         | 3                                         | 2                                         |                                           |                                                                                                                                                                                                                                                      |
| 1<br>0<br>9 | <a href="#">Neoplasms, Plasma Cell</a> | 1<br>8<br>9<br>1 | 2<br>.<br>2<br>8<br>8<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>9<br>6<br>E<br>-<br>0<br>2 | 2<br>.<br>2<br>8<br>8<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>9<br>6<br>E<br>-<br>0<br>2 | 1<br>.<br>1<br>9<br>6<br>E<br>-<br>0<br>5 | Tissue kallikreins, HBG, NOTCH1 (NICD), HBGA, Olfactory receptor, Notch, NOTCH1 (NEXT), IGHG1, NOTCH1 precursor, 14-3-3 zeta/delta, CKS2, NOTCH1 receptor, Adult hemoglobin, 14-3-3, RBBP7 (RbAp46)                                                  |
| 1<br>1<br>0 | <a href="#">Paraproteinemias</a>       | 1<br>8<br>9<br>1 | 2<br>.<br>2<br>8<br>8<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>9<br>6<br>E<br>-<br>0<br>2 | 2<br>.<br>2<br>8<br>8<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>9<br>6<br>E<br>-<br>0<br>2 | 1<br>.<br>1<br>9<br>6<br>E<br>-<br>0<br>5 | Tissue kallikreins, HBG, NOTCH1 (NICD), HBGA, Olfactory receptor, Notch, NOTCH1 (NEXT), IGHG1, NOTCH1 precursor, 14-3-3 zeta/delta, CKS2, NOTCH1 receptor, Adult hemoglobin, 14-3-3, RBBP7 (RbAp46)                                                  |
| 1<br>1<br>1 | <a href="#">Parathyroid Diseases</a>   | 7<br>4           | 2<br>.<br>2<br>9<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>9<br>6<br>E<br>-<br>0<br>2 | 2<br>.<br>2<br>9<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>9<br>3<br>E<br>-<br>0<br>2 | 3                                         | HBG, HBGA, Adult hemoglobin                                                                                                                                                                                                                          |
| 1<br>1<br>2 | <a href="#">Ovarian Diseases</a>       | 3<br>1<br>3<br>9 | 2<br>.<br>3<br>3<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>9<br>6<br>E<br>-<br>0<br>2 | 2<br>.<br>2<br>9<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>9<br>3<br>E<br>-<br>0<br>2 | 2<br>1                                    | Tissue kallikreins, Kallikrein 1, Cyclin B1, AL1A1, NOTCH1 (NICD), IRT-1, TIP47, Olfactory receptor, Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, Hn1, OATP-C, NOTCH1 receptor, Cyclin B, Kallikrein 3 (PSA), ZHX3, ERK1/2, 14-3-3, CCDC28A |
| 1<br>1<br>3 | <a href="#">Tauopathies</a>            | 1<br>1<br>5<br>3 | 2<br>.<br>3<br>3<br>4<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>9<br>6<br>E<br>-<br>0<br>2 | 2<br>.<br>2<br>9<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>9<br>3<br>E<br>-<br>0<br>2 | 1<br>1<br>1                               | Tissue kallikreins, NOTCH1 (NICD), Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, 14-3-3 zeta/delta, NOTCH1 receptor, VILIP3, ERK1/2, 14-3-3                                                                                                  |

|             |                                          |                  |                                           |                                           |                                           |                                                     |                                                                                                                                                                                                                                                                                                                             |
|-------------|------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1<br>1<br>4 | <a href="#">Adnexal Diseases</a>         | 3<br>1<br>4<br>2 | 2<br>.<br>3<br>6<br>1<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>9<br>E<br>-<br>0<br>2      | 2<br>.<br>3<br>6<br>1<br>E<br>-<br>0<br>3 | 1<br>.<br>1<br>9<br>E<br>-<br>0<br>2<br>1           | Tissue kallikreins, Kallikrein 1, Cyclin B1, AL1A1, NOTCH1 (NICD), IRT-1, TIP47, Olfactory receptor, Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, Hn1, OATP-C, NOTCH1 receptor, Cyclin B, Kallikrein 3 (PSA), ZHX3, ERK1/2, 14-3-3, CCDC28A                                                                        |
| 1<br>1<br>5 | <a href="#">Colonic Diseases</a>         | 4<br>2<br>7<br>2 | 2<br>.<br>3<br>8<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>0<br>0<br>E<br>-<br>0<br>2 | 2<br>.<br>3<br>8<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>0<br>0<br>E<br>-<br>0<br>2<br>6      | Tissue kallikreins, IGHG4, Cyclin B1, AL1A1, NOTCH1 (NICD), SNX1, Olfactory receptor, Notch, Thioredoxin-like 2, NOTCH1 (NEXT), IGHG1, ERK1 (MAPK3), NOTCH1 precursor, SULT1E1, CD43, 14-3-3 zeta/delta, NFKBIL1, OATP-C, CKS2, Annexin XI, NOTCH1 receptor, Cyclin B, Kallikrein 3 (PSA), Adult hemoglobin, ERK1/2, 14-3-3 |
| 1<br>1<br>6 | <a href="#">Encephalitis, Japanese</a>   | 2<br>1           | 2<br>.<br>4<br>7<br>6<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>3<br>6<br>E<br>-<br>0<br>2 | 2<br>.<br>4<br>7<br>6<br>E<br>-<br>0<br>3 | 1<br>.<br>2<br>3<br>6<br>E<br>-<br>0<br>2<br>2      | ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                                                                                                                        |
| 1<br>1<br>7 | <a href="#">Blood Protein Disorders</a>  | 1<br>9<br>2<br>2 | 2<br>.<br>6<br>7<br>8<br>E<br>-<br>0<br>3 | 1<br>.<br>3<br>2<br>5<br>E<br>-<br>0<br>2 | 2<br>.<br>6<br>7<br>8<br>E<br>-<br>0<br>3 | 1<br>.<br>3<br>2<br>5<br>E<br>-<br>0<br>2<br>1<br>5 | Tissue kallikreins, HBG, NOTCH1 (NICD), HBGA, Olfactory receptor, Notch, NOTCH1 (NEXT), IGHG1, NOTCH1 precursor, 14-3-3 zeta/delta, CKS2, NOTCH1 receptor, Adult hemoglobin, 14-3-3, RBBP7 (RbAp46)                                                                                                                         |
| 1<br>1<br>8 | <a href="#">Hemostatic Disorders</a>     | 1<br>9<br>4<br>0 | 2<br>.<br>9<br>2<br>9<br>E<br>-<br>0<br>3 | 1<br>.<br>4<br>3<br>7<br>E<br>-<br>0<br>2 | 2<br>.<br>9<br>2<br>9<br>E<br>-<br>0<br>3 | 1<br>.<br>4<br>3<br>7<br>E<br>-<br>0<br>2<br>1<br>5 | Tissue kallikreins, HBG, NOTCH1 (NICD), HBGA, Olfactory receptor, Notch, NOTCH1 (NEXT), IGHG1, NOTCH1 precursor, 14-3-3 zeta/delta, CKS2, NOTCH1 receptor, Adult hemoglobin, 14-3-3, RBBP7 (RbAp46)                                                                                                                         |
| 1<br>1      | <a href="#">Endocrine Gland Neoplasm</a> | 4<br>8           | 2<br>.<br>.<br>.                          | 1<br>.<br>.<br>.                          | 2<br>.<br>.<br>.                          | 1<br>.<br>.<br>.<br>8                               | CDH26, Tissue kallikreins, Kallikrein 1, Cyclin B1, AL1A1, LHX1, NOTCH1 (NICD), IRT-1, TIP47, Olfactory receptor, Notch,                                                                                                                                                                                                    |

|             |                                           |                  |                                                |                                           |                                                |                                           |                                                                                                                                                                                                                                                                         |
|-------------|-------------------------------------------|------------------|------------------------------------------------|-------------------------------------------|------------------------------------------------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9           | <a href="#">S</a>                         | 1<br>1           | 9<br>7<br>1<br>E<br>-<br>0<br>3                | 4<br>4<br>6<br>E<br>-<br>0<br>2           | 9<br>7<br>1<br>E<br>-<br>0<br>3                | 4<br>4<br>6<br>E<br>-<br>0<br>2           | NOTCH1 (NEXT), IGHG1, ERK1 (MAPK3), NOTCH1 precursor, Lemd1, Hn1, OATP-C, CKS2, NOTCH1 receptor, RNF11, Cyclin B, Kallikrein 3 (PSA), ZHX3, ERK1/2, 14-3-3, CCDC28A, RBBP7 (RbAp46)                                                                                     |
| 1<br>2<br>0 | <a href="#">Lymphatic Diseases</a>        | 2<br>7<br>3      | 3<br>.<br>0<br>3<br>8<br>E<br>-<br>7<br>3      | 1<br>.<br>4<br>6<br>6<br>E<br>-<br>0<br>2 | 3<br>.<br>0<br>3<br>8<br>E<br>-<br>0<br>2      | 1<br>.<br>4<br>6<br>6<br>E<br>-<br>0<br>2 | Tissue kallikreins, ZNF261, LST1, Cyclin B1, NOTCH1 (NICD), PROSC, Olfactory receptor, Notch, NOTCH1 (NEXT), IGHG1, ERK1 (MAPK3), NOTCH1 precursor, CD43, OATP-C, NOTCH1 receptor, Cyclin B, Kallikrein 3 (PSA), ERK1/2, CapZIP                                         |
| 1<br>2<br>1 | <a href="#">Gonadal Disorders</a>         | 3<br>2<br>2<br>1 | 3<br>.<br>2<br>0<br>3<br>3<br>E<br>-<br>2<br>1 | 1<br>.<br>5<br>3<br>3<br>E<br>-<br>0<br>2 | 3<br>.<br>2<br>0<br>3<br>3<br>E<br>-<br>0<br>2 | 1<br>.<br>5<br>3<br>3<br>E<br>-<br>0<br>2 | Tissue kallikreins, Kallikrein 1, Cyclin B1, AL1A1, NOTCH1 (NICD), IRT-1, TIP47, Olfactory receptor, Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, Hn1, OATP-C, NOTCH1 receptor, Cyclin B, Kallikrein 3 (PSA), ZHX3, ERK1/2, 14-3-3, CCDC28A                    |
| 1<br>2<br>2 | <a href="#">Chondroma</a>                 | 2<br>4           | 3<br>.<br>2<br>3<br>1<br>E<br>-<br>0<br>3      | 1<br>.<br>5<br>3<br>4<br>E<br>-<br>0<br>2 | 3<br>.<br>2<br>3<br>1<br>E<br>-<br>0<br>2      | 1<br>.<br>5<br>3<br>4<br>E<br>-<br>0<br>2 | ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                                                                    |
| 1<br>2<br>3 | <a href="#">Cardiovascular Diseases</a>   | 3<br>4<br>6<br>0 | 3<br>.<br>4<br>0<br>4<br>E<br>-<br>0<br>3      | 1<br>.<br>5<br>7<br>8<br>E<br>-<br>0<br>2 | 3<br>.<br>4<br>0<br>4<br>E<br>-<br>0<br>2      | 1<br>.<br>5<br>7<br>8<br>E<br>-<br>0<br>2 | Tissue kallikreins, Kallikrein 1, HBG, NOTCH1 (NICD), IRT-1, HBGA, Olfactory receptor, Notch, NOTCH1 (NEXT), IGHG1, ERK1 (MAPK3), NOTCH1 precursor, 14-3-3 zeta/delta, NFKBIL1, OATP-C, CKS2, NOTCH1 receptor, Adult hemoglobin, VILIP3, ERK1/2, 14-3-3, RBBP7 (RbAp46) |
| 1<br>2<br>4 | <a href="#">Pharmacological Phenomena</a> | 4<br>1<br>3      | 3<br>.<br>4<br>0<br>7                          | 1<br>.<br>5<br>7<br>0                     | 3<br>.<br>4<br>5<br>0                          | 1<br>.<br>5<br>5<br>7                     | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor, ERK1/2                                                                                                                                                                                          |

|             |                                                  |                  |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                                             |
|-------------|--------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                  |                  | 7<br>E<br>-<br>0<br>3                     | 8<br>E<br>-<br>0<br>2                     | 7<br>E<br>-<br>0<br>3                     | 8<br>E<br>-<br>0<br>2                     |                                                                                                                                                                                                                                                             |
| 1<br>2<br>5 | <a href="#">Drug<br/>Resistance</a>              | 4<br>1<br>3      | 3<br>.<br>4<br>0<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>5<br>7<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>0<br>7<br>E<br>-<br>0<br>3 | 1<br>.<br>5<br>7<br>8<br>E<br>-<br>0<br>2 | 6<br>NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor,<br>NOTCH1 receptor, ERK1/2                                                                                                                                                                      |
| 1<br>2<br>6 | <a href="#">Encephali<br/>tis,<br/>Arbovirus</a> | 2<br>5           | 3<br>.<br>5<br>0<br>4<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>1<br>0<br>E<br>-<br>0<br>2 | 3<br>.<br>5<br>0<br>4<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>1<br>0<br>E<br>-<br>0<br>2 | 2<br>ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                                                   |
| 1<br>2<br>7 | <a href="#">Infertility</a>                      | 2<br>9<br>0      | 3<br>.<br>6<br>4<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>6<br>1<br>E<br>-<br>0<br>2 | 3<br>.<br>6<br>4<br>3<br>E<br>-<br>0<br>3 | 1<br>.<br>6<br>6<br>1<br>E<br>-<br>0<br>2 | 5<br>NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor,<br>NOTCH1 receptor                                                                                                                                                                              |
| 1<br>2<br>8 | <a href="#">Brain<br/>Diseases</a>               | 2<br>8<br>2<br>6 | 3<br>.<br>7<br>6<br>0<br>E<br>-<br>0<br>3 | 1<br>.<br>7<br>0<br>1<br>E<br>-<br>0<br>2 | 3<br>.<br>7<br>6<br>0<br>E<br>-<br>0<br>3 | 1<br>.<br>7<br>0<br>1<br>E<br>-<br>0<br>2 | 1<br>9<br>Tissue kallikreins, ZNF261, Kallikrein 1, HBG, NOTCH1 (NICD),<br>IRT-1, HBGA, Olfactory receptor, Notch, NOTCH1 (NEXT), ERK1<br>(MAPK3), NOTCH1 precursor, 14-3-3 zeta/delta, NOTCH1<br>receptor, RNF11, Adult hemoglobin, VILIP3, ERK1/2, 14-3-3 |
| 1<br>2<br>9 | <a href="#">Gastroes<br/>ophageal<br/>Reflux</a> | 2<br>7           | 4<br>.<br>0<br>8<br>2<br>E                | 1<br>.<br>8<br>3<br>2<br>E                | 4<br>.<br>0<br>8<br>2<br>E                | 1<br>.<br>8<br>3<br>2<br>E                | 2<br>ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                                                   |

|             |                                            |                  |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                             |
|-------------|--------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                            |                  | -<br>0<br>3                               | -<br>0<br>2                               | -<br>0<br>3                               | -<br>0<br>2                               |                                                                                                                                                                                                                                             |
| 1<br>3<br>0 | <a href="#">Hemorrhagic Disorders</a>      | 2<br>0<br>2<br>4 | 4<br>.<br>3<br>7<br>4<br>E<br>0<br>2<br>4 | 1<br>.<br>9<br>4<br>8<br>E<br>0<br>0<br>2 | 4<br>.<br>3<br>7<br>4<br>E<br>0<br>0<br>3 | 1<br>.<br>9<br>4<br>8<br>E<br>0<br>0<br>2 | 1<br>5<br>Tissue kallikreins, HBG, NOTCH1 (NICD), HBGA, Olfactory receptor, Notch, NOTCH1 (NEXT), IGHG1, NOTCH1 precursor, 14-3-3 zeta/delta, CKS2, NOTCH1 receptor, Adult hemoglobin, 14-3-3, RBBP7 (RbAp46)                               |
| 1<br>3<br>1 | <a href="#">Creutzfeldt-Jakob Syndrome</a> | 2<br>9           | 4<br>.<br>7<br>0<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>7<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>7<br>0<br>0<br>E<br>-<br>0<br>3 | 2<br>.<br>0<br>7<br>7<br>E<br>-<br>0<br>2 | 2<br>IRT-1, 14-3-3                                                                                                                                                                                                                          |
| 1<br>3<br>2 | <a href="#">Uterine Cervical Neoplasms</a> | 3<br>5<br>6<br>3 | 4<br>.<br>8<br>9<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>4<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>8<br>9<br>4<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>4<br>5<br>E<br>-<br>0<br>2 | 2<br>Tissue kallikreins, RY1, LRFN1, Cyclin B1, AL1A1, NOTCH1 (NICD), Gbp1, TIP47, Olfactory receptor, Notch, NOTCH1 (NEXT), ERK1 (MAPK3), CALCOCO2, NOTCH1 precursor, MTL5, NOTCH1 receptor, Cyclin B, Rab-3, ERK1/2, UGDH, 14-3-3, CapZIP |
| 1<br>3<br>3 | <a href="#">Uterine Cervical Diseases</a>  | 3<br>5<br>6<br>5 | 4<br>.<br>9<br>2<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>4<br>5<br>E<br>-<br>0<br>2 | 4<br>.<br>9<br>2<br>7<br>E<br>-<br>0<br>3 | 2<br>.<br>1<br>4<br>5<br>E<br>-<br>0<br>2 | 2<br>Tissue kallikreins, RY1, LRFN1, Cyclin B1, AL1A1, NOTCH1 (NICD), Gbp1, TIP47, Olfactory receptor, Notch, NOTCH1 (NEXT), ERK1 (MAPK3), CALCOCO2, NOTCH1 precursor, MTL5, NOTCH1 receptor, Cyclin B, Rab-3, ERK1/2, UGDH, 14-3-3, CapZIP |
| 1<br>3<br>4 | <a href="#">Oligodendroglioma</a>          | 3<br>1<br>3      | 5<br>.<br>0<br>2<br>6<br>E<br>-<br>0      | 2<br>.<br>1<br>7<br>2<br>E<br>-<br>0      | 5<br>.<br>0<br>2<br>6<br>E<br>-<br>0      | 2<br>.<br>1<br>7<br>2<br>E<br>-<br>0      | 5<br>NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor                                                                                                                                                                 |

|             |                                                    |                  |                                           |                                           |                                           |                                           |        |                                                                                                                                                                                                                                                                                                               |
|-------------|----------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                    |                  | 3                                         | 2                                         | 3                                         | 2                                         |        |                                                                                                                                                                                                                                                                                                               |
| 1<br>3<br>5 | <a href="#">Physiological Phenomena</a>            | 1<br>0<br>9<br>8 | 5<br>.<br>1<br>5<br>3<br>E<br>-<br>0<br>3 | 2<br>.<br>2<br>1<br>0<br>E<br>-<br>0<br>2 | 5<br>.<br>1<br>5<br>3<br>E<br>-<br>0<br>3 | 2<br>.<br>2<br>1<br>0<br>E<br>-<br>0<br>2 | 1<br>0 | NOTCH1 (NICD), Notch, NOTCH1 (NEXT), ERK1 (MAPK3), SRB7, NOTCH1 precursor, MTL5, NOTCH1 receptor, RIG-G, ERK1/2                                                                                                                                                                                               |
| 1<br>3<br>6 | <a href="#">Paget Disease, Extrammary</a>          | 3<br>1           | 5<br>.<br>3<br>5<br>8<br>E<br>-<br>0<br>3 | 2<br>.<br>2<br>8<br>1<br>E<br>-<br>0<br>2 | 5<br>.<br>3<br>5<br>8<br>E<br>-<br>0<br>3 | 2<br>.<br>2<br>8<br>1<br>E<br>-<br>0<br>2 | 2      | ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                                                                                                          |
| 1<br>3<br>7 | <a href="#">Gram-Positive Bacterial Infections</a> | 3<br>2<br>0      | 5<br>.<br>5<br>1<br>2<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>2<br>9<br>E<br>-<br>0<br>2 | 5<br>.<br>3<br>5<br>2<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>2<br>9<br>E<br>-<br>0<br>2 | 5      | TIRAP (Mal), ERK1 (MAPK3), NFKBIL1, Adult hemoglobin, ERK1/2                                                                                                                                                                                                                                                  |
| 1<br>3<br>8 | <a href="#">Mouth Diseases</a>                     | 4<br>7<br>7<br>6 | 5<br>.<br>6<br>5<br>E<br>-<br>0<br>3      | 2<br>.<br>3<br>5<br>E<br>-<br>0<br>2      | 5<br>.<br>3<br>5<br>E<br>-<br>0<br>3      | 2<br>.<br>3<br>5<br>E<br>-<br>0<br>2      | 2<br>7 | Tissue kallikreins, RY1, LST1, Cyclin B1, NOTCH1 (NICD), SNX1, TIRAP (Mal), Olfactory receptor, Notch, PAP41, NOTCH1 (NEXT), IGHG1, ERK1 (MAPK3), NOTCH1 precursor, 14-3-3 zeta/delta, NFKBIL1, AO7, PLEKHG2, NOTCH1 receptor, Cyclin B, Rab-3, Adult hemoglobin, FAM63A, RIG-G, ERK1/2, DEAF, 14-3-3         |
| 1<br>3<br>9 | <a href="#">Hemic and Lymphatic Diseases</a>       | 4<br>5<br>4<br>7 | 5<br>.<br>7<br>5<br>2<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>9<br>6<br>E<br>-<br>0<br>2 | 5<br>.<br>3<br>5<br>2<br>E<br>-<br>0<br>3 | 2<br>.<br>3<br>9<br>6<br>E<br>-<br>0<br>2 | 2<br>6 | Tissue kallikreins, ZNF261, LST1, Cyclin B1, HBG, NOTCH1 (NICD), HBGA, PROSC, Olfactory receptor, Notch, NOTCH1 (NEXT), IGHG1, ERK1 (MAPK3), NOTCH1 precursor, CD43, 14-3-3 zeta/delta, OATP-C, CKS2, NOTCH1 receptor, Cyclin B, Kallikrein 3 (PSA), Adult hemoglobin, ERK1/2, 14-3-3, CapZIP, RBBP7 (RbAp46) |

|     |                                                             |      |       |       |       |       |    |                                                                                                                                                                                                                                                                                                                                    |
|-----|-------------------------------------------------------------|------|-------|-------|-------|-------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 140 | <a href="#">Paranasal Sinus Neoplasms</a>                   | 103  | 5816E | 2405E | 5816E | 2405E | 3  | Tissue kallikreins, Olfactory receptor, Notch                                                                                                                                                                                                                                                                                      |
| 141 | <a href="#">Esophageal Motility Disorders</a>               | 33   | 6056E | 2487E | 6056E | 2487E | 2  | ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                                                                                                                               |
| 142 | <a href="#">Pathological Conditions, Signs and Symptoms</a> | 432  | 619E  | 2516E | 619E  | 2516E | 25 | Tissue kallikreins, Kallikrein 1, LST1, Cyclin B1, NOTCH1 (NICD), IRT-1, Notch, NOTCH1 (NEXT), ERK1 (MAPK3), SRB7, NOTCH1 precursor, 14-3-3 zeta/delta, NFKBIL1, OATP-C, MTL5, NOTCH1 receptor, Cyclin B, Rab-3, Kallikrein 3 (PSA), Adult hemoglobin, Protrudin, RIG-G, ERK1/2, UGDH, 14-3-3                                      |
| 143 | <a href="#">Nose Neoplasms</a>                              | 107  | 6462E | 2617E | 6462E | 2617E | 3  | Tissue kallikreins, Olfactory receptor, Notch                                                                                                                                                                                                                                                                                      |
| 144 | <a href="#">Stomatognathic Diseases</a>                     | 5821 | 6583E | 2647E | 6583E | 2647E | 31 | Tissue kallikreins, RY1, LST1, Cyclin B1, AL1A1, NOTCH1 (NICD), SNX1, TIRAP (Mal), Olfactory receptor, Notch, PAP41, NOTCH1 (NEXT), IGHG1, ERK1 (MAPK3), NOTCH1 precursor, 14-3-3 zeta/delta, NFKBIL1, AO7, OATP-C, PLEKHG2, NOTCH1 receptor, Cyclin B, Rab-3, Adult hemoglobin, FAM63A, RIG-G, VILIP3, ZHX3, ERK1/2, DEAF, 14-3-3 |
| 145 | <a href="#">Pancreatic Diseases</a>                         | 29   | 6     | 2     | 6     | 2     | 19 | CDH26, Tissue kallikreins, IGHG4, Cyclin B1, AL1A1, LHX1, HBG, HBGA, Olfactory receptor, Notch, IGHG1, ERK1 (MAPK3), Lemd1,                                                                                                                                                                                                        |



|     |                                                      |     |            |            |            |            |    |                                                                                                                                                                                                                                          |
|-----|------------------------------------------------------|-----|------------|------------|------------|------------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5   |                                                      | 80  | 720EE--003 | 683EE--002 | 720EE--003 | 683EE--002 |    | NFKBIL1, Cyclin B, Adult hemoglobin, ERK1/2, 14-3-3, RBBP7 (RbAp46)                                                                                                                                                                      |
| 146 | <a href="#">Bone Resorption</a>                      | 110 | 6974EE--03 | 2766EE--02 | 6974EE--02 | 2766EE--02 | 3  | Tissue kallikreins, Notch, Kallikrein 3 (PSA)                                                                                                                                                                                            |
| 147 | <a href="#">Multiple Endocrine Neoplasia Type 2b</a> | 2   | 7052EE--03 | 2752EE--03 | 7052EE--02 | 2752EE--02 | 1  | RNF11                                                                                                                                                                                                                                    |
| 148 | <a href="#">Central Nervous System Diseases</a>      | 304 | 7302EE3    | 2864EE2    | 7302EE2    | 2864EE2    | 19 | Tissue kallikreins, ZNF261, Kallikrein 1, HBG, NOTCH1 (NICD), IRT-1, HBGA, Olfactory receptor, Notch, NOTCH1 (NEXT), ERK1 (MAPK3), NOTCH1 precursor, 14-3-3 zeta/delta, NOTCH1 receptor, RNF11, Adult hemoglobin, VILIP3, ERK1/2, 14-3-3 |
| 149 | <a href="#">Deglutition Disorders</a>                | 37  | 7570EE--   | 2942EE--   | 7570EE--   | 2942EE--   | 2  | ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                                     |
| 150 | <a href="#">Paget's Disease, Mammary</a>             | 38  | 797        | 3077       | 7977       | 3077       | 2  | ERK1 (MAPK3), ERK1/2                                                                                                                                                                                                                     |

|             |                                                    |                  |                                           |                                           |                                           |                                           |                                                                                                                                                                                                                                   |
|-------------|----------------------------------------------------|------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                    |                  | 2<br>E<br>-<br>0<br>3                     | 7<br>E<br>-<br>0<br>2                     | 2<br>E<br>-<br>0<br>3                     | 7<br>E<br>-<br>0<br>2                     |                                                                                                                                                                                                                                   |
| 1<br>5<br>1 | <a href="#">Aneuploidy</a>                         | 1<br>1<br>8      | 8<br>.<br>4<br>5<br>4<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>4<br>2<br>E<br>-<br>0<br>2 | 8<br>.<br>4<br>5<br>4<br>E<br>-<br>0<br>3 | 3<br>.<br>2<br>4<br>2<br>E<br>-<br>0<br>2 | 3<br>Tissue kallikreins, Kallikrein 3 (PSA), 14-3-3                                                                                                                                                                               |
| 1<br>5<br>2 | <a href="#">Mental Disorders</a>                   | 1<br>5<br>7<br>1 | 8<br>.<br>7<br>4<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>3<br>3<br>2<br>E<br>-<br>0<br>2 | 8<br>.<br>7<br>4<br>8<br>E<br>-<br>0<br>3 | 3<br>.<br>3<br>3<br>2<br>E<br>-<br>0<br>2 | 1<br>2<br>Tissue kallikreins, Kallikrein 1, AL1A1, NOTCH1 (NICD), Olfactory receptor, Notch, NOTCH1 (NEXT), NOTCH1 precursor, 14-3-3 zeta/delta, NOTCH1 receptor, Spinophilin, 14-3-3                                             |
| 1<br>5<br>3 | <a href="#">Hair Diseases</a>                      | 1<br>2<br>0      | 8<br>.<br>8<br>5<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>3<br>4<br>9<br>E<br>-<br>0<br>2 | 8<br>.<br>3<br>5<br>0<br>E<br>-<br>0<br>3 | 3<br>.<br>3<br>4<br>9<br>E<br>-<br>0<br>2 | 3<br>Tissue kallikreins, Notch, Kallikrein 3 (PSA)                                                                                                                                                                                |
| 1<br>5<br>4 | <a href="#">Lung Diseases, Interstitial</a>        | 3<br>6<br>2      | 9<br>.<br>1<br>4<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>2<br>3<br>E<br>-<br>0<br>2 | 9<br>.<br>1<br>4<br>6<br>E<br>-<br>0<br>3 | 3<br>.<br>4<br>2<br>3<br>E<br>-<br>0<br>2 | 5<br>NOTCH1 (NICD), Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor                                                                                                                                                       |
| 1<br>5<br>5 | <a href="#">Nutritional and Metabolic Diseases</a> | 3<br>0<br>7<br>0 | 9<br>.<br>2<br>0<br>3<br>E                | 3<br>.<br>4<br>2<br>3<br>E                | 9<br>.<br>2<br>0<br>3<br>E                | 3<br>.<br>4<br>2<br>3<br>E                | 1<br>9<br>Tissue kallikreins, Kallikrein 1, Cyclin B1, NOTCH1 (NICD), Notch, NOTCH1 (NEXT), ERK1 (MAPK3), SRB7, NOTCH1 precursor, NFKBIL1, OATP-C, MTL5, NOTCH1 receptor, Cyclin B, Adult hemoglobin, RIG-G, ZHX3, ERK1/2, 14-3-3 |

|             |                                                                            |             |                                 |                                 |                                 |                                 |   |                                                                                            |
|-------------|----------------------------------------------------------------------------|-------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---|--------------------------------------------------------------------------------------------|
|             |                                                                            |             | -<br>0<br>3                     | -<br>0<br>2                     | -<br>0<br>3                     | -<br>0<br>2                     |   |                                                                                            |
| 1<br>5<br>6 | <a href="#">Depressive Disorder, Major</a>                                 | 5<br>0<br>9 | 9<br>.<br>2<br>2<br>4<br>E<br>- | 3<br>.<br>4<br>2<br>3<br>E<br>0 | 9<br>.<br>2<br>4<br>E<br>-      | 3<br>.<br>4<br>2<br>3<br>E<br>0 | 6 | NOTCH1 (NICD), Olfactory receptor, Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor |
| 1<br>5<br>7 | <a href="#">Bacterial Infections</a>                                       | 5<br>1<br>6 | 9<br>.<br>8<br>2<br>4<br>E<br>- | 3<br>.<br>6<br>2<br>3<br>E<br>0 | 9<br>.<br>8<br>2<br>4<br>E<br>- | 3<br>.<br>6<br>2<br>3<br>E<br>0 | 6 | TIRAP (Mal), ERK1 (MAPK3), NFKBIL1, Adult hemoglobin, ERK1/2, 14-3-3                       |
| 1<br>5<br>8 | <a href="#">CADASIL</a>                                                    | 3           | 1<br>.<br>0<br>5<br>6<br>E<br>- | 3<br>.<br>7<br>8<br>2<br>E<br>0 | 1<br>.<br>0<br>5<br>6<br>E<br>- | 3<br>.<br>7<br>8<br>2<br>E<br>0 | 1 | Notch                                                                                      |
| 1<br>5<br>9 | <a href="#">Mycobacterium Infections</a><br><a href="#">Nontuberculous</a> | 3           | 1<br>.<br>0<br>5<br>6<br>E<br>- | 3<br>.<br>7<br>8<br>2<br>E<br>0 | 1<br>.<br>0<br>5<br>6<br>E<br>- | 3<br>.<br>7<br>8<br>2<br>E<br>0 | 1 | Adult hemoglobin                                                                           |
| 1<br>6<br>0 | <a href="#">Multiple Endocrine Neoplasia Type 2a</a>                       | 3           | 1<br>.<br>0<br>5<br>6<br>E<br>- | 3<br>.<br>7<br>8<br>2<br>E<br>0 | 1<br>.<br>0<br>5<br>6<br>E<br>- | 3<br>.<br>7<br>8<br>2<br>E<br>0 | 1 | RNF11                                                                                      |

|             |                                                         |                  |                                           |                                                |                                                |                                                |        |                                                                                                                                                                                    |
|-------------|---------------------------------------------------------|------------------|-------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                         |                  | 2                                         | 2                                              | 2                                              | 2                                              |        |                                                                                                                                                                                    |
| 1<br>6<br>1 | <a href="#">Spastic Paraplegia, Autosomal Dominant</a>  | 3                | 1<br>.<br>0<br>5<br>6<br>E<br>-<br>0<br>2 | 3<br>.<br>7<br>8<br>2<br>E<br>-<br>0<br>2      | 1<br>.<br>0<br>5<br>6<br>E<br>-<br>0<br>2      | 3<br>.<br>7<br>8<br>2<br>E<br>-<br>0<br>2      | 1      | Protrudin                                                                                                                                                                          |
| 1<br>6<br>2 | <a href="#">Tuberous Sclerosis</a>                      | 4<br>4           | 1<br>.<br>0<br>5<br>8<br>E<br>-<br>0<br>2 | 3<br>.<br>7<br>8<br>2<br>E<br>-<br>0<br>2      | 1<br>.<br>0<br>5<br>8<br>2<br>E<br>-<br>0<br>2 | 3<br>.<br>7<br>8<br>2<br>E<br>-<br>0<br>2      | 2      | ERK1/2, 14-3-3                                                                                                                                                                     |
| 1<br>6<br>3 | <a href="#">Depressive Disorder</a>                     | 5<br>4<br>2      | 1<br>.<br>2<br>3<br>0<br>E<br>-<br>0<br>2 | 4<br>.<br>3<br>6<br>9<br>E<br>-<br>0<br>2      | 1<br>.<br>2<br>3<br>0<br>E<br>-<br>0<br>2      | 4<br>.<br>3<br>6<br>9<br>E<br>-<br>0<br>2      | 6      | NOTCH1 (NICD), Olfactory receptor, Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor                                                                                         |
| 1<br>6<br>4 | <a href="#">Neoplasms, Cystic, Mucinous, and Serous</a> | 4<br>8           | 1<br>.<br>2<br>5<br>0<br>E<br>-<br>0<br>2 | 4<br>.<br>4<br>1<br>5<br>0<br>E<br>-<br>0<br>2 | 1<br>.<br>2<br>5<br>0<br>E<br>-<br>0<br>2      | 4<br>.<br>4<br>1<br>5<br>0<br>E<br>-<br>0<br>2 | 2      | ERK1 (MAPK3), ERK1/2                                                                                                                                                               |
| 1<br>6<br>5 | <a href="#">Psychiatry and Psychology</a>               | 1<br>8<br>6<br>4 | 1<br>.<br>3<br>1<br>0<br>E<br>-<br>0<br>2 | 4<br>.<br>5<br>9<br>7<br>E<br>-<br>0<br>2      | 1<br>.<br>3<br>1<br>0<br>E<br>-<br>0<br>2      | 4<br>.<br>5<br>9<br>7<br>E<br>-<br>0<br>2      | 1<br>3 | Tissue kallikreins, Kallikrein 1, AL1A1, NOTCH1 (NICD), Olfactory receptor, Notch, NOTCH1 (NEXT), NOTCH1 precursor, 14-3-3 zeta/delta, NOTCH1 receptor, Spinophilin, Rab-3, 14-3-3 |

|     |                                                           |      |                                           |                                           |                                           |                                           |   |                                                                                                                   |
|-----|-----------------------------------------------------------|------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---|-------------------------------------------------------------------------------------------------------------------|
| 166 | <a href="#">Inflammation</a>                              | 891  | 1<br>.<br>3<br>2<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>6<br>0<br>8<br>E<br>-<br>0<br>2 | 1<br>.<br>3<br>2<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>6<br>0<br>8<br>E<br>-<br>0<br>2 | 8 | Tissue kallikreins, Kallikrein 1, LST1, ERK1 (MAPK3), 14-3-3 zeta/delta, Adult hemoglobin, ERK1/2, 14-3-3         |
| 167 | <a href="#">Hypertrophy</a>                               | 262  | 1<br>.<br>3<br>9<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>8<br>1<br>6<br>E<br>-<br>0<br>2 | 1<br>.<br>3<br>9<br>1<br>E<br>-<br>0<br>2 | 4<br>.<br>8<br>1<br>6<br>E<br>-<br>0<br>2 | 4 | Tissue kallikreins, ERK1 (MAPK3), ERK1/2, 14-3-3                                                                  |
| 168 | <a href="#">Autoimmune Diseases of the Nervous System</a> | 1084 | 1<br>.<br>3<br>9<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>8<br>1<br>6<br>E<br>-<br>0<br>2 | 1<br>.<br>3<br>9<br>7<br>E<br>-<br>0<br>2 | 4<br>.<br>8<br>1<br>6<br>E<br>-<br>0<br>2 | 9 | Tissue kallikreins, NOTCH1 (NICD), IRT-1, Notch, NOTCH1 (NEXT), NOTCH1 precursor, NOTCH1 receptor, ERK1/2, 14-3-3 |
| 169 | <a href="#">Anemia, Sickle Cell</a>                       | 144  | 1<br>.<br>4<br>4<br>6<br>E<br>-<br>0<br>2 | 4<br>.<br>9<br>5<br>5<br>E<br>-<br>0<br>2 | 1<br>.<br>4<br>4<br>6<br>E<br>-<br>0<br>2 | 4<br>.<br>9<br>5<br>5<br>E<br>-<br>0<br>2 | 3 | HBG, HBGA, Adult hemoglobin                                                                                       |

| Table 10S: Enrichment analysis report. Enrichment by Diseases (by Biomarkers) (healthy control vs SVZn) |                                                  |       |                                     |           |            |           |        |                                     |  |
|---------------------------------------------------------------------------------------------------------|--------------------------------------------------|-------|-------------------------------------|-----------|------------|-----------|--------|-------------------------------------|--|
| Enrichment by Diseases (by Biomarkers)                                                                  |                                                  |       | SVZn<br>Limma<br>Input_ge<br>nelist |           |            |           |        |                                     |  |
| #                                                                                                       | Diseases                                         | Total | p Value                             | Min FDR   | p-value    | FDR       | Indata | Network Objects from Active Data    |  |
| 1                                                                                                       | <a href="#">Leukemia, Myeloid, Chronic-Phase</a> | 19    | 1.9128E-08                          | 1.15E-05  | 1.9128E-08 | 1.15E-05  | 5      | HSPA1B, HSP70, HSPA2, HSPA1A, HSC70 |  |
| 2                                                                                                       | <a href="#">Hearing Loss, Noise-Induced</a>      | 13    | 2.772E-07                           | 8.30E-05  | 2.772E-07  | 8.30E-05  | 4      | HSPA1B, HSP70, HSPA2, HSPA1A        |  |
| 3                                                                                                       | <a href="#">Leukemia, Biphenotypic, Acute</a>    | 34    | 4.371E-07                           | 8.72E-05  | 4.371E-07  | 8.72E-05  | 5      | HSPA1B, HSP70, HSPA2, HSPA1A, HSC70 |  |
| 4                                                                                                       | <a href="#">Abscess</a>                          | 6     | 1.799E-06                           | 2.694E-04 | 1.799E-06  | 2.694E-04 | 3      | HSPA1B, HSP70, HSPA1A               |  |
| 5                                                                                                       | <a href="#">Leprosy, Tuberculosis</a>            | 12    | 1.940E-05                           | 2.24E-03  | 1.940E-05  | 2.24E-03  | 3      | HSPA1B, HSP70, HSPA1A               |  |
| 6                                                                                                       | <a href="#">Pulmonary Edema</a>                  | 13    | 2.5                                 | 2.5       | 2.5        | 2.5       | 3      | HSPA1B, HSP70, HSPA1A               |  |

|    |                                                                  |                  |                                       |                                       |                                       |                                       |        |                                                                                                                                                                                                                                                                                                                                                                     |
|----|------------------------------------------------------------------|------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                                                                  |                  | 1<br>3<br>E<br>-<br>0<br>5            | 0<br>9<br>E<br>-<br>0<br>3            | 1<br>3<br>E<br>-<br>0<br>5            | 0<br>9<br>E<br>-<br>0<br>3            |        |                                                                                                                                                                                                                                                                                                                                                                     |
| 7  | <a href="#">Leprosy, Paucibacillary</a>                          | 1<br>4           | 3.<br>1<br>8<br>8<br>E<br>-<br>0<br>5 | 2.<br>7<br>2<br>8<br>E<br>-<br>0<br>3 | 3.<br>1<br>8<br>8<br>E<br>-<br>0<br>5 | 2.<br>7<br>2<br>8<br>E<br>-<br>0<br>3 | 3      | HSPA1B, HSP70, HSPA1A                                                                                                                                                                                                                                                                                                                                               |
| 8  | <a href="#">Fistula</a>                                          | 1<br>6           | 4.<br>8<br>7<br>3<br>E<br>-<br>0<br>5 | 3.<br>2<br>6<br>0<br>E<br>-<br>0<br>3 | 4.<br>8<br>7<br>3<br>E<br>-<br>0<br>5 | 3.<br>2<br>6<br>0<br>E<br>-<br>0<br>3 | 3      | HSPA1B, HSP70, HSPA1A                                                                                                                                                                                                                                                                                                                                               |
| 9  | <a href="#">Leukemia, Myelogenous, Chronic, BCR-ABL Positive</a> | 2<br>1<br>0      | 4.<br>8<br>9<br>8<br>E<br>-<br>0<br>5 | 3.<br>2<br>6<br>0<br>E<br>-<br>0<br>3 | 4.<br>8<br>9<br>8<br>E<br>-<br>0<br>5 | 3.<br>2<br>6<br>0<br>E<br>-<br>0<br>3 | 7      | HSPA1B, HSP70, SET, HSPA2, HSPA1A, SET/NUP214 fusion protein, HSC70                                                                                                                                                                                                                                                                                                 |
| 10 | <a href="#">Colonic Diseases</a>                                 | 4<br>2<br>7<br>2 | 7.<br>2<br>4<br>3<br>E<br>-<br>0<br>5 | 4.<br>3<br>3<br>9<br>E<br>-<br>0<br>3 | 7.<br>2<br>4<br>3<br>E<br>-<br>0<br>5 | 4.<br>3<br>3<br>9<br>E<br>-<br>0<br>3 | 3<br>6 | Annexin V, eEF1A, RBBP8 (CtIP), IGHG4, Cyclin B1, HSPA1B, ECE1, AL1A1, HDAC7, MENA, SNX1, Histone deacetylase class II, Olfactory receptor, Thioredoxin-like 2, Calmyrin, EPS8L1, HSP70, IGHG1, eEF2K, TXNRD1, SMYD3, Calmodulin, HSPA2, HSPA1A, CKS2, Annexin XI, Cyclin B, GMEB1, PTPN2, Fructosamine-3-kinase, PP2C, HSC70, TARDBP (TDP43), PRCC, RUVBL1, VILIP1 |
| 11 | <a href="#">Multiple Trauma</a>                                  | 1<br>9           | 8.<br>3<br>4<br>9<br>E<br>-<br>0<br>5 | 4.<br>5<br>4<br>6<br>E<br>-<br>0<br>3 | 8.<br>3<br>4<br>9<br>E<br>-<br>0<br>5 | 4.<br>5<br>4<br>6<br>E<br>-<br>0<br>3 | 3      | HSPA1B, HSP70, HSPA1A                                                                                                                                                                                                                                                                                                                                               |
| 12 | <a href="#">Myeloproliferative Disorders</a>                     | 3<br>2<br>2      | 1.<br>1<br>0<br>8<br>E<br>-<br>0<br>4 | 5.<br>5<br>3<br>2<br>E<br>-<br>0<br>3 | 1.<br>1<br>0<br>8<br>E<br>-<br>0<br>4 | 5.<br>5<br>3<br>2<br>E<br>-<br>0<br>3 | 8      | HSPA1B, HSP70, SET, HSPA2, HSPA1A, SET/NUP214 fusion protein, FOP, HSC70                                                                                                                                                                                                                                                                                            |
| 1  | <a href="#">Acute</a>                                            | 5                | 1.                                    | 5.                                    | 1.                                    | 5.                                    | 4      | HSPA1B, HSP70, HSPA1A, HSC70                                                                                                                                                                                                                                                                                                                                        |

|        |                                          |        |                                       |                                       |                                       |                                       |   |                       |
|--------|------------------------------------------|--------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---|-----------------------|
| 3      | <a href="#">Kidney Injury</a>            | 6      | 2<br>2<br>6<br>E<br>-<br>0<br>4       | 6<br>4<br>9<br>E<br>-<br>0<br>3       | 2<br>2<br>6<br>E<br>-<br>0<br>4       | 6<br>4<br>9<br>E<br>-<br>0<br>3       |   |                       |
| 1<br>4 | <a href="#">Urinary Tract Infections</a> | 2<br>3 | 1.<br>5<br>0<br>6<br>E<br>-<br>0<br>4 | 6.<br>0<br>1<br>4<br>E<br>-<br>0<br>3 | 1.<br>5<br>0<br>6<br>E<br>-<br>0<br>4 | 6.<br>0<br>1<br>4<br>E<br>-<br>0<br>3 | 3 | HSPA1B, HSP70, HSPA1A |
| 1<br>5 | <a href="#">Heat Stress Disorders</a>    | 2<br>3 | 1.<br>5<br>0<br>6<br>E<br>-<br>0<br>4 | 6.<br>0<br>1<br>4<br>E<br>-<br>0<br>3 | 1.<br>5<br>0<br>6<br>E<br>-<br>0<br>4 | 6.<br>0<br>1<br>4<br>E<br>-<br>0<br>3 | 3 | HSPA1B, HSP70, HSPA1A |
| 1<br>6 | <a href="#">Suppurati on</a>             | 2<br>5 | 1.<br>9<br>4<br>3<br>E<br>-<br>0<br>4 | 7.<br>2<br>7<br>4<br>E<br>-<br>0<br>3 | 1.<br>9<br>4<br>3<br>E<br>-<br>0<br>4 | 7.<br>2<br>7<br>4<br>E<br>-<br>0<br>3 | 3 | HSPA1B, HSP70, HSPA1A |
| 1<br>7 | <a href="#">Pancreatis, Alcoholic</a>    | 2<br>6 | 2.<br>1<br>8<br>9<br>E<br>-<br>0<br>4 | 7.<br>1<br>8<br>3<br>E<br>-<br>0<br>3 | 2.<br>1<br>8<br>9<br>E<br>-<br>0<br>4 | 7.<br>1<br>8<br>3<br>E<br>-<br>0<br>3 | 3 | HSPA1B, HSP70, HSPA1A |
| 1<br>8 | <a href="#">Diabetic Ketoacid osis</a>   | 2<br>7 | 2.<br>4<br>5<br>5<br>E<br>-<br>0<br>4 | 8.<br>1<br>6<br>8<br>E<br>-<br>0<br>3 | 2.<br>4<br>5<br>5<br>E<br>-<br>0<br>4 | 8.<br>1<br>6<br>8<br>E<br>-<br>0<br>3 | 3 | HSPA1B, HSP70, HSPA1A |
| 1<br>9 | <a href="#">Ketosis</a>                  | 3<br>0 | 3.<br>3<br>7<br>4<br>E<br>-<br>0<br>4 | 1.<br>0<br>3<br>6<br>E<br>-<br>0<br>2 | 3.<br>3<br>7<br>4<br>E<br>-<br>0<br>4 | 1.<br>0<br>3<br>6<br>E<br>-<br>0<br>2 | 3 | HSPA1B, HSP70, HSPA1A |



|    |                                          |      |            |            |            |            |    |                                                                                                                                            |
|----|------------------------------------------|------|------------|------------|------------|------------|----|--------------------------------------------------------------------------------------------------------------------------------------------|
| 20 | <a href="#">Nasopharyngeal Diseases</a>  | 135  | 3.793EE-04 | 1.036EE-02 | 3.793EE-04 | 1.036EE-02 | 5  | Annexin V, HSPA1B, AL1A1, HSP70, HSPA1A                                                                                                    |
| 21 | <a href="#">Nasopharyngeal Neoplasms</a> | 135  | 3.793EE-04 | 1.036EE-02 | 3.793EE-04 | 1.036EE-02 | 5  | Annexin V, HSPA1B, AL1A1, HSP70, HSPA1A                                                                                                    |
| 22 | <a href="#">Rotavirus Infections</a>     | 7    | 4.224E-04  | 1.036EE-02 | 4.224E-04  | 1.036EE-02 | 2  | HSP70, HSC70                                                                                                                               |
| 23 | <a href="#">Mycoplasma Infections</a>    | 7    | 4.224E-04  | 1.036EE-02 | 4.224E-04  | 1.036EE-02 | 2  | eEF1A, eEF1A1                                                                                                                              |
| 24 | <a href="#">Mycoplasma Infections</a>    | 7    | 4.224E-04  | 1.036EE-02 | 4.224E-04  | 1.036EE-02 | 2  | eEF1A, eEF1A1                                                                                                                              |
| 25 | <a href="#">Colonic Neoplasms</a>        | 1232 | 4.322EE-04 | 1.036EE-02 | 4.322EE-04 | 1.036EE-02 | 15 | Annexin V, IGHG4, Cyclin B1, HSPA1B, ECE1, AL1A1, SNX1, Histone deacetylase class II, HSP70, IGHG1, HSPA2, HSPA1A, Cyclin B, HSC70, RUVBL1 |
| 26 | <a href="#">Duodenal Ulcer</a>           | 34   | 4.907EE-04 | 1.036EE-02 | 4.907EE-04 | 1.036EE-02 | 3  | HSPA1B, HSP70, HSPA1A                                                                                                                      |

|    |                                            |     |             |             |             |             |   |                                                                 |
|----|--------------------------------------------|-----|-------------|-------------|-------------|-------------|---|-----------------------------------------------------------------|
| 27 | <a href="#">Altitude Sickness</a>          | 34  | 4.907EE--04 | 1.089EE--02 | 4.907EE--04 | 1.089EE--02 | 3 | HSPA1B, HSP70, HSPA1A                                           |
| 28 | <a href="#">Acidosis</a>                   | 82  | 5.335EE--04 | 1.139EE--02 | 5.335EE--04 | 1.139EE--02 | 4 | HSPA1B, HSP70, HSPA1A, PP2C                                     |
| 29 | <a href="#">Reoviridae Infections</a>      | 8   | 5.615EE--04 | 1.139EE--02 | 5.615EE--04 | 1.139EE--02 | 2 | HSP70, HSC70                                                    |
| 30 | <a href="#">Bacterial Infections</a>       | 516 | 5.706EE--04 | 1.139EE--02 | 5.706EE--04 | 1.139EE--02 | 9 | eEF1A, PGMU, HSPA1B, HSP70, TXNRD1, HSPA2, HSPA1A, eEF1A1, PP2C |
| 31 | <a href="#">Acid-Base Imbalance</a>        | 88  | 6.966EE--04 | 1.139EE--02 | 6.966EE--04 | 1.139EE--02 | 4 | HSPA1B, HSP70, HSPA1A, PP2C                                     |
| 32 | <a href="#">Craniofacial Abnormalities</a> | 237 | 7.479EE--04 | 1.139EE--02 | 7.479EE--04 | 1.139EE--02 | 6 | Histone deacetylase class II, ICMT, EYA1, PP2C, TCOF1, PQBP-1   |
| 33 | <a href="#">Agranulocytosis</a>            | 41  | 8.543EE--04 | 1.139EE--02 | 8.543EE--04 | 1.139EE--02 | 3 | HSPA1B, HSP70, HSPA1A                                           |

|    |                                             |     |           |           |           |           |    |                                                                                                                 |
|----|---------------------------------------------|-----|-----------|-----------|-----------|-----------|----|-----------------------------------------------------------------------------------------------------------------|
| 34 | <a href="#">Hearing Loss, Sensorineural</a> | 95  | 9.283E-04 | 1.635E-02 | 9.283E-04 | 1.635E-02 | 4  | HSPA1B, HSP70, HSPA2, HSPA1A                                                                                    |
| 35 | <a href="#">Varicocele</a>                  | 11  | 1.093E-03 | 1.871E-02 | 1.093E-03 | 1.871E-02 | 2  | HSP70, HSPA2                                                                                                    |
| 36 | <a href="#">Thyroiditis, Autoimmune</a>     | 102 | 1.210E-03 | 2.013E-02 | 1.210E-03 | 2.013E-02 | 4  | HSPA1B, ECE1, HSP70, HSPA1A                                                                                     |
| 37 | <a href="#">Craniofacial Dysostosis</a>     | 12  | 1.308E-03 | 2.17E-02  | 1.308E-03 | 2.17E-02  | 2  | ICMT, TCOF1                                                                                                     |
| 38 | <a href="#">Neoplastic Processes</a>        | 728 | 1.741E-03 | 2.75E-02  | 1.741E-03 | 2.75E-02  | 10 | Cyclin B1, PSMD10 (Gankyrin), MENA, HSP70, SET, Follistatin, SMYD3, SET/NUP214 fusion protein, Cyclin B, VILIP1 |
| 39 | <a href="#">Ganglioglioma</a>               | 14  | 1.93E-03  | 2.502E-02 | 1.93E-03  | 2.502E-02 | 2  | Cyclin B1, Cyclin B                                                                                             |
| 40 | <a href="#">Spondylitis, Ankylosing</a>     | 118 | 2.067E-03 | 2.69E-02  | 2.067E-03 | 2.69E-02  | 4  | HSPA1B, HSP70, HSPA2, HSPA1A                                                                                    |

|    |                                                  |      |         |         |         |         |    |                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----|--------------------------------------------------|------|---------|---------|---------|---------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 41 | <a href="#">Leukemia, Myeloid, Acute</a>         | 122  | 2.0699E | 2.0699E | 2.0699E | 2.0699E | 14 | HSPA1B, Fbxo3, Olfactory receptor, HSP70, SET, HSPA2, HSPA1A, CKS2, Septin 3, SET/NUP214 fusion protein, C10orf118, PP2C, HSC70, TCOF1                                                                                                                                                                                                                                                                            |
| 42 | <a href="#">Bacterial Infections and Mycoses</a> | 1294 | 2.0999E | 2.0999E | 2.0999E | 2.0999E | 14 | eEF1A, RBBP8 (CtIP), PGMU, Cyclin T1, HSPA1B, Histone deacetylase class II, HSP70, Follistatin, TXNRD1, HSPA2, HSPA1A, eEF1A1, PP2C, HSC70                                                                                                                                                                                                                                                                        |
| 43 | <a href="#">Ankylosis</a>                        | 119  | 2.131E  | 2.131E  | 2.131E  | 2.131E  | 4  | HSPA1B, HSP70, HSPA2, HSPA1A                                                                                                                                                                                                                                                                                                                                                                                      |
| 44 | <a href="#">Immune System Diseases</a>           | 6037 | 2.24E   | 3.04E   | 2.24E   | 3.04E   | 41 | IGHM, eEF1A, Reticulon 4, PGMU, IGHG4, Cyclin T1, Cyclin B1, HSPA1B, Copine-4, AL1A1, Beta crystallin B2, MENA, CDO1, HEXIM1, DARS, Histone deacetylase class II, PROSC, Olfactory receptor, HSP70, IGHG1, Annexin VI, CLEC2D, Follistatin, Calmodulin, HSPA2, HSPA1A, RBP1, eEF1A1, CKS2, Annexin XI, SET/NUP214 fusion protein, Cyclin B, EYA1, GMEB1, NTB-A, PTPN2, RIG-G, PP2C, HSC70, TARDBP (TDP43), CapZIP |
| 45 | <a href="#">Shock, Septic</a>                    | 62   | 2.829E  | 3.84E   | 2.829E  | 3.84E   | 3  | HSPA1B, HSP70, HSPA1A                                                                                                                                                                                                                                                                                                                                                                                             |
| 46 | <a href="#">Leukopenia</a>                       | 62   | 2.89E   | 3.84E   | 2.89E   | 3.84E   | 3  | HSPA1B, HSP70, HSPA1A                                                                                                                                                                                                                                                                                                                                                                                             |
| 47 | <a href="#">Thyroiditis</a>                      | 130  | 2.93E   | 3.65E   | 2.93E   | 3.65E   | 4  | HSPA1B, ECE1, HSP70, HSPA1A                                                                                                                                                                                                                                                                                                                                                                                       |

|    |                                               |      |             |             |             |             |   |                                                                                                                                                                                                                      |
|----|-----------------------------------------------|------|-------------|-------------|-------------|-------------|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 48 | <a href="#">Edema</a>                         | 63   | 2.961EE--03 | 3.695EE--02 | 2.961EE--03 | 3.695EE--02 | 3 | HSPA1B, HSP70, HSPA1A                                                                                                                                                                                                |
| 49 | <a href="#">Pneumonia, Bacterial</a>          | 19   | 3.319EE--03 | 4.058EE--02 | 3.319EE--03 | 4.058EE--02 | 2 | HSP70, HSPA2                                                                                                                                                                                                         |
| 50 | <a href="#">Pathologic Processes</a>          | 2678 | 3.898EE--03 | 4.670EE--02 | 3.898EE--03 | 4.670EE--02 | 2 | Annexin V, eEF1A, Cyclin B1, HSPA1B, PSMD10 (Gankyrin), ECE1, MENA, HSP70, SET, Follistatin, SMYD3, Calmodulin, HSPA2, HSPA1A, eEF1A1, SET/NUP214 fusion protein, Cyclin B, FOP, PP2C, HSC70, TARDBP (TDP43), VILIP1 |
| 51 | <a href="#">Seizures, Febrile</a>             | 70   | 3.989EE--03 | 4.685EE--02 | 3.989EE--03 | 4.685EE--02 | 3 | HSPA1B, HSP70, HSPA1A                                                                                                                                                                                                |
| 52 | <a href="#">Retrognathia</a>                  | 1    | 4.541EE--03 | 5.081EE--02 | 4.541EE--03 | 5.081EE--02 | 1 | EYA1                                                                                                                                                                                                                 |
| 53 | <a href="#">Funnel Chest</a>                  | 1    | 4.541EE--03 | 5.081EE--02 | 4.541EE--03 | 5.081EE--02 | 1 | EYA1                                                                                                                                                                                                                 |
| 54 | <a href="#">Musculoskeletal Abnormalities</a> | 340  | 4.80EE--03  | 5.081EE--02 | 4.80EE--03  | 5.081EE--02 | 6 | Histone deacetylase class II, ICMT, EYA1, PP2C, TCOF1, PQBP-1                                                                                                                                                        |

|        |                                   |                  |                                  |                                  |                                  |                                  |        |                                                                                                                              |
|--------|-----------------------------------|------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|--------|------------------------------------------------------------------------------------------------------------------------------|
| 5<br>5 | <a href="#">Blast Crisis</a>      | 2<br>3           | 4.<br>8<br>5<br>3<br>E<br>-<br>0 | 5.<br>2<br>8<br>6<br>E<br>-<br>0 | 4.<br>8<br>5<br>3<br>E<br>-<br>0 | 5.<br>2<br>8<br>6<br>E<br>-<br>0 | 2      | SET, SET/NUP214 fusion protein                                                                                               |
| 5<br>6 | <a href="#">Hearing Loss</a>      | 2<br>5<br>2      | 5.<br>8<br>7<br>7<br>E<br>-<br>0 | 6.<br>2<br>8<br>6<br>E<br>-<br>0 | 5.<br>8<br>7<br>6<br>E<br>-<br>0 | 6.<br>2<br>8<br>6<br>E<br>-<br>0 | 5      | HSPA1B, HSP70, HSPA2, HSPA1A, PP2C                                                                                           |
| 5<br>7 | <a href="#">Leprosy</a>           | 8<br>1           | 5.<br>9<br>9<br>9<br>E<br>-<br>0 | 6.<br>3<br>0<br>4<br>E<br>-<br>0 | 5.<br>9<br>0<br>9<br>E<br>-<br>0 | 6.<br>3<br>0<br>4<br>E<br>-<br>0 | 3      | HSPA1B, HSP70, HSPA1A                                                                                                        |
| 5<br>8 | <a href="#">Shock</a>             | 8<br>2           | 6.<br>2<br>0<br>6<br>E<br>-<br>0 | 6.<br>3<br>6<br>8<br>E<br>-<br>0 | 6.<br>2<br>0<br>6<br>E<br>-<br>0 | 6.<br>3<br>6<br>8<br>E<br>-<br>0 | 3      | HSPA1B, HSP70, HSPA1A                                                                                                        |
| 5<br>9 | <a href="#">Hearing Disorders</a> | 2<br>5<br>6      | 6.<br>2<br>7<br>3<br>E<br>-<br>0 | 6.<br>3<br>6<br>8<br>E<br>-<br>0 | 6.<br>2<br>7<br>3<br>E<br>-<br>0 | 6.<br>3<br>6<br>8<br>E<br>-<br>0 | 5      | HSPA1B, HSP70, HSPA2, HSPA1A, PP2C                                                                                           |
| 6<br>0 | <a href="#">Sepsis</a>            | 2<br>6<br>0      | 6.<br>6<br>8<br>7<br>E<br>-<br>0 | 6.<br>5<br>8<br>3<br>E<br>-<br>0 | 6.<br>6<br>8<br>7<br>E<br>-<br>0 | 6.<br>5<br>8<br>3<br>E<br>-<br>0 | 5      | HSPA1B, HSP70, Follistatin, HSPA2, HSPA1A                                                                                    |
| 6<br>1 | <a href="#">Infection</a>         | 1<br>1<br>7<br>0 | 6.<br>7<br>0<br>4<br>E<br>-<br>0 | 6.<br>5<br>8<br>3<br>E<br>-<br>0 | 6.<br>7<br>0<br>4<br>E<br>-<br>0 | 6.<br>5<br>8<br>3<br>E<br>-<br>0 | 1<br>2 | eEF1A, RBBP8 (CtIP), Cyclin T1, HSPA1B, Histone deacetylase class II, HSP70, Follistatin, HSPA2, HSPA1A, eEF1A1, PP2C, HSC70 |

|    |                                                         |      |             |             |             |             |    |                                                                                                                                                                                           |
|----|---------------------------------------------------------|------|-------------|-------------|-------------|-------------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 62 | <a href="#">Systemic Inflammatory Response Syndrome</a> | 263  | 7.011EE-033 | 6.773EE-022 | 7.011EE-033 | 6.773EE-022 | 5  | HSPA1B, HSP70, Follistatin, HSPA2, HSPA1A                                                                                                                                                 |
| 63 | <a href="#">Leishmaniasis, Visceral</a>                 | 288  | 7.145EE-033 | 6.780EE-022 | 7.145EE-033 | 6.780EE-022 | 2  | HSP70, HSPA2                                                                                                                                                                              |
| 64 | <a href="#">Leukemia, Myeloid</a>                       | 1488 | 7.244EE-033 | 6.780EE-022 | 7.244EE-033 | 6.780EE-022 | 14 | HSPA1B, Fbxo3, Olfactory receptor, HSP70, SET, HSPA2, HSPA1A, CKS2, Septin 3, SET/NUP214 fusion protein, C10orf118, PP2C, HSC70, TCOF1                                                    |
| 65 | <a href="#">Duodenal Diseases</a>                       | 899  | 7.79EE-033  | 7.169EE-022 | 7.79EE-033  | 7.169EE-022 | 3  | HSPA1B, HSP70, HSPA1A                                                                                                                                                                     |
| 66 | <a href="#">Alcohol-Induced Disorders</a>               | 903  | 8.021EE-033 | 7.280EE-022 | 8.021EE-033 | 7.280EE-022 | 3  | HSPA1B, HSP70, HSPA1A                                                                                                                                                                     |
| 67 | <a href="#">Crohn Disease</a>                           | 506  | 8.244EE-033 | 7.401EE-022 | 8.244EE-033 | 7.401EE-022 | 7  | HSPA1B, HSP70, CLEC2D, HSPA2, HSPA1A, PTPN2, FOP                                                                                                                                          |
| 68 | <a href="#">Musculoskeletal Diseases</a>                | 2511 | 8.476EE-033 | 7.401EE-022 | 8.476EE-033 | 7.401EE-022 | 20 | IGHG4, HSPA1B, DARS, Histone deacetylase class II, HSP70, IGHG1, Annexin VI, Follistatin, Calmodulin, HSPA2, HSPA1A, ICMT, EYA1, NTB-A, PTPN2, RIG-G, PP2C, TARDBP (TDP43), TCOF1, PQBP-1 |

|    |                                                                                                                                 |     |          |          |          |          |   |                                                                                |
|----|---------------------------------------------------------------------------------------------------------------------------------|-----|----------|----------|----------|----------|---|--------------------------------------------------------------------------------|
| 69 | <a href="#">Delirium, Dementia</a><br><sup>1</sup> <a href="#">Amnestic</a><br><sup>1</sup> <a href="#">Cognitive Disorders</a> | 16  | 8.526E-7 | 7.401E-6 | 8.526E-7 | 7.401E-6 | 4 | HSPA1B, HSP70, HSPA1A, TARDBP (TDP43)                                          |
| 70 | <a href="#">Birth Weight</a>                                                                                                    | 93  | 8.774E-9 | 7.504E-3 | 8.774E-9 | 7.504E-3 | 3 | HSPA1B, HSP70, HSPA1A                                                          |
| 71 | <a href="#">Herpes Simplex</a>                                                                                                  | 94  | 9.034E-9 | 7.050E-2 | 9.034E-9 | 7.050E-2 | 3 | Histone deacetylase class II, HSP70, HSC70                                     |
| 72 | <a href="#">Cataract, Lamellar</a>                                                                                              | 2   | 9.062E-9 | 7.050E-2 | 9.062E-9 | 7.050E-2 | 1 | Beta crystallin B2                                                             |
| 73 | <a href="#">Carcinogenesis</a>                                                                                                  | 32  | 9.266E-9 | 7.050E-2 | 9.266E-9 | 7.050E-2 | 2 | SET, SET/NUP214 fusion protein                                                 |
| 74 | <a href="#">Cell Transformation, Neoplastic</a>                                                                                 | 32  | 9.266E-9 | 7.050E-2 | 9.266E-9 | 7.050E-2 | 2 | SET, SET/NUP214 fusion protein                                                 |
| 75 | <a href="#">Bone Marrow Diseases</a>                                                                                            | 785 | 9.409E-7 | 7.050E-2 | 9.409E-7 | 7.050E-2 | 9 | HSPA1B, HSP70, SET, HSPA2, HSPA1A, SET/NUP214 fusion protein, FOP, PP2C, HSC70 |



|        |                                                               |                  |                                       |                                       |                                       |                                       |        |                                                                                                                                   |
|--------|---------------------------------------------------------------|------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------|
| 7<br>6 | <a href="#">Actinomy<br/>cetales<br/>Infections</a>           | 2<br>8<br>5      | 9.<br>7<br>2<br>3<br>E<br>-<br>0<br>3 | 7.<br>6<br>6<br>3<br>E<br>-<br>0<br>2 | 9.<br>7<br>2<br>3<br>E<br>-<br>0<br>3 | 7.<br>6<br>6<br>3<br>E<br>-<br>0<br>2 | 5      | PGMU, HSPA1B, HSP70, TXNRD1, HSPA1A                                                                                               |
| 7<br>7 | <a href="#">Neoplas<br/>m<br/>Metastasi<br/>s</a>             | 6<br>7<br>6      | 1.<br>1<br>8<br>6<br>E<br>-<br>0<br>2 | 9.<br>2<br>2<br>7<br>E<br>-<br>0<br>2 | 1.<br>2<br>8<br>6<br>E<br>-<br>0<br>2 | 9.<br>2<br>2<br>7<br>E<br>-<br>0<br>2 | 8      | Cyclin B1, PSMD10 (Gankyrin), MENA, HSP70, Follistatin, SMYD3, Cyclin B, VILIP1                                                   |
| 7<br>8 | <a href="#">Sarcoido<br/>sis</a>                              | 1<br>9<br>5      | 1.<br>2<br>0<br>8<br>E<br>-<br>0<br>2 | 9.<br>2<br>7<br>7<br>E<br>-<br>0<br>2 | 1.<br>2<br>0<br>8<br>E<br>-<br>0<br>2 | 9.<br>2<br>7<br>7<br>E<br>-<br>0<br>2 | 4      | HSPA1B, HSP70, IGHG1, HSPA1A                                                                                                      |
| 7<br>9 | <a href="#">Arthritis</a>                                     | 1<br>5<br>9<br>7 | 1.<br>3<br>0<br>1<br>E<br>-<br>0<br>2 | 9.<br>6<br>7<br>1<br>E<br>-<br>0<br>2 | 1.<br>3<br>0<br>1<br>E<br>-<br>0<br>2 | 9.<br>6<br>7<br>1<br>E<br>-<br>0<br>2 | 1<br>4 | IGHG4, HSPA1B, DARS, Histone deacetylase class II, HSP70, IGHG1, Annexin VI, Calmodulin, HSPA2, HSPA1A, EYA1, NTB-A, PTPN2, RIG-G |
| 8<br>0 | <a href="#">Peptic<br/>Ulcer</a>                              | 1<br>0<br>9      | 1.<br>3<br>4<br>8<br>E<br>-<br>0<br>2 | 9.<br>6<br>7<br>1<br>E<br>-<br>0<br>2 | 1.<br>3<br>4<br>8<br>E<br>-<br>0<br>2 | 9.<br>6<br>7<br>1<br>E<br>-<br>0<br>2 | 3      | HSPA1B, HSP70, HSPA1A                                                                                                             |
| 8<br>1 | <a href="#">Leishma<br/>niasis</a>                            | 3<br>9           | 1.<br>3<br>5<br>6<br>E<br>-<br>0<br>2 | 9.<br>6<br>7<br>1<br>E<br>-<br>0<br>2 | 1.<br>3<br>5<br>6<br>E<br>-<br>0<br>2 | 9.<br>6<br>7<br>1<br>E<br>-<br>0<br>2 | 2      | HSP70, HSPA2                                                                                                                      |
| 8<br>2 | <a href="#">Marinesc<br/>o-<br/>Sjogren<br/>Syndrom<br/>e</a> | 3                | 1.<br>3<br>5<br>6<br>E<br>-<br>0<br>2 | 9.<br>6<br>7<br>1<br>E<br>-<br>0<br>2 | 1.<br>3<br>5<br>6<br>E<br>-<br>0<br>2 | 9.<br>6<br>7<br>1<br>E<br>-<br>0<br>2 | 1      | HSP70                                                                                                                             |

|    |                                                    |      |           |           |           |           |    |                                                                                                                                                  |
|----|----------------------------------------------------|------|-----------|-----------|-----------|-----------|----|--------------------------------------------------------------------------------------------------------------------------------------------------|
| 83 | <a href="#">Branchio-Oto-Renal Syndrome</a>        | 3    | 1.356E-02 | 9.671E-02 | 1.356E-02 | 9.671E-02 | 1  | EYA1                                                                                                                                             |
| 84 | <a href="#">LEOPARD Syndrome</a>                   | 3    | 1.356E-02 | 9.671E-02 | 1.356E-02 | 9.671E-02 | 1  | PP2C                                                                                                                                             |
| 85 | <a href="#">Carcinoma, Non-Small-Cell Lung</a>     | 2297 | 1.473E-02 | 1.407E-01 | 1.473E-02 | 1.407E-01 | 18 | eEF1A, Cyclin B1, HSPA1B, ECE1, AL1A1, Cytoglobin, HSP70, TXNRD1, Calmodulin, HSPA2, HSPA1A, RBP1, eEF1A1, Cyclin B, PP2C, HSC70, RUVBL1, VILIP1 |
| 86 | <a href="#">Spondylarthropathies</a>               | 207  | 1.475E-02 | 1.407E-01 | 1.475E-02 | 1.407E-01 | 4  | HSPA1B, HSP70, HSPA2, HSPA1A                                                                                                                     |
| 87 | <a href="#">Joint Diseases</a>                     | 1627 | 1.510E-02 | 1.441E-01 | 1.510E-02 | 1.441E-01 | 14 | IGHG4, HSPA1B, DARS, Histone deacetylase class II, HSP70, IGHG1, Annexin VI, Calmodulin, HSPA2, HSPA1A, EYA1, NTB-A, PTPN2, RIG-G                |
| 88 | <a href="#">Gram-Positive Bacterial Infections</a> | 320  | 1.440E-02 | 1.408E-01 | 1.440E-02 | 1.408E-01 | 5  | PGMU, HSPA1B, HSP70, TXNRD1, HSPA1A                                                                                                              |
| 89 | <a href="#">Spondylitis</a>                        | 212  | 1.579E-02 | 1.461E-01 | 1.579E-02 | 1.461E-01 | 4  | HSPA1B, HSP70, HSPA2, HSPA1A                                                                                                                     |

|    |                                             |      |           |           |           |           |    |                                                                                                                                                                                                                        |
|----|---------------------------------------------|------|-----------|-----------|-----------|-----------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 90 | <a href="#">Spondylarthriti</a>             | 2    | 1.57E-02  | 1.06E-01  | 1.057E-01 | 1.061E-01 | 4  | HSPA1B, HSP70, HSPA2, HSPA1A                                                                                                                                                                                           |
| 91 | <a href="#">Small Cell Lung Carcinoma</a>   | 446  | 1.611E-04 | 1.061E-01 | 1.061E-01 | 1.061E-01 | 6  | Cyclin B1, HSPA1B, HSP70, HSPA1A, Cyclin B, PP2C                                                                                                                                                                       |
| 92 | <a href="#">Leukemia</a>                    | 3224 | 1.673E-02 | 1.089E-01 | 1.063E-01 | 1.069E-01 | 23 | IGHM, eEF1A, Reticulon 4, Cyclin B1, HSPA1B, Copine-4, Fbxo3, PROSC, Olfactory receptor, HSP70, SET, HSPA2, HSPA1A, eEF1A1, CKS2, Septin 3, SET/NUP214 fusion protein, Cyclin B, C10orf118, PP2C, HSC70, TCOF1, CapZIP |
| 93 | <a href="#">Sensation Disorders</a>         | 328  | 1.696E-02 | 1.089E-01 | 1.063E-01 | 1.069E-01 | 5  | HSPA1B, HSP70, HSPA2, HSPA1A, PP2C                                                                                                                                                                                     |
| 94 | <a href="#">Epilepsy</a>                    | 452  | 1.710E-02 | 1.089E-01 | 1.063E-01 | 1.069E-01 | 6  | Reticulon 4, HSPA1B, HSPBAP1, HSP70, HSPA1A, HSC70                                                                                                                                                                     |
| 95 | <a href="#">Pulmonary Valve Stenosis</a>    | 4    | 1.804E-02 | 1.089E-01 | 1.063E-01 | 1.069E-01 | 1  | PP2C                                                                                                                                                                                                                   |
| 96 | <a href="#">Mandibulo-facial Dysostosis</a> | 4    | 1.804E-02 | 1.089E-01 | 1.063E-01 | 1.069E-01 | 1  | TCOF1                                                                                                                                                                                                                  |

|     |                                                                |      |              |              |              |              |    |                                                                                                                                                  |
|-----|----------------------------------------------------------------|------|--------------|--------------|--------------|--------------|----|--------------------------------------------------------------------------------------------------------------------------------------------------|
| 97  | <a href="#">Hallermann's Syndrome</a>                          | 4    | 1.804EE--02  | 1.114EE--01  | 1.814EE--02  | 1.114EE--01  | 1  | ICMT                                                                                                                                             |
| 98  | <a href="#">Skin Diseases, Viral</a>                           | 122  | 1.817EE--02  | 1.117EE--01  | 1.817EE--02  | 1.117EE--01  | 3  | Histone deacetylase class II, HSP70, HSC70                                                                                                       |
| 99  | <a href="#">Precursor Cell Lymphoblastic Leukemia-Lymphoma</a> | 605  | 2.034EE--02  | 1.234EE--01  | 2.034EE--02  | 1.234EE--01  | 7  | HSPA1B, Olfactory receptor, HSP70, HSPA1A, SET/NUP214 fusion protein, HSC70, CapZIP                                                              |
| 100 | <a href="#">Alcohol-Related Disorders</a>                      | 347  | 2.106EE--02  | 1.206EE--01  | 2.106EE--02  | 1.206EE--01  | 5  | HSPA1B, AL1A1, Olfactory receptor, HSP70, HSPA1A                                                                                                 |
| 101 | <a href="#">Carcinoma, Bronchogenic</a>                        | 240  | 2.2109EE--02 | 1.3109EE--01 | 2.2109EE--02 | 1.3109EE--01 | 18 | eEF1A, Cyclin B1, HSPA1B, ECE1, AL1A1, Cytoglobin, HSP70, TXNRD1, Calmodulin, HSPA2, HSPA1A, RBP1, eEF1A1, Cyclin B, PP2C, HSC70, RUVBL1, VILIP1 |
| 102 | <a href="#">Bronchial Neoplasms</a>                            | 2403 | 2.2369EE--02 | 1.3369EE--01 | 2.2369EE--02 | 1.3369EE--01 | 18 | eEF1A, Cyclin B1, HSPA1B, ECE1, AL1A1, Cytoglobin, HSP70, TXNRD1, Calmodulin, HSPA2, HSPA1A, RBP1, eEF1A1, Cyclin B, PP2C, HSC70, RUVBL1, VILIP1 |
| 103 | <a href="#">Uveitis, Intermediate</a>                          | 5    | 2.509EE--02  | 1.309EE--01  | 2.509EE--02  | 1.309EE--01  | 1  | HSP70                                                                                                                                            |

|     |                                             |      |             |             |             |             |    |                                                                                                                                                                                                                     |
|-----|---------------------------------------------|------|-------------|-------------|-------------|-------------|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 104 | <a href="#">Lymphoma, T-Cell, Cutaneous</a> | 134  | 2.322EE-321 | 1.329EE-001 | 2.322EE-002 | 1.329EE-001 | 3  | CDO1, Histone deacetylase class II, PP2C                                                                                                                                                                            |
| 105 | <a href="#">Lymphatic Diseases</a>          | 2773 | 2.330EE3    | 1.329EE1    | 2.330EE2    | 1.329EE1    | 20 | IGHM, eEF1A, Reticulon 4, Cyclin B1, HSPA1B, Copine-4, CDO1, Histone deacetylase class II, PROSC, Olfactory receptor, HSP70, IGHG1, HSPA2, HSPA1A, eEF1A1, SET/NUP214 fusion protein, Cyclin B, PP2C, HSC70, CapZIP |
| 106 | <a href="#">Esophageal Neoplasms</a>        | 495  | 2.537EE4    | 1.449EE1    | 2.537EE3    | 1.449EE1    | 6  | Cyclin B1, HSP70, DPP3, CKS2, Cyclin B, VILIP1                                                                                                                                                                      |
| 107 | <a href="#">Graft vs Host Disease</a>       | 139  | 2.552EE1    | 1.429EE1    | 2.552EE2    | 1.429EE1    | 3  | HSPA1B, HSP70, HSPA1A                                                                                                                                                                                               |
| 108 | <a href="#">Cafe-au-Lait Spots</a>          | 6    | 2.694EE0    | 1.481EE0    | 2.694EE0    | 1.481EE0    | 1  | PP2C                                                                                                                                                                                                                |
| 109 | <a href="#">Leukocyte Disorders</a>         | 142  | 2.696EE1    | 1.481EE1    | 2.696EE2    | 1.481EE1    | 3  | HSPA1B, HSP70, HSPA1A                                                                                                                                                                                               |
| 110 | <a href="#">Retinoblastoma</a>              | 148  | 2.966EE1    | 1.632EE1    | 2.966EE2    | 1.632EE1    | 3  | RBBP8 (CtIP), ARID4A, TARDBP (TDP43)                                                                                                                                                                                |

|   |                                     |   |        |        |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---|-------------------------------------|---|--------|--------|--------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | <a href="#">Retinal</a>             | 1 | 3.048E | 1.640E | 3.648E | 1.640E |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 1 | <a href="#">Neoplasms</a>           | 4 | 0      | 0      | 0      | 0      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 1 |                                     | 9 | 2      | 1      | 2      | 1      | 3 RBBP8 (CtIP), ARID4A, TARDBP (TDP43)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 1 | <a href="#">Neoplasms</a>           | 5 | 3.66E  | 1.64E  | 3.66E  | 1.64E  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 1 | <a href="#">Neuroepithelial</a>     | 3 | -      | -      | -      | -      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 2 |                                     | 5 | 0      | 0      | 0      | 0      | 3 eEF1A, Reticulon 4, RBBP8 (CtIP), Cyclin B1, TIPIN, ECE1, Copine-4, Fbxo3, DARS, Histone deacetylase class II, PROSC, Olfactory receptor, EPS8L1, HSP70, Cyclophilin E, ARID4A, eEF2K, COASY, eEF1A1, CKS2, OR10G3, DOHH, SET/NUP214 fusion protein, Cyclin B, GMEB1, NTB-A, RIG-G, Fructosamine-3-kinase, PP2C, HSC70, TARDBP (TDP43), CapZIP, VILIP1                                                                                                                                                               |
| 1 | <a href="#">Leukemia</a>            | 1 | 3.11E  | 1.61E  | 3.11E  | 1.61E  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 1 | <a href="#">Lymphoid</a>            | 9 | -      | -      | -      | -      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 3 |                                     | 6 | 0      | 0      | 0      | 0      | 1 IGHM, eEF1A, Reticulon 4, HSPA1B, Copine-4, PROSC, Olfactory receptor, HSP70, HSPA2, HSPA1A, eEF1A1, SET/NUP214 fusion protein, PP2C, HSC70, CapZIP                                                                                                                                                                                                                                                                                                                                                                  |
| 1 | <a href="#">Bone Diseases</a>       | 3 | 2      | 1      | 2      | 1      | 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 1 | <a href="#">Infectious</a>          | 6 | 3.141E | 1.61E  | 3.141E | 1.61E  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 4 |                                     | 1 | 2      | 1      | 2      | 1      | 2 HSP70, HSPA2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1 | <a href="#">Dysostoses</a>          | 6 | 3.236E | 1.63E  | 3.236E | 1.63E  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 5 |                                     | 2 | 2      | 1      | 2      | 1      | 2 ICMT, TCOF1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 1 | <a href="#">Intestinal Diseases</a> | 9 | 3.275E | 1.67E  | 3.275E | 1.67E  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 1 |                                     | 3 | -      | -      | -      | -      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 6 |                                     | 4 | 0      | 0      | 0      | 0      | 5 Annexin V, eEF1A, RBBP8 (CtIP), PGMU, IGHG4, RY1, Cyclin B1, HSPA1B, ECE1, Copine-4, AL1A1, HDAC7, MENA, SNX1, Histone deacetylase class II, Olfactory receptor, Thioredoxin-like 2, Calmyrin, EPS8L1, COLEC12, HSP70, IGHG1, ARID4A, CLEC2D, eEF2K, Follistatin, TXNRD1, SMYD3, Calmodulin, HSPA2, HSPA1A, LOH11CR2A, CKS2, Annexin XI, SET/NUP214 fusion protein, Cyclin B, IMD2, GMEB1, NTB-A, FAM63A, PTPN2, FOP, RIG-G, Fructosamine-3-kinase, PP2C, HSC70, TARDBP (TDP43), PRCC, TCOF1, RUVBL1, CapZIP, VILIP1 |
| 7 | <a href="#">Death</a>               | 4 | 3.314E | 1.63E  | 3.314E | 1.63E  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|   |                                     |   | -      | -      | -      | -      | 3 Annexin V, ECE1, PP2C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

|             |                                                          |                  |                                       |                                       |                                       |                                       |        |                                                                                                                                                                                                                                                                                          |
|-------------|----------------------------------------------------------|------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                          |                  | 0<br>2                                | 0<br>1                                | 0<br>2                                | 0<br>1                                |        |                                                                                                                                                                                                                                                                                          |
| 1<br>1<br>8 | <a href="#">Leukemia-<br/>Lymphoma, Adult<br/>T-Cell</a> | 1<br>5<br>4      | 3.<br>3<br>1<br>4<br>E                | 1.<br>6<br>8<br>2<br>E                | 3.<br>3<br>1<br>4<br>E                | 1.<br>6<br>8<br>2<br>E                | 3      | Reticulon 4, SET/NUP214 fusion protein, PP2C                                                                                                                                                                                                                                             |
| 1<br>1<br>9 | <a href="#">Alzheimer Disease</a>                        | 1<br>1<br>4<br>1 | 3.<br>4<br>3<br>5<br>E<br>-<br>0<br>2 | 1.<br>7<br>2<br>1<br>E<br>-<br>0<br>1 | 3.<br>4<br>3<br>5<br>E<br>-<br>0<br>2 | 1.<br>7<br>2<br>1<br>E<br>-<br>0<br>1 | 1<br>0 | Reticulon 4, HSPA1B, ECE1, HSP70, eEF2K, HSPA2, HSPA1A, Septin 3, TARDBP (TDP43), VILIP1                                                                                                                                                                                                 |
| 1<br>2<br>0 | <a href="#">Ear Diseases</a>                             | 3<br>9<br>6      | 3.<br>4<br>4<br>8<br>E<br>-<br>0<br>2 | 1.<br>7<br>2<br>1<br>E<br>-<br>0<br>1 | 3.<br>4<br>4<br>8<br>E<br>-<br>0<br>2 | 1.<br>7<br>2<br>1<br>E<br>-<br>0<br>1 | 5      | HSPA1B, HSP70, HSPA2, HSPA1A, PP2C                                                                                                                                                                                                                                                       |
| 1<br>2<br>1 | <a href="#">Tongue Neoplasms</a>                         | 6<br>5           | 3.<br>5<br>2<br>8<br>E<br>-<br>0<br>2 | 1.<br>7<br>3<br>5<br>E<br>-<br>0<br>1 | 3.<br>5<br>2<br>8<br>E<br>-<br>0<br>2 | 1.<br>7<br>3<br>5<br>E<br>-<br>0<br>1 | 2      | Cyclin B1, Cyclin B                                                                                                                                                                                                                                                                      |
| 1<br>2<br>2 | <a href="#">Mycobacterium Infections</a>                 | 2<br>7<br>2      | 3.<br>5<br>5<br>3<br>E<br>-<br>0<br>2 | 1.<br>7<br>3<br>5<br>E<br>-<br>0<br>1 | 3.<br>5<br>3<br>5<br>E<br>-<br>0<br>2 | 1.<br>7<br>3<br>5<br>E<br>-<br>0<br>1 | 4      | PGMU, HSPA1B, HSP70, HSPA1A                                                                                                                                                                                                                                                              |
| 1<br>2<br>3 | <a href="#">Spinal Diseases</a>                          | 2<br>7<br>3      | 3.<br>5<br>9<br>3<br>E<br>-<br>0<br>2 | 1.<br>7<br>3<br>5<br>E<br>-<br>0<br>1 | 3.<br>5<br>9<br>3<br>E<br>-<br>0<br>2 | 1.<br>7<br>3<br>5<br>E<br>-<br>0<br>1 | 4      | HSPA1B, HSP70, HSPA2, HSPA1A                                                                                                                                                                                                                                                             |
| 1<br>2<br>4 | <a href="#">Neoplasms</a>                                | 2<br>6<br>9<br>6 | 3.<br>6<br>1<br>8<br>E                | 1.<br>7<br>3<br>5<br>E                | 3.<br>6<br>1<br>8<br>E                | 1.<br>7<br>3<br>5<br>E                | 9<br>8 | Annexin V, IGHM, P5CR1, eEF1A, Reticulon 4, RBBP8 (CtIP), PGMU, IGHG4, Cyclin T1, RY1, Cyclin B1, DLC1 (Dynein LC8a), HSPA1B, PSMD10 (Gankyrin), TIPIN, Clp1, ECE1, Copine-4, AL1A1, Fbxo3, PPM1F, Beta crystallin B2, HDAC7, MENA, CDO1, Cytoglobin, SNX1, HEXIM1, DARS, VAMP5, Histone |

|             |                                           |                  |                             |                             |                             |                             |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------|-------------------------------------------|------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                           |                  | -<br>0<br>2                 | -<br>0<br>1                 | -<br>0<br>2                 | -<br>0<br>1                 |        | deacetylase class II, PROSC, Olfactory receptor, Thioredoxin-like 2, HSPBAP1, Calmyrin, EPS8L1, COLEC12, HSP70, IGHG1, Cyclophilin E, ARID4A, Annexin VI, PGM2, CLEC2D, eEF2K, ZFYVE19, SET, COASY, Follistatin, DPP3, TXNRD1, SMYD3, POLE3-POLE4 complex, Calmodulin, HSPA2, HSPA1A, RBP1, B230118H07Rik, eEF1A1, SAE2, LOH11CR2A, CKS2, OR10G3, OBFC1, ZNF397OS, Annexin XI, POLE3 (YBL1), DYNLL, ICMT, CBWD1, DOHH, ZNF397, Septin 3, SET/NUP214 fusion protein, Cyclin B, IMD2, C10orf118, GMEB1, Pleckstrin, NTB-A, FAM63A, PTPN2, FOP, RIG-G, PDXP, CAMK2N1, Fructosamine-3-kinase, PP2C, C6orf115, HSC70, TARDBP (TDP43), PRCC, TCOF1, RUVBL1, CapZIP, PQBP-1, VILIP1 |
| 1<br>2<br>5 | <a href="#">Euglenozoa Infections</a>     | 6<br>6           | 3.<br>6<br>2<br>8<br>E<br>- | 1.<br>7<br>3<br>5<br>E<br>- | 3.<br>6<br>2<br>8<br>E<br>- | 1.<br>7<br>3<br>5<br>E<br>- | 2      | HSP70, HSPA2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 1<br>2<br>6 | <a href="#">Tauopathies</a>               | 1<br>1<br>5<br>3 | 3.<br>6<br>5<br>0<br>E<br>- | 1.<br>7<br>3<br>5<br>E<br>- | 3.<br>6<br>5<br>0<br>E<br>- | 1.<br>7<br>3<br>5<br>E<br>- | 1<br>0 | Reticulon 4, HSPA1B, ECE1, HSP70, eEF2K, HSPA2, HSPA1A, Septin 3, TARDBP (TDP43), VILIP1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1<br>2<br>7 | <a href="#">Gastrointestinal Diseases</a> | 1<br>0<br>6      | 3.<br>8<br>1<br>2<br>E<br>- | 1.<br>7<br>8<br>9<br>E<br>- | 3.<br>8<br>1<br>2<br>E<br>- | 1.<br>7<br>8<br>9<br>E<br>- | 5<br>7 | Annexin V, eEF1A, RBBP8 (CtIP), PGMU, IGHG4, RY1, Cyclin B1, HSPA1B, ECE1, Copine-4, AL1A1, Fbxo3, HDAC7, MENA, SNX1, Histone deacetylase class II, Olfactory receptor, Thioredoxin-like 2, Calmyrin, EPS8L1, COLEC12, HSP70, IGHG1, ARID4A, Annexin VI, PGM2, CLEC2D, eEF2K, Follistatin, DPP3, TXNRD1, SMYD3, Calmodulin, HSPA2, HSPA1A, RBP1, LOH11CR2A, CKS2, Annexin XI, SET/NUP214 fusion protein, Cyclin B, IMD2, GMEB1, NTB-A, FAM63A, PTPN2, FOP, RIG-G, Fructosamine-3-kinase, PP2C, HSC70, TARDBP (TDP43), PRCC, TCOF1, RUVBL1, CapZIP, VILIP1                                                                                                                    |
| 1<br>2<br>8 | <a href="#">Arrhythmias, Cardiac</a>      | 1<br>6<br>3      | 3.<br>8<br>2<br>2<br>E<br>- | 1.<br>7<br>8<br>9<br>E<br>- | 3.<br>8<br>2<br>9<br>E<br>- | 1.<br>7<br>8<br>9<br>E<br>- | 3      | ECE1, HSP70, HSC70                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 1<br>2<br>9 | <a href="#">Tongue Diseases</a>           | 6<br>9           | 3.<br>9<br>3<br>4<br>E<br>- | 1.<br>8<br>2<br>7<br>E<br>- | 3.<br>9<br>3<br>4<br>E<br>- | 1.<br>8<br>2<br>7<br>E<br>- | 2      | Cyclin B1, Cyclin B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 1<br>3      | <a href="#">Autoimmune</a>                | 2<br>7           | 3.<br>9                     | 1.<br>8                     | 3.<br>9                     | 1.<br>8                     | 1<br>9 | Reticulon 4, PGMU, IGHG4, HSPA1B, DARS, Histone deacetylase class II, Olfactory receptor, HSP70, IGHG1, Annexin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |



|     |                                            |      |        |        |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----|--------------------------------------------|------|--------|--------|--------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0   | <a href="#">Diseases</a>                   | 51   | 78E-02 | 33E-01 | 78E-02 | 33E-01 | VI, CLEC2D, Calmodulin, HSPA1A, RBP1, Annexin XI, EYA1, NTB-A, PTPN2, RIG-G                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 131 | <a href="#">Colorectal Neoplasms</a>       | 9025 | 4153E  | 1893E  | 4153E  | 1893E  | Annexin V, eEF1A, RBBP8 (CtIP), PGMU, IGHG4, RY1, Cyclin B1, HSPA1B, ECE1, Copine-4, AL1A1, HDAC7, MENA, SNX1, Histone deacetylase class II, Olfactory receptor, Thioredoxin-like 2, Calmyrin, EPS8L1, COLEC12, HSP70, IGHG1, ARID4A, eEF2K, Follistatin, TXNRD1, SMYD3, Calmodulin, HSPA2, HSPA1A, LOH11CR2A, CKS2, Annexin XI, SET/NUP214 fusion protein, Cyclin B, IMD2, GMEB1, NTB-A, FAM63A, FOP, RIG-G, Fructosamine-3-kinase, PP2C, HSC70, TARDBP (TDP43), PRCC, TCOF1, RUVBL1, CapZIP, VILIP1 |
| 132 | <a href="#">Psychiatry and Psychology</a>  | 1864 | 4199E  | 1906E  | 4199E  | 1906E  | eEF1A, Reticulon 4, HSPA1B, AL1A1, Histone deacetylase class II, Olfactory receptor, HSP70, Calmodulin, HSPA1A, eEF1A1, HSC70, TARDBP (TDP43), PQBP-1, VILIP1                                                                                                                                                                                                                                                                                                                                         |
| 133 | <a href="#">Intestinal Neoplasms</a>       | 9036 | 4246E  | 122E   | 4246E  | 122E   | Annexin V, eEF1A, RBBP8 (CtIP), PGMU, IGHG4, RY1, Cyclin B1, HSPA1B, ECE1, Copine-4, AL1A1, HDAC7, MENA, SNX1, Histone deacetylase class II, Olfactory receptor, Thioredoxin-like 2, Calmyrin, EPS8L1, COLEC12, HSP70, IGHG1, ARID4A, eEF2K, Follistatin, TXNRD1, SMYD3, Calmodulin, HSPA2, HSPA1A, LOH11CR2A, CKS2, Annexin XI, SET/NUP214 fusion protein, Cyclin B, IMD2, GMEB1, NTB-A, FAM63A, FOP, RIG-G, Fructosamine-3-kinase, PP2C, HSC70, TARDBP (TDP43), PRCC, TCOF1, RUVBL1, CapZIP, VILIP1 |
| 134 | <a href="#">Esophageal Diseases</a>        | 569  | 4516E  | 219E   | 4516E  | 219E   | Cyclin B1, HSP70, DPP3, CKS2, Cyclin B, VILIP1                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 135 | <a href="#">Renal Insufficiency</a>        | 296  | 4604E  | 243E   | 4604E  | 243E   | HSPA1B, HSP70, HSPA1A, HSC70                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 136 | <a href="#">Connective Tissue Diseases</a> | 2088 | 4960E  | 214E   | 4960E  | 214E   | PGMU, IGHG4, DARS, Histone deacetylase class II, Olfactory receptor, HSP70, IGHG1, Annexin VI, Calmodulin, RBP1, EYA1, NTB-A, PTPN2, RIG-G, PP2C                                                                                                                                                                                                                                                                                                                                                      |

|     |                                               |      |            |           |           |           |    |                                                                                                                                                                                                                                                            |
|-----|-----------------------------------------------|------|------------|-----------|-----------|-----------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 137 | <a href="#">Dengue</a>                        | 80   | 5.132EE-02 | 2.242EE-1 | 5.132EE-0 | 2.242EE-1 | 2  | HSP70, HSC70                                                                                                                                                                                                                                               |
| 138 | <a href="#">Immunoproliferative Disorders</a> | 3793 | 5.202EE-3  | 2.242EE-1 | 5.202EE-0 | 2.242EE-1 | 24 | IGHM, eEF1A, Reticulon 4, Cyclin B1, HSPA1B, Copine-4, Beta crystallin B2, MENA, CDO1, Histone deacetylase class II, PROSC, Olfactory receptor, HSP70, IGHG1, HSPA2, HSPA1A, eEF1A1, CKS2, SET/NUP214 fusion protein, Cyclin B, GMEB1, PP2C, HSC70, CapZIP |
| 139 | <a href="#">Jaw Abnormalities</a>             | 81   | 5.247EE-0  | 2.246EE-1 | 5.242EE-0 | 2.246EE-1 | 2  | EYA1, TCOF1                                                                                                                                                                                                                                                |
| 140 | <a href="#">Smooth Muscle Tumor</a>           | 12   | 5.317EE-0  | 2.246EE-1 | 5.312EE-0 | 2.246EE-1 | 1  | RBP1                                                                                                                                                                                                                                                       |
| 141 | <a href="#">Heart Septal Defects, Atrial</a>  | 12   | 5.317EE-0  | 2.246EE-1 | 5.312EE-0 | 2.246EE-1 | 1  | PP2C                                                                                                                                                                                                                                                       |
| 142 | <a href="#">Skin Diseases Infectious</a>      | 187  | 5.358EE-1  | 2.246EE-1 | 5.352EE-0 | 2.246EE-1 | 3  | Histone deacetylase class II, HSP70, HSC70                                                                                                                                                                                                                 |
| 143 | <a href="#">Atrial Fibrillation</a>           | 82   | 5.363EE-0  | 2.246EE-1 | 5.362EE-0 | 2.246EE-1 | 2  | HSP70, HSC70                                                                                                                                                                                                                                               |

|             |                                                 |                       |                                       |                                       |                                       |                                       |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------|-------------------------------------------------|-----------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1<br>4<br>4 | <a href="#">Diabetic<br/>Angiopathies</a>       | 1<br>8<br>9           | 5.<br>4<br>9<br>8<br>E<br>-<br>0<br>2 | 2.<br>2<br>8<br>7<br>E<br>-<br>0<br>1 | 5.<br>4<br>9<br>8<br>E<br>-<br>0<br>2 | 2.<br>2<br>8<br>7<br>E<br>-<br>0<br>1 | 3      | HSPA1B, HSP70, HSPA1A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 1<br>4<br>5 | <a href="#">Respiratory<br/>Disorders</a>       | 1<br>9<br>1           | 5.<br>6<br>3<br>9<br>E<br>-<br>0<br>2 | 2.<br>2<br>9<br>5<br>E<br>-<br>0<br>1 | 5.<br>6<br>3<br>9<br>E<br>-<br>0<br>2 | 2.<br>2<br>9<br>5<br>E<br>-<br>0<br>1 | 3      | HSPA1B, HSP70, HSPA1A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 1<br>4<br>6 | <a href="#">Pancreatitis</a>                    | 3<br>1<br>7           | 5.<br>6<br>5<br>2<br>E<br>-<br>0<br>2 | 2.<br>2<br>9<br>5<br>E<br>-<br>0<br>1 | 5.<br>6<br>5<br>2<br>E<br>-<br>0<br>2 | 2.<br>2<br>9<br>5<br>E<br>-<br>0<br>1 | 4      | HSPA1B, Histone deacetylase class II, HSP70, HSPA1A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 1<br>4<br>7 | <a href="#">Gastrointestinal<br/>Neoplasms</a>  | 1<br>0<br>2<br>7<br>2 | 5.<br>6<br>5<br>9<br>E<br>-<br>0<br>2 | 2.<br>2<br>9<br>5<br>E<br>-<br>0<br>1 | 5.<br>6<br>5<br>9<br>E<br>-<br>0<br>2 | 2.<br>2<br>9<br>5<br>E<br>-<br>0<br>1 | 5<br>5 | Annexin V, eEF1A, RBBP8 (CtIP), PGMU, IGHG4, RY1, Cyclin B1, HSPA1B, ECE1, Copine-4, AL1A1, Fbxo3, HDAC7, MENA, SNX1, Histone deacetylase class II, Olfactory receptor, Thioredoxin-like 2, Calmyrin, EPS8L1, COLEC12, HSP70, IGHG1, ARID4A, Annexin VI, PGM2, eEF2K, Follistatin, DPP3, TXNRD1, SMYD3, Calmodulin, HSPA2, HSPA1A, RBP1, LOH11CR2A, CKS2, Annexin XI, SET/NUP214 fusion protein, Cyclin B, IMD2, GMEB1, NTB-A, FAM63A, FOP, RIG-G, Fructosamine-3-kinase, PP2C, HSC70, TARDBP (TDP43), PRCC, TCOF1, RUVBL1, CapZIP, VILIP1 |
| 1<br>4<br>8 | <a href="#">Maxillofacial<br/>Abnormalities</a> | 8<br>5                | 5.<br>7<br>1<br>5<br>E<br>-<br>0<br>2 | 2.<br>2<br>9<br>5<br>E<br>-<br>0<br>1 | 5.<br>7<br>1<br>5<br>E<br>-<br>0<br>2 | 2.<br>2<br>9<br>5<br>E<br>-<br>0<br>1 | 2      | EYA1, TCOF1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 1<br>4<br>9 | <a href="#">Diphtheria</a>                      | 1<br>3                | 5.<br>7<br>4<br>7<br>E<br>-<br>0<br>2 | 2.<br>2<br>9<br>5<br>E<br>-<br>0<br>1 | 5.<br>7<br>4<br>7<br>E<br>-<br>0<br>2 | 2.<br>2<br>9<br>5<br>E<br>-<br>0<br>1 | 1      | TXNRD1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1<br>5<br>0 | <a href="#">Corynebacterium<br/>Infections</a>  | 1<br>3                | 5.<br>7<br>4<br>7<br>E<br>-           | 2.<br>2<br>9<br>5<br>E<br>-           | 5.<br>7<br>4<br>7<br>E<br>-           | 2.<br>2<br>9<br>5<br>E<br>-           | 1      | TXNRD1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

|             |                                               |                  |                                       |                                       |                                       |                                       |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------|-----------------------------------------------|------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                               |                  | 0<br>2                                | 0<br>1                                | 0<br>2                                | 0<br>1                                |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 1<br>5<br>1 | <a href="#">Rectal Diseases</a>               | 8<br>7<br>6<br>6 | 5.<br>7<br>8<br>9<br>E<br>-<br>0<br>2 | 2.<br>2<br>9<br>6<br>E<br>-<br>0<br>1 | 5.<br>7<br>8<br>9<br>E<br>-<br>0<br>2 | 2.<br>2<br>9<br>6<br>E<br>-<br>0<br>1 | 4<br>8 | Annexin V, eEF1A, RBBP8 (CtIP), PGMU, RY1, Cyclin B1, HSPA1B, ECE1, Copine-4, AL1A1, HDAC7, MENA, SNX1, Histone deacetylase class II, Olfactory receptor, Thioredoxin-like 2, Calmyrin, EPS8L1, COLEC12, HSP70, ARID4A, eEF2K, Follistatin, TXNRD1, SMYD3, Calmodulin, HSPA2, HSPA1A, LOH11CR2A, CKS2, Annexin XI, SET/NUP214 fusion protein, Cyclin B, IMD2, GMEB1, NTB-A, FAM63A, FOP, RIG-G, Fructosamine-3-kinase, PP2C, HSC70, TARDBP (TDP43), PRCC, TCOF1, RUVBL1, CapZIP, VILIP1 |
| 1<br>5<br>2 | <a href="#">Melanoma, Cutaneous Malignant</a> | 7<br>6<br>3      | 5.<br>8<br>8<br>0<br>E<br>-<br>0<br>2 | 2.<br>2<br>9<br>6<br>E<br>-<br>0<br>1 | 5.<br>8<br>8<br>0<br>E<br>-<br>0<br>2 | 2.<br>2<br>9<br>6<br>E<br>-<br>0<br>1 | 7      | Cyclin B1, HSPA1B, HSP70, HSPA2, HSPA1A, Cyclin B, HSC70                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 1<br>5<br>3 | <a href="#">Inflammatory Bowel Diseases</a>   | 9<br>2<br>3      | 5.<br>8<br>8<br>0<br>E<br>-<br>0<br>2 | 2.<br>2<br>9<br>6<br>E<br>-<br>0<br>1 | 5.<br>8<br>8<br>0<br>E<br>-<br>0<br>2 | 2.<br>2<br>9<br>6<br>E<br>-<br>0<br>1 | 8      | HSPA1B, HSP70, CLEC2D, HSPA2, HSPA1A, PTPN2, FOP, PP2C                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 1<br>5<br>4 | <a href="#">Hemorrhagic Fevers, Viral</a>     | 8<br>7           | 5.<br>9<br>5<br>4<br>E<br>-<br>0<br>2 | 2.<br>2<br>9<br>6<br>E<br>-<br>0<br>1 | 5.<br>9<br>5<br>4<br>E<br>-<br>0<br>2 | 2.<br>2<br>9<br>6<br>E<br>-<br>0<br>1 | 2      | HSP70, HSC70                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 1<br>5<br>5 | <a href="#">Lymphoproliferative Disorders</a> | 3<br>8<br>4<br>7 | 5.<br>9<br>6<br>7<br>E<br>-<br>0<br>2 | 2.<br>2<br>9<br>6<br>E<br>-<br>0<br>1 | 5.<br>9<br>6<br>7<br>E<br>-<br>0<br>2 | 2.<br>2<br>9<br>6<br>E<br>-<br>0<br>1 | 2<br>4 | IGHM, eEF1A, Reticulon 4, Cyclin B1, HSPA1B, Copine-4, Beta crystallin B2, MENA, CDO1, Histone deacetylase class II, PROSC, Olfactory receptor, HSP70, IGHG1, HSPA2, HSPA1A, eEF1A1, CKS2, SET/NUP214 fusion protein, Cyclin B, GMEB1, PP2C, HSC70, CapZIP                                                                                                                                                                                                                              |
| 1<br>5<br>6 | <a href="#">Cystic Fibrosis</a>               | 7<br>6<br>6      | 5.<br>9<br>7<br>9<br>E<br>-<br>0<br>2 | 2.<br>2<br>9<br>6<br>E<br>-<br>0<br>1 | 5.<br>9<br>7<br>9<br>E<br>-<br>0<br>2 | 2.<br>2<br>9<br>6<br>E<br>-<br>0<br>1 | 7      | Annexin V, IGHM, IGHG4, HSPA1B, HSP70, IGHG1, HSPA1A                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 1<br>5<br>7 | <a href="#">Infant, Newborn, Diseases</a>     | 9<br>2<br>8      | 6.<br>0<br>3<br>0<br>1                | 2.<br>3<br>0<br>3<br>0<br>1           | 6.<br>0<br>3<br>0<br>1                | 2.<br>3<br>0<br>3<br>0<br>1           | 8      | Annexin V, IGHM, IGHG4, HSPA1B, HSP70, IGHG1, Follistatin, HSPA1A                                                                                                                                                                                                                                                                                                                                                                                                                       |

|             |                                    |             |                                       |                                       |                                       |                                       |   |                                              |
|-------------|------------------------------------|-------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---|----------------------------------------------|
|             |                                    |             | E<br>-<br>0<br>2                      | E<br>-<br>0<br>1                      | E<br>-<br>0<br>2                      | E<br>-<br>0<br>1                      |   |                                              |
| 1<br>5<br>8 | <a href="#">Pre-Eclampsia</a>      | 3<br>2<br>5 | 6.<br>0<br>8<br>2<br>E<br>-<br>0<br>2 | 2.<br>3<br>0<br>6<br>E<br>-<br>0<br>1 | 6.<br>0<br>8<br>2<br>E<br>-<br>0<br>2 | 2.<br>3<br>0<br>6<br>E<br>-<br>0<br>1 | 4 | Annexin V, HSPA1B, HSP70, HSPA1A             |
| 1<br>5<br>9 | <a href="#">Noonan Syndrome</a>    | 1<br>4      | 6.<br>1<br>7<br>5<br>E<br>-<br>0<br>2 | 2.<br>3<br>1<br>2<br>E<br>-<br>0<br>1 | 6.<br>1<br>7<br>5<br>E<br>-<br>0<br>2 | 2.<br>3<br>1<br>2<br>E<br>-<br>0<br>1 | 1 | PP2C                                         |
| 1<br>6<br>0 | <a href="#">Uterine Hemorrhage</a> | 1<br>4      | 6.<br>1<br>7<br>5<br>E<br>-<br>0<br>2 | 2.<br>3<br>1<br>2<br>E<br>-<br>0<br>1 | 6.<br>1<br>7<br>5<br>E<br>-<br>0<br>2 | 2.<br>3<br>1<br>2<br>E<br>-<br>0<br>1 | 1 | Follistatin                                  |
| 1<br>6<br>1 | <a href="#">Leukemia, T-Cell</a>   | 2<br>0<br>0 | 6.<br>2<br>9<br>6<br>E<br>-<br>0<br>2 | 2.<br>3<br>4<br>3<br>E<br>-<br>0<br>1 | 6.<br>2<br>9<br>6<br>E<br>-<br>0<br>2 | 2.<br>3<br>4<br>3<br>E<br>-<br>0<br>1 | 3 | Reticulon 4, SET/NUP214 fusion protein, PP2C |
| 1<br>6<br>2 | <a href="#">Cataract</a>           | 9<br>2      | 6.<br>5<br>6<br>7<br>E<br>-<br>0<br>2 | 2.<br>4<br>1<br>3<br>E<br>-<br>0<br>1 | 6.<br>5<br>6<br>7<br>E<br>-<br>0<br>2 | 2.<br>4<br>1<br>3<br>E<br>-<br>0<br>1 | 2 | Beta crystallin B2, EYA1                     |
| 1<br>6<br>3 | <a href="#">Wilms Tumor</a>        | 9<br>2      | 6.<br>5<br>6<br>7<br>E<br>-<br>0<br>2 | 2.<br>4<br>1<br>3<br>E<br>-<br>0<br>1 | 6.<br>5<br>6<br>7<br>E<br>-<br>0<br>2 | 2.<br>4<br>1<br>3<br>E<br>-<br>0<br>1 | 2 | SET, SET/NUP214 fusion protein               |
| 1<br>6<br>4 | <a href="#">Brain Ischemia</a>     | 2<br>0<br>5 | 6.<br>6<br>7<br>2                     | 2.<br>4<br>2                          | 6.<br>6<br>7<br>2                     | 2.<br>4<br>2                          | 3 | HSPA1B, HSP70, HSPA1A                        |

|             |                                                             |                  |                                       |                                       |                                       |                                       |                                                                                                                                                                                                                                                                                                                                   |
|-------------|-------------------------------------------------------------|------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             |                                                             |                  | 6<br>E<br>-<br>0<br>2                 | 7<br>E<br>-<br>0<br>1                 | 6<br>E<br>-<br>0<br>2                 | 7<br>E<br>-<br>0<br>1                 |                                                                                                                                                                                                                                                                                                                                   |
| 1<br>6<br>5 | <a href="#">Glioma</a>                                      | 5<br>0<br>8<br>8 | 6.<br>6<br>8<br>6<br>E<br>-<br>0<br>2 | 2.<br>4<br>2<br>7<br>E<br>-<br>0<br>1 | 6.<br>6<br>8<br>6<br>E<br>-<br>0<br>2 | 2.<br>4<br>2<br>7<br>E<br>-<br>0<br>1 | 3<br>0<br>eEF1A, Reticulon 4, RBBP8 (CtIP), Cyclin B1, TIPIN, ECE1, Copine-4, Fbxo3, DARS, Histone deacetylase class II, PROSC, Olfactory receptor, EPS8L1, HSP70, Cyclophilin E, eEF2K, COASY, eEF1A1, CKS2, OR10G3, DOHH, SET/NUP214 fusion protein, Cyclin B, NTB-A, RIG-G, Fructosamine-3-kinase, PP2C, HSC70, CapZIP, VILIP1 |
| 1<br>6<br>6 | <a href="#">Coronary Artery Disease</a>                     | 4<br>7<br>9      | 6.<br>7<br>2<br>5<br>E<br>-<br>0<br>2 | 2.<br>4<br>2<br>7<br>E<br>-<br>0<br>1 | 6.<br>7<br>2<br>5<br>E<br>-<br>0<br>2 | 2.<br>4<br>2<br>7<br>E<br>-<br>0<br>1 | 5<br>HSPA1B, ECE1, HSP70, Calmodulin, HSPA1A                                                                                                                                                                                                                                                                                      |
| 1<br>6<br>7 | <a href="#">Hypertension, Pregnanc y- Induced</a>           | 3<br>3<br>9      | 6.<br>8<br>7<br>6<br>E<br>-<br>0<br>2 | 2.<br>4<br>5<br>6<br>E<br>-<br>0<br>1 | 6.<br>8<br>7<br>6<br>E<br>-<br>0<br>2 | 2.<br>4<br>5<br>6<br>E<br>-<br>0<br>1 | 4<br>Annexin V, HSPA1B, HSP70, HSPA1A                                                                                                                                                                                                                                                                                             |
| 1<br>6<br>8 | <a href="#">Bone Diseases</a>                               | 7<br>9<br>3      | 6.<br>9<br>2<br>4<br>E<br>-<br>0<br>2 | 2.<br>4<br>5<br>6<br>E<br>-<br>0<br>1 | 6.<br>9<br>2<br>4<br>E<br>-<br>0<br>2 | 2.<br>4<br>5<br>6<br>E<br>-<br>0<br>1 | 7<br>HSPA1B, HSP70, HSPA2, HSPA1A, ICMT, EYA1, TCOF1                                                                                                                                                                                                                                                                              |
| 1<br>6<br>9 | <a href="#">Medulloblastoma</a>                             | 2<br>9<br>4<br>2 | 6.<br>9<br>6<br>6<br>E<br>-<br>0<br>2 | 2.<br>4<br>5<br>6<br>E<br>-<br>0<br>1 | 6.<br>9<br>6<br>6<br>E<br>-<br>0<br>2 | 2.<br>4<br>5<br>6<br>E<br>-<br>0<br>1 | 1<br>9<br>eEF1A, RBBP8 (CtIP), Cyclin B1, TIPIN, Fbxo3, DARS, Histone deacetylase class II, Olfactory receptor, EPS8L1, HSP70, eEF2K, COASY, DOHH, SET/NUP214 fusion protein, Cyclin B, NTB-A, RIG-G, Fructosamine-3-kinase, PP2C                                                                                                 |
| 1<br>7<br>0 | <a href="#">Encephalomyelitis, Autoimmune, Experimental</a> | 1<br>6           | 7.<br>0<br>2<br>6<br>E<br>-<br>0<br>2 | 2.<br>4<br>5<br>6<br>E<br>-<br>0<br>1 | 7.<br>0<br>2<br>6<br>E<br>-<br>0<br>2 | 2.<br>4<br>5<br>6<br>E<br>-<br>0<br>1 | 1<br>NTB-A                                                                                                                                                                                                                                                                                                                        |
| 1<br>7      | <a href="#">Nervous System</a>                              | 1<br>6           | 7.<br>0<br>4                          | 2.<br>4<br>0                          | 7.<br>0<br>4                          | 2.<br>4<br>0                          | 1<br>NTB-A                                                                                                                                                                                                                                                                                                                        |

|             |                                                             |                  |                                       |                                       |                                       |                                       |                                                                                                                                                                                                                                                                                         |
|-------------|-------------------------------------------------------------|------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1           | <a href="#">Autoimmune Disease, Experimental</a>            |                  | 2<br>6<br>E<br>-<br>0<br>2            | 5<br>6<br>E<br>-<br>0<br>1            | 2<br>6<br>E<br>-<br>0<br>2            | 5<br>6<br>E<br>-<br>0<br>1            |                                                                                                                                                                                                                                                                                         |
| 1<br>7<br>2 | <a href="#">Lens Diseases</a>                               | 9<br>6           | 7.<br>0<br>7<br>2<br>E<br>-<br>0<br>2 | 2.<br>4<br>5<br>6<br>E<br>-<br>0<br>1 | 7.<br>0<br>7<br>2<br>E<br>-<br>0<br>2 | 2.<br>4<br>5<br>6<br>E<br>-<br>0<br>1 | 2<br>Beta crystallin B2, EYA1                                                                                                                                                                                                                                                           |
| 1<br>7<br>3 | <a href="#">Neuroectodermal Tumors, Primitive</a>           | 3<br>3<br>3      | 7.<br>0<br>9<br>5<br>E<br>-<br>0<br>2 | 2.<br>4<br>5<br>6<br>E<br>-<br>0<br>1 | 7.<br>0<br>9<br>5<br>E<br>-<br>0<br>2 | 2.<br>4<br>5<br>6<br>E<br>-<br>0<br>1 | 2<br>1<br>eEF1A, RBBP8 (CtIP), Cyclin B1, TIPIN, Fbxo3, DARS, Histone deacetylase class II, Olfactory receptor, EPS8L1, HSP70, eEF2K, COASY, DOHH, SET/NUP214 fusion protein, Cyclin B, GMEB1, NTB-A, RIG-G, Fructosamine-3-kinase, PP2C, VILIP1                                        |
| 1<br>7<br>4 | <a href="#">Neoplastic Syndromes, Hereditary</a>            | 4<br>8<br>9      | 7.<br>2<br>0<br>7<br>E<br>-<br>0<br>2 | 2.<br>4<br>6<br>7<br>E<br>-<br>0<br>1 | 7.<br>2<br>0<br>7<br>E<br>-<br>0<br>2 | 2.<br>4<br>6<br>7<br>E<br>-<br>0<br>1 | 5<br>Cyclin B1, SET, SET/NUP214 fusion protein, Cyclin B, PP2C                                                                                                                                                                                                                          |
| 1<br>7<br>5 | <a href="#">Behavior and Behavior Mechanisms</a>            | 4<br>8<br>9      | 7.<br>2<br>0<br>7<br>E<br>-<br>0<br>2 | 2.<br>4<br>6<br>7<br>E<br>-<br>0<br>1 | 7.<br>2<br>0<br>7<br>E<br>-<br>0<br>2 | 2.<br>4<br>6<br>7<br>E<br>-<br>0<br>1 | 5<br>eEF1A, Histone deacetylase class II, HSP70, eEF1A1, PQBP-1                                                                                                                                                                                                                         |
| 1<br>7<br>6 | <a href="#">Pathological Conditions, Signs and Symptoms</a> | 4<br>3<br>3<br>2 | 7.<br>3<br>9<br>7<br>E<br>-<br>0<br>2 | 2.<br>5<br>0<br>6<br>E<br>-<br>0<br>1 | 7.<br>3<br>9<br>7<br>E<br>-<br>0<br>2 | 2.<br>5<br>0<br>6<br>E<br>-<br>0<br>1 | 2<br>6<br>Annexin V, eEF1A, Cyclin B1, HSPA1B, PSMD10 (Gankyrin), ECE1, MENA, Cytoglobin, Histone deacetylase class II, HSP70, SET, Follistatin, SMYD3, Calmodulin, HSPA2, HSPA1A, eEF1A1, SET/NUP214 fusion protein, Cyclin B, FOP, RIG-G, PP2C, HSC70, TARDBP (TDP43), PQBP-1, VILIP1 |
| 1<br>7<br>7 | <a href="#">Arthritis, Experimental</a>                     | 1<br>7           | 7.<br>4<br>4<br>8<br>E<br>-<br>0<br>2 | 2.<br>5<br>0<br>6<br>E<br>-<br>0<br>1 | 7.<br>4<br>4<br>8<br>E<br>-<br>0<br>2 | 2.<br>5<br>0<br>6<br>E<br>-<br>0<br>1 | 1<br>HSP70                                                                                                                                                                                                                                                                              |
| 1           | <a href="#">Multiple</a>                                    | 1                | 7.                                    | 2.                                    | 7.                                    | 2.                                    | 1<br>PP2C                                                                                                                                                                                                                                                                               |

|     |                                         |      |           |           |           |           |    |                                                                                                            |
|-----|-----------------------------------------|------|-----------|-----------|-----------|-----------|----|------------------------------------------------------------------------------------------------------------|
| 78  | <a href="#">Endocrine Neoplasia</a>     | 7    | 448E-02   | 506E-01   | 448E-02   | 506E-01   |    |                                                                                                            |
| 179 | <a href="#">Physiological Processes</a> | 217  | 7.629E-07 | 2.525E-01 | 7.629E-07 | 2.525E-01 | 3  | HSPA1B, HSP70, HSPA1A                                                                                      |
| 180 | <a href="#">Growth</a>                  | 217  | 7.629E-07 | 2.525E-01 | 7.629E-07 | 2.525E-01 | 3  | HSPA1B, HSP70, HSPA1A                                                                                      |
| 181 | <a href="#">Growth and Development</a>  | 217  | 7.629E-07 | 2.525E-01 | 7.629E-07 | 2.525E-01 | 3  | HSPA1B, HSP70, HSPA1A                                                                                      |
| 182 | <a href="#">Flavivirus Infections</a>   | 1202 | 7.853E-02 | 2.584E-01 | 7.853E-02 | 2.584E-01 | 2  | HSP70, HSC70                                                                                               |
| 183 | <a href="#">Arbovirus Infections</a>    | 103  | 7.985E-03 | 2.614E-01 | 7.985E-03 | 2.614E-01 | 2  | HSP70, HSC70                                                                                               |
| 184 | <a href="#">Rheumatic Diseases</a>      | 159  | 8.041E-02 | 2.608E-01 | 8.041E-02 | 2.608E-01 | 11 | IGHG4, DARS, Histone deacetylase class II, HSP70, IGHG1, Annexin VI, Calmodulin, EYA1, NTB-A, PTPN2, RIG-G |



|     |                                             |      |           |           |           |           |    |                                                                                                                                                                                               |
|-----|---------------------------------------------|------|-----------|-----------|-----------|-----------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 185 | <a href="#">Dementia</a>                    | 155  | 8.217E-12 | 2.627E-12 | 8.217E-12 | 2.627E-12 | 1  | Reticulon 4, HSPA1B, ECE1, HSP70, eEF2K, TXNRD1, HSPA2, HSPA1A, Septin 3, TARDBP (TDP43), VILIP1                                                                                              |
| 186 | <a href="#">Orthomyxoviridae Infections</a> | 105  | 8.252E-12 | 2.627E-12 | 8.252E-12 | 2.627E-12 | 2  | HSP70, HSC70                                                                                                                                                                                  |
| 187 | <a href="#">Influenza, Human</a>            | 105  | 8.252E-12 | 2.627E-12 | 8.252E-12 | 2.627E-12 | 2  | HSP70, HSC70                                                                                                                                                                                  |
| 188 | <a href="#">Lentigo</a>                     | 19   | 8.288E-12 | 2.627E-12 | 8.288E-12 | 2.627E-12 | 1  | PP2C                                                                                                                                                                                          |
| 189 | <a href="#">Teratocarcinoma</a>             | 19   | 8.288E-12 | 2.627E-12 | 8.288E-12 | 2.627E-12 | 1  | Septin 3                                                                                                                                                                                      |
| 190 | <a href="#">Stomach Neoplasms</a>           | 3793 | 8.339E-12 | 2.636E-12 | 8.339E-12 | 2.636E-12 | 23 | Annexin V, PGMU, IGHG4, Cyclin B1, HSPA1B, AL1A1, Fbxo3, MENA, Olfactory receptor, HSP70, IGHG1, Annexin VI, PGM2, Calmodulin, HSPA2, HSPA1A, RBP1, CKS2, Cyclin B, IMD2, PP2C, HSC70, RUVBL1 |
| 191 | <a href="#">Mandibular Diseases</a>         | 20   | 8.704E-12 | 2.716E-12 | 8.704E-12 | 2.716E-12 | 1  | EYA1                                                                                                                                                                                          |

|     |                                               |      |           |            |           |            |    |                                                                                                                                                                                               |
|-----|-----------------------------------------------|------|-----------|------------|-----------|------------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 192 | <a href="#">Melanosis</a>                     | 20   | 8.704EE-- | 2.716EE--  | 8.704EE-- | 2.716EE--  | 1  | PP2C                                                                                                                                                                                          |
| 193 | <a href="#">Lymphoma, B-Cell</a>              | 372  | 8.947EE-- | 2.747EE--  | 8.947EE-- | 2.747EE--  | 4  | Cyclin B1, Histone deacetylase class II, Cyclin B, PP2C                                                                                                                                       |
| 194 | <a href="#">Gastroenteritis</a>               | 1014 | 8.999EE-- | 2.799EE--  | 8.999EE-- | 2.799EE--  | 8  | HSPA1B, HSP70, CLEC2D, HSPA2, HSPA1A, PTPN2, FOP, PP2C                                                                                                                                        |
| 195 | <a href="#">Thyroid Carcinoma, Follicular</a> | 111  | 9.070EE-- | 2.785EE--  | 9.070EE-- | 2.785EE--  | 2  | HSP70, CKS2                                                                                                                                                                                   |
| 196 | <a href="#">Heart Septal Defects</a>          | 21   | 9.119EE-- | 2.7185EE-- | 9.119EE-- | 2.7185EE-- | 1  | PP2C                                                                                                                                                                                          |
| 197 | <a href="#">Arthritis, Rheumatoid</a>         | 1367 | 9.159EE-- | 2.785EE--  | 9.159EE-- | 2.785EE--  | 10 | IGHG4, DARS, Histone deacetylase class II, HSP70, IGHG1, Annexin VI, EYA1, NTB-A, PTPN2, RIG-G                                                                                                |
| 198 | <a href="#">Stomach Diseases</a>              | 3840 | 9.337EE-- | 2.825EE--  | 9.337EE-- | 2.825EE--  | 23 | Annexin V, PGMU, IGHG4, Cyclin B1, HSPA1B, AL1A1, Fbxo3, MENA, Olfactory receptor, HSP70, IGHG1, Annexin VI, PGM2, Calmodulin, HSPA2, HSPA1A, RBP1, CKS2, Cyclin B, IMD2, PP2C, HSC70, RUVBL1 |

|     |                                                                |      |        |        |        |        |   |                                                                        |
|-----|----------------------------------------------------------------|------|--------|--------|--------|--------|---|------------------------------------------------------------------------|
| 199 | <a href="#">Myocardial Ischemia</a>                            | 861E | 9.681E | 2.914E | 9.681E | 2.914E | 7 | Annexin V, HSPA1B, ECE1, Olfactory receptor, HSP70, Calmodulin, HSPA1A |
| 200 | <a href="#">Bone Diseases</a><br><a href="#">Developmental</a> | 243  | 9.885E | 2.961E | 9.885E | 2.961E | 3 | ICMT, EYA1, TCOF1                                                      |

| Table 10S: Enrichment analysis report. Enrichment by Diseases (by Biomarkers) (SVZp vs SVZn) |                                                               |       |            |            |                                  |            |         |                                               |
|----------------------------------------------------------------------------------------------|---------------------------------------------------------------|-------|------------|------------|----------------------------------|------------|---------|-----------------------------------------------|
| Enrichment by Diseases (by Biomarkers)                                                       |                                                               |       |            |            | SVZp VS SVZn Limma List_genelist |            |         |                                               |
| #                                                                                            | Diseases                                                      | Total | pValue     | Min FDR    | p-value                          | FDR        | In Data | Network Objects from Active Data              |
| 1                                                                                            | <a href="#">Mycoplasmatales Infections</a>                    | 7     | 1.674 E-05 | 1.708 E-03 | 1.674 E-05                       | 1.708 E-03 | 2       | eEF1A1, eEF1A                                 |
| 2                                                                                            | <a href="#">Mycoplasma Infections</a>                         | 7     | 1.674 E-05 | 1.708 E-03 | 1.674 E-05                       | 1.708 E-03 | 2       | eEF1A1, eEF1A                                 |
| 3                                                                                            | <a href="#">Neuroblastoma</a>                                 | 520   | 8.727 E-05 | 4.912 E-03 | 8.727 E-05                       | 4.912 E-03 | 5       | CAS-L, MJD (ataxin-3), DR1, GABP alpha, GMEB1 |
| 4                                                                                            | <a href="#">Neuroectodermal Tumors, Primitive, Peripheral</a> | 531   | 9.632 E-05 | 4.912 E-03 | 9.632 E-05                       | 4.912 E-03 | 5       | CAS-L, MJD (ataxin-3), DR1, GABP alpha, GMEB1 |

## Supplementary Figures and Legends:

### **Autoantibody Profiling of Glioma Serum Samples to Identify Biomarkers Using Human Proteome Arrays**

Parvez Syed<sup>1</sup>, Shabarni Gupta<sup>1</sup>, Saket Choudhary<sup>2</sup>, Narendra Goud Pandala<sup>1</sup>, Apurva Atak<sup>1</sup>, Annie Richharia<sup>1</sup>, Manubhai KP<sup>1</sup>, Heng Zhu<sup>3</sup>, Sridhar Epari<sup>4</sup>, Santosh B. Noronha<sup>2</sup>, Aliasgar Moiyadi<sup>5</sup>, Sanjeeva Srivastava<sup>1\*</sup>

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<sup>2</sup>Department of Chemical Engineering, Indian Institute of Technology Bombay, Powai, Mumbai 400076, India

<sup>3</sup>Department of Pharmacology and Molecular Sciences/High-Throughput Biology Center, Johns Hopkins University School of Medicine, Baltimore, MD, USA

<sup>4</sup>Department of Pathology, Tata Memorial Centre, Mumbai 400 012, India

<sup>5</sup>Department of Neurosurgery, Tata Memorial Centre, Mumbai 400 012, India

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Phone: +91-22-2576-7779, Fax: +91-22-2572-3480

## **Supplementary Figure Legends:**

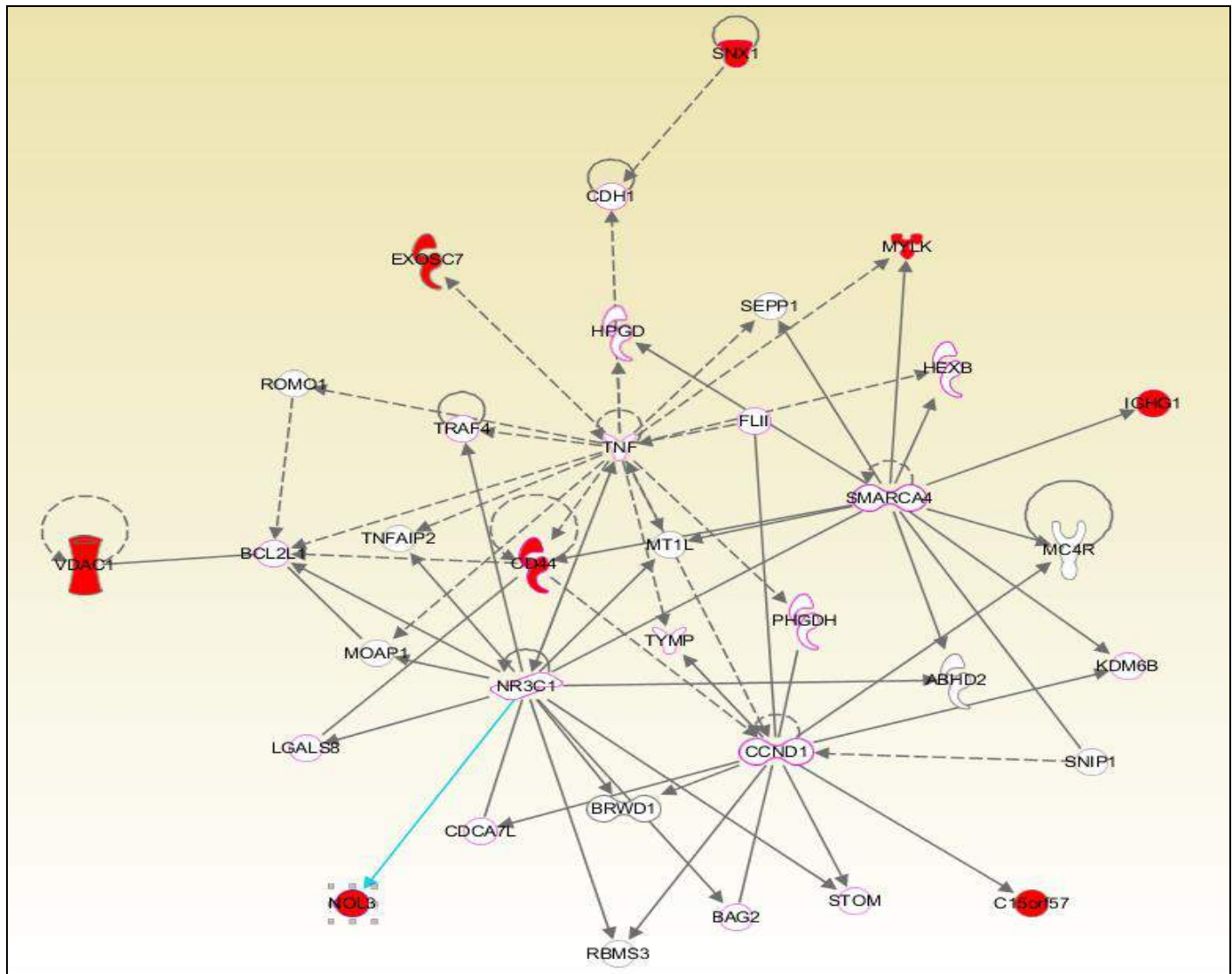
### **Supplementary Figure 1: Enriched Networks emerging from TAAs in each grade.**

Supplementary Fig. 1 represents the most enriched networks emerging from our analysis which associates one or more classifier proteins. The classifiers in these networks have been highlighted in red. The protein molecules outlined in pink are proteins attributed in Neurological disease, Immunological disease or Cancers. Panel A represents the network “Cell death and survival, inflammatory response, cell to cell signaling and interaction” while Panel B denotes network “Developmental disorder, hereditary disorder, neurological disease”. These two panels are the top two networks emerging from the Control Vs Grade II enrichment analysis, Panel C signifies the network “cell death and survival, cancer, cellular assembly and organization” and Panel D represents the network “cancer, gastrointestinal diseases, cellular growth and proliferation” Panel C and D are the top two networks implicated in the Control Vs Grade III analysis. Panel E denotes the network “Cancer, cellular movement, inflammatory response” while Panel F signifies network “cell morphology, cellular movement, cell to cell signalling and interactions”. Panel E and F are the top networks emerging from Control Vs Grade IV analysis. These images were generated from QIAGEN’s Ingenuity<sup>®</sup> Pathway Analysis (IPA<sup>®</sup>, QIAGEN Redwood City, [www.qiagen.com/ingenuity](http://www.qiagen.com/ingenuity)).

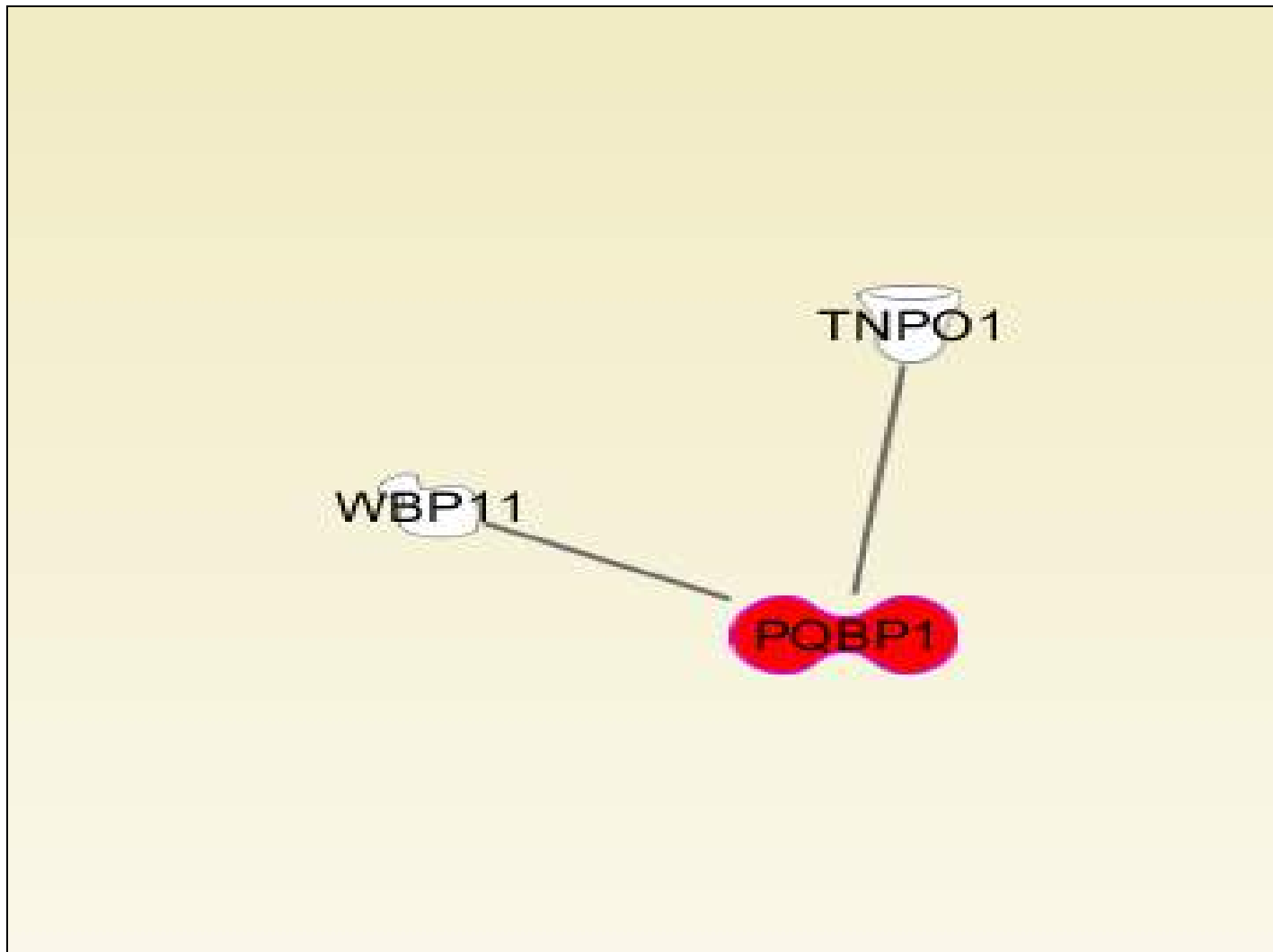
### **Supplementary Figure 2: Signal intensities for significant proteins in each grade.**

The signal intensities of protein spots in various chips have been generated for the visualization of the expression pattern for each classifier protein in case of Grade II, Grade III and Grade IV proteins as against healthy controls and IDH1p against WT. These images of the spots have also been documented as qualitative controls so as to assure that the intensity readings from each spot are not due to any artifacts.

a.

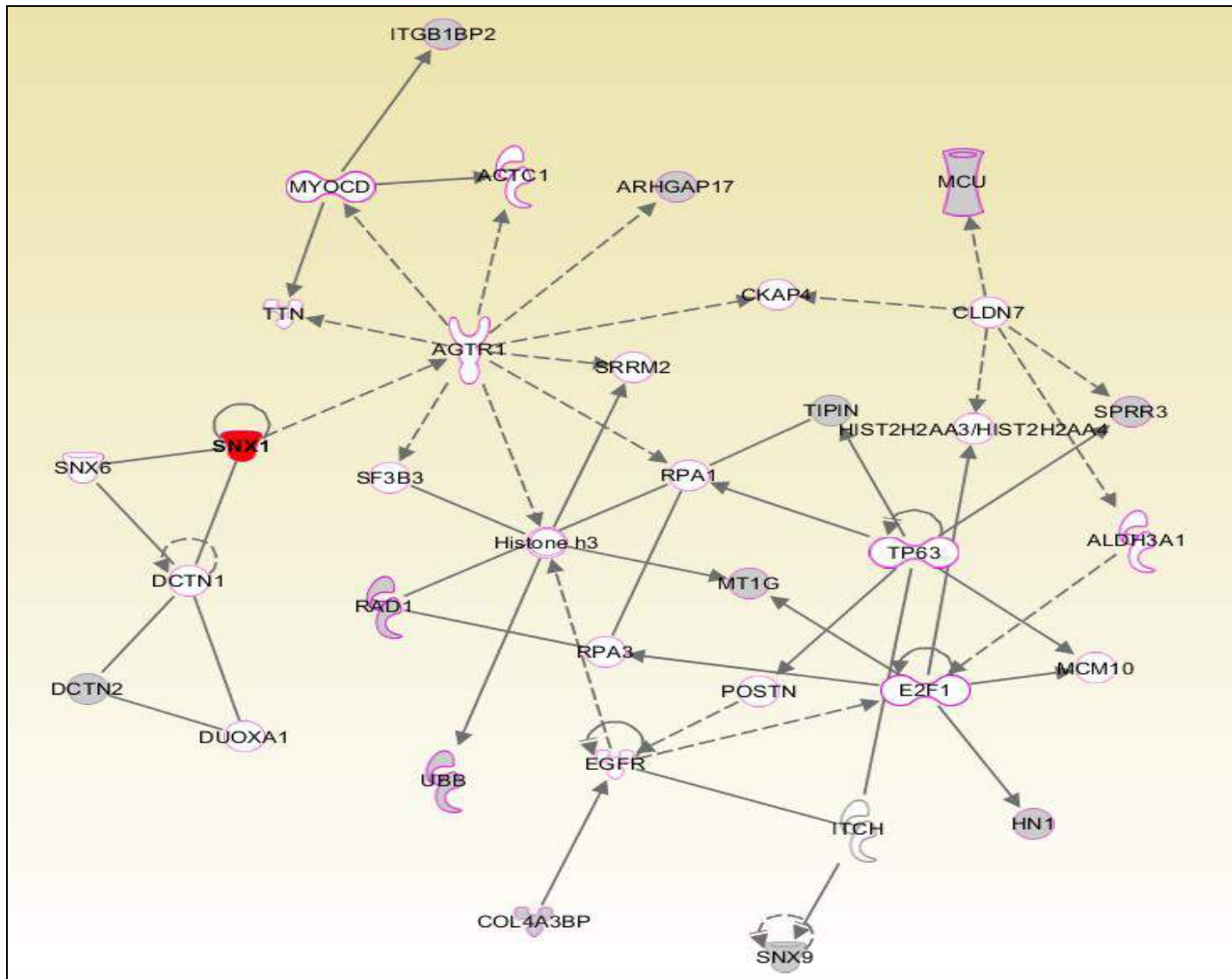


b.





C.



The diagram illustrates a complex regulatory network involving various proteins and miRNAs. Key nodes and their interactions include:

- TP53** (central hub) interacts with:
  - miRNAs: miR-92a-3p (and other miRNAs w/seed AUUGCAC), miR-24-3p (and other miRNAs w/seed GGCUCAG), miR-195-3p (and other miRNAs w/seed GUGCAAA), miR-125b-5p (and other miRNAs w/seed CCCUGAG), miR-23a-3p (and other miRNAs w/seed UCAUU), miR-128, miR-548, miR-500.
  - Proteins: CAPN1, CARS, Hsp90, HCL1, AGO2, RBBP6, DCP1A, CALCOCO2.
- CASP3** interacts with:
  - miRNAs: miR-17-3p (and other miRNAs w/seed CUCGACU), miR-378a-3p (and other miRNAs w/seed CUGGACU), miR-92a-3p (and other miRNAs w/seed AUUGCAC).
  - Proteins: TRA, PBT1, RAD23A.
- HIF1A** interacts with:
  - miRNAs: miR-17-3p (and other miRNAs w/seed CUCGACU), miR-378a-3p (and other miRNAs w/seed CUGGACU).
  - Proteins: SLC16A4, CARS, CAPN1.
- AGO2** interacts with:
  - miRNAs: miR-188, miR-135, miR-337, miR-500.
  - Proteins: RBBP6, DCP1A, CALCOCO2.
- PRDM6** interacts with:
  - miRNAs: miR-150, miR-193, miR-135, miR-337.
  - Proteins: PPP1R12B, DKK3, GSK3, ACSEB1.

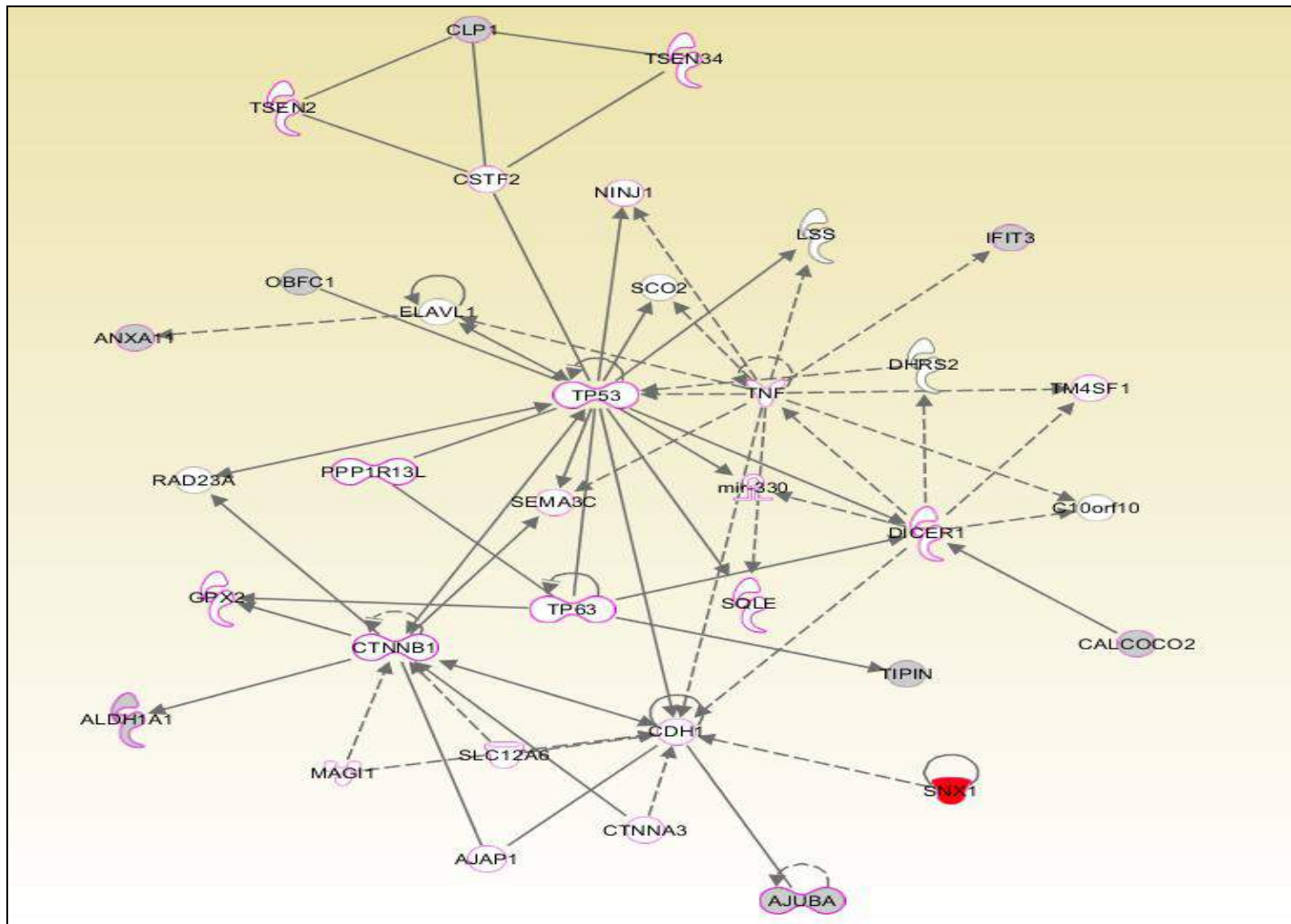
Legend:
 

- Red arrow: Activation
- Red T-bar: Inhibition
- Dashed line: Predicted or indirect interaction

The diagram illustrates a complex signaling network. Key components include:

- Central Nodes:** ERK, PI3K (complex), and NF-κB (complex).
- Upstream Activators:**
  - Ras** is activated by ANXA6, PAQR3, and CAMK2N1.
  - MAPK3** is activated by IMPDH2 and DMTN.
  - TRIP6** is activated by S100A12 and PELI2.
- Downstream Effectors:**
  - ERK** activates PPP2R5E, which in turn activates NF-κB (complex).
  - PI3K (complex)** activates HIF1AN, PDLIM1, and CCNB1.
  - NF-κB (complex)** activates a variety of proteins including TICAM2, TIRAP, DOHH, TAX1BP1, RNF11, ANAPC7, and CKS2.
- Other Interactions:**
  - PTPN12** is activated by TNS1 and F2.
  - F2** is activated by DMTN and PTPN12.
  - PDLIM1** is activated by PTPN12 and F2.
  - CCNB1** is activated by PDLIM1 and F2.
  - CKS2** is activated by CCNB1.

f.



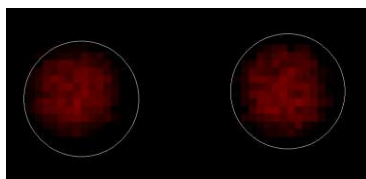
# Supplementary Figure 2

## List of classifier proteins

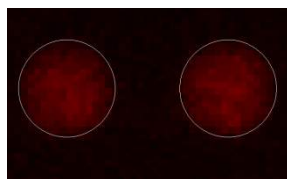
| Control VS Grade II |             | Control VS Grade III |             | Control VS Grade IV |             | SVZp VS SVZn  |             |
|---------------------|-------------|----------------------|-------------|---------------------|-------------|---------------|-------------|
| Accession No.       | Gene Symbol | Accession No.        | Gene Symbol | Accession No.       | Gene Symbol | Accession No. | Gene Symbol |
| NM_003099.3         | SNX1        | NM_003099.3          | SNX1        | NM_003099.3         | SNX1        | NM_001938.2   | DR1         |
| BC018747.1          | IGHG1       | NM_020532.4          | RTN4        | BC018747.1          | IGHG1       | NM_018290.2   | PGM2        |
| NM_052849.2         | CCDC32      | NM_016246.2          | HSD17B14    | BC009561.1          | C11orf74    | NM_032448.1   | FAM120B     |
| ENST00000361290     | MYLK        | BC001890.1           | GCK         | BC068569.1          | ZHX3        | NM_006403.2   | NEDD9       |
| NM_003374.1         | VDAC1       | BC017723.1           | MAGEA4      | BC121798            | EYA1        | NM_024482.1   | GMEB1       |
| NM_144495.2         | PQBP1       | NM_173608.1          | C14orf80    | NM_144495.2         | PQBP1       | BC000267.1    | GPBP1       |
| BC004372.1          | CD44        | NM_198204.1          | MLX         | NM_021810.3         | CDH26       | NM_152740.2   | HIBADH      |
| BC121798            | EYA1        | NM_138794.1          | LYPLAL1     | BC013186.1          | RCSD1       | BC017810.1    | TMOD4       |
| NM_015004.2         | EXOSC7      | NM_015926.3          | TEX264      | BC000846.2          | CIB1        | BC094687.1    | EEF1A1      |
| Nol3                | NOL3        | BC001241.1           | ARHGAP17    | BC037876.1          | C17orf57    | XM_379060.1   | LOC339685   |

# Control Vs Grade II Glioma

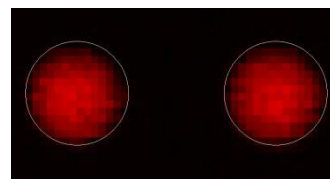
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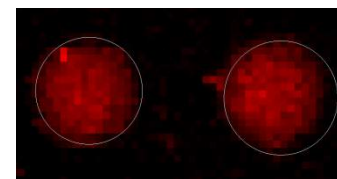
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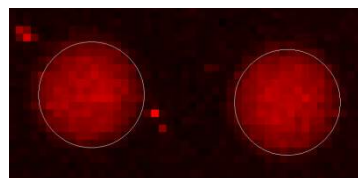
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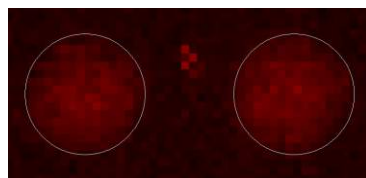
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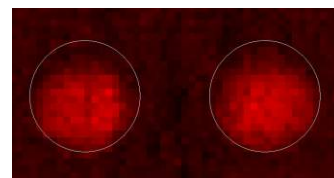
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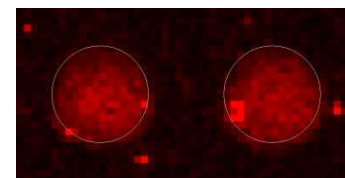
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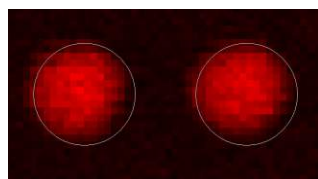
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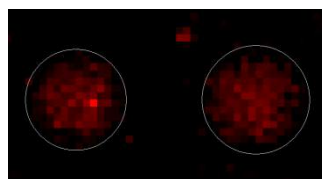
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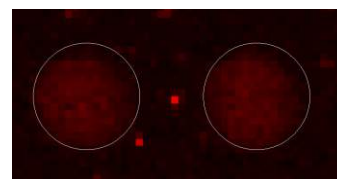
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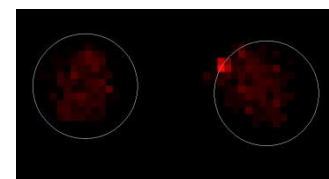
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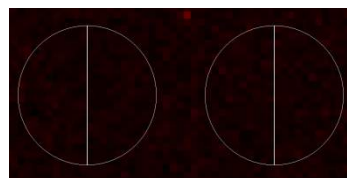
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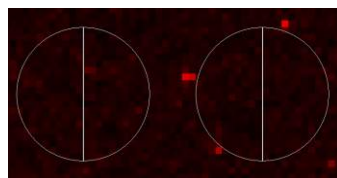
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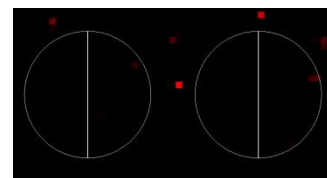
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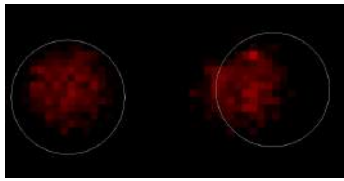
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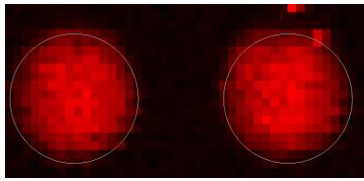
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Control

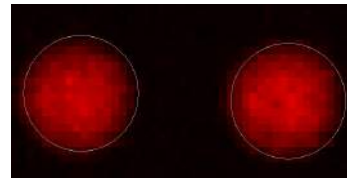




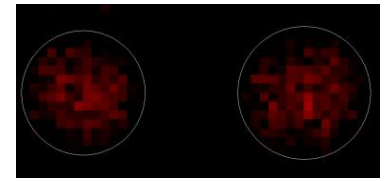
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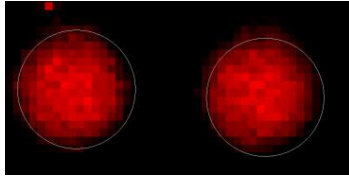
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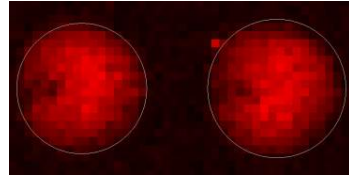
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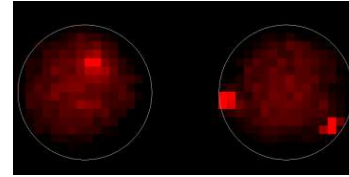
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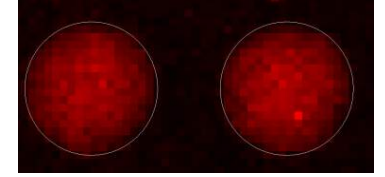
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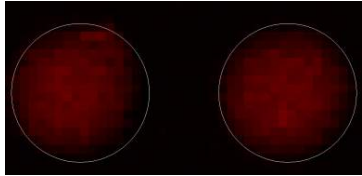
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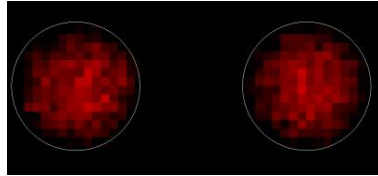
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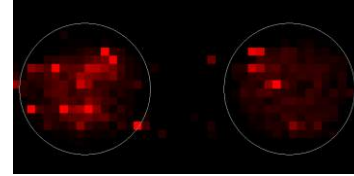
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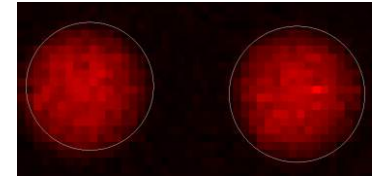
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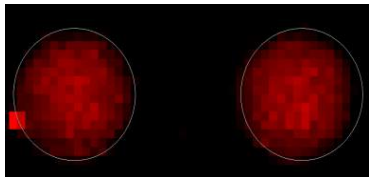
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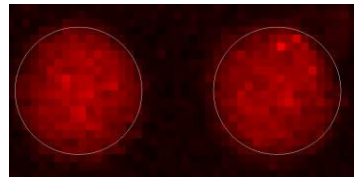
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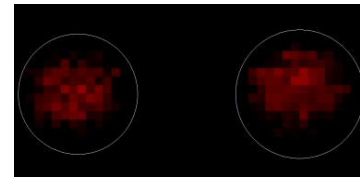
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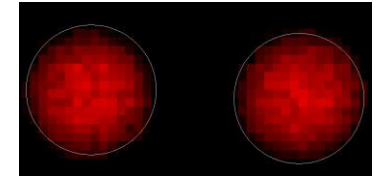
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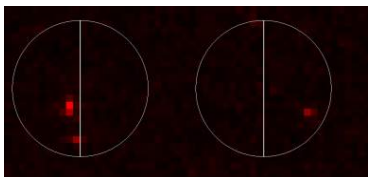
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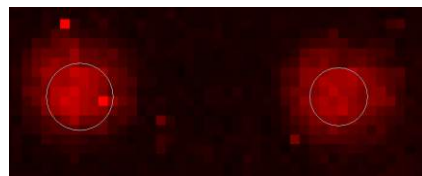
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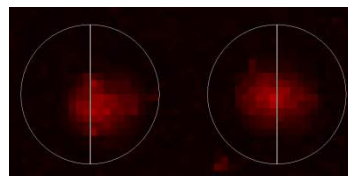
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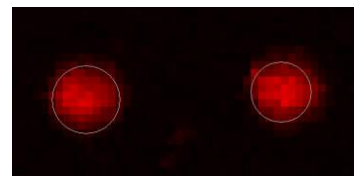
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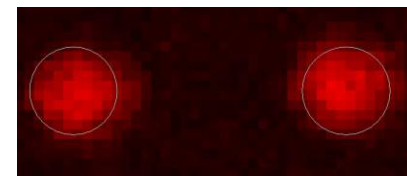
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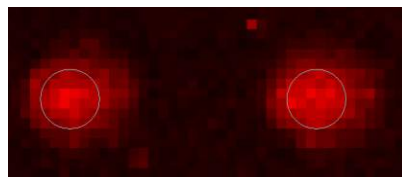
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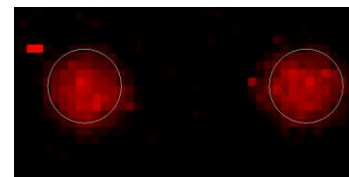
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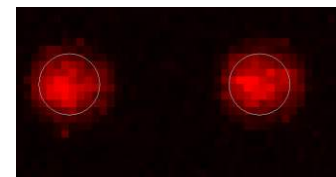
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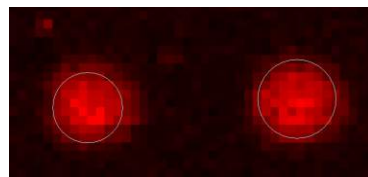
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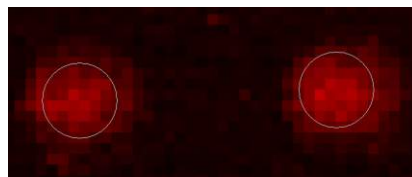
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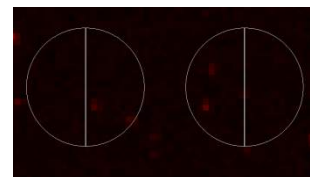
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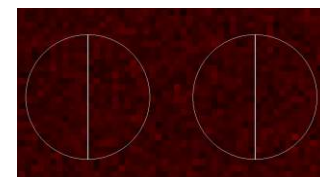
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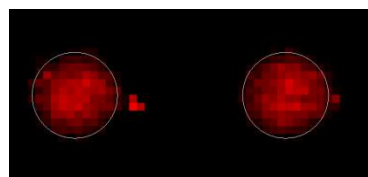
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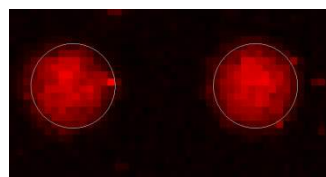
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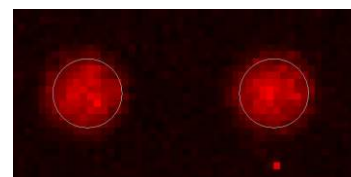
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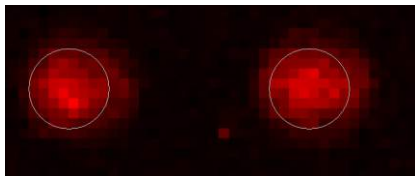


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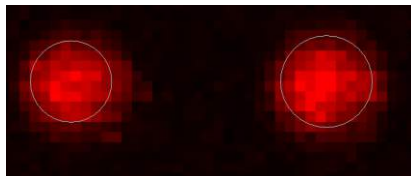


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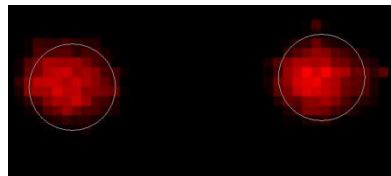
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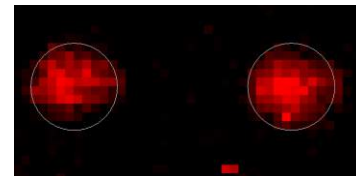
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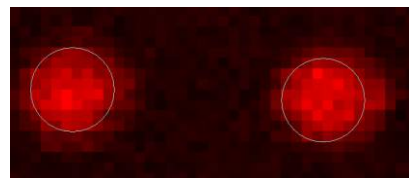
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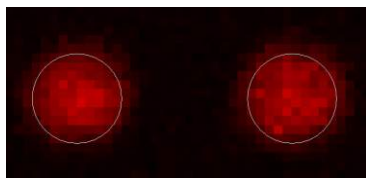
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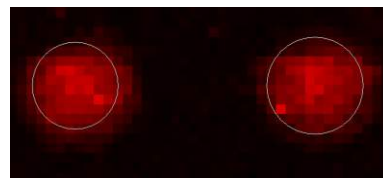
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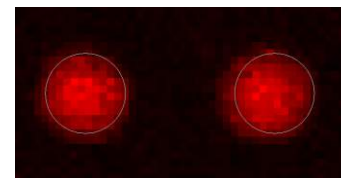
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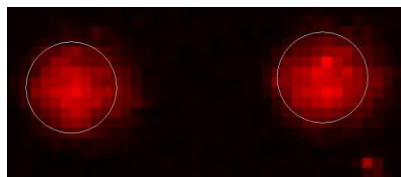
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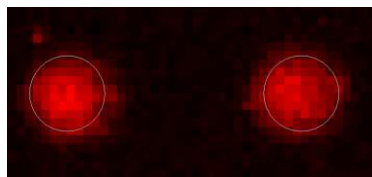
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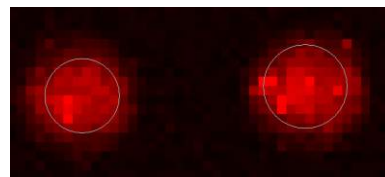
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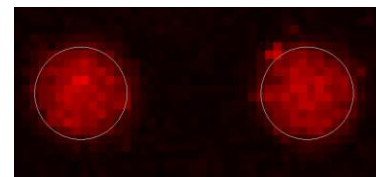
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Grade II\_CH 32225\_2000154033



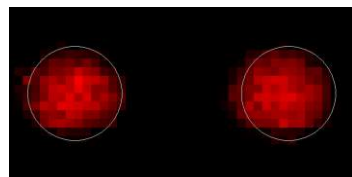
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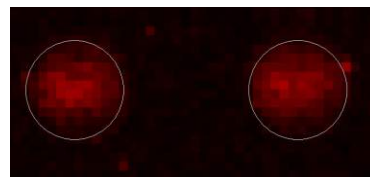
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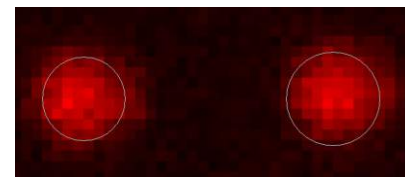
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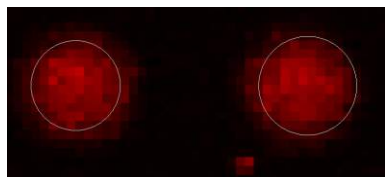
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Grade II\_CJ 16084\_2000153931



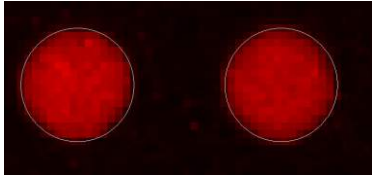
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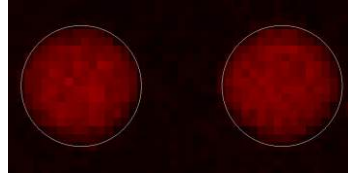
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## Grade II

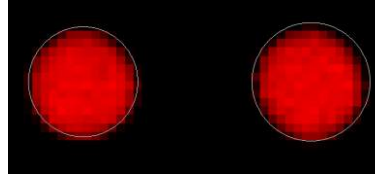
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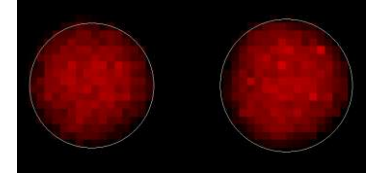
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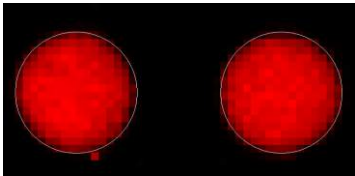
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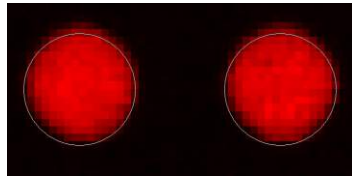
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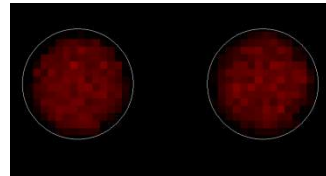
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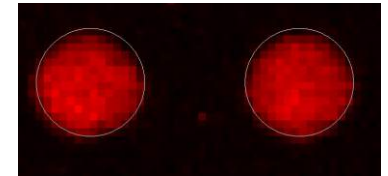
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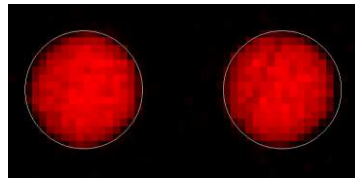
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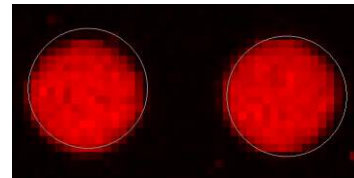
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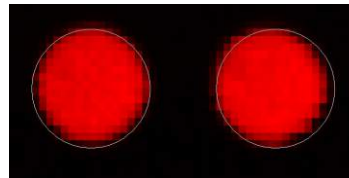
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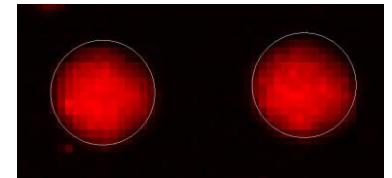
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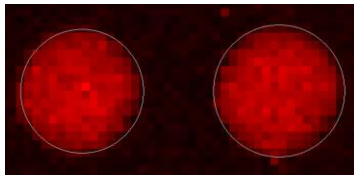
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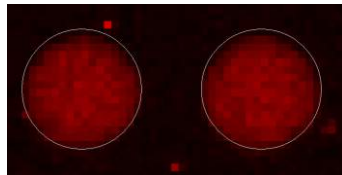
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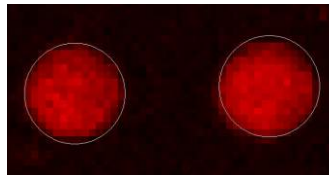
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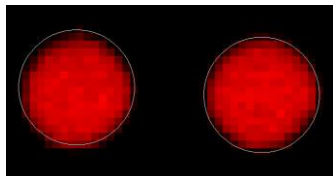


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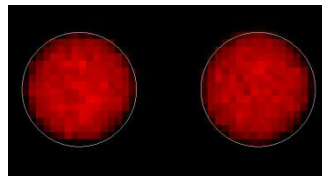


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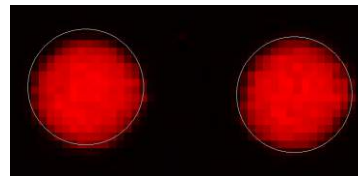
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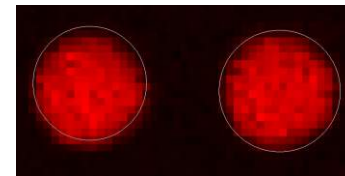
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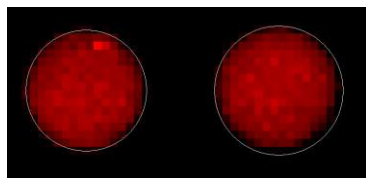
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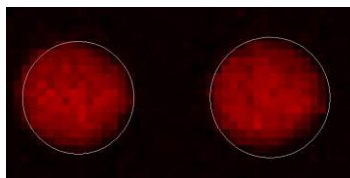
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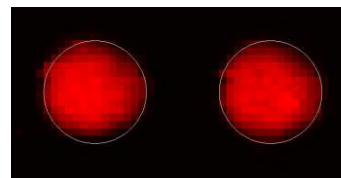
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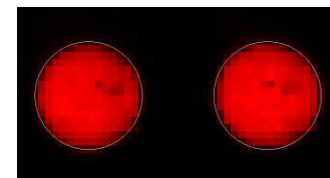
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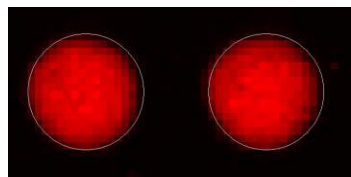
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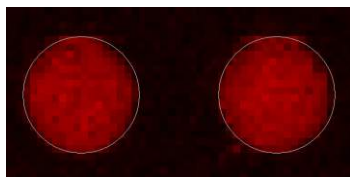
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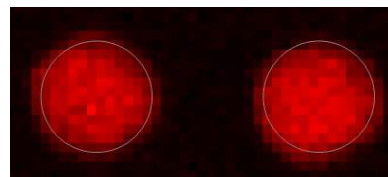
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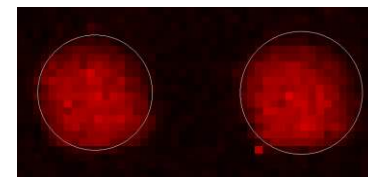
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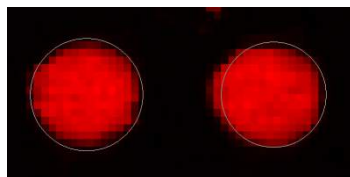
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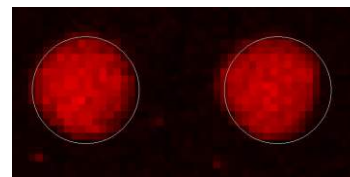
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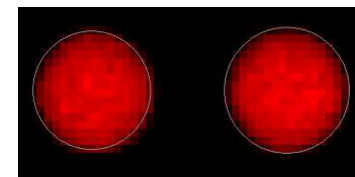
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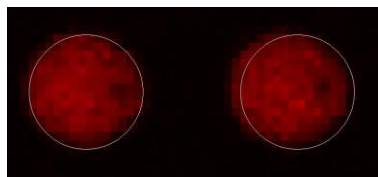
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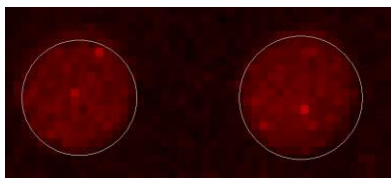
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Grade II

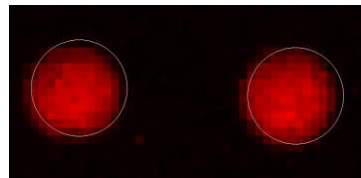
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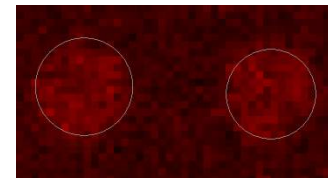
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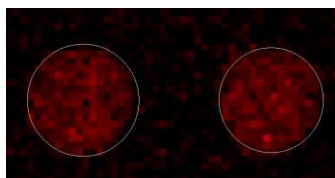
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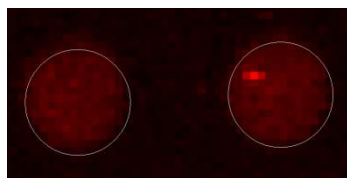
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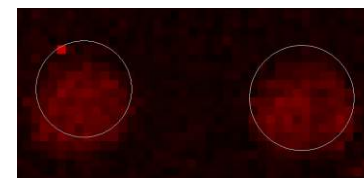
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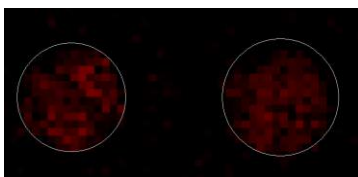
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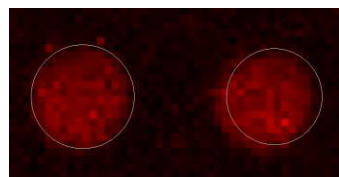
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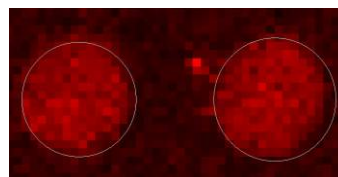
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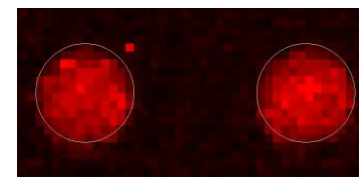
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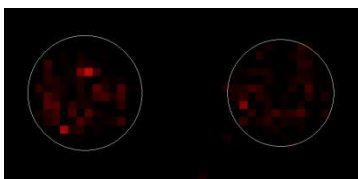
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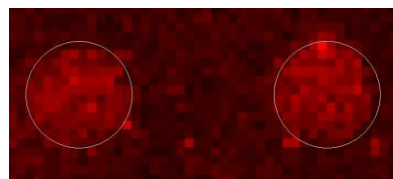
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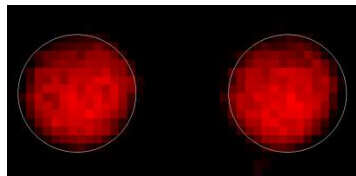


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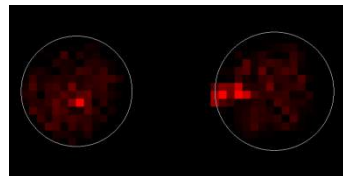


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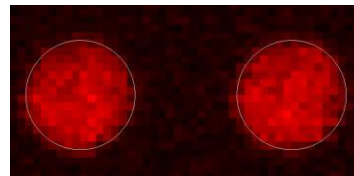




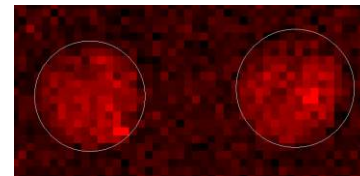
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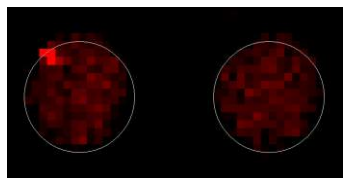
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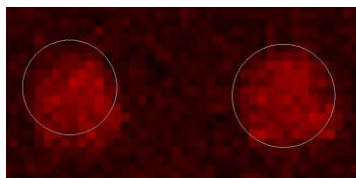
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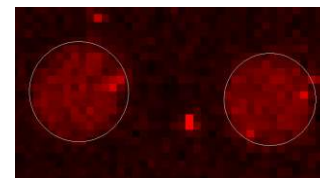
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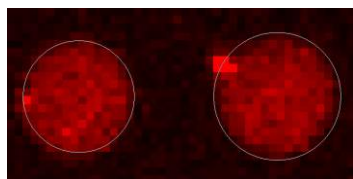
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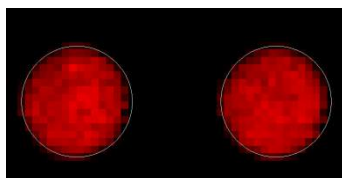
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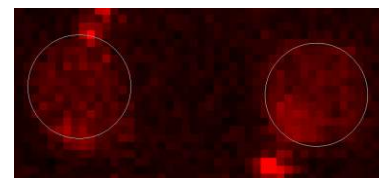
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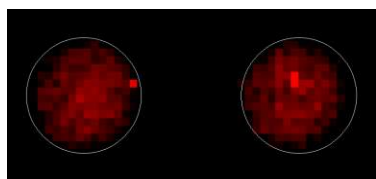
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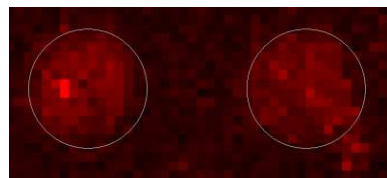
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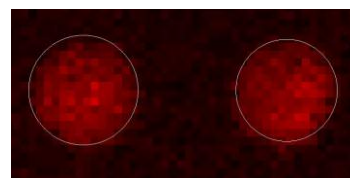
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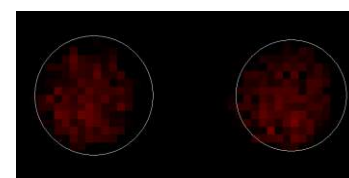
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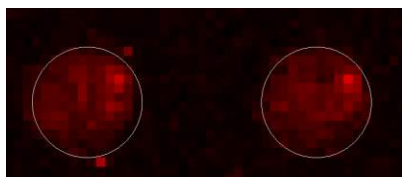
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Grade II\_CJ 16084\_2000153931



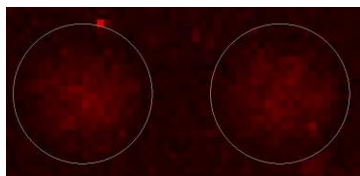
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Grade II\_CJ 33350\_2000144452

Grade II

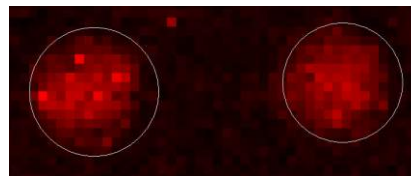
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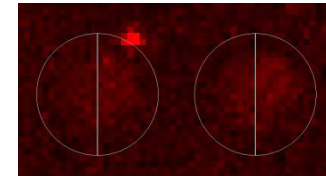
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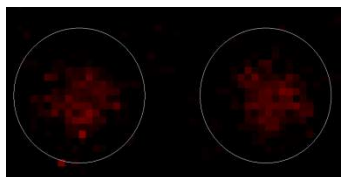
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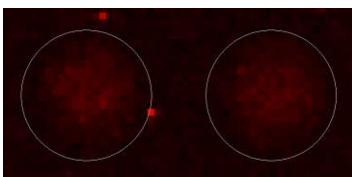
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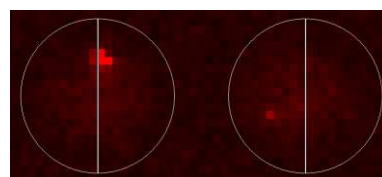
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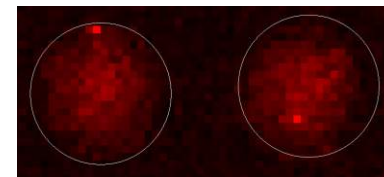
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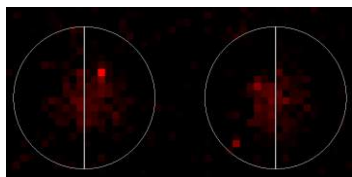
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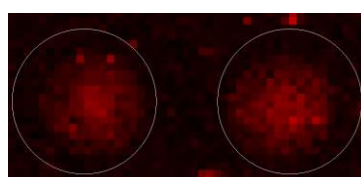
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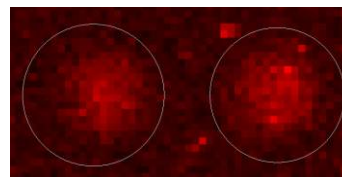
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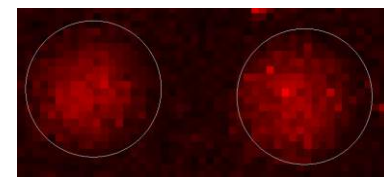
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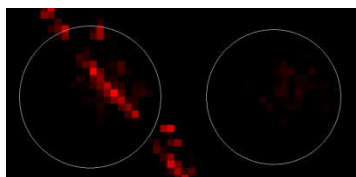
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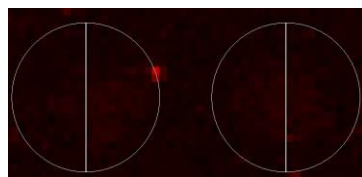
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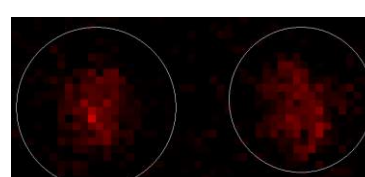
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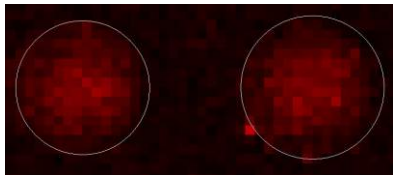
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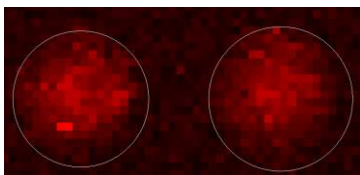
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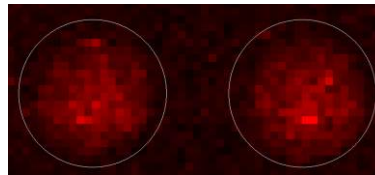
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Grade II\_CF 8551\_2000153940



Grade II\_CF 10729\_2000154012



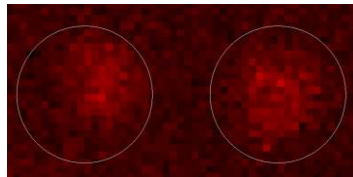
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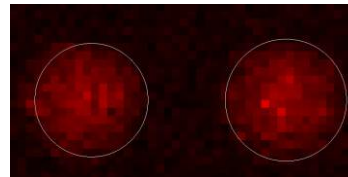
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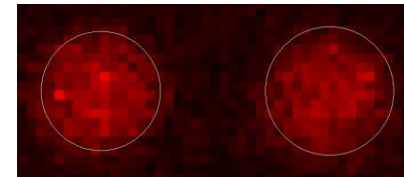
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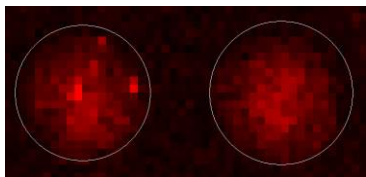
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Grade II\_CH 12323\_2000144444



Grade II\_CH 13717\_2000144447



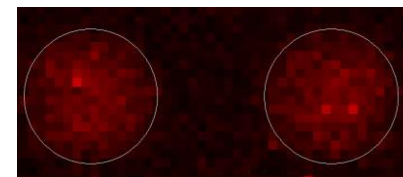
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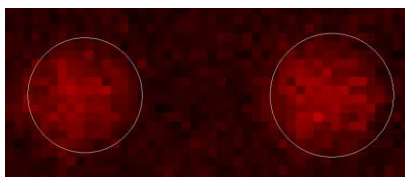
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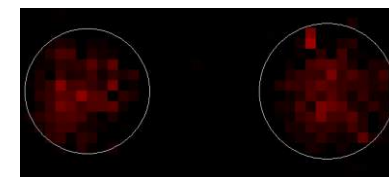
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Grade II\_CJ 10242\_2000144449\_2



Grade II\_CJ 16084\_2000153931



Grade II\_CJ 17734\_2000154015

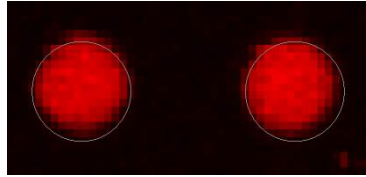


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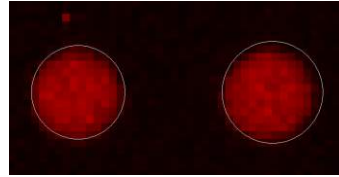
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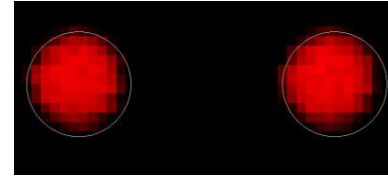
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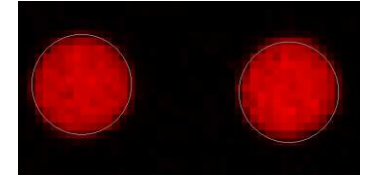
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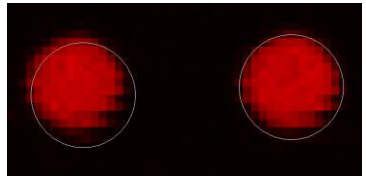
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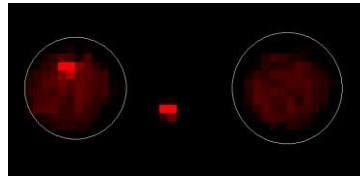
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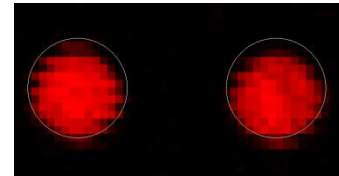
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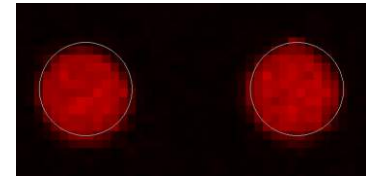
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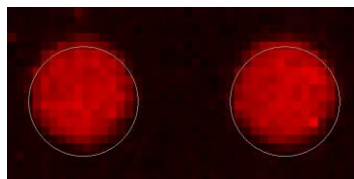
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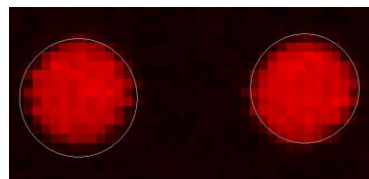
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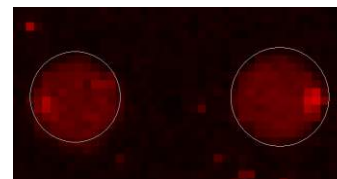
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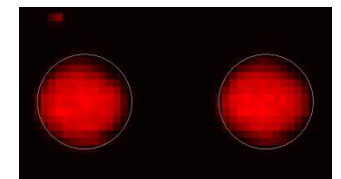
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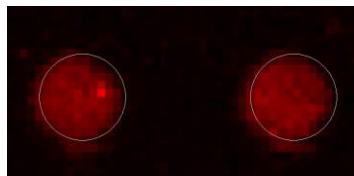
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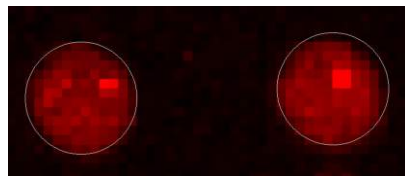
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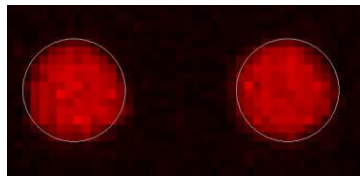


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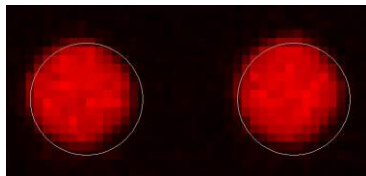


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Control



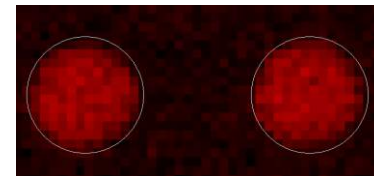
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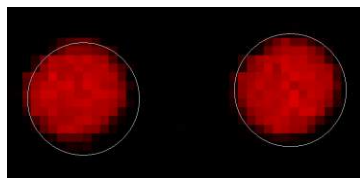
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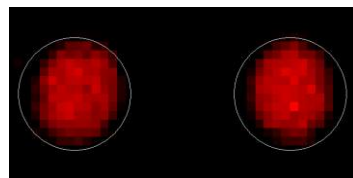
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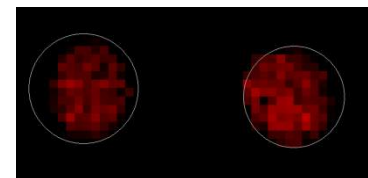
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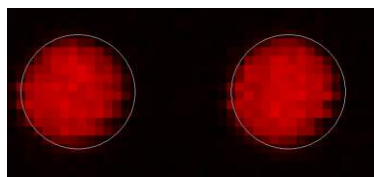
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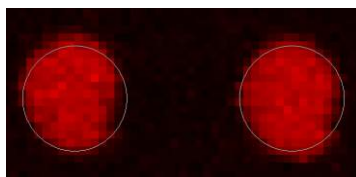
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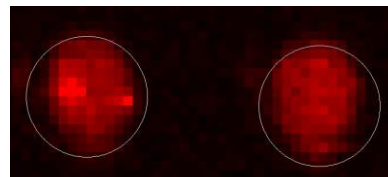
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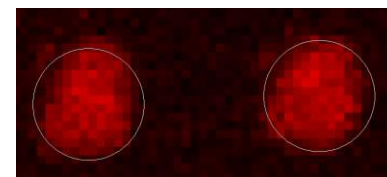
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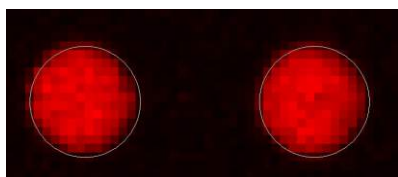
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Grade II\_CJ 863\_20001543970



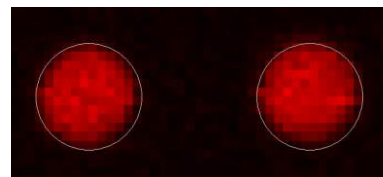
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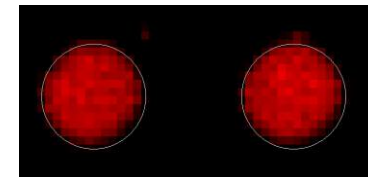
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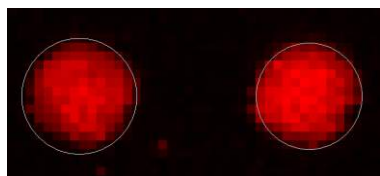
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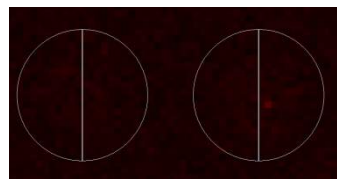
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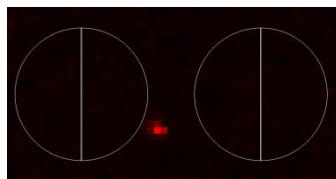
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Grade II

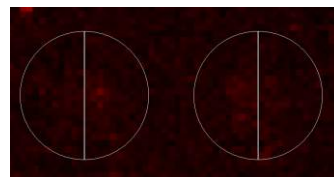
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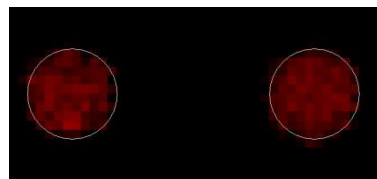
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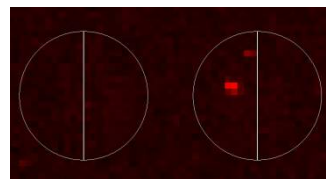
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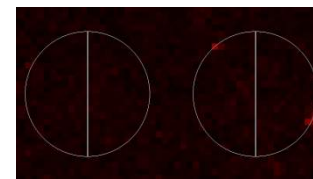
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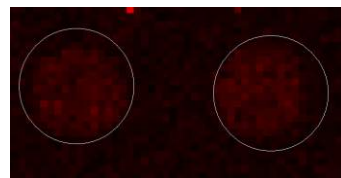
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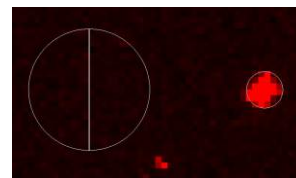
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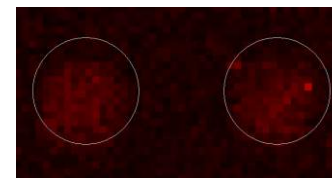
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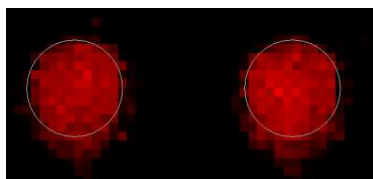
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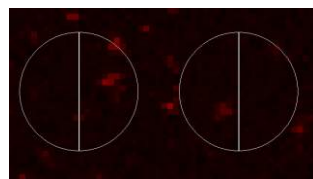
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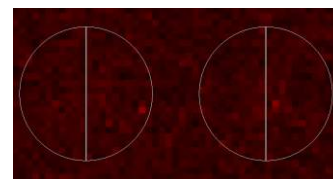
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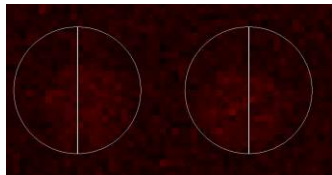
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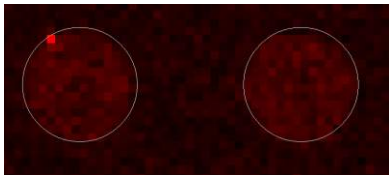
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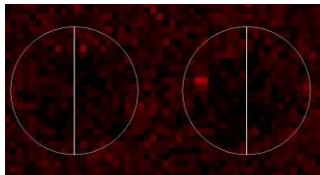
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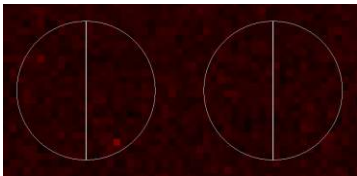
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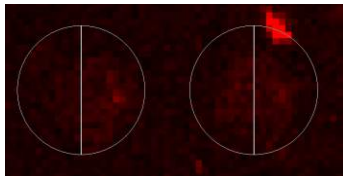
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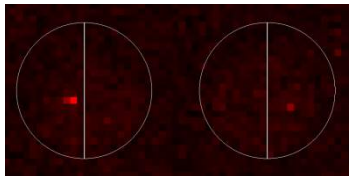
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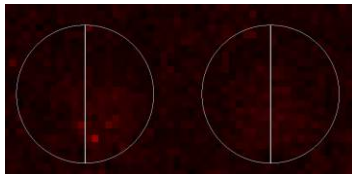
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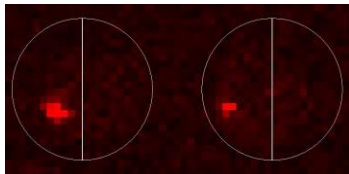
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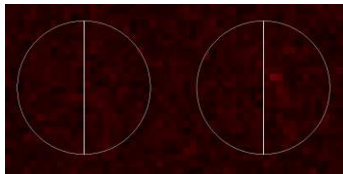
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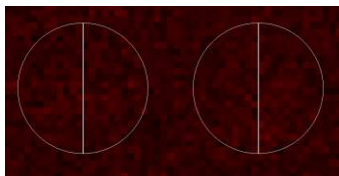
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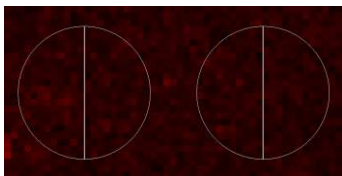
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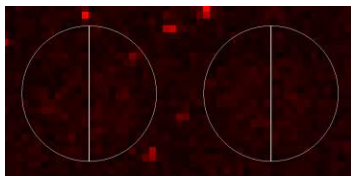
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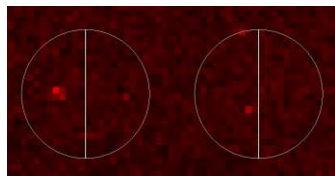
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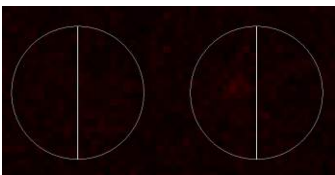
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Grade II\_CJ 16084\_2000153931



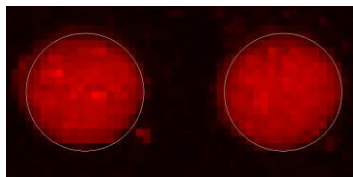
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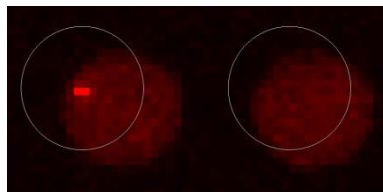
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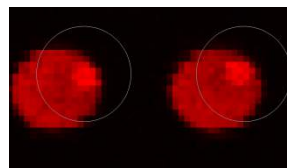
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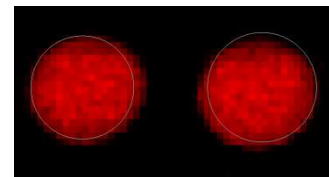
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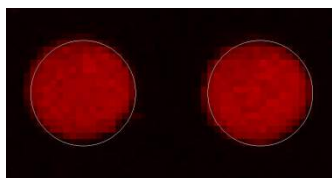
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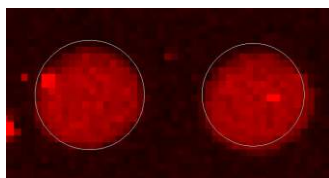
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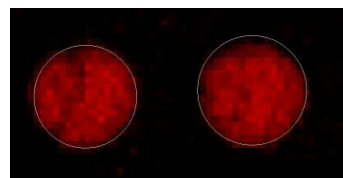
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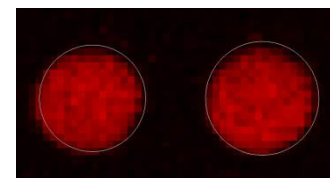
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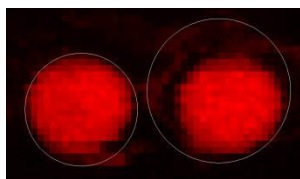
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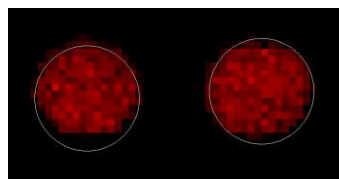
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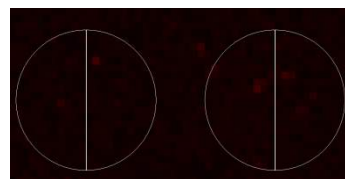
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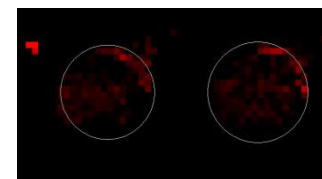
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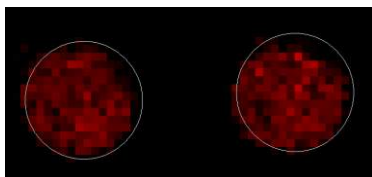
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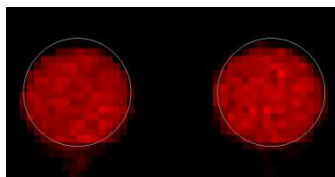
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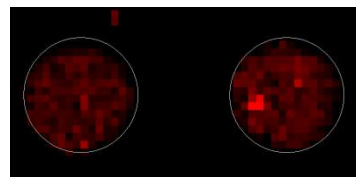
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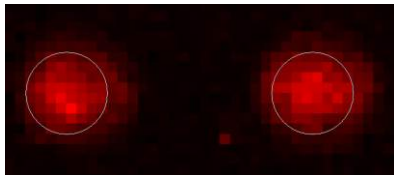


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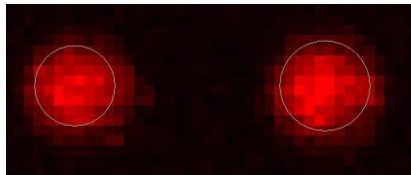


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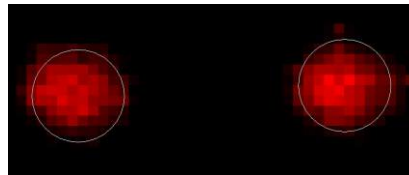
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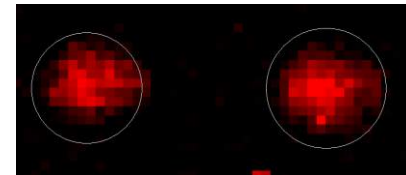
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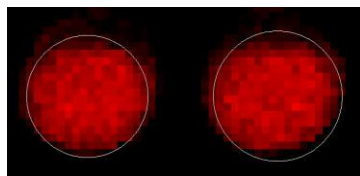
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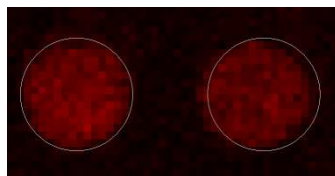
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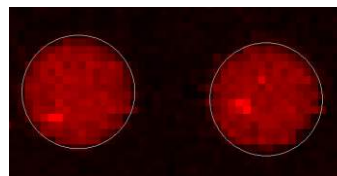
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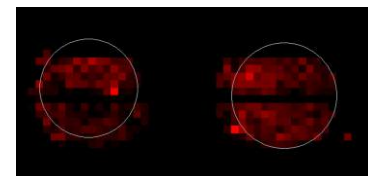
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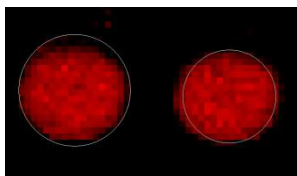
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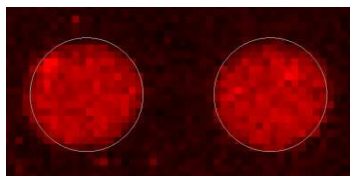
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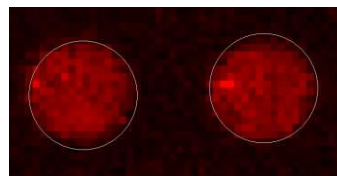
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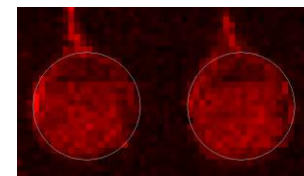
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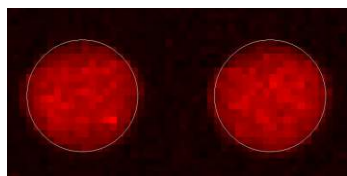
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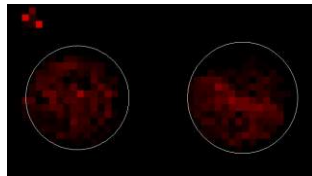
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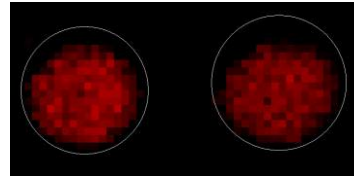
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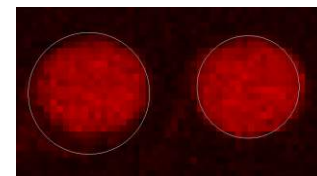
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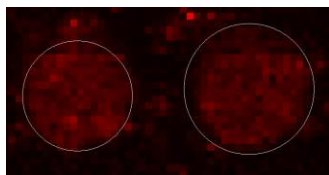
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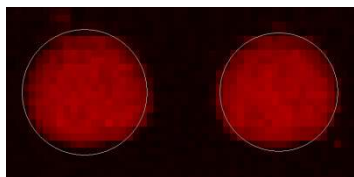
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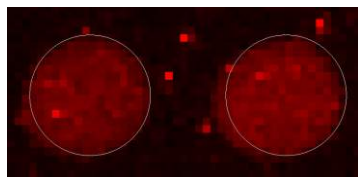
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Grade II

# NM\_015004.2 EXOSC7



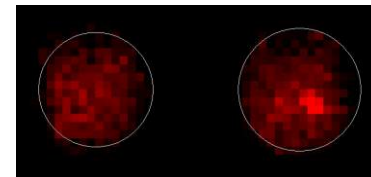
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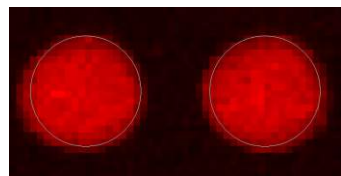
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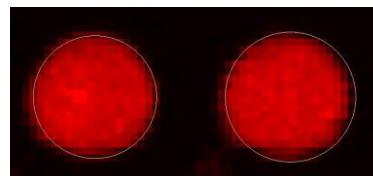
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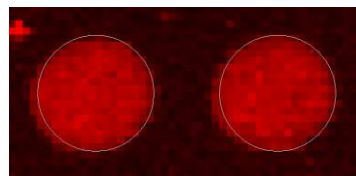
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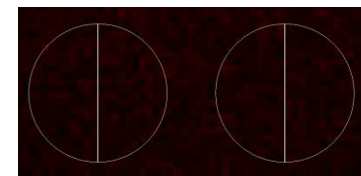
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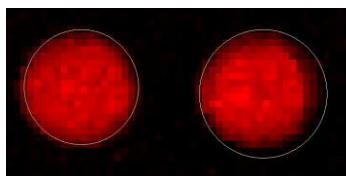
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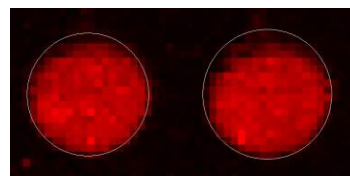
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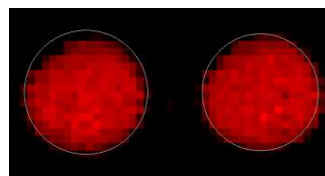
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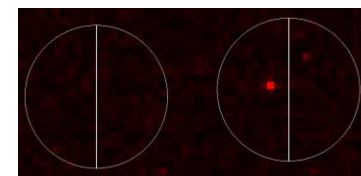
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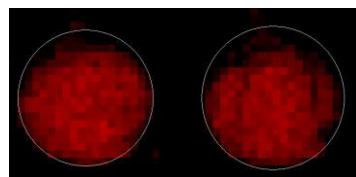
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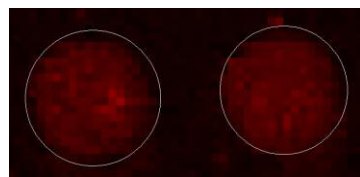
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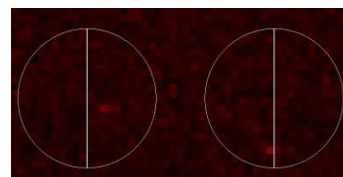
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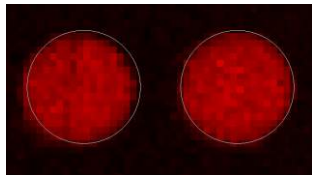
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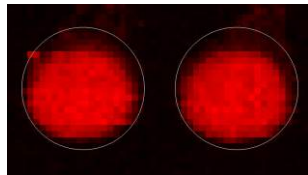
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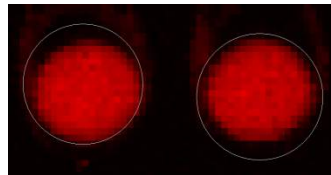
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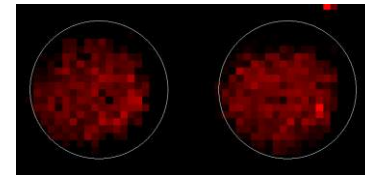
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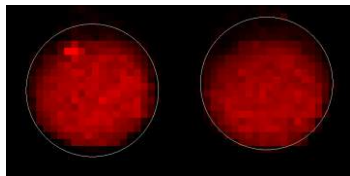
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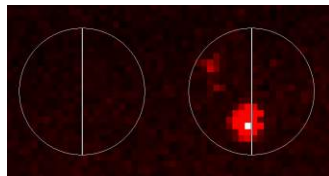
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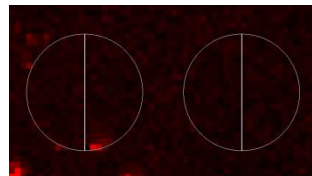
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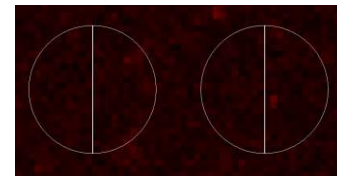
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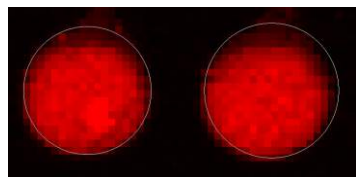
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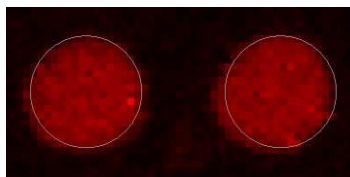
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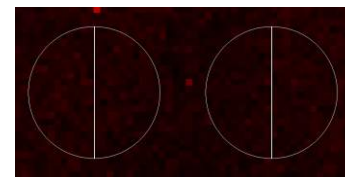
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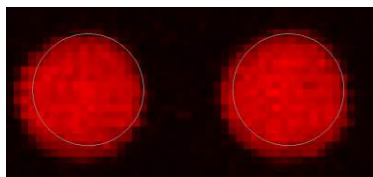
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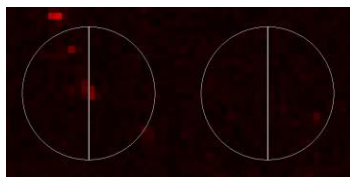
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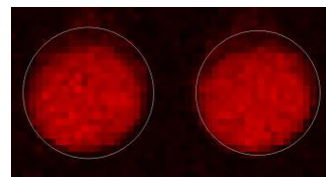
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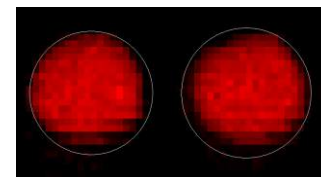
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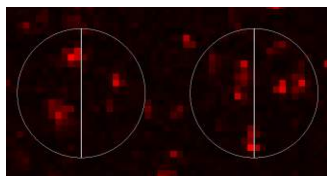
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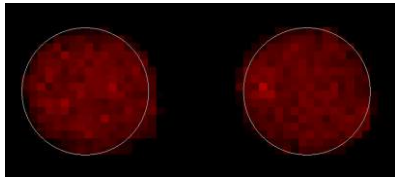


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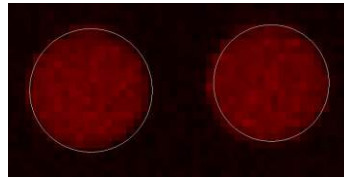
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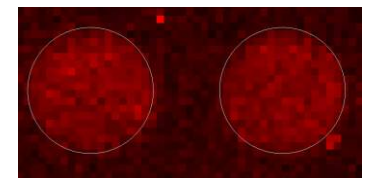
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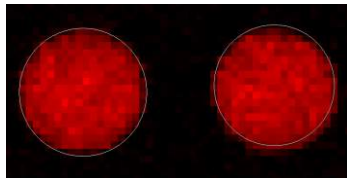
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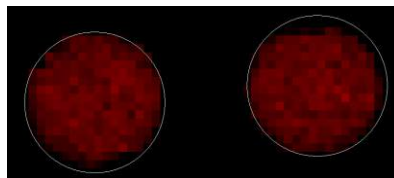
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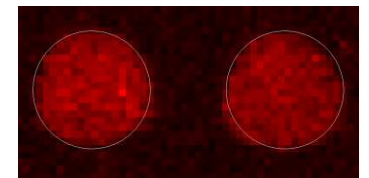
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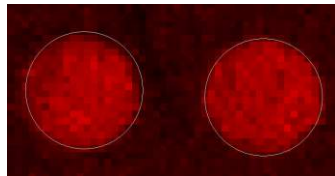
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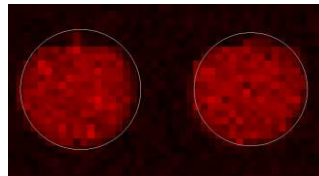
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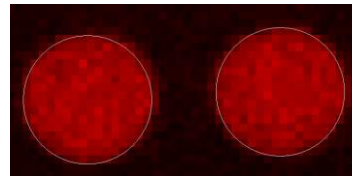
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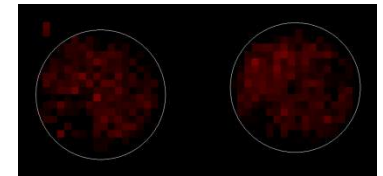
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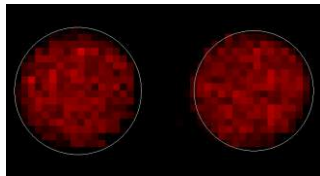
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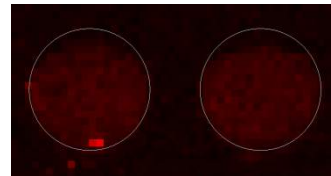
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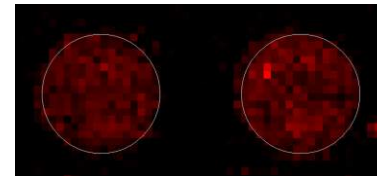
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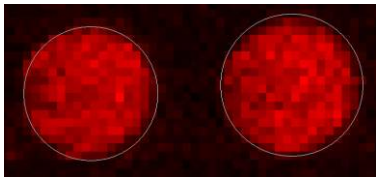
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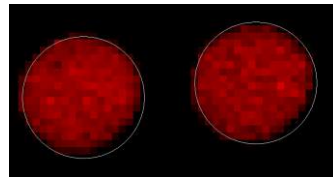
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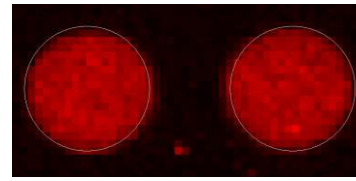
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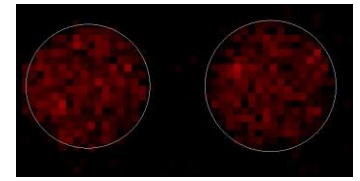
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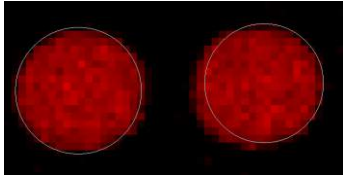
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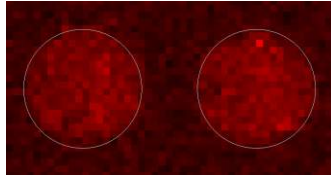
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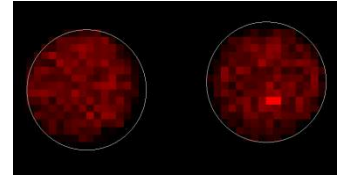
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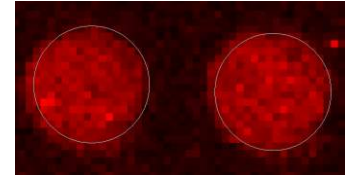
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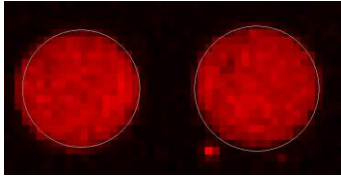
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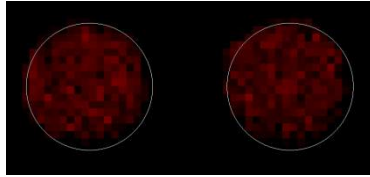
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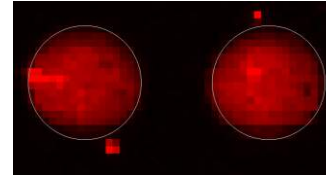
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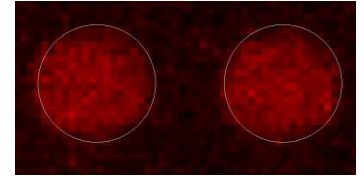
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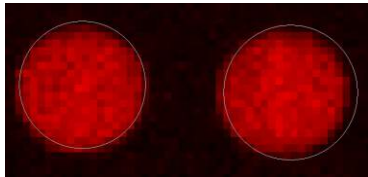
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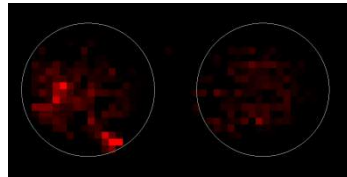
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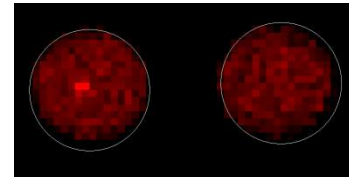
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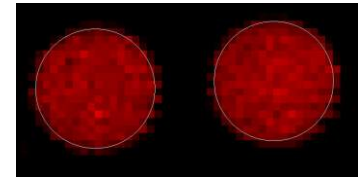
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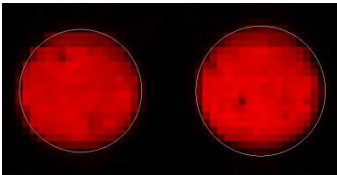
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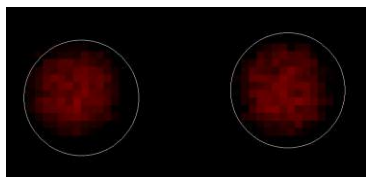


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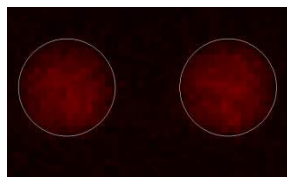
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Control Vs Grade III

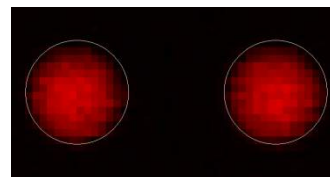
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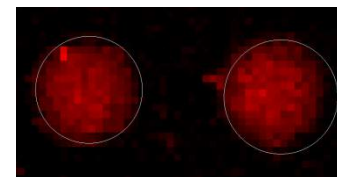
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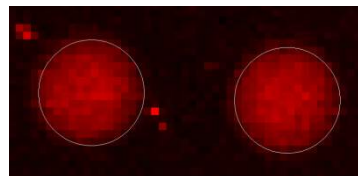
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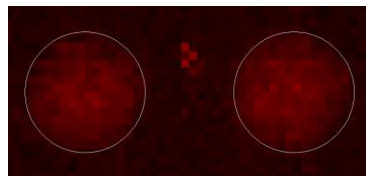
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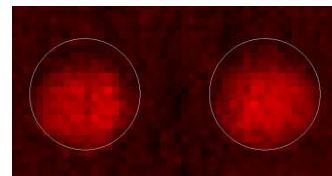
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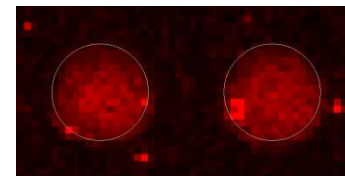
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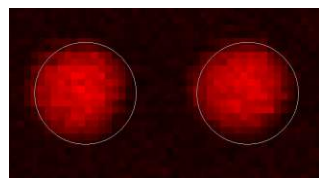
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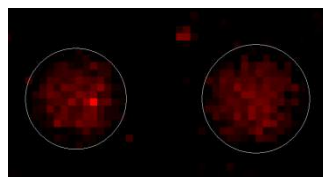
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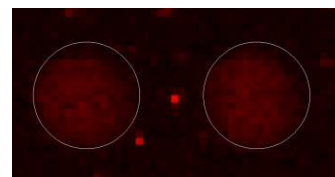
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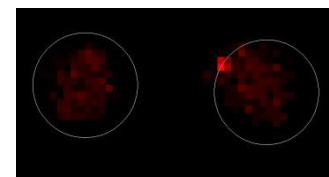
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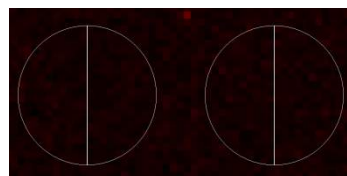
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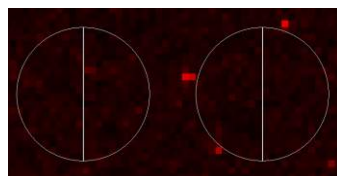
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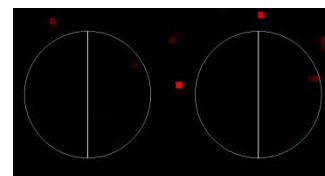
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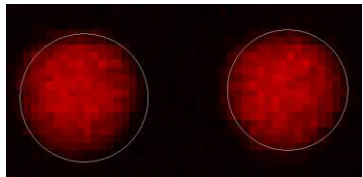


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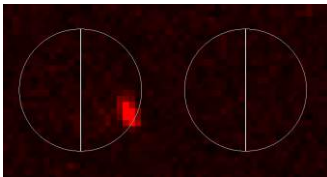


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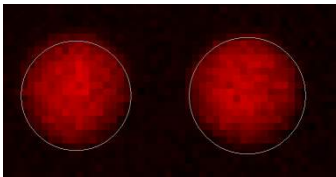
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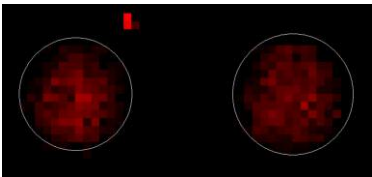
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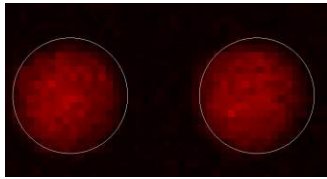
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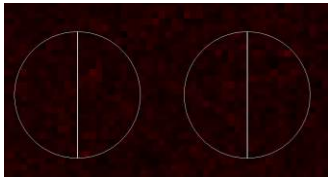
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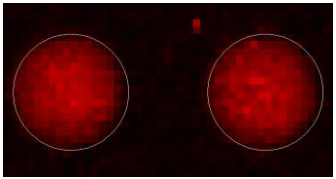
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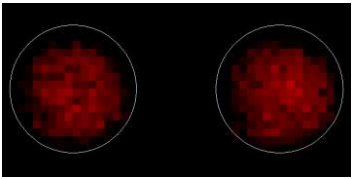
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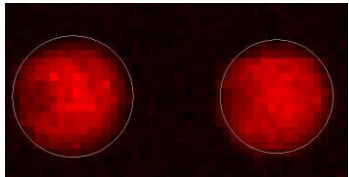
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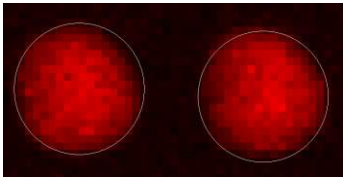
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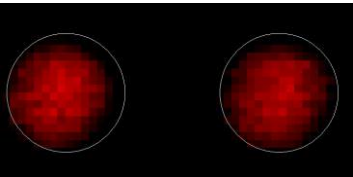
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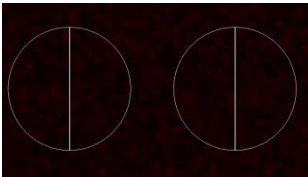
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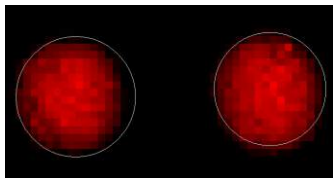
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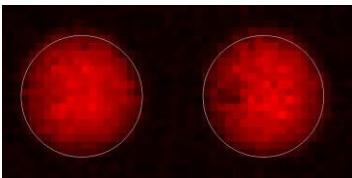
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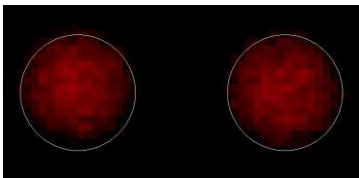
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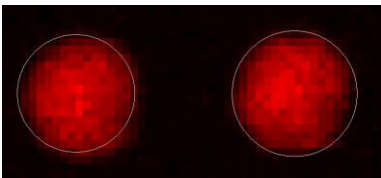
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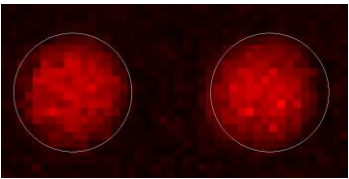
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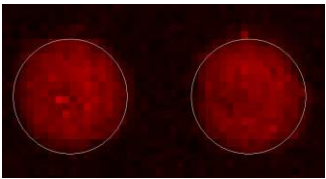
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Grade III\_CJ 20721\_2000143947



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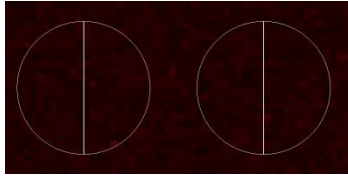


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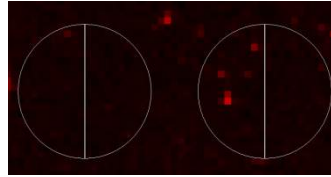
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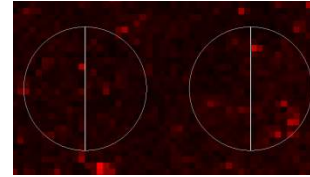
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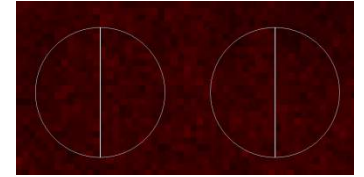
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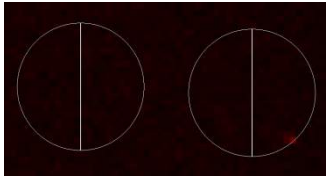
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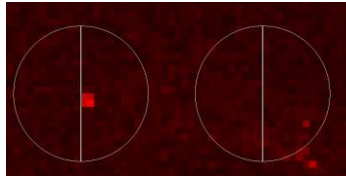
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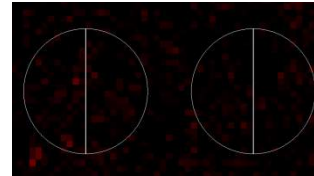
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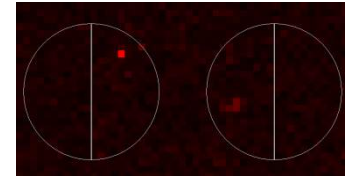
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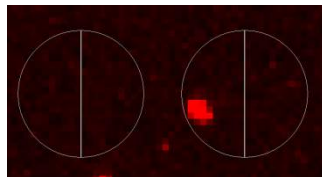
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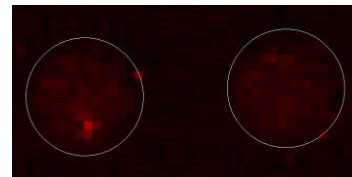
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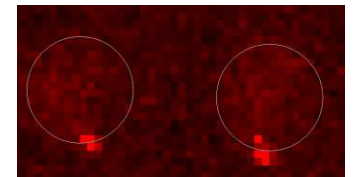
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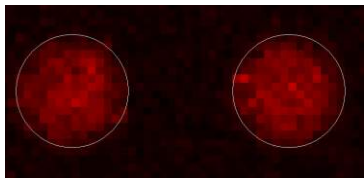
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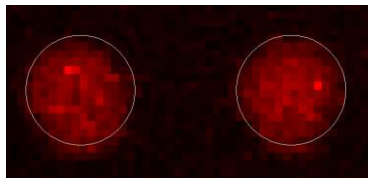
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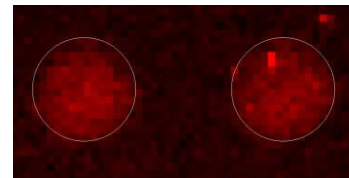
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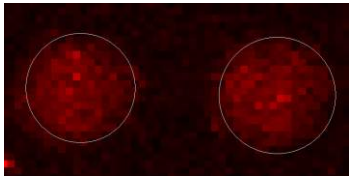


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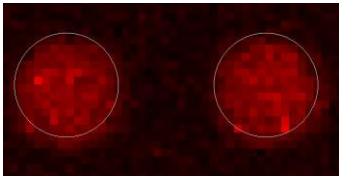


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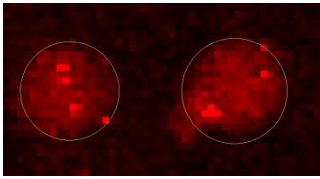
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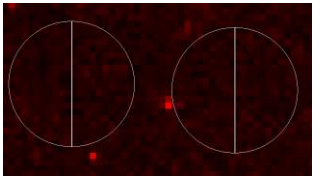
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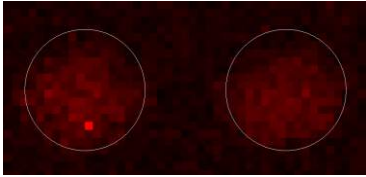
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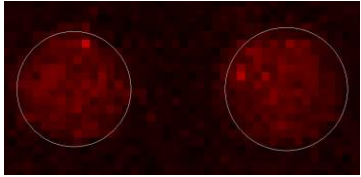
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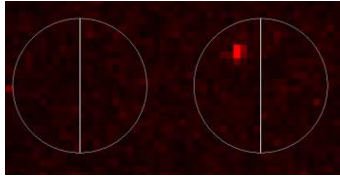
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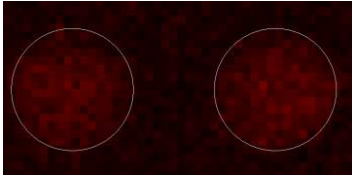
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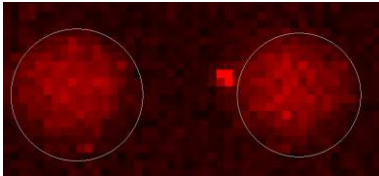
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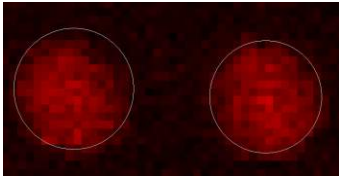
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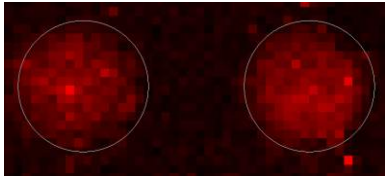
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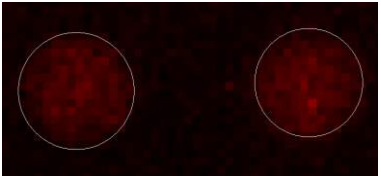
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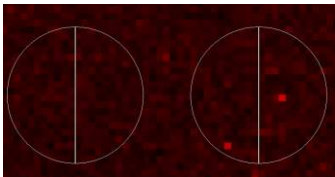
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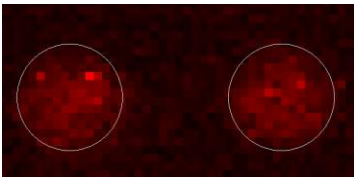
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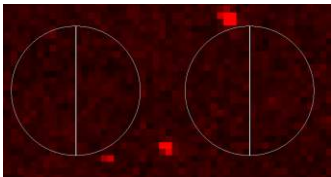
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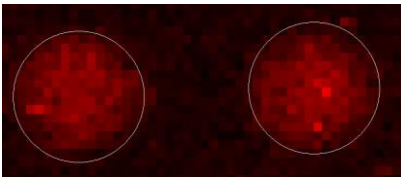
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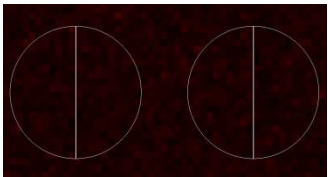
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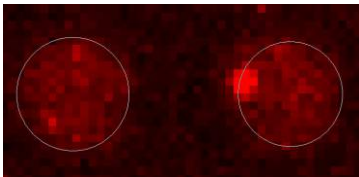
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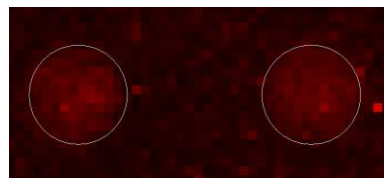
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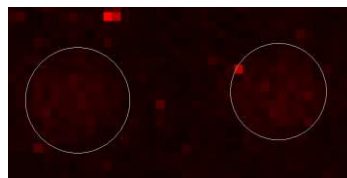
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Grade III

# NM\_016246.2 HSD17B14



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Control\_H-03\_2000153943



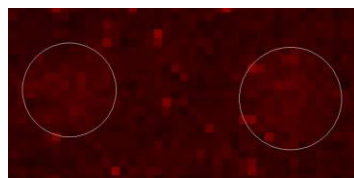
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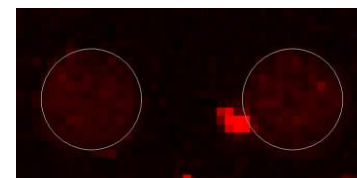
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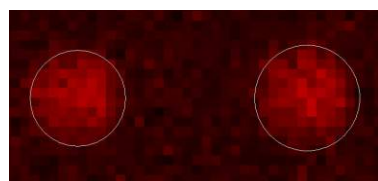
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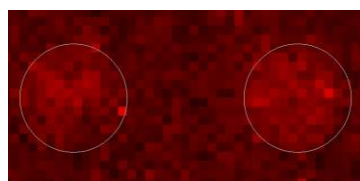
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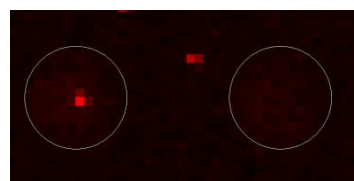
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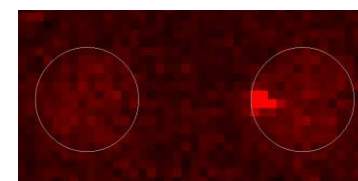
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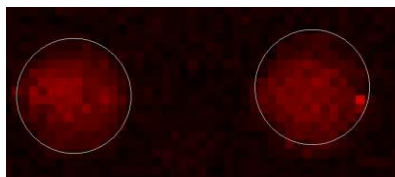
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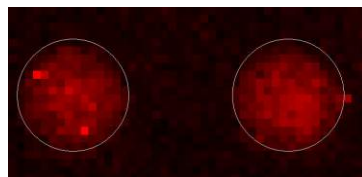
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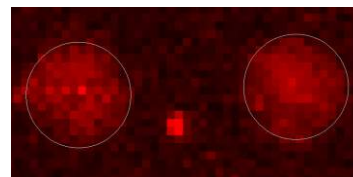
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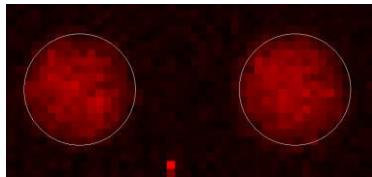
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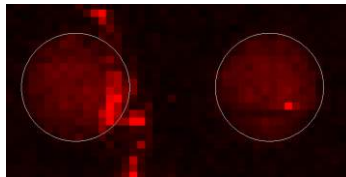
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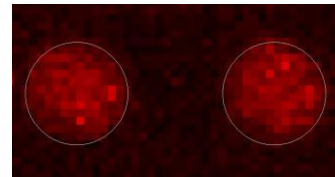




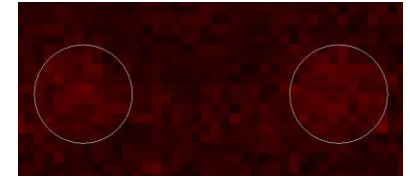
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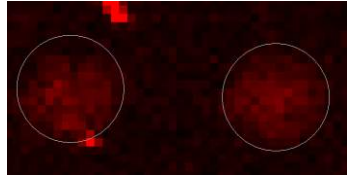
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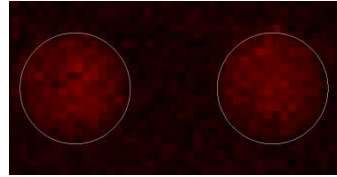
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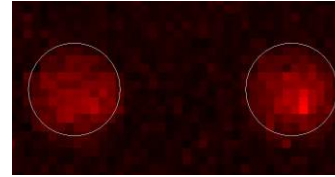
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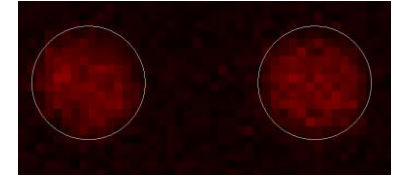
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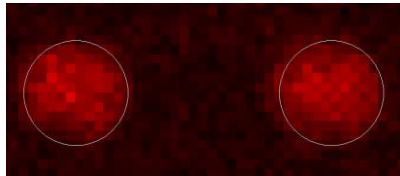
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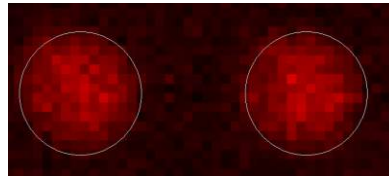
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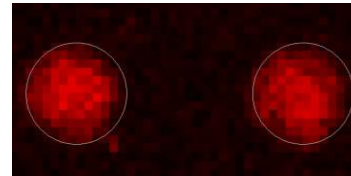
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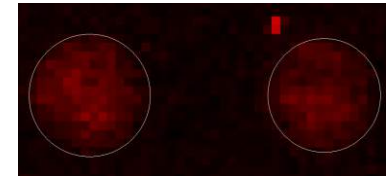
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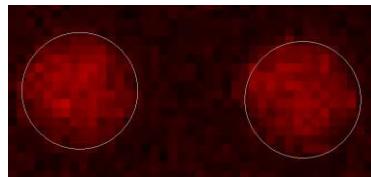
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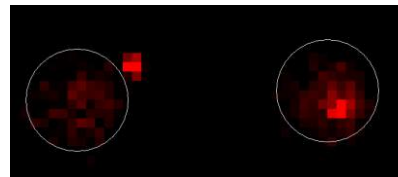
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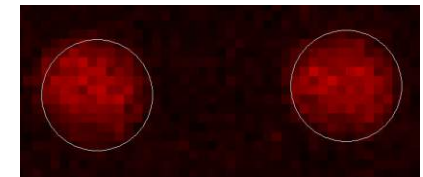
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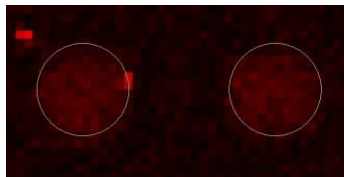
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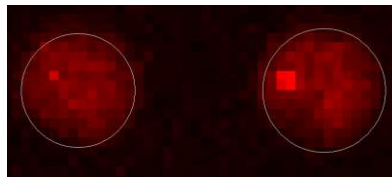
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Grade III\_CJ 7833\_2000153939



Grade III\_CJ 9761\_2000143973

Grade III

# BC001890.1 GCK



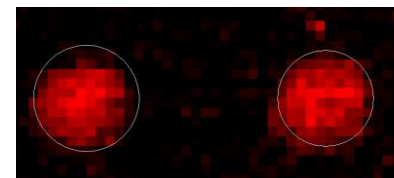
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Control\_H-19\_2000154008



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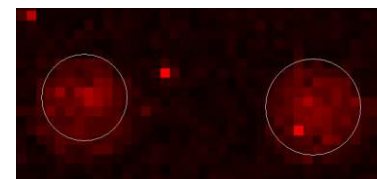
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Control\_H-58\_2000153935



Control\_H-59\_2000154016



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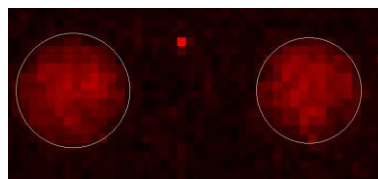
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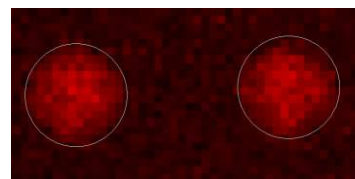
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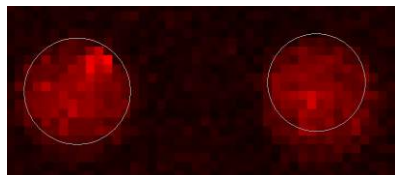


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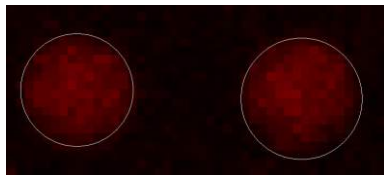


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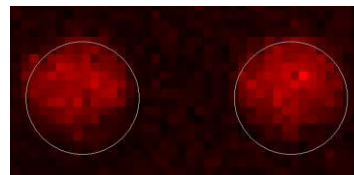
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Grade III\_CF 12839\_2000143982



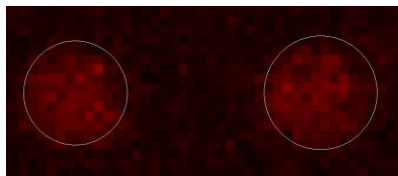
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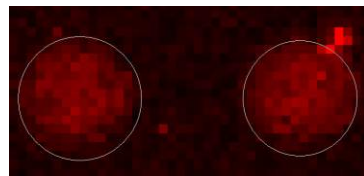
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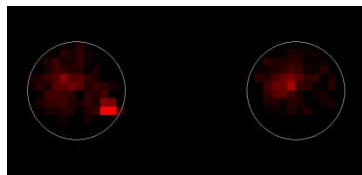
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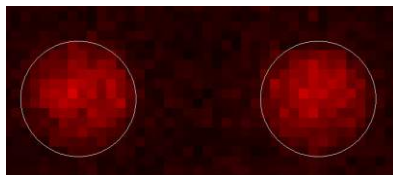
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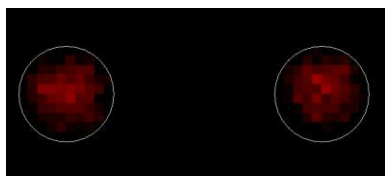
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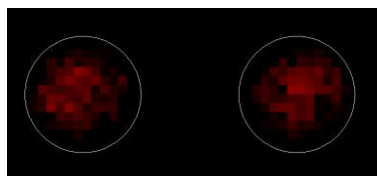
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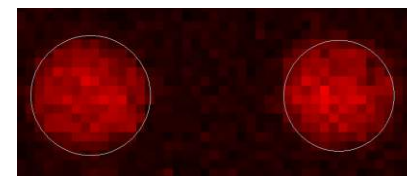
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Grade III\_CJ 16912\_2000154006



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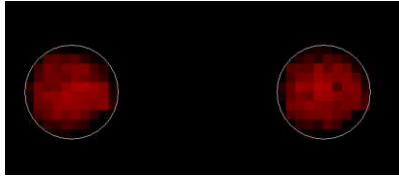
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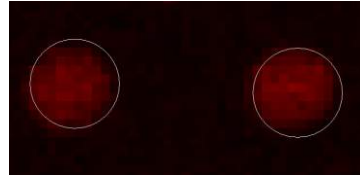
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### Grade III

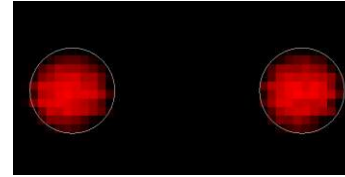
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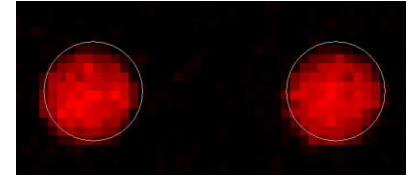
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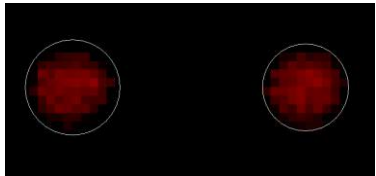
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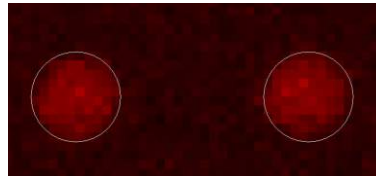
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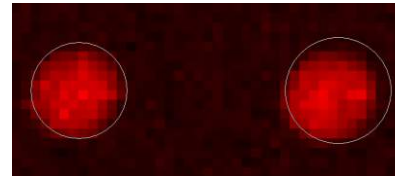
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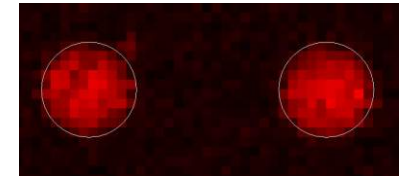
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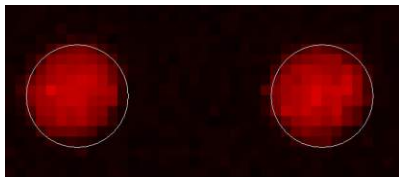
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Control\_H-58\_2000153935



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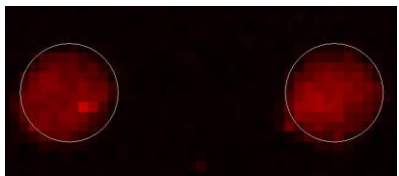
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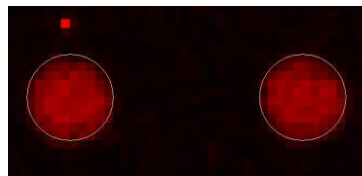
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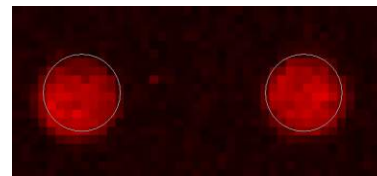
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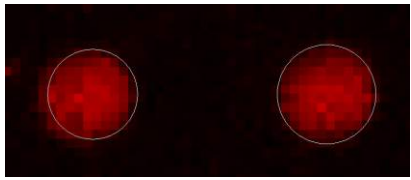
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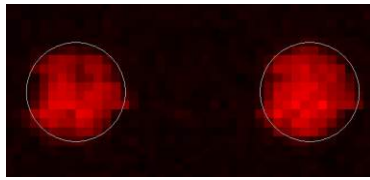
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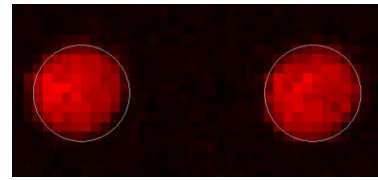




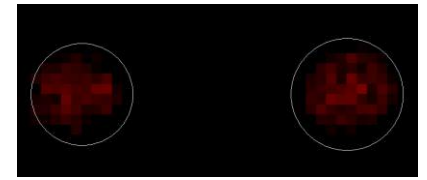
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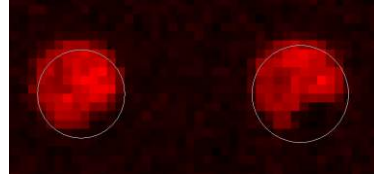
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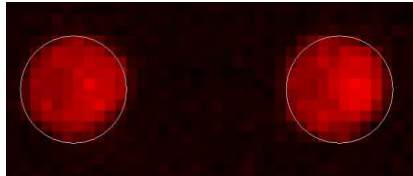
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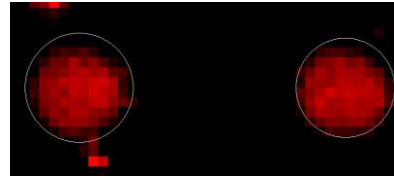
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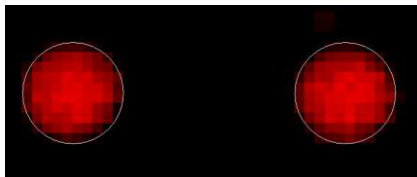
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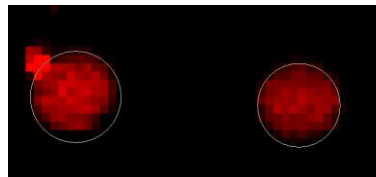
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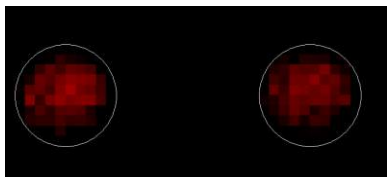
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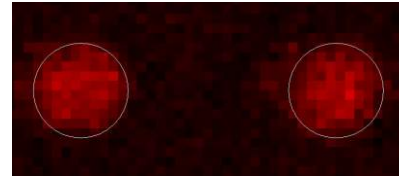
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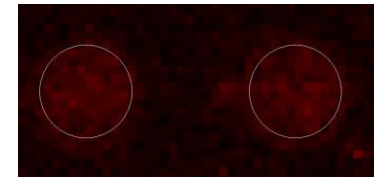
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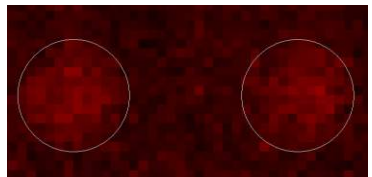
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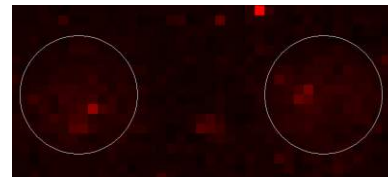
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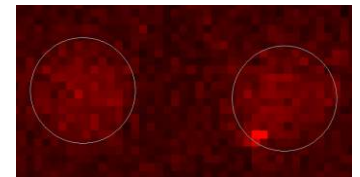
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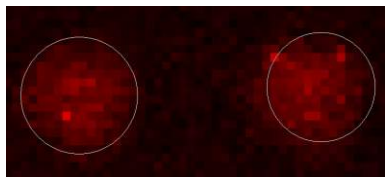
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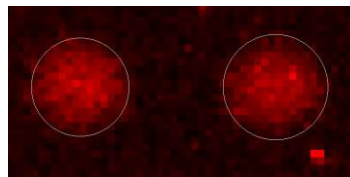
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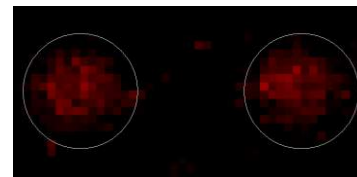
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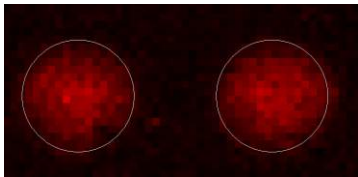


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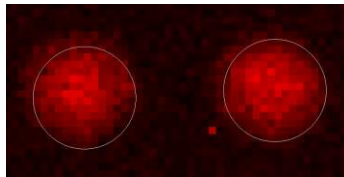


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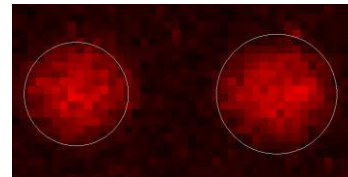
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Grade III\_CF 12839\_2000143982



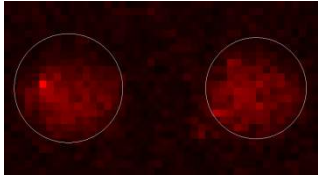
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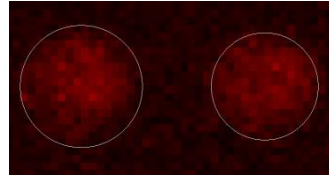
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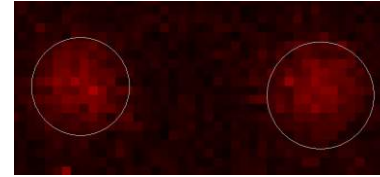
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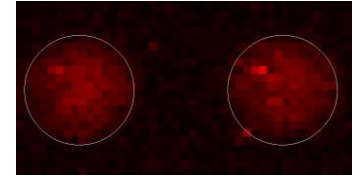
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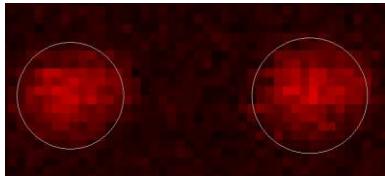
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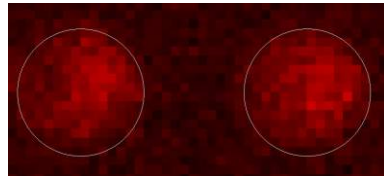
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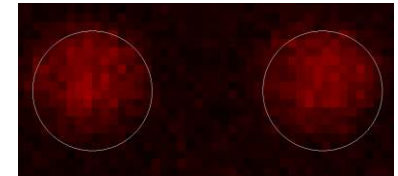
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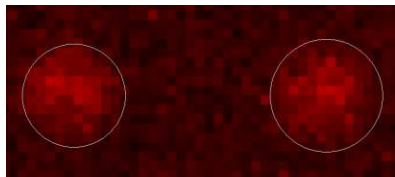
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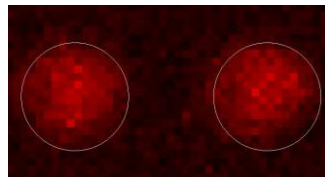
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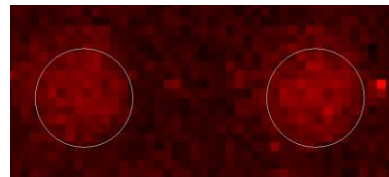
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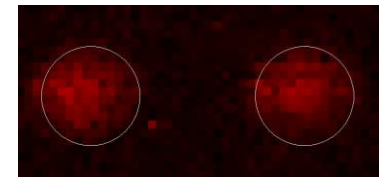
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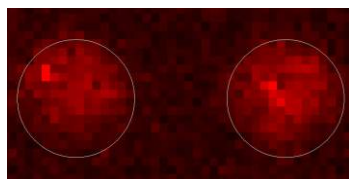
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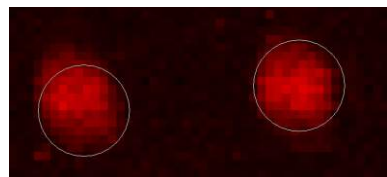
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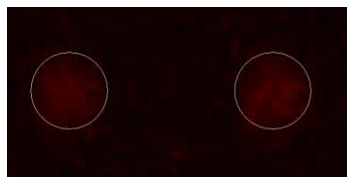
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Grade III

# NM\_198204.1 MLX



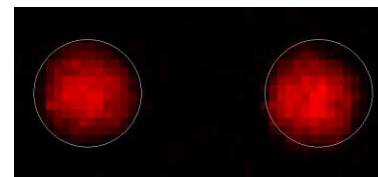
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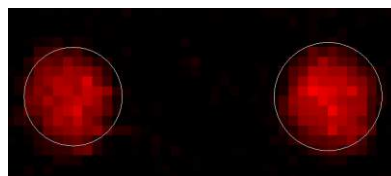
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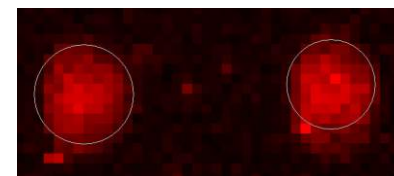
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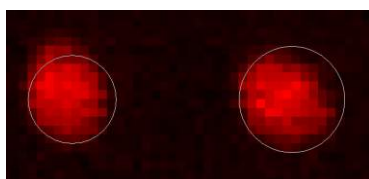
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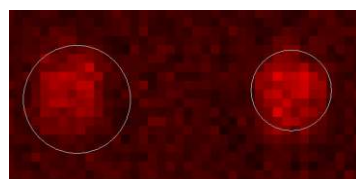
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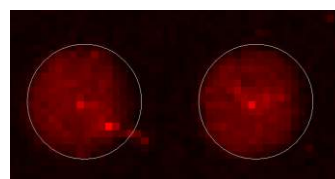
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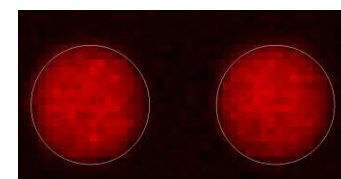
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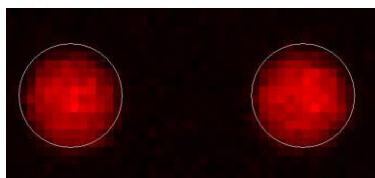
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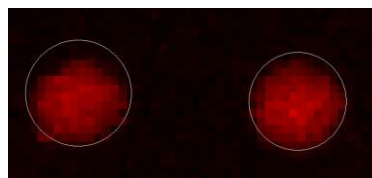
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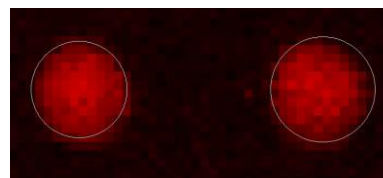
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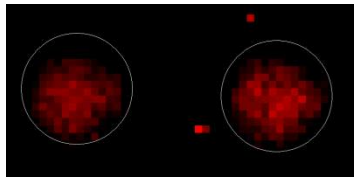
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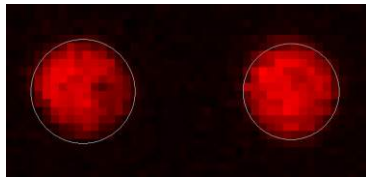
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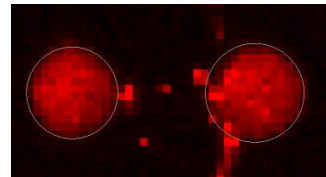




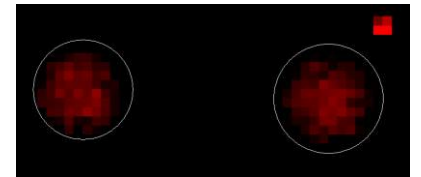
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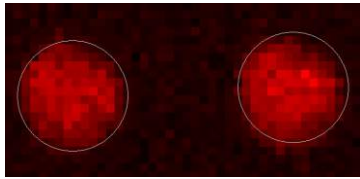
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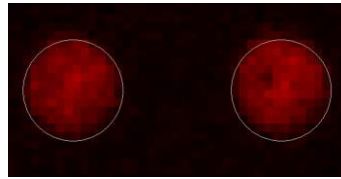
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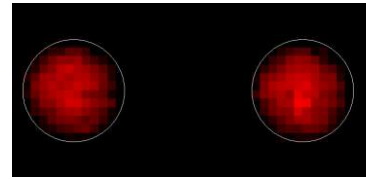
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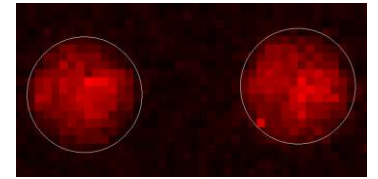
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Grade III\_CF 29446\_2000144453



Grade III\_CF 6980\_2000154032



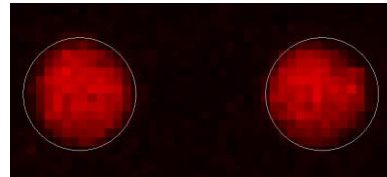
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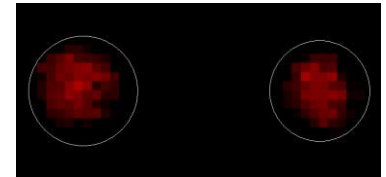
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Grade III\_CH 17244\_2000144448



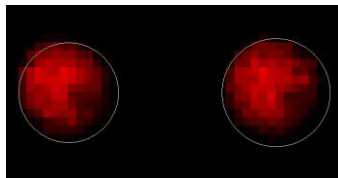
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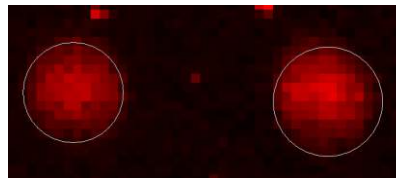
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Grade III\_CJ 1176\_2000154027



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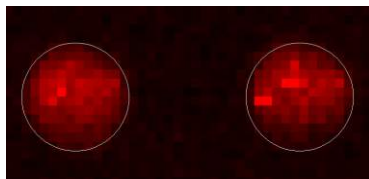
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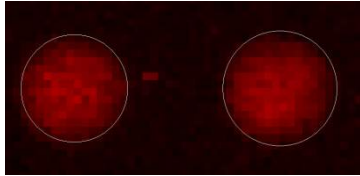
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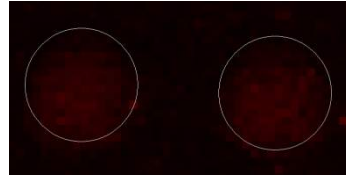
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Grade III

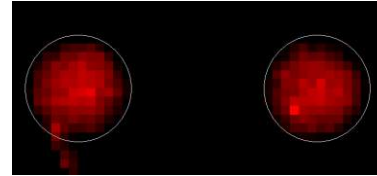
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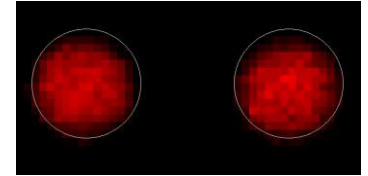
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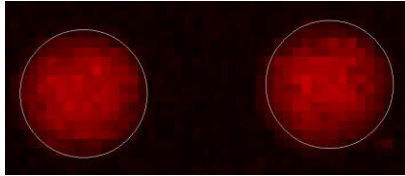
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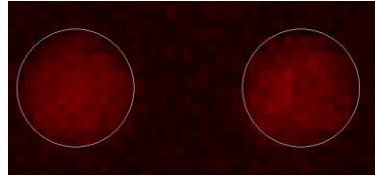
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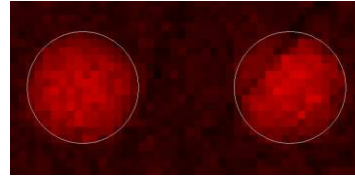
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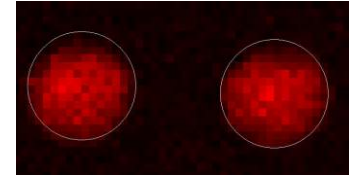
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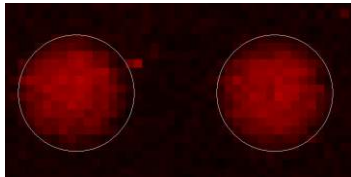
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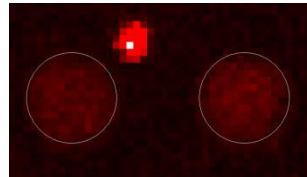
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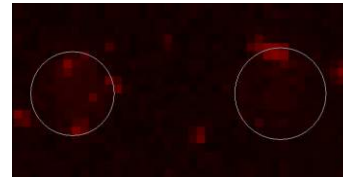
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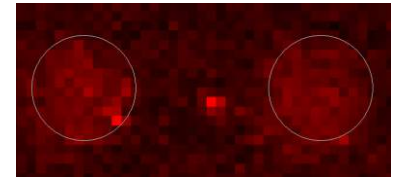
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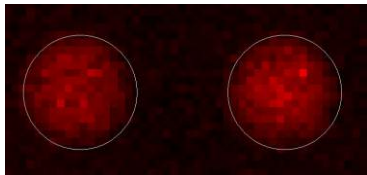
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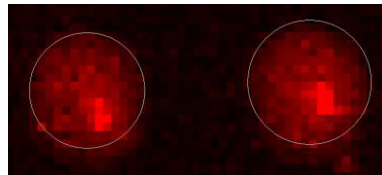
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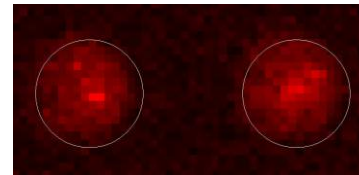
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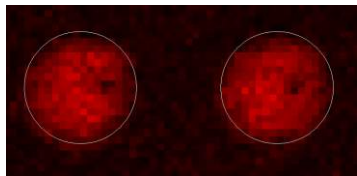


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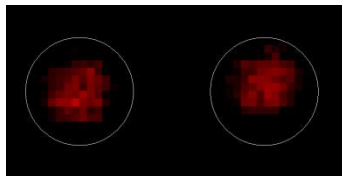


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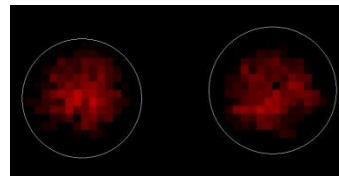
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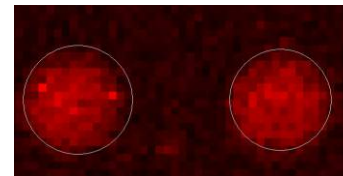
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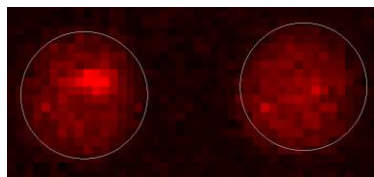
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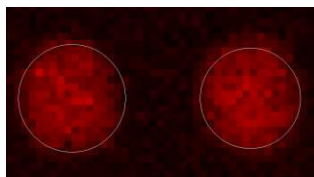
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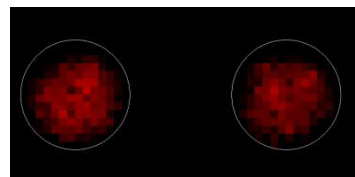
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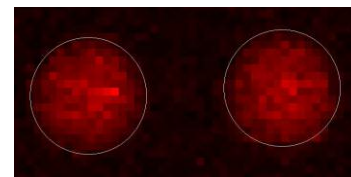
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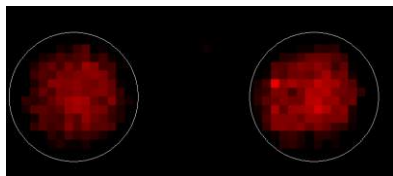
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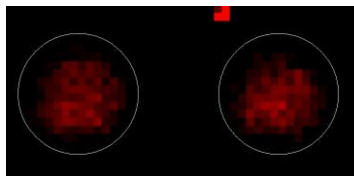
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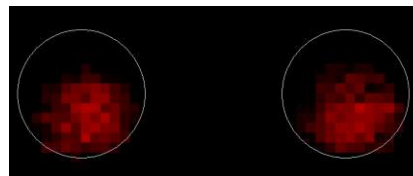
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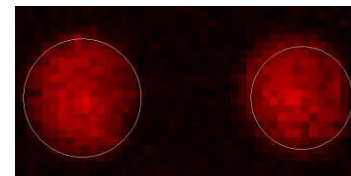
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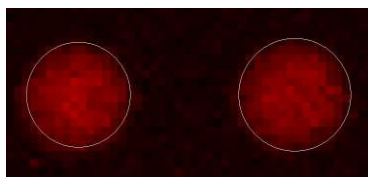
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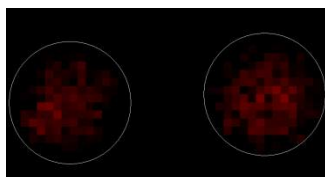
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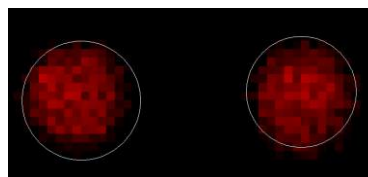
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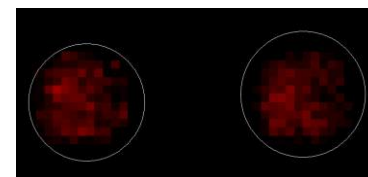
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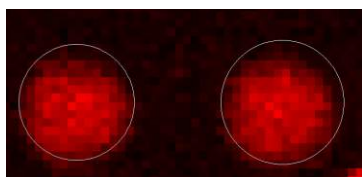
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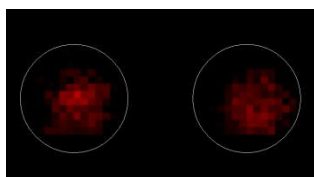
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Grade III\_CJ 20721\_2000143947



Grade III\_CJ 7833\_2000153939



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Grade III

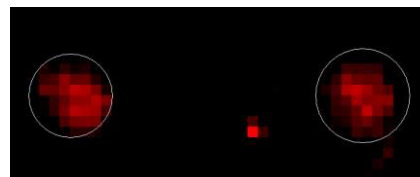
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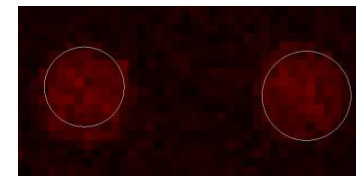
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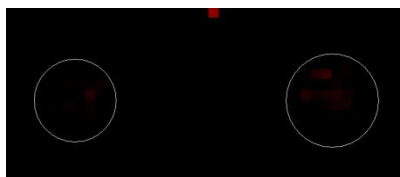
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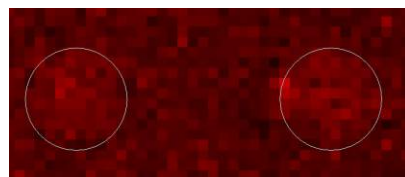
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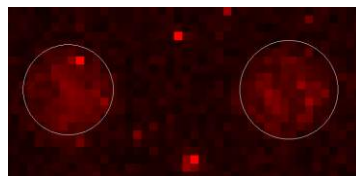
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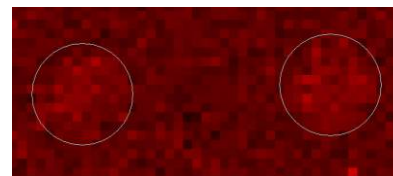
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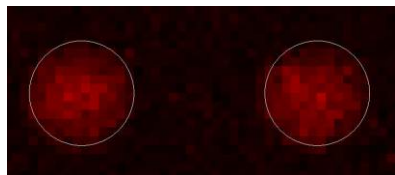
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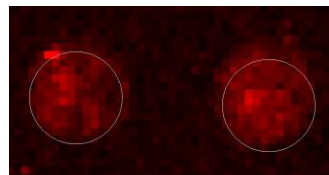
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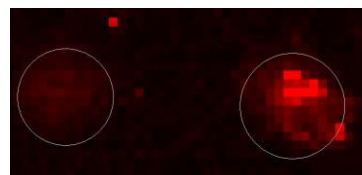




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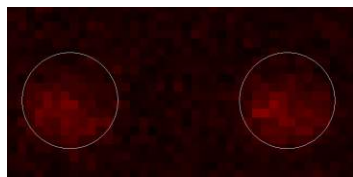
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Grade III\_CF 22483\_2000144446



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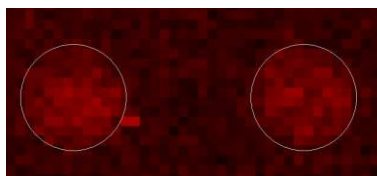
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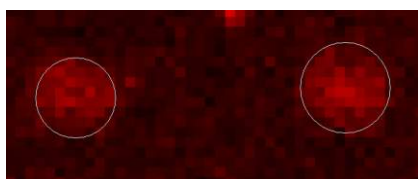
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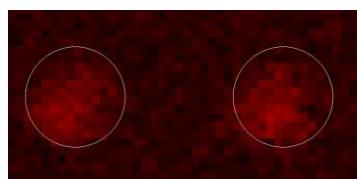
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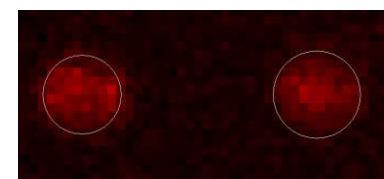
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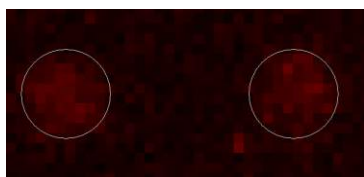
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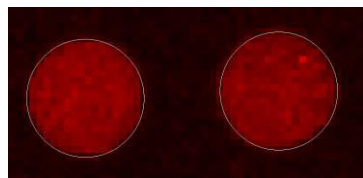
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Grade III

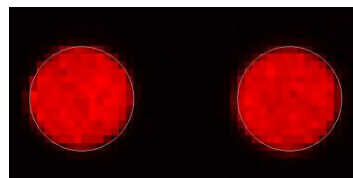
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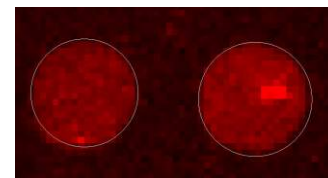
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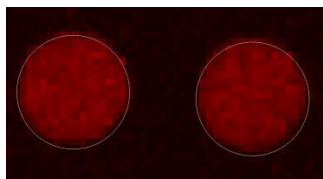
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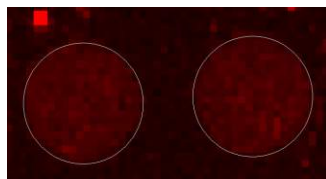
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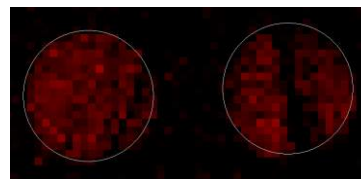
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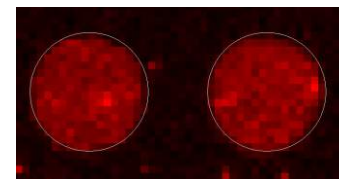
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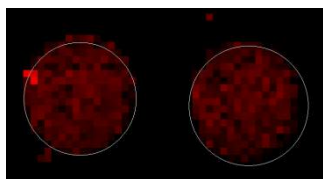
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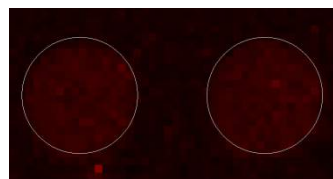
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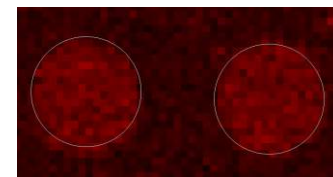
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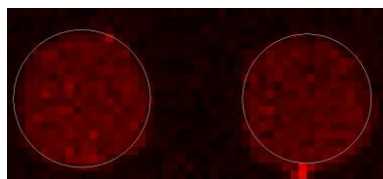
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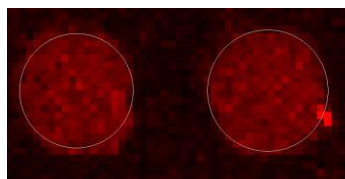
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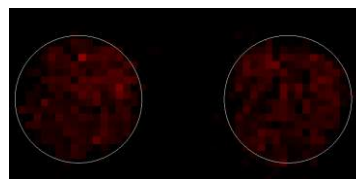
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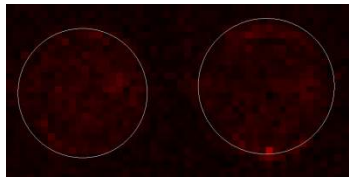


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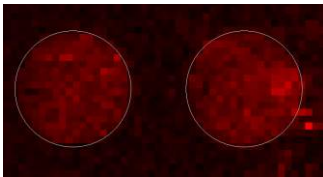


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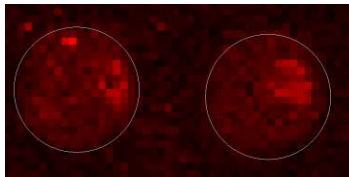
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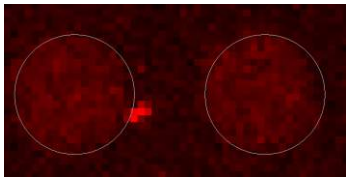
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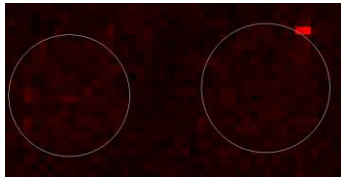
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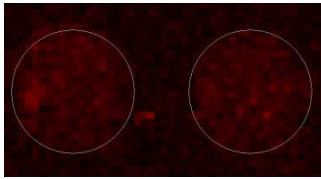
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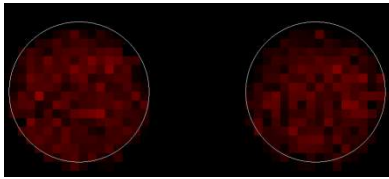
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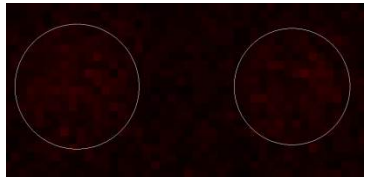
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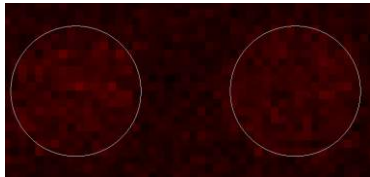
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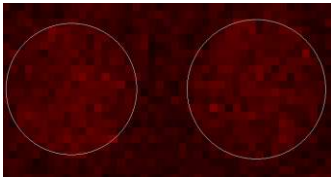
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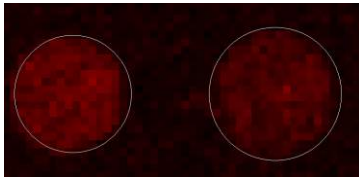
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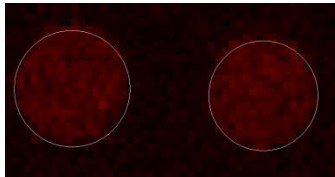
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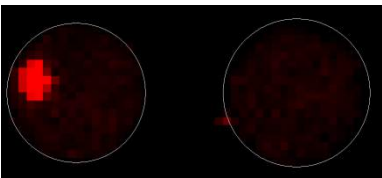
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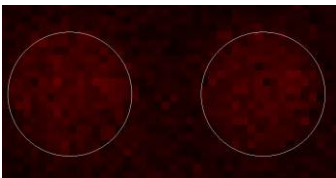
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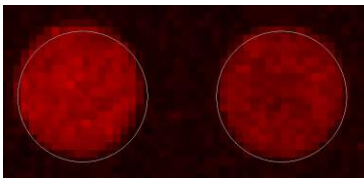
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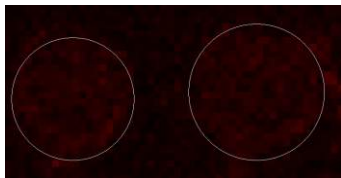
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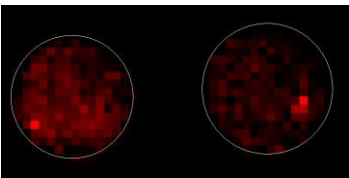
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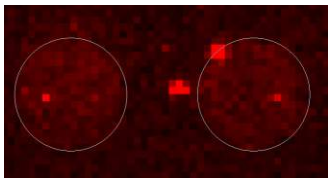
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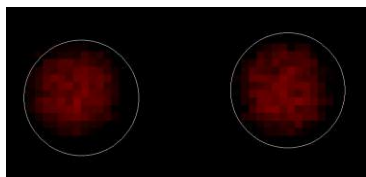
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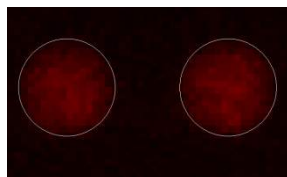
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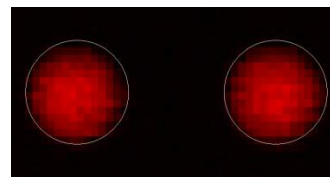
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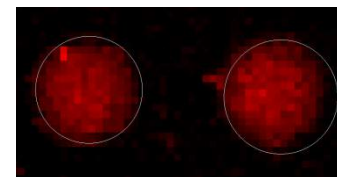
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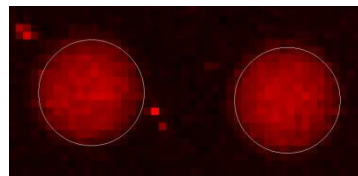
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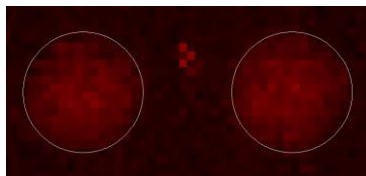
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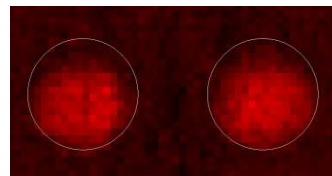
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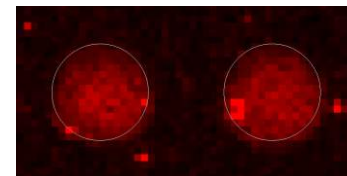
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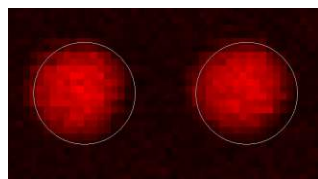
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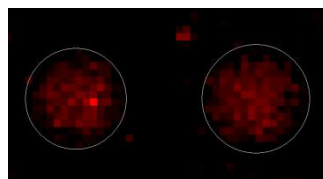
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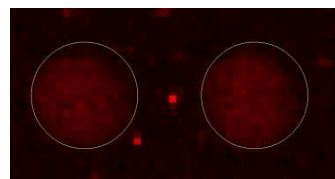
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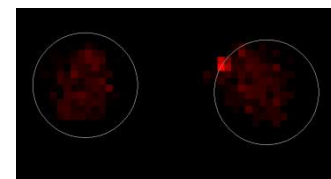
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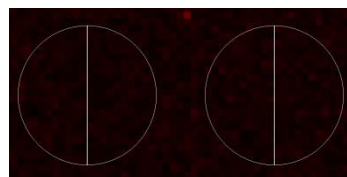
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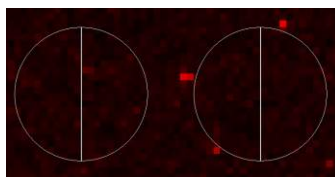
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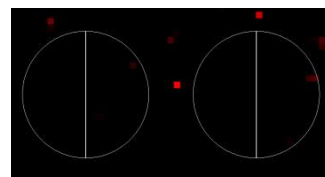
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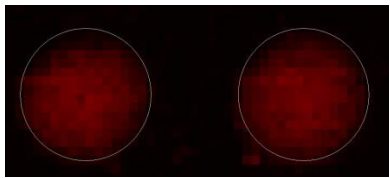


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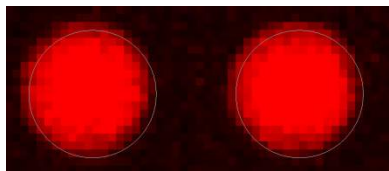


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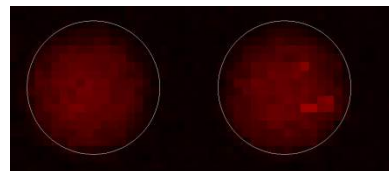
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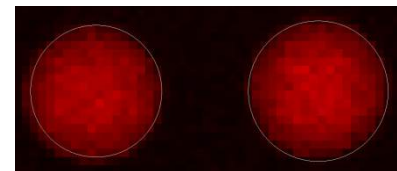
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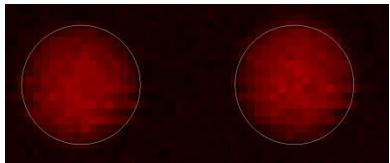
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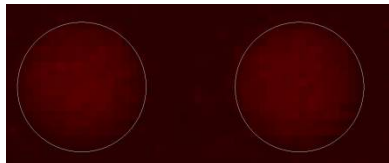
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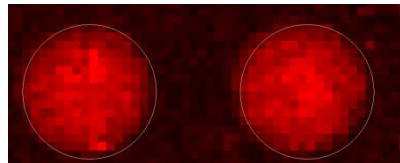
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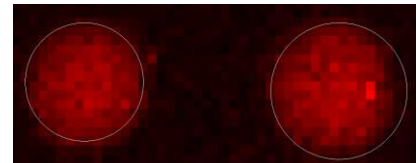
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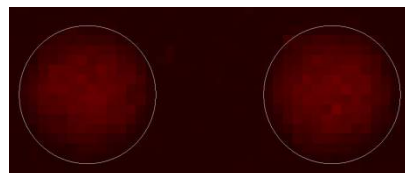
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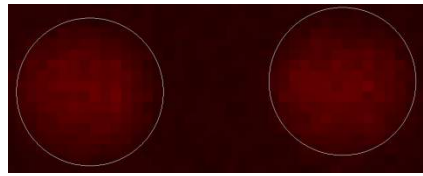
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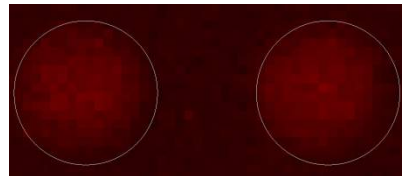
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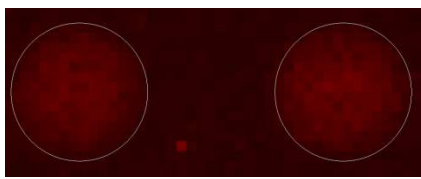
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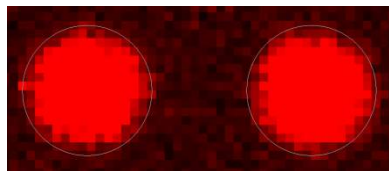


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Grade IV



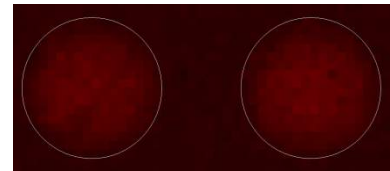
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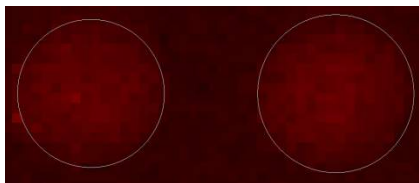
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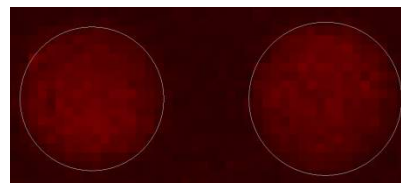
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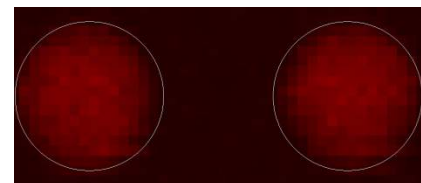
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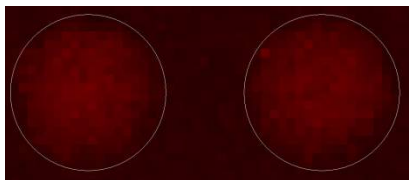
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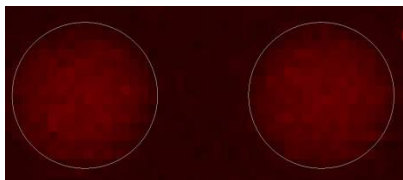
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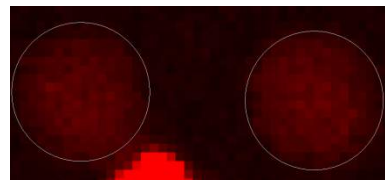
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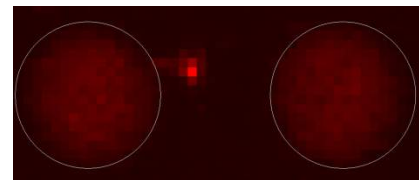
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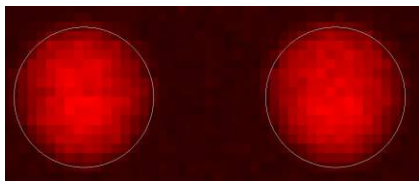
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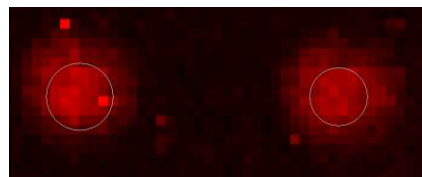


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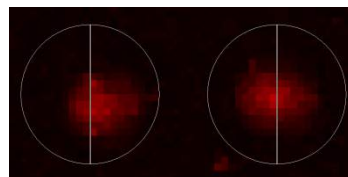


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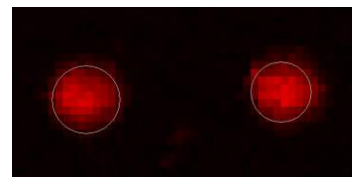
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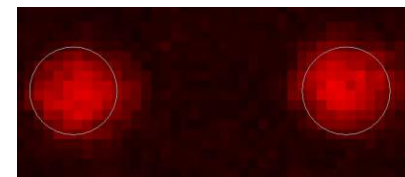
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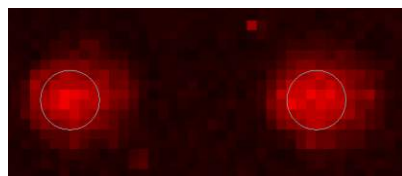
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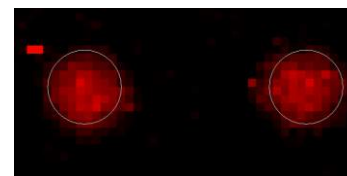
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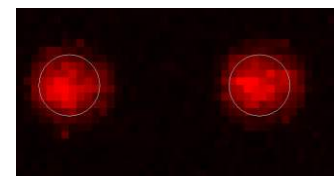
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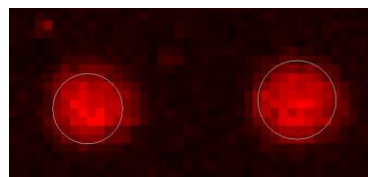
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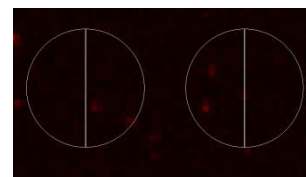
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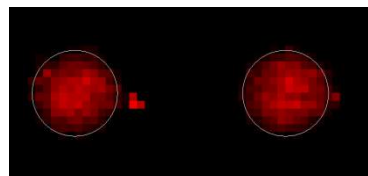
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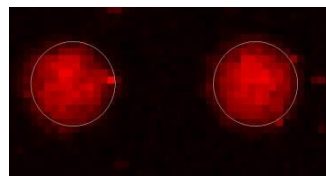
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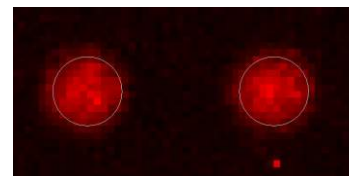
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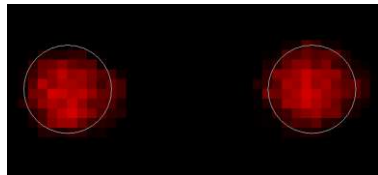
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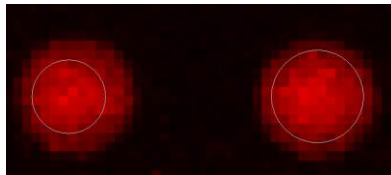
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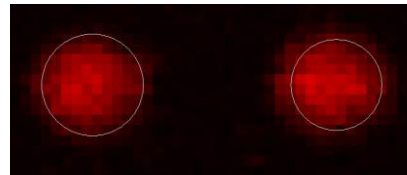




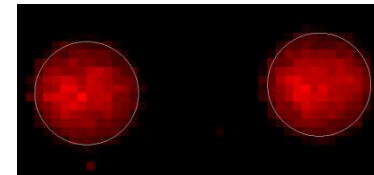
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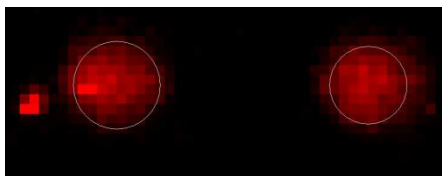
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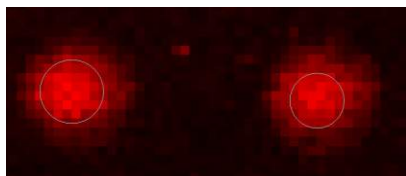
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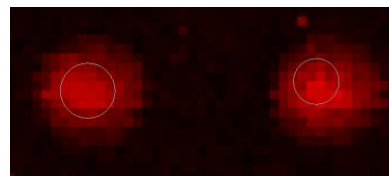
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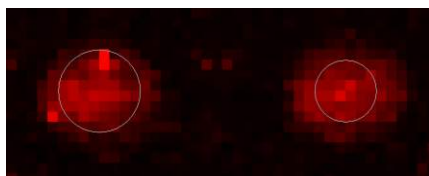
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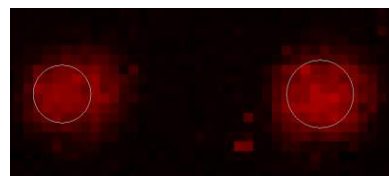
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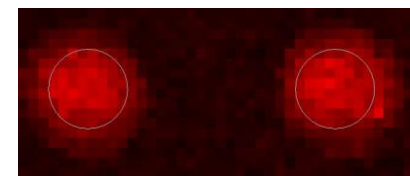
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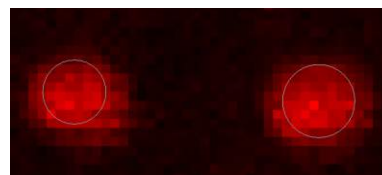
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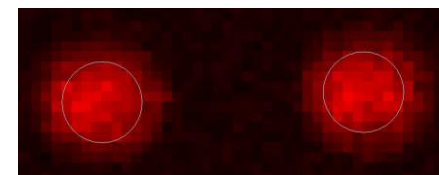
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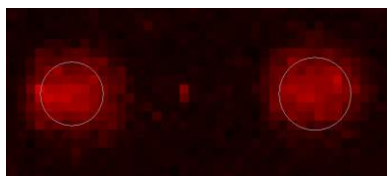
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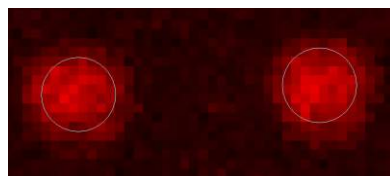
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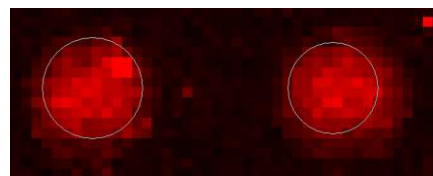
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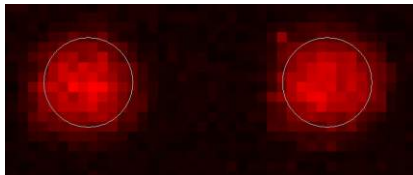


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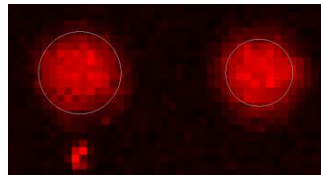
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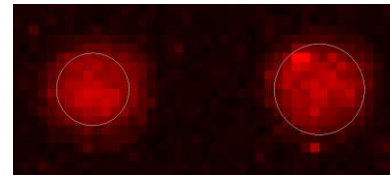
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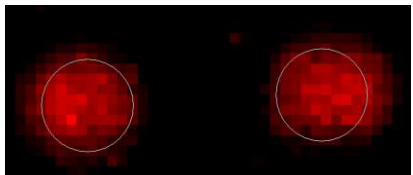
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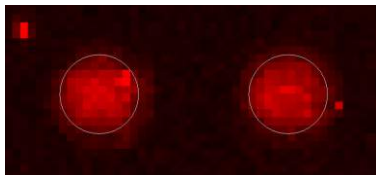
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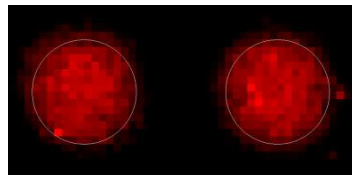
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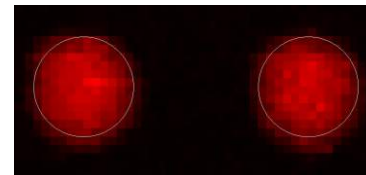
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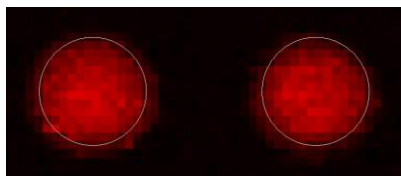
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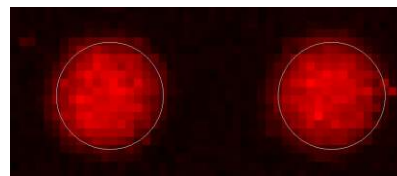
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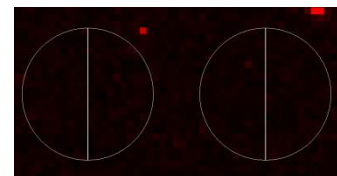
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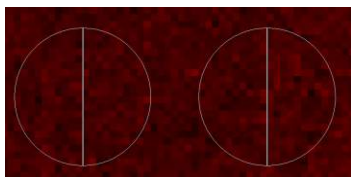
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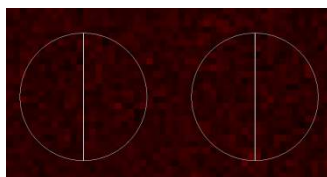
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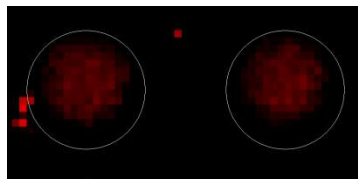


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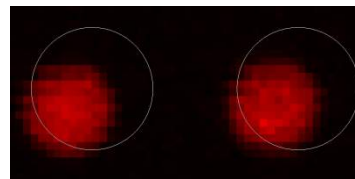
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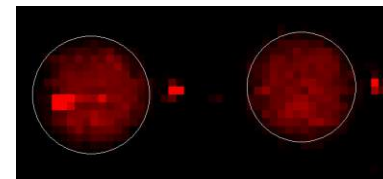
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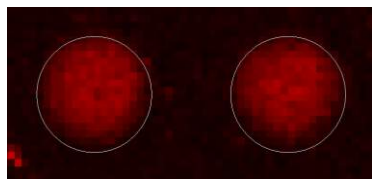
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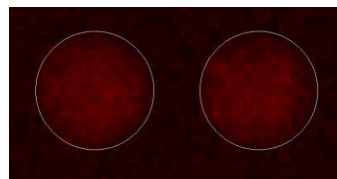
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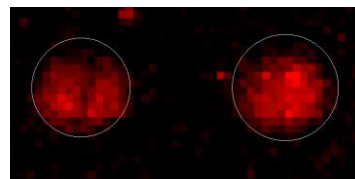
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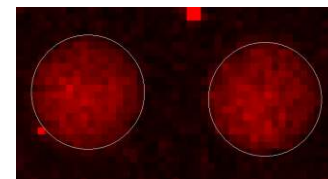
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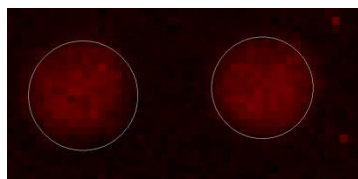
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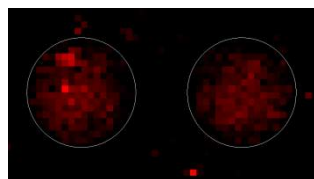
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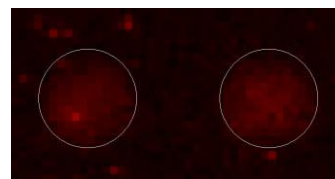
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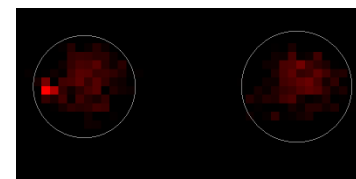
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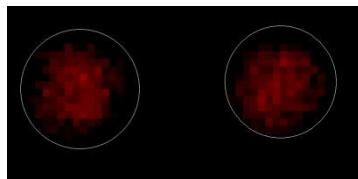
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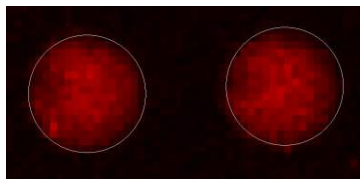
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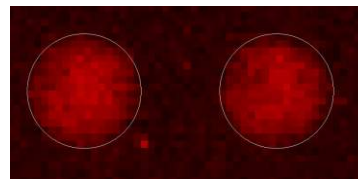
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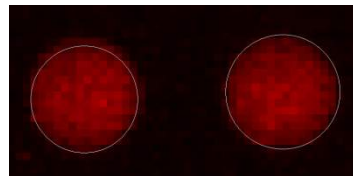


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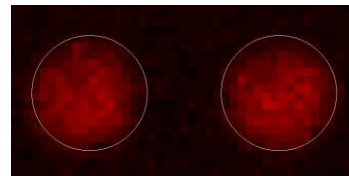
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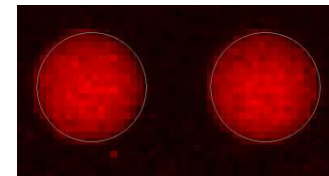
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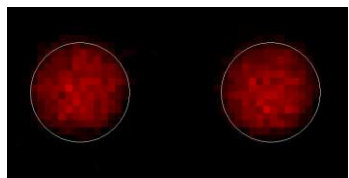
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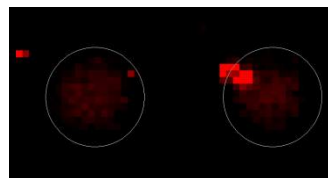
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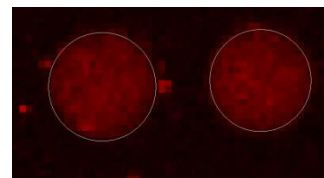
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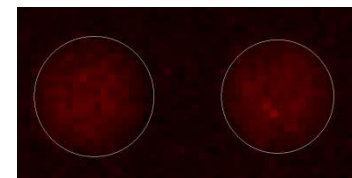
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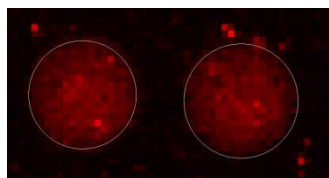
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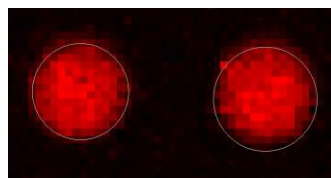
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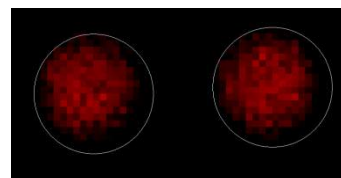
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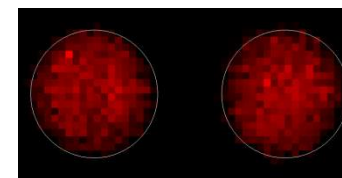
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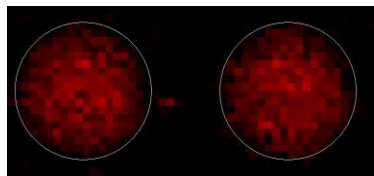
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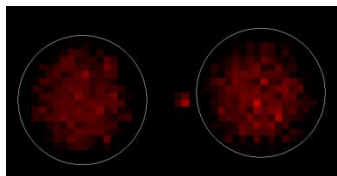
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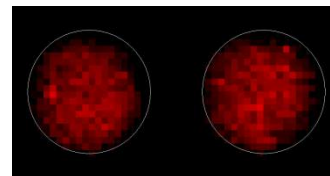
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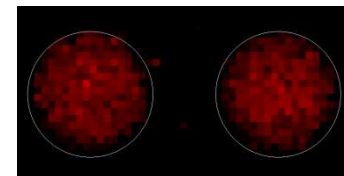
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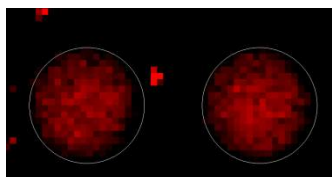
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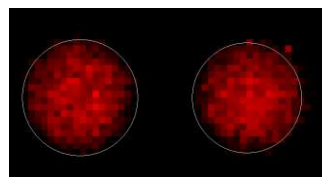
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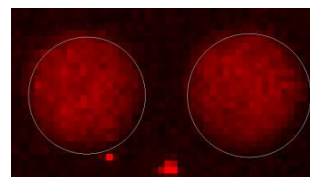
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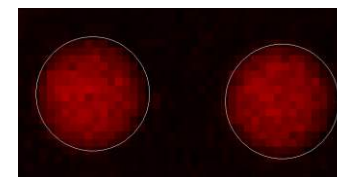
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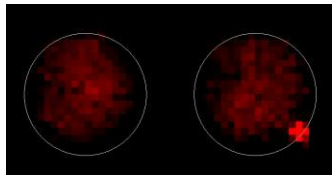
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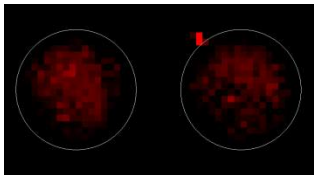
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Grade IV

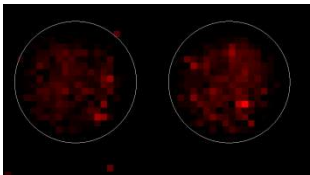




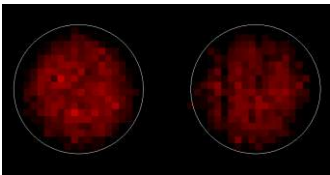
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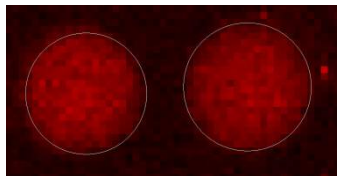
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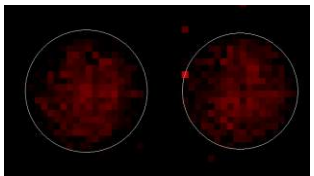
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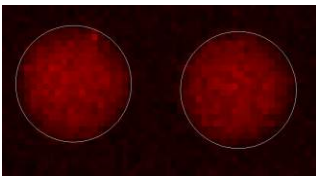
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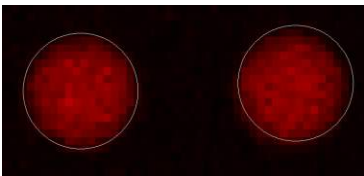
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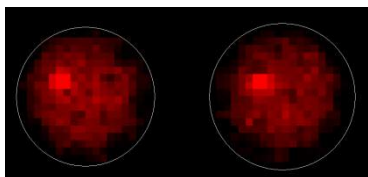
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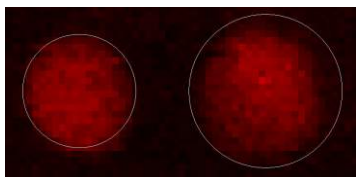
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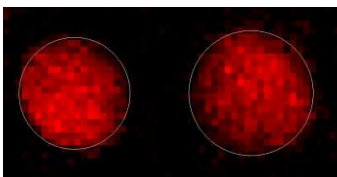
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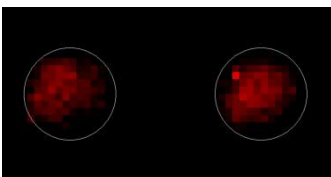
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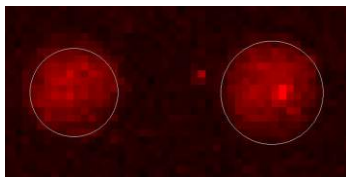
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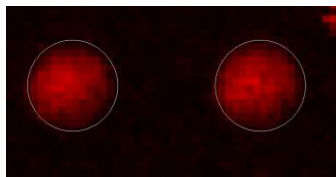
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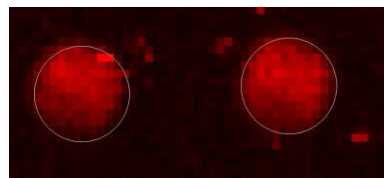


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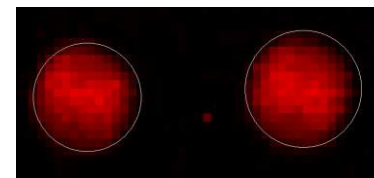
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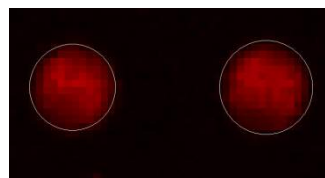
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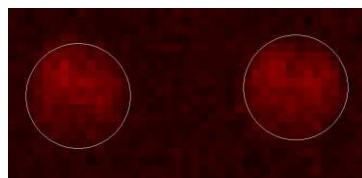
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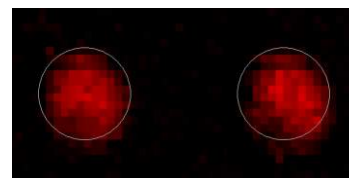
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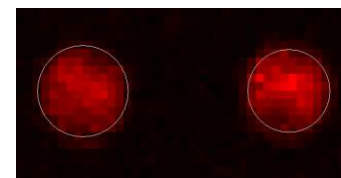
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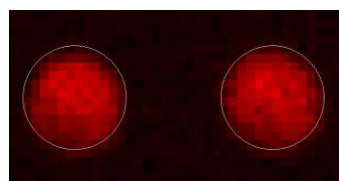
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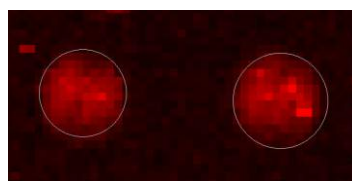
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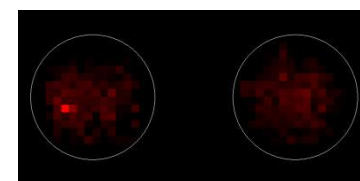
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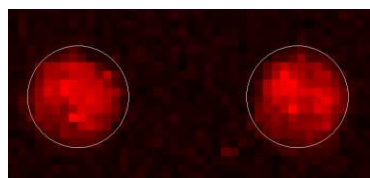
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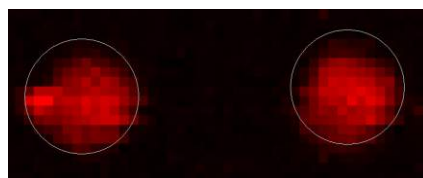
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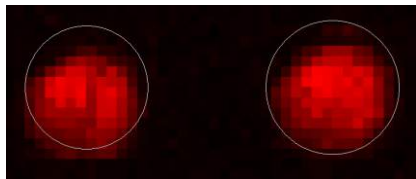


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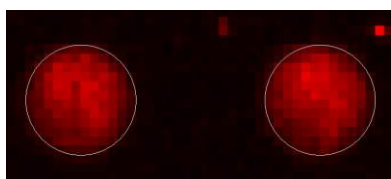


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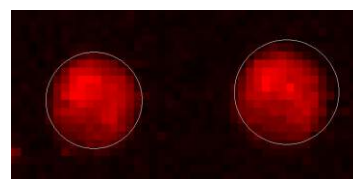
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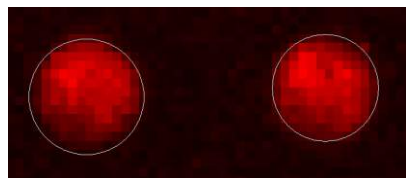
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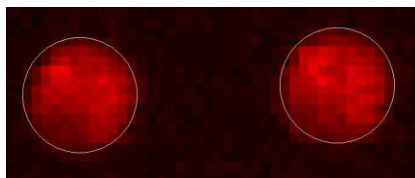
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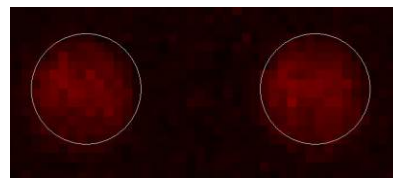
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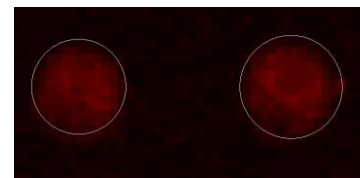
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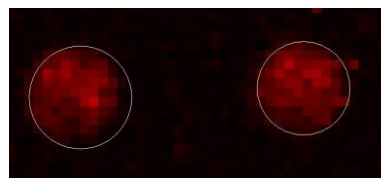
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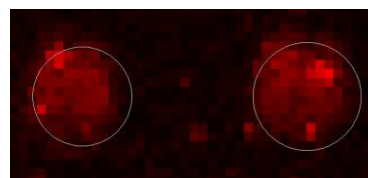
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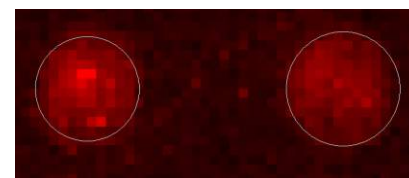
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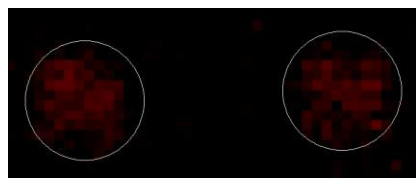
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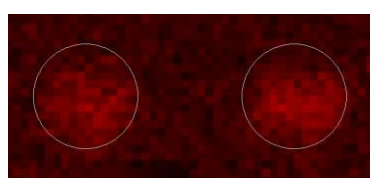
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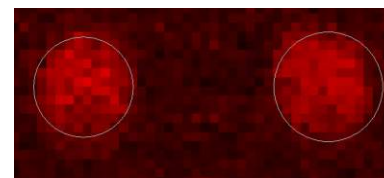
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Grade IV\_CJ 30014\_2000153805



Grade IV\_CH 18016\_2000153791



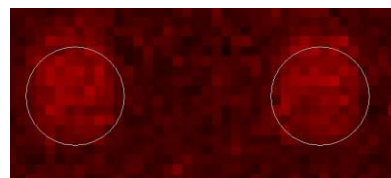
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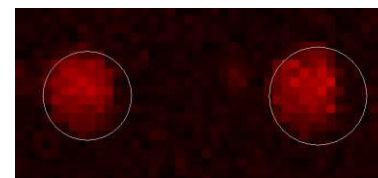
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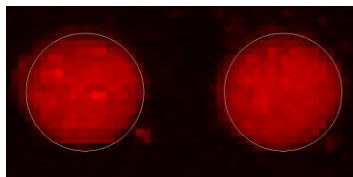


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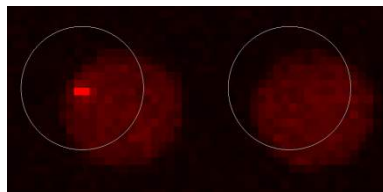
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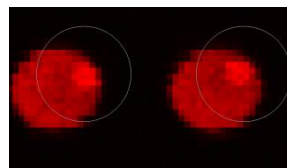
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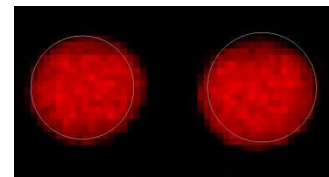
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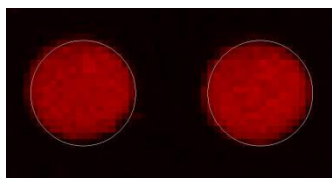
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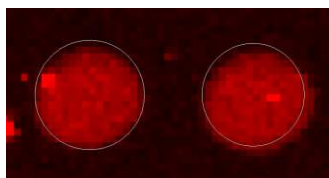
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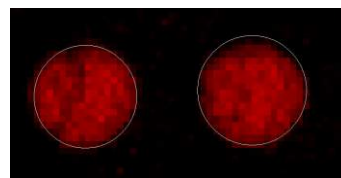
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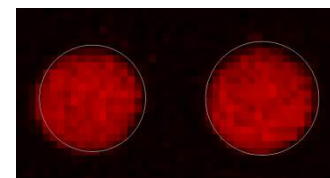
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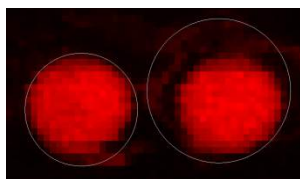
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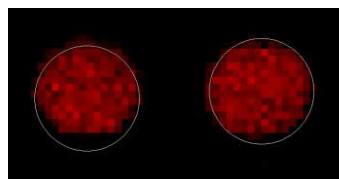
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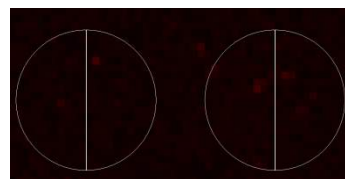
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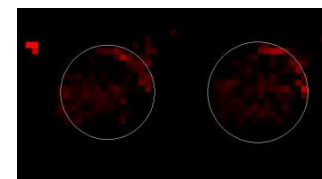
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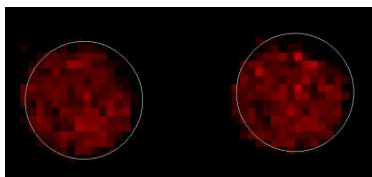
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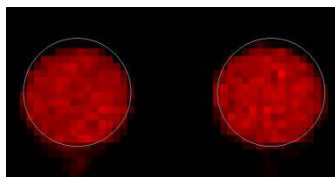
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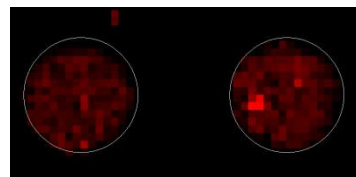
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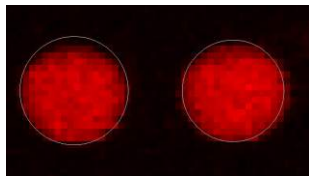
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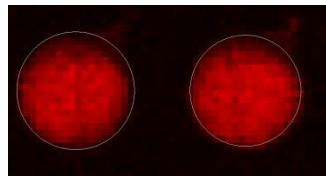
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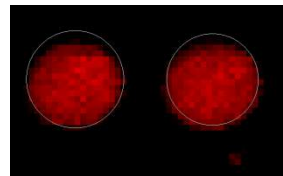




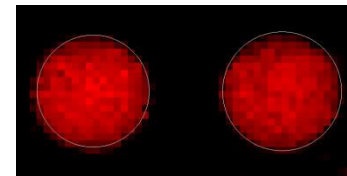
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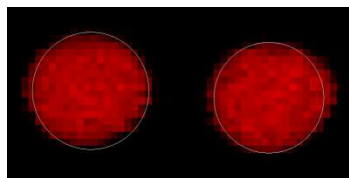
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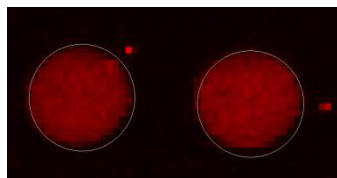
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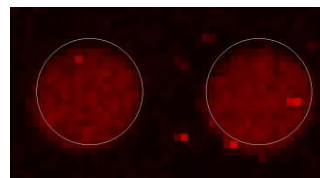
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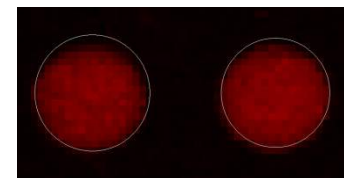
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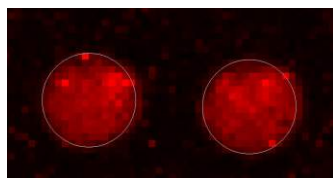
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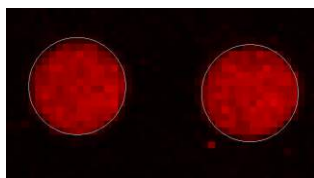
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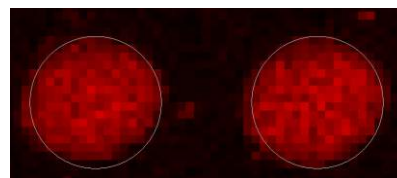
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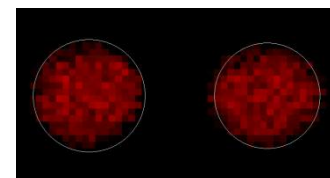
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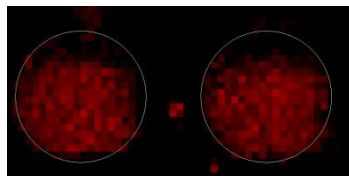
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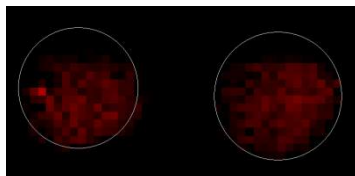
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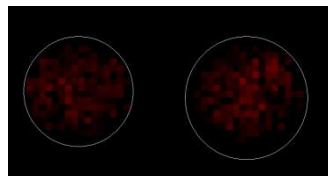
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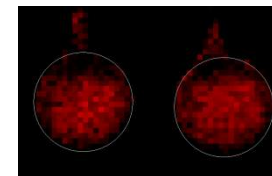
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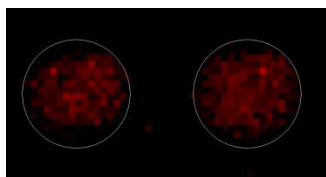
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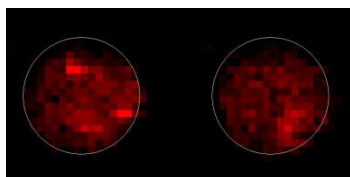
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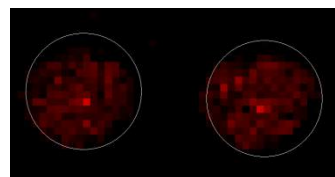
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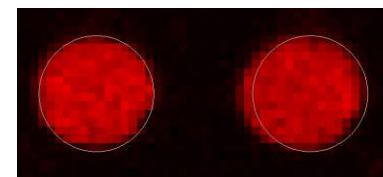
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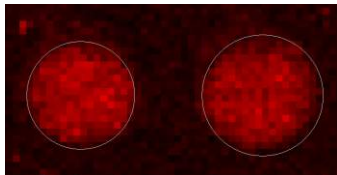


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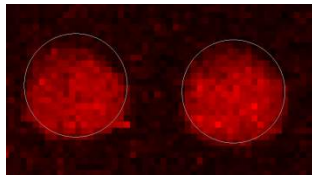


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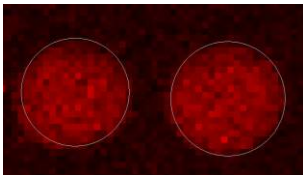
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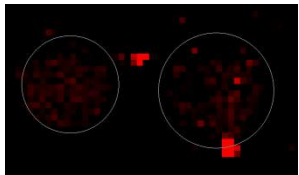
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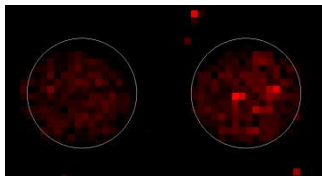
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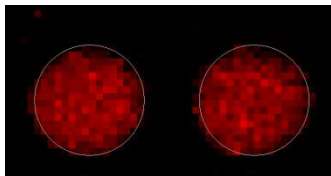
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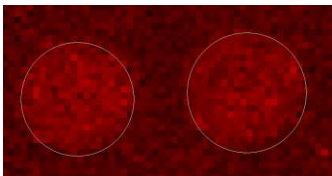
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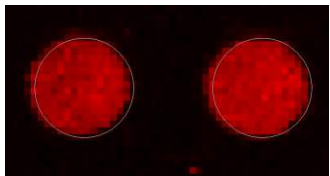
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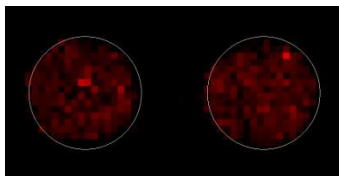
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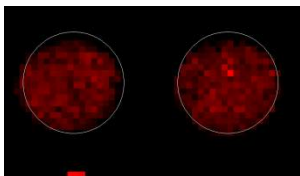
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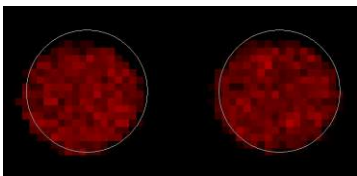
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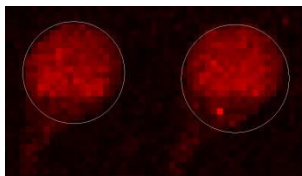
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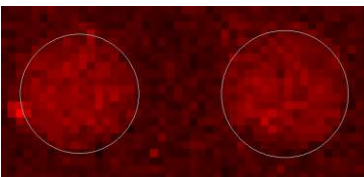
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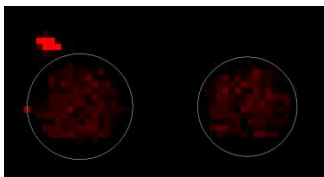
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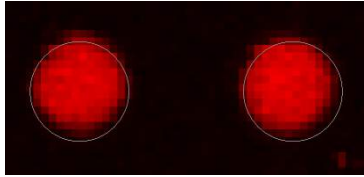


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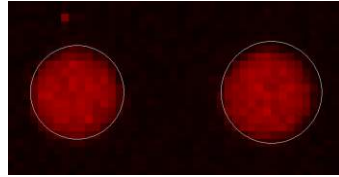


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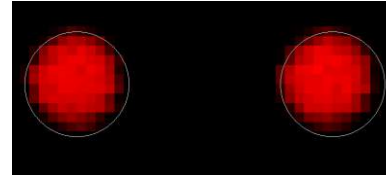
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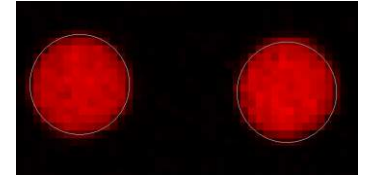
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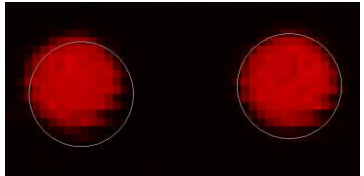
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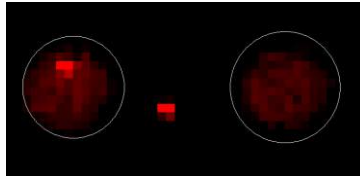
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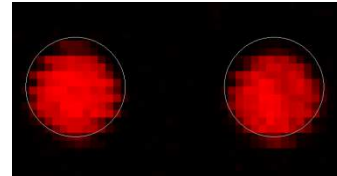
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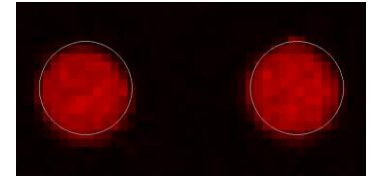
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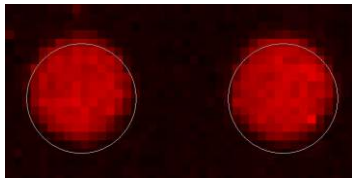
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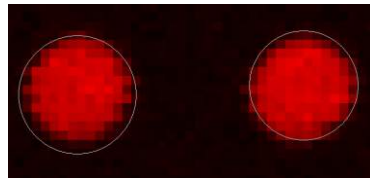
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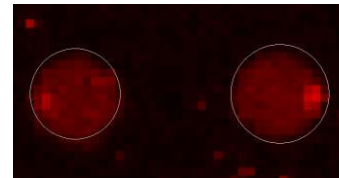
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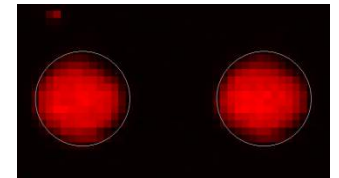
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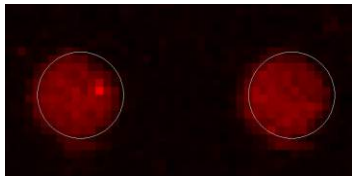
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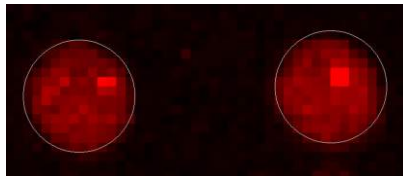
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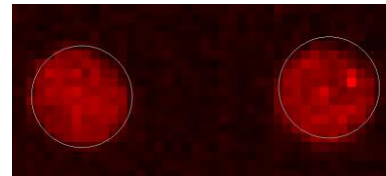
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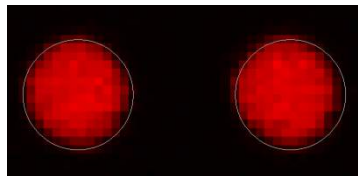
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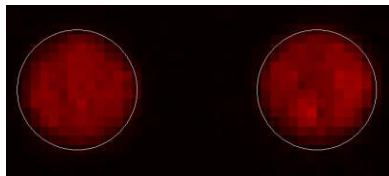
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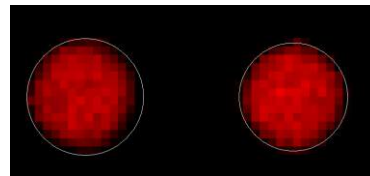




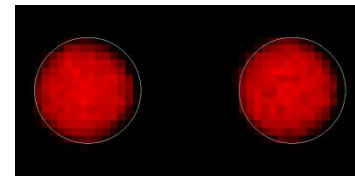
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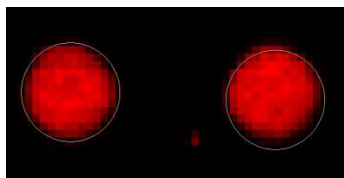
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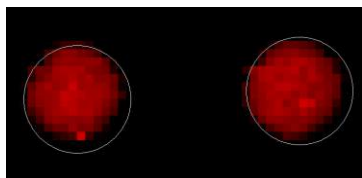
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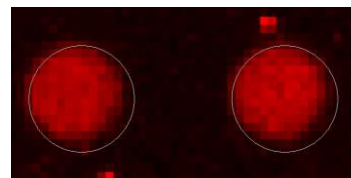
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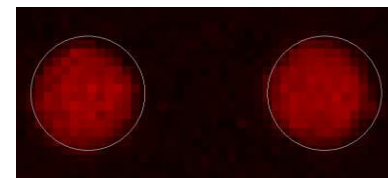
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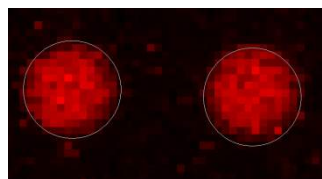
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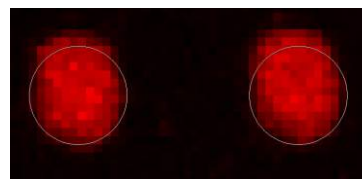
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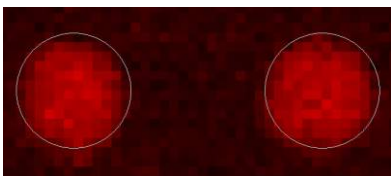
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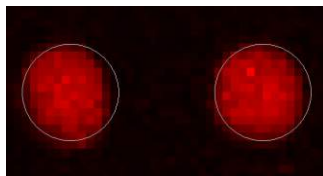
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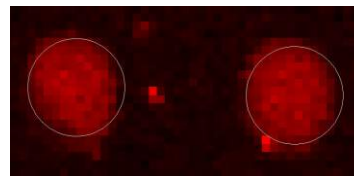
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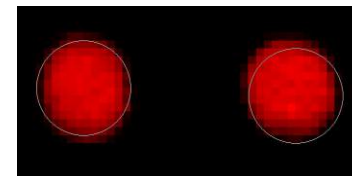
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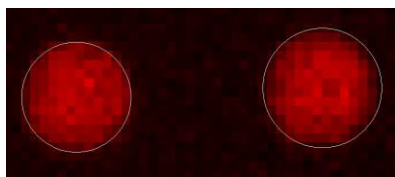
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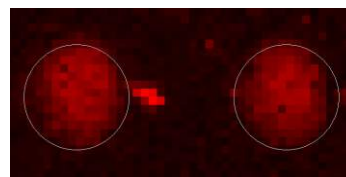
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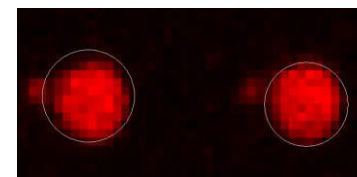
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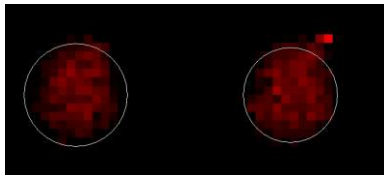
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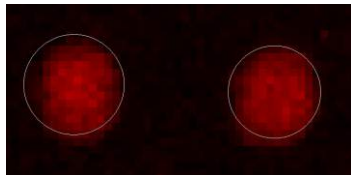
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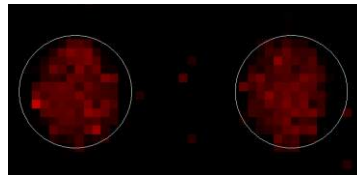
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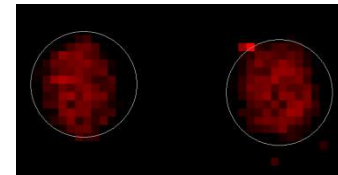
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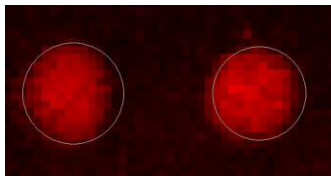
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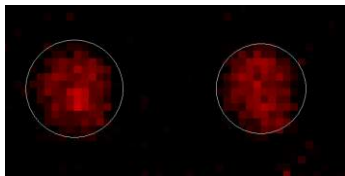
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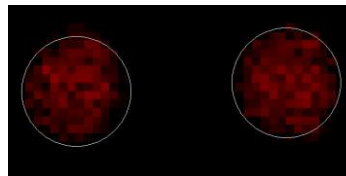
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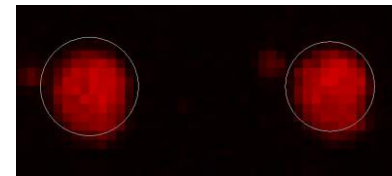
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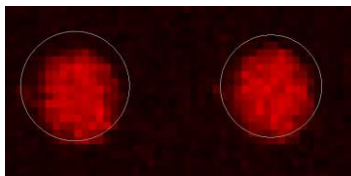
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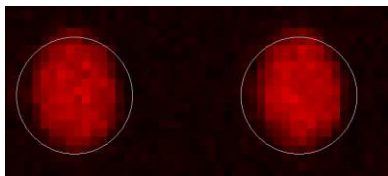
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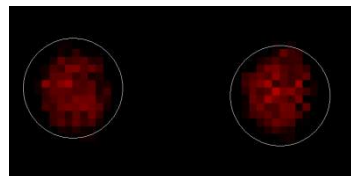
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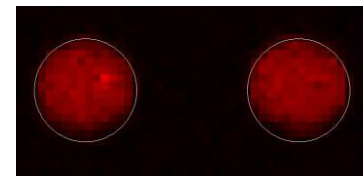
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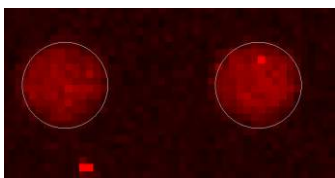
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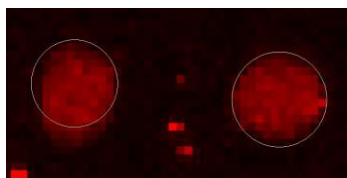
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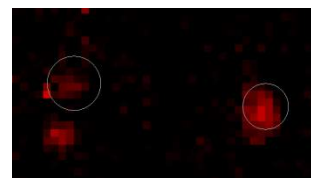
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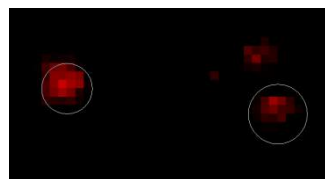
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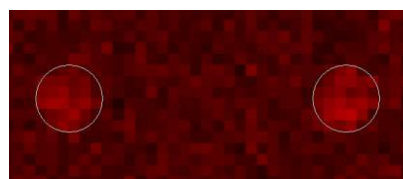
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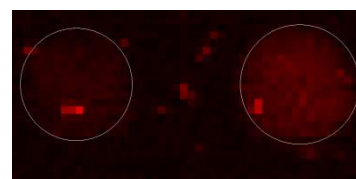
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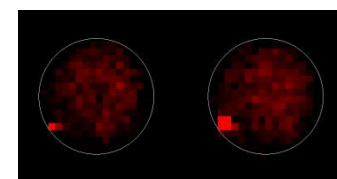
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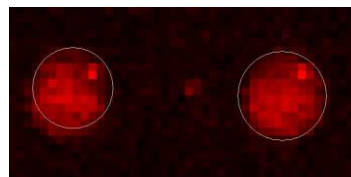
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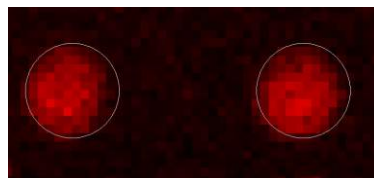
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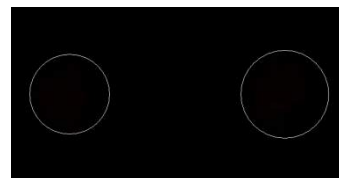
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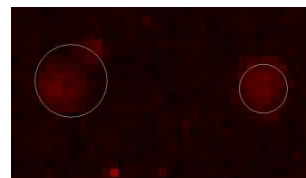
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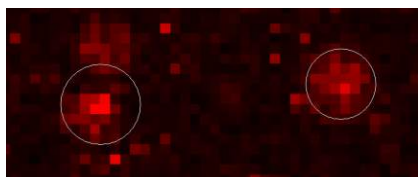
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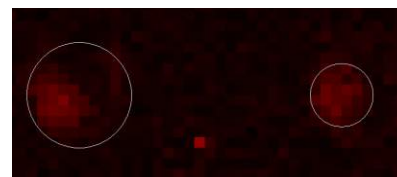
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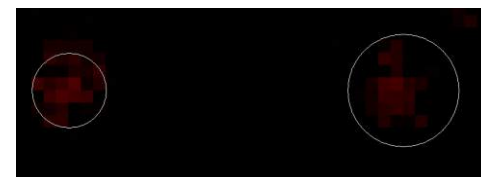
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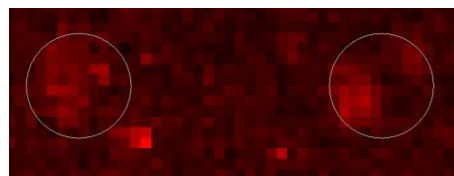
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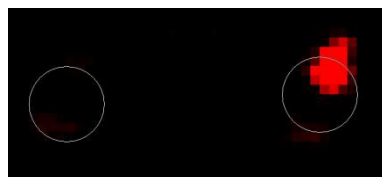
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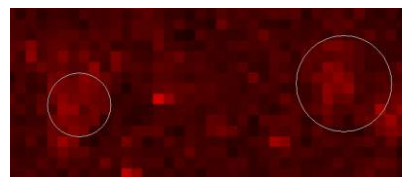
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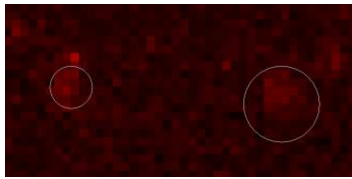
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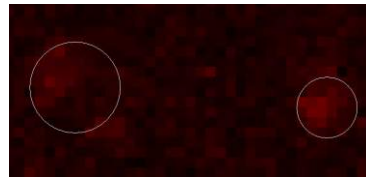
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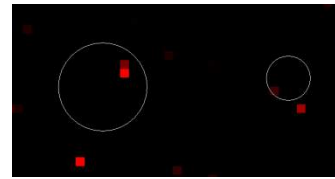




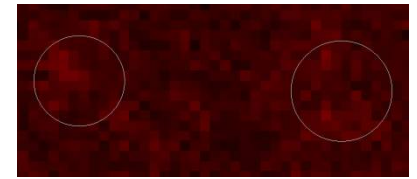
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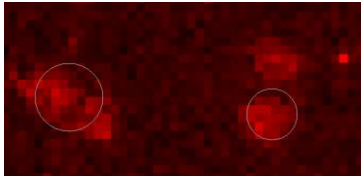
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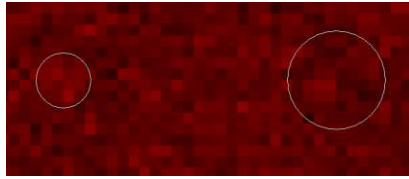
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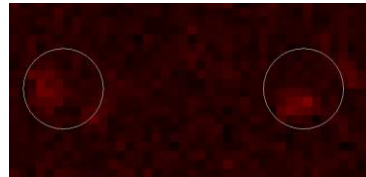
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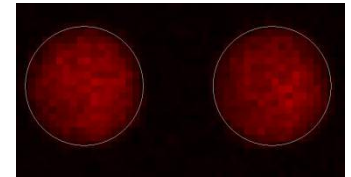
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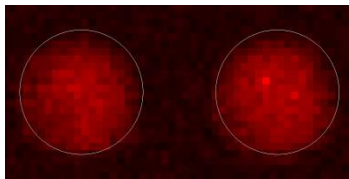
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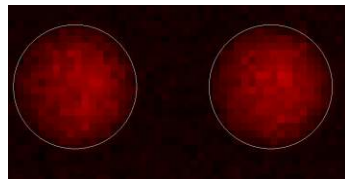
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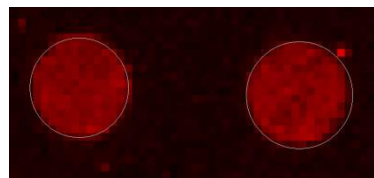


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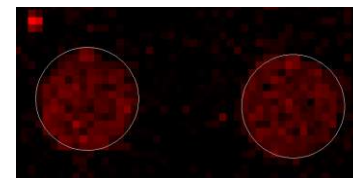
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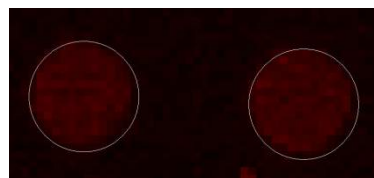
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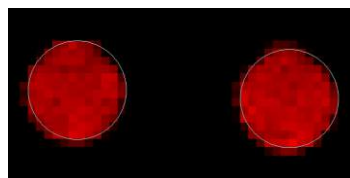
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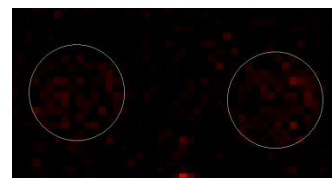
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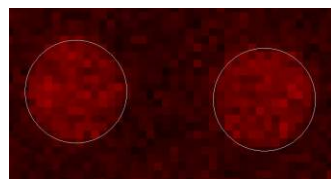
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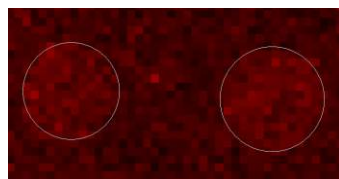
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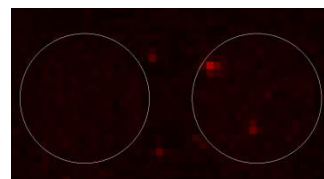
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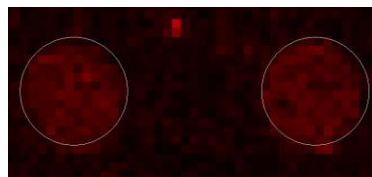
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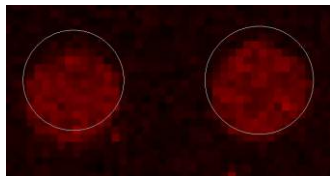


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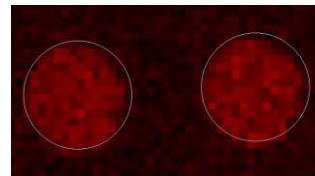
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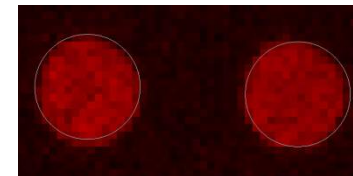
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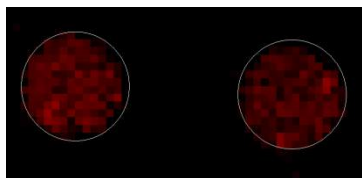
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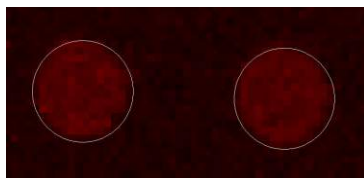
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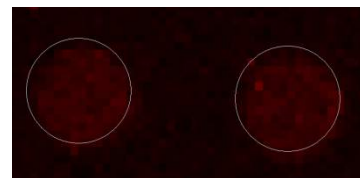
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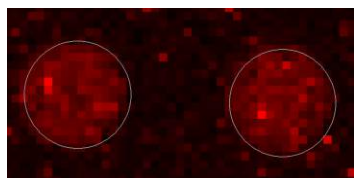
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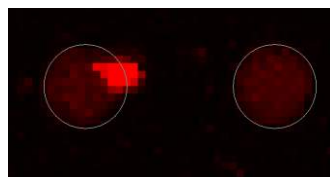
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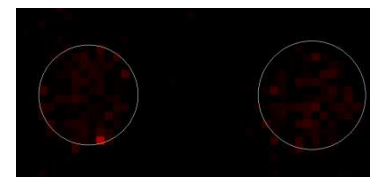
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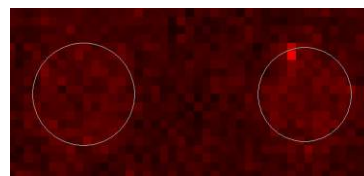
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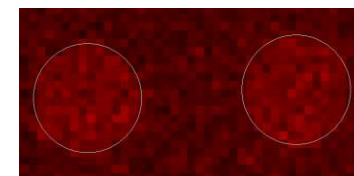
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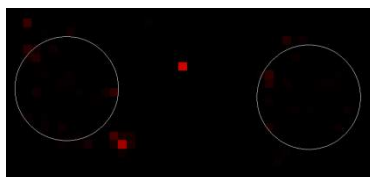
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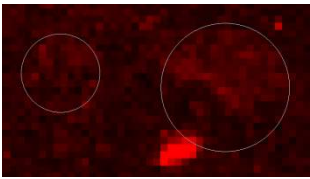


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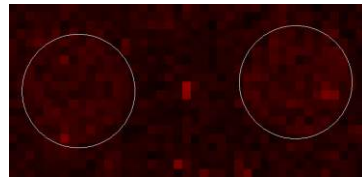


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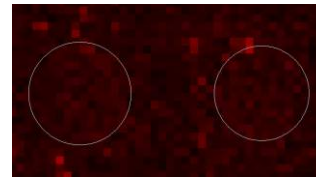
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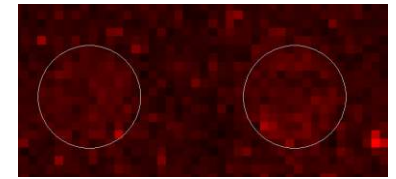
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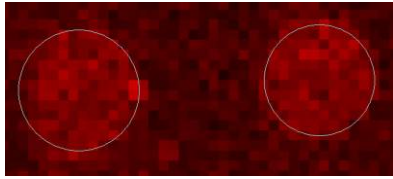
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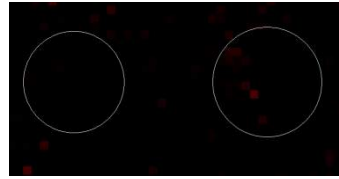
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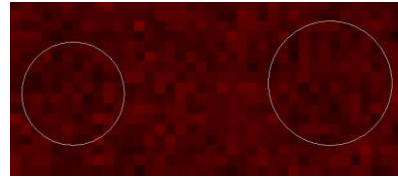
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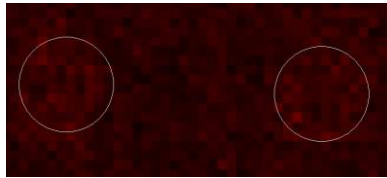
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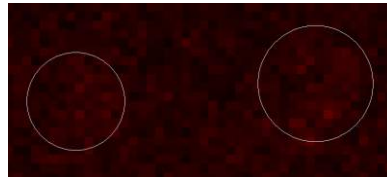
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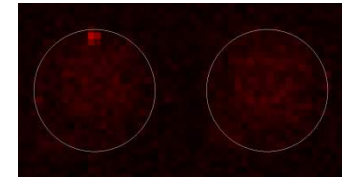
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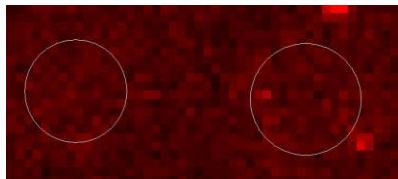
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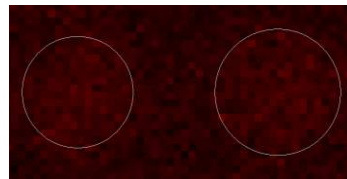
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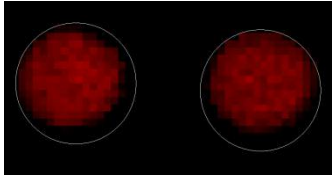
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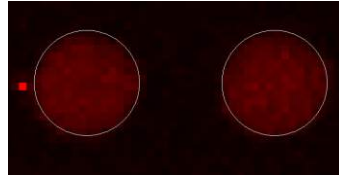
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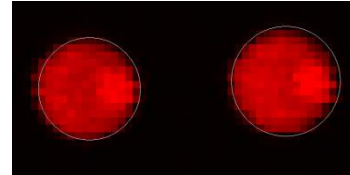
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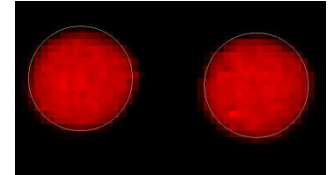
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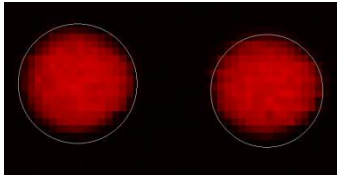
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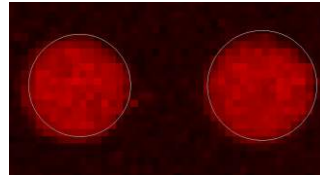
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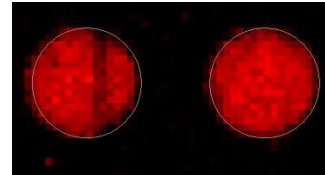
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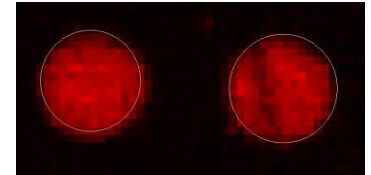
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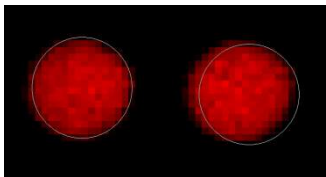
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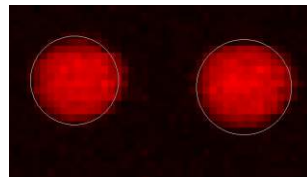
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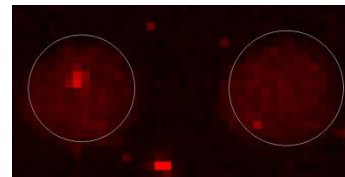
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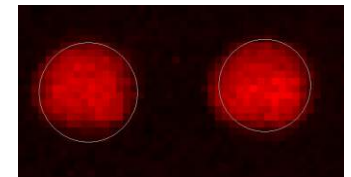
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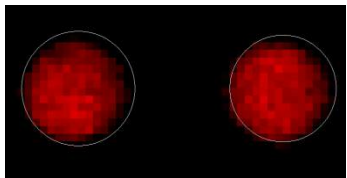
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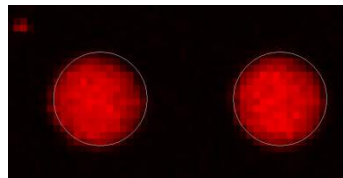
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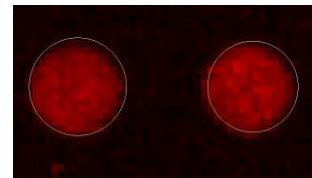
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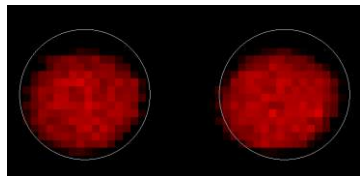


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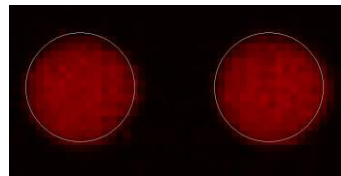


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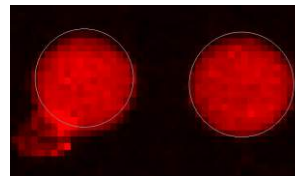
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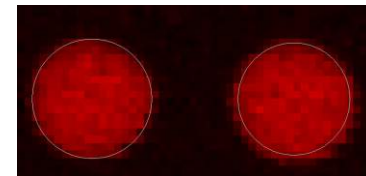
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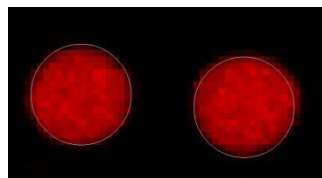
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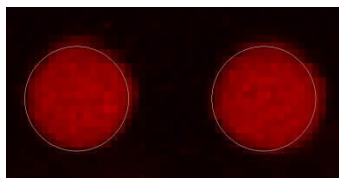
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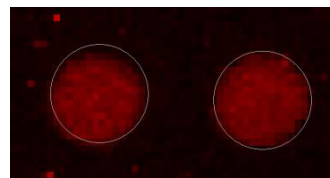
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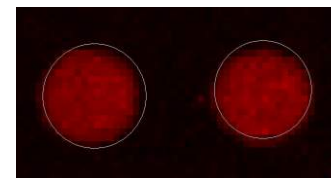
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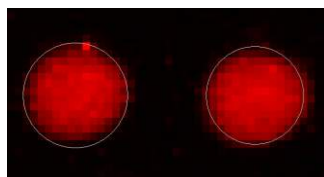
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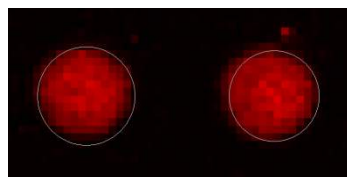
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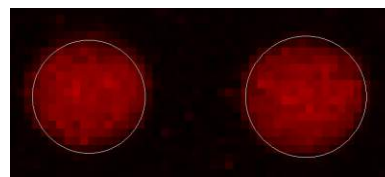
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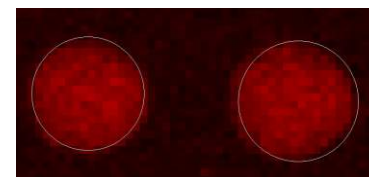
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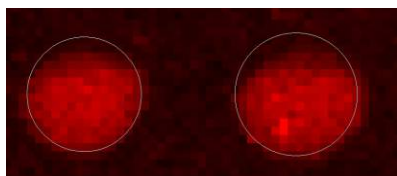
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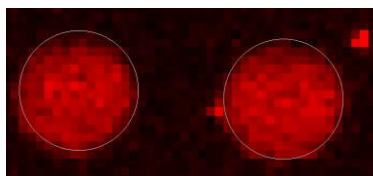
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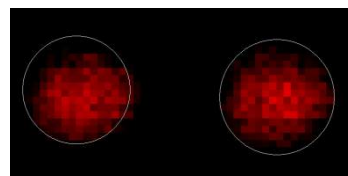
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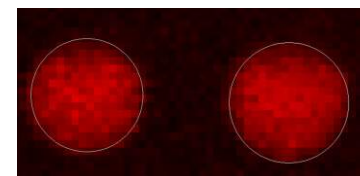
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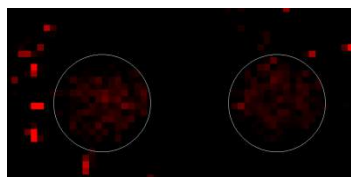
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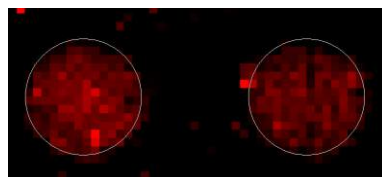
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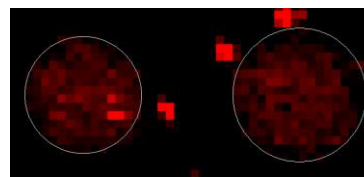
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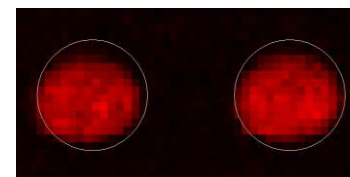
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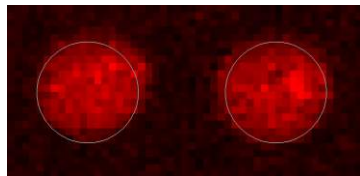
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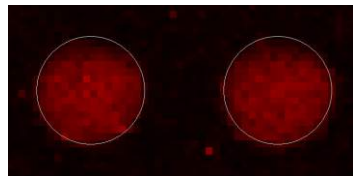
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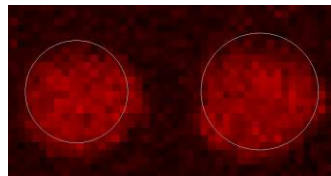
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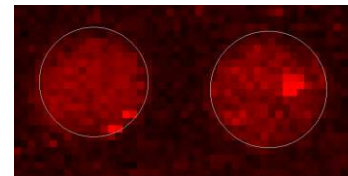
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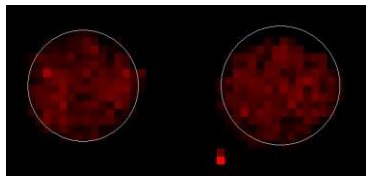
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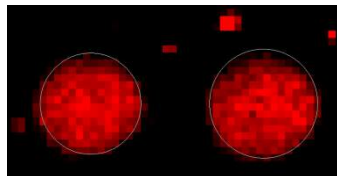
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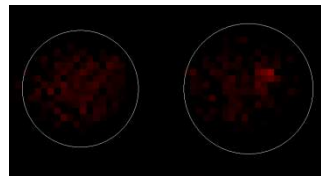
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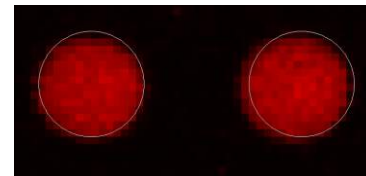
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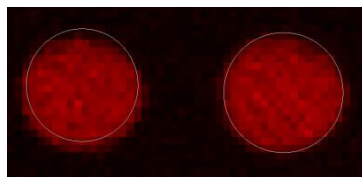
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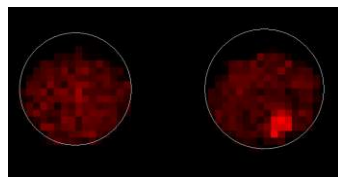
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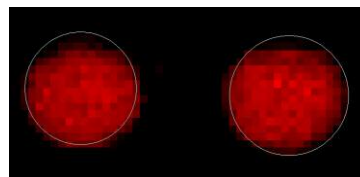
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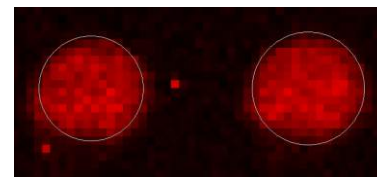
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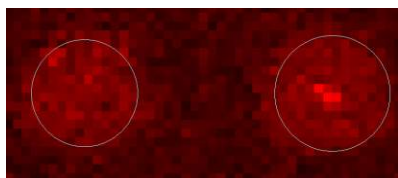
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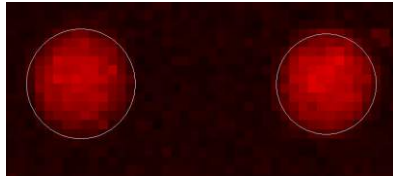


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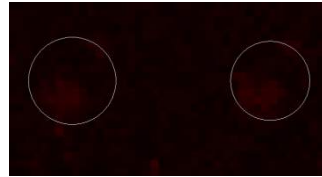


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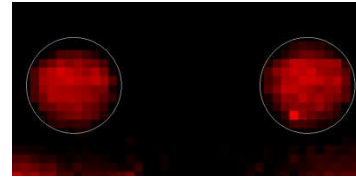
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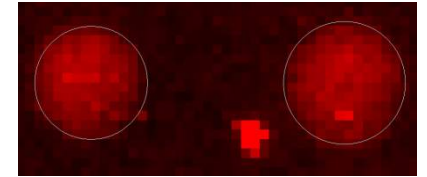
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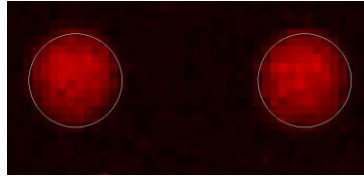
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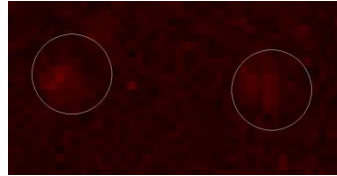
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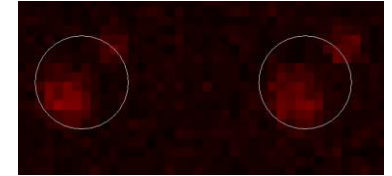
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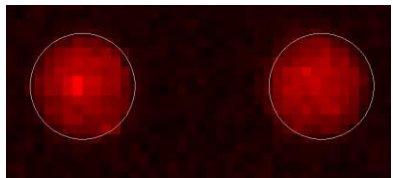
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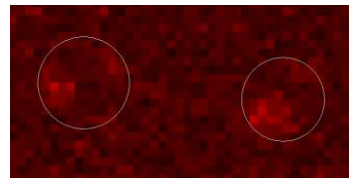
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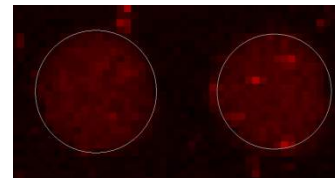
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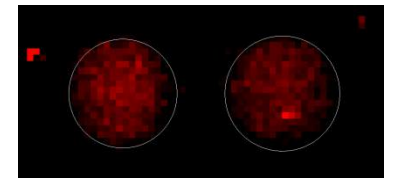
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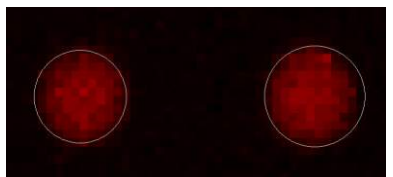
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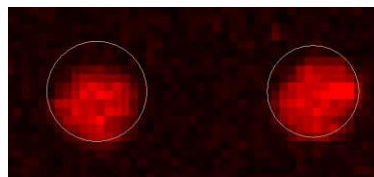
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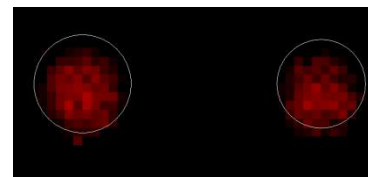
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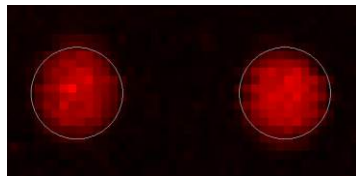
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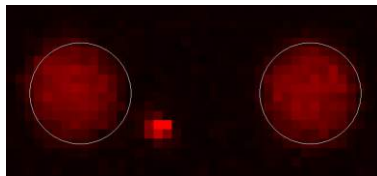
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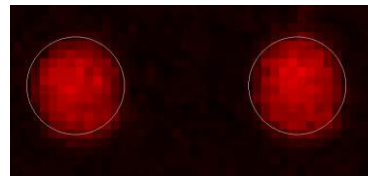




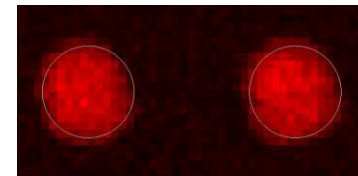
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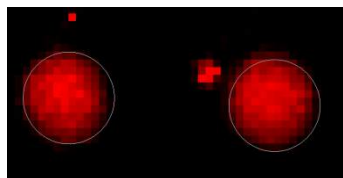
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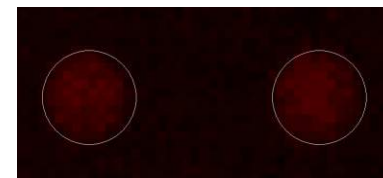
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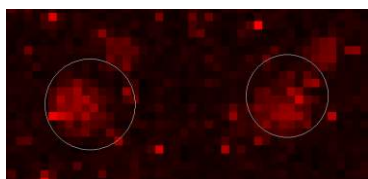
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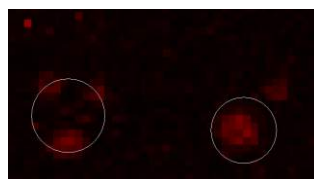
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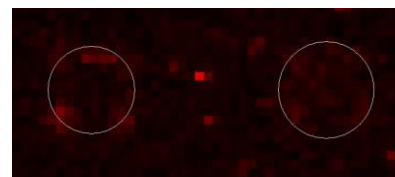
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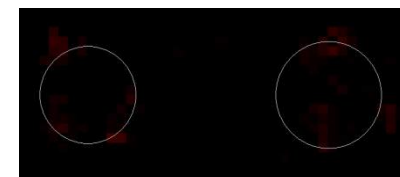
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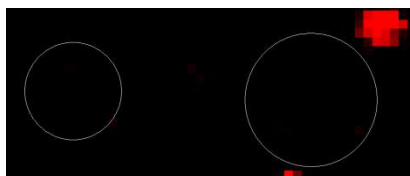
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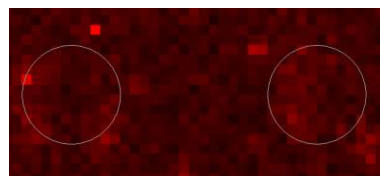
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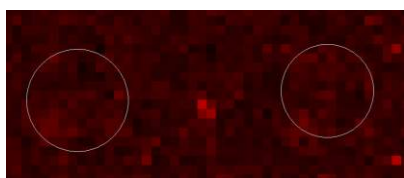
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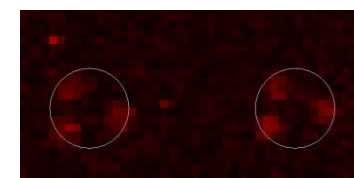
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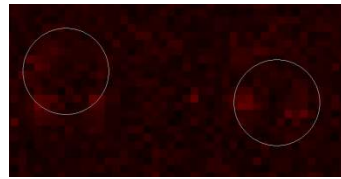
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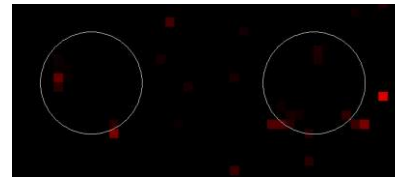
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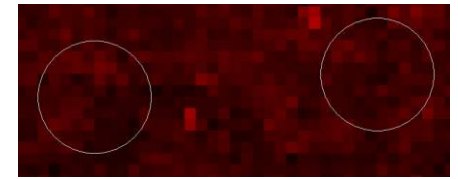
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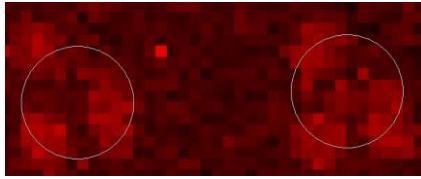
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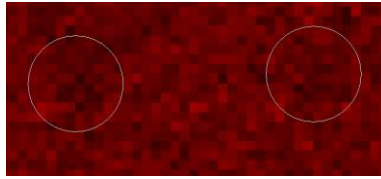
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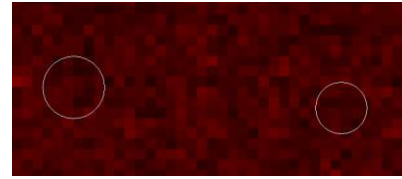
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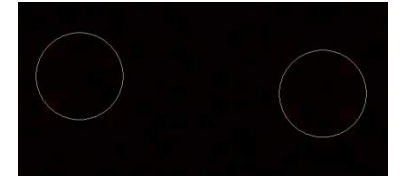
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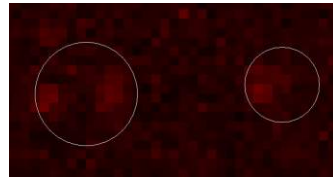
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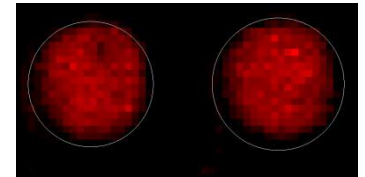
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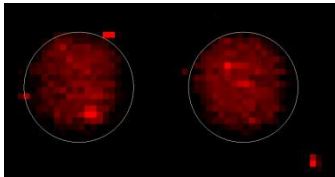
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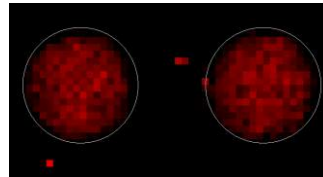
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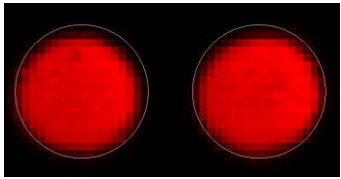


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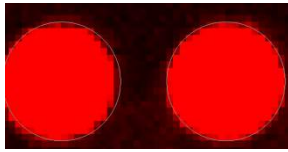


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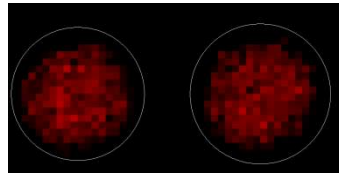
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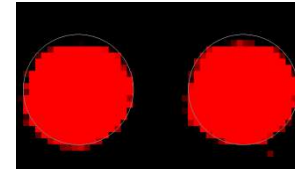
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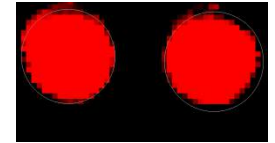
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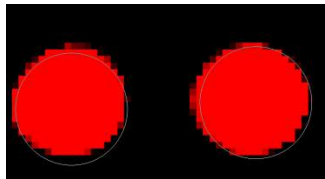
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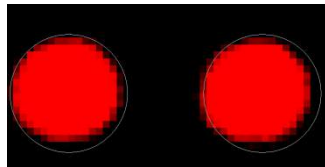
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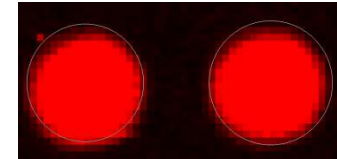
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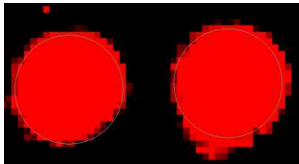
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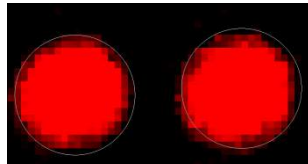
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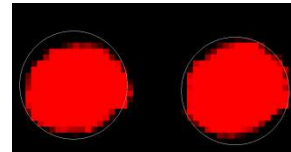
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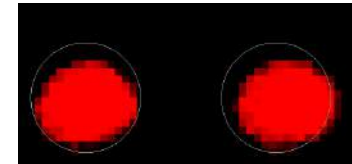
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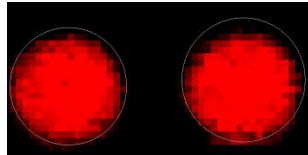
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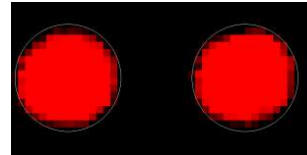
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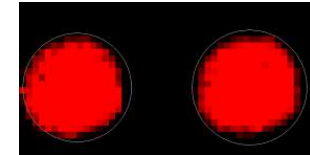
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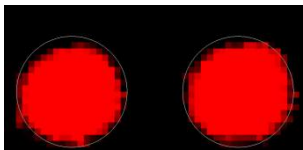
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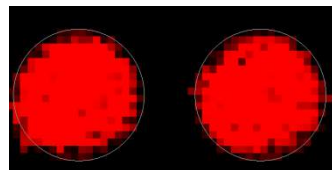
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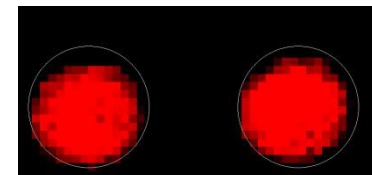
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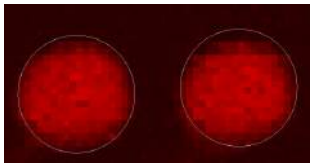
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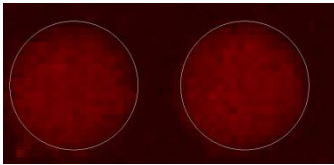
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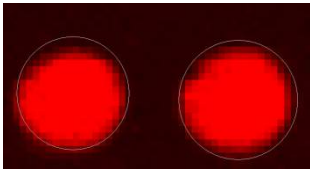
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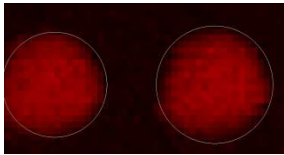
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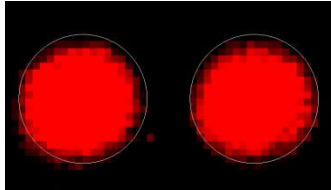
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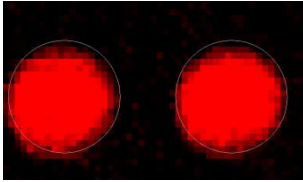
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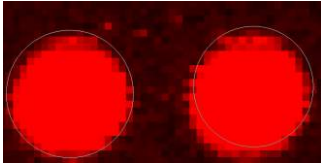
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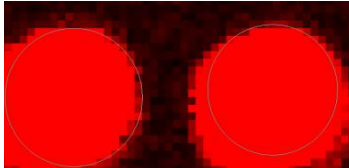
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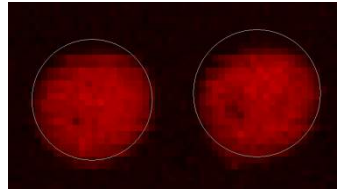
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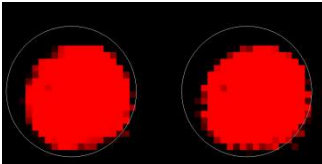
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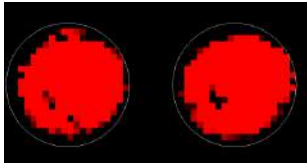
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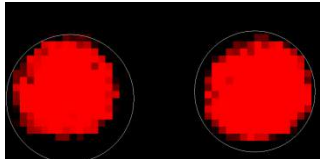
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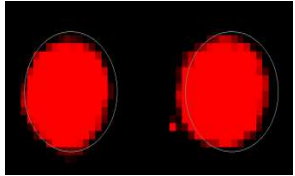
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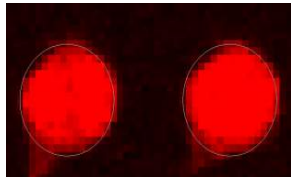
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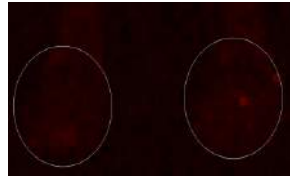
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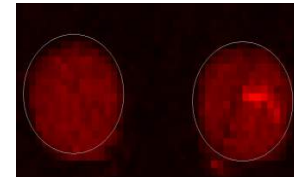
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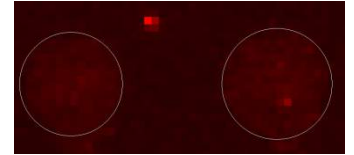
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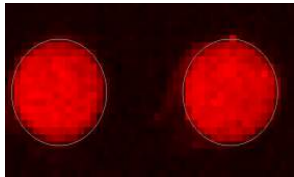
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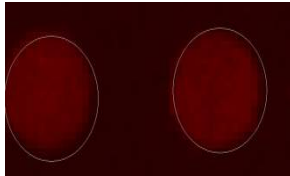
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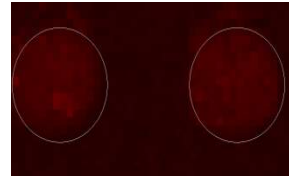
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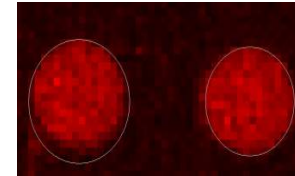
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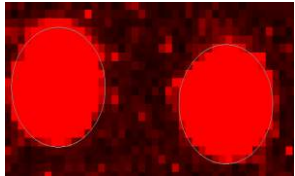
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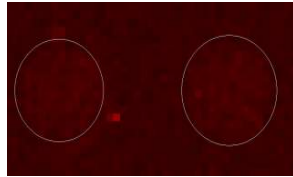
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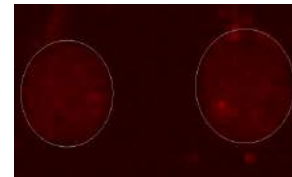
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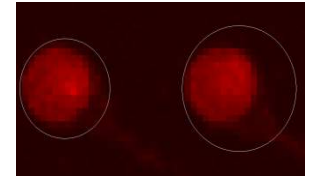
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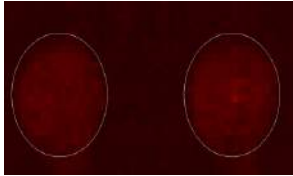
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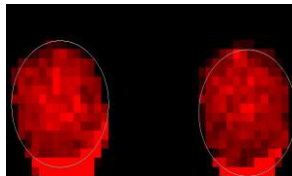
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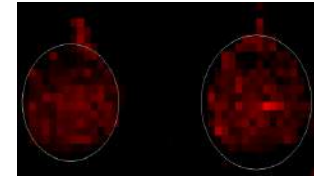
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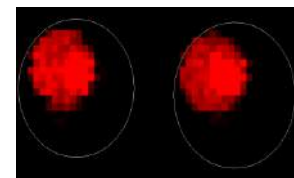
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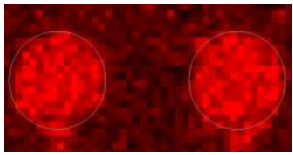
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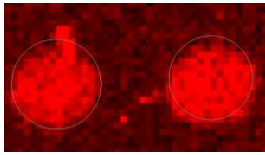
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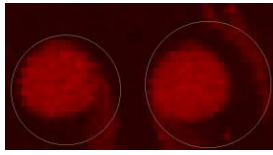
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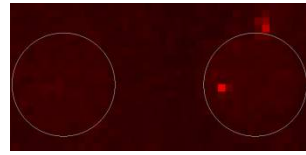
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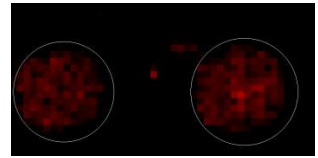
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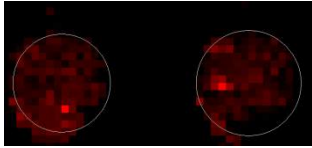
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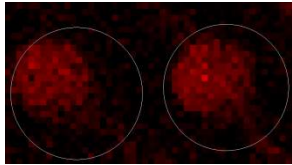
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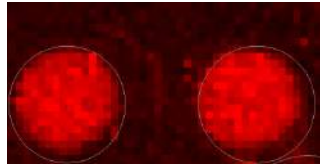
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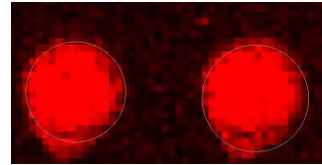
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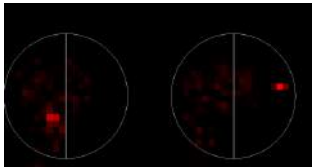
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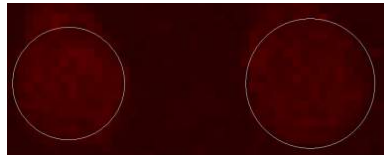
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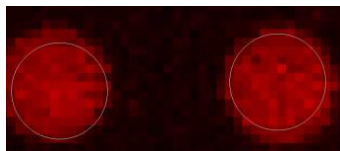


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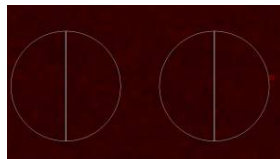
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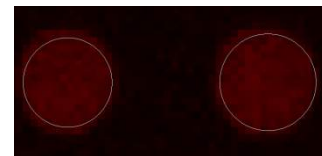
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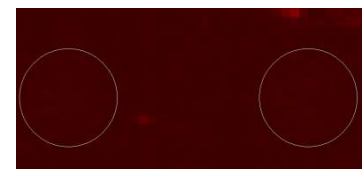
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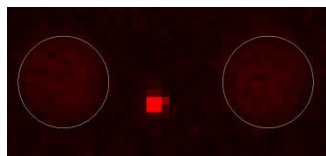
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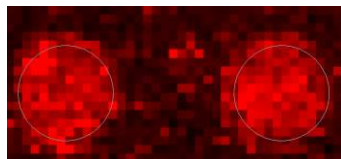
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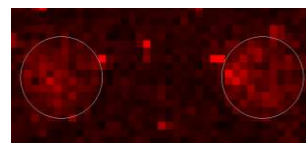
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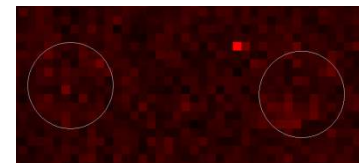
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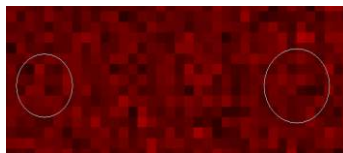
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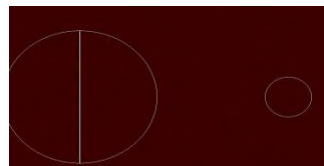
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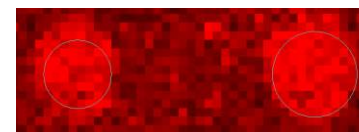
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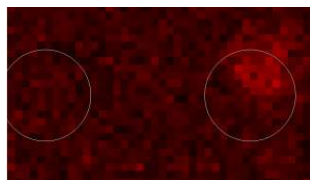
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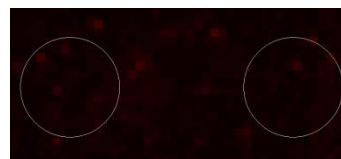
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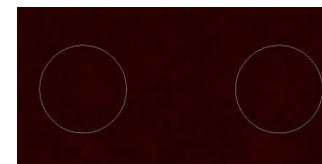
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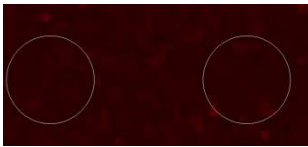
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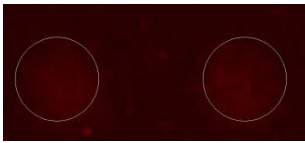
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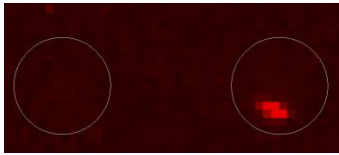
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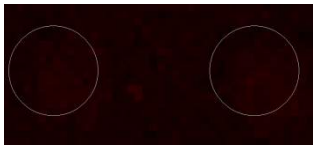
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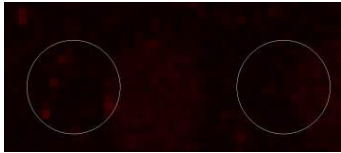
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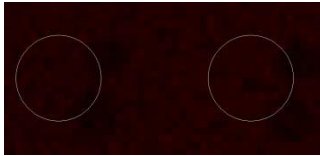
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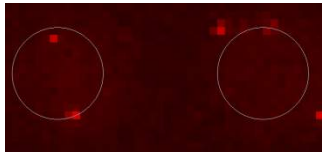
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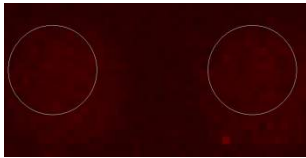
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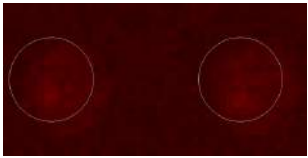
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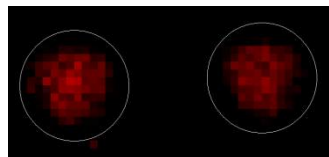


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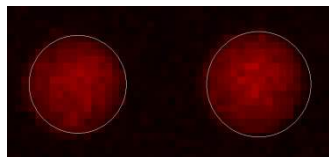


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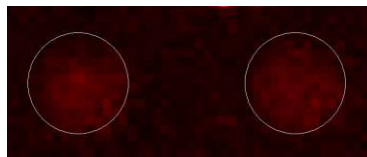
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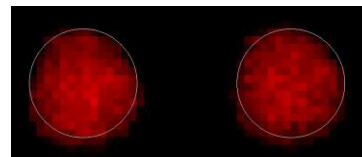
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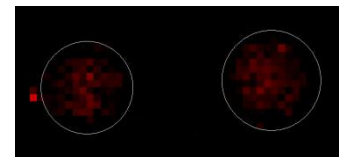
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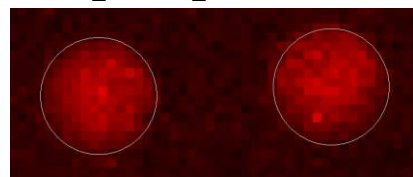
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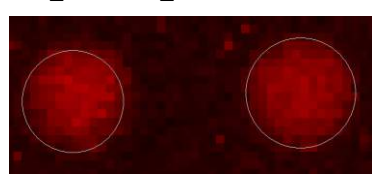
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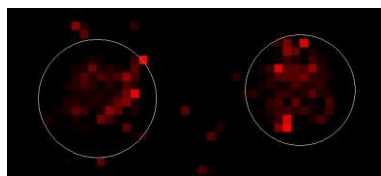
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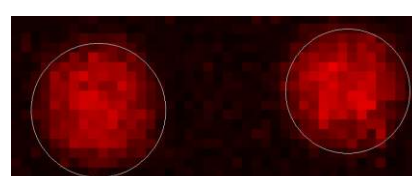
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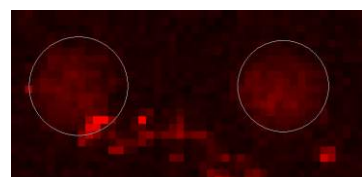
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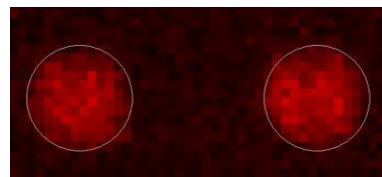
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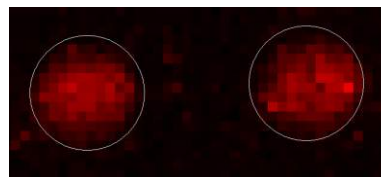
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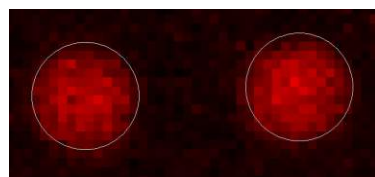
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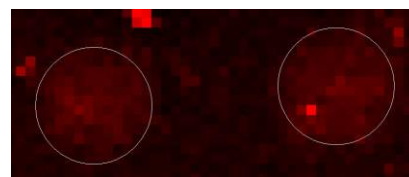
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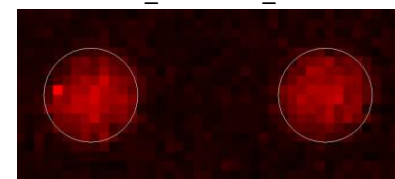
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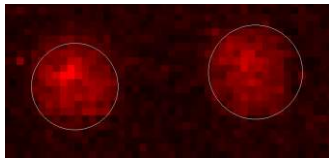


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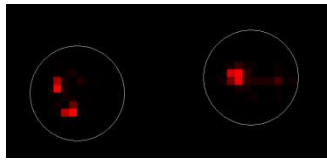


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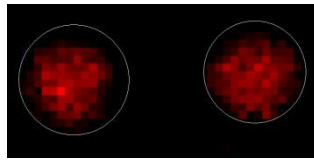




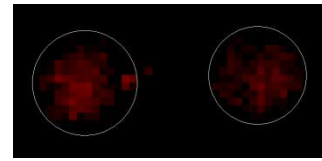
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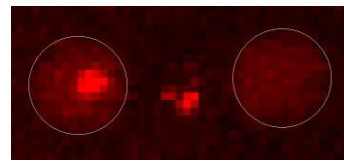
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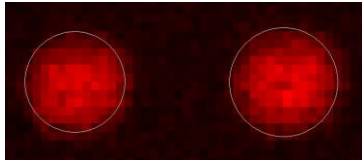
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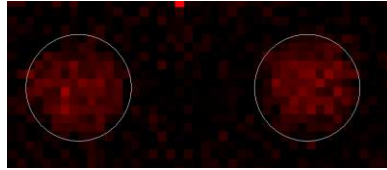
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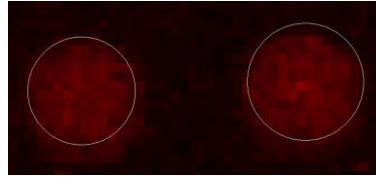
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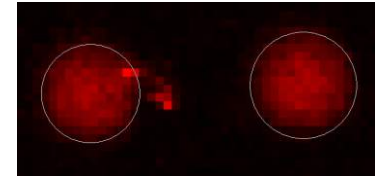
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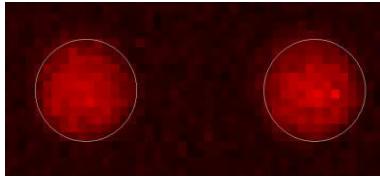
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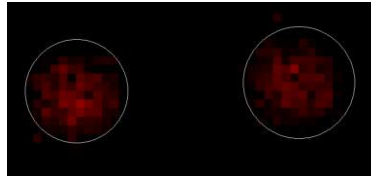
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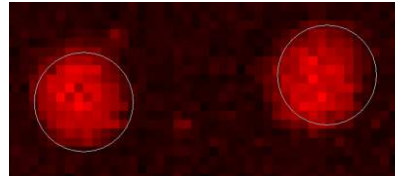
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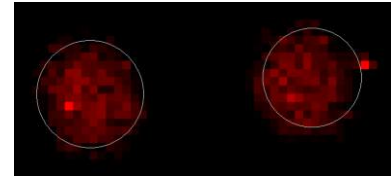
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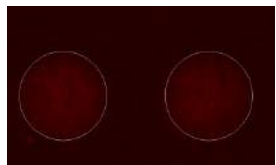


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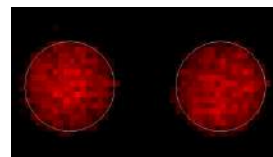
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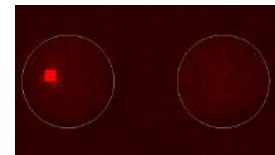
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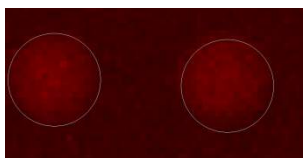
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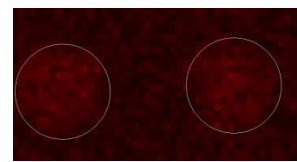
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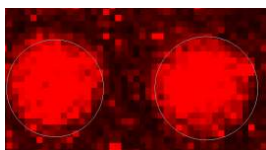
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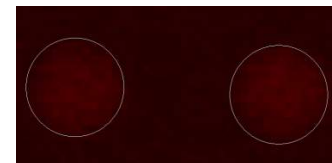
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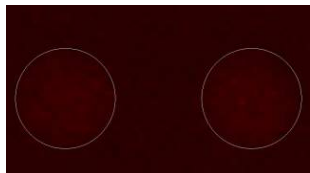
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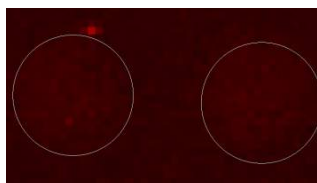
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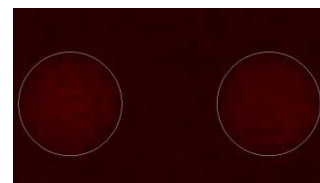
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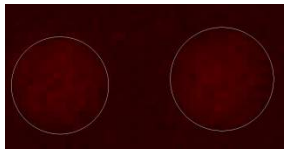
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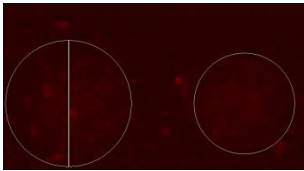
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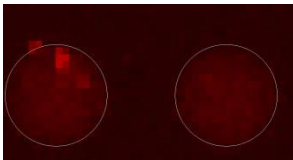
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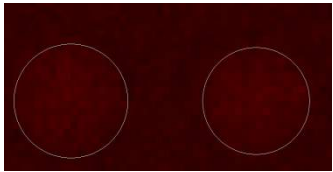
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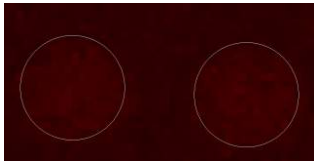
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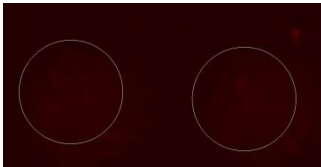
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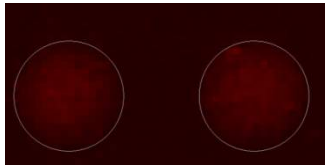
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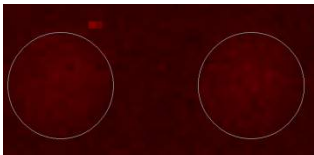
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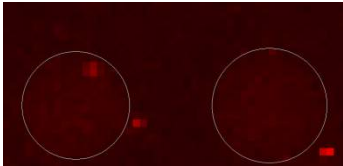
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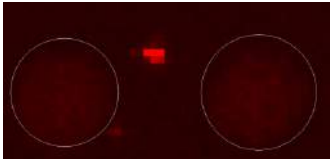
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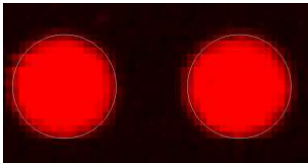
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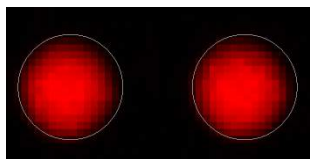
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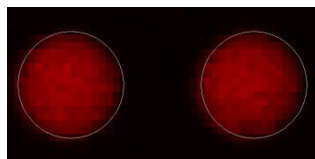
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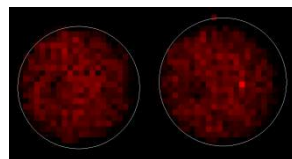
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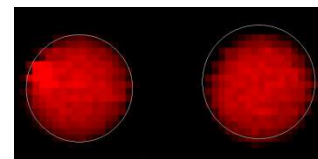
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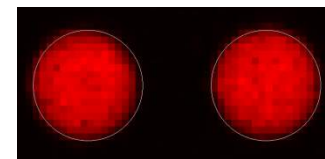
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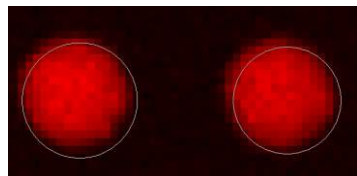
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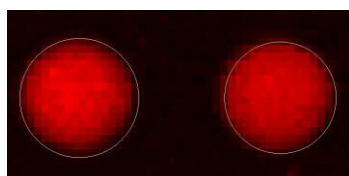
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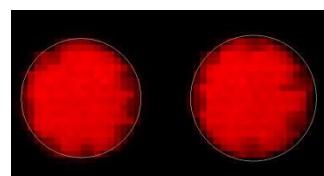
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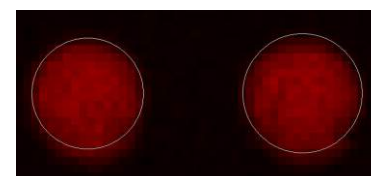
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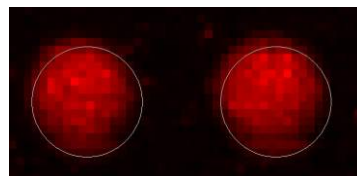
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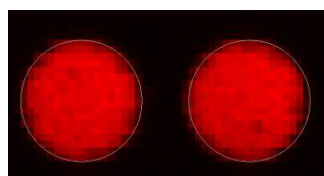
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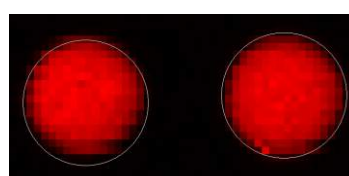
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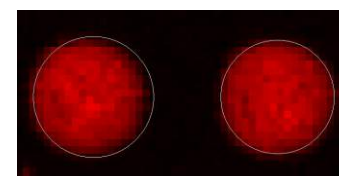
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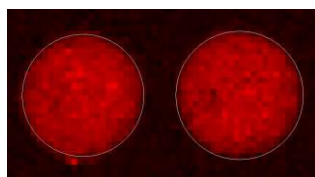
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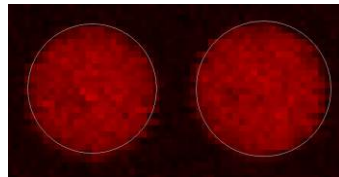
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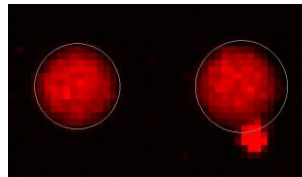
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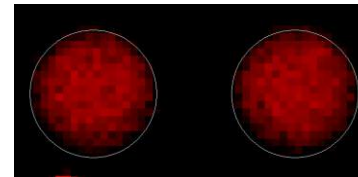
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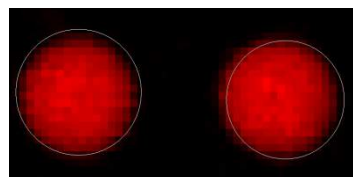
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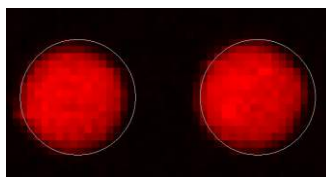
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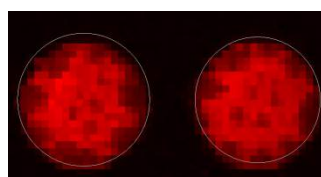
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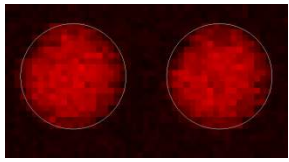
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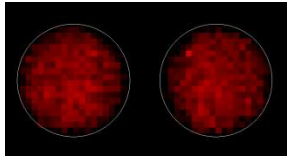
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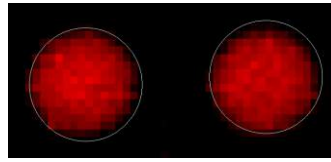
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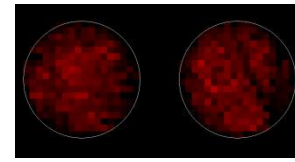
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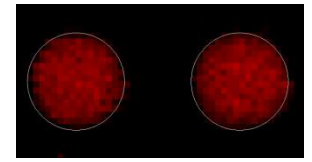
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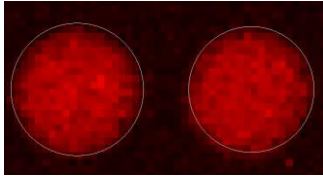
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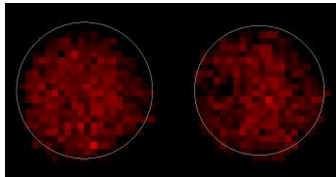
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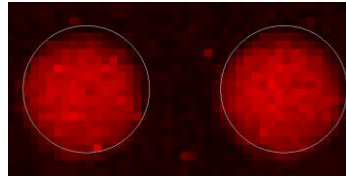
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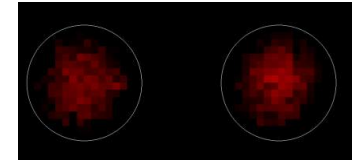
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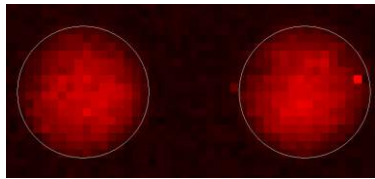
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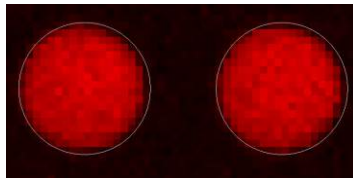
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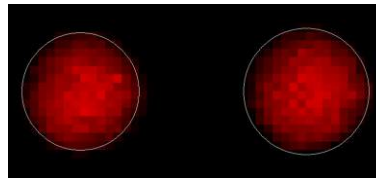
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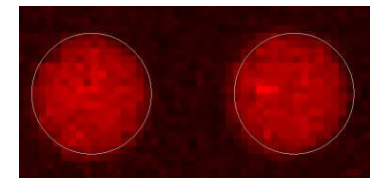
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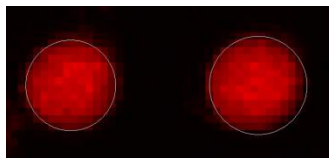


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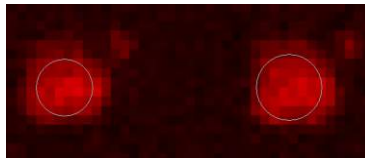
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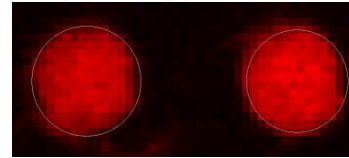
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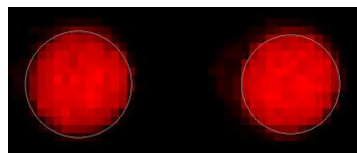
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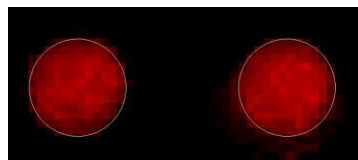
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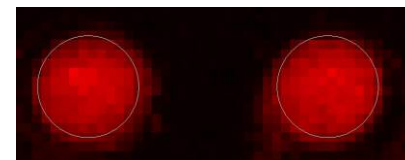
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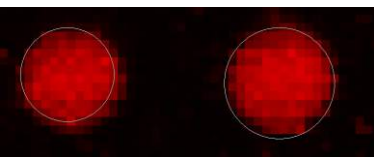
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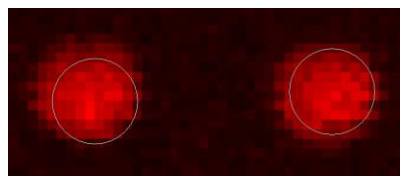
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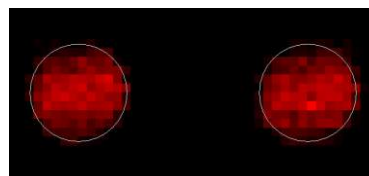
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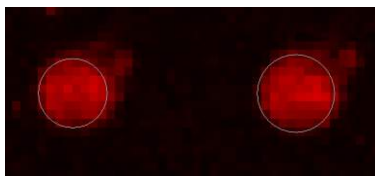
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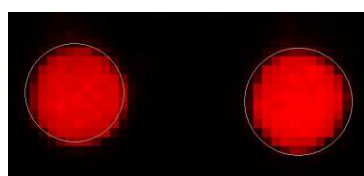
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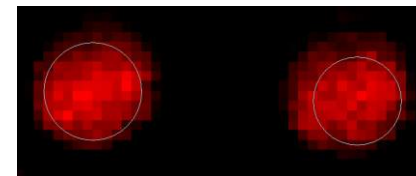
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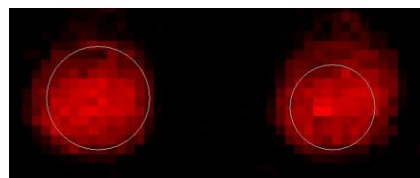
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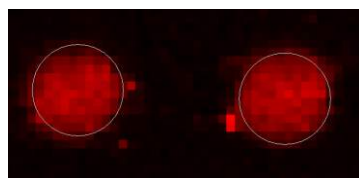
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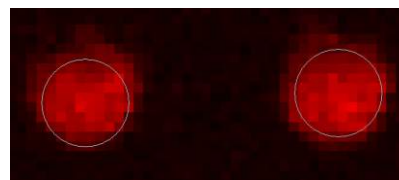
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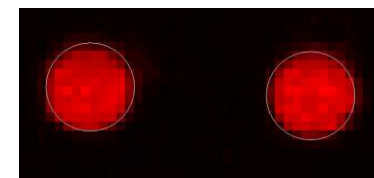
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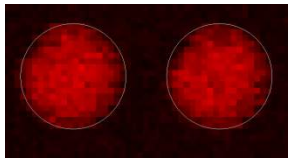
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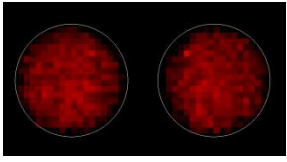
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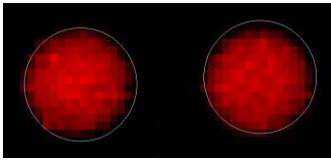
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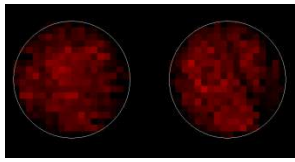
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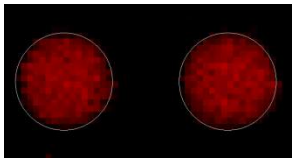
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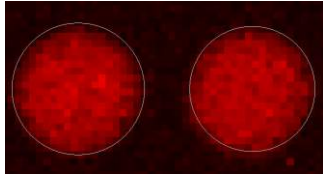
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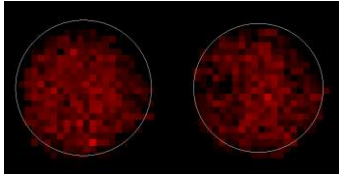
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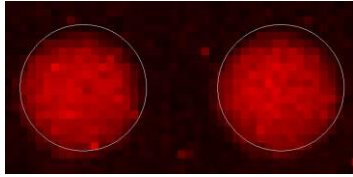
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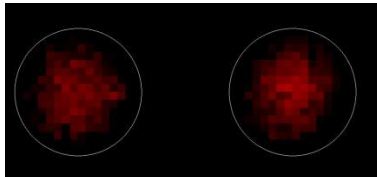
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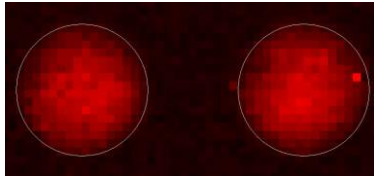
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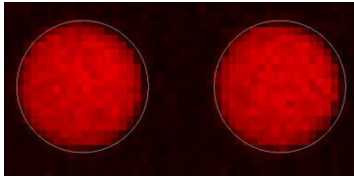
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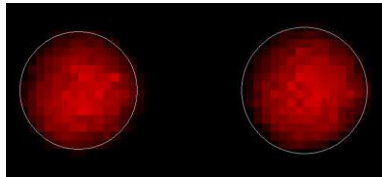
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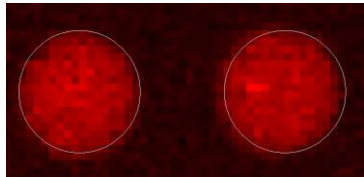
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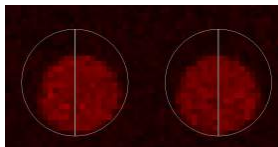


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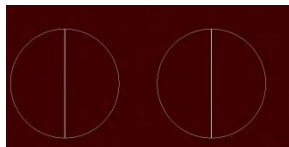


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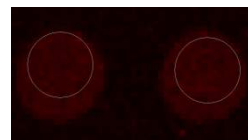
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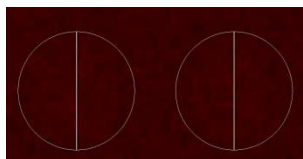
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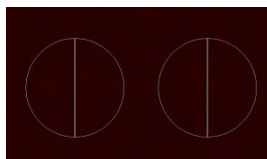
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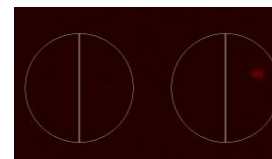
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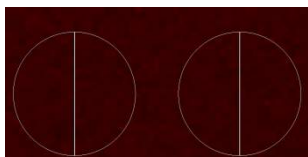
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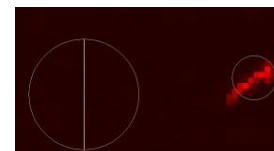
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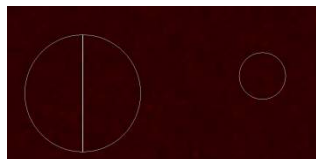
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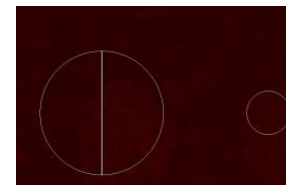
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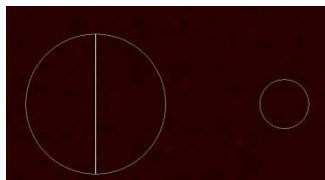
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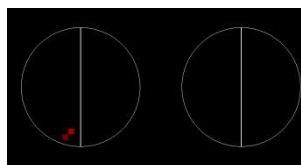
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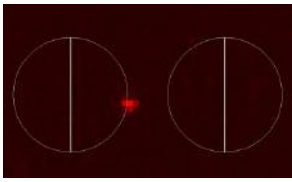


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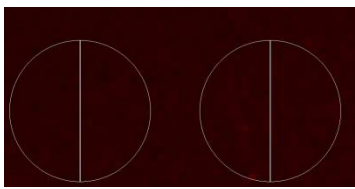


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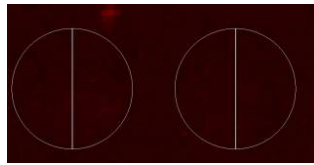




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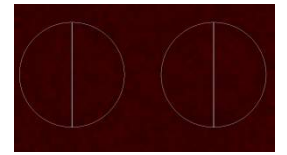
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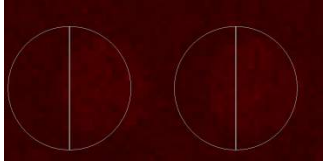
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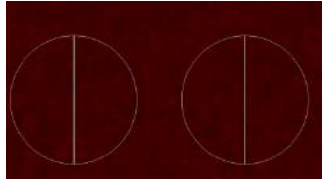
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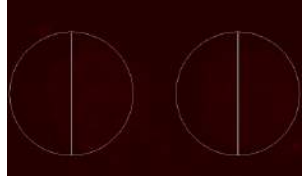
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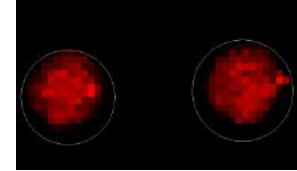
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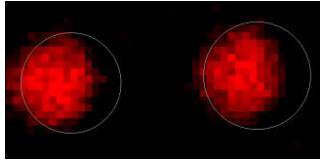
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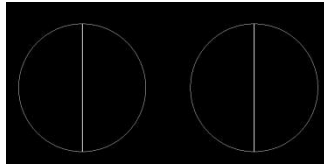
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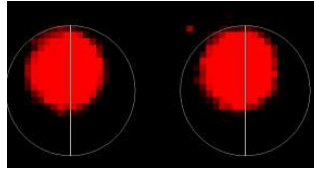
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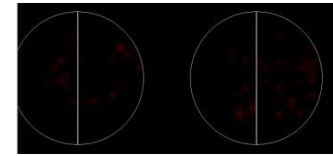
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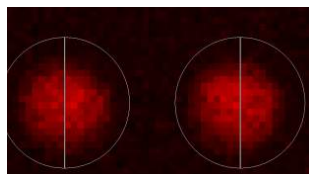


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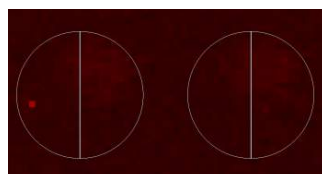
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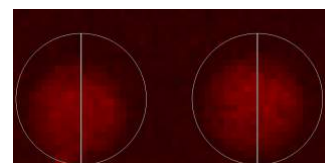
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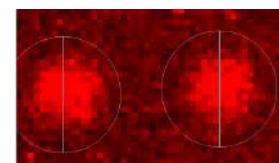
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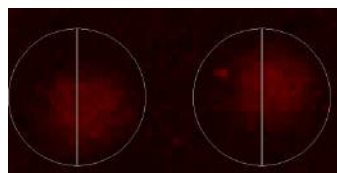
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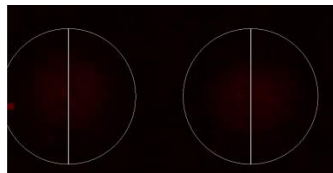
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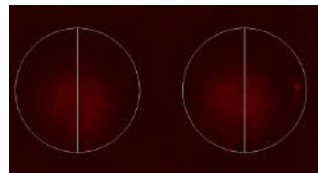
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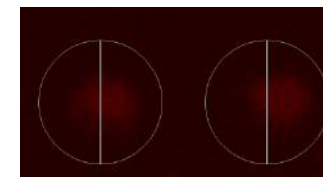
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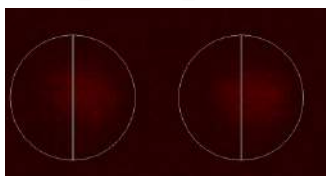
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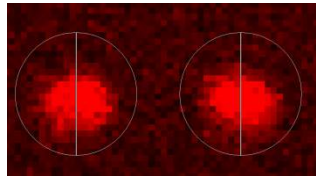
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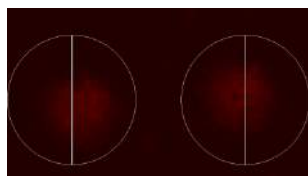
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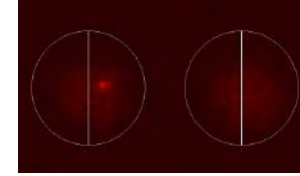
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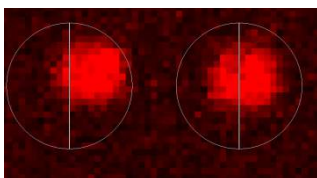
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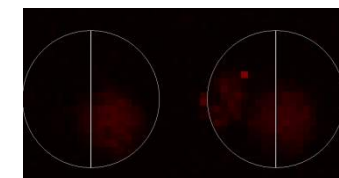
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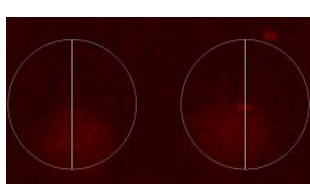
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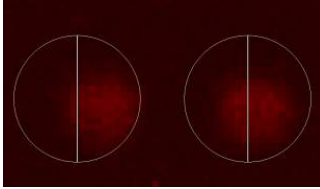
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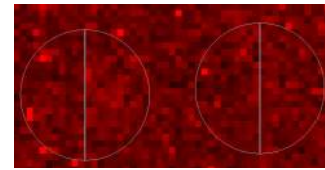
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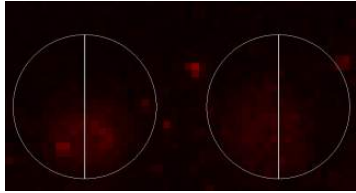
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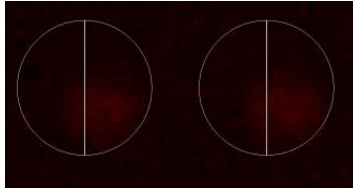
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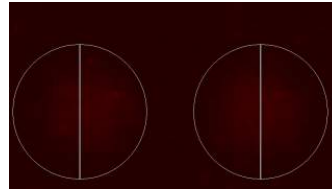
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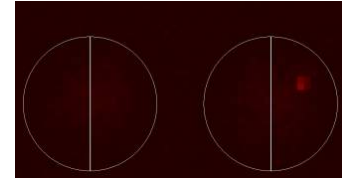
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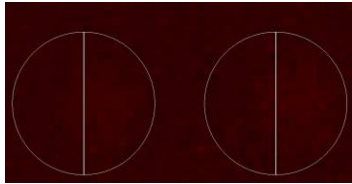
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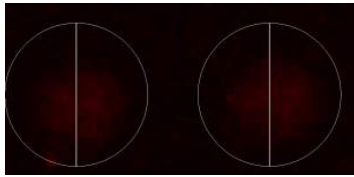
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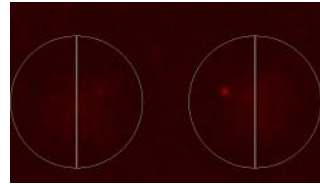
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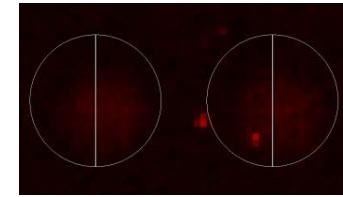
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Grade IV\_CH 18016\_2000153791



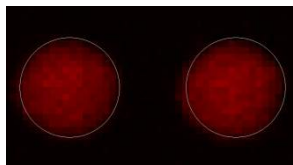
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Grade IV\_CJ 32705\_2000153797



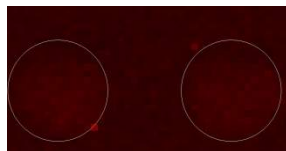
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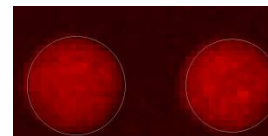
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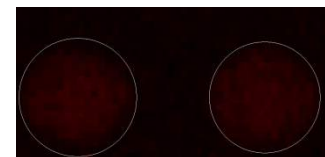
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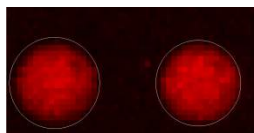
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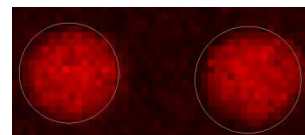
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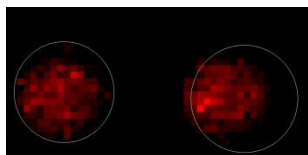
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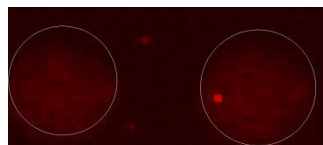
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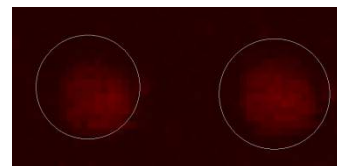
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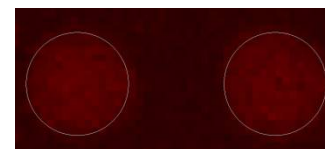
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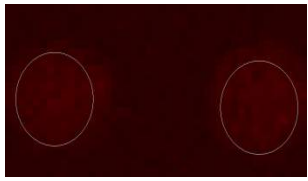
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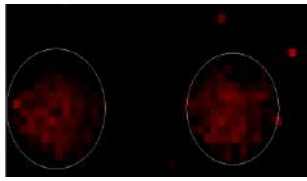
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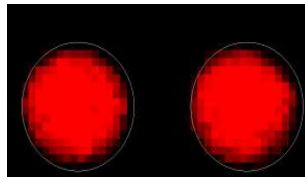
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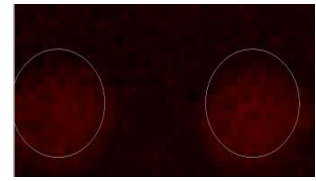
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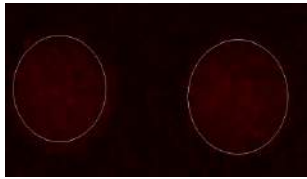
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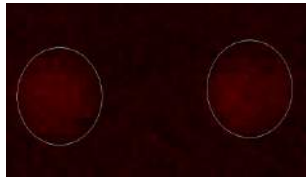
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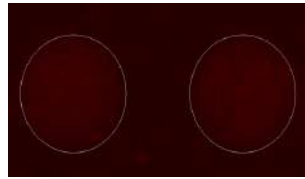
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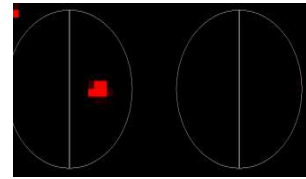
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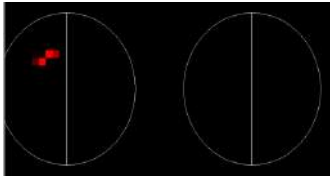
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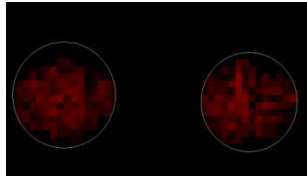
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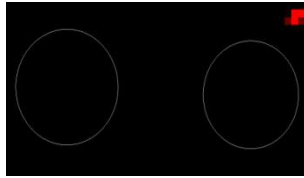
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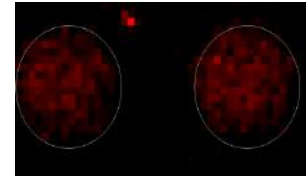
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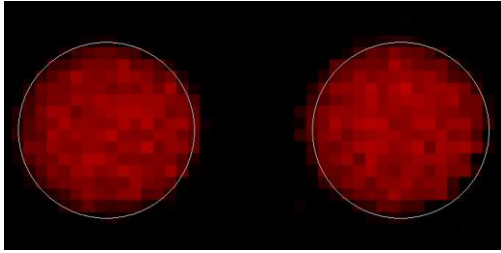
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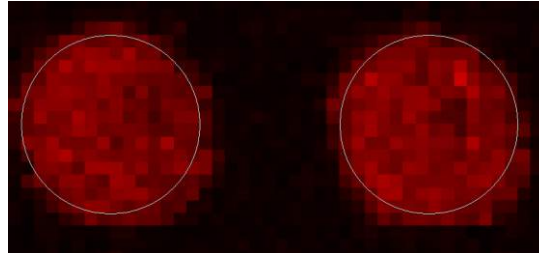
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Grade II\_IDH1p Vs Grade II\_Wild Type IDH1

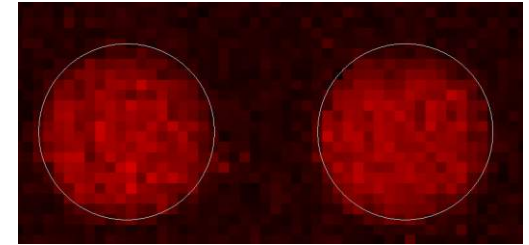
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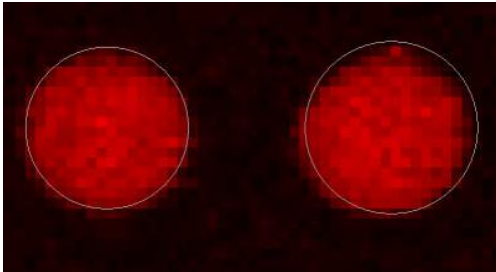
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Grade II\_CJ 33350\_2000144452

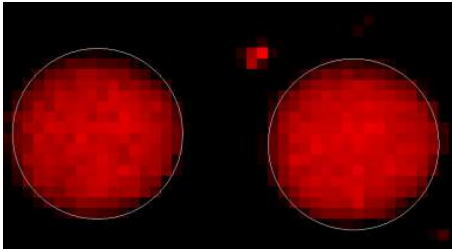


Grade II\_CJ 4825\_2000143981

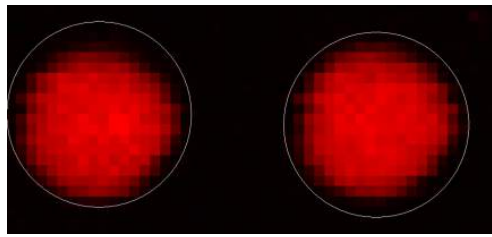


Grade II\_CJ 7132\_2000154028

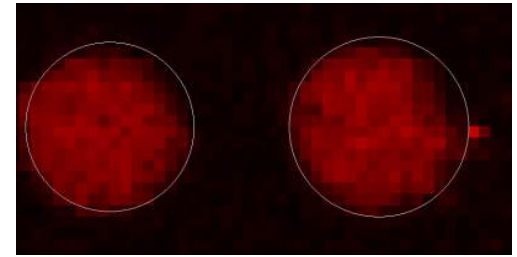
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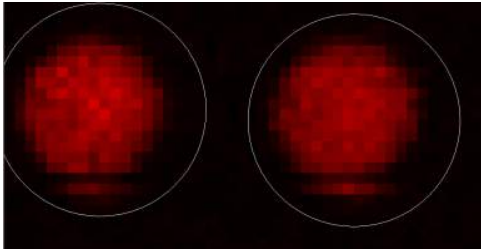
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Grade II\_CF 20468\_2000153947

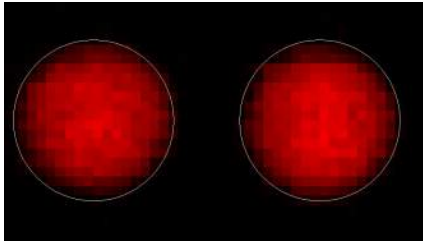


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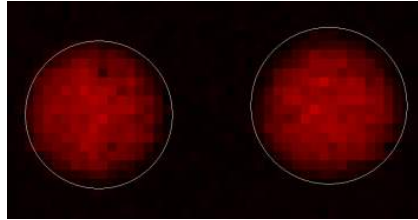


Grade II\_CK 40\_2000144445

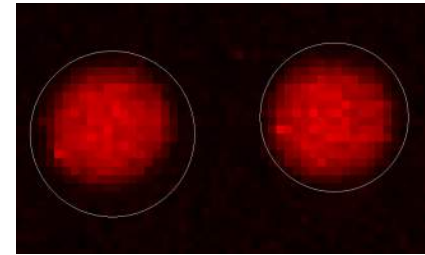
# NM\_017735.3 (TTC27) - IDH1p



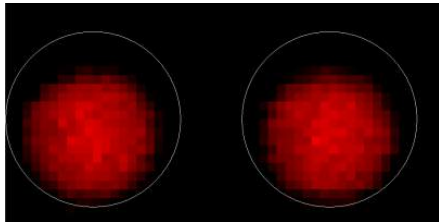
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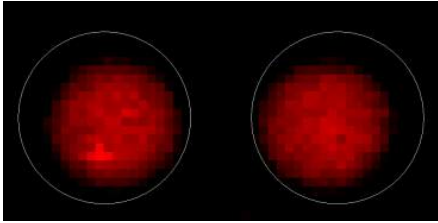


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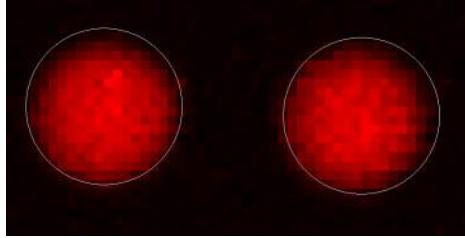


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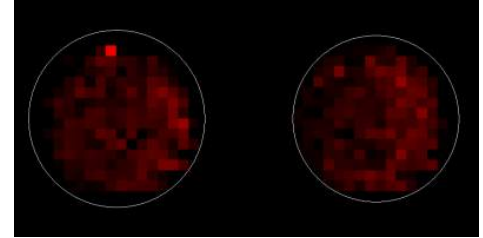
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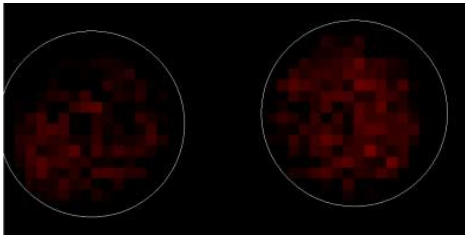
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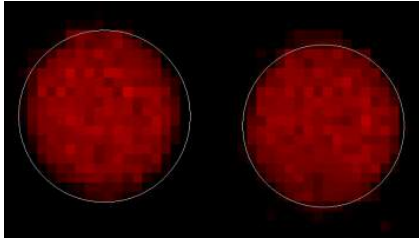


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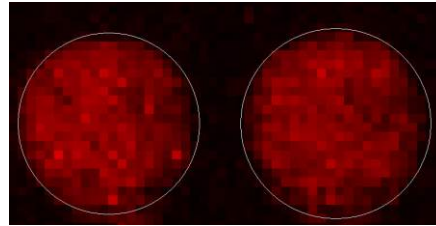


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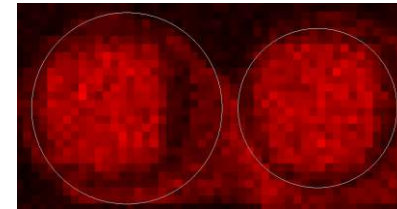
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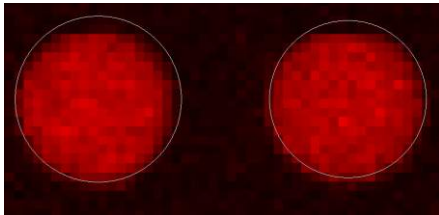
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Grade II\_CJ 33350\_2000144452



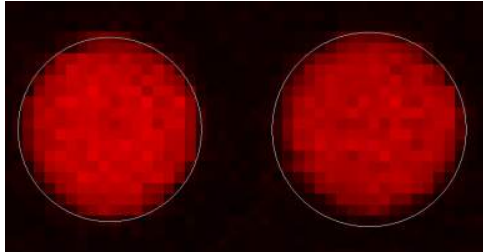
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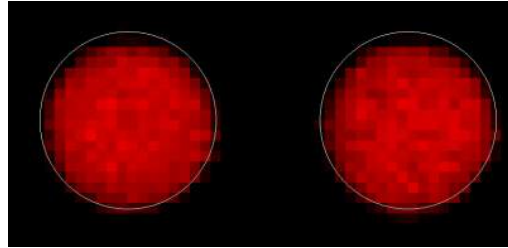
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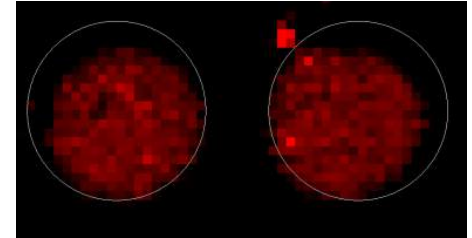
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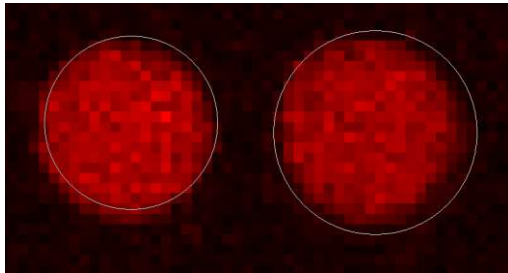
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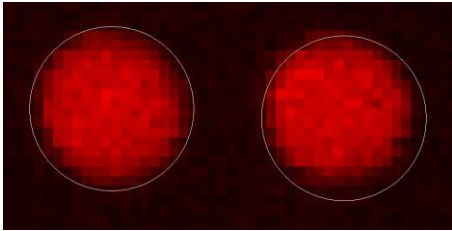


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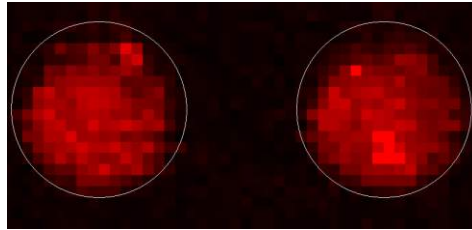


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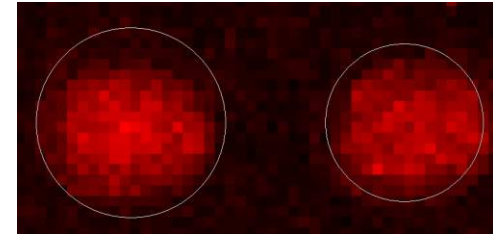
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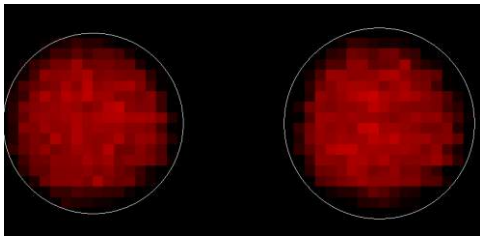
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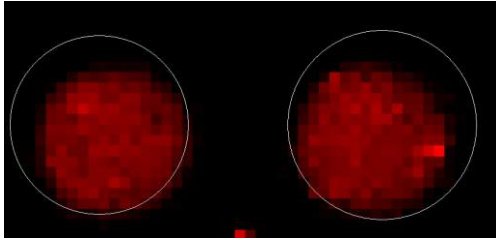


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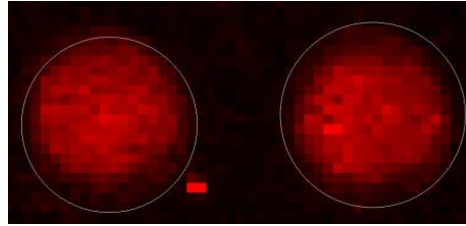


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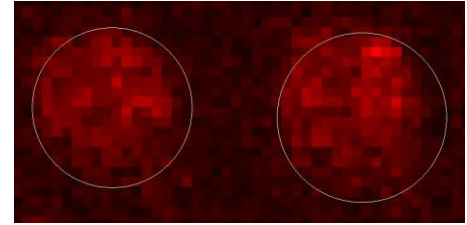
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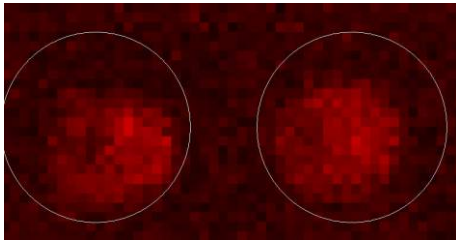
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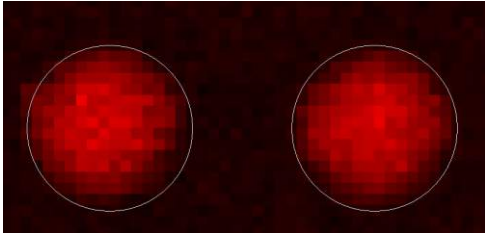


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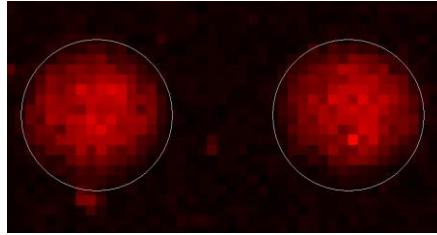


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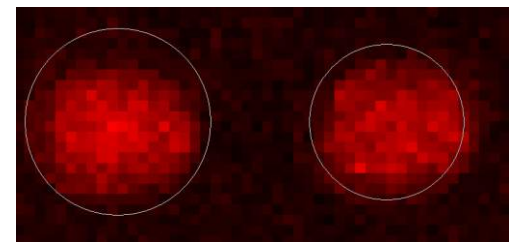
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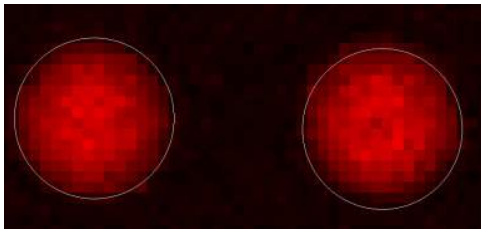
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Grade II\_CJ 33350\_2000144452

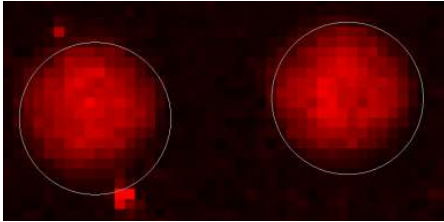


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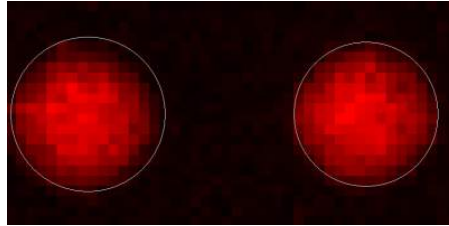


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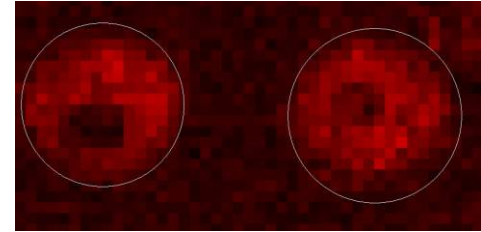
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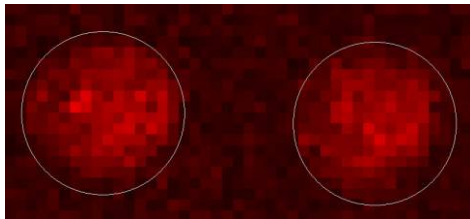
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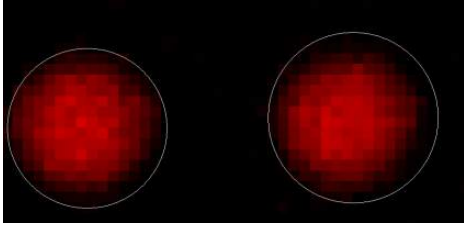


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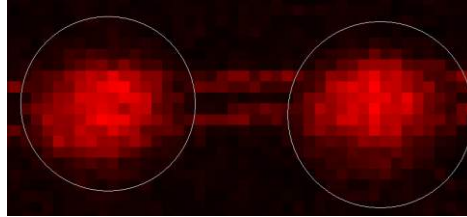


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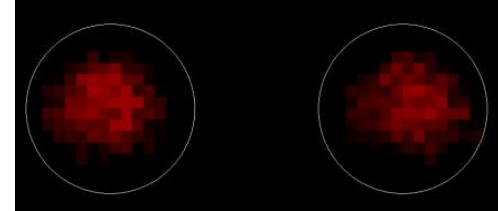
# NM\_016401.2 (C11ORF73) – IDH1p



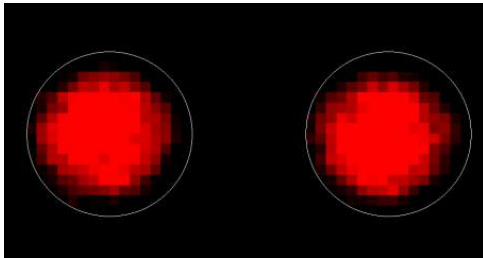
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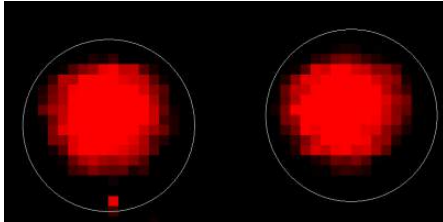


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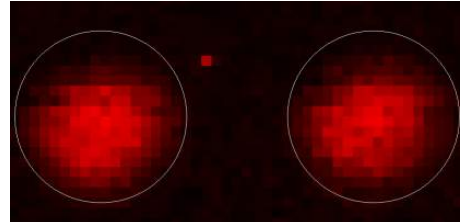


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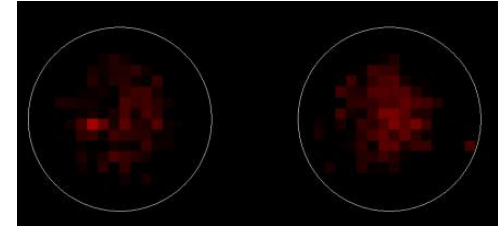
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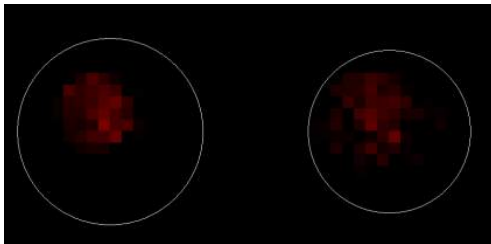
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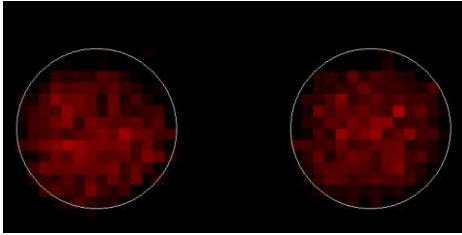


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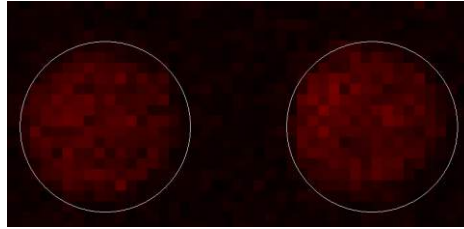


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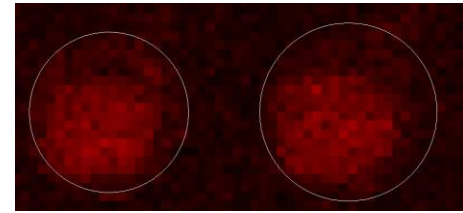
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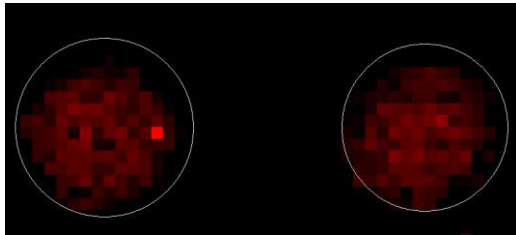
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Grade II\_CJ 33350\_2000144452



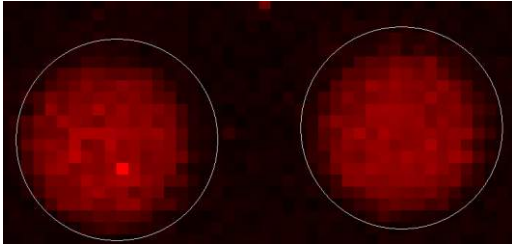
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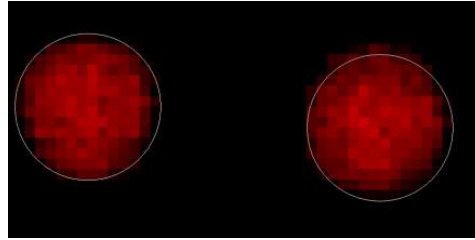
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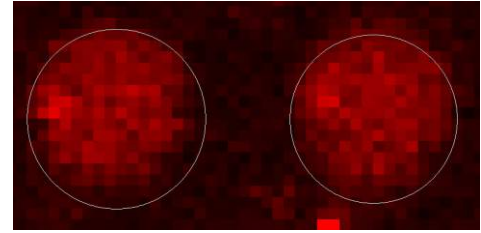
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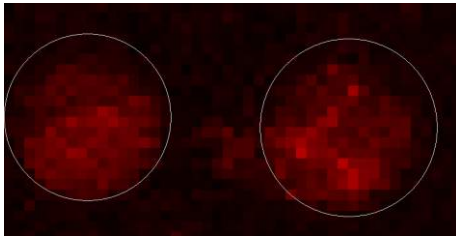
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Grade II\_CF 20468\_2000153947

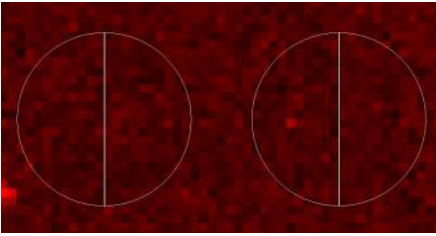


Grade II\_CJ 10242\_2000144449\_2



Grade II\_CK 40\_2000144445

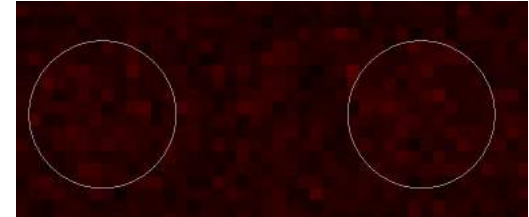
# NM\_007026.1 (DUSP14) – IDH1p



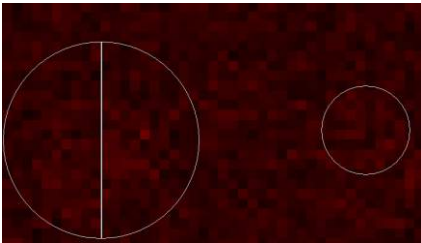
Grade II\_CF 29538\_2000154020



Grade II\_CJ 33350\_2000144452



Grade II\_CJ 4825\_2000143981

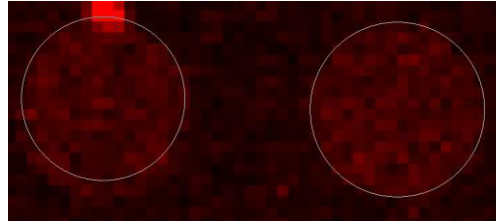


Grade II\_CJ 7132\_2000154028

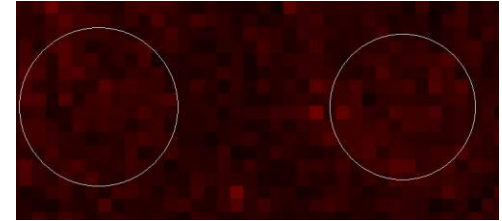
# NM\_007026.1 (DUSP14) – Wild Type



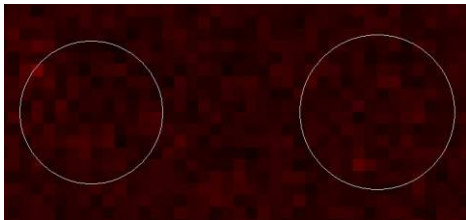
Grade II\_CF 10729\_2000154012



Grade II\_CF 20468\_2000153947

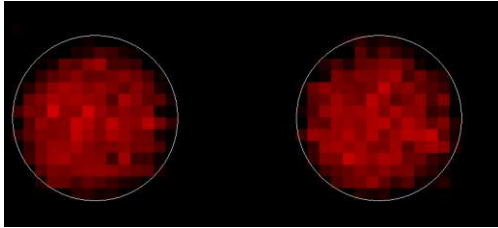


Grade II\_CJ 10242\_2000144449\_2

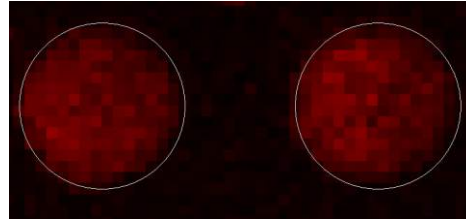


Grade II\_CK 40\_2000144445

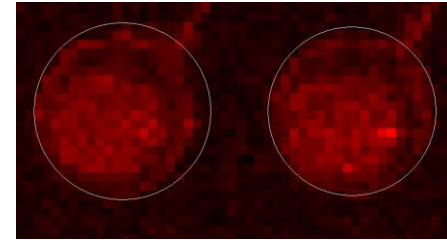
# NM\_005861.2 (STUB1) – IDH1p



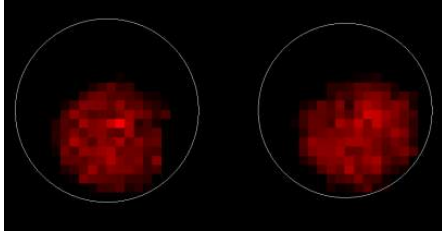
Grade II\_CF 29538\_2000154020



Grade II\_CJ 33350\_2000144452

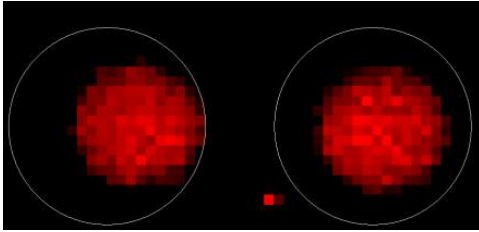


Grade II\_CJ 4825\_2000143981

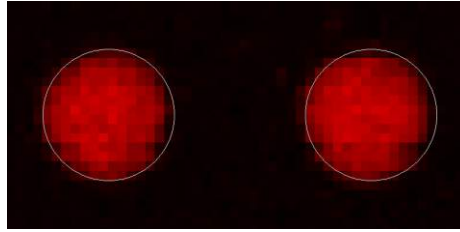


Grade II\_CJ 7132\_2000154028

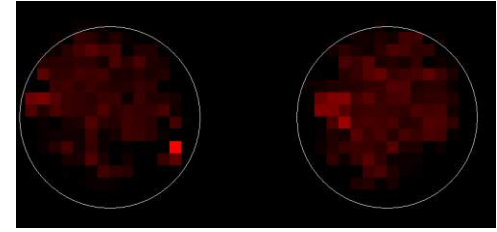
# NM\_005861.2 (STUB1) – Wild Type



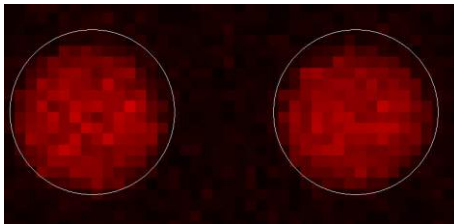
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Grade II\_CF 20468\_2000153947

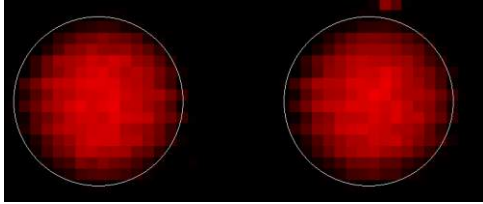


Grade II\_CJ 10242\_2000144449\_2

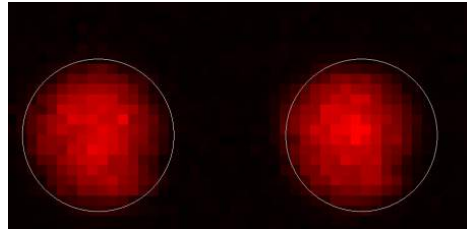


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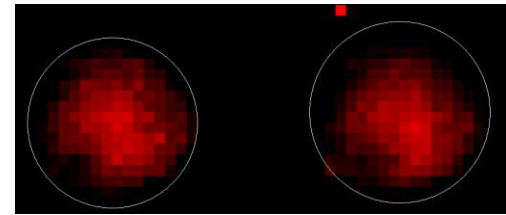
# NM\_000519.3 (HBD) – IDH1p



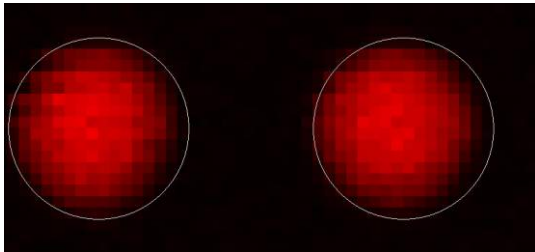
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Grade II\_CJ 33350\_2000144452

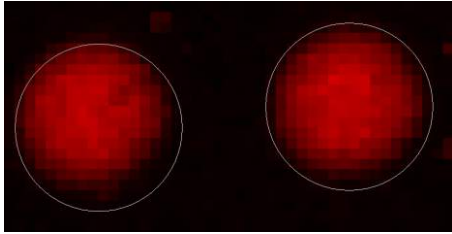


Grade II\_CJ 4825\_2000143981

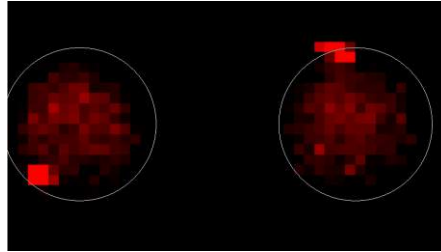


Grade II\_CJ 7132\_2000154028

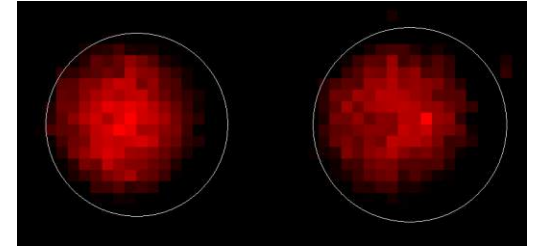
# NM\_000519.3 (HBD) – Wild Type



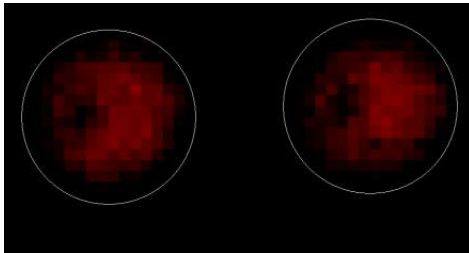
Grade II\_CF 10729\_2000154012



Grade II\_CF 20468\_2000153947

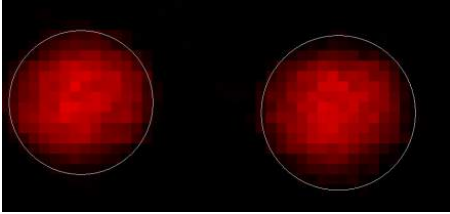


Grade II\_CJ 10242\_2000144449\_2

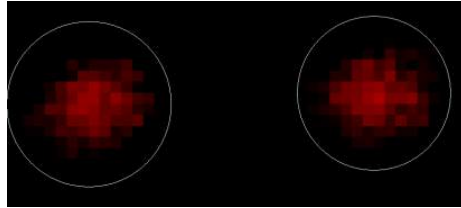


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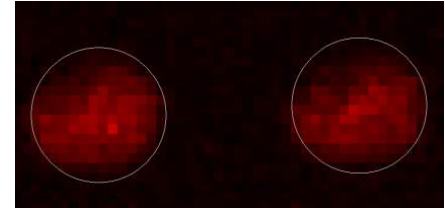
# NM\_017863.2 (CXORF48) – IDH1p



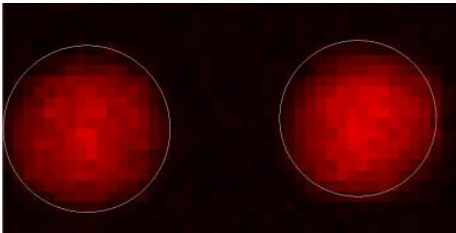
Grade II\_CF 29538\_2000154020



Grade II\_CJ 33350\_2000144452



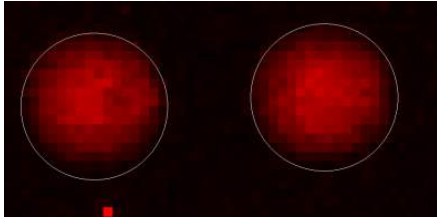
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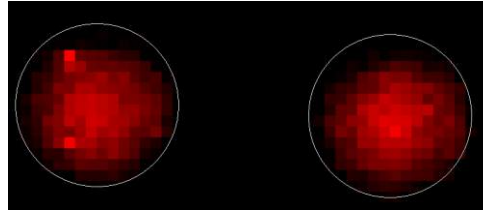
Grade II\_CJ 7132\_2000154028



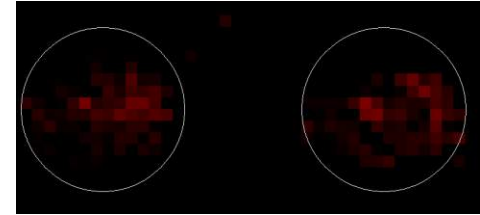
# NM\_017863.2 (CXORF48) – Wild Type



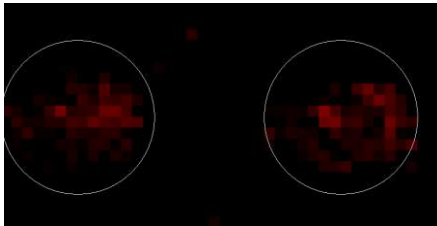
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Grade II\_CF 20468\_2000153947

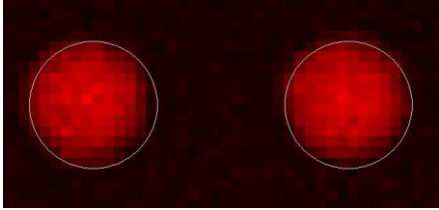


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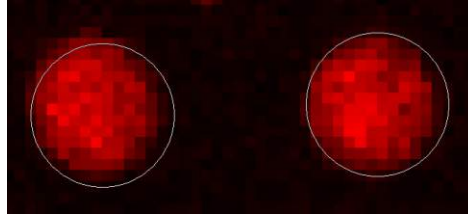


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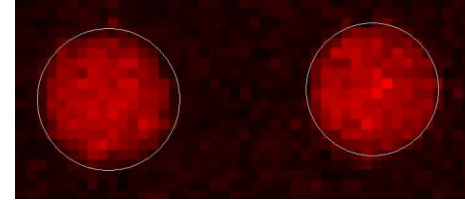
# BC089418.1 ( IGLV3-25) – IDH1p



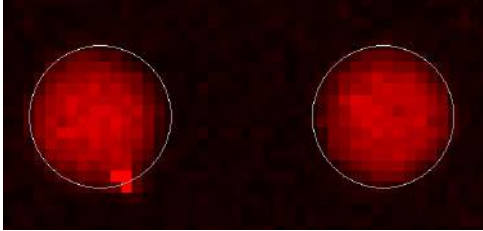
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Grade II\_CJ 33350\_2000144452

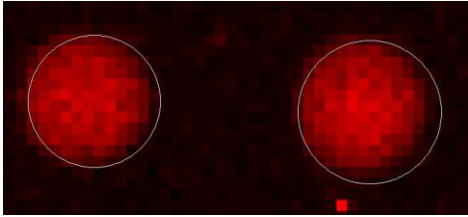


Grade II\_CJ 4825\_2000143981

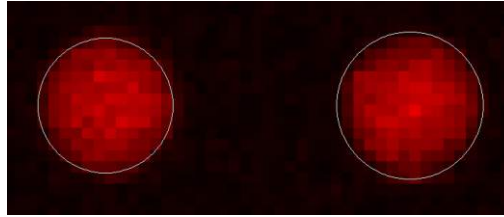


Grade II\_CJ 7132\_2000154028

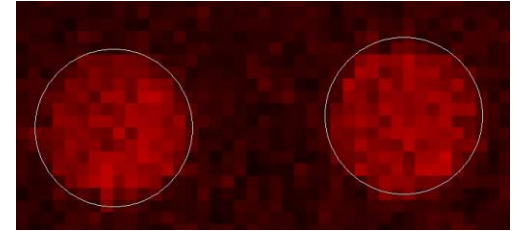
# BC089418.1 ( IGLV3-25) – Wild Type



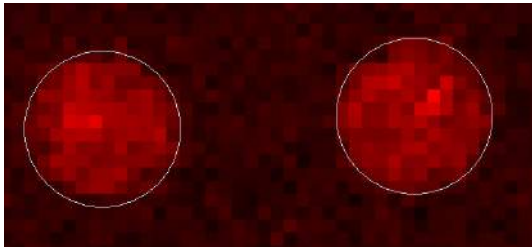
Grade II\_CF 10729\_2000154012



Grade II\_CF 20468\_2000153947



Grade II\_CJ 10242\_2000144449\_2

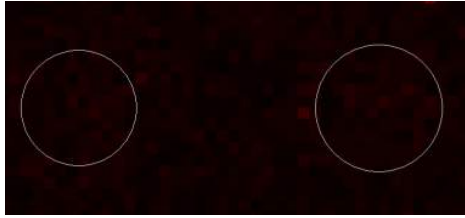


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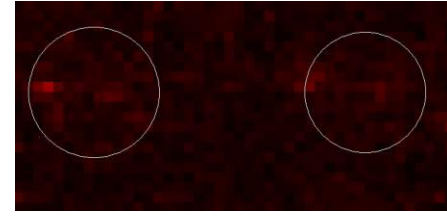
# NM\_014440.1 (IL1F6) – IDH1p



Grade II\_CF 29538\_2000154020



Grade II\_CJ 33350\_2000144452

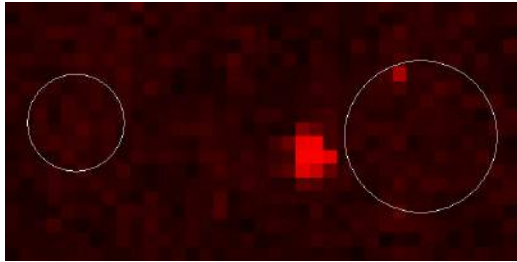


Grade II\_CJ 4825\_2000143981



Grade II\_CJ 7132\_2000154028

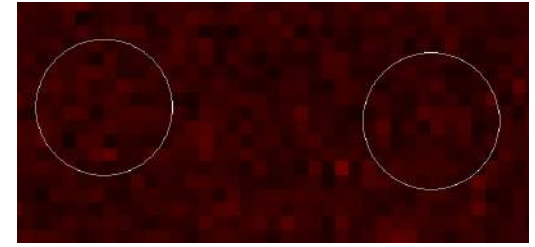
# NM\_014440.1 (IL1F6) – Wild Type



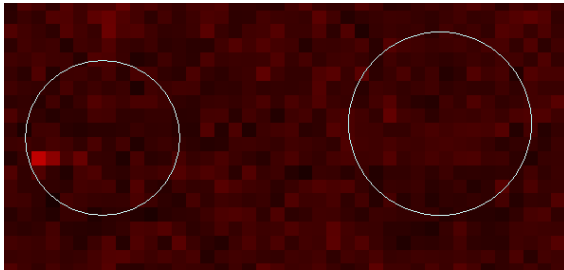
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Grade II\_Cf 20468\_2000153947

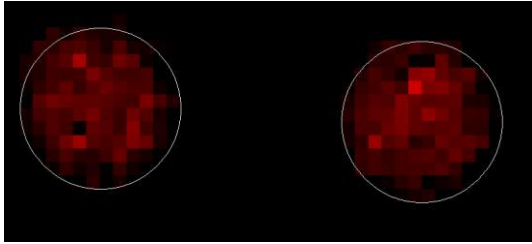


Grade II\_Cj 10242\_2000144449\_2

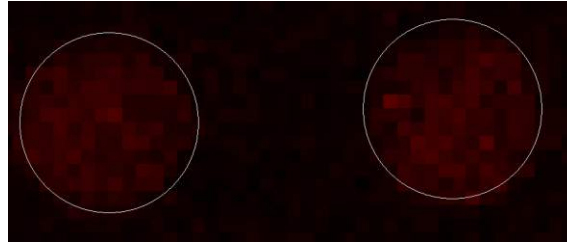


Grade II\_Ck 40\_2000144445

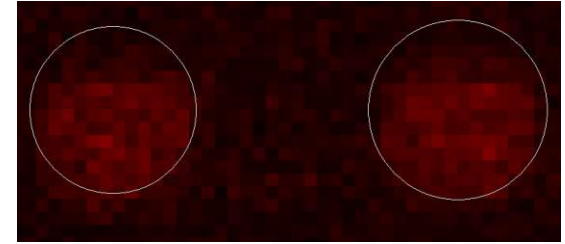
# NM\_130897.1 (DYNLRB2) – IDH1p



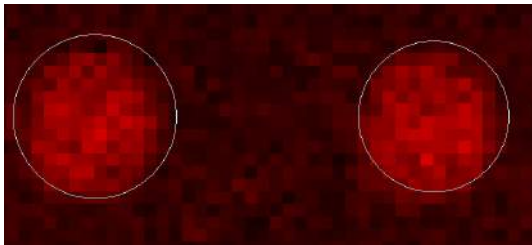
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Grade II\_CJ 33350\_2000144452

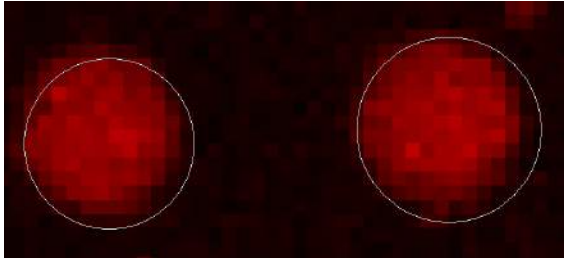


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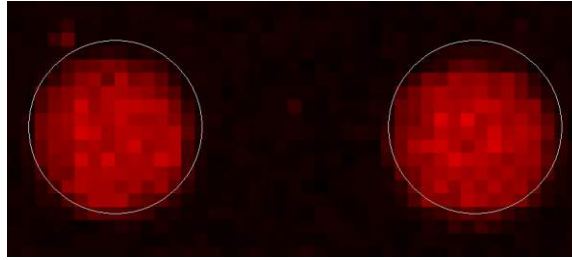


Grade II\_CJ 7132\_2000154028

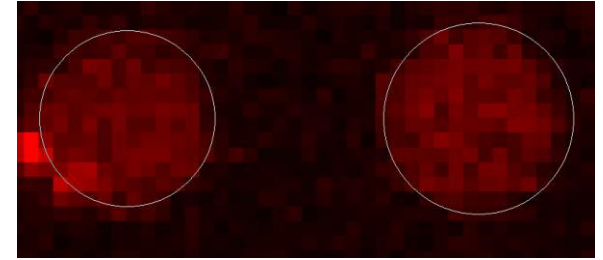
# NM\_130897.1 (DYNLRB2) – Wild Type



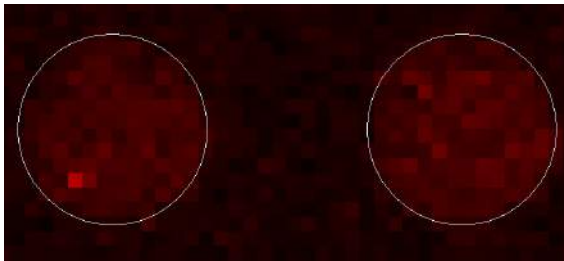
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Grade II\_CF 20468\_2000153947

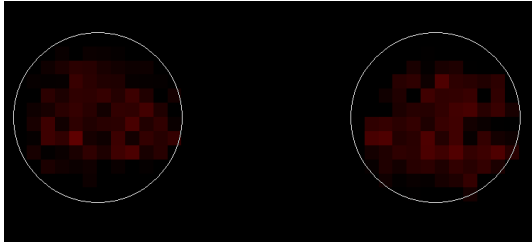


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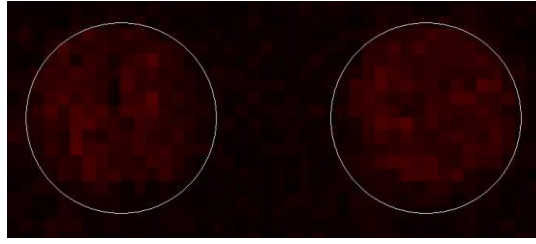


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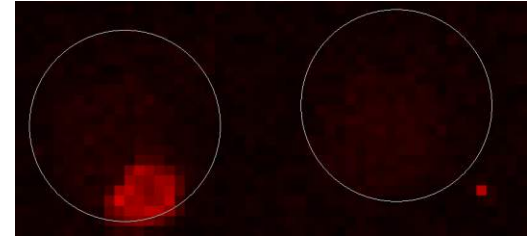
# BC001394.2 (SERPINB6) – IDH1p



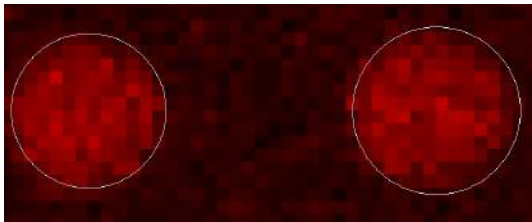
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Grade II\_C\_J 33350\_2000144452



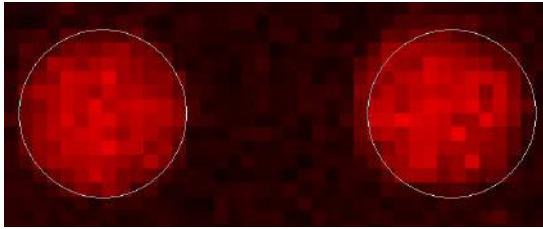
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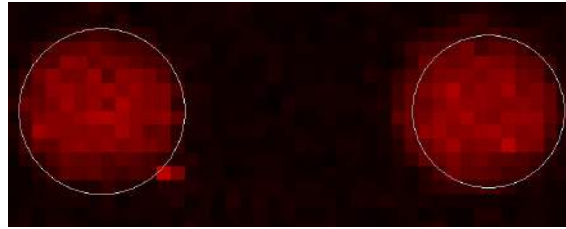
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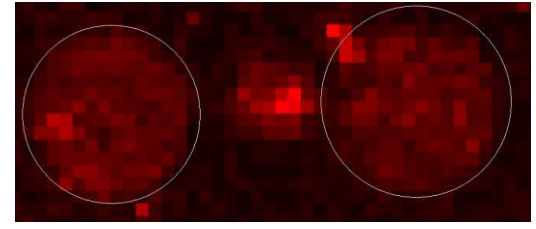
# BC001394.2 (SERPINB6) – Wild Type



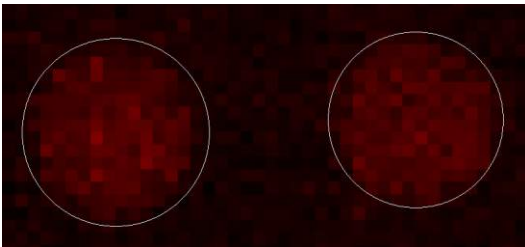
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Grade II\_CF 20468\_2000153947

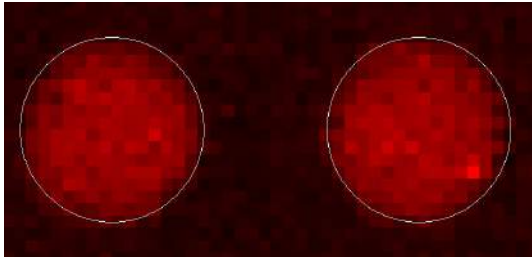


Grade II\_CJ 10242\_2000144449\_2

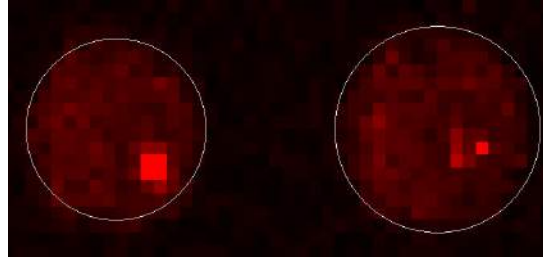


Grade II\_CK 40\_2000144445

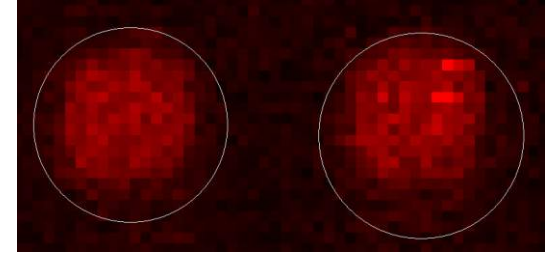
# BC000967.2 (NUDCD1) – IDH1p



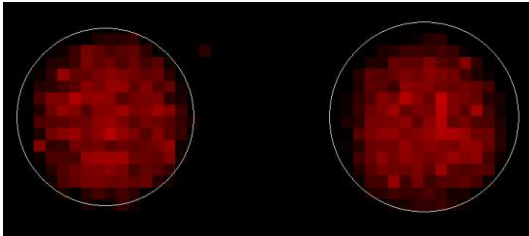
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Grade II\_CJ 33350\_2000144452

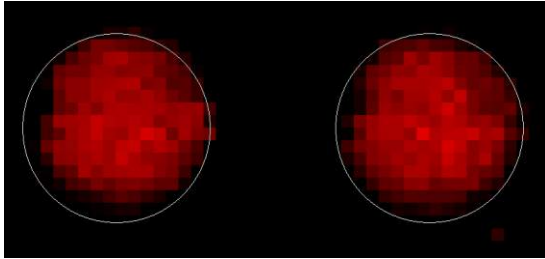


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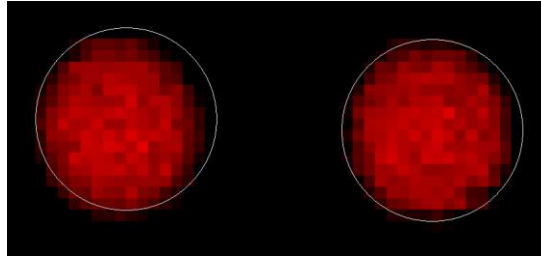


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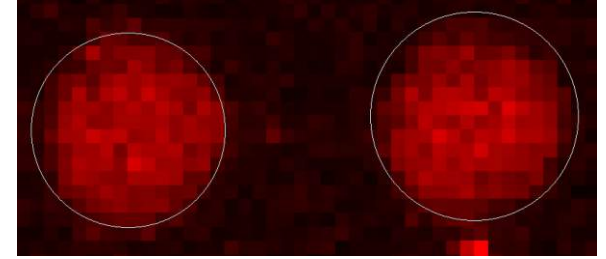
# BC000967.2 (NUDCD1) – Wild Type



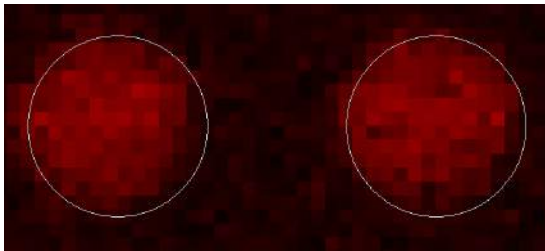
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Grade II\_C\_F 20468\_2000153947

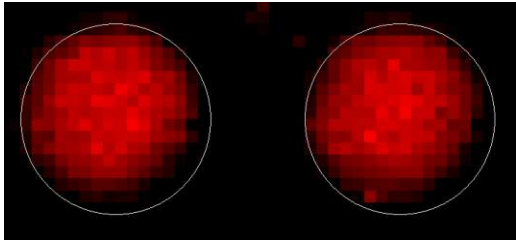


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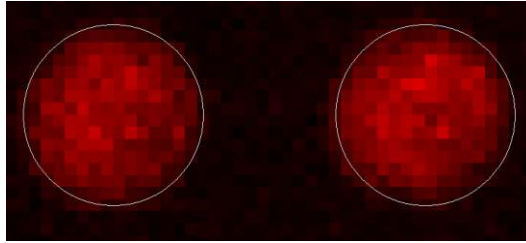


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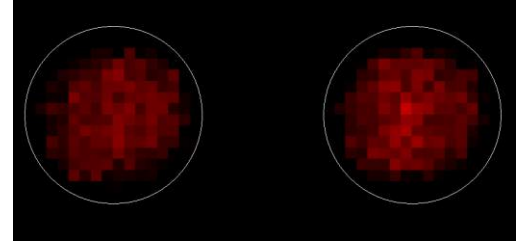
# BC064512.1 (UBR2) – IDH1p



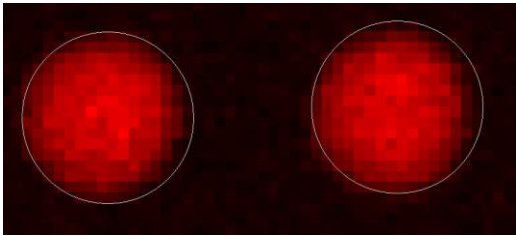
Grade II\_CF 29538\_2000154020



Grade II\_CJ 33350\_2000144452

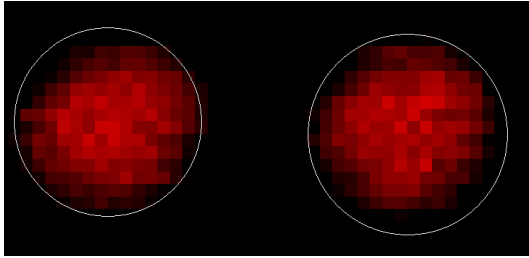


Grade II\_CJ 4825\_2000143981

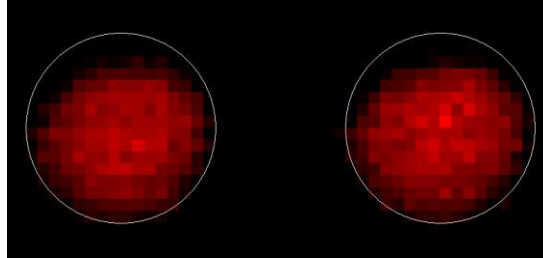


Grade II\_CJ 7132\_2000154028

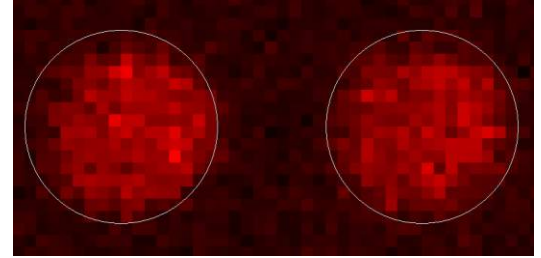
# BC064512.1 (UBR2) – Wild Type



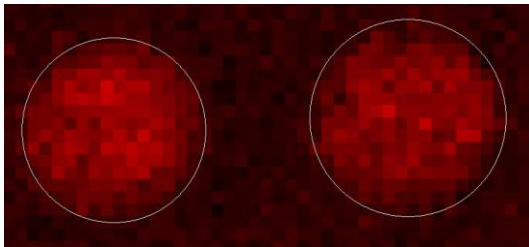
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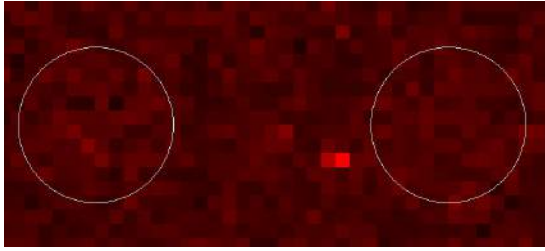


Grade II\_CJ 10242\_2000144449\_2

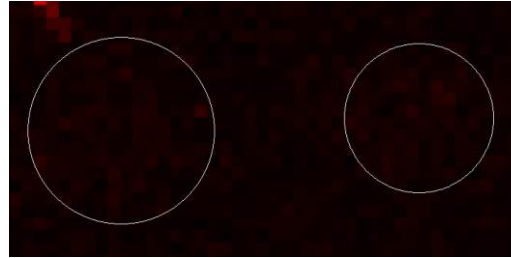


Grade II\_CK 40\_2000144445

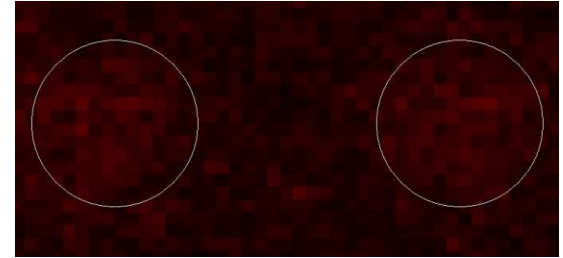
# NM\_001106.3 (ACVR2B) – IDH1p



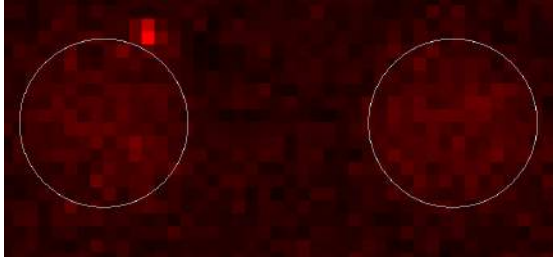
Grade II\_CF 29538\_2000154020



Grade II\_CJ 33350\_2000144452

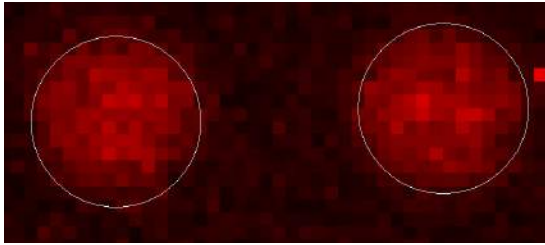


Grade II\_CJ 4825\_2000143981

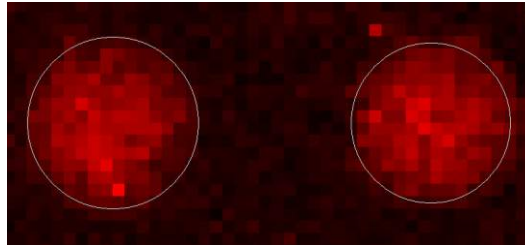


Grade II\_CJ 7132\_2000154028

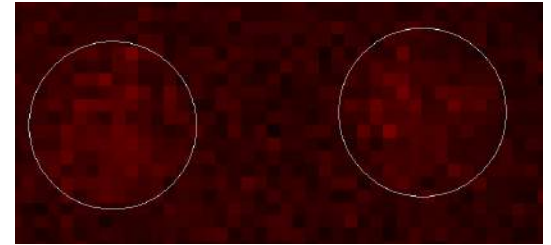
# NM\_001106.3 (ACVR2B) – Wild Type



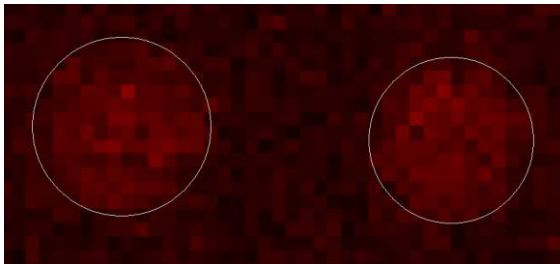
Grade II\_CF 10729\_2000154012



Grade II\_CF 20468\_2000153947

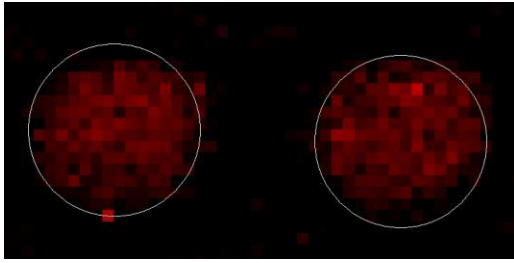


Grade II\_CJ 10242\_2000144449\_2

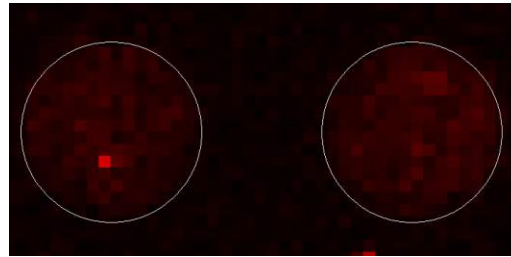


Grade II\_CK 40\_2000144445

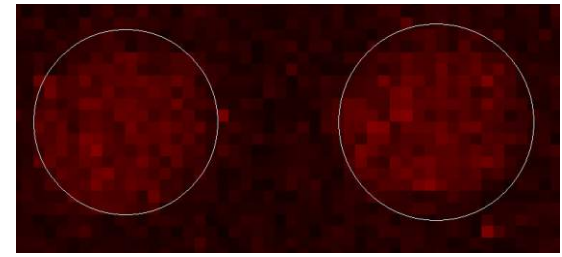
# BC075862.1 (CAPN1) – IDH1p



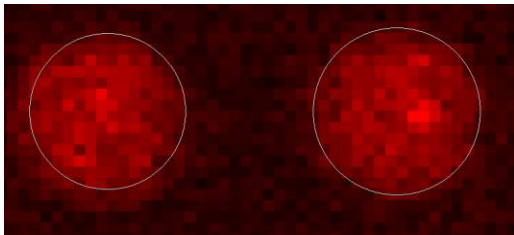
Grade II\_CF 29538\_2000154020



Grade II\_CJ 33350\_2000144452



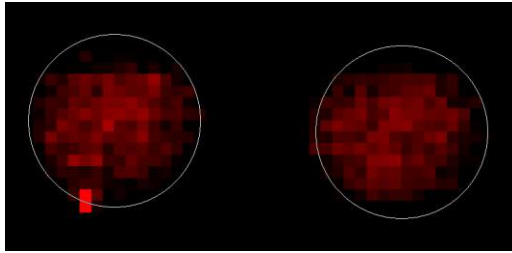
Grade II\_CJ 4825\_2000143981



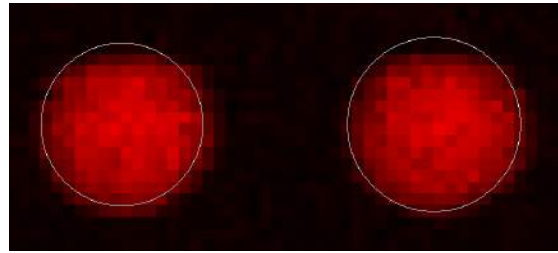
Grade II\_CJ 7132\_2000154028



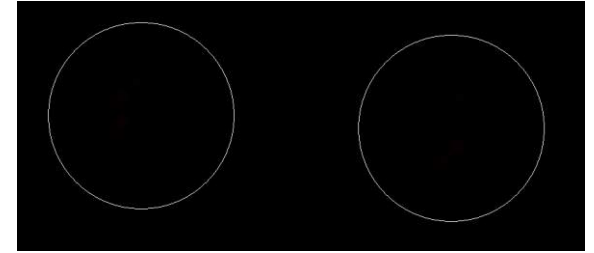
# BC075862.1 (CAPN1) – Wild Type



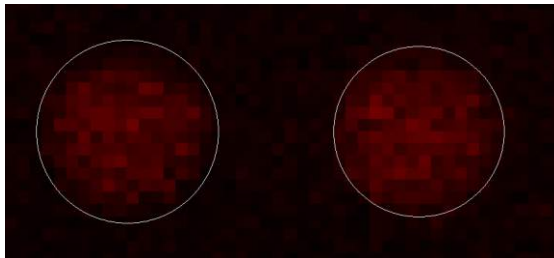
Grade II\_Cf 10729\_2000154012



Grade II\_Cf 20468\_2000153947

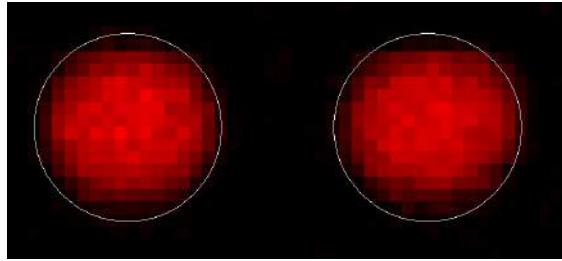


Grade II\_Cj 10242\_2000144449\_2

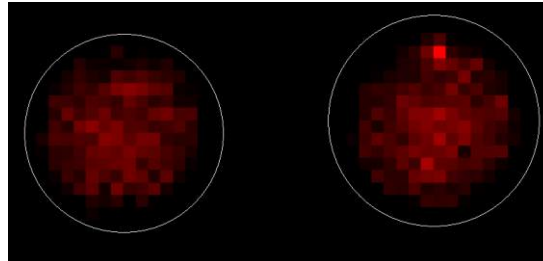


Grade II\_Ck 40\_2000144445

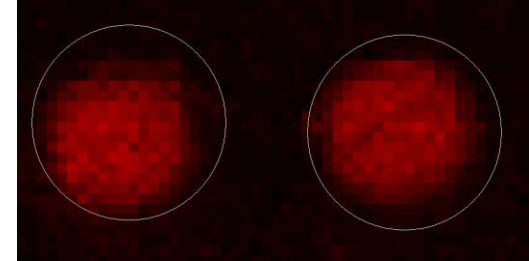
# BC002508.2 (ASMTL) – IDH1p



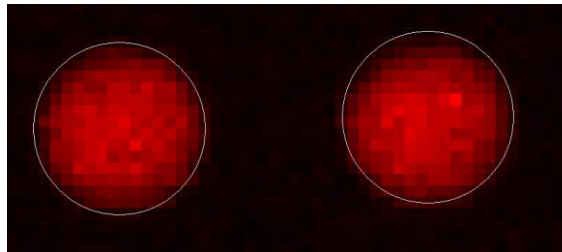
Grade II\_CF 29538\_2000154020



Grade II\_CJ 33350\_2000144452

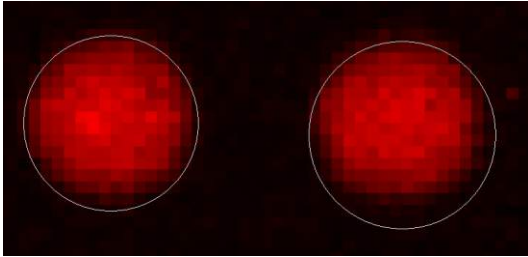


Grade II\_CJ 4825\_2000143981

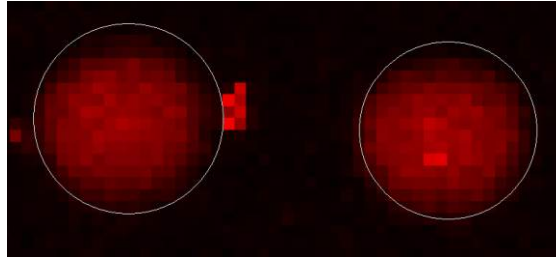


Grade II\_CJ 7132\_2000154028

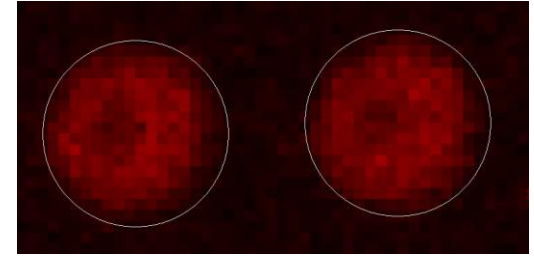
# BC002508.2 (ASMTL) – Wild Type



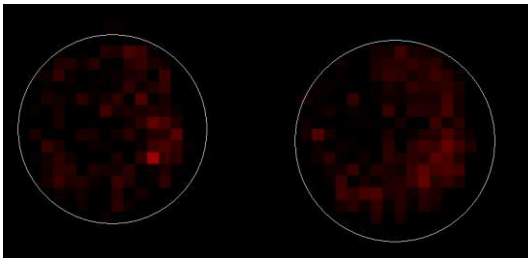
Grade II\_CF 10729\_2000154012



Grade II\_CF 20468\_2000153947

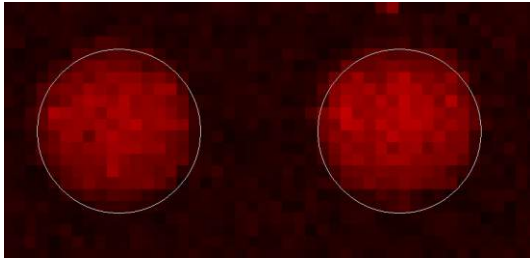


Grade II\_CJ 10242\_2000144449\_2

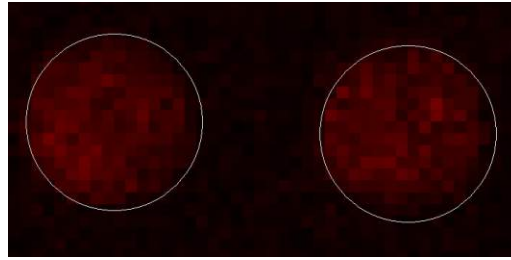


Grade II\_CK 40\_2000144445

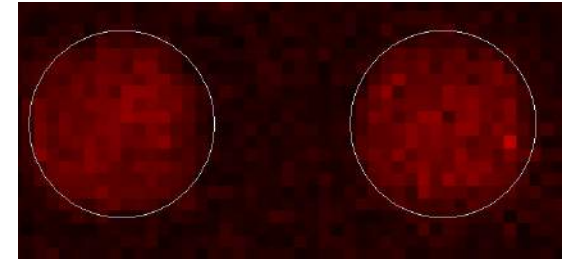
# NM\_003405.3 (YWHAH) – IDH1p



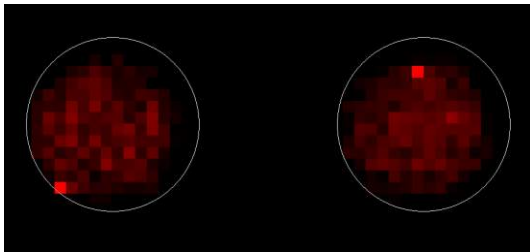
Grade II\_CF 29538\_2000154020



Grade II\_CJ 33350\_2000144452

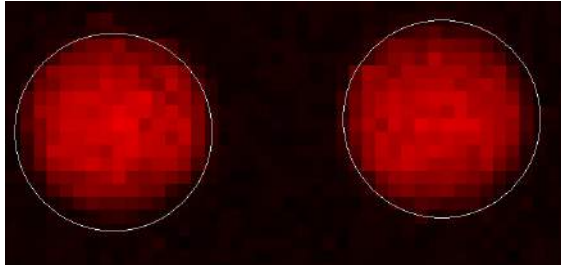


Grade II\_CJ 4825\_2000143981

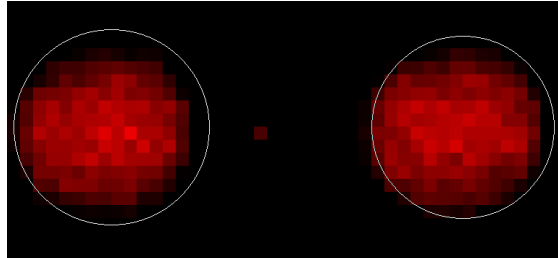


Grade II\_CJ 7132\_2000154028

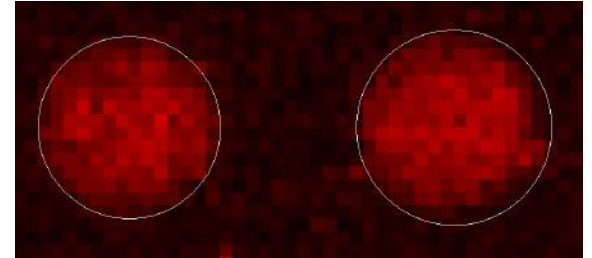
# NM\_003405.3 (YWHAH) – Wild Type



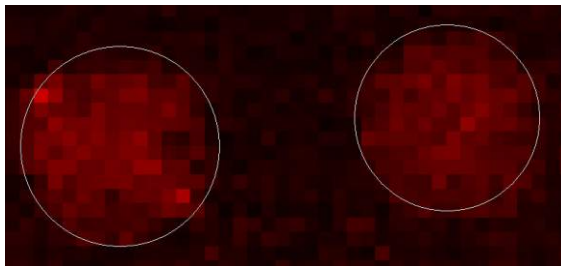
Grade II\_CF 10729\_2000154012



Grade II\_CF 20468\_2000153947

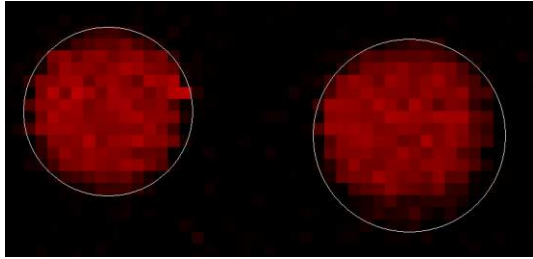


Grade II\_CJ 10242\_2000144449\_2

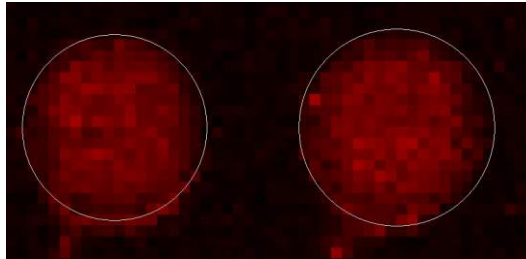


Grade II\_CK 40\_2000144445

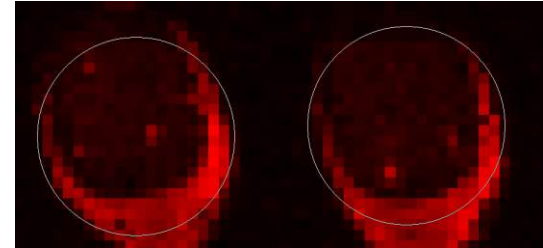
# NM\_013330.3 (NME7) – IDH1p



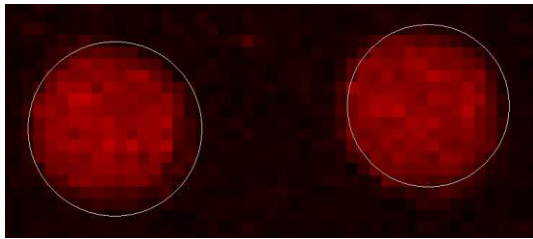
Grade II\_CF 29538\_2000154020



Grade II\_CJ 33350\_2000144452

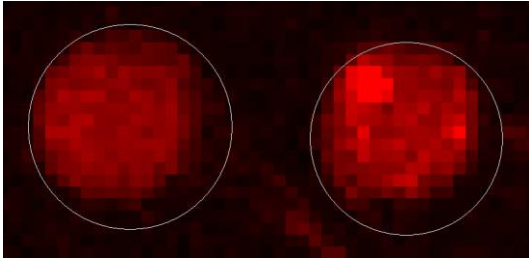


Grade II\_CJ 4825\_2000143981

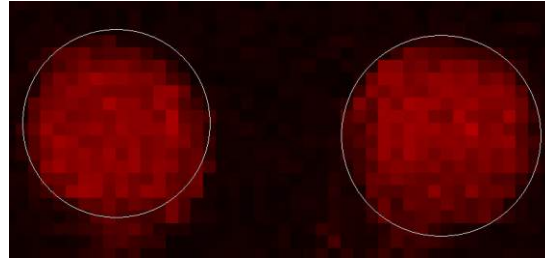


Grade II\_CJ 7132\_2000154028

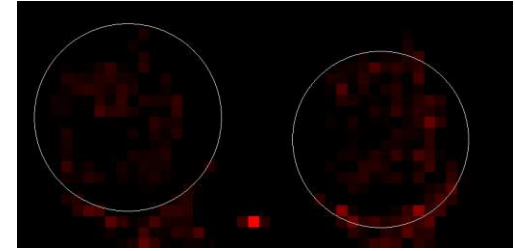
# NM\_013330.3 (NME7) – Wild Type



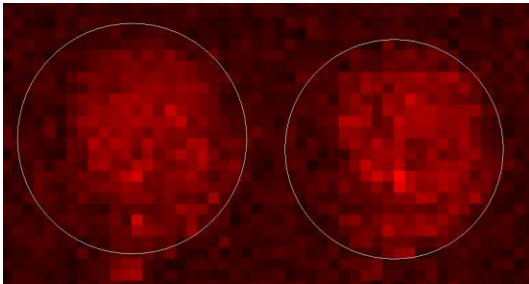
Grade II\_CF 10729\_2000154012



Grade II\_CF 20468\_2000153947



Grade II\_CJ 10242\_2000144449\_2

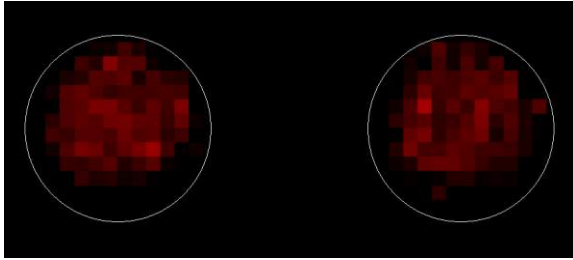


Grade II\_CK 40\_2000144445

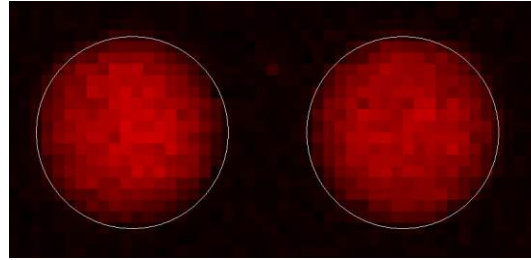
Grade IV\_IDH1p Vs Grade IV\_Wild Type IDH1



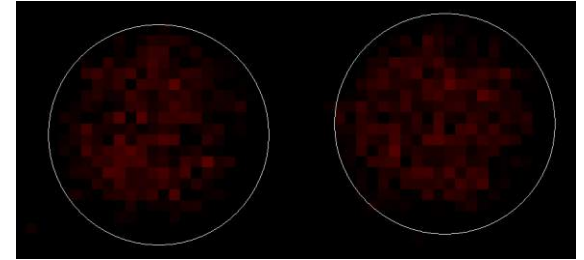
# NM\_152734.3 (C6orf89) – IDH1p



Grade IV\_C12166\_2000153934

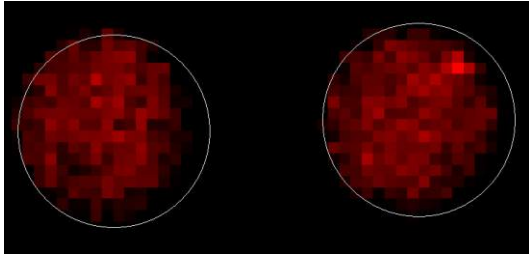


Grade IV\_C17916\_2000154021

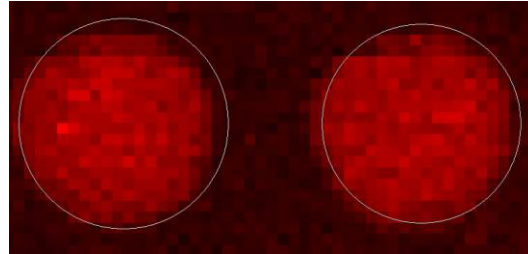


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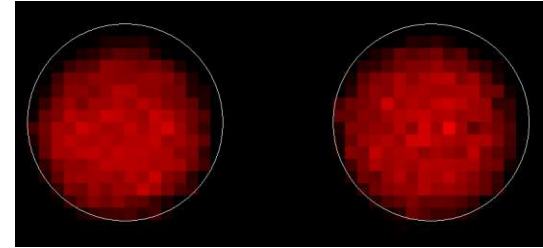
# NM\_152734.3 (C6orf89) – Wild Type



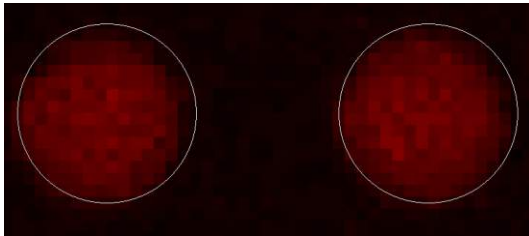
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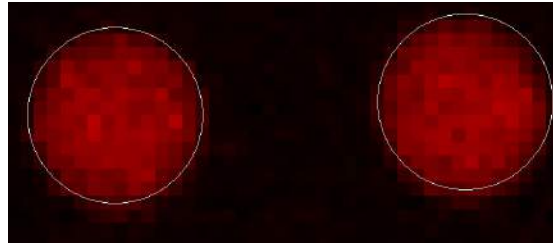
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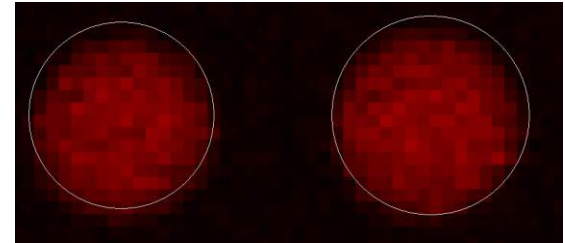
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Grade IV\_CH 3969\_2000153950



Grade IV\_CJ 13655\_2000153783



Grade IV\_CJ 30014\_2000153805