

**Tab. S11:**

**Significant transcripts (P<0.05) induced in murine macrophage cells stimulated on cementum (n=6), fold of stimulation control**

| gene name     | regulation of expression | adj.P.Val  |
|---------------|--------------------------|------------|
| Hspa1b        | 226,9609053              | 3,02E-06   |
| Gm29358       | 125,7574449              | 8,63E-07   |
| Rn7sk         | 72,41416366              | 5,14E-08   |
| mt-Tm         | 71,88406054              | 2,90E-10   |
| Hspa1a        | 63,71229937              | 9,56E-06   |
| Gm23037       | 60,94348092              | 2,50E-06   |
| 4930578M07Rik | 58,14567581              | 4,37E-07   |
| mt-Tc         | 42,42668343              | 2,58E-06   |
| Gm44652       | 36,63879117              | 4,23E-08   |
| 4921507G05Rik | 35,69870908              | 2,76E-05   |
| mt-Ta         | 35,30987968              | 7,67E-05   |
| Slc16a5       | 33,76835509              | 4,13E-05   |
| RP23-451J19.1 | 31,45461939              | 1,12E-05   |
| Aloxe3        | 29,24463342              | 3,18E-06   |
| Hist1h2bg     | 26,47575646              | 0,00013994 |
| Gm18709       | 26,29287505              | 3,04E-07   |
| mt-Ti         | 25,11191247              | 9,58E-07   |
| Gm37052       | 25,06322223              | 0,0005292  |
| Gapdh         | 23,84310137              | 6,86E-08   |
| 1700054M17Rik | 23,06766386              | 2,19E-05   |
| Hist1h2an     | 22,4866992               | 0,00022689 |
| Hist2h4       | 21,47222814              | 9,63E-05   |
| Gm42793       | 21,0376259               | 0,00049873 |
| Sit1          | 20,84746412              | 7,48E-05   |
| Mcm8          | 20,49499879              | 4,01E-07   |
| Gm28373       | 20,23386473              | 0,00024645 |
| Snord83b      | 20,16386087              | 6,78E-07   |
| Hist1h4d      | 19,89177345              | 1,73E-05   |
| Rasd1         | 19,85595712              | 7,37E-05   |
| AY074887      | 19,79274768              | 5,62E-06   |
| Fzd7          | 19,63832529              | 3,47E-08   |
| Adm           | 19,2595221               | 5,01E-10   |
| RP23-440L7.5  | 18,52626307              | 0,00015941 |
| 1500004A13Rik | 18,1387106               | 1,54E-06   |
| Gm45698       | 17,94611928              | 1,03E-05   |
| Gm22513       | 17,92622743              | 4,81E-05   |
| Crtc2         | 17,66350815              | 0,00013527 |
| Gm26810       | 17,19002812              | 2,80E-05   |
| Gadd45g       | 16,91346096              | 2,90E-10   |
| Hist1h1a      | 16,83626246              | 0,002006   |
| Gm24991       | 16,57802226              | 0,00037868 |
| mt-Tq         | 16,44754096              | 1,97E-06   |
| Gm26226       | 16,39972821              | 0,0021342  |
| Hist1h2be     | 16,10570602              | 2,33E-08   |
| Gm24631       | 15,87076758              | 1,03E-05   |
| mt-Tl1        | 14,26788908              | 7,21E-10   |
| 4933437G19Rik | 14,21655496              | 9,92E-05   |
| Gm8623        | 13,84410612              | 1,32E-05   |

|               |             |            |
|---------------|-------------|------------|
| Atp1b4        | 13,67624246 | 0,0035661  |
| Dynlt1b       | 13,62137087 | 0,0021494  |
| 4632415L05Rik | 13,547925   | 6,98E-09   |
| AV099323      | 13,3985038  | 0,00097343 |
| 2310058D17Rik | 13,25532373 | 1,08E-05   |
| D430001F17Rik | 13,13186574 | 2,45E-06   |
| Hspa8         | 13,09006177 | 5,95E-07   |
| Rgcc          | 13,05472353 | 1,90E-07   |
| Acox1         | 12,89911338 | 0,0028378  |
| Rpl7          | 12,8812438  | 1,10E-08   |
| Snord66       | 12,8741029  | 0,0010652  |
| Thap8         | 12,83845774 | 8,85E-05   |
| Gm26772       | 12,82778346 | 0,00036245 |
| Zp1           | 12,79226655 | 0,0054145  |
| Gm43714       | 12,51945626 | 0,00070892 |
| Gm26594       | 12,47787191 | 0,00076807 |
| Gm26202       | 12,45713156 | 6,38E-05   |
| Rpl30-ps2     | 12,23125046 | 6,98E-07   |
| Gm4607        | 12,15939885 | 1,20E-05   |
| Gm27248       | 11,96708607 | 0,0035196  |
| Gm25008       | 11,88936699 | 2,66E-05   |
| Hist1h1d      | 11,79824199 | 4,36E-05   |
| Hist1h4a      | 11,59314428 | 0,0056036  |
| Id1           | 11,39240156 | 7,38E-11   |
| Hist1h1b      | 11,32626276 | 0,00058185 |
| 1700030M09Rik | 11,30116815 | 0,0021079  |
| Gdf15         | 11,09547865 | 7,85E-09   |
| RP24-174I4.1  | 11,03259297 | 0,000149   |
| Gm37653       | 11,0134915  | 1,64E-05   |
| Ankrd37       | 10,91318268 | 6,86E-08   |
| 4930578M01Rik | 10,86487748 | 0,0066833  |
| Esco2         | 10,84305963 | 0,00020846 |
| Rybp          | 10,83179173 | 0,00065964 |
| Gm23969       | 10,76293767 | 0,00016273 |
| 5930420M18Rik | 10,42156473 | 0,0032805  |
| Snord82       | 10,38910882 | 0,0014466  |
| Mkln1os       | 10,380471   | 0,00022808 |
| RP23-320D23.6 | 10,35173008 | 9,20E-07   |
| Gm29170       | 10,20638455 | 4,42E-08   |
| Med16         | 10,15768686 | 5,42E-09   |
| Gm12469       | 9,995647326 | 0,0010072  |
| Gm8649        | 9,992876328 | 7,38E-11   |
| Lrrc2         | 9,949334303 | 0,00084152 |
| mt-Ts2        | 9,895002008 | 0,0017262  |
| Gm20594       | 9,892944614 | 0,0086979  |
| Gm43011       | 9,884719315 | 0,0018068  |
| Gm43273       | 9,729057156 | 0,01767    |
| Gm26225       | 9,634434574 | 0,0002857  |
| RP23-366E4.9  | 9,501794466 | 0,0026041  |
| Gm42670       | 9,432237204 | 0,0014419  |
| Gm44292       | 9,374878545 | 1,34E-05   |
| RP24-295J1.1  | 9,365785519 | 0,0029655  |

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|---------------|-------------|------------|
| Hist1h3d      | 9,335323387 | 0,00096638 |
| Gm42743       | 9,255429884 | 9,05E-06   |
| Kcnd1         | 9,167955236 | 0,0062396  |
| Trf           | 9,100841823 | 0,0012493  |
| Gm5112        | 9,067469579 | 4,98E-05   |
| Gm19272       | 8,997349094 | 0,013413   |
| RP24-282C4.3  | 8,963113714 | 0,0014875  |
| Snord89       | 8,775613578 | 4,52E-07   |
| Kif18b        | 8,743433926 | 0,0059789  |
| Efna3         | 8,672211849 | 0,00048523 |
| Gm26656       | 8,590844746 | 0,0021653  |
| Hist4h4       | 8,545707869 | 0,0039379  |
| Gm14057       | 8,454972135 | 0,0096861  |
| Hba-a1        | 8,426888288 | 0,033302   |
| Nsl1          | 8,378546566 | 1,55E-07   |
| Wwc1          | 8,236891586 | 7,21E-10   |
| Hist1h4n      | 8,224340526 | 0,0028672  |
| Rnf122        | 8,210670271 | 9,41E-06   |
| Gm23301       | 8,210670271 | 0,0063144  |
| 4932422M17Rik | 8,188504553 | 3,10E-06   |
| Gm26461       | 8,165832642 | 0,003761   |
| Lbp           | 8,160740119 | 0,0091332  |
| Crkl          | 8,074091856 | 0,00013265 |
| Tsix          | 8,071853553 | 0,0029616  |
| Gm7099        | 7,994456744 | 3,88E-05   |
| Gm3531        | 7,911218948 | 0,027329   |
| Olfr286       | 7,896974326 | 0,017212   |
| Gm11491       | 7,823423156 | 4,11E-06   |
| Lgals7        | 7,795275438 | 0,0020277  |
| 4930589L23Rik | 7,768305834 | 0,0018853  |
| Gm26847       | 7,747334333 | 0,025663   |
| Gm43566       | 7,711438462 | 5,47E-07   |
| Ier5l         | 7,650743734 | 2,32E-07   |
| Sep 01        | 7,646502437 | 0,035261   |
| Gm42856       | 7,631676404 | 0,022407   |
| Rbm3          | 7,61160133  | 0,00022803 |
| 4930542C12Rik | 7,562168522 | 0,025163   |
| Gm8203        | 7,458057913 | 0,031472   |
| Gm44130       | 7,425560869 | 0,014291   |
| Hist2h2ac     | 7,39987038  | 0,012597   |
| Gm8210        | 7,39987038  | 0,015199   |
| 9530085L11Rik | 7,369159091 | 0,00034143 |
| Gm26983       | 7,355380626 | 0,00066456 |
| Gm42432       | 7,354361025 | 0,001626   |
| Gm37696       | 7,34722777  | 0,010189   |
| Gm43878       | 7,339592674 | 0,015673   |
| Gm45251       | 7,314706612 | 0,014411   |
| Gm36989       | 7,302548324 | 0,0011767  |
| Gm10382       | 7,275770315 | 6,24E-05   |
| Snord7        | 7,262166464 | 0,01336    |
| Gm5577        | 7,252608633 | 0,0060478  |
| B430305J03Rik | 7,180578108 | 0,018351   |

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|---------------|-------------|------------|
| Gzmm          | 7,141860726 | 0,003852   |
| Myc           | 7,017221976 | 0,002916   |
| 4930509H03Rik | 6,969233537 | 0,0018666  |
| Dpf1          | 6,957649484 | 9,37E-05   |
| Gm8317        | 6,928293272 | 0,0004627  |
| Mapkapk5      | 6,876621788 | 0,015295   |
| 5330426L24Rik | 6,849981064 | 0,019062   |
| Gm11516       | 6,742109226 | 0,043974   |
| Gm42671       | 6,695538076 | 0,014271   |
| Snord59a      | 6,664053579 | 0,0026474  |
| RP24-282K24.4 | 6,652054553 | 0,0062396  |
| Gm13383       | 6,641918407 | 0,018351   |
| mt-Tv         | 6,640537402 | 0,00017251 |
| Gm45546       | 6,639156685 | 0,012624   |
| 2900060B14Rik | 6,61939792  | 0,010797   |
| Lsm7          | 6,611602545 | 3,04E-05   |
| C230096K16Rik | 6,596039325 | 2,66E-05   |
| Gm42731       | 6,590098368 | 0,036154   |
| RP23-350F7.3  | 6,586901608 | 0,00038116 |
| Rpl32-ps      | 6,580968881 | 0,0073198  |
| Gm43800       | 6,564567665 | 0,0060478  |
| Dvl3          | 6,537323088 | 0,011278   |
| Rpl12         | 6,515157249 | 6,88E-08   |
| Rpl7a         | 6,488567476 | 9,58E-07   |
| Snord87       | 6,476435495 | 3,26E-05   |
| Gm44258       | 6,445087745 | 9,91E-06   |
| RP23-205H11.3 | 6,39923745  | 0,0003536  |
| B3gnt6        | 6,363409653 | 0,039562   |
| Gm10657       | 6,336999932 | 0,01894    |
| Rhov          | 6,326905291 | 0,00011525 |
| Gm10827       | 6,316388897 | 8,47E-06   |
| Ang           | 6,29715422  | 5,76E-07   |
| Hes7          | 6,293227076 | 0,03559    |
| Ccng2         | 6,263200223 | 3,07E-07   |
| Ost4          | 6,252356322 | 3,32E-06   |
| Rnf152        | 6,245426081 | 0,0066444  |
| Ndrp1         | 6,228565782 | 7,79E-11   |
| Sdh           | 6,224249965 | 0,00084368 |
| Gm23849       | 6,217781846 | 0,019642   |
| Gm2011        | 6,189401881 | 0,00090837 |
| Gm17108       | 6,133029966 | 0,0018082  |
| Tnfrsf9       | 6,110116975 | 0,0001793  |
| Gm44639       | 6,031847692 | 0,0093486  |
| RP23-40D21.1  | 6,02432666  | 0,00038116 |
| Gm11810       | 6,014313203 | 0,00076539 |
| Gadd45b       | 5,996414032 | 5,14E-08   |
| Gm42908       | 5,991013149 | 0,011641   |
| Txnip         | 5,970285818 | 5,75E-07   |
| Stamos        | 5,955406558 | 0,0045057  |
| Gm29228       | 5,912630004 | 0,0073306  |
| Dnli1         | 5,827996456 | 0,011256   |
| Gmnn          | 5,790147097 | 5,15E-07   |

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|---------------|-------------|------------|
| Gm37785       | 5,78413009  | 0,0081271  |
| Gm42895       | 5,75015163  | 0,016703   |
| Gm15937       | 5,748956044 | 0,014288   |
| Tap2          | 5,746963953 | 0,0028611  |
| Gm14279       | 5,701335893 | 0,00011434 |
| Insig1        | 5,672166964 | 7,58E-08   |
| Gm10636       | 5,656854249 | 0,025427   |
| Ccdc36        | 5,641191842 | 1,43E-05   |
| Gm43331       | 5,629473501 | 0,02387    |
| Ppp1r18os     | 5,592913431 | 0,049944   |
| Sap30         | 5,589038062 | 9,51E-08   |
| 4930589O11Rik | 5,578587974 | 0,014983   |
| Gm9521        | 5,569315411 | 0,045255   |
| Hist2h3c2     | 5,520504056 | 0,00044972 |
| Gm43920       | 5,515531818 | 0,049769   |
| 5033430I15Rik | 5,467570812 | 0,025617   |
| Gm14537       | 5,457347836 | 0,017111   |
| Tsc22d3       | 5,448654454 | 3,75E-07   |
| RP24-75M13.2  | 5,440729112 | 0,025721   |
| Gm28727       | 5,429050863 | 9,73E-06   |
| Eno1          | 5,426041192 | 5,97E-07   |
| RbmX          | 5,410642798 | 0,0024132  |
| Atp5l-ps1     | 5,399029127 | 7,26E-05   |
| Gm2367        | 5,398654908 | 0,015272   |
| 4833421G17Rik | 5,35913441  | 0,0047073  |
| Itga6         | 5,297089923 | 4,91E-07   |
| A330069E16Rik | 5,268893431 | 0,0019055  |
| Polq          | 5,26305328  | 0,001205   |
| 2700029L08Rik | 5,261958973 | 0,020717   |
| 4930412F12Rik | 5,251392392 | 0,038293   |
| Rpl30-ps1     | 5,238304771 | 0,0028968  |
| Ciart         | 5,20644996  | 2,44E-06   |
| Gm16045       | 5,173712907 | 6,76E-05   |
| BC055308      | 5,172637175 | 8,33E-05   |
| Cep55         | 5,156170606 | 7,37E-05   |
| Slc25a2       | 5,148670697 | 0,011854   |
| Gm29438       | 5,148313831 | 0,0027466  |
| Cxcl10        | 5,137975461 | 0,049158   |
| Zscan21       | 5,135483105 | 1,97E-05   |
| Mafk          | 5,12446005  | 3,80E-08   |
| Wdfy2         | 5,121619234 | 9,37E-05   |
| Atr           | 5,101070359 | 1,59E-05   |
| 1810026B05Rik | 5,084126757 | 3,17E-08   |
| Proscos       | 5,06232454  | 0,0008372  |
| Tstd1         | 5,051458517 | 0,00016955 |
| Rgmb          | 5,033981798 | 0,011048   |
| Eno1b         | 5,026311209 | 0,00013527 |
| RP23-356D13.9 | 5,010310454 | 0,027291   |
| Rpl35a-ps4    | 5,004410031 | 0,0025259  |
| Hnrnpa1       | 4,996438164 | 0,043222   |
| Pabpn1        | 4,977426458 | 7,26E-05   |
| Gm12280       | 4,954021054 | 0,0066924  |

|                |             |            |
|----------------|-------------|------------|
| Cpne9          | 4,950931539 | 0,0191     |
| D830025C05Rik  | 4,937908146 | 0,00073383 |
| Gm28659        | 4,930042214 | 0,020892   |
| mt-Nd6         | 4,912985564 | 3,02E-06   |
| Gm12604        | 4,902779913 | 0,0015936  |
| Gm45833        | 4,893273766 | 0,0036024  |
| Gm26664        | 4,892934602 | 0,019403   |
| mt-Tp          | 4,875330423 | 7,62E-06   |
| Gm7327         | 4,871276923 | 8,08E-05   |
| Gm43328        | 4,868576462 | 0,0015624  |
| Gm26610        | 4,857452877 | 0,013351   |
| Ccl6           | 4,854087114 | 0,048061   |
| Arc            | 4,847698588 | 0,0021313  |
| Gm38299        | 4,821894212 | 0,0061551  |
| Ccdc18         | 4,804878665 | 0,00019661 |
| Ect2           | 4,785268911 | 0,00010499 |
| Pbk            | 4,759466937 | 1,48E-06   |
| Gm45051        | 4,743329204 | 0,03559    |
| RP24-175C20.10 | 4,742014256 | 0,00028187 |
| Adam9          | 4,737086447 | 0,0011814  |
| Lockd          | 4,730524001 | 1,77E-06   |
| Gm5830         | 4,717426369 | 0,013527   |
| Pgam1          | 4,704691094 | 0,029837   |
| 0610039K10Rik  | 4,70175707  | 0,009164   |
| Kif20b         | 4,698824876 | 1,81E-06   |
| RP23-226H21.3  | 4,695569028 | 0,042263   |
| Snrpf          | 4,693291276 | 0,0005292  |
| Klf10          | 4,689714184 | 1,24E-07   |
| Hmgb1-ps5      | 4,661518524 | 0,021394   |
| Gm6520         | 4,658288525 | 0,045297   |
| Gm12758        | 4,637990934 | 0,018062   |
| Gm38365        | 4,621624347 | 0,0016664  |
| Gm45220        | 4,615861704 | 0,0073263  |
| Mrps28         | 4,615541768 | 0,017744   |
| Gm5362         | 4,60371971  | 0,039903   |
| Phlda1         | 4,603081543 | 3,13E-05   |
| Rnu11          | 4,601167573 | 0,004636   |
| 2700038G22Rik  | 4,598935614 | 0,022243   |
| B930036N10Rik  | 4,595111918 | 0,020505   |
| Tnfrsf12a      | 4,577309993 | 3,47E-07   |
| Pfkfb3         | 4,564636572 | 6,78E-07   |
| Hmgb2          | 4,546952711 | 1,10E-05   |
| Zfp36l2        | 4,541283175 | 1,91E-06   |
| 3110056K07Rik  | 4,540968409 | 0,0061032  |
| Fam72a         | 4,539394902 | 0,018503   |
| 4932416K20Rik  | 4,521182017 | 0,0063839  |
| 1700031P21Rik  | 4,480003937 | 0,018712   |
| Snord15a       | 4,477830752 | 0,0083162  |
| 2900093K20Rik  | 4,461720066 | 1,48E-06   |
| Sez6           | 4,448749914 | 0,00019848 |
| Aif1           | 4,42875135  | 0,00050512 |
| Wfdc17         | 4,419551589 | 0,00020226 |

|               |             |            |
|---------------|-------------|------------|
| Mrps18b       | 4,415570963 | 0,03267    |
| Ttk           | 4,409759573 | 1,72E-06   |
| Ltb           | 4,398769486 | 2,55E-06   |
| 4930579G24Rik | 4,392675722 | 0,010189   |
| Gm6341        | 4,386590399 | 6,54E-07   |
| Rpl9-ps7      | 4,377478218 | 0,035441   |
| Slc25a25      | 4,372626131 | 2,85E-06   |
| Gm7336        | 4,368082183 | 0,004179   |
| Errfi1        | 4,365358081 | 2,98E-05   |
| Gm22980       | 4,361426267 | 0,003957   |
| Hyal1         | 4,344830814 | 6,75E-07   |
| Gm11759       | 4,327398556 | 0,027755   |
| L1cam         | 4,322302368 | 0,0025259  |
| Snord49b      | 4,312426894 | 4,49E-05   |
| n-R5s151      | 4,310633779 | 0,046503   |
| Gm14636       | 4,282638786 | 2,83E-05   |
| Gm37472       | 4,279671316 | 0,03624    |
| Lrrc17        | 4,274631334 | 0,00016041 |
| P4ha2         | 4,266638854 | 1,67E-05   |
| Zwilch        | 4,258070983 | 0,00049873 |
| Frat2         | 4,255120536 | 2,39E-07   |
| Amd2          | 4,237167027 | 0,0069134  |
| Btf3          | 4,234231064 | 0,0012251  |
| Zfp773        | 4,20673226  | 7,86E-05   |
| Gm45185       | 4,20352601  | 0,011897   |
| Icosl         | 4,199157788 | 0,0025545  |
| RP23-356P21.1 | 4,183469741 | 0,0005767  |
| 4930522L14Rik | 4,177384674 | 0,0066447  |
| Rps19-ps11    | 4,152557082 | 0,0039814  |
| Dtd2          | 4,151693672 | 7,76E-05   |
| Iqgap3        | 4,146516979 | 1,59E-05   |
| Klf11         | 4,125016814 | 8,86E-05   |
| Ncapd3        | 4,110175509 | 6,62E-07   |
| Kcnj2         | 4,096523242 | 0,0019055  |
| Zfp36l1       | 4,094536078 | 6,54E-07   |
| Gm15542       | 4,094536078 | 0,042102   |
| Gsg1          | 4,07330544  | 0,00028844 |
| Suv39h2       | 4,070765172 | 0,00026291 |
| Ckap2         | 4,066253052 | 5,36E-05   |
| Fancd2        | 4,06597121  | 0,00028612 |
| Rps17         | 4,06315387  | 4,03E-05   |
| Gm43149       | 4,037885496 | 0,012604   |
| Adcy6         | 4,03760562  | 0,00015386 |
| Arhgap26      | 4,035926777 | 0,0010081  |
| Cit           | 4,034248631 | 0,00015476 |
| Gm28555       | 4,015000034 | 4,11E-06   |
| Rad51ap1      | 4,015000034 | 0,00038121 |
| Tmem240       | 4,008048594 | 0,013184   |
| Gm42666       | 3,995843278 | 0,013937   |
| H2-DMb2       | 3,991967569 | 0,026629   |
| Gm29019       | 3,98367513  | 0,0018388  |
| 2810454H06Rik | 3,971544037 | 0,014231   |

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| Tnfrsf17      | 3,945477739 | 0,0013254  |
| Atf3          | 3,941650881 | 3,64E-06   |
| Gm43817       | 3,940011935 | 0,0031888  |
| 4931428F04Rik | 3,930464992 | 0,010459   |
| Rny1          | 3,918767553 | 0,00039928 |
| Cenpk         | 3,912796285 | 0,0004325  |
| Cd274         | 3,909001125 | 0,00066456 |
| C730045M19Rik | 3,903585854 | 0,023522   |
| Gm45153       | 3,894937019 | 0,0063448  |
| H2-T23        | 3,890350122 | 0,0043451  |
| Gm3550        | 3,884422155 | 0,0005022  |
| Rpl17-ps8     | 3,87608444  | 8,36E-05   |
| D130051D11Rik | 3,870983076 | 0,00061167 |
| Ddah2         | 3,870983076 | 0,0051158  |
| G2e3          | 3,855184752 | 5,95E-07   |
| Ddit4         | 3,85491754  | 4,13E-06   |
| Crip1         | 3,852513467 | 6,47E-09   |
| Cdkn2c        | 3,848510011 | 9,50E-05   |
| Bub1          | 3,837854454 | 1,40E-05   |
| Cfh           | 3,823516235 | 4,22E-06   |
| Gm15564       | 3,819278171 | 0,011024   |
| A130014A01Rik | 3,810287874 | 0,00084152 |
| Tmem107       | 3,806064472 | 0,00010147 |
| Selenbp1      | 3,796315776 | 7,97E-06   |
| 5330406M23Rik | 3,778726234 | 0,0042473  |
| Gm43581       | 3,762521954 | 0,00037789 |
| 2810013P06Rik | 3,754706139 | 0,00013841 |
| Ezr           | 3,749764522 | 5,32E-08   |
| Arrdc2        | 3,742493991 | 2,46E-05   |
| Basp1         | 3,730063006 | 9,07E-06   |
| Usp50         | 3,729804467 | 0,017211   |
| Kifc5b        | 3,725928527 | 0,0064826  |
| Gm14005       | 3,724379279 | 0,0030261  |
| H3f3a         | 3,723863007 | 3,18E-06   |
| Gm15728       | 3,708151017 | 0,0032507  |
| Gm44090       | 3,699422306 | 0,0042691  |
| Gm24920       | 3,69685895  | 0,044022   |
| Gm28578       | 3,695834105 | 0,019678   |
| Gm15950       | 3,684324159 | 0,0039912  |
| Dlgap5        | 3,684324159 | 0,0063839  |
| Gm5312        | 3,680495481 | 0,039235   |
| Gm10036       | 3,67922014  | 0,00017535 |
| Selenop       | 3,667761934 | 0,0069435  |
| Slc2a1        | 3,664458434 | 9,58E-07   |
| Rpl35a-ps5    | 3,657606823 | 0,0011432  |
| Gm7114        | 3,654059181 | 0,031472   |
| Oaz1          | 3,642426852 | 0,00016058 |
| Tob1          | 3,639398426 | 0,00040604 |
| Ly86          | 3,637380874 | 7,16E-07   |
| Zic2          | 3,631083232 | 0,0020826  |
| Arf2          | 3,620527728 | 7,88E-09   |
| S1pr1         | 3,612506041 | 0,00015403 |

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| Gm6136        | 3,61150458  | 0,0014018  |
| Nek2          | 3,602254222 | 0,0071734  |
| Nadk2         | 3,59352569  | 5,36E-05   |
| Rasgef1b      | 3,580100284 | 9,32E-06   |
| Rpl39-ps      | 3,570930363 | 4,65E-05   |
| Ftl1          | 3,563265542 | 0,017321   |
| Pmaip1        | 3,561537054 | 1,03E-05   |
| Gm13092       | 3,56079653  | 0,031963   |
| Rpl13a-ps1    | 3,556356619 | 6,61E-06   |
| Gm45203       | 3,5474934   | 0,025602   |
| Gtse1         | 3,544543904 | 0,0002623  |
| Ifi213        | 3,541596861 | 1,40E-05   |
| Snhg20        | 3,533260206 | 3,02E-06   |
| C730034F03Rik | 3,533015307 | 5,84E-05   |
| Mtfr2         | 3,521524207 | 0,027587   |
| 1500015A07Rik | 3,517133265 | 0,00070418 |
| Hist1h2al     | 3,516889484 | 0,0097619  |
| Dpep2         | 3,513965434 | 1,74E-05   |
| Gm15503       | 3,499866761 | 0,0043856  |
| Gm13567       | 3,487999903 | 0,035466   |
| Ccdc117       | 3,485824654 | 1,05E-06   |
| Uhrf1         | 3,485583043 | 0,0057994  |
| Gm44270       | 3,475450507 | 0,034998   |
| Tk1           | 3,471598246 | 0,0072795  |
| Rps28         | 3,46486706  | 0,00011147 |
| Maff          | 3,459347636 | 4,25E-05   |
| Atp5g1        | 3,457190256 | 7,95E-05   |
| Luc7l3        | 3,445468099 | 3,17E-06   |
| Gm14094       | 3,437357724 | 0,033302   |
| Pea15a        | 3,434737869 | 6,83E-06   |
| Pclaf         | 3,430455139 | 2,52E-06   |
| Cbx2          | 3,429504147 | 0,0072601  |
| Gm16585       | 3,424990532 | 0,049116   |
| Gm43637       | 3,416217903 | 0,032523   |
| Rps8-ps4      | 3,414560746 | 0,045393   |
| Kifc1         | 3,41361416  | 0,0002928  |
| Pigb          | 3,412431296 | 0,025582   |
| Sdc3          | 3,408885164 | 8,91E-08   |
| Cox20-ps      | 3,407940152 | 7,85E-06   |
| Map3k12       | 3,397797796 | 0,00033984 |
| AV356131      | 3,391209704 | 4,63E-06   |
| Eno2          | 3,388390148 | 3,18E-06   |
| Prdm10        | 3,381117141 | 0,00071671 |
| Unc13a        | 3,37854015  | 0,00076779 |
| Gm13408       | 3,373625894 | 0,01894    |
| Gm38043       | 3,367318066 | 0,01127    |
| Lzic          | 3,361022033 | 0,00030291 |
| Nfil3         | 3,356365895 | 0,0003536  |
| Igfbp4        | 3,339194201 | 3,58E-08   |
| Crip2         | 3,336417892 | 0,0015705  |
| RP24-550H10.3 | 3,33387497  | 0,0081661  |
| C030034I22Rik | 3,332719737 | 1,45E-05   |

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| Gadd45a       | 3,331564904 | 0,0010081  |
| Tgif2         | 3,324183446 | 4,98E-05   |
| RP23-43M12.2  | 3,313141912 | 0,00054519 |
| Ypel2         | 3,311305226 | 0,0002623  |
| Gm37733       | 3,304655768 | 0,039595   |
| Gm10343       | 3,30351066  | 0,013527   |
| Arsb          | 3,302137054 | 0,00015176 |
| Kif11         | 3,301908175 | 0,0002228  |
| Anln          | 3,29984898  | 0,00028748 |
| Itgam         | 3,29984898  | 0,0002946  |
| Rsrp1         | 3,297791069 | 3,05E-05   |
| Rab5a         | 3,297105384 | 0,0048394  |
| Rccd1         | 3,295734442 | 0,0025379  |
| RP23-325K4.10 | 3,2868372   | 3,27E-05   |
| RP23-288C18.3 | 3,280919053 | 0,0015953  |
| Rpl19         | 3,278872947 | 6,55E-05   |
| Vamp2         | 3,272742284 | 7,37E-05   |
| 9330020H09Rik | 3,270927993 | 0,0024725  |
| Gbe1          | 3,265717508 | 1,79E-05   |
| Hmgb1         | 3,257804431 | 0,0057573  |
| 9330151L19Rik | 3,257352834 | 0,012512   |
| RP23-454I20.1 | 3,253967857 | 0,030384   |
| Ube2s         | 3,253967857 | 0,030542   |
| Gm26737       | 3,249910527 | 0,027369   |
| Car7          | 3,249685268 | 0,042615   |
| Itgax         | 3,246533284 | 0,0010457  |
| Spsb2         | 3,244733522 | 0,0004225  |
| Fbxo5         | 3,244733522 | 0,0024132  |
| Gm24916       | 3,241361659 | 0,0011207  |
| Gm13215       | 3,23687129  | 0,0062631  |
| Kif15         | 3,234852655 | 0,00040242 |
| 2900055J20Rik | 3,23462844  | 0,028272   |
| Hmmr          | 3,221203933 | 7,37E-05   |
| Lilrb4a       | 3,216295586 | 0,0010793  |
| Lonrf3        | 3,212062578 | 1,59E-05   |
| Gm19566       | 3,202059243 | 0,034958   |
| Zfp326        | 3,200284136 | 1,61E-06   |
| Gm6987        | 3,194743269 | 0,0037915  |
| Ska1          | 3,186118665 | 8,93E-06   |
| Rps12-ps10    | 3,181925373 | 0,00084441 |
| Tiparp        | 3,181704826 | 3,79E-05   |
| Rps15a-ps6    | 3,179059459 | 0,0015913  |
| Gm13456       | 3,174875458 | 0,0090767  |
| Gm14427       | 3,168060749 | 0,0060396  |
| Gm12902       | 3,163014128 | 0,012903   |
| Mad2l1        | 3,158413366 | 0,0019205  |
| Gm9320        | 3,151415544 | 0,0001993  |
| Rpl27-ps3     | 3,151197112 | 0,0096321  |
| Fn1           | 3,149886839 | 0,0020777  |
| Anxa2         | 3,14792245  | 5,09E-06   |
| Gdap10        | 3,14792245  | 0,004603   |
| Senp3         | 3,13964186  | 0,00041401 |

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| Tmod1         | 3,13964186  | 0,0021653  |
| Gm24276       | 3,138118866 | 5,13E-05   |
| Map3k8        | 3,137683861 | 3,88E-05   |
| Gm26520       | 3,129647127 | 0,0001993  |
| Gm16754       | 3,128345814 | 0,00010068 |
| Snord104      | 3,126178161 | 3,09E-05   |
| Gm15453       | 3,123795478 | 0,011546   |
| Zdhhc18       | 3,113635362 | 2,27E-05   |
| Spc24         | 3,112556445 | 0,00080763 |
| Ccdc58        | 3,110184144 | 7,37E-05   |
| Msantd2       | 3,099638567 | 0,00096638 |
| RP23-2N7.4    | 3,097920239 | 0,01785    |
| Fth-ps3       | 3,09448644  | 0,0010076  |
| Hist1h1e      | 3,089985354 | 2,76E-05   |
| Dennd4c       | 3,089342876 | 0,0001458  |
| Fam103a1      | 3,087630256 | 0,0054669  |
| 8030462N17Rik | 3,08656035  | 0,0063016  |
| Nemp1         | 3,085704693 | 7,34E-05   |
| Golga7        | 3,068428571 | 0,00061665 |
| Sgol1         | 3,06523992  | 0,0056463  |
| Tma7-ps       | 3,064390173 | 0,0085532  |
| Ormdl3        | 3,062691386 | 7,37E-05   |
| H2-Q4         | 3,06099354  | 0,011851   |
| Gm5445        | 3,057176827 | 0,020343   |
| Pcgf5         | 3,052095278 | 0,044178   |
| Ncapg         | 3,049769059 | 0,00037826 |
| Tma7          | 3,039849713 | 0,021801   |
| Gm42819       | 3,035848928 | 0,014288   |
| Cldn11        | 3,026604156 | 4,69E-05   |
| Rassf7        | 3,025974857 | 0,0097619  |
| Lpl           | 3,023458968 | 6,98E-07   |
| Rhob          | 3,022830323 | 0,020683   |
| Gm10175       | 3,016132901 | 0,00038273 |
| Mcm7          | 3,010076181 | 6,43E-05   |
| Gm26244       | 3,009450318 | 0,0056981  |
| Gm12577       | 3,008407503 | 0,0074164  |
| Wdhd1         | 3,005281225 | 0,00076539 |
| Bnip3l        | 2,995506575 | 0,00016495 |
| Gm24339       | 2,995506575 | 0,023206   |
| Mki67         | 2,992393703 | 0,00012501 |
| Cdc7          | 2,989284066 | 0,021556   |
| Tomm40l       | 2,988869692 | 0,00095157 |
| Mafb          | 2,983074483 | 3,01E-05   |
| H2-Ob         | 2,981214124 | 0,00014391 |
| Nup205        | 2,976671465 | 0,0014574  |
| Cox20         | 2,975640008 | 6,81E-05   |
| Rpl10a-ps2    | 2,974608908 | 0,0025143  |
| RP23-162P10.8 | 2,970693987 | 0,00054555 |
| Tgfb1         | 2,969458767 | 3,05E-05   |
| Gm10240       | 2,968635572 | 0,0056897  |
| 4931440P22Rik | 2,965345075 | 0,0077781  |
| Sdc4          | 2,963701195 | 7,60E-06   |

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| Tia1          | 2,962674232 | 0,0004225  |
| Zfp101        | 2,958159822 | 0,01702    |
| Hsp90aa1      | 2,956929814 | 2,08E-05   |
| Chrnbl        | 2,953242857 | 0,047733   |
| Jsrp1         | 2,953038161 | 0,02573    |
| 2410080102Rik | 2,948742819 | 0,019216   |
| Gm12882       | 2,943841506 | 0,012597   |
| Csrnp1        | 2,927562559 | 3,05E-05   |
| Zfp367        | 2,924723013 | 0,00029442 |
| 1700084E18Rik | 2,923506907 | 0,011158   |
| Ptchd1        | 2,922493873 | 1,34E-05   |
| Cdca2         | 2,920873747 | 0,00040682 |
| Aunip         | 2,919861625 | 0,025721   |
| Ccna2         | 2,91925452  | 0,00012861 |
| Sp4           | 2,91258469  | 0,0014149  |
| Tnfaip3       | 2,910163077 | 0,015912   |
| Gm11531       | 2,907541936 | 0,001103   |
| Gm7799        | 2,904721808 | 0,027898   |
| Mturn         | 2,898085182 | 0,01268    |
| Gm28404       | 2,892065045 | 0,042715   |
| Arhgap39      | 2,891864589 | 0,021842   |
| Morf4l1       | 2,886457533 | 0,00046394 |
| Tmsb10        | 2,883457983 | 0,019547   |
| Gm12943       | 2,880860894 | 0,014701   |
| Mgst3         | 2,868506923 | 0,026494   |
| Gm5525        | 2,865128808 | 0,015685   |
| Hoxb8         | 2,860961335 | 0,00018814 |
| Bard1         | 2,854820426 | 0,035725   |
| Higd1a        | 2,852249131 | 0,0039121  |
| Spdl1         | 2,848692699 | 0,0050344  |
| E230032D23Rik | 2,846916146 | 0,011851   |
| Fam174a       | 2,844746308 | 2,42E-05   |
| Numb          | 2,841790103 | 0,00053285 |
| RP23-58B7.2   | 2,839821007 | 0,002916   |
| Hnrnpa3       | 2,838246712 | 0,00047419 |
| Nup98         | 2,830976945 | 0,0062637  |
| Rps12-ps4     | 2,829603679 | 0,0012493  |
| Rpl28-ps1     | 2,829603679 | 0,0026716  |
| Dgkh          | 2,821964815 | 0,01988    |
| Tpi1          | 2,820009456 | 1,91E-06   |
| Atad5         | 2,817860125 | 0,04299    |
| Dtl           | 2,817664813 | 0,0013125  |
| Ube2t         | 2,813566378 | 0,0012975  |
| Acrbp         | 2,812591439 | 0,024296   |
| Mmp9          | 2,812201558 | 0,043356   |
| RP24-454N4.2  | 2,8108374   | 0,0003536  |
| Pif1          | 2,810447763 | 0,003766   |
| Gm11826       | 2,809863407 | 0,035261   |
| Smc2          | 2,806943452 | 1,08E-05   |
| Gm8304        | 2,806359825 | 0,038637   |
| Blm           | 2,796069071 | 0,0004244  |
| Nat6          | 2,795487705 | 0,00066456 |

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| Gm14286       | 2,794131655 | 0,025944   |
| Rpl30         | 2,793357065 | 0,022586   |
| Rps12-ps9     | 2,791034582 | 0,0039039  |
| Polr2l        | 2,790067451 | 0,0028347  |
| Lsp1          | 2,788907335 | 4,98E-05   |
| BC028528      | 2,788520738 | 0,0059077  |
| Raf1          | 2,781378336 | 0,0063448  |
| Insig2        | 2,779643763 | 7,17E-05   |
| Gm7638        | 2,775408248 | 0,0063016  |
| Gm4987        | 2,774061938 | 0,028933   |
| H2-T22        | 2,771947628 | 0,0069832  |
| Mettl7a1      | 2,771563381 | 0,015868   |
| Tra2a         | 2,769067074 | 1,20E-05   |
| Rps27rt       | 2,764464413 | 0,00024409 |
| Gm5075        | 2,763314944 | 0,029217   |
| Tpt1          | 2,762357418 | 0,00014509 |
| 3110062M04Rik | 2,761208824 | 4,81E-05   |
| AW554918      | 2,75891307  | 0,0011794  |
| Selenow       | 2,755473018 | 3,61E-05   |
| RP24-310D17.9 | 2,75032098  | 0,014049   |
| Tbc1d31       | 2,7463205   | 0,0004244  |
| Tsc22d2       | 2,744798038 | 6,83E-06   |
| Gm19967       | 2,740425662 | 0,032373   |
| Gm29736       | 2,740235717 | 0,020117   |
| Rc3h1         | 2,737388117 | 0,00013542 |
| Nuf2          | 2,734733028 | 0,033302   |
| Gm13611       | 2,73321699  | 0,043536   |
| Fau           | 2,732080514 | 0,014586   |
| Rbl1          | 2,726783201 | 0,0035333  |
| Asb10         | 2,725838333 | 0,019234   |
| Gm14513       | 2,725082675 | 0,044093   |
| Ccdc50-ps     | 2,722062137 | 0,0049109  |
| Pmf1          | 2,721118906 | 0,00013634 |
| Gm4617        | 2,720741705 | 0,01438    |
| Tpx2          | 2,717160902 | 4,49E-05   |
| Ip6k2         | 2,715842847 | 8,89E-05   |
| Hist1h2bc     | 2,713020596 | 0,00013994 |
| Mcm3          | 2,712080498 | 0,00038273 |
| Gm15832       | 2,71170455  | 0,01091    |
| Supt20        | 2,70869884  | 0,0003442  |
| Aurkb         | 2,708323361 | 0,0042412  |
| Rpl31-ps13    | 2,703821666 | 0,005539   |
| Fam64a        | 2,690547916 | 0,0021658  |
| Med22         | 2,686634379 | 0,00039646 |
| Gatsl2        | 2,685889589 | 1,54E-05   |
| Mxd1          | 2,684586703 | 0,0003536  |
| Gm8430        | 2,681239327 | 0,00072199 |
| Kif4          | 2,680310242 | 0,040775   |
| Clec12a       | 2,679010062 | 1,47E-05   |
| Cenpw         | 2,67566964  | 0,00018814 |
| Zfp280d       | 2,671592557 | 0,00031595 |
| Car12         | 2,667336794 | 0,00086777 |

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| Gm26826       | 2,666782195 | 0,012624   |
| Ncapg2        | 2,665303827 | 0,0016633  |
| Rassf1        | 2,663826278 | 3,31E-05   |
| Parp6         | 2,657003264 | 0,00051938 |
| Rpl9          | 2,656450813 | 0,00049873 |
| Piga          | 2,655162208 | 0,0001641  |
| Top2a         | 2,653322427 | 3,88E-05   |
| Slbp          | 2,648912153 | 0,042485   |
| Gm6472        | 2,648361385 | 0,018528   |
| 4933439C10Rik | 2,645425886 | 0,013401   |
| Pim1          | 2,641944207 | 6,46E-05   |
| Gm6807        | 2,640113586 | 0,0060171  |
| H2afz         | 2,633351308 | 0,0041079  |
| Kctd6         | 2,63152664  | 0,006225   |
| Zc3h12c       | 2,630250125 | 0,0024132  |
| Tmx2          | 2,628245424 | 0,0087083  |
| Tacc3         | 2,623331269 | 0,0035181  |
| Pi16          | 2,62314944  | 0,0024165  |
| Rab26os       | 2,616067925 | 0,00085078 |
| Bsdcl         | 2,611357538 | 0,043459   |
| Lin54         | 2,607559187 | 0,0035709  |
| Gm42724       | 2,60070002  | 0,047733   |
| Dedd2         | 2,597997423 | 7,86E-05   |
| RP23-354J5.3  | 2,596737173 | 0,0193     |
| RP24-275P22.2 | 2,592960088 | 0,037541   |
| Racgap1       | 2,592780364 | 0,00035607 |
| Rpl11         | 2,590983809 | 0,022003   |
| Plin2         | 2,58972696  | 8,00E-05   |
| H2-K2         | 2,58972696  | 0,016454   |
| Ift80         | 2,586677152 | 0,0035333  |
| Trim59        | 2,585601607 | 0,022003   |
| Cd74          | 2,583810026 | 0,00010699 |
| Gfod2         | 2,572729895 | 0,030999   |
| Cox4i2        | 2,567207661 | 0,047664   |
| Rpl23a-ps3    | 2,564717636 | 0,018961   |
| C530043K16Rik | 2,559922262 | 0,023291   |
| Rpl6          | 2,557262041 | 0,0015374  |
| Rpl10-ps3     | 2,556553115 | 0,02704    |
| Zfp932        | 2,552834481 | 0,010762   |
| Dnajb6        | 2,547178388 | 3,85E-05   |
| Hsf2bp        | 2,542944543 | 0,04689    |
| Hist1h1c      | 2,542415808 | 0,001483   |
| mt-Co1        | 2,540830261 | 7,86E-05   |
| Ndc80         | 2,531864155 | 0,023206   |
| Iscu          | 2,528707206 | 0,0053018  |
| Car11         | 2,527130209 | 0,030478   |
| Socs4         | 2,526779898 | 0,0030261  |
| Slc25a38      | 2,525029075 | 0,0042533  |
| Rpl21-ps6     | 2,524154118 | 0,01739    |
| Smc4          | 2,522754818 | 7,06E-05   |
| Spag5         | 2,51559557  | 0,02584    |
| 4921524J17Rik | 2,515246858 | 0,0029136  |

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|---------------|-------------|------------|
| Tmem176a      | 2,514898195 | 0,00097281 |
| Cdc6          | 2,507935074 | 0,012167   |
| Prim1         | 2,503419387 | 0,041036   |
| Zeb2os        | 2,501337968 | 0,021083   |
| Rnf24         | 2,496834159 | 0,0050434  |
| Asf1b         | 2,493548044 | 0,026629   |
| Mettl17       | 2,490611501 | 0,014349   |
| Rdh13         | 2,490266253 | 0,00034115 |
| Gm43482       | 2,486816403 | 0,037272   |
| Plau          | 2,486471681 | 0,0013066  |
| Eif4a2        | 2,482338742 | 0,013174   |
| Gins2         | 2,480962622 | 0,024956   |
| Gm11539       | 2,479587266 | 0,00017289 |
| Khk           | 2,475980582 | 0,00016273 |
| Ppfia4        | 2,474436466 | 0,018351   |
| Zfyve26       | 2,473236153 | 0,0038928  |
| Calr-ps       | 2,470494767 | 7,08E-05   |
| Pmp22         | 2,468098547 | 8,00E-05   |
| Ier5          | 2,468098547 | 0,00031718 |
| BC051226      | 2,462630196 | 0,0088865  |
| Birc5         | 2,461947505 | 0,00012193 |
| Rpl21         | 2,461947505 | 0,0047073  |
| Rps18-ps3     | 2,46160623  | 0,03596    |
| Jun           | 2,455471368 | 0,0043637  |
| C330027C09Rik | 2,455130991 | 0,0084119  |
| Sowahc        | 2,453599878 | 0,0026736  |
| Ywhah         | 2,450370664 | 0,0077246  |
| Gramd4        | 2,450200823 | 0,019475   |
| Ptgs2         | 2,448333335 | 0,0046811  |
| Gm2531        | 2,448333335 | 0,043506   |
| Rnf19a        | 2,446806477 | 0,0023019  |
| Mef2c         | 2,443416833 | 4,86E-05   |
| Gm42635       | 2,436820527 | 0,032028   |
| Mettl21b      | 2,434963253 | 0,028705   |
| Rps27a        | 2,42990515  | 0,037023   |
| B3gat3        | 2,428221451 | 0,001761   |
| Gm12844       | 2,416300693 | 0,037864   |
| Bbc3          | 2,413455122 | 0,0013868  |
| Erf           | 2,412618827 | 0,00024431 |
| Mdm4-ps       | 2,406439245 | 0,030918   |
| C030037D09Rik | 2,406439245 | 0,049116   |
| Klf4          | 2,399443763 | 0,00076863 |
| Hist1h4i      | 2,395621524 | 0,0018403  |
| H2-Q7         | 2,387498787 | 0,0043629  |
| Dnajb4        | 2,385679104 | 0,00018359 |
| Hist3h2a      | 2,385183067 | 0,0011814  |
| Tmed7         | 2,384521846 | 0,013571   |
| Pde1b         | 2,384191304 | 0,0067037  |
| Gm7308        | 2,376601471 | 0,030814   |
| Smagp         | 2,375777946 | 0,00035506 |
| Arhgap15      | 2,373638118 | 0,0097923  |
| Gm12481       | 2,369856987 | 0,0028968  |

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|---------------|-------------|------------|
| Pltp          | 2,367722491 | 0,00030874 |
| Sgol2a        | 2,362640295 | 0,004049   |
| Rrm1          | 2,359040194 | 0,0012669  |
| P4ha1         | 2,356915441 | 0,00013088 |
| Kdm4b         | 2,356752078 | 0,036238   |
| Rpl36-ps10    | 2,354139805 | 0,0042739  |
| N4bp2         | 2,353487189 | 0,018183   |
| Rpl30-ps3     | 2,353324064 | 0,039447   |
| Rpl31-ps8     | 2,351856441 | 0,029653   |
| Dram1         | 2,350878535 | 0,0098813  |
| Adh5          | 2,350389735 | 0,0010081  |
| Rps23         | 2,347784514 | 0,023087   |
| Lig1          | 2,347296357 | 8,39E-05   |
| Prr11         | 2,342258004 | 0,027291   |
| Cdkal1        | 2,340797283 | 0,02747    |
| Carhsp1       | 2,339337473 | 0,00022245 |
| Ppwd1         | 2,337878573 | 0,0031071  |
| Kdm3a         | 2,334801662 | 0,009777   |
| Kif18a        | 2,334639831 | 0,021842   |
| Eif1b         | 2,334154407 | 0,00010125 |
| Ppp1r2        | 2,333345591 | 0,004636   |
| Bub1b         | 2,332537055 | 0,0013245  |
| Gm43309       | 2,332537055 | 0,015265   |
| Rpl31         | 2,33124398  | 0,00030585 |
| Crebrf        | 2,330920824 | 0,00036494 |
| Prc1          | 2,330597712 | 0,00065964 |
| Usp53         | 2,330597712 | 0,0025259  |
| Clu           | 2,330274645 | 0,001294   |
| Jund          | 2,328498576 | 0,00037066 |
| Srfbp1        | 2,328337183 | 0,0031772  |
| Trmt112       | 2,327853069 | 0,0063004  |
| 5730508B09Rik | 2,327369056 | 0,032028   |
| Pgk1          | 2,32720774  | 0,033482   |
| Kpna4         | 2,323017464 | 0,0010793  |
| Rdm1          | 2,320442583 | 0,0032179  |
| Gm12166       | 2,312254183 | 0,016572   |
| Nxt2          | 2,301859855 | 0,0051661  |
| Gm6023        | 2,296759825 | 0,013413   |
| Gm8618        | 2,2956457   | 0,02584    |
| Gm18889       | 2,294532116 | 0,029275   |
| Trp53rkb      | 2,294373077 | 0,033251   |
| Spink10       | 2,29326011  | 0,0071875  |
| Dvl2          | 2,291512253 | 0,0010205  |
| Stom          | 2,286435149 | 0,0050784  |
| Mcm5          | 2,286435149 | 0,011897   |
| Tmem64        | 2,284217455 | 0,00020846 |
| Klf6          | 2,278840577 | 0,0037216  |
| Hspe1         | 2,27599912  | 0,00086777 |
| Zfp87         | 2,275368167 | 0,0074164  |
| Mapre2        | 2,271586117 | 0,00042395 |
| Nr2c2ap       | 2,270012119 | 0,0043929  |
| Gm2000        | 2,263256347 | 0,018307   |

|                |             |            |
|----------------|-------------|------------|
| Per1           | 2,261061134 | 0,0050784  |
| Gm19353        | 2,259964327 | 0,0029179  |
| Gm5881         | 2,259181218 | 0,03559    |
| 20101111I01Rik | 2,258554927 | 0,0036399  |
| Pold1          | 2,253707053 | 0,046964   |
| Uba52          | 2,252926113 | 0,04587    |
| Oaz2           | 2,250116969 | 0,0003595  |
| Arhgap11a      | 2,248869585 | 0,0083369  |
| Hcfc1r1        | 2,242487588 | 0,00013499 |
| Etv3           | 2,241710536 | 0,0054405  |
| Dut            | 2,240467812 | 0,0012155  |
| Rpl36          | 2,240157239 | 0,034679   |
| Pcif1          | 2,239846709 | 0,0017686  |
| Rpl5           | 2,239380994 | 0,0077945  |
| Rbm4b          | 2,238139562 | 0,036605   |
| Ezh2           | 2,237829311 | 0,00080789 |
| B230219D22Rik  | 2,236898818 | 0,0019958  |
| Wdr70          | 2,235038991 | 0,013696   |
| Ccdc163        | 2,235038991 | 0,024848   |
| Bcat2          | 2,233954806 | 0,032602   |
| Gm15501        | 2,231788015 | 0,024001   |
| Gm23935        | 2,230396187 | 0,040084   |
| Polg2          | 2,225917311 | 0,033205   |
| E330034L11Rik  | 2,221909414 | 0,036238   |
| B4galt3        | 2,220677667 | 0,00096339 |
| Rps3a1         | 2,216218307 | 0,018939   |
| Tusc3          | 2,212534575 | 0,0037357  |
| Sirpa          | 2,211614599 | 0,00090393 |
| Cdkn2d         | 2,209010077 | 0,0012892  |
| Tex30          | 2,207020454 | 0,032041   |
| Mcm6           | 2,200909769 | 0,0063448  |
| Gm6142         | 2,198470235 | 0,0063967  |
| Metap1d        | 2,197099185 | 0,0182     |
| Swap70         | 2,196946899 | 0,0035284  |
| Rpl13          | 2,194055469 | 0,0079885  |
| Necap1         | 2,192839164 | 0,0031812  |
| Atp11b         | 2,190256753 | 0,0039912  |
| Sik2           | 2,182527754 | 0,035574   |
| Tmem170b       | 2,180713133 | 0,034993   |
| 1500011K16Rik  | 2,180259714 | 0,049944   |
| H2afv          | 2,179051056 | 0,0050531  |
| Nucb1          | 2,178748997 | 0,0005292  |
| Rps27          | 2,178446979 | 0,04168    |
| Hist2h2be      | 2,177994031 | 0,00655    |
| Cenpx          | 2,177541177 | 0,028702   |
| Calm3          | 2,176786629 | 0,0013254  |
| AC133103.1     | 2,170609194 | 0,021596   |
| Pttg1          | 2,16925552  | 0,0086124  |
| Cenpf          | 2,16790269  | 0,0076834  |
| Ero1l          | 2,167301703 | 0,0024819  |
| Mb21d1         | 2,167001272 | 0,0004225  |
| Csrp1          | 2,166550703 | 0,011849   |

|               |             |            |
|---------------|-------------|------------|
| Raly          | 2,165349645 | 0,027039   |
| Adgre1        | 2,164299266 | 0,00062306 |
| Gins3         | 2,163999251 | 0,0072601  |
| Slc16a10      | 2,162649699 | 0,0043065  |
| Pfkp          | 2,162499801 | 0,0020277  |
| Uimc1         | 2,161450804 | 0,0047297  |
| Gon7          | 2,160252574 | 0,004704   |
| Upf2          | 2,159803408 | 0,0036456  |
| Ckap2l        | 2,157409437 | 0,034993   |
| Gm9790        | 2,156512383 | 0,01179    |
| Man1a         | 2,15248025  | 0,04929    |
| Lmnb1         | 2,14860458  | 0,0086606  |
| Osbpl3        | 2,147115797 | 0,010189   |
| Trmt13        | 2,146966976 | 0,017869   |
| Gm10076       | 2,145479327 | 0,00771    |
| Snx13         | 2,141616263 | 0,035672   |
| Rpl26         | 2,141319393 | 0,02542    |
| Ubb           | 2,13746382  | 0,004049   |
| Fzd5          | 2,135982756 | 0,047664   |
| Lbr           | 2,135242609 | 0,00066456 |
| Emc10         | 2,130954811 | 0,010153   |
| Mif           | 2,128002728 | 0,021747   |
| Rab10os       | 2,126233441 | 0,0033485  |
| Dusp4         | 2,125791349 | 0,0046974  |
| Prelid1       | 2,124907441 | 0,0023588  |
| Chchd6        | 2,122993568 | 0,023637   |
| Skp2          | 2,121816656 | 0,03266    |
| Dnajb1        | 2,115501927 | 0,03768    |
| Fbxo33        | 2,110083368 | 0,024283   |
| H60b          | 2,108475123 | 0,0034633  |
| Mapk6         | 2,107160198 | 0,0042139  |
| Cdc20         | 2,103949388 | 0,016454   |
| Plekha1       | 2,103803558 | 0,0023594  |
| Tmx4          | 2,103657739 | 0,00049873 |
| Vezt          | 2,090285493 | 0,03266    |
| Mynn          | 2,089995738 | 0,031478   |
| Srsf1         | 2,087679143 | 0,028418   |
| Rpl17         | 2,08666644  | 0,040534   |
| Rpsa          | 2,086377187 | 0,0049735  |
| Atp9a         | 2,08478701  | 0,01291    |
| G6pc3         | 2,083631279 | 0,021129   |
| Arhgap27os2   | 2,083486858 | 0,046587   |
| RP24-84C23.4  | 2,079735416 | 0,048447   |
| Pcna          | 2,07915887  | 0,038355   |
| Fam76b        | 2,078294352 | 0,02172    |
| Ak4           | 2,067518158 | 0,0059086  |
| St6galnac6    | 2,067374854 | 0,008649   |
| Gt(ROSA)26Sor | 2,058794738 | 0,021556   |
| Psat1         | 2,058081337 | 0,00084757 |
| Syt11         | 2,057796046 | 0,01268    |
| Rpl18         | 2,057796046 | 0,018712   |
| C330006A16Rik | 2,054518042 | 0,014558   |

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|---------------|-------------|------------|
| Calm1         | 2,054233245 | 0,00024409 |
| Gm6085        | 2,053948488 | 0,0050344  |
| C920021L13Rik | 2,052525293 | 0,035083   |
| Gm16580       | 2,051956291 | 0,020505   |
| Cenpe         | 2,05124526  | 0,0042989  |
| Rps24         | 2,050676613 | 0,0075506  |
| Inafm1        | 2,047977691 | 0,015968   |
| Chka          | 2,047126138 | 0,033482   |
| Gys1          | 2,044715327 | 0,0053968  |
| Cbx5          | 2,043015288 | 0,0051344  |
| Pnn           | 2,041599669 | 0,003761   |
| Coprs         | 2,040750768 | 0,028418   |
| Vps51         | 2,039760829 | 0,038355   |
| Gpr137b-ps    | 2,034677298 | 0,039162   |
| Gm15464       | 2,024828894 | 0,041837   |
| Ulbpl1        | 2,021743538 | 0,020419   |
| D030056L22Rik | 2,0120972   | 0,016091   |
| Ctdspl2       | 2,010284933 | 0,041965   |
| Sec24a        | 2,00861352  | 0,038746   |
| Tor1aip2      | 2,004024297 | 0,0057994  |
| Nnt           | 2,002358089 | 0,018528   |
| Rel1          | 2,000693267 | 0,019642   |
| Sh3bgrl2      | 1,999861375 | 0,01247    |
| Gm14620       | 1,996260506 | 0,016702   |
| Egln1         | 1,994739013 | 0,0065599  |
| Tcf20         | 1,994462503 | 0,016821   |
| Cnih1         | 1,991975634 | 0,016322   |
| Ap1s3         | 1,984396063 | 0,047543   |
| Gm15210       | 1,982883613 | 0,01958    |
| Nusap1        | 1,981097659 | 0,037288   |
| BC055324      | 1,975886394 | 0,045186   |
| Gm10275       | 1,969323334 | 0,046793   |
| Rsrc2         | 1,96686781  | 0,0058497  |
| 4930503L19Rik | 1,964279191 | 0,043504   |
| Tial1         | 1,962918128 | 0,017954   |
| Rpl15         | 1,961422048 | 0,048648   |
| Asf1a         | 1,95626254  | 0,031127   |
| Cd300c2       | 1,955584669 | 0,043459   |
| Gm9385        | 1,95504254  | 0,01251    |
| Pthr1         | 1,953281662 | 0,037804   |
| Dtymk         | 1,949629519 | 0,036655   |
| Sf3b1         | 1,947468509 | 0,0072795  |
| Rps15a        | 1,943153673 | 0,0096098  |
| Fmr1          | 1,942884313 | 0,022363   |
| Syne3         | 1,931203238 | 0,044146   |
| Fam162a       | 1,928527877 | 0,013463   |
| Gm24951       | 1,927325173 | 0,041999   |
| Gm10086       | 1,924255005 | 0,033351   |
| Gnas          | 1,922521857 | 0,041802   |
| Anp32a        | 1,918661226 | 0,0076625  |
| Dcp2          | 1,917996383 | 0,013465   |
| Cln6          | 1,917331772 | 0,021046   |

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|-------------|-------------|-----------|
| Rasa4       | 1,915206561 | 0,03175   |
| Rpl14-ps1   | 1,904615792 | 0,03734   |
| Fgfr1op     | 1,901449996 | 0,025892  |
| Fem1c       | 1,901318202 | 0,036739  |
| Pfdn5       | 1,892115293 | 0,0070043 |
| Mxi1        | 1,890542131 | 0,016244  |
| Fam126b     | 1,885961206 | 0,037457  |
| Clic4       | 1,883479068 | 0,041213  |
| Zfand5      | 1,882826417 | 0,036739  |
| Nop56       | 1,879436276 | 0,049904  |
| Nop10       | 1,878134001 | 0,016327  |
| Dennd4a     | 1,875012222 | 0,037381  |
| Igf1        | 1,871506424 | 0,036433  |
| D8Erttd738e | 1,866454061 | 0,029228  |
| Kpna3       | 1,862964264 | 0,030892  |
| Rbx1        | 1,853946998 | 0,017665  |
| Gtf2h5      | 1,853818497 | 0,012019  |
| Usp1        | 1,853433046 | 0,04299   |
| Cd47        | 1,850095829 | 0,019139  |
| Rnf145      | 1,848557603 | 0,012831  |
| Rhoc        | 1,846124693 | 0,01093   |
| Ift57       | 1,843056119 | 0,047531  |
| Qk          | 1,842417475 | 0,037999  |
| Gm4997      | 1,840758036 | 0,039916  |
| Mrpl42      | 1,835534206 | 0,042745  |
| Arrdc4      | 1,829310534 | 0,043869  |
| Clic1       | 1,827282888 | 0,038326  |
| Phip        | 1,826902955 | 0,025257  |
| Nr3c1       | 1,8229816   | 0,01894   |
| Tspan13     | 1,821339667 | 0,018307  |
| Sun2        | 1,814283614 | 0,017261  |
| Cks1b       | 1,811142423 | 0,029653  |
| Cdca8       | 1,80625302  | 0,037603  |
| Rps8        | 1,805376833 | 0,014417  |
| Napsa       | 1,803375716 | 0,02419   |
| Kif23       | 1,803125733 | 0,042296  |
| Ddx47       | 1,789677795 | 0,039266  |
| Rpl37a      | 1,787942078 | 0,027329  |
| Cox7a2l     | 1,786455528 | 0,039562  |
| Agtpbp1     | 1,780521677 | 0,04587   |
| Ybx1        | 1,778424835 | 0,047995  |
| Vat1        | 1,771903457 | 0,038637  |
| Higd2a      | 1,768835641 | 0,040084  |
| Uhrf2       | 1,759298152 | 0,037127  |
| Calr        | 1,751753769 | 0,016454  |
| Lgals1      | 1,74956953  | 0,024848  |
| Cic         | 1,747509138 | 0,032721  |
| Atg12       | 1,736641542 | 0,032078  |
| Golga2      | -0,80398    | 0,027503  |
| Rtf1        | -0,81432    | 0,049328  |
| Atp6v1e1    | -0,81546    | 0,042539  |
| Sec61a1     | -0,82035    | 0,041551  |

|               |          |           |
|---------------|----------|-----------|
| Abr           | -0,82976 | 0,022575  |
| Hp1bp3        | -0,83065 | 0,022152  |
| Rap1b         | -0,83698 | 0,029375  |
| Zdhhc20       | -0,84069 | 0,027898  |
| Mfsd1         | -0,84255 | 0,018307  |
| Chmp3         | -0,84807 | 0,044541  |
| Tm9sf4        | -0,85077 | 0,0098131 |
| Atp6v1c1      | -0,85281 | 0,014201  |
| Wdfy4         | -0,85426 | 0,043917  |
| Uck2          | -0,85443 | 0,021596  |
| Ube2q1        | -0,85878 | 0,02685   |
| Sod1          | -0,85949 | 0,034478  |
| Psma2         | -0,86855 | 0,02848   |
| Surf4         | -0,87312 | 0,013279  |
| Gusb          | -0,87349 | 0,013955  |
| Irf5          | -0,8821  | 0,031102  |
| Hook3         | -0,88672 | 0,036655  |
| Ube2l3        | -0,88749 | 0,04974   |
| Bcl2l1        | -0,88772 | 0,01958   |
| Sde2          | -0,88934 | 0,015625  |
| Zfand3        | -0,88944 | 0,037864  |
| Csnk2a2       | -0,89078 | 0,014201  |
| Atxn7l3b      | -0,89127 | 0,017159  |
| Itpr2         | -0,89264 | 0,027691  |
| Plbd2         | -0,89485 | 0,016576  |
| Ddx21         | -0,89541 | 0,018712  |
| Psmd6         | -0,89622 | 0,046793  |
| Ktn1          | -0,89683 | 0,014745  |
| Hnrnpm        | -0,89865 | 0,01702   |
| Msr1          | -0,90155 | 0,023896  |
| Hectd1        | -0,90326 | 0,011696  |
| Mib1          | -0,90353 | 0,048272  |
| Cd109         | -0,90733 | 0,021649  |
| Foxp1         | -0,90819 | 0,013527  |
| Ostc          | -0,90873 | 0,037063  |
| Sh3bp5        | -0,9112  | 0,015353  |
| Tpm1          | -0,91488 | 0,003094  |
| Cars          | -0,91864 | 0,044234  |
| 2810025M15Rik | -0,9227  | 0,021649  |
| Wdr61         | -0,92305 | 0,017869  |
| Lhfpl2        | -0,9247  | 0,0040801 |
| Cux1          | -0,92662 | 0,011641  |
| Ptpra         | -0,92678 | 0,039038  |
| Gramd1b       | -0,92783 | 0,025018  |
| Mrpl37        | -0,93086 | 0,025864  |
| Tyk2          | -0,93111 | 0,024033  |
| Strn3         | -0,93159 | 0,0028935 |
| Usp25         | -0,93474 | 0,046804  |
| U2surp        | -0,93584 | 0,011851  |
| Arhgap27      | -0,93759 | 0,030384  |
| Taok3         | -0,93778 | 0,010536  |
| Arhgef12      | -0,93781 | 0,025721  |

|          |          |           |
|----------|----------|-----------|
| Sel1l    | -0,93936 | 0,004843  |
| Becn1    | -0,94051 | 0,014701  |
| Eif3b    | -0,94155 | 0,013798  |
| Ncbp1    | -0,94286 | 0,019449  |
| Abcd3    | -0,94336 | 0,038355  |
| Tbc1d10b | -0,94616 | 0,02178   |
| Cant1    | -0,94961 | 0,012919  |
| Csnk1d   | -0,95288 | 0,011757  |
| Tgm2     | -0,95287 | 0,014701  |
| Tnfrsf1a | -0,9533  | 0,018521  |
| Msantd4  | -0,95508 | 0,028059  |
| Ppp6r1   | -0,95547 | 0,037541  |
| Pstpip1  | -0,95629 | 0,006927  |
| Kif3b    | -0,95713 | 0,033736  |
| Ppm1l    | -0,96118 | 0,024044  |
| Mtmr2    | -0,96199 | 0,0071097 |
| Zcchc2   | -0,96295 | 0,033371  |
| Tpcn1    | -0,9688  | 0,028977  |
| Zfp217   | -0,97022 | 0,041663  |
| Myof     | -0,97032 | 0,015625  |
| Gab2     | -0,97162 | 0,010492  |
| Cerk     | -0,97278 | 0,011329  |
| Galnt1   | -0,97686 | 0,0068016 |
| Prorsd1  | -0,97725 | 0,011702  |
| Idh1     | -0,9788  | 0,0011639 |
| Aig1     | -0,97892 | 0,019654  |
| Arid1b   | -0,9804  | 0,016454  |
| H2afy    | -0,98064 | 0,01615   |
| Abcc1    | -0,98076 | 0,010232  |
| Brpf1    | -0,98199 | 0,02704   |
| Bid      | -0,98215 | 0,025201  |
| Nf2      | -0,98687 | 0,024925  |
| Mbp      | -0,98881 | 0,0042059 |
| Notch2   | -0,98939 | 0,026249  |
| Slc9a8   | -0,99183 | 0,038175  |
| Pgd      | -0,99211 | 0,0022665 |
| Hbs1l    | -0,99212 | 0,0044088 |
| Chordc1  | -0,99301 | 0,0046974 |
| Smap1    | -0,99298 | 0,038355  |
| Mgrn1    | -0,99303 | 0,046609  |
| Tcirg1   | -0,99353 | 0,0057512 |
| Haus2    | -0,99391 | 0,024099  |
| Spata13  | -0,99466 | 0,01707   |
| Map3k7   | -0,99546 | 0,0057568 |
| Ythdf2   | -0,99748 | 0,016134  |
| Foxred2  | -1,0038  | 0,011851  |
| Zfp330   | -1,0046  | 0,023755  |
| Zfp809   | -1,0068  | 0,0052513 |
| Pnpla7   | -1,0076  | 0,0079758 |
| Atp6ap2  | -1,0091  | 0,0013357 |
| Zmiz1    | -1,0093  | 0,032462  |
| Gnl3     | -1,0145  | 0,014735  |

|               |         |            |
|---------------|---------|------------|
| Scfd1         | -1,017  | 0,048378   |
| Fth1          | -1,019  | 0,00044509 |
| Phf20         | -1,0248 | 0,012042   |
| Mrpl17        | -1,0286 | 0,019642   |
| Smim12        | -1,0295 | 0,040783   |
| Mtmr4         | -1,0317 | 0,041036   |
| Nip7          | -1,032  | 0,0069682  |
| Trim25        | -1,0323 | 0,0096155  |
| Tnfaip2       | -1,0361 | 0,0059077  |
| Rin2          | -1,0393 | 0,016273   |
| Klf9          | -1,0416 | 0,00076777 |
| Trafd1        | -1,0421 | 0,010119   |
| Creg1         | -1,0428 | 0,0040542  |
| Slc17a5       | -1,0497 | 0,011557   |
| Faf2          | -1,055  | 0,025516   |
| St8sia4       | -1,0555 | 0,024925   |
| Gpr107        | -1,0561 | 0,0019433  |
| Nsf           | -1,0615 | 0,023014   |
| Rgl1          | -1,0619 | 0,0011231  |
| Bcl2l11       | -1,0653 | 0,021048   |
| Tns3          | -1,0681 | 0,0034847  |
| BC003965      | -1,0681 | 0,039886   |
| Glb1          | -1,0688 | 0,0023874  |
| Adprh         | -1,0694 | 0,0051165  |
| Fastkd3       | -1,0726 | 0,04063    |
| 2810004N23Rik | -1,075  | 0,0062914  |
| Ptpn1         | -1,0758 | 0,0015936  |
| Prmt3         | -1,0836 | 0,030918   |
| Phf10         | -1,0842 | 0,0023445  |
| Ncf4          | -1,0862 | 0,022069   |
| Itpril2       | -1,0866 | 0,0031772  |
| Snx4          | -1,0878 | 0,016572   |
| Nucb2         | -1,0883 | 0,0083157  |
| Rere          | -1,0896 | 0,00012236 |
| Cmas          | -1,0899 | 0,0022936  |
| Slc39a9       | -1,0906 | 0,026249   |
| Pogz          | -1,0947 | 0,0086365  |
| 0610007P14Rik | -1,0993 | 0,014271   |
| Mdn1          | -1,0998 | 0,0066849  |
| Ryk           | -1,103  | 0,0014452  |
| Alkbh3        | -1,1041 | 0,02419    |
| Nagpa         | -1,1044 | 0,033409   |
| Abcb4         | -1,1048 | 0,0014856  |
| Rasgrp3       | -1,1084 | 0,0046328  |
| Ndufaf7       | -1,1084 | 0,0296     |
| Pde4a         | -1,1135 | 0,035181   |
| Kat6a         | -1,1141 | 0,0096321  |
| Fbxo25        | -1,117  | 0,039916   |
| Mdm2          | -1,118  | 0,0059453  |
| Mlycd         | -1,1181 | 0,048525   |
| Amotl1        | -1,1189 | 0,00098233 |
| Aptx          | -1,1208 | 0,047116   |

|          |         |            |
|----------|---------|------------|
| Htra2    | -1,1216 | 0,01336    |
| Zc3h10   | -1,1225 | 0,043295   |
| Stard7   | -1,1308 | 0,0029036  |
| Rbm5     | -1,131  | 0,0037554  |
| Mrps35   | -1,1322 | 0,038355   |
| Tubgcp3  | -1,1329 | 0,027148   |
| Laptn5   | -1,1361 | 0,00016771 |
| Ptpn12   | -1,137  | 0,0019615  |
| Arhgap18 | -1,139  | 0,0058601  |
| Slc26a2  | -1,1397 | 0,0050344  |
| Xpot     | -1,1402 | 0,0069486  |
| Bag5     | -1,1412 | 0,0219     |
| Ppan     | -1,1429 | 0,0021313  |
| Rpl7l1   | -1,1451 | 0,009777   |
| Aak1     | -1,1465 | 0,0037915  |
| Csf1r    | -1,1474 | 0,00042504 |
| Eno3     | -1,1532 | 0,035962   |
| March9   | -1,1536 | 0,023896   |
| Sptlc1   | -1,1537 | 0,023502   |
| Hacd3    | -1,1549 | 0,021046   |
| Nfs1     | -1,1641 | 0,004625   |
| Cyba     | -1,1661 | 0,0013432  |
| Mier2    | -1,1675 | 0,00026419 |
| Lrrc20   | -1,1713 | 0,04531    |
| mt-Nd1   | -1,1728 | 0,0038394  |
| Ncoa6    | -1,1739 | 0,0054125  |
| Mettl21a | -1,1753 | 0,01767    |
| Gid8     | -1,1774 | 0,004704   |
| Ammecr1  | -1,1783 | 0,016585   |
| Clptm1l  | -1,186  | 0,00045593 |
| Zfp830   | -1,1862 | 0,032462   |
| Sema4a   | -1,1864 | 0,0021492  |
| Fkbp15   | -1,1881 | 0,0016172  |
| Ufsp2    | -1,1899 | 0,0023588  |
| Zfp106   | -1,1926 | 0,00017251 |
| Nudt16   | -1,2005 | 0,0098312  |
| Yif1a    | -1,2026 | 0,038076   |
| Exosc4   | -1,2045 | 0,019642   |
| Nif3l1   | -1,2076 | 0,037603   |
| Coro1c   | -1,208  | 0,0002279  |
| Atxn7l3  | -1,2083 | 0,0026934  |
| Zfp180   | -1,2091 | 0,014161   |
| Son      | -1,2098 | 0,00078781 |
| Mks1     | -1,2098 | 0,037541   |
| Ap5s1    | -1,2121 | 0,024017   |
| Knop1    | -1,2134 | 0,0014574  |
| Mapkapk2 | -1,2159 | 0,00013604 |
| Spryd3   | -1,2169 | 0,038355   |
| Cul4a    | -1,2196 | 0,023291   |
| Bcar3    | -1,2202 | 0,0050784  |
| Trip11   | -1,2224 | 0,025792   |
| Diablo   | -1,2229 | 0,025357   |

|               |         |            |
|---------------|---------|------------|
| Rbck1         | -1,223  | 0,0032179  |
| Lcp2          | -1,2241 | 0,0019639  |
| Ehd1          | -1,2248 | 0,00015955 |
| Ubn1          | -1,2299 | 0,00043129 |
| Sh3pxd2a      | -1,2306 | 0,0047151  |
| Dnajc8        | -1,2315 | 0,00030933 |
| Ranbp1        | -1,2331 | 0,02538    |
| Slc16a6       | -1,2352 | 0,0054043  |
| Polr1a        | -1,2354 | 0,0063115  |
| Znhit6        | -1,2367 | 0,036655   |
| Ppip5k2       | -1,2385 | 0,0042739  |
| Wipf1         | -1,2385 | 0,0052898  |
| Srr           | -1,2404 | 0,023124   |
| Tbc1d13       | -1,2432 | 0,0052898  |
| Ints7         | -1,2432 | 0,018393   |
| Syk           | -1,2438 | 0,0015193  |
| Slc35c1       | -1,2471 | 0,0067471  |
| Rnmt          | -1,248  | 0,00072199 |
| Rtfdc1        | -1,2481 | 0,0032082  |
| Cbr3          | -1,2483 | 0,0035426  |
| Pin1          | -1,2488 | 0,023206   |
| Pigc          | -1,2523 | 0,006756   |
| Inf2          | -1,2581 | 7,48E-05   |
| Sh3bp5l       | -1,2583 | 0,0082578  |
| Med1          | -1,2601 | 0,0001971  |
| Mgat5         | -1,2628 | 0,0026934  |
| Wdr6          | -1,2631 | 0,047649   |
| Gdpd1         | -1,2648 | 0,0057579  |
| Ltbr          | -1,2649 | 0,011263   |
| Car9          | -1,2651 | 0,031039   |
| Atad1         | -1,2658 | 0,01905    |
| Blvra         | -1,2662 | 0,0013254  |
| Tmem55a       | -1,2669 | 0,0037031  |
| Rasa3         | -1,2682 | 0,0021664  |
| Rrp9          | -1,2692 | 0,024283   |
| Gsk3b         | -1,2709 | 0,0002857  |
| Arhgap30      | -1,2711 | 0,0045236  |
| Zfp362        | -1,2729 | 0,039235   |
| Slc43a3       | -1,2749 | 0,038761   |
| Cul5          | -1,2762 | 0,00023473 |
| Fnip2         | -1,2765 | 2,31E-05   |
| Stx17         | -1,2801 | 0,022846   |
| Thap7         | -1,2803 | 0,018301   |
| Kmt2e         | -1,2831 | 0,0005556  |
| Enpp5         | -1,2835 | 0,011005   |
| Gns           | -1,2845 | 7,95E-05   |
| Ssu72         | -1,2853 | 0,00022245 |
| RP23-444K20.4 | -1,2856 | 0,03838    |
| Polr3f        | -1,287  | 0,021842   |
| Noc2l         | -1,2907 | 9,37E-05   |
| Pdcd11        | -1,2917 | 0,00038391 |
| mt-Nd4        | -1,294  | 0,010829   |

|          |         |            |
|----------|---------|------------|
| Mrps6    | -1,2968 | 0,00038116 |
| Ln timer | -1,2971 | 0,009777   |
| mt-Cytb  | -1,2973 | 0,0023325  |
| Dtx4     | -1,2991 | 0,0001324  |
| Asb7     | -1,3004 | 0,022166   |
| Gpatch4  | -1,3006 | 0,0057573  |
| Atp6v1d  | -1,3009 | 1,78E-05   |
| Acsl4    | -1,3018 | 1,64E-05   |
| Slc12a2  | -1,303  | 0,024424   |
| Prkca    | -1,3034 | 0,04063    |
| Ftsj3    | -1,3057 | 0,00036245 |
| Med8     | -1,3058 | 0,012019   |
| Fli1     | -1,3061 | 0,0031071  |
| Fam102a  | -1,3081 | 1,60E-05   |
| Zfp26    | -1,3097 | 0,041003   |
| Nsrp1    | -1,31   | 0,0028637  |
| Ubash3b  | -1,311  | 0,0007513  |
| Ptpro    | -1,312  | 0,032133   |
| Ift20    | -1,3133 | 0,0099012  |
| Trim11   | -1,3139 | 0,00010067 |
| Ivns1abp | -1,3154 | 3,02E-06   |
| Rundc1   | -1,3166 | 0,035181   |
| Prtg     | -1,3171 | 0,048031   |
| Poglut1  | -1,3222 | 0,00050507 |
| Cmtr2    | -1,3222 | 0,004603   |
| Actn1    | -1,3235 | 9,37E-05   |
| Nelfa    | -1,3241 | 0,010221   |
| Zbtb6    | -1,3264 | 0,012792   |
| Cd33     | -1,3272 | 0,00013527 |
| Arih1    | -1,3285 | 1,62E-05   |
| Ncdn     | -1,3285 | 0,042679   |
| Orai3    | -1,3306 | 0,015968   |
| Epc1     | -1,3311 | 0,035466   |
| Fam3c    | -1,3317 | 0,0020958  |
| Twink    | -1,333  | 0,011297   |
| Gm42636  | -1,3343 | 0,026409   |
| Ppp1r7   | -1,3376 | 0,023448   |
| Slc35f6  | -1,3387 | 0,0019864  |
| Ppp6r3   | -1,341  | 7,76E-05   |
| Ddx28    | -1,3416 | 0,036238   |
| Tars     | -1,3418 | 0,0011712  |
| Rlf      | -1,3422 | 0,0049064  |
| Dedd     | -1,3437 | 0,046587   |
| Ints3    | -1,345  | 3,41E-05   |
| Ttll12   | -1,3467 | 0,00032975 |
| Polr3d   | -1,3482 | 0,0045723  |
| Pcyt1a   | -1,3519 | 3,97E-06   |
| Slc25a33 | -1,352  | 0,0012167  |
| Wfs1     | -1,353  | 0,042558   |
| Slc41a2  | -1,3532 | 0,0010463  |
| Lrrc8d   | -1,3541 | 0,00089359 |
| Tshz3    | -1,3553 | 0,041445   |

|               |         |            |
|---------------|---------|------------|
| Ppil3         | -1,3559 | 0,031127   |
| Plxdc1        | -1,3564 | 0,0040324  |
| Zfp318        | -1,3567 | 0,0066094  |
| Rasal2        | -1,358  | 0,00036444 |
| Pms2          | -1,3588 | 0,049042   |
| Clec7a        | -1,3607 | 0,014828   |
| Slc23a2       | -1,3618 | 0,045094   |
| Trim68        | -1,3636 | 0,035083   |
| Gzf1          | -1,366  | 0,015228   |
| Clec5a        | -1,3664 | 0,0061879  |
| Bckdk         | -1,3665 | 0,0034846  |
| Irak4         | -1,3679 | 0,017568   |
| Nfatc3        | -1,3687 | 4,25E-05   |
| Slc1a5        | -1,3697 | 2,01E-05   |
| Cep19         | -1,3701 | 0,028428   |
| Slc11a1       | -1,371  | 0,0012161  |
| 1810030O07Rik | -1,3712 | 0,0032015  |
| Pid1          | -1,3722 | 0,0033629  |
| Zfp839        | -1,3722 | 0,020591   |
| BC005537      | -1,3736 | 0,00028612 |
| Elp2          | -1,3748 | 0,0023109  |
| Etfrf1        | -1,3755 | 0,024848   |
| Hps6          | -1,376  | 0,035901   |
| Kdm4a         | -1,3792 | 2,59E-05   |
| 2210016F16Rik | -1,3811 | 0,038355   |
| Nfatc1        | -1,3813 | 0,0001641  |
| Bet1l         | -1,382  | 0,00083994 |
| Cat           | -1,3833 | 1,02E-05   |
| Tbl3          | -1,3865 | 0,018321   |
| Maf1          | -1,3891 | 0,00029254 |
| Trim27        | -1,3922 | 0,00034125 |
| Apbb1ip       | -1,3926 | 1,03E-05   |
| Spi1          | -1,3949 | 0,00028736 |
| Ica1          | -1,3968 | 0,018301   |
| Naa40         | -1,3971 | 0,0081005  |
| Trappc12      | -1,3982 | 0,0068305  |
| Zhx1          | -1,3988 | 0,0025675  |
| Aldh3b1       | -1,3999 | 0,0063448  |
| BC002059      | -1,4006 | 0,0023184  |
| Hhex          | -1,402  | 0,028702   |
| 4632427E13Rik | -1,403  | 0,0027045  |
| Rit1          | -1,4031 | 0,0030769  |
| Lsm10         | -1,4043 | 0,028776   |
| Pknnox1       | -1,4054 | 0,021596   |
| Zadh2         | -1,4116 | 0,0090214  |
| Flywch1       | -1,4171 | 0,018636   |
| Rela          | -1,4201 | 0,0003129  |
| Dbnl          | -1,4209 | 0,0048116  |
| Lrp12         | -1,4209 | 0,0053647  |
| Rnf157        | -1,4248 | 0,0013245  |
| Cog8          | -1,4252 | 0,018381   |
| Arhgap31      | -1,4297 | 0,040534   |

|               |         |            |
|---------------|---------|------------|
| Pde8a         | -1,4311 | 0,020601   |
| Zfhx4         | -1,4342 | 0,0023313  |
| Uri1          | -1,4351 | 0,00056528 |
| Nudt22        | -1,4356 | 0,0041901  |
| Bag2          | -1,4356 | 0,018961   |
| Mfsd6         | -1,4375 | 0,0010886  |
| Utp20         | -1,4434 | 0,0077762  |
| Etv6          | -1,444  | 0,0075223  |
| Eif1ad        | -1,448  | 0,0018622  |
| Camk2a        | -1,4511 | 0,011851   |
| Kmt5b         | -1,4519 | 0,0047073  |
| Metap2        | -1,4527 | 0,00018232 |
| Fblim1        | -1,4575 | 0,0014574  |
| Tgfb2         | -1,462  | 0,0010229  |
| Slc38a1       | -1,469  | 7,70E-06   |
| Zscan12       | -1,4703 | 0,0051914  |
| Iars          | -1,4724 | 0,0011814  |
| Rfx5          | -1,4748 | 4,41E-05   |
| Zkscan6       | -1,4754 | 0,0044995  |
| 1700017B05Rik | -1,4756 | 0,00015476 |
| Gmpr          | -1,4774 | 0,00077364 |
| Ahnak2        | -1,4783 | 0,00023722 |
| Fam65c        | -1,4789 | 0,0068899  |
| Dhodh         | -1,479  | 0,032077   |
| Cx3cr1        | -1,4791 | 0,00062139 |
| AU040320      | -1,4795 | 0,0012135  |
| Gtf2b         | -1,4796 | 0,011546   |
| Lrrc8b        | -1,4803 | 0,015272   |
| Fgfr1         | -1,4827 | 0,035261   |
| Stat5b        | -1,4835 | 0,016375   |
| Tmem241       | -1,4846 | 0,041208   |
| Champ1        | -1,4853 | 4,69E-05   |
| Ankrd26       | -1,4856 | 0,037063   |
| Timp2         | -1,4871 | 0,00041078 |
| Dennd2a       | -1,4873 | 0,0059856  |
| Trmt6         | -1,4877 | 0,0011806  |
| Wbp1l         | -1,4889 | 0,00028612 |
| Aars          | -1,4889 | 0,010189   |
| AW209491      | -1,4902 | 0,012936   |
| Sec16b        | -1,4949 | 0,0010166  |
| Trem1         | -1,4956 | 0,0004193  |
| Cyfp2         | -1,4957 | 0,00012342 |
| Tk2           | -1,4971 | 5,59E-05   |
| Golim4        | -1,4975 | 0,0003676  |
| Jagn1         | -1,498  | 0,0024581  |
| Soga1         | -1,5029 | 0,004875   |
| Gstt3         | -1,5029 | 0,012919   |
| Wdr77         | -1,5038 | 0,0041976  |
| Xbp1          | -1,504  | 1,96E-05   |
| Zfp775        | -1,5059 | 0,041445   |
| mt-Nd2        | -1,5089 | 0,0001793  |
| Zfp113        | -1,5095 | 0,022161   |

|               |         |            |
|---------------|---------|------------|
| Hmga2         | -1,5123 | 3,89E-06   |
| Ighmbp2       | -1,5124 | 0,019199   |
| Lrif1         | -1,5128 | 0,032384   |
| Slc7a11       | -1,5199 | 0,0020777  |
| Fam136a       | -1,52   | 0,0039305  |
| Btbd19        | -1,5221 | 0,0043995  |
| Fus           | -1,5226 | 0,0023082  |
| Zbtb22        | -1,5244 | 0,0013573  |
| Dlx1          | -1,5257 | 0,021747   |
| Surf2         | -1,5271 | 0,011851   |
| 5730409E04Rik | -1,5286 | 0,019526   |
| Rab12         | -1,5291 | 0,00013499 |
| Pmepa1        | -1,5307 | 0,0003536  |
| Keap1         | -1,535  | 9,13E-05   |
| Usp20         | -1,5353 | 6,64E-05   |
| Myo1d         | -1,5385 | 1,21E-05   |
| Tada2b        | -1,5386 | 0,032235   |
| 2310011J03Rik | -1,5388 | 0,0048285  |
| Lrrc47        | -1,5413 | 6,10E-06   |
| Nsun4         | -1,5424 | 0,023849   |
| Tmem220       | -1,5427 | 0,012208   |
| Vac14         | -1,5437 | 0,047733   |
| Cdc42ep2      | -1,5449 | 0,024283   |
| Polr3a        | -1,5553 | 0,029986   |
| Uaca          | -1,5603 | 0,00013265 |
| Trak2         | -1,561  | 0,00055718 |
| Dpp3          | -1,5651 | 0,042876   |
| 3110001I22Rik | -1,5669 | 0,031356   |
| Mcat          | -1,5675 | 0,029653   |
| Prkch         | -1,5679 | 0,00024761 |
| Bnip2         | -1,5708 | 2,36E-05   |
| Nop9          | -1,5711 | 0,020429   |
| N6amt1        | -1,5714 | 0,015912   |
| Fosl1         | -1,5721 | 0,011784   |
| Scap          | -1,5747 | 0,0024888  |
| Frmd8         | -1,5773 | 1,89E-05   |
| Bok           | -1,5774 | 0,033205   |
| Ddx17         | -1,58   | 3,00E-05   |
| Gm20604       | -1,5819 | 0,0196     |
| Snip1         | -1,5832 | 0,0085532  |
| Cenpb         | -1,5912 | 0,0043856  |
| Plcb4         | -1,5913 | 1,61E-06   |
| Zpr1          | -1,5913 | 3,10E-06   |
| Airn          | -1,5917 | 0,013824   |
| Cd3eap        | -1,594  | 0,0026066  |
| Myom1         | -1,5956 | 0,042326   |
| Pitpnm2       | -1,5982 | 0,02584    |
| Tmem175       | -1,5995 | 0,018049   |
| Mgat2         | -1,6003 | 0,00094881 |
| Tmem177       | -1,6027 | 0,025675   |
| Ppfibp1       | -1,6034 | 7,34E-06   |
| Cox10         | -1,6038 | 1,00E-05   |

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|---------------|---------|------------|
| Pla2g5        | -1,6042 | 0,0001993  |
| Cyth4         | -1,605  | 1,02E-05   |
| Bms1          | -1,6056 | 4,13E-06   |
| Nod1          | -1,6062 | 0,02747    |
| Ovca2         | -1,6101 | 0,0023985  |
| Mrps2         | -1,6133 | 0,00061557 |
| Dhx33         | -1,6137 | 0,0068583  |
| Marveld1      | -1,6141 | 5,46E-05   |
| Al987944      | -1,6141 | 0,011024   |
| Taf1b         | -1,6211 | 0,0063448  |
| Acvr1         | -1,6213 | 0,0044655  |
| Dph2          | -1,6235 | 0,046433   |
| Ccnd2         | -1,6261 | 1,05E-05   |
| Erlin2        | -1,6283 | 0,010326   |
| Paqr7         | -1,6386 | 0,0032015  |
| Frat1         | -1,6386 | 0,025126   |
| Pkn3          | -1,639  | 0,0018433  |
| Rnasel        | -1,6406 | 0,030478   |
| Ank           | -1,6417 | 1,68E-07   |
| Arhgef10      | -1,6424 | 0,031127   |
| Irf2bp1       | -1,6429 | 0,00041609 |
| Fem1a         | -1,6433 | 1,99E-05   |
| Wbscr27       | -1,6451 | 0,0058265  |
| Grap          | -1,6471 | 0,0047414  |
| Rab43         | -1,6477 | 0,039369   |
| Dcaf11        | -1,6481 | 0,002515   |
| Nrp2          | -1,6517 | 2,42E-08   |
| Mst1          | -1,652  | 0,032462   |
| Pik3r2        | -1,6545 | 0,0013549  |
| Dock5         | -1,6576 | 0,0032395  |
| Il4ra         | -1,6586 | 0,012222   |
| Det1          | -1,6594 | 0,036811   |
| 1600002H07Rik | -1,6604 | 0,0075763  |
| Fastkd2       | -1,6621 | 0,023671   |
| Hgh1          | -1,6639 | 0,015968   |
| Dapk1         | -1,6668 | 1,16E-06   |
| Ptgir         | -1,6724 | 0,00012759 |
| Rars2         | -1,6754 | 0,0062637  |
| Elf4          | -1,6771 | 0,026866   |
| Snx20         | -1,6795 | 0,00013841 |
| Isl2          | -1,682  | 0,047096   |
| Cpsf3         | -1,6828 | 0,00053285 |
| Frts1         | -1,6835 | 1,84E-06   |
| Alkbh2        | -1,6902 | 0,011192   |
| Ccdc166       | -1,6921 | 0,049641   |
| Lat2          | -1,6937 | 3,03E-06   |
| Lcmt2         | -1,6941 | 0,032721   |
| Prr14l        | -1,6977 | 0,00026988 |
| Cpne2         | -1,7049 | 0,00044509 |
| Shtn1         | -1,7069 | 2,01E-05   |
| Slc39a13      | -1,7082 | 7,08E-05   |
| E130311K13Rik | -1,7082 | 0,025201   |

|               |         |            |
|---------------|---------|------------|
| Fam161a       | -1,7086 | 0,0018433  |
| Lysmd4        | -1,7096 | 0,0017644  |
| Fbxw7         | -1,7138 | 0,0015913  |
| Tlr6          | -1,7143 | 0,0041344  |
| C330018D20Rik | -1,7162 | 0,03714    |
| Oit3          | -1,7182 | 0,038091   |
| Bcdin3d       | -1,7186 | 0,034993   |
| Cstf2t        | -1,729  | 0,00051975 |
| Srf           | -1,7305 | 1,03E-05   |
| Msi1          | -1,7313 | 0,025094   |
| Elk3          | -1,733  | 0,0013814  |
| Bdh2          | -1,7332 | 2,32E-05   |
| Tmem65        | -1,7339 | 4,81E-05   |
| Trim45        | -1,7359 | 0,049332   |
| Dnajc11       | -1,7414 | 0,0026934  |
| Prss50        | -1,7458 | 0,013527   |
| Selenos       | -1,748  | 1,11E-06   |
| Iqce          | -1,7564 | 0,047323   |
| Slc39a11      | -1,7646 | 6,98E-07   |
| Zfp462        | -1,772  | 0,021386   |
| Scamp1        | -1,7724 | 1,00E-05   |
| Jade2         | -1,7756 | 0,010969   |
| Nfkbie        | -1,7757 | 0,039595   |
| Tuba1c        | -1,7807 | 0,0002501  |
| Pde4b         | -1,7824 | 0,011851   |
| Zfp46         | -1,7878 | 0,013932   |
| Tmem181b-ps   | -1,7894 | 0,046384   |
| Ctbp1         | -1,7916 | 4,76E-06   |
| Pde4dip       | -1,7918 | 0,0011785  |
| Hck           | -1,7931 | 0,018228   |
| Extl2         | -1,7991 | 0,011052   |
| Traf6         | -1,8005 | 0,028059   |
| Gsn           | -1,8016 | 2,71E-07   |
| Igsf3         | -1,8019 | 0,0069726  |
| Zfp653        | -1,8058 | 0,035083   |
| Wdr24         | -1,8082 | 0,0069832  |
| Me1           | -1,8088 | 1,06E-06   |
| Sdsl          | -1,8117 | 0,047418   |
| Sh3tc1        | -1,8132 | 0,0067421  |
| Trpv4         | -1,8147 | 0,022194   |
| Prag1         | -1,8154 | 0,0028968  |
| Tspan10       | -1,8211 | 0,0041913  |
| 4931414P19Rik | -1,8229 | 0,028657   |
| Ivd           | -1,8235 | 0,0062804  |
| 0610010F05Rik | -1,8243 | 0,0086606  |
| P2ry6         | -1,8322 | 0,00017183 |
| Arhgap35      | -1,8342 | 0,041883   |
| Cdk5rap1      | -1,8359 | 0,02094    |
| Fam120b       | -1,8389 | 0,019131   |
| Ticam1        | -1,8419 | 0,00066456 |
| Sema4b        | -1,8437 | 0,012882   |
| Tlr7          | -1,8447 | 0,00013542 |

|               |         |            |
|---------------|---------|------------|
| Wdr73         | -1,8455 | 0,0048341  |
| Slc25a15      | -1,846  | 0,043356   |
| Mir22hg       | -1,8521 | 5,36E-05   |
| Zfp764        | -1,8593 | 0,022554   |
| Tmem140       | -1,8653 | 0,020455   |
| Chst14        | -1,8677 | 0,025721   |
| Zdhhc12       | -1,8694 | 0,01194    |
| Msantd3       | -1,8714 | 0,00048583 |
| Fbxo32        | -1,8829 | 0,02303    |
| Rab7b         | -1,8844 | 1,30E-05   |
| Gpt2          | -1,8867 | 0,00010067 |
| Scly          | -1,8871 | 0,0056131  |
| Hemk1         | -1,8872 | 0,020421   |
| Sphk2         | -1,8877 | 6,98E-07   |
| Cptp          | -1,8903 | 0,049204   |
| Sgsm1         | -1,8934 | 5,32E-08   |
| Bmf           | -1,8943 | 0,011069   |
| Arhgef3       | -1,895  | 0,0017234  |
| Ecd           | -1,8992 | 0,00061417 |
| Zbtb38        | -1,8993 | 1,95E-06   |
| Setd1b        | -1,9035 | 9,93E-05   |
| Tmem116       | -1,9037 | 0,011897   |
| Il1rap        | -1,9048 | 0,044541   |
| Dido1         | -1,9055 | 0,00047157 |
| Tbc1d25       | -1,9115 | 0,020461   |
| Pomk          | -1,9128 | 0,011069   |
| Rftn1         | -1,9147 | 0,00072327 |
| Klhl5         | -1,9153 | 3,90E-05   |
| Ino80c        | -1,9166 | 2,58E-06   |
| Tbc1d2b       | -1,9217 | 4,48E-08   |
| Al467606      | -1,9238 | 0,0016867  |
| Suox          | -1,9245 | 0,014917   |
| Robo3         | -1,9288 | 0,0079853  |
| Eogt          | -1,929  | 0,0062631  |
| Lars          | -1,9292 | 6,86E-08   |
| Gja1          | -1,9308 | 0,043099   |
| Sfxn2         | -1,933  | 0,0050344  |
| Gcc1          | -1,9388 | 2,79E-05   |
| Pfkfb4        | -1,9414 | 2,66E-05   |
| Ptpn14        | -1,9468 | 0,022756   |
| Prkar1b       | -1,9476 | 0,012955   |
| Mthfr         | -1,9494 | 0,0028612  |
| Polr3e        | -1,9506 | 0,0013104  |
| Sec16a        | -1,9543 | 0,0014609  |
| 4930432K21Rik | -1,9626 | 0,0034716  |
| Ankrd49       | -1,9696 | 0,00083819 |
| Pspc1         | -1,9727 | 0,0022481  |
| Zfp276        | -1,9756 | 0,02788    |
| Zfp65         | -1,9768 | 0,0057579  |
| Tmem37        | -1,9812 | 0,038355   |
| Zfp628        | -1,9817 | 0,015526   |
| Slc22a4       | -1,9844 | 0,049931   |

|               |         |            |
|---------------|---------|------------|
| Gtpbp8        | -1,9867 | 0,015161   |
| Gnptab        | -1,992  | 2,01E-07   |
| Gm26532       | -1,993  | 0,027452   |
| Ttc7          | -1,9936 | 0,00014862 |
| Slc39a1       | -1,9939 | 1,87E-05   |
| Lyl1          | -2,0016 | 0,0001534  |
| Rwdd3         | -2,0101 | 0,0035029  |
| Armc5         | -2,0113 | 0,0082547  |
| Tmem8         | -2,0209 | 0,0015061  |
| Mrm2          | -2,034  | 0,0062631  |
| Arl11         | -2,0387 | 0,027133   |
| Evi2a         | -2,0393 | 0,00012236 |
| Prss35        | -2,0543 | 0,047813   |
| Zhx3          | -2,0548 | 0,0025196  |
| Calml4        | -2,0567 | 0,0016172  |
| Ctu1          | -2,0583 | 0,0017156  |
| Pomt2         | -2,0591 | 0,049274   |
| 6330408A02Rik | -2,0611 | 0,041668   |
| Zfp324        | -2,0647 | 0,039562   |
| Fbxo46        | -2,0662 | 0,0020991  |
| Pskh1         | -2,067  | 0,0010229  |
| Eng           | -2,0682 | 0,0017409  |
| Serinc5       | -2,0685 | 0,03596    |
| Sdr42e1       | -2,0696 | 0,010872   |
| Olfm1         | -2,0713 | 3,00E-08   |
| Tlr4          | -2,0732 | 0,0020756  |
| Zfp189        | -2,0744 | 0,018521   |
| Tmem185b      | -2,0798 | 0,0010793  |
| Pla2g2d       | -2,0816 | 0,011954   |
| Csf2rb        | -2,0846 | 0,00013298 |
| Pomgnt1       | -2,0863 | 0,0018068  |
| Il34          | -2,0877 | 0,016458   |
| Tlr13         | -2,0894 | 0,0083787  |
| Snord13       | -2,0975 | 6,97E-06   |
| Gm15496       | -2,1056 | 0,035902   |
| Pctp          | -2,1061 | 0,0060925  |
| Zfp35         | -2,1065 | 0,016218   |
| A430033K04Rik | -2,1086 | 0,038761   |
| Nrros         | -2,1104 | 1,78E-06   |
| Ampd3         | -2,1113 | 0,00066834 |
| Pter          | -2,1154 | 0,0052513  |
| Frmd4a        | -2,1161 | 2,32E-05   |
| Zfp768        | -2,1188 | 2,62E-05   |
| Trmo          | -2,1192 | 0,044307   |
| Ints5         | -2,1242 | 0,00024645 |
| Bcl3          | -2,1278 | 0,0005292  |
| Rcan1         | -2,133  | 8,78E-07   |
| Cyp2u1        | -2,1345 | 0,0057994  |
| Egr1          | -2,1378 | 0,00049174 |
| St18          | -2,1445 | 7,37E-05   |
| Cxcl2         | -2,1467 | 0,00090622 |
| Nt5e          | -2,1615 | 0,0015483  |

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|---------------|---------|------------|
| Pkd2          | -2,162  | 0,027306   |
| Ptpn7         | -2,1657 | 0,00056973 |
| Acy1          | -2,1658 | 0,012562   |
| Gpr183        | -2,1782 | 2,32E-05   |
| Mul1          | -2,1786 | 0,001598   |
| Tepsin        | -2,1924 | 0,00016884 |
| Zfp810        | -2,1928 | 0,0061032  |
| Zfp729b       | -2,1945 | 0,0039647  |
| Nprl3         | -2,1948 | 0,0055092  |
| Gtf2h3        | -2,1979 | 0,040679   |
| Zfp61         | -2,2028 | 0,003349   |
| Mboat1        | -2,2048 | 0,011204   |
| Zfp518a       | -2,2053 | 0,0016508  |
| Zfp763        | -2,2084 | 0,016327   |
| Atp6v0d2      | -2,2104 | 4,27E-08   |
| Naip2         | -2,2251 | 7,76E-05   |
| Exoc8         | -2,2262 | 0,0072795  |
| Nkrf          | -2,2263 | 0,016682   |
| 9130019O22Rik | -2,2276 | 0,03873    |
| Tagap         | -2,2302 | 0,0013184  |
| Pafah2        | -2,2341 | 0,036739   |
| Birc3         | -2,2471 | 9,06E-06   |
| Depdc5        | -2,2476 | 0,010616   |
| Trib1         | -2,2527 | 3,05E-05   |
| Gpatch3       | -2,2561 | 0,01054    |
| Gmppb         | -2,2584 | 0,00111    |
| Mettl18       | -2,2604 | 0,016129   |
| Gm38020       | -2,2608 | 0,03266    |
| Gstm4         | -2,2694 | 0,049332   |
| Nmnat3        | -2,2724 | 0,0063415  |
| Tmem260       | -2,2755 | 0,020455   |
| 1810055G02Rik | -2,2888 | 0,032545   |
| Endov         | -2,2895 | 0,011897   |
| Gpr180        | -2,2905 | 0,028428   |
| Slc35d2       | -2,2914 | 0,0074164  |
| Cog1          | -2,2955 | 0,028776   |
| Mybpc3        | -2,2994 | 0,0050942  |
| Nlrp3         | -2,3151 | 5,00E-05   |
| Hebp2         | -2,3158 | 0,0024132  |
| Slc43a2       | -2,3164 | 5,32E-08   |
| Gm42640       | -2,3166 | 0,015968   |
| Slc9b1        | -2,3193 | 0,046587   |
| Zfp90         | -2,3254 | 0,0084119  |
| Endog         | -2,3389 | 0,0066466  |
| Cttnbp2nl     | -2,3397 | 5,49E-07   |
| Arhgef18      | -2,3457 | 0,029254   |
| Zfp12         | -2,3458 | 0,0035045  |
| Mtg2          | -2,3473 | 0,0072795  |
| Mdk           | -2,3492 | 0,0084119  |
| Gm43024       | -2,3566 | 0,023291   |
| Lima1         | -2,3584 | 6,62E-07   |
| Tmem98        | -2,3643 | 0,036646   |

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|---------------|---------|------------|
| Mlh3          | -2,372  | 0,0015624  |
| Inpp5b        | -2,3727 | 0,0014609  |
| Gm17586       | -2,3768 | 0,036757   |
| Zc3h4         | -2,3771 | 3,75E-07   |
| Tmem2         | -2,3826 | 7,16E-06   |
| Tlr1          | -2,3858 | 0,0066201  |
| Zfp974        | -2,3927 | 0,01894    |
| Dusp9         | -2,3935 | 0,027995   |
| Gm16712       | -2,3992 | 0,032658   |
| I830077J02Rik | -2,4036 | 0,037063   |
| Wnk2          | -2,4076 | 0,00023678 |
| Snx19         | -2,4208 | 0,003761   |
| Ubiad1        | -2,4214 | 0,00068792 |
| Mfsd9         | -2,4223 | 0,011466   |
| Oscar         | -2,4429 | 0,02542    |
| Tns4          | -2,4461 | 0,0054043  |
| Srxn1         | -2,4483 | 7,62E-06   |
| Srl           | -2,4566 | 0,02848    |
| Zfp790        | -2,4566 | 0,038293   |
| Sgsh          | -2,4619 | 4,13E-05   |
| Sbk3          | -2,4628 | 0,042296   |
| Slc46a1       | -2,466  | 0,025224   |
| Zfp738        | -2,4684 | 0,023755   |
| Commd5        | -2,4709 | 0,00063186 |
| Tigd5         | -2,4768 | 0,044996   |
| Prss46        | -2,4784 | 0,045094   |
| Skor1         | -2,4845 | 0,045178   |
| Jrk           | -2,49   | 0,04587    |
| Ubxn8         | -2,4923 | 0,0040593  |
| Bdh1          | -2,4929 | 0,012012   |
| Jdp2          | -2,4946 | 4,63E-06   |
| Ehd2          | -2,5048 | 0,016043   |
| Gm20712       | -2,5055 | 0,010801   |
| Oas1d         | -2,5069 | 0,028418   |
| Il20rb        | -2,5211 | 0,0019866  |
| Gm25514       | -2,5221 | 0,013413   |
| Gm37642       | -2,5228 | 0,015868   |
| Nupl2         | -2,5248 | 0,01785    |
| Ccdc130       | -2,5253 | 9,92E-05   |
| Swsap1        | -2,5278 | 0,028001   |
| RP23-268C22.3 | -2,5303 | 0,035141   |
| Card6         | -2,5397 | 0,022085   |
| Gipc1         | -2,549  | 0,0018427  |
| D6Wsu163e     | -2,5546 | 0,0018082  |
| Nmb           | -2,5598 | 0,02728    |
| Aldh1b1       | -2,5611 | 0,0014466  |
| Limk1         | -2,5634 | 0,010512   |
| Lctl          | -2,5654 | 0,014021   |
| Sh3rf1        | -2,5684 | 0,00040682 |
| Acsbg1        | -2,5688 | 0,0028612  |
| Dmrt2         | -2,5692 | 0,033351   |
| Gm42463       | -2,5772 | 0,036083   |

|               |         |            |
|---------------|---------|------------|
| Tmem51        | -2,5834 | 0,00061583 |
| Acot6         | -2,5862 | 0,012903   |
| Sec22a        | -2,5872 | 0,0009108  |
| Gm22748       | -2,6058 | 0,0036873  |
| Gm9951        | -2,6073 | 0,016702   |
| Angptl2       | -2,6088 | 1,39E-07   |
| Zfp870        | -2,613  | 0,0025309  |
| Plekhs1       | -2,6176 | 0,023484   |
| Fosl2         | -2,6362 | 1,60E-10   |
| Maml2         | -2,6418 | 0,0040324  |
| 3110082I17Rik | -2,648  | 0,0010047  |
| Cass4         | -2,6513 | 0,010104   |
| Tspoap1       | -2,6539 | 0,0063448  |
| Irgm2         | -2,6667 | 0,039595   |
| Gm43350       | -2,6684 | 0,021084   |
| Lpin3         | -2,6687 | 7,49E-05   |
| Rpl7l1-ps1    | -2,6754 | 0,019335   |
| F630040K05Rik | -2,6796 | 0,0099732  |
| Zfp658        | -2,6877 | 0,024017   |
| Erbp3         | -2,6923 | 0,0095732  |
| Gm4262        | -2,6944 | 0,020701   |
| Col7a1        | -2,7072 | 0,024426   |
| BC024978      | -2,7169 | 0,011765   |
| Fut7          | -2,7192 | 0,02685    |
| Numbl         | -2,7217 | 0,00036795 |
| Lrrc14        | -2,7345 | 0,00061557 |
| Gm13205       | -2,7404 | 0,028476   |
| Fam222b       | -2,7452 | 0,00020766 |
| Hdhd3         | -2,7464 | 0,0089466  |
| Tctn2         | -2,7517 | 0,029837   |
| Zfp3          | -2,7657 | 0,0020277  |
| Dnmt3b        | -2,7753 | 0,0052739  |
| Zfp94         | -2,7794 | 0,0079885  |
| Elmod3        | -2,7805 | 0,011818   |
| Ctla2b        | -2,7846 | 0,01924    |
| AW047730      | -2,7884 | 0,022161   |
| Zfp951        | -2,8024 | 0,020898   |
| Ubox5         | -2,8091 | 0,020898   |
| Rab11fip4     | -2,818  | 0,026249   |
| Fmo5          | -2,8287 | 0,021338   |
| Rinl          | -2,8296 | 0,00020244 |
| D17H6S53E     | -2,8335 | 0,0069832  |
| Gm37121       | -2,8919 | 0,0013122  |
| Zfp862-ps     | -2,9087 | 0,0022986  |
| Zfp28         | -2,9164 | 0,025944   |
| 2010008C14Rik | -2,9422 | 0,016068   |
| Lpar1         | -2,9474 | 0,011069   |
| Src           | -2,9544 | 5,48E-05   |
| Zfp408        | -2,9662 | 0,00028674 |
| Gm5532        | -2,9679 | 0,015519   |
| Particl       | -2,9807 | 0,0063448  |
| Rgs8          | -2,9916 | 0,021375   |

|                |         |            |
|----------------|---------|------------|
| Fastkd5        | -2,9951 | 0,0055366  |
| Spred1         | -2,9987 | 1,77E-09   |
| Rgs20          | -3,0008 | 0,0063448  |
| Scn11a         | -3,0238 | 0,0021653  |
| Slc10a3        | -3,0338 | 0,00079056 |
| Csf2rb2        | -3,0442 | 0,0061809  |
| Gm43154        | -3,0485 | 0,014649   |
| Celsr1         | -3,0495 | 0,014071   |
| Ppp1r10        | -3,0832 | 1,08E-08   |
| Mir763         | -3,1182 | 0,0069682  |
| Nedd9          | -3,1558 | 0,011298   |
| Accsl          | -3,1834 | 0,0012413  |
| Hoxb3          | -3,204  | 0,0037915  |
| RP24-175C20.18 | -3,2082 | 0,003761   |
| Ip6k3          | -3,2123 | 3,51E-05   |
| Pus7l          | -3,2276 | 0,004387   |
| Wdr35          | -3,2282 | 0,0040542  |
| Gper1          | -3,2283 | 0,0093926  |
| Adamts7        | -3,2386 | 0,00022106 |
| Zfp27          | -3,2427 | 0,0047919  |
| Gm19026        | -3,258  | 0,0075205  |
| Gramd1c        | -3,2605 | 0,0092359  |
| Pxdn           | -3,264  | 0,00049873 |
| Pdpn           | -3,2776 | 0,00031149 |
| Sla            | -3,2982 | 4,44E-07   |
| Zfp40          | -3,3149 | 0,0017008  |
| Zfp719         | -3,3481 | 0,0022584  |
| Oasl1          | -3,364  | 0,0011139  |
| Gdp1p1         | -3,4111 | 0,0063448  |
| Zfp111         | -3,424  | 0,0019607  |
| Shisa3         | -3,4246 | 0,015066   |
| Ablim1         | -3,4519 | 0,0010457  |
| Zfp691         | -3,463  | 0,00076539 |
| 9930014A18Rik  | -3,4781 | 0,0015855  |
| Olr1           | -3,4821 | 0,0007818  |
| Gm22           | -3,4873 | 0,0020443  |
| Acp5           | -3,5701 | 1,18E-10   |
| Slc6a4         | -3,594  | 0,00077723 |
| Rbak           | -3,6639 | 0,00061557 |
| Ap5b1          | -3,6657 | 0,00076539 |
| Slc1a4         | -3,7009 | 0,0032062  |
| Ppp1r26        | -3,7031 | 0,010659   |
| Filip1l        | -3,7136 | 0,0003536  |
| Krcc1          | -3,7299 | 0,0097336  |
| Zfp41          | -3,7487 | 0,0015913  |
| Met            | -3,7528 | 0,00038059 |
| Rap1gap        | -3,7924 | 0,00083436 |
| Gm20219        | -3,8091 | 0,0013254  |
| Gm20632        | -3,871  | 0,00032617 |
| Epb41l1        | -3,9032 | 0,0004244  |
| Usp27x         | -3,9127 | 0,014332   |
| Wisp1          | -3,9597 | 0,0028002  |

|         |         |            |
|---------|---------|------------|
| Chac1   | -3,9741 | 0,0022118  |
| Mras    | -4,0627 | 0,00043777 |
| Zbtb45  | -4,1862 | 0,00054555 |
| Col27a1 | -4,4785 | 0,00010125 |
| Tmem204 | -4,5627 | 1,77E-05   |
| Rab15   | -4,607  | 0,00015403 |
| Vegfc   | -4,6292 | 0,00068267 |
| Ctsk    | -4,8202 | 7,38E-11   |
| Acod1   | -5,3988 | 2,31E-05   |
| Slc9b2  | -7,7212 | 2,59E-07   |