

**Tab. S7:**

**Transcripts 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   |
| Gm26870       | 19,02467628              | 0,241      |
| 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   |
| Gm10800       | 14,76797387              | 0,65818    |
| 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  |
| 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   |
| Rhoh          | 7,477209729 | 0,090178   |
| 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   |
| 2810433D01Rik | 7,344681856 | 0,050328   |
| Gm43878       | 7,339592674 | 0,015673   |
| Gm45251       | 7,314706612 | 0,014411   |
| Gm36989       | 7,302548324 | 0,0011767  |

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|---------------|-------------|------------|
| Gm10382       | 7,275770315 | 6,24E-05   |
| Snord7        | 7,262166464 | 0,01336    |
| Gm5577        | 7,252608633 | 0,0060478  |
| B430305J03Rik | 7,180578108 | 0,018351   |
| Gzmm          | 7,141860726 | 0,003852   |
| Hba-ps4       | 7,137901535 | 0,092088   |
| 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   |
| Mxd3          | 6,641918407 | 0,070054   |
| 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   |
| Rn7s6         | 6,406782437 | 0,059931   |
| 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  |
| Ndrgr1        | 6,228565782 | 7,79E-11   |
| Sdhd          | 6,224249965 | 0,00084368 |
| Gm23849       | 6,217781846 | 0,019642   |
| Gm2011        | 6,189401881 | 0,00090837 |
| Gm17108       | 6,133029966 | 0,0018082  |
| Tnfsf9        | 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  |
| Hbb-bh3       | 5,889723881 | 0,11072    |
| Gm10717       | 5,848635176 | 0,27333    |
| Dnali1        | 5,827996456 | 0,011256   |
| Gm43182       | 5,823958196 | 0,070649   |
| Gmnn          | 5,790147097 | 5,15E-07   |
| Gm37785       | 5,78413009  | 0,0081271  |
| Gm42895       | 5,75015163  | 0,016703   |
| Gm15937       | 5,748956044 | 0,014288   |
| Tap2          | 5,746963953 | 0,0028611  |
| Hist1h2bp     | 5,727477953 | 0,059773   |
| Gm14279       | 5,701335893 | 0,00011434 |
| Gm45729       | 5,697780324 | 0,05183    |
| Ntrk3         | 5,692253845 | 0,16088    |
| Insig1        | 5,672166964 | 7,58E-08   |
| Gm17541       | 5,66745095  | 0,079626   |
| 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 |
| Clec3b        | 5,516296486 | 0,071661   |
| Gm43920       | 5,515531818 | 0,049769   |
| Tmcc3         | 5,490737725 | 0,07162    |
| Snord71       | 5,470224337 | 0,060625   |
| 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  |
| Gm27003       | 5,410642798 | 0,065836   |
| Atp5l-ps1     | 5,399029127 | 7,26E-05   |
| Gm2367        | 5,398654908 | 0,015272   |
| Teddm2        | 5,359877395 | 0,066744   |
| 4833421G17Rik | 5,35913441  | 0,0047073  |
| Itga6         | 5,297089923 | 4,91E-07   |
| Dkk1          | 5,281691364 | 0,094492   |
| 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  |
| Gm12940       | 5,22778569  | 0,082824   |

|                |             |            |
|----------------|-------------|------------|
| Ciart          | 5,20644996  | 2,44E-06   |
| Gm16045        | 5,173712907 | 6,76E-05   |
| Nsa2-ps2       | 5,173712907 | 0,11151    |
| Gm7351         | 5,172995728 | 0,07162    |
| 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  |
| Dnd1           | 4,998516556 | 0,10824    |
| 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 |
| Gm7132         | 4,931751133 | 0,070199   |
| 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   |
| Gm29759        | 4,869926505 | 0,092814   |
| Gm43328        | 4,868576462 | 0,0015624  |
| Gm28424        | 4,858799835 | 0,079626   |
| Gm26610        | 4,857452877 | 0,013351   |
| Ccl6           | 4,854087114 | 0,048061   |
| RP24-122E11.4  | 4,849042841 | 0,1613     |
| Arc            | 4,847698588 | 0,0021313  |
| Cks2           | 4,837293248 | 0,09077    |
| Vsig8          | 4,82456878  | 0,071827   |
| Gm38299        | 4,821894212 | 0,0061551  |
| Gm14439        | 4,817217287 | 0,17392    |
| Rpl19-ps11     | 4,812544897 | 0,10231    |
| Ccdc18         | 4,804878665 | 0,00019661 |
| Ect2           | 4,785268911 | 0,00010499 |
| Gad2           | 4,769374268 | 0,12048    |
| 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   |
| Gm38248       | 4,718734499 | 0,079769   |
| Gm5830        | 4,717426369 | 0,013527   |
| Gm16439       | 4,715791717 | 0,057785   |
| 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   |
| Gm12090       | 4,668308814 | 0,072107   |
| Hmgb1-ps5     | 4,661518524 | 0,021394   |
| Gm6520        | 4,658288525 | 0,045297   |
| Olfr912       | 4,648289745 | 0,43887    |
| Gm44044       | 4,640563496 | 0,061582   |
| Gm12758       | 4,637990934 | 0,018062   |
| Gm38365       | 4,621624347 | 0,0016664  |
| Cytip         | 4,620983698 | 0,13356    |
| 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   |
| Gm16181       | 4,584295366 | 0,1604     |
| Tnfrsf12a     | 4,577309993 | 3,47E-07   |
| Gm15610       | 4,574772497 | 0,1451     |
| Pfkfb3        | 4,564636572 | 6,78E-07   |
| Hmgb2         | 4,546952711 | 1,10E-05   |
| Gm45809       | 4,541597964 | 0,073597   |
| Zfp36l2       | 4,541283175 | 1,91E-06   |
| 3110056K07Rik | 4,540968409 | 0,0061032  |
| Fam72a        | 4,539394902 | 0,018503   |
| Gm45477       | 4,52933736  | 0,062167   |
| 4932416K20Rik | 4,521182017 | 0,0063839  |
| Gm28041       | 4,504603113 | 0,12107    |
| 1700031P21Rik | 4,480003937 | 0,018712   |
| Snord15a      | 4,477830752 | 0,0083162  |
| 2900093K20Rik | 4,461720066 | 1,48E-06   |
| Sez6          | 4,448749914 | 0,00019848 |
| Notch1        | 4,441355335 | 0,09787    |
| RP23-136K21.4 | 4,429365348 | 0,22801    |
| Hist1h2ae     | 4,429058338 | 0,065739   |
| Aif1          | 4,42875135  | 0,00050512 |
| Gm43868       | 4,423535803 | 0,082841   |
| Gm6969        | 4,420164311 | 0,10736    |
| Gm44164       | 4,419857939 | 0,080193   |
| Wfdc17        | 4,419551589 | 0,00020226 |
| Gm13890       | 4,415877037 | 0,12207    |
| Mrps18b       | 4,415570963 | 0,03267    |

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| Ttk           | 4,409759573 | 1,72E-06   |
| Gm15796       | 4,409453923 | 0,087468   |
| Olfr95        | 4,406093163 | 0,064258   |
| Gm12643       | 4,405177037 | 0,065116   |
| Rnaseh1       | 4,402124659 | 0,12704    |
| Ltb           | 4,398769486 | 2,55E-06   |
| 4930579G24Rik | 4,392675722 | 0,010189   |
| Rpl29         | 4,391762385 | 0,079609   |
| 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   |
| Gm15877       | 4,341519308 | 0,082339   |
| Gm11759       | 4,327398556 | 0,027755   |
| Depdc1a       | 4,325299399 | 0,148      |
| L1cam         | 4,322302368 | 0,0025259  |
| Pin4          | 4,319307415 | 0,099022   |
| Gm37383       | 4,319008033 | 0,14562    |
| 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 |
| Rplp1-ps1     | 4,272853934 | 0,076099   |
| Fanci         | 4,270485218 | 0,071282   |
| P4ha2         | 4,266638854 | 1,67E-05   |
| Zwilch        | 4,258070983 | 0,00049873 |
| Gm9442        | 4,25748073  | 0,17294    |
| Frat2         | 4,255120536 | 2,39E-07   |
| Gm42551       | 4,240986822 | 0,081      |
| Amd2          | 4,237167027 | 0,0069134  |
| Btf3          | 4,234231064 | 0,0012251  |
| Gm36936       | 4,218119595 | 0,17579    |
| Gm30074       | 4,217827227 | 0,12519    |
| Gm26830       | 4,212276091 | 0,20594    |
| Zfp773        | 4,20673226  | 7,86E-05   |
| Gm45185       | 4,20352601  | 0,011897   |
| Gm2467        | 4,200031069 | 0,12978    |
| Icosl         | 4,199157788 | 0,0025545  |
| Gm8885        | 4,188111931 | 0,11347    |
| 9330162G02Rik | 4,185500065 | 0,38467    |
| RP23-356P21.1 | 4,183469741 | 0,0005767  |
| RP23-182J19.2 | 4,183179775 | 0,098566   |
| A330035P11Rik | 4,179122361 | 0,10241    |
| 4930522L14Rik | 4,177384674 | 0,0066447  |
| Smarca5-ps    | 4,15716497  | 0,088992   |
| Gm11464       | 4,156300602 | 0,13851    |
| Rps19-ps11    | 4,152557082 | 0,0039814  |
| Dtd2          | 4,151693672 | 7,76E-05   |

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|---------------|-------------|------------|
| lqgap3        | 4,146516979 | 1,59E-05   |
| Gm14130       | 4,142782272 | 0,060414   |
| Klf11         | 4,125016814 | 8,86E-05   |
| Gm43010       | 4,12415913  | 0,082107   |
| Gfap          | 4,111600234 | 0,16562    |
| Ncapd3        | 4,110175509 | 6,62E-07   |
| RP23-23P9.3   | 4,100784697 | 0,067203   |
| Kcnj2         | 4,096523242 | 0,0019055  |
| Zfp36l1       | 4,094536078 | 6,54E-07   |
| Gm15542       | 4,094536078 | 0,042102   |
| Gm10575       | 4,09198257  | 0,24038    |
| Gsg1          | 4,07330544  | 0,00028844 |
| Suv39h2       | 4,070765172 | 0,00026291 |
| Ckap2         | 4,066253052 | 5,36E-05   |
| Fancd2        | 4,06597121  | 0,00028612 |
| Gm43578       | 4,064280572 | 0,076359   |
| Rps17         | 4,06315387  | 4,03E-05   |
| Adamts1       | 4,052184885 | 0,48639    |
| Alpk2         | 4,051342344 | 0,078728   |
| Gm9381        | 4,049377098 | 0,14835    |
| 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  |
| Tspan15       | 3,982570774 | 0,16413    |
| Rps19-ps8     | 3,979259542 | 0,1191     |
| Snord110      | 3,977053584 | 0,12737    |
| 2810454H06Rik | 3,971544037 | 0,014231   |
| Abcg4         | 3,957803538 | 0,079769   |
| Gm38319       | 3,950951126 | 0,1194     |
| Tnfrsf17      | 3,945477739 | 0,0013254  |
| Atf3          | 3,941650881 | 3,64E-06   |
| Gm12981       | 3,941377676 | 0,18342    |
| Gm43817       | 3,940011935 | 0,0031888  |
| Gm3699        | 3,935917552 | 0,066781   |
| 4931428F04Rik | 3,930464992 | 0,010459   |
| Rny1          | 3,918767553 | 0,00039928 |
| Gm17034       | 3,913067509 | 0,18884    |
| Cenpk         | 3,912796285 | 0,0004325  |
| Cd274         | 3,909001125 | 0,00066456 |
| Gm15216       | 3,904127043 | 0,055207   |
| C730045M19Rik | 3,903585854 | 0,023522   |
| Gm45153       | 3,894937019 | 0,0063448  |
| Gm38297       | 3,894937019 | 0,080031   |
| H2-T23        | 3,890350122 | 0,0043451  |
| Vwa1          | 3,888732507 | 0,071661   |

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|---------------|-------------|------------|
| Fcrl5         | 3,886576734 | 0,26484    |
| Gm3550        | 3,884422155 | 0,0005022  |
| Egln3         | 3,879847641 | 0,076699   |
| Rpl17-ps8     | 3,87608444  | 8,36E-05   |
| D130051D11Rik | 3,870983076 | 0,00061167 |
| Ddah2         | 3,870983076 | 0,0051158  |
| Gm23344       | 3,862406476 | 0,051002   |
| Gm19726       | 3,862138763 | 0,19659    |
| Bc1-ps1       | 3,858392738 | 0,15238    |
| G2e3          | 3,855184752 | 5,95E-07   |
| Ddit4         | 3,85491754  | 4,13E-06   |
| Crip1         | 3,852513467 | 6,47E-09   |
| Cdkn2c        | 3,848510011 | 9,50E-05   |
| Gm42851       | 3,843444937 | 0,10345    |
| Gm13935       | 3,839717044 | 0,14152    |
| Gm43684       | 3,838120483 | 0,34351    |
| Bub1          | 3,837854454 | 1,40E-05   |
| Gm15441       | 3,837056477 | 0,1383     |
| Gm37531       | 3,835992767 | 0,082781   |
| Gm5100        | 3,834929351 | 0,11996    |
| Cfh           | 3,823516235 | 4,22E-06   |
| Gm15564       | 3,819278171 | 0,011024   |
| Gm26759       | 3,813722839 | 0,14992    |
| Pask          | 3,81292988  | 0,090178   |
| A130014A01Rik | 3,810287874 | 0,00084152 |
| B230317F23Rik | 3,809759693 | 0,10068    |
| Tmem107       | 3,806064472 | 0,00010147 |
| Plscr4        | 3,80052836  | 0,31015    |
| Selenbp1      | 3,796315776 | 7,97E-06   |
| 1700001P01Rik | 3,788954985 | 0,079671   |
| Gm26912       | 3,782394912 | 0,11485    |
| 5330406M23Rik | 3,778726234 | 0,0042473  |
| Gm34121       | 3,773753004 | 0,08695    |
| Gm43581       | 3,762521954 | 0,00037789 |
| Gm9506        | 3,762000394 | 0,21295    |
| Gm7634        | 3,761218189 | 0,070835   |
| 2810013P06Rik | 3,754706139 | 0,00013841 |
| Ezr           | 3,749764522 | 5,32E-08   |
| Arrdc2        | 3,742493991 | 2,46E-05   |
| Gm4968        | 3,731873283 | 0,21733    |
| 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   |
| Ank3          | 3,716385088 | 0,36245    |
| Gm12428       | 3,716127497 | 0,080794   |
| Gm26549       | 3,71535483  | 0,17484    |
| 0610005C13Rik | 3,711236654 | 0,1394     |
| Gm15728       | 3,708151017 | 0,0032507  |
| Rac3          | 3,703270672 | 0,12207    |
| Gm44090       | 3,699422306 | 0,0042691  |

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|---------------|-------------|------------|
| Gm24920       | 3,69685895  | 0,044022   |
| Gm28578       | 3,695834105 | 0,019678   |
| Hsd3b7        | 3,694553449 | 0,18582    |
| Gm8337        | 3,692761275 | 0,059541   |
| Gm15950       | 3,684324159 | 0,0039912  |
| Dlgap5        | 3,684324159 | 0,0063839  |
| Gm20492       | 3,681771265 | 0,11802    |
| Gm5312        | 3,680495481 | 0,039235   |
| Gm10036       | 3,67922014  | 0,00017535 |
| Selenop       | 3,667761934 | 0,0069435  |
| Gm16380       | 3,665474579 | 0,14041    |
| Slc2a1        | 3,664458434 | 9,58E-07   |
| Rpl35a-ps5    | 3,657606823 | 0,0011432  |
| Ptgs2os       | 3,657353306 | 0,12667    |
| Gm3940        | 3,654565776 | 0,064229   |
| Gm7114        | 3,654059181 | 0,031472   |
| H2-T10        | 3,651527258 | 0,28066    |
| RP23-149L23.1 | 3,65051498  | 0,068887   |
| Oaz1          | 3,642426852 | 0,00016058 |
| RP24-324J2.1  | 3,640155296 | 0,12119    |
| Tob1          | 3,639398426 | 0,00040604 |
| Gm6649        | 3,638137325 | 0,1265     |
| Ly86          | 3,637380874 | 7,16E-07   |
| Zic2          | 3,631083232 | 0,0020826  |
| Gm44126       | 3,626807064 | 0,23903    |
| Arf2          | 3,620527728 | 7,88E-09   |
| S1pr1         | 3,612506041 | 0,00015403 |
| Gm6136        | 3,61150458  | 0,0014018  |
| Ifitm5        | 3,607251469 | 0,10296    |
| Nek2          | 3,602254222 | 0,0071734  |
| Gm42522       | 3,598760268 | 0,11297    |
| Nadk2         | 3,59352569  | 5,36E-05   |
| Gm10358       | 3,585066798 | 0,05507    |
| RP24-323H7.5  | 3,584072944 | 0,25149    |
| Rasgef1b      | 3,580100284 | 9,32E-06   |
| Gm7784        | 3,57885973  | 0,22961    |
| Gm15596       | 3,57315872  | 0,059946   |
| Rpl39-ps      | 3,570930363 | 4,65E-05   |
| H2-Q5         | 3,569692987 | 0,22484    |
| H2-Q10        | 3,566725034 | 0,15586    |
| Ftl1          | 3,563265542 | 0,017321   |
| Gm25541       | 3,562030822 | 0,088573   |
| Pmaip1        | 3,561537054 | 1,03E-05   |
| Gm13092       | 3,56079653  | 0,031963   |
| Rpl13a-ps1    | 3,556356619 | 6,61E-06   |
| Rpl36-ps8     | 3,553399755 | 0,1714     |
| Gm45203       | 3,5474934   | 0,025602   |
| Gtse1         | 3,544543904 | 0,0002623  |
| Rflnb         | 3,543806914 | 0,17185    |
| Ifi213        | 3,541596861 | 1,40E-05   |
| Gm6946        | 3,54036965  | 0,16754    |
| D930030I03Rik | 3,535220005 | 0,18821    |

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|---------------|-------------|------------|
| Snhg20        | 3,533260206 | 3,02E-06   |
| C730034F03Rik | 3,533015307 | 5,84E-05   |
| Gm13413       | 3,52689836  | 0,31031    |
| Fancb         | 3,526409462 | 0,1409     |
| Mtfr2         | 3,521524207 | 0,027587   |
| 1500015A07Rik | 3,517133265 | 0,00070418 |
| Hist1h2al     | 3,516889484 | 0,0097619  |
| Tspan33       | 3,515670834 | 0,20675    |
| Ptgs1         | 3,515427155 | 0,053486   |
| Gm10263       | 3,515427155 | 0,19254    |
| Dpep2         | 3,513965434 | 1,74E-05   |
| Mir124-2hg    | 3,512504321 | 0,11059    |
| Gm7363        | 3,510800456 | 0,14539    |
| 6330403N20Rik | 3,509827191 | 0,14291    |
| Cerkl         | 3,50375039  | 0,081149   |
| Gm15503       | 3,499866761 | 0,0043856  |
| Gm44777       | 3,491386322 | 0,19677    |
| Gm13567       | 3,487999903 | 0,035466   |
| Ccdc117       | 3,485824654 | 1,05E-06   |
| Uhrf1         | 3,485583043 | 0,0057994  |
| C330011M18Rik | 3,47737824  | 0,2952     |
| Gm44270       | 3,475450507 | 0,034998   |
| Tk1           | 3,471598246 | 0,0072795  |
| Gm37065       | 3,469433225 | 0,16089    |
| Rps28         | 3,46486706  | 0,00011147 |
| Gm9409        | 3,461746304 | 0,13948    |
| Maff          | 3,459347636 | 4,25E-05   |
| Atp5g1        | 3,457190256 | 7,95E-05   |
| Luc7l3        | 3,445468099 | 3,17E-06   |
| Ifitm1        | 3,442842063 | 0,12459    |
| Gm15289       | 3,441649071 | 0,11099    |
| Pank4         | 3,440933475 | 0,081751   |
| Tpt1-ps3      | 3,438549228 | 0,053941   |
| Gm14094       | 3,437357724 | 0,033302   |
| Pde2a         | 3,437357724 | 0,16596    |
| Gm11346       | 3,435452176 | 0,16515    |
| Cd300lf       | 3,434975955 | 0,21057    |
| Pea15a        | 3,434737869 | 6,83E-06   |
| Rpl23a-ps2    | 3,434499799 | 0,10169    |
| Pclaf         | 3,430455139 | 2,52E-06   |
| Cbx2          | 3,429504147 | 0,0072601  |
| Gm16585       | 3,424990532 | 0,049116   |
| Tnnt1         | 3,424278399 | 0,17347    |
| Gm5921        | 3,421431349 | 0,17388    |
| Cdh23         | 3,416691524 | 0,1932     |
| Gm43637       | 3,416217903 | 0,032523   |
| Rps8-ps4      | 3,414560746 | 0,045393   |
| Kifc1         | 3,41361416  | 0,0002928  |
| Pigb          | 3,412431296 | 0,025582   |
| Gm12240       | 3,409357769 | 0,22038    |
| Sdc3          | 3,408885164 | 8,91E-08   |
| Cox20-ps      | 3,407940152 | 7,85E-06   |

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| Map3k12       | 3,397797796 | 0,00033984 |
| 4833445I07Rik | 3,396149574 | 0,14319    |
| Gm12466       | 3,395443438 | 0,1113     |
| 4930447F24Rik | 3,392620362 | 0,14888    |
| 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    |
| Rpa3          | 3,369652922 | 0,10994    |
| Gm38043       | 3,367318066 | 0,01127    |
| Gm42466       | 3,362420133 | 0,22285    |
| Lzic          | 3,361022033 | 0,00030291 |
| Cox7c         | 3,357296606 | 0,052065   |
| Nfil3         | 3,356365895 | 0,0003536  |
| Gm42798       | 3,350090339 | 0,054383   |
| Gm6564        | 3,345681242 | 0,13228    |
| Gm9920        | 3,344290102 | 0,12978    |
| Igfbp4        | 3,339194201 | 3,58E-08   |
| Crip2         | 3,336417892 | 0,0015705  |
| RP24-550H10.3 | 3,33387497  | 0,0081661  |
| C030034I22Rik | 3,332719737 | 1,45E-05   |
| Gadd45a       | 3,331564904 | 0,0010081  |
| Tgif2         | 3,324183446 | 4,98E-05   |
| Zmynd10       | 3,32211036  | 0,081751   |
| RP23-43M12.2  | 3,313141912 | 0,00054519 |
| A530017D24Rik | 3,312912271 | 0,068642   |
| 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  |
| Gm5257        | 3,292081381 | 0,27565    |
| RP23-325K4.10 | 3,2868372   | 3,27E-05   |
| Gm26730       | 3,285926021 | 0,31886    |
| Rps6-ps4      | 3,281373916 | 0,057592   |
| RP23-288C18.3 | 3,280919053 | 0,0015953  |
| Rpl19         | 3,278872947 | 6,55E-05   |
| Vamp2         | 3,272742284 | 7,37E-05   |
| 9330020H09Rik | 3,270927993 | 0,0024725  |
| Cog3          | 3,265943878 | 0,078503   |
| Gbe1          | 3,265717508 | 1,79E-05   |
| A930029G22Rik | 3,262323838 | 0,22894    |
| RP24-351I17.3 | 3,259159595 | 0,23885    |
| Hmgb1         | 3,257804431 | 0,0057573  |
| 9330151L19Rik | 3,257352834 | 0,012512   |
| 6430710M23Rik | 3,255547075 | 0,16851    |

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| RP23-454I20.1 | 3,253967857 | 0,030384   |
| Ube2s         | 3,253967857 | 0,030542   |
| Gm44283       | 3,253967857 | 0,32026    |
| 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  |
| Gm12164       | 3,240912342 | 0,23666    |
| Gm13215       | 3,23687129  | 0,0062631  |
| Rps19-ps6     | 3,236422596 | 0,066751   |
| Kif15         | 3,234852655 | 0,00040242 |
| 2900055J20Rik | 3,23462844  | 0,028272   |
| Psd2          | 3,232163099 | 0,14769    |
| Hmmr          | 3,221203933 | 7,37E-05   |
| Taco1os       | 3,217410462 | 0,20356    |
| Lilrb4a       | 3,216295586 | 0,0010793  |
| Lonrf3        | 3,212062578 | 1,59E-05   |
| Gm44957       | 3,20916952  | 0,41181    |
| Gm42728       | 3,208724665 | 0,19674    |
| 1700001G11Rik | 3,20561241  | 0,1616     |
| Gm9009        | 3,202725161 | 0,17192    |
| Gm19566       | 3,202059243 | 0,034958   |
| Zfp326        | 3,200284136 | 1,61E-06   |
| Gm7266        | 3,198731725 | 0,05173    |
| Gm6987        | 3,194743269 | 0,0037915  |
| 4930532G15Rik | 3,190317482 | 0,19755    |
| Gm18284       | 3,188548885 | 0,22429    |
| Ska1          | 3,186118665 | 8,93E-06   |
| RP23-134M7.3  | 3,185897827 | 0,19071    |
| Gm44013       | 3,183028336 | 0,22801    |
| Rps12-ps10    | 3,181925373 | 0,00084441 |
| Tiparp        | 3,181704826 | 3,79E-05   |
| Rps15a-ps6    | 3,179059459 | 0,0015913  |
| Gm13456       | 3,174875458 | 0,0090767  |
| Gm11604       | 3,173335373 | 0,1676     |
| Gm14427       | 3,168060749 | 0,0060396  |
| Gm12902       | 3,163014128 | 0,012903   |
| Pole          | 3,159070207 | 0,12687    |
| Mad2l1        | 3,158413366 | 0,0019205  |
| Gm9320        | 3,151415544 | 0,0001993  |
| Rpl27-ps3     | 3,151197112 | 0,0096321  |
| E2f8          | 3,151197112 | 0,18794    |
| Ccne2         | 3,150323536 | 0,11365    |
| Fn1           | 3,149886839 | 0,0020777  |
| Anxa2         | 3,14792245  | 5,09E-06   |
| Gdap10        | 3,14792245  | 0,004603   |
| Gm42633       | 3,146613538 | 0,30988    |
| Rpl27a-ps1    | 3,14530517  | 0,080107   |
| Senp3         | 3,13964186  | 0,00041401 |
| Tmod1         | 3,13964186  | 0,0021653  |

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| Gm24276       | 3,138118866 | 5,13E-05   |
| Map3k8        | 3,137683861 | 3,88E-05   |
| Gm37334       | 3,134205987 | 0,30882    |
| Nrxn3         | 3,13268563  | 0,095077   |
| Gm12034       | 3,132034274 | 0,1614     |
| Gm13622       | 3,130948981 | 0,18794    |
| Rps11-ps3     | 3,130297986 | 0,14115    |
| Gm26520       | 3,129647127 | 0,0001993  |
| Gm8330        | 3,129430204 | 0,17185    |
| 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 |
| Rps4x         | 3,112556445 | 0,084586   |
| Ccdc58        | 3,110184144 | 7,37E-05   |
| Gm7701        | 3,10609079  | 0,15942    |
| S100a3        | 3,101787817 | 0,11145    |
| Msantd2       | 3,099638567 | 0,00096638 |
| RP23-2N7.4    | 3,097920239 | 0,01785    |
| Fth-ps3       | 3,09448644  | 0,0010076  |
| Aarsd1        | 3,093414158 | 0,28224    |
| Itga11        | 3,09127071  | 0,075896   |
| Hist1h1e      | 3,089985354 | 2,76E-05   |
| Dennd4c       | 3,089342876 | 0,0001458  |
| Fam103a1      | 3,087630256 | 0,0054669  |
| Gm37738       | 3,086774302 | 0,25818    |
| 8030462N17Rik | 3,08656035  | 0,0063016  |
| Nemp1         | 3,085704693 | 7,34E-05   |
| Gm527         | 3,080362204 | 0,16094    |
| 9530078K11Rik | 3,071620539 | 0,18596    |
| Golga7        | 3,068428571 | 0,00061665 |
| Rdh12         | 3,068003226 | 0,35377    |
| 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   |
| 4930558J18Rik | 3,054846734 | 0,36006    |
| Pcgf5         | 3,052095278 | 0,044178   |
| Ncapg         | 3,049769059 | 0,00037826 |
| Gm6290        | 3,040692655 | 0,29577    |
| Tma7          | 3,039849713 | 0,021801   |
| E130201H02Rik | 3,036059364 | 0,27204    |
| Gm42819       | 3,035848928 | 0,014288   |
| Gm42632       | 3,030172658 | 0,2567     |
| Cldn11        | 3,026604156 | 4,69E-05   |
| Rassf7        | 3,025974857 | 0,0097619  |
| Lpl           | 3,023458968 | 6,98E-07   |
| Rhob          | 3,022830323 | 0,020683   |
| A830073O21Rik | 3,022830323 | 0,49072    |
| Mogat1        | 3,021782871 | 0,10613    |

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| Gm10175       | 3,016132901 | 0,00038273 |
| Gm15785       | 3,014460865 | 0,26605    |
| Hlx           | 3,013416314 | 0,14391    |
| Gm4832        | 3,010702174 | 0,43467    |
| Mcm7          | 3,010076181 | 6,43E-05   |
| Neil3         | 3,009867545 | 0,076502   |
| Gm26244       | 3,009450318 | 0,0056981  |
| Gm12577       | 3,008407503 | 0,0074164  |
| C130013H08Rik | 3,00673975  | 0,33898    |
| Wdhd1         | 3,005281225 | 0,00076539 |
| Rps2-ps10     | 3,003615205 | 0,08855    |
| 8030453O22Rik | 3,003407017 | 0,11575    |
| Gm26129       | 2,998207016 | 0,23024    |
| Gm12184       | 2,997999204 | 0,084139   |
| Gm44884       | 2,996129538 | 0,45853    |
| Bnip3l        | 2,995506575 | 0,00016495 |
| Gm24339       | 2,995506575 | 0,023206   |
| Gm12778       | 2,995091338 | 0,11151    |
| Mki67         | 2,992393703 | 0,00012501 |
| Riiad1        | 2,989905735 | 0,26896    |
| Cdc7          | 2,989284066 | 0,021556   |
| Tomm40l       | 2,988869692 | 0,00095157 |
| Mafb          | 2,983074483 | 3,01E-05   |
| H2-Ob         | 2,981214124 | 0,00014391 |
| Itgb3bp       | 2,979561447 | 0,12323    |
| Gm1862        | 2,978941929 | 0,092745   |
| Il13ra2       | 2,977703279 | 0,27204    |
| Nup205        | 2,976671465 | 0,0014574  |
| Cox20         | 2,975640008 | 6,81E-05   |
| Rpl10a-ps2    | 2,974608908 | 0,0025143  |
| A730071L15Rik | 2,972341746 | 0,30996    |
| RP23-162P10.8 | 2,970693987 | 0,00054555 |
| Tgfb1         | 2,969458767 | 3,05E-05   |
| Gm10240       | 2,968635572 | 0,0056897  |
| RP24-418P10.4 | 2,966989868 | 0,27721    |
| 4931440P22Rik | 2,965345075 | 0,0077781  |
| Sdc4          | 2,963701195 | 7,60E-06   |
| Gm11343       | 2,963701195 | 0,24371    |
| Tia1          | 2,962674232 | 0,0004225  |
| Gm27043       | 2,962263547 | 0,41573    |
| Gm12583       | 2,961031832 | 0,28848    |
| Zfp101        | 2,958159822 | 0,01702    |
| Hsp90aa1      | 2,956929814 | 2,08E-05   |
| Chrnbl        | 2,953242857 | 0,047733   |
| Jsrp1         | 2,953038161 | 0,02573    |
| 2410080I02Rik | 2,948742819 | 0,019216   |
| Gm15268       | 2,948538435 | 0,22931    |
| Gm12882       | 2,943841506 | 0,012597   |
| Rps12-ps26    | 2,940170869 | 0,060299   |
| Lgr5          | 2,935690749 | 0,27666    |
| Csrnp1        | 2,927562559 | 3,05E-05   |
| Wdr62         | 2,925939624 | 0,20009    |

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| Rpl36-ps4      | 2,92553403  | 0,077469   |
| 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   |
| Gm10916        | 2,909356321 | 0,40218    |
| Gm11531        | 2,907541936 | 0,001103   |
| Gm15829        | 2,906332975 | 0,20369    |
| Gm7799         | 2,904721808 | 0,027898   |
| Gm14813        | 2,903514019 | 0,26636    |
| Mturn          | 2,898085182 | 0,01268    |
| Gm8019         | 2,896679363 | 0,3089     |
| 4930404I05Rik  | 2,894471598 | 0,49401    |
| Gm28404        | 2,892065045 | 0,042715   |
| Arhgap39       | 2,891864589 | 0,021842   |
| Rpl23a-ps14    | 2,889259929 | 0,14892    |
| Morf4l1        | 2,886457533 | 0,00046394 |
| Tmsb10         | 2,883457983 | 0,019547   |
| Alox8          | 2,88205926  | 0,29782    |
| Gm12943        | 2,880860894 | 0,014701   |
| Gm14034        | 2,878066645 | 0,39875    |
| Gm14326        | 2,87686994  | 0,5025     |
| Gm6576         | 2,876471149 | 0,35149    |
| RP23-356D13.11 | 2,875873066 | 0,34224    |
| 4933433G15Rik  | 2,869899069 | 0,15114    |
| Mgst3          | 2,868506923 | 0,026494   |
| Gm43447        | 2,866916726 | 0,68222    |
| Gm5525         | 2,865128808 | 0,015685   |
| Gm12230        | 2,864334536 | 0,06789    |
| Gm29666        | 2,864136002 | 0,30767    |
| Hoxb8          | 2,860961335 | 0,00018814 |
| Pole2          | 2,859573524 | 0,093675   |
| Snord72        | 2,855414131 | 0,095302   |
| Bard1          | 2,854820426 | 0,035725   |
| Higd1a         | 2,852249131 | 0,0039121  |
| Gm16630        | 2,850865546 | 0,32429    |
| Spdl1          | 2,848692699 | 0,0050344  |
| E230032D23Rik  | 2,846916146 | 0,011851   |
| Gm43059        | 2,846718819 | 0,32707    |
| Fam174a        | 2,844746308 | 2,42E-05   |
| Rps6-ps3       | 2,842578124 | 0,19699    |
| Numb           | 2,841790103 | 0,00053285 |
| RP23-58B7.2    | 2,839821007 | 0,002916   |
| Hnrnpa3        | 2,838246712 | 0,00047419 |
| H2-Q6          | 2,836673291 | 0,20489    |
| Gm8254         | 2,832939908 | 0,1366     |
| Gm43501        | 2,832939908 | 0,43206    |
| Nup98          | 2,830976945 | 0,0062637  |

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| Rps12-ps4     | 2,829603679 | 0,0012493  |
| Rpl28-ps1     | 2,829603679 | 0,0026716  |
| Gm11631       | 2,827447036 | 0,38595    |
| Hus1b         | 2,827055096 | 0,42574    |
| 3110031N09Rik | 2,826467288 | 0,16782    |
| Dgkh          | 2,821964815 | 0,01988    |
| Ticrr         | 2,821378065 | 0,31975    |
| Gm18943       | 2,82020493  | 0,47563    |
| Tpi1          | 2,820009456 | 1,91E-06   |
| Atad5         | 2,817860125 | 0,04299    |
| Dtl           | 2,817664813 | 0,0013125  |
| Ttc25         | 2,816493223 | 0,25294    |
| Ube2t         | 2,813566378 | 0,0012975  |
| Acrbp         | 2,812591439 | 0,024296   |
| Kif21a        | 2,812591439 | 0,40471    |
| Mmp9          | 2,812201558 | 0,043356   |
| RP24-454N4.2  | 2,8108374   | 0,0003536  |
| Pif1          | 2,810447763 | 0,003766   |
| Krtcap3       | 2,810058179 | 0,19606    |
| Gm11826       | 2,809863407 | 0,035261   |
| Gm7846        | 2,80830572  | 0,19794    |
| Gm16104       | 2,8075272   | 0,26683    |
| Smc2          | 2,806943452 | 1,08E-05   |
| Gm15720       | 2,806748896 | 0,25606    |
| Gm26397       | 2,806748896 | 0,35255    |
| Gm8304        | 2,806359825 | 0,038637   |
| Gm42508       | 2,80577632  | 0,19139    |
| 1700003G18Rik | 2,797038283 | 0,45959    |
| Blm           | 2,796069071 | 0,0004244  |
| Nat6          | 2,795487705 | 0,00066456 |
| Gm14286       | 2,794131655 | 0,025944   |
| Rpl30         | 2,793357065 | 0,022586   |
| Rps12-ps23    | 2,79296985  | 0,32861    |
| Gm5302        | 2,791228048 | 0,29891    |
| Rps12-ps9     | 2,791034582 | 0,0039039  |
| Polr2l        | 2,790067451 | 0,0028347  |
| Lsp1          | 2,788907335 | 4,98E-05   |
| BC028528      | 2,788520738 | 0,0059077  |
| Gm21781       | 2,788134193 | 0,052468   |
| Gm5045        | 2,784464694 | 0,27067    |
| Raf1          | 2,781378336 | 0,0063448  |
| Insig2        | 2,779643763 | 7,17E-05   |
| Gm12834       | 2,777525198 | 0,3232     |
| 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   |
| Smtn          | 2,762931893 | 0,14769    |
| Ppp2cb        | 2,762548896 | 0,18367    |

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| Tpt1          | 2,762357418 | 0,00014509 |
| 3110062M04Rik | 2,761208824 | 4,81E-05   |
| Gm7783        | 2,761208824 | 0,052793   |
| Snhg11        | 2,759678109 | 0,4215     |
| AW554918      | 2,75891307  | 0,0011794  |
| Xaf1          | 2,758148243 | 0,26727    |
| Gm7312        | 2,755664019 | 0,06216    |
| Selenow       | 2,755473018 | 3,61E-05   |
| Meg3          | 2,753372875 | 0,30532    |
| Gm15459       | 2,751655768 | 0,28205    |
| RP24-310D17.9 | 2,75032098  | 0,014049   |
| RP23-413G8.2  | 2,75032098  | 0,093332   |
| Hnrnp2        | 2,747653346 | 0,12107    |
| Tbc1d31       | 2,7463205   | 0,0004244  |
| Gm2076        | 2,745368863 | 0,38378    |
| Tsc22d2       | 2,744798038 | 6,83E-06   |
| Plk2          | 2,742706032 | 0,05507    |
| Adgb          | 2,741945698 | 0,41042    |
| Gm19967       | 2,740425662 | 0,032373   |
| Gm29736       | 2,740235717 | 0,020117   |
| Rc3h1         | 2,737388117 | 0,00013542 |
| Rpl36-ps2     | 2,736629257 | 0,063796   |
| Nuf2          | 2,734733028 | 0,033302   |
| Gm13611       | 2,73321699  | 0,043536   |
| Gm15779       | 2,73321699  | 0,12323    |
| Fau           | 2,732080514 | 0,014586   |
| RP24-183O8.6  | 2,731512452 | 0,3448     |
| Gm43133       | 2,729052219 | 0,19032    |
| Rbl1          | 2,726783201 | 0,0035333  |
| RP24-511J14.2 | 2,726783201 | 0,088726   |
| Asb10         | 2,725838333 | 0,019234   |
| Gm14513       | 2,725082675 | 0,044093   |
| Rps16         | 2,724138397 | 0,11121    |
| Rpl10-ps2     | 2,723949581 | 0,088877   |
| Gm12017       | 2,723949581 | 0,41618    |
| Ccdc50-ps     | 2,722062137 | 0,0049109  |
| Pmf1          | 2,721118906 | 0,00013634 |
| Gm4617        | 2,720741705 | 0,01438    |
| Rps12-ps19    | 2,718291172 | 0,33657    |
| Tpx2          | 2,717160902 | 4,49E-05   |
| Bloc1s1       | 2,716407649 | 0,28506    |
| Gm12380       | 2,716031101 | 0,29917    |
| Ip6k2         | 2,715842847 | 8,89E-05   |
| Hist1h2bc     | 2,713020596 | 0,00013994 |
| Mcm3          | 2,712080498 | 0,00038273 |
| Gm15832       | 2,71170455  | 0,01091    |
| A430010J10Rik | 2,708886599 | 0,45791    |
| Supt20        | 2,70869884  | 0,0003442  |
| Aurkb         | 2,708323361 | 0,0042412  |
| Gm37470       | 2,706446744 | 0,34351    |
| 9930104L06Rik | 2,704571429 | 0,19802    |
| Rpl31-ps13    | 2,703821666 | 0,005539   |

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| Arl4d         | 2,703072111 | 0,14178    |
| Fam64a        | 2,690547916 | 0,0021658  |
| RP23-426K2.3  | 2,688310912 | 0,21885    |
| Col11a2       | 2,687751951 | 0,061033   |
| Med22         | 2,686634379 | 0,00039646 |
| Gatsl2        | 2,685889589 | 1,54E-05   |
| Mxd1          | 2,684586703 | 0,0003536  |
| Gm17249       | 2,681425183 | 0,2768     |
| Gm8430        | 2,681239327 | 0,00072199 |
| Kif4          | 2,680310242 | 0,040775   |
| Clec12a       | 2,679010062 | 1,47E-05   |
| Cenpw         | 2,67566964  | 0,00018814 |
| Dnm3          | 2,675484183 | 0,25971    |
| Slc13a3       | 2,67492789  | 0,22626    |
| Socs1         | 2,672889136 | 0,061768   |
| Zfp280d       | 2,671592557 | 0,00031595 |
| Gm13464       | 2,66881629  | 0,34518    |
| 2010016l18Rik | 2,66807644  | 0,06216    |
| Car12         | 2,667336794 | 0,00086777 |
| Gm26826       | 2,666782195 | 0,012624   |
| Gm16238       | 2,665858119 | 0,24484    |
| Ncapg2        | 2,665303827 | 0,0016633  |
| Rassf1        | 2,663826278 | 3,31E-05   |
| Gm6919        | 2,65718744  | 0,23214    |
| Parp6         | 2,657003264 | 0,00051938 |
| Rpl9          | 2,656450813 | 0,00049873 |
| Piga          | 2,655162208 | 0,0001641  |
| Top2a         | 2,653322427 | 3,88E-05   |
| Pcdhgc4       | 2,651300141 | 0,33564    |
| Gm6745        | 2,650014034 | 0,44012    |
| Slbp          | 2,648912153 | 0,042485   |
| Gm6472        | 2,648361385 | 0,018528   |
| Gm26530       | 2,648177821 | 0,34836    |
| 4933439C10Rik | 2,645425886 | 0,013401   |
| Gm23751       | 2,645059178 | 0,11232    |
| Pim1          | 2,641944207 | 6,46E-05   |
| Gm6807        | 2,640113586 | 0,0060171  |
| Gm5277        | 2,639015822 | 0,097505   |
| Gm13360       | 2,635359903 | 0,47408    |
| H2afz         | 2,633351308 | 0,0041079  |
| 2610528A11Rik | 2,632438816 | 0,091374   |
| Kctd6         | 2,63152664  | 0,006225   |
| Depdc1b       | 2,631344243 | 0,36101    |
| Zc3h12c       | 2,630250125 | 0,0024132  |
| Mast4         | 2,630250125 | 0,60168    |
| Tmx2          | 2,628245424 | 0,0087083  |
| Gm16755       | 2,628063254 | 0,55324    |
| RP23-70B19.5  | 2,624786357 | 0,071498   |
| Bend3         | 2,624422509 | 0,19915    |
| Tacc3         | 2,623331269 | 0,0035181  |
| Pi16          | 2,62314944  | 0,0024165  |
| RP24-93F20.12 | 2,618607805 | 0,39164    |

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| Gm6210        | 2,618244814 | 0,19755    |
| A830008E24Rik | 2,617881873 | 0,47437    |
| Gm43178       | 2,617700422 | 0,26987    |
| Rab26os       | 2,616067925 | 0,00085078 |
| 2310074N15Rik | 2,612443797 | 0,36208    |
| Abcc10        | 2,61153855  | 0,26223    |
| Bsdc1         | 2,611357538 | 0,043459   |
| Gm28791       | 2,609909895 | 0,079609   |
| Gm45749       | 2,608643866 | 0,20078    |
| Lin54         | 2,607559187 | 0,0035709  |
| Ankrd55       | 2,607378451 | 0,22484    |
| Slc22a13b-ps  | 2,606655633 | 0,48985    |
| Gm28731       | 2,603405428 | 0,45807    |
| Gm15421       | 2,60322498  | 0,19937    |
| Gm42724       | 2,60070002  | 0,047733   |
| Dedd2         | 2,597997423 | 7,86E-05   |
| Gm14633       | 2,597637289 | 0,26737    |
| Pcna-ps2      | 2,597457241 | 0,15326    |
| Ldb1          | 2,596917171 | 0,079853   |
| RP23-354J5.3  | 2,596737173 | 0,0193     |
| Gpat3         | 2,595477534 | 0,25334    |
| Rps19-ps12    | 2,594578166 | 0,079484   |
| RP24-275P22.2 | 2,592960088 | 0,037541   |
| Racgap1       | 2,592780364 | 0,00035607 |
| Rpl11         | 2,590983809 | 0,022003   |
| Gm8927        | 2,590983809 | 0,36208    |
| Gm4963        | 2,590265535 | 0,52084    |
| 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 |
| E2f7          | 2,583451858 | 0,18521    |
| Gm5822        | 2,581124981 | 0,39742    |
| Gm29650       | 2,580588307 | 0,17829    |
| Rps13-ps1     | 2,57790661  | 0,34248    |
| Tslp          | 2,57629893  | 0,18392    |
| Gm9844        | 2,575941804 | 0,26422    |
| Gfod2         | 2,572729895 | 0,030999   |
| Gm9769        | 2,572729895 | 0,45695    |
| Snn           | 2,57166015  | 0,17724    |
| Palld         | 2,571303666 | 0,45911    |
| Nkapl         | 2,570412675 | 0,31528    |
| Gstt2         | 2,569521992 | 0,085516   |
| Svep1         | 2,568987731 | 0,30055    |
| AK157302      | 2,567385612 | 0,36403    |
| Cox4i2        | 2,567207661 | 0,047664   |
| Brip1         | 2,566140211 | 0,0827     |
| Rpl23a-ps3    | 2,564717636 | 0,018961   |
| Gm10388       | 2,560632121 | 0,11625    |
| Gm42576       | 2,560277167 | 0,1022     |
| C530043K16Rik | 2,559922262 | 0,023291   |

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|---------------|-------------|------------|
| Rpl6          | 2,557262041 | 0,0015374  |
| Rpl10-ps3     | 2,556553115 | 0,02704    |
| C78859        | 2,554427518 | 0,43395    |
| Zfp932        | 2,552834481 | 0,010762   |
| Rpl12-ps1     | 2,551773007 | 0,15577    |
| Gm17827       | 2,551596138 | 0,46836    |
| Rps18-ps1     | 2,550888783 | 0,13587    |
| Apoo-ps       | 2,548767896 | 0,44175    |
| Dnajb6        | 2,547178388 | 3,85E-05   |
| Wdr54         | 2,546295756 | 0,096515   |
| Bvht          | 2,543649695 | 0,13801    |
| Hsf2bp        | 2,542944543 | 0,04689    |
| Hist1h1c      | 2,542415808 | 0,001483   |
| mt-Co1        | 2,540830261 | 7,86E-05   |
| Gm37902       | 2,53818988  | 0,27443    |
| Gm12165       | 2,533268507 | 0,3114     |
| Ndc80         | 2,531864155 | 0,023206   |
| Gm37893       | 2,530986829 | 0,45281    |
| Bloc1s6os     | 2,52993444  | 0,30642    |
| Iscu          | 2,528707206 | 0,0053018  |
| Rpl21-ps12    | 2,528181431 | 0,34611    |
| Car11         | 2,527130209 | 0,030478   |
| Socs4         | 2,526779898 | 0,0030261  |
| Gm38022       | 2,525379142 | 0,33532    |
| Slc25a38      | 2,525029075 | 0,0042533  |
| Rpl21-ps6     | 2,524154118 | 0,01739    |
| Smc4          | 2,522754818 | 7,06E-05   |
| 2700097O09Rik | 2,522405114 | 0,055276   |
| Gm8318        | 2,51925996  | 0,27984    |
| Gm8268        | 2,518910741 | 0,12342    |
| Spag5         | 2,51559557  | 0,02584    |
| 4921524J17Rik | 2,515246858 | 0,0029136  |
| Gm8394        | 2,515072521 | 0,21885    |
| Tmem176a      | 2,514898195 | 0,00097281 |
| Gm7856        | 2,513329809 | 0,46756    |
| Gm5735        | 2,510718006 | 0,38216    |
| Gm43096       | 2,508804409 | 0,12882    |
| Cdc6          | 2,507935074 | 0,012167   |
| Gm45358       | 2,506544765 | 0,34587    |
| Cd9-ps        | 2,5058499   | 0,45013    |
| Gm5841        | 2,503940013 | 0,46408    |
| Prim1         | 2,503419387 | 0,041036   |
| Gm26698       | 2,502725388 | 0,20279    |
| Zeb2os        | 2,501337968 | 0,021083   |
| Arhgap27os1   | 2,497180318 | 0,41343    |
| Rnf24         | 2,496834159 | 0,0050434  |
| Rps4x-ps      | 2,496315011 | 0,085694   |
| Asf1b         | 2,493548044 | 0,026629   |
| Mettl17       | 2,490611501 | 0,014349   |
| Rdh13         | 2,490266253 | 0,00034115 |
| Fam71f2       | 2,489921053 | 0,15586    |
| Gm10501       | 2,48854073  | 0,19677    |

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|---------------|-------------|------------|
| Camk2b        | 2,487333576 | 0,25754    |
| Gm43482       | 2,486816403 | 0,037272   |
| Cenpn         | 2,486644036 | 0,16844    |
| Plau          | 2,486471681 | 0,0013066  |
| Gm44552       | 2,484404352 | 0,19677    |
| 2810001G20Rik | 2,48251081  | 0,18288    |
| Eif4a2        | 2,482338742 | 0,013174   |
| Gins2         | 2,480962622 | 0,024956   |
| Gm11539       | 2,479587266 | 0,00017289 |
| Rasl2-9       | 2,477525661 | 0,36353    |
| Ska2          | 2,476667164 | 0,054203   |
| Khk           | 2,475980582 | 0,00016273 |
| Ppfia4        | 2,474436466 | 0,018351   |
| Gm2383        | 2,473921975 | 0,16808    |
| Zfyve26       | 2,473236153 | 0,0038928  |
| Rpl27         | 2,472207777 | 0,050553   |
| Rab11fip4os1  | 2,47169375  | 0,47053    |
| Apol11b       | 2,470837274 | 0,7041     |
| Calr-ps       | 2,470494767 | 7,08E-05   |
| Gm45266       | 2,469981096 | 0,35591    |
| Ppp1r37       | 2,469638707 | 0,0608     |
| Cchcr1        | 2,468440722 | 0,25174    |
| Pmp22         | 2,468098547 | 8,00E-05   |
| Ier5          | 2,468098547 | 0,00031718 |
| Gm10237       | 2,465191975 | 0,5126     |
| BC051226      | 2,462630196 | 0,0088865  |
| C130083A15Rik | 2,462630196 | 0,14772    |
| Birc5         | 2,461947505 | 0,00012193 |
| Rpl21         | 2,461947505 | 0,0047073  |
| Rps18-ps3     | 2,46160623  | 0,03596    |
| 9130230L23Rik | 2,457855329 | 0,33236    |
| Psmc3ip       | 2,456492782 | 0,16158    |
| Gm22009       | 2,455982022 | 0,14324    |
| Jun           | 2,455471368 | 0,0043637  |
| C330027C09Rik | 2,455130991 | 0,0084119  |
| Sowahc        | 2,453599878 | 0,0026736  |
| Rpl30-ps5     | 2,453089719 | 0,34672    |
| Slc27a3       | 2,452239691 | 0,062167   |
| Ercc6l        | 2,451899761 | 0,18341    |
| Timm8a1       | 2,450880257 | 0,49225    |
| Ywhah         | 2,450370664 | 0,0077246  |
| Gramd4        | 2,450200823 | 0,019475   |
| Ptgs2         | 2,44833335  | 0,0046811  |
| Gm2531        | 2,44833335  | 0,043506   |
| Gm37106       | 2,44748497  | 0,34351    |
| Rnf19a        | 2,446806477 | 0,0023019  |
| Gm11878       | 2,446467301 | 0,061768   |
| Rnf130        | 2,44392498  | 0,15059    |
| Mef2c         | 2,443416833 | 4,86E-05   |
| Syne2         | 2,442570156 | 0,22597    |
| Gm11470       | 2,44206229  | 0,10008    |
| Gm38257       | 2,44206229  | 0,27691    |

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|---------------|-------------|------------|
| S100a8        | 2,441893025 | 0,29367    |
| Kntc1         | 2,440877682 | 0,28205    |
| Gm16540       | 2,439693648 | 0,19674    |
| Gm8624        | 2,439355458 | 0,2295     |
| Snhg6         | 2,437665211 | 0,23871    |
| Gm43153       | 2,437327303 | 0,26169    |
| Gm42635       | 2,436820527 | 0,032028   |
| D530018E20Rik | 2,436313857 | 0,36386    |
| Mettl21b      | 2,434963253 | 0,028705   |
| Rpl30-ps9     | 2,433782088 | 0,34715    |
| Rps27a        | 2,42990515  | 0,037023   |
| Eldr          | 2,42990515  | 0,35111    |
| B3gat3        | 2,428221451 | 0,001761   |
| Gm13641       | 2,426875333 | 0,23184    |
| Gm37851       | 2,42267352  | 0,4002     |
| Rpph1         | 2,419988178 | 0,32026    |
| Col4a6        | 2,418311352 | 0,40262    |
| Arhgap19      | 2,417473374 | 0,52709    |
| 4930426I24Rik | 2,416635687 | 0,58255    |
| Gm12844       | 2,416300693 | 0,037864   |
| Gm37906       | 2,416133214 | 0,10096    |
| Bbc3          | 2,413455122 | 0,0013868  |
| Erf           | 2,412618827 | 0,00024431 |
| Abhd18        | 2,411782822 | 0,082824   |
| Hcar2         | 2,411448501 | 0,19794    |
| Gm37914       | 2,411281358 | 0,29899    |
| Plxna3        | 2,408441697 | 0,34584    |
| Gm45133       | 2,407607139 | 0,35997    |
| Shcbp1        | 2,407106544 | 0,17451    |
| Mdm4-ps       | 2,406439245 | 0,030918   |
| C030037D09Rik | 2,406439245 | 0,049116   |
| Dpy19l3       | 2,405938892 | 0,41353    |
| Nmrk1         | 2,405605381 | 0,050235   |
| Sft2d1        | 2,405105201 | 0,5833     |
| Plaur         | 2,404938498 | 0,061725   |
| Rps6          | 2,403771897 | 0,45968    |
| 1810041H14Rik | 2,403605286 | 0,51934    |
| Gm27010       | 2,401440394 | 0,40506    |
| Gm42511       | 2,401440394 | 0,44806    |
| B330016D10Rik | 2,401273945 | 0,13077    |
| Klf4          | 2,399443763 | 0,00076863 |
| Rps19-ps4     | 2,395953651 | 0,10348    |
| Hist1h4i      | 2,395621524 | 0,0018403  |
| Cped1         | 2,394459444 | 0,1999     |
| Rpl6l         | 2,391308065 | 0,1356     |
| Gm4673        | 2,389319858 | 0,092614   |
| Gm37584       | 2,389319858 | 0,63848    |
| Diaph3        | 2,389154248 | 0,065206   |
| H2-Q7         | 2,387498787 | 0,0043629  |
| Gm24924       | 2,386175243 | 0,26302    |
| Rpl17-ps10    | 2,386009852 | 0,26981    |
| Dnajb4        | 2,385679104 | 0,00018359 |

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|---------------|-------------|------------|
| Hist3h2a      | 2,385183067 | 0,0011814  |
| Gm6640        | 2,384687134 | 0,24371    |
| Tmed7         | 2,384521846 | 0,013571   |
| Pde1b         | 2,384191304 | 0,0067037  |
| Gm7565        | 2,382704432 | 0,29375    |
| Gm12770       | 2,380063393 | 0,36127    |
| Gm7308        | 2,376601471 | 0,030814   |
| Smagp         | 2,375777946 | 0,00035506 |
| Gm10736       | 2,375283969 | 0,13016    |
| Gm37352       | 2,375119332 | 0,25608    |
| Gm7984        | 2,374790094 | 0,466      |
| Arhgap15      | 2,373638118 | 0,0097923  |
| Cebpb         | 2,372157827 | 0,1676     |
| Rps7          | 2,371171479 | 0,068642   |
| Gm23100       | 2,371171479 | 0,52948    |
| Gm14138       | 2,370349836 | 0,17354    |
| Gm12481       | 2,369856987 | 0,0028968  |
| Rpn1l         | 2,369856987 | 0,15158    |
| 2700099C18Rik | 2,369856987 | 0,43864    |
| Pltp          | 2,367722491 | 0,00030874 |
| Gm12924       | 2,366737988 | 0,56709    |
| Plekha7       | 2,366573944 | 0,426      |
| Stxbp3        | 2,365262    | 0,1459     |
| Gapdh-ps14    | 2,365098059 | 0,4704     |
| Sgol2a        | 2,362640295 | 0,004049   |
| Dclre1a       | 2,362149049 | 0,15414    |
| 1110035H17Rik | 2,360348687 | 0,21993    |
| Rrm1          | 2,359040194 | 0,0012669  |
| P4ha1         | 2,356915441 | 0,00013088 |
| Kdm4b         | 2,356752078 | 0,036238   |
| Gm13573       | 2,356588726 | 0,36006    |
| Gm13038       | 2,355608852 | 0,18943    |
| Rpl36-ps10    | 2,354139805 | 0,0042739  |
| N4bp2         | 2,353487189 | 0,018183   |
| Troap         | 2,353487189 | 0,084152   |
| Rpl30-ps3     | 2,353324064 | 0,039447   |
| Gm10051       | 2,353160949 | 0,40594    |
| Rpl31-ps8     | 2,351856441 | 0,029653   |
| Dram1         | 2,350878535 | 0,0098813  |
| Adh5          | 2,350389735 | 0,0010081  |
| Sep 02        | 2,349575293 | 0,052231   |
| Rps23         | 2,347784514 | 0,023087   |
| Lig1          | 2,347296357 | 8,39E-05   |
| Eef1a1        | 2,343557188 | 0,1538     |
| Gm5900        | 2,343069909 | 0,54073    |
| Prr11         | 2,342258004 | 0,027291   |
| Cdkal1        | 2,340797283 | 0,02747    |
| Gm4784        | 2,340472802 | 0,15903    |
| Carhsp1       | 2,339337473 | 0,00022245 |
| Ppwd1         | 2,337878573 | 0,0031071  |
| Zg16          | 2,336096709 | 0,45484    |
| Gm15753       | 2,335610982 | 0,15586    |

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|---------------|-------------|------------|
| 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   |
| Ncoa4         | 2,329144263 | 0,42905    |
| Jund          | 2,328498576 | 0,00037066 |
| Srfbp1        | 2,328337183 | 0,0031772  |
| Ptpru         | 2,328337183 | 0,59869    |
| Trmt112       | 2,327853069 | 0,0063004  |
| 5730508B09Rik | 2,327369056 | 0,032028   |
| Pgk1          | 2,32720774  | 0,033482   |
| Rgs11         | 2,326401331 | 0,079716   |
| Kpna4         | 2,323017464 | 0,0010793  |
| Npm3-ps1      | 2,322051549 | 0,45484    |
| Gm13992       | 2,321729667 | 0,54879    |
| Hoxb6         | 2,321407829 | 0,30498    |
| Rdm1          | 2,320442583 | 0,0032179  |
| Hpse          | 2,319960111 | 0,05507    |
| Rnft2         | 2,318674008 | 0,45484    |
| Fign          | 2,318352594 | 0,52801    |
| Trim3         | 2,314017861 | 0,087712   |
| Tmem29        | 2,312574752 | 0,079716   |
| Gm12166       | 2,312254183 | 0,016572   |
| Bcl6b         | 2,309531142 | 0,6194     |
| Gm43138       | 2,309050939 | 0,19677    |
| Gm24876       | 2,305372694 | 0,42117    |
| Cks1brt       | 2,304414115 | 0,56418    |
| Nxt2          | 2,301859855 | 0,0051661  |
| Gm13498       | 2,301700308 | 0,19677    |
| 2900052L18Rik | 2,301062229 | 0,099239   |
| Cystm1        | 2,299467807 | 0,11548    |
| Gm6023        | 2,296759825 | 0,013413   |
| Gm8618        | 2,2956457   | 0,02584    |
| Fgd2          | 2,2956457   | 0,18865    |
| Gm18889       | 2,294532116 | 0,029275   |
| Trp53rkb      | 2,294373077 | 0,033251   |
| Spink10       | 2,29326011  | 0,0071875  |
| Dvl2          | 2,291512253 | 0,0010205  |
| Rpl13-ps3     | 2,291512253 | 0,25334    |
| Ift22         | 2,290718213 | 0,068697   |
| Ttc21b        | 2,289765728 | 0,085984   |
| Gm12038       | 2,289289634 | 0,091513   |
| 6820402A03Rik | 2,289130958 | 0,59601    |
| Gm5069        | 2,288972293 | 0,55324    |
| Rps23-ps2     | 2,288654996 | 0,060072   |

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|---------------|-------------|------------|
| Manba         | 2,288337743 | 0,1366     |
| Stom          | 2,286435149 | 0,0050784  |
| Mcm5          | 2,286435149 | 0,011897   |
| Tmem64        | 2,284217455 | 0,00020846 |
| RP23-159E10.1 | 2,283425942 | 0,62997    |
| Parpbp        | 2,282634704 | 0,30478    |
| Klf6          | 2,278840577 | 0,0037216  |
| Tarbp2        | 2,278524684 | 0,23916    |
| A530041M06Rik | 2,277735145 | 0,22255    |
| Gm16062       | 2,27710371  | 0,27809    |
| Hspe1         | 2,27599912  | 0,00086777 |
| Zfp87         | 2,275368167 | 0,0074164  |
| Psenen        | 2,274422065 | 0,12352    |
| Gm11989       | 2,274106785 | 0,47491    |
| Gm23127       | 2,272688565 | 0,58635    |
| Gm13340       | 2,271901048 | 0,41208    |
| Mapre2        | 2,271586117 | 0,00042395 |
| Gm3617        | 2,270956387 | 0,56937    |
| Nr2c2ap       | 2,270012119 | 0,0043929  |
| Gm4737        | 2,267181671 | 0,062278   |
| RP23-246F14.1 | 2,267181671 | 0,57341    |
| Gm13050       | 2,266553162 | 0,18943    |
| Rpl18a-ps1    | 2,265767771 | 0,072401   |
| Gm43628       | 2,26482566  | 0,29054    |
| RP24-240E7.1  | 2,264197804 | 0,12342    |
| Gm2000        | 2,263256347 | 0,018307   |
| 1110006O24Rik | 2,261374606 | 0,67948    |
| Per1          | 2,261061134 | 0,0050784  |
| Gm11625       | 2,260277646 | 0,59844    |
| Gm19353       | 2,259964327 | 0,0029179  |
| Gm5881        | 2,259181218 | 0,03559    |
| 2010111I01Rik | 2,258554927 | 0,0036399  |
| Hacd2         | 2,256677095 | 0,2358     |
| Trappc2       | 2,255269746 | 0,50864    |
| Gm8894        | 2,254957121 | 0,49966    |
| Gm7887        | 2,254488264 | 0,42012    |
| Pold1         | 2,253707053 | 0,046964   |
| Uba52         | 2,252926113 | 0,04587    |
| Nrbp2         | 2,252769958 | 0,10402    |
| Tpt1-ps5      | 2,252301556 | 0,44224    |
| E230029C05Rik | 2,251989343 | 0,31313    |
| Gm10941       | 2,251521103 | 0,38458    |
| Mcts2         | 2,251208998 | 0,11477    |
| Gm9008        | 2,251052961 | 0,30018    |
| Slc12a5       | 2,250584917 | 0,16235    |
| Oaz2          | 2,250116969 | 0,0003595  |
| RP24-370M23.1 | 2,249805059 | 0,48948    |
| Arhgap11a     | 2,248869585 | 0,0083369  |
| Gm10177       | 2,248557848 | 0,15167    |
| Gm37204       | 2,247311328 | 0,41306    |
| Gm6548        | 2,246844061 | 0,22723    |
| Comp          | 2,245909819 | 0,38259    |

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|---------------|-------------|------------|
| Ceacam16      | 2,243420406 | 0,30366    |
| Hcfc1r1       | 2,242487588 | 0,00013499 |
| Etv3          | 2,241710536 | 0,0054405  |
| Gm16253       | 2,241710536 | 0,14511    |
| Dut           | 2,240467812 | 0,0012155  |
| Rpl36         | 2,240157239 | 0,034679   |
| Pcif1         | 2,239846709 | 0,0017686  |
| Rpl5          | 2,239380994 | 0,0077945  |
| Icam4         | 2,239380994 | 0,092745   |
| Rbm4b         | 2,238139562 | 0,036605   |
| Ezh2          | 2,237829311 | 0,00080789 |
| B230219D22Rik | 2,236898818 | 0,0019958  |
| Gm12174       | 2,235813731 | 0,33099    |
| Wdr70         | 2,235038991 | 0,013696   |
| Ccdc163       | 2,235038991 | 0,024848   |
| Gm6382        | 2,234109658 | 0,63242    |
| Bcat2         | 2,233954806 | 0,032602   |
| 4930520O04Rik | 2,232716382 | 0,078433   |
| Akr1b7        | 2,232716382 | 0,25104    |
| 1700120C14Rik | 2,232097428 | 0,26058    |
| Gm15501       | 2,231788015 | 0,024001   |
| Gm23935       | 2,230396187 | 0,040084   |
| Gm12479       | 2,228078403 | 0,48164    |
| Gm37255       | 2,226380226 | 0,21002    |
| Polg2         | 2,225917311 | 0,033205   |
| Eif3m         | 2,223758315 | 0,066534   |
| Gm7867        | 2,223604181 | 0,45133    |
| E330034L11Rik | 2,221909414 | 0,036238   |
| Gm5586        | 2,221293455 | 0,22863    |
| B4galt3       | 2,220677667 | 0,00096339 |
| Samd9l        | 2,218369982 | 0,56867    |
| Gm2830        | 2,217293884 | 0,095157   |
| AA474408      | 2,217293884 | 0,35963    |
| Gm15159       | 2,216371929 | 0,3449     |
| Rps3a1        | 2,216218307 | 0,018939   |
| Ankrd52       | 2,214222191 | 0,27016    |
| Gm12933       | 2,214222191 | 0,4574     |
| Ankdd1a       | 2,214068718 | 0,53708    |
| Gm37486       | 2,212687941 | 0,54622    |
| Tusc3         | 2,212534575 | 0,0037357  |
| Sirpa         | 2,211614599 | 0,00090393 |
| Rgs9bp        | 2,210082156 | 0,63914    |
| Cfp           | 2,209316332 | 0,066744   |
| Cdkn2d        | 2,209010077 | 0,0012892  |
| Gm14040       | 2,208244625 | 0,67532    |
| Gm5121        | 2,208091567 | 0,090178   |
| Cd9           | 2,207326433 | 0,2398     |
| Tex30         | 2,207020454 | 0,032041   |
| Gm10762       | 2,206561564 | 0,29397    |
| Orc1          | 2,204574147 | 0,29464    |
| Gm28151       | 2,203199291 | 0,30783    |
| Cox16         | 2,20106233  | 0,42051    |

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|---------------|-------------|-----------|
| Mcm6          | 2,200909769 | 0,0063448 |
| 4930427A07Rik | 2,20045215  | 0,45246   |
| RP24-232D3.1  | 2,198775029 | 0,48217   |
| Gm6142        | 2,198470235 | 0,0063967 |
| Gm43200       | 2,197860774 | 0,34294   |
| Rasal1        | 2,197403789 | 0,43014   |
| Metap1d       | 2,197099185 | 0,0182    |
| Swap70        | 2,196946899 | 0,0035284 |
| Gm10863       | 2,196946899 | 0,27483   |
| F11r          | 2,196642359 | 0,090371  |
| 2610020C07Rik | 2,196490105 | 0,61019   |
| Vcpkmt        | 2,19527245  | 0,068938  |
| Rpl13         | 2,194055469 | 0,0079885 |
| Eme1          | 2,193903394 | 0,62867   |
| Traip         | 2,193599276 | 0,14892   |
| Necap1        | 2,192839164 | 0,0031812 |
| Ndufa4l2      | 2,192687173 | 0,55272   |
| Gm6285        | 2,192383223 | 0,066566  |
| Gm23346       | 2,192383223 | 0,23842   |
| A730011C13Rik | 2,192231264 | 0,57323   |
| Epha2         | 2,19177545  | 0,079484  |
| Atp11b        | 2,190256753 | 0,0039912 |
| C030015A19Rik | 2,18995314  | 0,16897   |
| Gm43813       | 2,189346041 | 0,25471   |
| Al480526      | 2,188587403 | 0,23914   |
| Gm44913       | 2,187525751 | 0,11047   |
| Gm7899        | 2,186161527 | 0,18063   |
| Sik2          | 2,182527754 | 0,035574  |
| 2900076A07Rik | 2,182225212 | 0,079716  |
| Dhx9          | 2,181922713 | 0,051332  |
| Tmem170b      | 2,180713133 | 0,034993  |
| Gm43696       | 2,180561983 | 0,18571   |
| 1500011K16Rik | 2,180259714 | 0,049944  |
| Gm45184       | 2,180259714 | 0,071079  |
| Kdm4c         | 2,179957487 | 0,18287   |
| H2afv         | 2,179051056 | 0,0050531 |
| Nucb1         | 2,178748997 | 0,0005292 |
| Rps27         | 2,178446979 | 0,04168   |
| Mocs1         | 2,178446979 | 0,11858   |
| Hip1r         | 2,178446979 | 0,34196   |
| Hist2h2be     | 2,177994031 | 0,00655   |
| Cenpx         | 2,177541177 | 0,028702  |
| Pex5          | 2,177390246 | 0,20418   |
| Calm3         | 2,176786629 | 0,0013254 |
| Gm37219       | 2,176484883 | 0,50559   |
| Polh          | 2,174524555 | 0,44737   |
| Ppp1r35       | 2,173469725 | 0,33197   |
| Kat2b         | 2,173319077 | 0,065206  |
| Gm5124        | 2,172264832 | 0,57287   |
| AC133103.1    | 2,170609194 | 0,021596  |
| Gm12912       | 2,169857048 | 0,37187   |
| Gtpbp2        | 2,169556263 | 0,12793   |

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|---------------|-------------|------------|
| Pttg1         | 2,16925552  | 0,0086124  |
| Rps8-ps3      | 2,16925552  | 0,25822    |
| Dleu2         | 2,169105163 | 0,098994   |
| Zfp949        | 2,168804482 | 0,11824    |
| Gm12005       | 2,168804482 | 0,52619    |
| Ndfip1        | 2,168654158 | 0,066326   |
| 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 |
| Gm8599        | 2,164299266 | 0,13618    |
| 1700020D05Rik | 2,164299266 | 0,39434    |
| Usp26         | 2,164299266 | 0,54338    |
| Znrf3         | 2,164149253 | 0,15791    |
| Gins3         | 2,163999251 | 0,0072601  |
| Gm12816       | 2,163849259 | 0,12978    |
| Slc16a10      | 2,162649699 | 0,0043065  |
| Pfkip         | 2,162499801 | 0,0020277  |
| Uimc1         | 2,161450804 | 0,0047297  |
| Gon7          | 2,160252574 | 0,004704   |
| 9330175E14Rik | 2,15995312  | 0,30532    |
| Upf2          | 2,159803408 | 0,0036456  |
| Pygl          | 2,158456473 | 0,085783   |
| Ckap2l        | 2,157409437 | 0,034993   |
| Gm9790        | 2,156512383 | 0,01179    |
| Gm12944       | 2,1551675   | 0,36975    |
| Rps15a-ps4    | 2,154420705 | 0,42597    |
| Fam26f        | 2,153524893 | 0,46681    |
| Gm20186       | 2,152927892 | 0,34171    |
| Man1a         | 2,15248025  | 0,04929    |
| Gm20091       | 2,1520327   | 0,59209    |
| 4921531C22Rik | 2,151734386 | 0,36182    |
| Gm9354        | 2,151436113 | 0,6043     |
| Wdcp          | 2,150690611 | 0,068642   |
| Pate2         | 2,150690611 | 0,31259    |
| Map3k9        | 2,149200383 | 0,16897    |
| Lmnbl         | 2,14860458  | 0,0086606  |
| Gm10110       | 2,148306741 | 0,13312    |
| Osbpl3        | 2,147115797 | 0,010189   |
| Trmt13        | 2,146966976 | 0,017869   |
| Izumo4        | 2,146371792 | 0,27691    |
| Gm10076       | 2,145479327 | 0,00771    |
| E130317F20Rik | 2,144884556 | 0,27016    |
| Gm42986       | 2,143844104 | 0,12025    |
| Gemin4        | 2,14295269  | 0,32799    |
| Snx13         | 2,141616263 | 0,035672   |
| Lum           | 2,141467823 | 0,63602    |
| Rpl26         | 2,141319393 | 0,02542    |
| Rapgef5       | 2,141319393 | 0,093675   |
| Gm7504        | 2,139094176 | 0,20021    |

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|---------------|-------------|------------|
| Fcor          | 2,138352951 | 0,4823     |
| Gm37399       | 2,137908339 | 0,34072    |
| Ubb           | 2,13746382  | 0,004049   |
| C3            | 2,13746382  | 0,57811    |
| Fzd5          | 2,135982756 | 0,047664   |
| Gm45248       | 2,135686666 | 0,33357    |
| Gm13886       | 2,135390618 | 0,16518    |
| Lbr           | 2,135242609 | 0,00066456 |
| Hax1          | 2,134206834 | 0,44027    |
| Glt1d1        | 2,133910991 | 0,41343    |
| Gm2788        | 2,133171562 | 0,48101    |
| Timeless      | 2,132875862 | 0,36101    |
| Gm44953       | 2,131693472 | 0,68982    |
| Emc10         | 2,130954811 | 0,010153   |
| Gm11930       | 2,130659419 | 0,26925    |
| Gm13204       | 2,130659419 | 0,4704     |
| Umad1         | 2,129330659 | 0,17458    |
| RP23-114G13.7 | 2,128445279 | 0,10928    |
| Gm8508        | 2,128445279 | 0,51404    |
| Mif           | 2,128002728 | 0,021747   |
| Oas1b         | 2,127855231 | 0,45309    |
| Tmed8         | 2,126823039 | 0,081884   |
| Ska3          | 2,126675624 | 0,19618    |
| Rab10os       | 2,126233441 | 0,0033485  |
| Gm7353        | 2,125938702 | 0,53886    |
| Dusp4         | 2,125791349 | 0,0046974  |
| Gm15420       | 2,125202036 | 0,57008    |
| Prelid1       | 2,124907441 | 0,0023588  |
| Gm6457        | 2,124171132 | 0,2388     |
| Gm11942       | 2,123876679 | 0,070564   |
| Chchd6        | 2,122993568 | 0,023637   |
| Cldnd1        | 2,122110823 | 0,055468   |
| Skp2          | 2,121816656 | 0,03266    |
| Zcwpw1        | 2,120934401 | 0,30204    |
| Hist1h2aa     | 2,120346435 | 0,39317    |
| Gm43061       | 2,119170991 | 0,44554    |
| 4930430E12Rik | 2,116381923 | 0,20279    |
| Scp2-ps2      | 2,115795218 | 0,38481    |
| Dnajb1        | 2,115501927 | 0,03768    |
| Rad51         | 2,113010593 | 0,21081    |
| Snord65       | 2,112864136 | 0,34351    |
| Pcsk7         | 2,112424823 | 0,051543   |
| Rps13-ps5     | 2,112132    | 0,36082    |
| Gm45223       | 2,111839216 | 0,057222   |
| Gm8818        | 2,111107435 | 0,62854    |
| Fbxo33        | 2,110083368 | 0,024283   |
| H60b          | 2,108475123 | 0,0034633  |
| Gm14239       | 2,10730626  | 0,20437    |
| Mapk6         | 2,107160198 | 0,0042139  |
| Gm15013       | 2,10540824  | 0,38176    |
| Man2b2        | 2,104095228 | 0,10508    |
| Cdc20         | 2,103949388 | 0,016454   |

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|--------------|-------------|------------|
| Plekha1      | 2,103803558 | 0,0023594  |
| Tmx4         | 2,103657739 | 0,00049873 |
| Rps2-ps5     | 2,101180353 | 0,41747    |
| Rpl3         | 2,100597863 | 0,13423    |
| Rps6ka5      | 2,098560419 | 0,14682    |
| Gm15007      | 2,098414963 | 0,64773    |
| Gng5         | 2,097542438 | 0,099202   |
| Rpsa-ps2     | 2,097251677 | 0,50853    |
| Gm37678      | 2,09347545  | 0,48059    |
| Rps12-ps1    | 2,09347545  | 0,56989    |
| Gm13827      | 2,092750033 | 0,1366     |
| Gm44836      | 2,092459936 | 0,64224    |
| Gm8909       | 2,091010056 | 0,49072    |
| Vezt         | 2,090285493 | 0,03266    |
| Rasgrp4      | 2,09014061  | 0,27372    |
| Mynn         | 2,089995738 | 0,031478   |
| Gem          | 2,088837119 | 0,53258    |
| Srsf1        | 2,087679143 | 0,028418   |
| Gm44791      | 2,087534441 | 0,52999    |
| Gm43148      | 2,087389749 | 0,47658    |
| Rpl17        | 2,08666644  | 0,040534   |
| Rpl27a-ps2   | 2,08666644  | 0,34351    |
| Rpsa         | 2,086377187 | 0,0049735  |
| Gm4374       | 2,086087974 | 0,2373     |
| Gm8292       | 2,084931522 | 0,06172    |
| Atp9a        | 2,08478701  | 0,01291    |
| Gm5239       | 2,084209065 | 0,44806    |
| Scel         | 2,084064603 | 0,188      |
| G6pc3        | 2,083631279 | 0,021129   |
| Arhgap27os2  | 2,083486858 | 0,046587   |
| Grcc10       | 2,083342447 | 0,46533    |
| Sgk1         | 2,082187517 | 0,19937    |
| Gm7847       | 2,080744754 | 0,44377    |
| RP24-84C23.4 | 2,079735416 | 0,048447   |
| Pcna         | 2,07915887  | 0,038355   |
| Lin52        | 2,078438414 | 0,36266    |
| Fam76b       | 2,078294352 | 0,02172    |
| Gm12267      | 2,078006259 | 0,36294    |
| Leng8        | 2,075415221 | 0,16413    |
| Gm37558      | 2,074264685 | 0,25674    |
| AA465934     | 2,072827413 | 0,15595    |
| Gm9835       | 2,070673371 | 0,37735    |
| Akap10       | 2,069955854 | 0,097969   |
| Itgal        | 2,068808345 | 0,091401   |
| Ak4          | 2,067518158 | 0,0059086  |
| Gm6525       | 2,067518158 | 0,44171    |
| St6galnac6   | 2,067374854 | 0,008649   |
| Spry2        | 2,06608556  | 0,33957    |
| Gm10784      | 2,06608556  | 0,61019    |
| Aoc2         | 2,064940197 | 0,14717    |
| Rps13        | 2,064797071 | 0,050553   |
| Cdca5        | 2,063652422 | 0,15114    |

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|---------------|-------------|------------|
| Ccdc33        | 2,063652422 | 0,48059    |
| Gm27605       | 2,063223342 | 0,25585    |
| Gng8          | 2,062079565 | 0,65191    |
| Pcgf1         | 2,06179372  | 0,29054    |
| Nrap          | 2,060936422 | 0,57811    |
| Tcf19         | 2,060936422 | 0,59404    |
| 5330438D12Rik | 2,059365636 | 0,37084    |
| Gt(ROSA)26Sor | 2,058794738 | 0,021556   |
| Psat1         | 2,058081337 | 0,00084757 |
| Syt11         | 2,057796046 | 0,01268    |
| Rpl18         | 2,057796046 | 0,018712   |
| Gm37407       | 2,056227653 | 0,27555    |
| B9d1          | 2,055800117 | 0,44326    |
| Gm13815       | 2,054945312 | 0,29569    |
| C330006A16Rik | 2,054518042 | 0,014558   |
| Calm1         | 2,054233245 | 0,00024409 |
| Gm6085        | 2,053948488 | 0,0050344  |
| 9130024F11Rik | 2,053094452 | 0,27939    |
| C920021L13Rik | 2,052525293 | 0,035083   |
| Gm16580       | 2,051956291 | 0,020505   |
| Cenpe         | 2,05124526  | 0,0042989  |
| Rps24         | 2,050676613 | 0,0075506  |
| Rab27a        | 2,050108123 | 0,06858    |
| Rps3a2        | 2,049539792 | 0,55857    |
| Gm5835        | 2,048971617 | 0,26751    |
| Gm9294        | 2,048829598 | 0,36463    |
| Gm26533       | 2,048687589 | 0,52909    |
| Inafm1        | 2,047977691 | 0,015968   |
| Gm8326        | 2,04740995  | 0,74017    |
| Chka          | 2,047126138 | 0,033482   |
| Esr1          | 2,044998805 | 0,64683    |
| Gys1          | 2,044715327 | 0,0053968  |
| Bco2          | 2,043581811 | 0,39113    |
| Clcn2         | 2,043440165 | 0,68705    |
| Cbx5          | 2,043015288 | 0,0051344  |
| Pnn           | 2,041599669 | 0,003761   |
| Gm6394        | 2,041599669 | 0,080303   |
| Cd48          | 2,041458161 | 0,46245    |
| Gm42786       | 2,041458161 | 0,74833    |
| Coprs         | 2,040750768 | 0,028418   |
| Lysmd3        | 2,04032645  | 0,14115    |
| Vps51         | 2,039760829 | 0,038355   |
| Gm7079        | 2,039054025 | 0,57941    |
| 2810408I11Rik | 2,038771371 | 0,52372    |
| Slc19a2       | 2,037923646 | 0,29096    |
| Gm38375       | 2,037076274 | 0,61119    |
| Tbc1d30       | 2,037076274 | 0,71308    |
| Gm8228        | 2,035946992 | 0,44631    |
| Gm6768        | 2,035241509 | 0,63672    |
| Gpr137b-ps    | 2,034677298 | 0,039162   |
| Gm5093        | 2,034395252 | 0,36754    |
| Gm4859        | 2,034113244 | 0,2057     |

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|---------------|-------------|-----------|
| Tbx6          | 2,033972255 | 0,44292   |
| St5           | 2,033690306 | 0,66877   |
| Klkb1         | 2,032844694 | 0,50282   |
| Gm19028       | 2,032703793 | 0,65447   |
| Rmnd5a        | 2,032562902 | 0,19008   |
| Cdc25c        | 2,032562902 | 0,53371   |
| Gm44187       | 2,03242202  | 0,47351   |
| B230217C12Rik | 2,032281148 | 0,17573   |
| Lnpep         | 2,032140286 | 0,084139  |
| Gm43420       | 2,031999434 | 0,55544   |
| Gm24009       | 2,028903151 | 0,57341   |
| Rpl21-ps14    | 2,028621905 | 0,53069   |
| Gm20072       | 2,028059529 | 0,12455   |
| Gm11363       | 2,026794754 | 0,44292   |
| Gm42559       | 2,025249989 | 0,65813   |
| Gm15464       | 2,024828894 | 0,041837  |
| Cenpp         | 2,024688549 | 0,25944   |
| Gm43343       | 2,024688549 | 0,34742   |
| Snrpc         | 2,02300516  | 0,22449   |
| Gna12         | 2,022724732 | 0,060888  |
| Gm10138       | 2,022163991 | 0,072107  |
| Coa6          | 2,022163991 | 0,34948   |
| Ulbp1         | 2,021743538 | 0,020419  |
| Gm11970       | 2,021042976 | 0,05507   |
| Gm1976        | 2,020902893 | 0,26507   |
| St3gal4       | 2,020482702 | 0,055468  |
| Gm17786       | 2,020062598 | 0,57854   |
| Rps19-ps9     | 2,019502595 | 0,41474   |
| Nexn          | 2,019082695 | 0,26128   |
| Snx32         | 2,018103268 | 0,56638   |
| Gm37962       | 2,016984504 | 0,63519   |
| Klhl28        | 2,014748836 | 0,12186   |
| Gm11249       | 2,014190307 | 0,44377   |
| C630004M23Rik | 2,012515647 | 0,69092   |
| D030056L22Rik | 2,0120972   | 0,016091  |
| Gas2          | 2,0120972   | 0,57613   |
| 1700124L16Rik | 2,011539405 | 0,25149   |
| Med30         | 2,011539405 | 0,35255   |
| Ctdspl2       | 2,010284933 | 0,041965  |
| Dock1         | 2,010006268 | 0,21654   |
| Mastl         | 2,009309773 | 0,23492   |
| Sec24a        | 2,00861352  | 0,038746  |
| 4933404O12Rik | 2,008474298 | 0,11767   |
| Papd5         | 2,007500017 | 0,076359  |
| Gm35931       | 2,007360873 | 0,41818   |
| Raph1         | 2,006109006 | 0,16264   |
| Ccdc15        | 2,005413862 | 0,14916   |
| Rusc2         | 2,005413862 | 0,22014   |
| Gm37303       | 2,004857921 | 0,63015   |
| Cnnm2         | 2,004441065 | 0,18633   |
| Tor1aip2      | 2,004024297 | 0,0057994 |
| Nnt           | 2,002358089 | 0,018528  |

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|---------------|-------------|-----------|
| Rell1         | 2,000693267 | 0,019642  |
| Kif24         | 2,000138634 | 0,5061    |
| Sh3bgrl2      | 1,999861375 | 0,01247   |
| Gm10335       | 1,999029829 | 0,39624   |
| Rrh           | 1,998337138 | 0,61818   |
| Ppia          | 1,996398881 | 0,34584   |
| Gm14620       | 1,996260506 | 0,016702  |
| Gm5384        | 1,99612214  | 0,45078   |
| Pcbp4         | 1,995707101 | 0,12882   |
| Suv39h1       | 1,995292149 | 0,092993  |
| Rps15a-ps7    | 1,995153851 | 0,45485   |
| Rpl34-ps1     | 1,994877283 | 0,66146   |
| Egln1         | 1,994739013 | 0,0065599 |
| Dis3          | 1,994600753 | 0,15903   |
| Tcf20         | 1,994462503 | 0,016821  |
| Gm19898       | 1,993633202 | 0,29647   |
| Gm37482       | 1,99321868  | 0,65946   |
| RP24-365N15.9 | 1,992804245 | 0,7377    |
| Cnih1         | 1,991975634 | 0,016322  |
| Kif14         | 1,99018149  | 0,11471   |
| 1810037I17Rik | 1,989905611 | 0,12569   |
| Gm14650       | 1,989767686 | 0,69949   |
| Gm43006       | 1,989491865 | 0,48775   |
| Ints8         | 1,988664631 | 0,14152   |
| Ddx20         | 1,98783774  | 0,052658  |
| Ln timer      | 1,986460354 | 0,11878   |
| Gm5869        | 1,984808749 | 0,55903   |
| Ap1s3         | 1,984396063 | 0,047543  |
| 5430434F05Rik | 1,983295985 | 0,6043    |
| Gm15210       | 1,982883613 | 0,01958   |
| Nusap1        | 1,981097659 | 0,037288  |
| Otud1         | 1,980273915 | 0,51836   |
| Gm9938        | 1,979587723 | 0,5126    |
| Snhg8         | 1,979313313 | 0,16409   |
| Gm45873       | 1,977667651 | 0,65594   |
| Gm11652       | 1,977256449 | 0,67532   |
| Rassf3        | 1,976982362 | 0,087769  |
| Ints4         | 1,976982362 | 0,18225   |
| BC055324      | 1,975886394 | 0,045186  |
| B930086L07Rik | 1,974654157 | 0,14632   |
| Rbm48         | 1,973559479 | 0,09547   |
| Sertad1       | 1,973422687 | 0,10763   |
| Gm10923       | 1,972465409 | 0,41224   |
| Tmco3         | 1,972191986 | 0,11706   |
| Cmtm4         | 1,972055289 | 0,060168  |
| Gm26782       | 1,972055289 | 0,27806   |
| Prkx          | 1,971918601 | 0,067129  |
| Gm5944        | 1,971781923 | 0,66175   |
| Dubr          | 1,971508595 | 0,14263   |
| Gm13680       | 1,970962052 | 0,52102   |
| Gm6451        | 1,970688838 | 0,33099   |
| Gm10275       | 1,969323334 | 0,046793  |

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|---------------|-------------|-----------|
| Gm10131       | 1,968095189 | 0,34491   |
| Gm43721       | 1,967549593 | 0,65429   |
| Gpn2          | 1,967140495 | 0,44131   |
| Nup153        | 1,967004148 | 0,076699  |
| Rsrc2         | 1,96686781  | 0,0058497 |
| Rps10-ps2     | 1,96577745  | 0,19157   |
| Ifnar1        | 1,96536872  | 0,076142  |
| 3110045C21Rik | 1,96482388  | 0,7085    |
| Rpl17-ps4     | 1,964551516 | 0,57613   |
| Rps6-ps1      | 1,964415349 | 0,19417   |
| 4930503L19Rik | 1,964279191 | 0,043504  |
| Btaf1         | 1,96346244  | 0,13008   |
| 2610203C22Rik | 1,963054192 | 0,1394    |
| Tial1         | 1,962918128 | 0,017954  |
| Rnps1         | 1,962373967 | 0,14428   |
| Gm43088       | 1,962373967 | 0,46821   |
| Hdac1         | 1,961558008 | 0,40582   |
| Rpl15         | 1,961422048 | 0,048648  |
| Gm6450        | 1,961150156 | 0,79919   |
| Gm43329       | 1,959927108 | 0,36403   |
| Pth1r         | 1,959791261 | 0,63954   |
| lft172        | 1,959655424 | 0,075175  |
| RP24-82M14.1  | 1,959655424 | 0,70525   |
| RP24-225A16.3 | 1,959247967 | 0,19741   |
| Metrn         | 1,958704823 | 0,079484  |
| Gm38235       | 1,958433308 | 0,81031   |
| Fam134c       | 1,958297565 | 0,1394    |
| Asf1a         | 1,95626254  | 0,031127  |
| Cd300c2       | 1,955584669 | 0,043459  |
| Gm9385        | 1,95504254  | 0,01251   |
| Gm7964        | 1,954365092 | 0,39862   |
| Rbfox1        | 1,954094178 | 0,47708   |
| Pthr1         | 1,953281662 | 0,037804  |
| Etv5          | 1,953281662 | 0,22909   |
| Gm37598       | 1,952875531 | 0,58909   |
| Gm6378        | 1,952604824 | 0,41153   |
| Gm24507       | 1,952604824 | 0,73216   |
| Sh2d5         | 1,951657644 | 0,20872   |
| Pam16         | 1,951657644 | 0,46681   |
| RP24-547N4.7  | 1,950170146 | 0,69934   |
| Dtymk         | 1,949629519 | 0,036655  |
| Spc25         | 1,949494386 | 0,09547   |
| Gm8825        | 1,949494386 | 0,7377    |
| Nudt19        | 1,948413656 | 0,082824  |
| Nr4a1         | 1,948143567 | 0,42876   |
| Sf3b1         | 1,947468509 | 0,0072795 |
| Gm45380       | 1,946119095 | 0,38267   |
| Rps15a        | 1,943153673 | 0,0096098 |
| Fmr1          | 1,942884313 | 0,022363  |
| 0610009O20Rik | 1,942614991 | 0,10844   |
| Lamc1         | 1,942480344 | 0,050226  |
| Gm7285        | 1,942480344 | 0,57722   |

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|---------------|-------------|-----------|
| Gm37519       | 1,942480344 | 0,71681   |
| Gm45716       | 1,942076459 | 0,50125   |
| C630043F03Rik | 1,942076459 | 0,64141   |
| Lncpint       | 1,938445266 | 0,31793   |
| Rpl31-ps22    | 1,938176559 | 0,70847   |
| Cbx4          | 1,937639257 | 0,077766  |
| Zbtb34        | 1,937370662 | 0,21078   |
| Wdr20         | 1,937102104 | 0,12597   |
| Coro1a        | 1,936430872 | 0,11767   |
| Kif20a        | 1,936296653 | 0,21411   |
| 4930579K19Rik | 1,935894054 | 0,73638   |
| Arntl         | 1,935759872 | 0,089069  |
| Gm11605       | 1,934150422 | 0,73519   |
| RP24-389J11.1 | 1,932810236 | 0,059337  |
| Gm6419        | 1,93254231  | 0,75269   |
| Gm44168       | 1,932274421 | 0,66877   |
| Fam13b        | 1,931738755 | 0,08793   |
| Syne3         | 1,931203238 | 0,044146  |
| Id2           | 1,929330096 | 0,062183  |
| Fam162a       | 1,928527877 | 0,013463  |
| RP24-496O17.7 | 1,928527877 | 0,66186   |
| 1110008P14Rik | 1,927993249 | 0,05995   |
| Gm24951       | 1,927325173 | 0,041999  |
| Gm8213        | 1,927191586 | 0,079318  |
| Ankzf1        | 1,926390256 | 0,11517   |
| Pdlim7        | 1,925722736 | 0,26193   |
| Hn1l          | 1,92558926  | 0,267     |
| Tmem132a      | 1,925188886 | 0,26183   |
| Dock2         | 1,924388389 | 0,1127    |
| Gm10086       | 1,924255005 | 0,033351  |
| Tdp2          | 1,924255005 | 0,057143  |
| Etfdh         | 1,923188268 | 0,12107   |
| Gnas          | 1,922521857 | 0,041802  |
| Mkrn2         | 1,922521857 | 0,11023   |
| Fam83a        | 1,922255357 | 0,44494   |
| RP24-316F13.7 | 1,922122121 | 0,72161   |
| Spp1          | 1,921855677 | 0,19667   |
| Osbpl1a       | 1,921189728 | 0,25515   |
| Unc5b         | 1,921056566 | 0,56943   |
| 2410004B18Rik | 1,920790269 | 0,096102  |
| Epsti1        | 1,920257787 | 0,17947   |
| A330023F24Rik | 1,919725452 | 0,30622   |
| Ncapd2        | 1,918794222 | 0,086213  |
| Anp32a        | 1,918661226 | 0,0076625 |
| RP23-390D8.2  | 1,918262293 | 0,50282   |
| Dcp2          | 1,917996383 | 0,013465  |
| RP23-115A18.3 | 1,917996383 | 0,49459   |
| Cln6          | 1,917331772 | 0,021046  |
| Rpl18-ps1     | 1,916800248 | 0,065836  |
| Gm26384       | 1,91666739  | 0,05214   |
| Sptbn4        | 1,91666739  | 0,3512    |
| Tbc1d10a      | 1,916534542 | 0,064161  |

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|---------------|-------------|----------|
| Serpinf1      | 1,916003239 | 0,72296  |
| Gm5614        | 1,915870436 | 0,39862  |
| Gm43511       | 1,915870436 | 0,47556  |
| Snora17       | 1,915737643 | 0,58126  |
| Rasa4         | 1,915206561 | 0,03175  |
| Pgf           | 1,915206561 | 0,4404   |
| Pcnp          | 1,913348935 | 0,11497  |
| Fis1          | 1,912818515 | 0,075193 |
| Gm23639       | 1,912685934 | 0,70493  |
| Polr2d        | 1,911890635 | 0,25975  |
| Gm16046       | 1,911890635 | 0,55478  |
| Abca1         | 1,911625609 | 0,25047  |
| Mfsd7a        | 1,910565873 | 0,55857  |
| Gm10689       | 1,910168623 | 0,081751 |
| Gm15575       | 1,910168623 | 0,59113  |
| Hs3st3b1      | 1,910168623 | 0,61019  |
| Fdps          | 1,910036225 | 0,12394  |
| RP24-366E11.4 | 1,909771456 | 0,40182  |
| Gm36964       | 1,908977369 | 0,39434  |
| Mpc1          | 1,908315883 | 0,73379  |
| Tpra1         | 1,908183613 | 0,05162  |
| Rgs14         | 1,90646494  | 0,23685  |
| Rpl21-ps1     | 1,906332798 | 0,86949  |
| Gm6266        | 1,905672228 | 0,69011  |
| Gm44093       | 1,905408064 | 0,84036  |
| Gm12444       | 1,905275996 | 0,63554  |
| Rpl14-ps1     | 1,904615792 | 0,03734  |
| Gm21057       | 1,904615792 | 0,62417  |
| Gm12504       | 1,904087794 | 0,57808  |
| Gm9165        | 1,904087794 | 0,61019  |
| Nfatc2        | 1,903559942 | 0,096295 |
| Rad52         | 1,902768438 | 0,10241  |
| Gm12468       | 1,902636553 | 0,72663  |
| Fgfr1op       | 1,901449996 | 0,025892 |
| Lmf2          | 1,901449996 | 0,096469 |
| Fem1c         | 1,901318202 | 0,036739 |
| Rnf7          | 1,900791118 | 0,059873 |
| Npm3          | 1,900791118 | 0,1762   |
| Rpl9-ps6      | 1,90026418  | 0,089487 |
| Gm561         | 1,899869072 | 0,25897  |
| Cox19         | 1,899737388 | 0,072427 |
| Intu          | 1,899079103 | 0,49236  |
| Gigyf1        | 1,898947474 | 0,1394   |
| Espl1         | 1,898157888 | 0,28292  |
| Ccnj          | 1,898157888 | 0,41475  |
| Entpd1        | 1,897894766 | 0,38146  |
| Rpsa-ps12     | 1,896974125 | 0,35434  |
| Gm12693       | 1,896842641 | 0,23068  |
| Plekhh3       | 1,896711166 | 0,16218  |
| Gm15446       | 1,896316797 | 0,44171  |
| A430035B10Rik | 1,896185359 | 0,82231  |
| Gm8667        | 1,895134182 | 0,62867  |

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| Clec10a       | 1,894608812 | 0,14812   |
| Spns1         | 1,894214881 | 0,080765  |
| Gm17690       | 1,893033576 | 0,50189   |
| Gm43775       | 1,892771164 | 0,35527   |
| Tspan32       | 1,892639972 | 0,82297   |
| Gm12248       | 1,892508789 | 0,73628   |
| Triobp        | 1,892246449 | 0,27691   |
| Gm10327       | 1,892246449 | 0,56795   |
| Pfdn5         | 1,892115293 | 0,0070043 |
| Gm19196       | 1,892115293 | 0,35037   |
| Pou6f2        | 1,892115293 | 0,95632   |
| Gins1         | 1,89172188  | 0,47197   |
| Fiz1          | 1,89145965  | 0,22051   |
| Ddx43         | 1,890804234 | 0,123     |
| 2810403A07Rik | 1,890673177 | 0,089069  |
| Plk4          | 1,890673177 | 0,27428   |
| Mxi1          | 1,890542131 | 0,016244  |
| Cmtm7         | 1,888708427 | 0,080965  |
| Uevld         | 1,887661395 | 0,20391   |
| Rpl39         | 1,887138097 | 0,18858   |
| Nectin4       | 1,886745718 | 0,73767   |
| Fam126b       | 1,885961206 | 0,037457  |
| Mbd4          | 1,885830485 | 0,14906   |
| Gm2214        | 1,885699774 | 0,45092   |
| Gm5745        | 1,885438379 | 0,41198   |
| Snord55       | 1,885438379 | 0,65106   |
| Gm6159        | 1,884785049 | 0,1048    |
| Klf2          | 1,884785049 | 0,30366   |
| Ssfa2         | 1,884131945 | 0,082558  |
| Gm11686       | 1,884131945 | 0,46421   |
| Clic4         | 1,883479068 | 0,041213  |
| Pabpc1l       | 1,883479068 | 0,075781  |
| Zfand5        | 1,882826417 | 0,036739  |
| Nck1          | 1,882304459 | 0,089348  |
| Sp140         | 1,882043534 | 0,15362   |
| Gm6305        | 1,881652215 | 0,59869   |
| Pkmyt1        | 1,881521793 | 0,58126   |
| Epm2a         | 1,880218074 | 0,27333   |
| Creld2        | 1,879957438 | 0,13777   |
| H2-DMb1       | 1,879696839 | 0,26925   |
| Nop56         | 1,879436276 | 0,049904  |
| Mettl23       | 1,879436276 | 0,28872   |
| Gm17150       | 1,879045498 | 0,71151   |
| Socs2         | 1,878394384 | 0,73803   |
| Nop10         | 1,878134001 | 0,016327  |
| Matr3-ps2     | 1,876312332 | 0,56748   |
| C920009B18Rik | 1,876182281 | 0,18797   |
| Tet2          | 1,875662165 | 0,1224    |
| Cenpu         | 1,875142193 | 0,51987   |
| Dennd4a       | 1,875012222 | 0,037381  |
| Gm8172        | 1,87345328  | 0,64254   |
| Copz2         | 1,873193582 | 0,52477   |

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| Gm14292       | 1,872544495 | 0,53557  |
| Pabpc4        | 1,872284923 | 0,054164 |
| Gm37677       | 1,872155151 | 0,61162  |
| Fbl           | 1,871636151 | 0,11755  |
| Igf1          | 1,871506424 | 0,036433 |
| Adamts10      | 1,870857921 | 0,16413  |
| Gm11675       | 1,870209644 | 0,38176  |
| Scarna17      | 1,86904331  | 0,56419  |
| Tnfrsf14      | 1,868654694 | 0,77396  |
| Rpl23a-ps5    | 1,868136664 | 0,4695   |
| Topbp1        | 1,866971624 | 0,084152 |
| Gpcpd1        | 1,86684222  | 0,15342  |
| D8ErtD738e    | 1,866454061 | 0,029228 |
| Gm7561        | 1,866324693 | 0,57613  |
| Gm12276       | 1,866195333 | 0,75791  |
| Ccsap         | 1,866065983 | 0,39498  |
| Rpl31-ps1     | 1,865548671 | 0,35434  |
| Mcm10         | 1,864643721 | 0,53678  |
| 4833417C18Rik | 1,863351696 | 0,56748  |
| Gm23502       | 1,863222543 | 0,76744  |
| Tcte2         | 1,863093399 | 0,56877  |
| Gm7600        | 1,863093399 | 0,6881   |
| Kpna3         | 1,862964264 | 0,030892 |
| Dalrd3        | 1,861673403 | 0,22723  |
| Gm6204        | 1,861286319 | 0,11234  |
| Ahdc1         | 1,861286319 | 0,1648   |
| Amn1          | 1,86012555  | 0,18571  |
| Lsm12         | 1,859738788 | 0,10817  |
| Cep44         | 1,85922323  | 0,18762  |
| Sec22c        | 1,858836656 | 0,27417  |
| UbalD2        | 1,858707816 | 0,16689  |
| Gm4525        | 1,858063748 | 0,41976  |
| Cntrob        | 1,857162429 | 0,35149  |
| Lyst          | 1,857033705 | 0,11744  |
| Ugcg          | 1,856904989 | 0,16841  |
| 9130604C24Rik | 1,856776283 | 0,72696  |
| Gm37522       | 1,856261547 | 0,76364  |
| Btbd1         | 1,856132885 | 0,065555 |
| Nsa2          | 1,854075509 | 0,354    |
| Rbx1          | 1,853946998 | 0,017665 |
| Gtf2h5        | 1,853818497 | 0,012019 |
| Gm15772       | 1,853690005 | 0,15059  |
| Usp1          | 1,853433046 | 0,04299  |
| Bcl6          | 1,85240557  | 0,076632 |
| Dpysl2        | 1,851635336 | 0,10374  |
| Cbwd1         | 1,850737135 | 0,29226  |
| RP23-55A6.4   | 1,850737135 | 0,73411  |
| Cd47          | 1,850095829 | 0,019139 |
| Stard4        | 1,84983937  | 0,053638 |
| Vkorc1        | 1,849070203 | 0,083512 |
| Kpnb1         | 1,84894204  | 0,11052  |
| Rnf145        | 1,848557603 | 0,012831 |

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| Efr3b         | 1,847276724 | 0,19802  |
| Gm6134        | 1,847276724 | 0,47164  |
| Snrpg         | 1,846764621 | 0,069568 |
| Rpl35a        | 1,846764621 | 0,34224  |
| Rhoc          | 1,846124693 | 0,01093  |
| Vps8          | 1,846124693 | 0,30544  |
| 2810002D19Rik | 1,845612909 | 0,77859  |
| Nacc1         | 1,845229164 | 0,10919  |
| Ilf2          | 1,844717629 | 0,090178 |
| Taf5          | 1,84407841  | 0,31516  |
| Map3k2        | 1,843183874 | 0,096216 |
| Cops7a        | 1,843183874 | 0,25173  |
| Ift57         | 1,843056119 | 0,047531 |
| Cep128        | 1,843056119 | 0,50603  |
| Gm9484        | 1,842928372 | 0,67701  |
| Qk            | 1,842417475 | 0,037999 |
| Snord35a      | 1,841651394 | 0,61179  |
| Gm8250        | 1,841396105 | 0,82115  |
| Gm4997        | 1,840758036 | 0,039916 |
| Rps24-ps3     | 1,840120189 | 0,079196 |
| Snx25         | 1,840120189 | 0,52801  |
| Gm43524       | 1,840120189 | 0,66832  |
| Camta1        | 1,839865112 | 0,18712  |
| MacroD2       | 1,839355063 | 0,40722  |
| Gm43466       | 1,839227573 | 0,82231  |
| Stil          | 1,838462819 | 0,45527  |
| Prdx4         | 1,836934265 | 0,054281 |
| Cmpk1         | 1,836934265 | 0,092533 |
| Clspn         | 1,836425029 | 0,29801  |
| Ovgp1         | 1,836043195 | 0,50178  |
| Lsm14a        | 1,835915934 | 0,061641 |
| Mrpl42        | 1,835534206 | 0,042745 |
| Neurl1b       | 1,833753857 | 0,070212 |
| Gm7117        | 1,833118436 | 0,46492  |
| Ilf3          | 1,832356222 | 0,19674  |
| Anxa1         | 1,831467373 | 0,50806  |
| Capza1        | 1,830578955 | 0,37341  |
| 5430421F17Rik | 1,829690968 | 0,82752  |
| Gm28187       | 1,829564148 | 0,59557  |
| Arrdc4        | 1,829310534 | 0,043869 |
| Papd4         | 1,829310534 | 0,51898  |
| Gm16177       | 1,828930179 | 0,71425  |
| Fam46a        | 1,828676653 | 0,15844  |
| Gm9392        | 1,828423162 | 0,43874  |
| Zfand2a       | 1,827536221 | 0,089069 |
| Rad9a         | 1,827536221 | 0,28416  |
| Clic1         | 1,827282888 | 0,038326 |
| Gm17994       | 1,827282888 | 0,6744   |
| Phip          | 1,826902955 | 0,025257 |
| Rnf26         | 1,826776328 | 0,32026  |
| Gm11281       | 1,826523101 | 0,7647   |
| Gm13009       | 1,826269908 | 0,50402  |

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|---------------|-------------|----------|
| Gm25517       | 1,826269908 | 0,53579  |
| Kif22         | 1,826143325 | 0,211    |
| Rps3a3        | 1,825890186 | 0,54038  |
| Atf6          | 1,825637081 | 0,057143 |
| 5031425F14Rik | 1,825004473 | 0,8287   |
| Haus3         | 1,824877978 | 0,22051  |
| Prpf39        | 1,823739915 | 0,12346  |
| Nr3c1         | 1,8229816   | 0,01894  |
| Bst2          | 1,822349912 | 0,14514  |
| Syap1         | 1,82184472  | 0,26169  |
| Tspan13       | 1,821339667 | 0,018307 |
| D830050J10Rik | 1,820834755 | 0,4433   |
| Sapcd1        | 1,820582351 | 0,061857 |
| Gnpda1        | 1,820203811 | 0,73749  |
| Pdgfb         | 1,819068663 | 0,41259  |
| Tmem81        | 1,818816504 | 0,54282  |
| Gm45407       | 1,818060236 | 0,59133  |
| H2-M3         | 1,817934222 | 0,38595  |
| Eda2r         | 1,817682221 | 0,11572  |
| Apmmap        | 1,817682221 | 0,18496  |
| Trmt1l        | 1,817052369 | 0,20421  |
| 2610318N02Rik | 1,81680049  | 0,33231  |
| Pyroxd2       | 1,81680049  | 0,33598  |
| Gm9169        | 1,81680049  | 0,40268  |
| Dsn1          | 1,81680049  | 0,45013  |
| Cds1          | 1,815415776 | 0,15586  |
| Hace1         | 1,815415776 | 0,52656  |
| Rpsa-ps11     | 1,815289946 | 0,5172   |
| Phf20l1       | 1,814912506 | 0,10844  |
| Vhl           | 1,814535145 | 0,094197 |
| Sun2          | 1,814283614 | 0,017261 |
| Gm45733       | 1,814283614 | 0,76491  |
| Kctd13        | 1,813654941 | 0,14396  |
| Cnksr3        | 1,813026485 | 0,37545  |
| Mfsd13a       | 1,812900819 | 0,30726  |
| Gm9143        | 1,812900819 | 0,74131  |
| Lgmn          | 1,812775163 | 0,22952  |
| 1500002F19Rik | 1,812398246 | 0,49225  |
| Bcl2          | 1,812272625 | 0,14769  |
| Zfp931        | 1,811644648 | 0,49635  |
| Gm11944       | 1,811393518 | 0,75225  |
| Cks1b         | 1,811142423 | 0,029653 |
| Ube2c         | 1,811016888 | 0,10189  |
| Gm9531        | 1,811016888 | 0,19677  |
| Letm2         | 1,810389347 | 0,34351  |
| Hoxb7         | 1,809511153 | 0,056933 |
| Gltscr1       | 1,809260319 | 0,4077   |
| 4921536K21Rik | 1,809260319 | 0,6332   |
| 4930529C04Rik | 1,809134915 | 0,38043  |
| Gm5619        | 1,808508025 | 0,56011  |
| Gm13416       | 1,80825733  | 0,70779  |
| Pak4          | 1,806753889 | 0,44535  |

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|---------------|-------------|----------|
| Cdca8         | 1,80625302  | 0,037603 |
| Ggps1         | 1,806002638 | 0,27545  |
| Gm3511        | 1,80587746  | 0,28573  |
| Gm11956       | 1,805627129 | 0,56955  |
| Rps8          | 1,805376833 | 0,014417 |
| 5830454E08Rik | 1,805251699 | 0,47468  |
| Mir3091       | 1,805001455 | 0,85956  |
| C130026I21Rik | 1,804876346 | 0,1451   |
| Rcbtb2        | 1,804000827 | 0,17616  |
| Gm6433        | 1,804000827 | 0,27514  |
| Gm13005       | 1,804000827 | 0,59322  |
| Napsa         | 1,803375716 | 0,02419  |
| Kif23         | 1,803125733 | 0,042296 |
| Upf1          | 1,802625869 | 0,14316  |
| Nme7          | 1,801876334 | 0,5543   |
| Cnep1r1       | 1,800752616 | 0,24774  |
| Enoph1        | 1,799130704 | 0,20779  |
| Gm43773       | 1,798008698 | 0,55857  |
| Ralb          | 1,797634851 | 0,081383 |
| Ap2b1         | 1,796638307 | 0,11858  |
| Lsm3          | 1,795766784 | 0,28262  |
| Ccnl1         | 1,795144527 | 0,10016  |
| Prrg4         | 1,795144527 | 0,31578  |
| Gm7832        | 1,795020101 | 0,68306  |
| Cmtm6         | 1,794895684 | 0,056262 |
| Polr3g        | 1,794895684 | 0,2003   |
| Cebpg         | 1,794646876 | 0,064918 |
| Bend4         | 1,794522485 | 0,1351   |
| Plp2          | 1,794149363 | 0,24226  |
| Supt4a        | 1,793900659 | 0,29961  |
| Gm7488        | 1,793900659 | 0,63203  |
| Mob1b         | 1,793527666 | 0,079882 |
| Pomc          | 1,792781914 | 0,55833  |
| Cdkn1b        | 1,792657652 | 0,11011  |
| Prr3          | 1,792533399 | 0,51284  |
| Cfap20        | 1,792036472 | 0,52477  |
| Gm37621       | 1,79178806  | 0,66755  |
| Nlgn2         | 1,789926069 | 0,28079  |
| Gm1840        | 1,789802005 | 0,35981  |
| Ddx47         | 1,789677795 | 0,039266 |
| Gm5599        | 1,789677795 | 0,53693  |
| Trp53         | 1,788809804 | 0,28449  |
| Rhoa          | 1,788561839 | 0,060072 |
| Rpl37a        | 1,787942078 | 0,027329 |
| Fgf13         | 1,787694234 | 0,45701  |
| Gm16288       | 1,787198649 | 0,84262  |
| Gm8919        | 1,787074774 | 0,8259   |
| Gm43544       | 1,786950907 | 0,81622  |
| BC049715      | 1,78657936  | 0,56867  |
| Cox7a2l       | 1,786455528 | 0,039562 |
| Eloc          | 1,786455528 | 0,29569  |
| Usp28         | 1,786084084 | 0,39434  |

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| Dok2      | 1,785588945 | 0,072107 |
| Pdpf      | 1,784599078 | 0,57323  |
| Dhcr7     | 1,784351698 | 0,14831  |
| Phf13     | 1,783733396 | 0,23496  |
| Gm5837    | 1,783733396 | 0,67741  |
| Smox      | 1,783238908 | 0,068891 |
| Tcp11l1   | 1,782373885 | 0,15903  |
| Trip10    | 1,781756268 | 0,49243  |
| Bbs5      | 1,781756268 | 0,62867  |
| Gm12346   | 1,781632771 | 0,096613 |
| Fsd1l     | 1,781509282 | 0,56913  |
| Gm26652   | 1,781385801 | 0,40181  |
| Anapc16   | 1,780891965 | 0,21152  |
| Agtppb1   | 1,780521677 | 0,04587  |
| Cep135    | 1,779657972 | 0,42597  |
| Maz       | 1,779287941 | 0,34948  |
| Rps19-ps7 | 1,779287941 | 0,46689  |
| Ybx1      | 1,778424835 | 0,047995 |
| Crcp      | 1,77805506  | 0,14772  |
| Gm26670   | 1,777931819 | 0,67704  |
| Gm5687    | 1,777562147 | 0,10143  |
| Apba3     | 1,776946197 | 0,49072  |
| Chic2     | 1,776699878 | 0,089069 |
| Foxj3     | 1,776699878 | 0,22014  |
| Srsf2     | 1,776453592 | 0,1191   |
| Fam229b   | 1,774607536 | 0,38481  |
| Gm43774   | 1,77399261  | 0,54427  |
| Gm15207   | 1,77399261  | 0,76939  |
| Gm12341   | 1,773869651 | 0,49225  |
| Snhg12    | 1,7737467   | 0,060627 |
| Gm8550    | 1,773377898 | 0,70264  |
| Chek1     | 1,773254981 | 0,40035  |
| Gm14137   | 1,772763398 | 0,67017  |
| Tapbp     | 1,772640524 | 0,1316   |
| Gm15730   | 1,772640524 | 0,21993  |
| Zfp511    | 1,772640524 | 0,26507  |
| Vat1      | 1,771903457 | 0,038637 |
| Usp35     | 1,771289468 | 0,35377  |
| Fam20b    | 1,770675693 | 0,12704  |
| Taf6      | 1,769939442 | 0,14263  |
| Gm45855   | 1,769816764 | 0,87832  |
| Gorasp1   | 1,769571432 | 0,29801  |
| Jup       | 1,768958252 | 0,7895   |
| Higd2a    | 1,768835641 | 0,040084 |
| Rps19-ps5 | 1,768835641 | 0,57127  |
| Ube2n     | 1,768100156 | 0,41573  |
| Arl1      | 1,767977605 | 0,14247  |
| Gm14541   | 1,767977605 | 0,88765  |
| Cdc42ep4  | 1,766140357 | 0,26302  |
| Gm5451    | 1,766140357 | 0,27424  |
| Mgarp     | 1,765895535 | 0,34013  |
| Ubfd1     | 1,765283628 | 0,31551  |

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|---------------|-------------|----------|
| Aph1a         | 1,765161272 | 0,11094  |
| R3hdm4        | 1,765038925 | 0,085039 |
| Fam234b       | 1,764671934 | 0,42905  |
| Ier3          | 1,764305018 | 0,059765 |
| Gm45343       | 1,764060451 | 0,45602  |
| Gm9800        | 1,76344918  | 0,37831  |
| RP23-403D16.3 | 1,76344918  | 0,54724  |
| Ap1f          | 1,762227274 | 0,52581  |
| Dtx3          | 1,76210513  | 0,22378  |
| Mis18bp1      | 1,76210513  | 0,24542  |
| Rnf185        | 1,761982994 | 0,30942  |
| Hdac5         | 1,761616638 | 0,14576  |
| Nup43         | 1,760029976 | 0,50901  |
| Gm9517        | 1,759420101 | 0,65716  |
| Uhrf2         | 1,759298152 | 0,037127 |
| Gstcd         | 1,759298152 | 0,1858   |
| Commd1        | 1,759298152 | 0,40218  |
| Cd40          | 1,758932354 | 0,2505   |
| Rnf2          | 1,758810438 | 0,097505 |
| Oaz1-ps       | 1,757713578 | 0,69831  |
| Gm9722        | 1,757226303 | 0,75412  |
| Tmod3         | 1,756495645 | 0,068697 |
| Rab1b         | 1,756373899 | 0,077598 |
| Gm11808       | 1,756373899 | 0,099168 |
| Gabpb1        | 1,756373899 | 0,41227  |
| 9230116N13Rik | 1,75613043  | 0,70701  |
| Efcab2        | 1,756008709 | 0,83459  |
| Tmem171       | 1,755886996 | 0,40773  |
| Gm14769       | 1,755521907 | 0,44156  |
| Bnip3         | 1,755400228 | 0,11514  |
| Gm10012       | 1,754913595 | 0,82817  |
| Tnfsf12       | 1,754548709 | 0,30445  |
| Rpl22-ps1     | 1,754183899 | 0,38706  |
| Gm7434        | 1,753819165 | 0,71308  |
| Lpp           | 1,753089923 | 0,27679  |
| Rnd2          | 1,752968413 | 0,38595  |
| Rgs12         | 1,75284691  | 0,68446  |
| Tmem191c      | 1,751875195 | 0,1048   |
| Calr          | 1,751753769 | 0,016454 |
| Prr7          | 1,751753769 | 0,44375  |
| Cyp2c55       | 1,751632351 | 0,47052  |
| Gm6418        | 1,751632351 | 0,71527  |
| Mis18a        | 1,751268147 | 0,38523  |
| BC030336      | 1,751025386 | 0,15697  |
| Blvrb         | 1,750904019 | 0,05162  |
| Lgals1        | 1,74956953  | 0,024848 |
| Gm43201       | 1,748599631 | 0,56464  |
| Ccdc22        | 1,748236058 | 0,16432  |
| RP23-65M10.2  | 1,74787256  | 0,67646  |
| Cic           | 1,747509138 | 0,032721 |
| Gm8662        | 1,747145792 | 0,45649  |
| Adarb1        | 1,746056205 | 0,31615  |

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| Ifi202b       | 1,745572163 | 0,56435  |
| Ccl4          | 1,744967299 | 0,1163   |
| Psme1         | 1,744846351 | 0,11873  |
| Prcc          | 1,744846351 | 0,51368  |
| Gm8606        | 1,744483558 | 0,55374  |
| Meis3         | 1,743637335 | 0,57069  |
| Hinfp         | 1,743516479 | 0,21792  |
| Gm5778        | 1,742791522 | 0,74808  |
| Tmem267       | 1,742670725 | 0,77109  |
| Med31         | 1,742308384 | 0,49554  |
| Ccl3          | 1,741825381 | 0,17381  |
| Exosc3        | 1,741101127 | 0,66175  |
| Ybx1-ps2      | 1,740135923 | 0,7895   |
| Fam133b       | 1,739894705 | 0,092814 |
| RP23-269H21.1 | 1,739774109 | 0,12667  |
| Sf3a2         | 1,739774109 | 0,27067  |
| Sort1         | 1,739532942 | 0,25233  |
| D130017N08Rik | 1,739532942 | 0,83711  |
| Gm15445       | 1,73893017  | 0,83732  |
| Cyth3         | 1,738809641 | 0,27802  |
| Slc25a22      | 1,738809641 | 0,52964  |
| 4932441J04Rik | 1,73868912  | 0,54008  |
| Klhl7         | 1,738568608 | 0,27832  |
| Dck           | 1,73820712  | 0,23596  |
| Gm10658       | 1,73820712  | 0,64182  |
| Atg12         | 1,736641542 | 0,032078 |
| Rpl41         | 1,736521171 | 0,16897  |
| Gm7589        | 1,735678811 | 0,25243  |
| Haus6         | 1,735197645 | 0,23526  |
| Wdr34         | 1,735197645 | 0,49966  |
| Gm45311       | 1,734476146 | 0,763    |
| Gm5523        | 1,73411551  | 0,76373  |
| Efh2          | 1,733875127 | 0,055438 |
| Gprasp1       | 1,733634778 | 0,35566  |
| Naa20         | 1,733514615 | 0,18288  |
| Rpsa-ps9      | 1,733394461 | 0,62646  |
| St3gal6       | 1,733274316 | 0,12287  |
| Stam          | 1,733274316 | 0,27796  |
| Ccnb2         | 1,733154179 | 0,26661  |
| Ptms          | 1,732313451 | 0,1067   |
| Ndufb2        | 1,732073318 | 0,19848  |
| Klhl15        | 1,731233115 | 0,37162  |
| Pot1b         | 1,731233115 | 0,93062  |
| Mcm2          | 1,730993131 | 0,27809  |
| Timm10b       | 1,730633219 | 0,14263  |
| F830208F22Rik | 1,730513265 | 0,78282  |
| Gm38190       | 1,729793714 | 0,76366  |
| Rad54b        | 1,72955393  | 0,70618  |
| Mien1         | 1,729434051 | 0,12587  |
| R3hdm1        | 1,729074463 | 0,12665  |
| Fam98c        | 1,729074463 | 0,18751  |
| lqsec2        | 1,728834779 | 0,16174  |

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|---------------|-------------|----------|
| Kremen1       | 1,728834779 | 0,38176  |
| Gm13532       | 1,727636857 | 0,61395  |
| Ascc3         | 1,727397372 | 0,31638  |
| Id3           | 1,727397372 | 0,38467  |
| Tdrd7         | 1,727397372 | 0,68038  |
| Gm8181        | 1,727397372 | 0,79674  |
| Crry-ps       | 1,726559437 | 0,41668  |
| Hsph1         | 1,726080799 | 0,13423  |
| Ctnnbip1      | 1,725961161 | 0,10844  |
| Pfn1          | 1,725721908 | 0,42024  |
| Rnf181        | 1,725243503 | 0,12548  |
| Glipr2        | 1,725123922 | 0,49957  |
| Gm11263       | 1,72500435  | 0,87125  |
| Cdca3         | 1,724645683 | 0,36131  |
| D130020L05Rik | 1,724526144 | 0,66529  |
| Lsm5          | 1,72428709  | 0,68244  |
| Acad11        | 1,723928572 | 0,59408  |
| Gm6543        | 1,723689601 | 0,71367  |
| Napepld       | 1,723450664 | 0,39907  |
| Gm42478       | 1,722853465 | 0,77832  |
| Gm14240       | 1,722853465 | 0,85956  |
| Hcn2          | 1,722853465 | 0,86601  |
| Ensa          | 1,72273405  | 0,34363  |
| Gm13803       | 1,722256473 | 0,43186  |
| Snx18         | 1,722137099 | 0,21885  |
| Kiz           | 1,721659687 | 0,14524  |
| Gm16020       | 1,721659687 | 0,65714  |
| Smim11        | 1,721540355 | 0,14163  |
| Rnf126        | 1,721540355 | 0,16488  |
| 4930448A20Rik | 1,721182408 | 0,66473  |
| Gm8121        | 1,721063109 | 0,68222  |
| Arl5a         | 1,720943818 | 0,26644  |
| Tcn2          | 1,720705261 | 0,17947  |
| Rheb          | 1,720705261 | 0,24754  |
| Cpeb2         | 1,720585995 | 0,34161  |
| mt-Rnr2       | 1,720228247 | 0,29211  |
| Gm7776        | 1,719989789 | 0,36101  |
| Tmem256       | 1,718678862 | 0,18878  |
| Gm9396        | 1,718678862 | 0,67279  |
| E2f6          | 1,718083316 | 0,1984   |
| Efemp2        | 1,718083316 | 0,66529  |
| RP23-168F21.4 | 1,717726088 | 0,82464  |
| Figl1         | 1,717487977 | 0,60806  |
| Coq10b        | 1,717130873 | 0,27372  |
| Tmem216       | 1,716654849 | 0,40262  |
| Gm42535       | 1,716535864 | 0,73377  |
| Gm14494       | 1,715822125 | 0,75225  |
| Gm8423        | 1,715703197 | 0,74834  |
| Tmem50b       | 1,715108683 | 0,10402  |
| Abhd8         | 1,714989805 | 0,34584  |
| Dpm1          | 1,714870935 | 0,31358  |
| Tmem33        | 1,714395538 | 0,095812 |

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| Gm20620       | 1,714395538 | 0,49966  |
| Ube2f         | 1,713801476 | 0,1169   |
| Rps15a-ps5    | 1,713682689 | 0,67145  |
| Pts           | 1,713445138 | 0,41844  |
| Atp11a        | 1,712970136 | 0,36618  |
| Ripk3         | 1,712851407 | 0,48964  |
| 4933417C20Rik | 1,712732685 | 0,78812  |
| Zc3h7a        | 1,7121392   | 0,18858  |
| Cracr2b       | 1,711190051 | 0,55478  |
| RP23-88C11.5  | 1,710004356 | 0,8445   |
| Gm14539       | 1,709885831 | 0,37759  |
| Dpp7          | 1,708937932 | 0,25676  |
| Samd8         | 1,70870104  | 0,14169  |
| Zbtb37        | 1,70870104  | 0,45501  |
| Cpeb4         | 1,70846418  | 0,28224  |
| Tmem259       | 1,707517069 | 0,20357  |
| Zfp938        | 1,70680708  | 0,57584  |
| Gm37670       | 1,706688777 | 0,74589  |
| Ptpn2         | 1,706452196 | 0,45812  |
| Rpl26-ps4     | 1,706333918 | 0,78364  |
| Klc2          | 1,705860887 | 0,40203  |
| Arhgef39      | 1,70574265  | 0,34044  |
| Mier1         | 1,705624421 | 0,11369  |
| Spred3        | 1,705269784 | 0,55443  |
| Ncaph2        | 1,705151587 | 0,17338  |
| Nrp1          | 1,704560729 | 0,60168  |
| Spty2d1       | 1,704324443 | 0,17073  |
| Gsk3a         | 1,703970076 | 0,21824  |
| Gm27477       | 1,703615782 | 0,62867  |
| Mthfs         | 1,703497701 | 0,48016  |
| Gm45222       | 1,703497701 | 0,49103  |
| Gm8276        | 1,703261562 | 0,099202 |
| Ogt           | 1,702199343 | 0,32939  |
| Ckb           | 1,701963385 | 0,054203 |
| Gm13461       | 1,701845418 | 0,67704  |
| Hmgn5         | 1,701373632 | 0,18686  |
| Tbcb          | 1,701255705 | 0,42004  |
| Elavl1        | 1,699723409 | 0,17198  |
| Tatdn2        | 1,699605597 | 0,26272  |
| Gm43421       | 1,699487794 | 0,97254  |
| Bicd2         | 1,699369998 | 0,2095   |
| Me2           | 1,699369998 | 0,4497   |
| Urm1          | 1,699016661 | 0,35963  |
| Gm16379       | 1,699016661 | 0,37187  |
| Fanca         | 1,699016661 | 0,62812  |
| Chmp1b        | 1,698545659 | 0,138    |
| Nhlrc3        | 1,698427929 | 0,2484   |
| Sdf2l1        | 1,698192493 | 0,50461  |
| Prelid3a      | 1,698074787 | 0,49864  |
| Gm15393       | 1,697721719 | 0,83518  |
| Gm13862       | 1,697015803 | 0,54879  |
| Rpl31-ps11    | 1,697015803 | 0,76334  |

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|---------------|-------------|---------|
| Gm14006       | 1,696662956 | 0,99511 |
| Bcs1l         | 1,695604852 | 0,33956 |
| Gm7424        | 1,695252298 | 0,65387 |
| 4933427D14Rik | 1,694547409 | 0,29366 |
| Gm20673       | 1,694429956 | 0,69136 |
| Mad2l2        | 1,694077646 | 0,43618 |
| Rpl18-ps2     | 1,693490625 | 0,42215 |
| 2210408l21Rik | 1,693490625 | 0,78585 |
| Gm37949       | 1,692903807 | 0,83962 |
| Ahcy          | 1,692786468 | 0,59869 |
| Gpsm1         | 1,69055857  | 0,40801 |
| Zfp873        | 1,689855633 | 0,76018 |
| Camk2g        | 1,689621385 | 0,28557 |
| Knstrn        | 1,68938717  | 0,14574 |
| Gpi1          | 1,688801775 | 0,2183  |
| Aldh6a1       | 1,688450635 | 0,53876 |
| Spata2        | 1,687631592 | 0,7041  |
| Dnmt3l        | 1,687514619 | 0,44224 |
| Dennd5a       | 1,68669603  | 0,19197 |
| Rad54l        | 1,686579121 | 0,52522 |
| Tmem168       | 1,685877839 | 0,25149 |
| Bach1         | 1,685176847 | 0,32709 |
| Pradc1        | 1,684476148 | 0,69225 |
| Mnd1          | 1,684242646 | 0,37735 |
| Ctps2         | 1,683425645 | 0,48775 |
| Gm7332        | 1,682725673 | 0,62812 |
| E230020A03Rik | 1,682492414 | 0,84797 |
| Patz1         | 1,682142586 | 0,25173 |
| Kras          | 1,681909408 | 0,14151 |
| Hbegf         | 1,681443148 | 0,47566 |
| Smg5          | 1,681326603 | 0,35996 |
| Dntt          | 1,681326603 | 0,7895  |
| Mapk8ip3      | 1,680394536 | 0,21419 |
| Gm4978        | 1,680278064 | 0,69151 |
| Gm37009       | 1,679462986 | 0,74587 |
| Banp          | 1,679113788 | 0,2995  |
| Itpkb         | 1,678881029 | 0,34161 |
| Atp8b2        | 1,677950318 | 0,39107 |
| Lin9          | 1,677834015 | 0,26957 |
| Prpf3         | 1,677601434 | 0,34285 |
| Zbtb18        | 1,677485156 | 0,48578 |
| Borcs8        | 1,677252623 | 0,34044 |
| Ccr10         | 1,676903885 | 0,88635 |
| Acadm         | 1,676671432 | 0,24752 |
| Gm13777       | 1,675858104 | 0,67891 |
| Vbp1          | 1,675741946 | 0,24287 |
| Selenom       | 1,675277396 | 0,42125 |
| Acat1         | 1,674580813 | 0,55478 |
| Gm45568       | 1,674464744 | 0,45049 |
| Pop5          | 1,674464744 | 0,52342 |
| Jmjd7         | 1,674348683 | 0,52225 |
| Flt3l         | 1,67423263  | 0,30018 |

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|----------------|-------------|----------|
| Cbx6           | 1,674116585 | 0,089513 |
| Ugdh           | 1,674116585 | 0,45078  |
| Aldh2          | 1,673884519 | 0,11382  |
| Gm24601        | 1,672956578 | 0,86613  |
| Nenf           | 1,672376875 | 0,2138   |
| Mmd            | 1,672029151 | 0,34298  |
| Flna           | 1,671913258 | 0,29499  |
| Cd302          | 1,671333918 | 0,46408  |
| Rpl22l1        | 1,668902879 | 0,098285 |
| Pnrc2          | 1,668902879 | 0,22925  |
| Gm7380         | 1,668787203 | 0,74604  |
| Rpl36a         | 1,668555876 | 0,45602  |
| Cygb           | 1,668555876 | 0,7146   |
| Klra2          | 1,668093318 | 0,61559  |
| Llph           | 1,667746484 | 0,32991  |
| Hikeshi        | 1,667284151 | 0,56919  |
| Syce2          | 1,667168588 | 0,19095  |
| Atf1           | 1,667168588 | 0,2609   |
| Ss18l2         | 1,667053032 | 0,3645   |
| Gm4742         | 1,666821946 | 0,79239  |
| S100a11        | 1,666706414 | 0,25294  |
| Pikfyve        | 1,666244369 | 0,26879  |
| Fubp1          | 1,666013395 | 0,13777  |
| Exoc3l         | 1,665551542 | 0,87704  |
| 2010015M23Rik  | 1,665436099 | 0,56967  |
| Pmpcb          | 1,665205236 | 0,6203   |
| Rpl31-ps10     | 1,66462822  | 0,75234  |
| Gm10161        | 1,663936064 | 0,84447  |
| Adap1          | 1,663474787 | 0,13914  |
| Pnpt1          | 1,663359488 | 0,53555  |
| Gm31274        | 1,663359488 | 0,71527  |
| Gm5867         | 1,663244197 | 0,56943  |
| C230037L18Rik  | 1,66266786  | 0,75415  |
| Naa60          | 1,661861324 | 0,2884   |
| Akt3           | 1,661400622 | 0,20507  |
| Cdip1          | 1,661400622 | 0,32366  |
| Hsd17b10       | 1,660709809 | 0,33171  |
| Pbdc1          | 1,66036451  | 0,25294  |
| Gm44567        | 1,660249426 | 0,73602  |
| Abi2           | 1,659904223 | 0,33729  |
| RP23-187B11.16 | 1,659674127 | 0,78774  |
| Fam171a2       | 1,659444064 | 0,54007  |
| Gm11110        | 1,659214032 | 0,42352  |
| Zc3h3          | 1,659099028 | 0,81693  |
| Mfsd14a        | 1,658869044 | 0,49103  |
| Pkn2           | 1,658754064 | 0,17752  |
| Pam            | 1,658639092 | 0,17185  |
| Kdm6a          | 1,658409171 | 0,30214  |
| Naga           | 1,658409171 | 0,47888  |
| Rbm19          | 1,658409171 | 0,59932  |
| Arid3b         | 1,658294223 | 0,64628  |
| Toporsos       | 1,658179283 | 0,54073  |

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|----------------|-------------|---------|
| Lmnb2          | 1,658064351 | 0,52253 |
| Tufm           | 1,657949426 | 0,56206 |
| Plekhf2        | 1,65783451  | 0,37262 |
| 2310034G01Rik  | 1,657604701 | 0,59376 |
| Prcp           | 1,657489809 | 0,25515 |
| Snhg9          | 1,656915466 | 0,40801 |
| Gm5883         | 1,656341323 | 0,87032 |
| Gm43360        | 1,655996932 | 0,6343  |
| Ggct           | 1,655767378 | 0,2304  |
| Arpp19         | 1,655078907 | 0,14514 |
| Jpx            | 1,655078907 | 0,57613 |
| Serpinb9       | 1,655078907 | 0,73411 |
| Hoxa5          | 1,65496419  | 0,66858 |
| Trmt112-ps2    | 1,654734779 | 0,72552 |
| Zfp652os       | 1,654734779 | 0,73053 |
| Atp7a          | 1,654620085 | 0,36294 |
| Gm13196        | 1,654620085 | 0,76813 |
| Pmm1           | 1,654046737 | 0,30375 |
| Rnf32          | 1,654046737 | 0,73092 |
| Gm12096        | 1,653932091 | 0,69085 |
| 0610037L13Rik  | 1,653702823 | 0,30149 |
| Galnt10        | 1,653702823 | 0,71073 |
| RP24-131G14.13 | 1,653588201 | 0,60295 |
| Rps29          | 1,653358981 | 0,5616  |
| Incenp         | 1,653015211 | 0,1237  |
| Rnf144b        | 1,653015211 | 0,57722 |
| Cbr2           | 1,652671512 | 0,49809 |
| Ltbp4          | 1,652556961 | 0,7265  |
| Acot1          | 1,652213357 | 0,73467 |
| Tmem243        | 1,651068527 | 0,62438 |
| Eif2s3x        | 1,650725233 | 0,67827 |
| Actr1a         | 1,650153234 | 0,29464 |
| Mrip-ps        | 1,650153234 | 0,73637 |
| Tpd52-ps       | 1,650038858 | 0,73078 |
| Csrp2          | 1,64981013  | 0,56958 |
| Wdr83          | 1,649238448 | 0,35852 |
| Sapcd2         | 1,649009831 | 0,65219 |
| Polr2k         | 1,648781246 | 0,90893 |
| 5430416N02Rik  | 1,64832417  | 0,53932 |
| RP23-324E2.11  | 1,648209921 | 0,86608 |
| Crlf2          | 1,648095679 | 0,60743 |
| Osgepl1        | 1,647638794 | 0,71812 |
| Slc25a40       | 1,647524592 | 0,40725 |
| Cox14          | 1,646040691 | 0,1344  |
| Ern1           | 1,645812517 | 0,34351 |
| Alox5ap        | 1,645470315 | 0,12587 |
| Rpl38-ps1      | 1,645470315 | 0,47197 |
| Fbxl12os       | 1,645128185 | 0,69679 |
| Gla            | 1,645014157 | 0,33517 |
| Brms1l         | 1,644558126 | 0,63071 |
| Cadm1          | 1,644444137 | 0,13241 |
| Ap3s1          | 1,644330157 | 0,76018 |

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|---------------|-------------|---------|
| Gpr19         | 1,643874315 | 0,83883 |
| Cnot4         | 1,643532517 | 0,32613 |
| Hist1h4h      | 1,643532517 | 0,79661 |
| B3galnt2      | 1,642963011 | 0,47292 |
| Ppid          | 1,642279863 | 0,20988 |
| Narf          | 1,641938397 | 0,30544 |
| Rfxap         | 1,64182459  | 0,4387  |
| Gm42547       | 1,64182459  | 0,66186 |
| Rpl37         | 1,641710791 | 0,33956 |
| Gm15975       | 1,641028165 | 0,73219 |
| Gm4285        | 1,640914421 | 0,86554 |
| Ypel5         | 1,640800686 | 0,17611 |
| Acaa1b        | 1,640800686 | 0,7799  |
| Pim3          | 1,640118438 | 0,2152  |
| Gm11889       | 1,639095598 | 0,64353 |
| Bsg           | 1,638981988 | 0,10924 |
| Prkd2         | 1,638981988 | 0,46609 |
| Rbm47         | 1,638868387 | 0,30733 |
| Exoc6         | 1,638641207 | 0,68027 |
| Slc25a30      | 1,638414059 | 0,85958 |
| Ccdc9         | 1,637619288 | 0,2741  |
| Rcn2          | 1,637165307 | 0,25294 |
| Atxn2l        | 1,637165307 | 0,28715 |
| Akr1b10       | 1,636711451 | 0,50517 |
| Nup107        | 1,636711451 | 0,74145 |
| Ascc1         | 1,63648457  | 0,304   |
| Timm22        | 1,636371142 | 0,42676 |
| Anapc5        | 1,636257721 | 0,23229 |
| Gltsr2        | 1,636144308 | 0,16137 |
| Pold4         | 1,635350639 | 0,43286 |
| RP23-128C4.4  | 1,635237289 | 0,64109 |
| 5830432E09Rik | 1,635010613 | 0,70144 |
| Tnrc18        | 1,634330772 | 0,21055 |
| Gm43484       | 1,634330772 | 0,62105 |
| Pdia3         | 1,633990958 | 0,23775 |
| Bloc1s2       | 1,633877702 | 0,56265 |
| Sap18         | 1,633651214 | 0,58055 |
| Gm15727       | 1,633311541 | 0,63027 |
| Rpl18a        | 1,632858754 | 0,63954 |
| Gm11353       | 1,632858754 | 0,64611 |
| Melk          | 1,632632408 | 0,64773 |
| Caap1         | 1,632519246 | 0,49983 |
| Tuba1b        | 1,632292946 | 0,27473 |
| Smg1          | 1,632066678 | 0,39742 |
| Arf5          | 1,631953556 | 0,23869 |
| Dusp1         | 1,631953556 | 0,50864 |
| Gm6493        | 1,631953556 | 0,74535 |
| Smg6          | 1,631614236 | 0,33885 |
| Spin1         | 1,631388062 | 0,57935 |
| Myadm         | 1,631161919 | 0,26661 |
| Rpl36-ps3     | 1,63104886  | 0,63306 |
| Gm1947        | 1,630935808 | 0,73078 |

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|---------------|-------------|---------|
| Ptma          | 1,630370667 | 0,27111 |
| Nectin3       | 1,629692755 | 0,35737 |
| Gm6682        | 1,629579798 | 0,99899 |
| Cenpl         | 1,629240971 | 0,31015 |
| Gm36378       | 1,629240971 | 0,69949 |
| Ift88         | 1,628902215 | 0,64045 |
| Plekhj1       | 1,62856353  | 0,2775  |
| Med14         | 1,628224915 | 0,57713 |
| Txlng         | 1,628112059 | 0,63205 |
| Ccnd3         | 1,627547896 | 0,28646 |
| Gm2058        | 1,627322285 | 0,61713 |
| Rassf2        | 1,626081987 | 0,30942 |
| Hdac2         | 1,62596928  | 0,34742 |
| 3110083C13Rik | 1,625405859 | 0,85641 |
| MIlt10        | 1,625180546 | 0,3794  |
| 1700056N10Rik | 1,625067901 | 0,94163 |
| Atf7          | 1,624730013 | 0,41801 |
| Sh3bp1        | 1,624392195 | 0,29801 |
| Iffo1         | 1,624392195 | 0,59464 |
| Atp11c        | 1,624279604 | 0,53206 |
| Nrm           | 1,624054447 | 0,32991 |
| Zgrf1         | 1,624054447 | 0,59234 |
| 1600029O15Rik | 1,624054447 | 0,90441 |
| Stac2         | 1,62394188  | 0,49031 |
| Gm13349       | 1,623266642 | 0,92387 |
| Arsa          | 1,623154129 | 0,50703 |
| Arhgdia       | 1,622704158 | 0,15094 |
| Ccl9          | 1,621804589 | 0,30612 |
| Ints6l        | 1,620343853 | 0,53416 |
| Vps29         | 1,620119241 | 0,36118 |
| Exo1          | 1,620119241 | 0,95136 |
| Erfe          | 1,620006947 | 0,86613 |
| Tbpl1         | 1,619557848 | 0,22655 |
| Gm10029       | 1,619557848 | 0,83099 |
| Birc2         | 1,619108874 | 0,47769 |
| Saraf         | 1,61899665  | 0,17669 |
| Gm9645        | 1,618547831 | 0,67532 |
| Primpol       | 1,618323468 | 0,58682 |
| Notch4        | 1,618323468 | 0,79791 |
| Got2-ps1      | 1,617986982 | 0,89646 |
| Zscan2        | 1,61720212  | 0,88558 |
| Cryz          | 1,616641738 | 0,30724 |
| Lgals3        | 1,616081549 | 0,21055 |
| Htr2b         | 1,616081549 | 0,86608 |
| Gm5845        | 1,615633539 | 0,72661 |
| Lsm2          | 1,615521555 | 0,32613 |
| Lmf1          | 1,615185652 | 0,57443 |
| Papss1        | 1,614849818 | 0,36067 |
| Ppp1r15a      | 1,614849818 | 0,45449 |
| H2-K1         | 1,613842737 | 0,32991 |
| Fastkd1       | 1,613842737 | 0,62544 |
| Gm37510       | 1,613619026 | 0,93325 |

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|---------------|-------------|---------|
| Gng12         | 1,613507183 | 0,21068 |
| Pola1         | 1,613507183 | 0,57323 |
| Gm7658        | 1,613171698 | 0,41995 |
| Bhlhe41       | 1,612724494 | 0,47241 |
| Nabp1         | 1,612612712 | 0,64045 |
| Ugp2          | 1,612389172 | 0,37265 |
| Hdac11        | 1,612277414 | 0,56011 |
| Klhl6         | 1,611607026 | 0,30783 |
| mt-Nd5        | 1,611607026 | 0,40801 |
| Sh2b1         | 1,611383625 | 0,33494 |
| Nbeal1        | 1,611160255 | 0,30942 |
| Spire1        | 1,611160255 | 0,41455 |
| Ube2e2        | 1,611048582 | 0,57584 |
| Rnf25         | 1,611048582 | 0,74726 |
| Hsh2d         | 1,611048582 | 0,85575 |
| Paip2         | 1,609374412 | 0,27453 |
| Gm6913        | 1,609262862 | 0,92132 |
| Hat1          | 1,607479122 | 0,28429 |
| Gm3695        | 1,607144891 | 0,91725 |
| Wee1          | 1,606699358 | 0,5019  |
| Szrd1         | 1,606142614 | 0,27684 |
| Gm9625        | 1,606142614 | 0,47617 |
| Calcr1        | 1,605586064 | 0,59725 |
| Isg20l2       | 1,605474777 | 0,6587  |
| Gm26710       | 1,605140963 | 0,91895 |
| 1700061G19Rik | 1,604918459 | 0,4721  |
| Arf6          | 1,604251131 | 0,19576 |
| Sqle          | 1,604139936 | 0,34395 |
| Gm13758       | 1,604139936 | 0,81487 |
| Lztr1         | 1,603917571 | 0,3798  |
| Cacybp        | 1,603361792 | 0,35206 |
| Ttc12         | 1,603250659 | 0,45507 |
| Dhrs3         | 1,602917307 | 0,60818 |
| Map3k1        | 1,602806205 | 0,39515 |
| Hmgcs1        | 1,602584024 | 0,44748 |
| Gm12857       | 1,602139755 | 0,46391 |
| Gm12618       | 1,602139755 | 0,85341 |
| Gm10443       | 1,602028707 | 0,36118 |
| Eif4g2        | 1,601917667 | 0,32655 |
| Rps13-ps2     | 1,601917667 | 0,42004 |
| Gm5446        | 1,601917667 | 0,81596 |
| Eif3s6-ps1    | 1,601806634 | 0,45527 |
| Cbx1          | 1,601584592 | 0,21443 |
| Ap2s1         | 1,601473583 | 0,42022 |
| Gkap1         | 1,601473583 | 0,73628 |
| Cenpi         | 1,601362581 | 0,74169 |
| Sptssa        | 1,600031159 | 0,55993 |
| Rrm2          | 1,600031159 | 0,57956 |
| Gm6654        | 1,600031159 | 0,66473 |
| Rps12-ps5     | 1,600031159 | 0,89936 |
| 5830408C22Rik | 1,599476726 | 0,65768 |
| Fkbp7         | 1,599033318 | 0,47403 |

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|---------------|-------------|---------|
| Hnrnpd        | 1,598479232 | 0,26313 |
| Abhd14b       | 1,597703833 | 0,63554 |
| Lsm11         | 1,597150207 | 0,41688 |
| Slc31a1       | 1,596818123 | 0,2549  |
| Suco          | 1,596486109 | 0,29211 |
| Hoxc6         | 1,596375453 | 0,54797 |
| Anxa3         | 1,595158741 | 0,35833 |
| Elac1         | 1,595048177 | 0,59316 |
| Gm43848       | 1,594605997 | 0,6789  |
| Srp9          | 1,594384953 | 0,47316 |
| Nr4a3         | 1,594384953 | 0,74833 |
| Gm5611        | 1,593942957 | 0,56706 |
| Tgoln1        | 1,593722005 | 0,19823 |
| Prkcg         | 1,593059332 | 0,73177 |
| Nfix          | 1,592948914 | 0,47385 |
| Gm11560       | 1,592948914 | 0,55439 |
| Exd2          | 1,592396935 | 0,74208 |
| Otub1         | 1,592176198 | 0,45517 |
| Gm15417       | 1,592176198 | 0,50729 |
| Gm15032       | 1,591734814 | 0,75478 |
| Gm5070        | 1,591514168 | 0,85958 |
| Camkmt        | 1,591514168 | 0,85982 |
| Dgke          | 1,591293552 | 0,54658 |
| Yipf4         | 1,591183256 | 0,72552 |
| Slc16a1       | 1,590852413 | 0,44219 |
| Gm36189       | 1,590852413 | 0,70365 |
| Mrpl9         | 1,590742148 | 0,45484 |
| Crnkl1        | 1,59063189  | 0,46689 |
| Mpst          | 1,590521639 | 0,40119 |
| Gm9701        | 1,590411396 | 0,59527 |
| Eif2s3y       | 1,590301161 | 0,45302 |
| Arl5b         | 1,590301161 | 0,5126  |
| Etv4          | 1,590080714 | 0,9413  |
| Terf2ip       | 1,589860297 | 0,47038 |
| Gm13864       | 1,589860297 | 0,73628 |
| Plekhh1       | 1,589860297 | 0,92317 |
| Enho          | 1,589639911 | 0,92013 |
| Pnp           | 1,589419556 | 0,63264 |
| Glrx3         | 1,589309389 | 0,4433  |
| Atp5g2        | 1,589309389 | 0,72452 |
| Chd3os        | 1,588758672 | 0,64045 |
| Pde7a         | 1,588318236 | 0,51154 |
| Gm5865        | 1,588208146 | 0,64202 |
| Ambp          | 1,58765781  | 0,88725 |
| Cenph         | 1,587107665 | 0,53932 |
| Satb2         | 1,586557711 | 0,61818 |
| C330013E15Rik | 1,586337782 | 0,83325 |
| Gatm          | 1,58567818  | 0,61019 |
| Selenoi       | 1,584908991 | 0,52619 |
| Arfip1        | 1,584249983 | 0,46895 |
| Pmvk          | 1,583701019 | 0,33219 |
| Aldh9a1       | 1,583481487 | 0,32206 |

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|---------------|-------------|---------|
| Fbxo21        | 1,583371732 | 0,43942 |
| Pip4k2b       | 1,582932789 | 0,36316 |
| Fam117b       | 1,582932789 | 0,5597  |
| Slc8b1        | 1,582932789 | 0,62484 |
| Lamtor3       | 1,581945612 | 0,56988 |
| Gm20900       | 1,581945612 | 0,65946 |
| Nbn           | 1,58161669  | 0,64737 |
| Rrnad1        | 1,581507064 | 0,57814 |
| Rpl3-ps2      | 1,580411227 | 0,7799  |
| Gng2          | 1,579973105 | 0,44976 |
| Polr1d        | 1,579754089 | 0,28176 |
| Bcas2         | 1,579535104 | 0,58494 |
| Sfi1          | 1,579097224 | 0,64773 |
| Prdm15        | 1,57887833  | 0,65342 |
| Litaf         | 1,578659466 | 0,25606 |
| Gm5786        | 1,578440633 | 0,82394 |
| Hoxb5         | 1,578003057 | 0,69192 |
| Asph          | 1,577893682 | 0,3114  |
| Ccser2        | 1,577893682 | 0,47351 |
| Pik3ip1       | 1,577784314 | 0,36074 |
| Cdk2ap2       | 1,577565602 | 0,4726  |
| Ghdc          | 1,57734692  | 0,56218 |
| Nfkbid        | 1,577128269 | 0,55094 |
| Noc3l         | 1,577018954 | 0,6358  |
| Fbxl3         | 1,576909647 | 0,70937 |
| Rfwd2         | 1,576253965 | 0,57374 |
| Rps13-ps7     | 1,575816996 | 0,87977 |
| Stx3          | 1,575707772 | 0,37603 |
| Hnrnp1        | 1,575270954 | 0,50005 |
| Ahcyl2        | 1,575270954 | 0,66175 |
| Ptger4        | 1,574070327 | 0,48726 |
| Lmln          | 1,573197719 | 0,72844 |
| Gm45884       | 1,572434584 | 0,69225 |
| Gm26881       | 1,572216614 | 0,66453 |
| Paip2b        | 1,571998673 | 0,62292 |
| Fuca1         | 1,571889714 | 0,43547 |
| Ccdc84        | 1,571562883 | 0,71308 |
| Slc31a2       | 1,571453954 | 0,59408 |
| Nrf1          | 1,571345033 | 0,50603 |
| Pabpc1        | 1,571345033 | 0,57573 |
| Flt1          | 1,57123612  | 0,62148 |
| Tuba1a        | 1,570800541 | 0,55993 |
| Scrn3         | 1,570691665 | 0,55857 |
| Gm12522       | 1,570691665 | 0,77834 |
| Tctn1         | 1,570038569 | 0,67023 |
| 4933421O10Rik | 1,56982093  | 0,65481 |
| Trmt1         | 1,569276966 | 0,40079 |
| Gas5          | 1,569168196 | 0,29028 |
| Ranbp9        | 1,56884193  | 0,55374 |
| Tmem134       | 1,568298305 | 0,33326 |
| Bmt2          | 1,568189603 | 0,40218 |
| Gm23458       | 1,567972221 | 0,90073 |

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|---------------|-------------|---------|
| Zfc3h1        | 1,567754869 | 0,51155 |
| Rpl15-ps5     | 1,567754869 | 0,94437 |
| Serf2         | 1,567646204 | 0,6248  |
| Tle6          | 1,567102993 | 0,69011 |
| Atpaf2        | 1,566777157 | 0,56419 |
| Gm5776        | 1,566451389 | 0,82492 |
| Fam53b        | 1,565908593 | 0,58256 |
| Gm7287        | 1,565474491 | 0,80902 |
| Erlin1        | 1,565257485 | 0,65716 |
| Ppp2r2d       | 1,564498201 | 0,43376 |
| Prr18         | 1,564498201 | 0,71305 |
| Irx2          | 1,564281331 | 0,69504 |
| Pacs1         | 1,563956082 | 0,60303 |
| P3h3          | 1,563956082 | 0,79674 |
| Acadvl        | 1,563522521 | 0,41343 |
| Slc15a4       | 1,563089081 | 0,32429 |
| Ccdc124       | 1,562980739 | 0,52142 |
| Gm15427       | 1,562980739 | 0,52964 |
| Gnpnat1       | 1,562980739 | 0,61395 |
| Pla2g15       | 1,562439145 | 0,38327 |
| Gm14056       | 1,562439145 | 0,81559 |
| Tmem38b       | 1,562330849 | 0,52709 |
| Rnf5          | 1,562006005 | 0,71926 |
| Lacc1         | 1,56092368  | 0,72161 |
| Tmem261       | 1,560599129 | 0,53678 |
| Msh3          | 1,560599129 | 0,66754 |
| Mipep         | 1,56049096  | 0,5679  |
| Pfkfb2        | 1,56005836  | 0,80334 |
| RP24-378K7.3  | 1,558977385 | 0,91732 |
| Adi1          | 1,558869329 | 0,57884 |
| Zfp607b       | 1,558869329 | 0,91155 |
| Gm43655       | 1,558869329 | 0,91358 |
| Eif2a         | 1,55876128  | 0,39547 |
| Eri3          | 1,55876128  | 0,64098 |
| Inpp5f        | 1,55876128  | 0,68766 |
| Trappc6a      | 1,558545205 | 0,44803 |
| Xk            | 1,558005148 | 0,94212 |
| Smim7         | 1,557573237 | 0,37786 |
| Nabp2         | 1,556925595 | 0,60532 |
| Gm2735        | 1,556386099 | 0,84262 |
| Rpl32         | 1,556170353 | 0,56108 |
| Gm4032        | 1,55584679  | 0,8426  |
| Pex13         | 1,555738951 | 0,69016 |
| Aplp1         | 1,555631119 | 0,71689 |
| 1810010D01Rik | 1,555631119 | 0,78254 |
| 2210013O21Rik | 1,555415478 | 0,40802 |
| Mboat7        | 1,555415478 | 0,5832  |
| Gm14830       | 1,555415478 | 0,82521 |
| Gm14048       | 1,555307668 | 0,76914 |
| Rarg          | 1,555199866 | 0,64801 |
| Ndr3          | 1,554984285 | 0,54622 |
| Mospd3        | 1,554876505 | 0,57621 |

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|------------|-------------|---------|
| Gm15198    | 1,554660968 | 0,63479 |
| Ssna1      | 1,55379912  | 0,60806 |
| Zfp655     | 1,553368375 | 0,54759 |
| Pax3       | 1,553153048 | 0,68027 |
| Kctd10     | 1,552830112 | 0,59316 |
| Gm6368     | 1,552830112 | 0,71026 |
| Gm43571    | 1,552399636 | 0,79117 |
| Rpl36a-ps3 | 1,552292036 | 0,85958 |
| Nptn       | 1,552076857 | 0,52709 |
| Gm16199    | 1,55164659  | 0,9075  |
| Usf1       | 1,551539042 | 0,78252 |
| Pvr        | 1,551323967 | 0,73244 |
| Gm16223    | 1,550893909 | 0,88685 |
| Pdcd7      | 1,550249044 | 0,61045 |
| Rpl30-ps11 | 1,550249044 | 0,81794 |
| Gm12355    | 1,550141593 | 0,78391 |
| Gm12176    | 1,550034149 | 0,87615 |
| Eif4e      | 1,549926712 | 0,3601  |
| Mybl2      | 1,549926712 | 0,8002  |
| Adrb2      | 1,549604448 | 0,78196 |
| Fam107b    | 1,54928225  | 0,77022 |
| Yae1d1     | 1,549067489 | 0,73249 |
| Btg1       | 1,548745403 | 0,60818 |
| Anapc7     | 1,548530716 | 0,46278 |
| Fam210a    | 1,547994129 | 0,5416  |
| Slc17a7    | 1,547994129 | 0,93396 |
| Slx4ip     | 1,547457728 | 0,75694 |
| Rpl7-ps7   | 1,547135977 | 0,52801 |
| Pole4      | 1,546921513 | 0,5635  |
| Gm7407     | 1,546921513 | 0,70906 |
| Gm22714    | 1,546599873 | 0,88264 |
| Gtpbp10    | 1,546492675 | 0,83069 |
| Rnf38      | 1,546063956 | 0,63451 |
| Il27       | 1,54584964  | 0,87977 |
| Atxn1l     | 1,545742494 | 0,69666 |
| Jmjd6      | 1,545635355 | 0,45867 |
| Erh        | 1,545635355 | 0,86248 |
| Tubb2b     | 1,545635355 | 0,93728 |
| Ccdc34     | 1,545421099 | 0,56054 |
| Gltf       | 1,545313983 | 0,37755 |
| Tmub1      | 1,545313983 | 0,56958 |
| Eif4e3     | 1,544457316 | 0,56088 |
| Fbxo2      | 1,544457316 | 0,68625 |
| BC029214   | 1,544350266 | 0,71966 |
| Gm11474    | 1,544243224 | 0,73515 |
| Emilin2    | 1,543815128 | 0,41259 |
| Gpkow      | 1,541997044 | 0,7796  |
| Pxmp2      | 1,541676428 | 0,77549 |
| Rps15-ps2  | 1,541249044 | 0,85971 |
| Pcyt2      | 1,541035397 | 0,63203 |
| Gm2796     | 1,540928584 | 0,59603 |
| Lfng       | 1,54060819  | 0,72176 |

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|---------------|-------------|---------|
| Gm21399       | 1,540287863 | 0,98351 |
| Pcdhb17       | 1,540181102 | 0,85249 |
| 4930402H24Rik | 1,539860864 | 0,64446 |
| Atg16l1       | 1,539754132 | 0,49652 |
| Gm6272        | 1,539540692 | 0,8521  |
| Dym           | 1,53900722  | 0,57659 |
| A430018G15Rik | 1,538900548 | 0,80902 |
| Gm4204        | 1,538580576 | 0,36208 |
| Gm11964       | 1,538047437 | 0,86056 |
| Gm17971       | 1,537621059 | 0,79973 |
| E2f5          | 1,537514483 | 0,72844 |
| Reep5         | 1,537088252 | 0,54166 |
| Uqcrh-ps1     | 1,536981713 | 0,82359 |
| Snrpa         | 1,53655563  | 0,61574 |
| Gpr155        | 1,536449128 | 0,73497 |
| Desi2         | 1,536342633 | 0,59162 |
| Gnai3         | 1,536342633 | 0,64156 |
| Mettl16       | 1,535703819 | 0,60743 |
| Gm25007       | 1,535703819 | 0,9232  |
| Dis3l2        | 1,535597376 | 0,69949 |
| Ecm1          | 1,535384512 | 0,56943 |
| Naa16         | 1,535065271 | 0,64925 |
| Pdia6         | 1,534426988 | 0,46774 |
| Casp6         | 1,534320633 | 0,71966 |
| Daglb         | 1,534214286 | 0,56913 |
| Crls1         | 1,534001613 | 0,55478 |
| Zbtb7b        | 1,533895288 | 0,45507 |
| Stt3a         | 1,533895288 | 0,72216 |
| Yipf7         | 1,533895288 | 0,80254 |
| Celf1         | 1,53378897  | 0,6009  |
| Rpl28-ps3     | 1,533576357 | 0,88085 |
| Tardbp        | 1,533257491 | 0,49966 |
| Gngt2         | 1,533151218 | 0,71868 |
| Rngtt         | 1,532938693 | 0,59209 |
| Tsc1          | 1,532832441 | 0,64446 |
| Arl2          | 1,532195087 | 0,58441 |
| Gm8730        | 1,531557997 | 0,75809 |
| 1110020A21Rik | 1,531345693 | 0,90743 |
| Eif4b         | 1,530921172 | 0,36006 |
| Gipr          | 1,530921172 | 0,74695 |
| 4933408B17Rik | 1,530708956 | 0,70928 |
| Rras          | 1,53049677  | 0,5268  |
| Bbs4          | 1,53049677  | 0,71689 |
| Mdm1          | 1,53049677  | 0,75809 |
| Gm16973       | 1,530390688 | 0,81559 |
| Peak1os       | 1,530072485 | 0,86903 |
| Tmtc3         | 1,529118274 | 0,78391 |
| Seh1l         | 1,528694371 | 0,62095 |
| Rpl36a-ps2    | 1,528694371 | 0,69092 |
| Prosc         | 1,528164657 | 0,59408 |
| RP23-308G10.5 | 1,528164657 | 1       |
| Fcna          | 1,527952824 | 0,70415 |

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|-----------|-------------|---------|
| Gm12396   | 1,527952824 | 0,77332 |
| Gm6565    | 1,527423367 | 0,78663 |
| Gm5601    | 1,526894094 | 0,74546 |
| Pnrc1     | 1,526576619 | 0,56387 |
| Txndc15   | 1,526470808 | 0,69028 |
| Arl3      | 1,526259209 | 0,58126 |
| Anxa5     | 1,52615342  | 0,49764 |
| Ppp5c     | 1,52615342  | 0,62867 |
| Gm9134    | 1,526047639 | 0,94169 |
| Ube2g1    | 1,525941865 | 0,65646 |
| Gatad1    | 1,525730339 | 0,56376 |
| Spire2    | 1,525730339 | 0,78395 |
| Rpl5-ps1  | 1,525730339 | 0,84851 |
| Zfp787    | 1,525624588 | 0,63441 |
| Cnot3     | 1,525518843 | 0,62867 |
| Polr2j    | 1,525095938 | 0,67279 |
| Nono      | 1,52467315  | 0,59662 |
| Serpinb6b | 1,524567472 | 0,69085 |
| Chst1     | 1,524567472 | 0,79993 |
| Gm10602   | 1,52425048  | 0,83455 |
| Hps3      | 1,52414483  | 0,7215  |
| Gtf2ird1  | 1,52414483  | 0,74982 |
| Atn1      | 1,523827926 | 0,87704 |
| Rictor    | 1,523511088 | 0,59544 |
| Il13ra1   | 1,523194316 | 0,50657 |
| Gm31166   | 1,523194316 | 0,94555 |
| Gm7027    | 1,522666508 | 0,79487 |
| Gm44152   | 1,521822397 | 0,97012 |
| Gm13477   | 1,521505976 | 0,98415 |
| Al662270  | 1,521084183 | 0,53734 |
| Dexi      | 1,520873331 | 0,66529 |
| Mrpl34    | 1,520557107 | 0,5361  |
| Tspyl4    | 1,520346327 | 0,98403 |
| Dnajc19   | 1,520240949 | 0,89425 |
| Chchd5    | 1,519924856 | 0,59603 |
| Tm6sf1    | 1,519924856 | 0,64773 |
| Epb41     | 1,519819507 | 0,63954 |
| Gm18737   | 1,519714165 | 0,87756 |
| Gm13039   | 1,51960883  | 0,76775 |
| Rangap1   | 1,519292869 | 0,48322 |
| Ptcd3     | 1,518976974 | 0,78235 |
| Dab2      | 1,518555882 | 0,61043 |
| Ubl5      | 1,518134907 | 0,43395 |
| Ogfrl1    | 1,518134907 | 0,61039 |
| Rnf217    | 1,518029682 | 0,75215 |
| Gm29257   | 1,517608853 | 0,80757 |
| Cycs      | 1,517398482 | 0,75265 |
| Snx3      | 1,517082981 | 0,62438 |
| Anpep     | 1,517082981 | 0,89697 |
| Gm14681   | 1,516767545 | 0,69174 |
| Vwa8      | 1,516767545 | 0,72074 |
| Vps37b    | 1,516662415 | 0,65169 |

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|-----------|-------------|---------|
| Caprin1   | 1,516347066 | 0,52964 |
| Gm5787    | 1,516031784 | 0,99638 |
| Slfn3     | 1,515086329 | 0,90043 |
| Nfkbib    | 1,514561331 | 0,75506 |
| Med12     | 1,514351383 | 0,88435 |
| Gm9435    | 1,514246419 | 0,9755  |
| U2af2     | 1,513721713 | 0,7398  |
| Hspa9-ps1 | 1,513616793 | 0,77264 |
| Yars2     | 1,513406976 | 0,75883 |
| Slc36a3os | 1,513406976 | 0,96766 |
| Nab2      | 1,513302078 | 0,7063  |
| Fahd1     | 1,512463158 | 0,57613 |
| Fgfbp3    | 1,512463158 | 0,80603 |
| Isyna1    | 1,512358325 | 0,68306 |
| Plcb3     | 1,512148683 | 0,67279 |
| Tmem183a  | 1,512043872 | 0,52964 |
| Pank2     | 1,512043872 | 0,66091 |
| Xrcc2     | 1,511415161 | 0,82464 |
| Vezf1     | 1,510891436 | 0,61221 |
| Rnf146    | 1,510786712 | 0,67017 |
| Baz2a     | 1,510681996 | 0,6274  |
| Gm14303   | 1,510681996 | 0,64446 |
| Magoh     | 1,510053852 | 0,60532 |
| Otud3     | 1,509844528 | 0,71844 |
| Hmga1     | 1,509321347 | 0,84835 |
| Gm37140   | 1,509112125 | 0,96227 |
| Gm12854   | 1,508693768 | 0,95074 |
| Pwp1      | 1,50806645  | 0,66644 |
| Gm11427   | 1,50806645  | 0,7398  |
| Mrps33    | 1,507752889 | 0,83273 |
| Jtb       | 1,507021501 | 0,67601 |
| Arid5b    | 1,506812598 | 0,76299 |
| Mzt1      | 1,506499297 | 0,68222 |
| Mgea5     | 1,506290467 | 0,50039 |
| Cd83      | 1,506081665 | 0,62943 |
| Ppp4r3a   | 1,506081665 | 0,66091 |
| Myl12b    | 1,505872892 | 0,60916 |
| Rap1gds1  | 1,505768517 | 0,66832 |
| Mterf3    | 1,505768517 | 0,80634 |
| Gm38062   | 1,505142415 | 0,95074 |
| Stk25     | 1,50503809  | 0,83069 |
| Relt      | 1,504725159 | 0,80688 |
| Gm20689   | 1,504620863 | 0,87775 |
| Ccnt2     | 1,504308018 | 0,6445  |
| Aacs      | 1,503682524 | 0,82296 |
| Tmem170   | 1,503474084 | 0,96978 |
| Dusp3     | 1,503161478 | 0,58599 |
| Chchd7    | 1,50295311  | 0,68138 |
| Cdkn2aip  | 1,502744771 | 0,74924 |
| Oard1     | 1,502640612 | 0,76491 |
| Jam2      | 1,502536461 | 0,70761 |
| Minos1    | 1,50222405  | 0,52964 |

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|---------------|-------------|---------|
| A830080D01Rik | 1,502119927 | 0,81901 |
| Wdr74         | 1,501911703 | 0,85559 |
| Morf4l2       | 1,501391271 | 0,7326  |
| Tnni2         | 1,501391271 | 0,74651 |
| Mss51         | 1,501079098 | 0,95049 |
| Ppt2          | 1,500871018 | 0,67906 |
| Immp1l        | 1,500871018 | 0,73981 |
| Ino80d        | 1,500454946 | 0,72739 |
| Nprl2         | 1,500350946 | 0,6744  |
| Chd6          | 1,500350946 | 0,67692 |
| Manbal        | 1,500246953 | 0,71151 |
| Cacna1a       | 1,500246953 | 0,71951 |
| Lamb2         | 1,499519205 | 0,92198 |
| Dennd6b       | 1,498895703 | 0,87876 |
| 1810032O08Rik | 1,498791811 | 0,72758 |
| Amhr2         | 1,498584048 | 0,7398  |
| Cuta          | 1,49816861  | 0,67657 |
| Gm7808        | 1,497130519 | 0,88751 |
| Adpgk         | 1,497026749 | 0,75638 |
| Mir703        | 1,496715484 | 0,64856 |
| Ttc5          | 1,496611743 | 0,82803 |
| Slc25a23      | 1,496404283 | 0,66859 |
| Mcoln1        | 1,496404283 | 0,77907 |
| Gm32340       | 1,496300563 | 0,91004 |
| Gm6905        | 1,496300563 | 0,96711 |
| Foxo3         | 1,495989449 | 0,64751 |
| Zfp692        | 1,495989449 | 0,75986 |
| Snhg4         | 1,495885758 | 0,76539 |
| Lamtor4       | 1,495367414 | 0,73638 |
| Gm12454       | 1,495367414 | 0,92526 |
| Cfl2          | 1,495263766 | 0,69048 |
| Polr2i        | 1,494124119 | 0,7297  |
| Lman2l        | 1,493917004 | 0,77859 |
| Ric8b         | 1,49350286  | 0,75269 |
| Itga5         | 1,493399341 | 0,83302 |
| Rgs1          | 1,49308883  | 0,74943 |
| Hdac3         | 1,492778383 | 0,78829 |
| Zfp36         | 1,492468001 | 0,80987 |
| Rab3a         | 1,492261115 | 0,75377 |
| B2m           | 1,492054258 | 0,69993 |
| Gm20430       | 1,492054258 | 0,87339 |
| Eif3f         | 1,490917057 | 0,67017 |
| Gm14336       | 1,490917057 | 0,88264 |
| Gm4217        | 1,490917057 | 0,98568 |
| Noxo1         | 1,490813719 | 0,93522 |
| Uchl5         | 1,490607062 | 0,68038 |
| Pcf11         | 1,490607062 | 0,71226 |
| Pdzk1ip1      | 1,490090547 | 0,92063 |
| 4933421A08Rik | 1,489883991 | 0,92141 |
| Rita1         | 1,489470964 | 0,785   |
| Psm5          | 1,489367726 | 0,73365 |
| Rai1          | 1,489367726 | 0,8025  |

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|---------------|-------------|---------|
| Kitl          | 1,489367726 | 0,81165 |
| Fkbp14        | 1,489367726 | 0,84087 |
| Iqcb1         | 1,48916127  | 0,80476 |
| Gm5644        | 1,488748444 | 0,86737 |
| Pex1          | 1,488542074 | 0,77999 |
| Ctss          | 1,488026274 | 0,68244 |
| Efcab11       | 1,487613762 | 0,97133 |
| 9330104G04Rik | 1,487098284 | 0,90583 |
| Irf2bpl       | 1,486892143 | 0,66644 |
| Cmc1          | 1,486479946 | 0,72074 |
| Helq          | 1,48627389  | 1       |
| Gm12696       | 1,486170873 | 0,71951 |
| RP23-6C18.6   | 1,486170873 | 0,91953 |
| Dctpp1        | 1,486067863 | 0,77683 |
| Mtpn          | 1,48596486  | 0,69798 |
| Gm4604        | 1,485758876 | 0,82492 |
| Dusp11        | 1,485449954 | 0,63212 |
| Map3k14       | 1,485038156 | 0,78502 |
| Gm42820       | 1,484935225 | 0,86286 |
| Slc12a6       | 1,484832301 | 0,75225 |
| Triap1        | 1,484317786 | 0,71609 |
| Pard6b        | 1,484317786 | 0,8655  |
| Pbx1          | 1,484317786 | 0,99909 |
| Rnf11         | 1,484214905 | 0,68426 |
| Ppp1r12c      | 1,48411203  | 0,64773 |
| Gm12989       | 1,48380345  | 0,85958 |
| Gm6177        | 1,483700604 | 0,96741 |
| Rps25         | 1,483289292 | 0,66923 |
| Ifitm2        | 1,483289292 | 0,73183 |
| Crbn          | 1,483186482 | 0,71136 |
| Gm8731        | 1,483083679 | 0,83962 |
| Gm14673       | 1,483083679 | 0,98712 |
| Ctxn1         | 1,482878094 | 0,91055 |
| Eif3e         | 1,482672538 | 0,66832 |
| Pwwp2a        | 1,482158772 | 0,78257 |
| Slc25a5       | 1,482158772 | 0,85956 |
| Atp5e         | 1,481645183 | 0,6264  |
| Ube2h         | 1,481645183 | 0,69079 |
| Kif9          | 1,481645183 | 0,87217 |
| Rps15a-ps8    | 1,481131773 | 0,87775 |
| E030030I06Rik | 1,480926459 | 0,87033 |
| 5430402O13Rik | 1,480823813 | 0,94476 |
| Cir1          | 1,480721173 | 0,75225 |
| Guf1          | 1,480413298 | 0,78698 |
| Ttc9c         | 1,480105487 | 0,77925 |
| Stk11         | 1,480002897 | 0,71689 |
| Zfp174        | 1,479900315 | 0,94971 |
| Gm7990        | 1,47959261  | 0,91041 |
| Edil3         | 1,479182437 | 0,77659 |
| Ssh3          | 1,479182437 | 0,80085 |
| Tmlhe         | 1,479079911 | 0,94137 |
| Napg          | 1,478977393 | 0,65768 |

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|---------------|-------------|---------|
| Tubb5         | 1,478362431 | 0,68455 |
| Gm11478       | 1,478362431 | 0,74667 |
| Eif2d         | 1,478259963 | 0,81259 |
| 1190002N15Rik | 1,478157501 | 0,75591 |
| Ndufb4        | 1,478055046 | 0,83268 |
| Gm2986        | 1,477747725 | 0,93399 |
| Cacna1s       | 1,477645299 | 0,85292 |
| Rps15a-ps3    | 1,47754288  | 0,90996 |
| Itpkc         | 1,477440468 | 0,83062 |
| Rps19bp1      | 1,477235666 | 0,71977 |
| Dnaaf3        | 1,477030892 | 0,84323 |
| D730045B01Rik | 1,476723784 | 0,86956 |
| Prdx2         | 1,476621429 | 0,70525 |
| D330045A20Rik | 1,476621429 | 0,79015 |
| Gm38220       | 1,476212079 | 0,9341  |
| Gm7432        | 1,476109759 | 0,92132 |
| Snrpert       | 1,476007447 | 0,82673 |
| Gm5262        | 1,475905141 | 0,99624 |
| Cdkl3         | 1,475802843 | 0,86903 |
| Scit1         | 1,475700551 | 0,85971 |
| Gm45762       | 1,475189201 | 0,9075  |
| Zfp532        | 1,474882476 | 1       |
| Ifi27l2a      | 1,474780249 | 0,81448 |
| Zyx           | 1,474780249 | 0,84957 |
| RP24-282C4.4  | 1,474473609 | 0,982   |
| Ppp2r1a       | 1,47386052  | 0,71241 |
| Miip          | 1,47386052  | 0,78671 |
| Rps11-ps2     | 1,473554071 | 0,83236 |
| Gm7809        | 1,473145572 | 0,80084 |
| Sertad3       | 1,473043464 | 0,80334 |
| Gm14706       | 1,472839271 | 0,83933 |
| Zcchc24       | 1,472635107 | 0,84373 |
| Gm43737       | 1,472533035 | 0,85115 |
| Ptprc         | 1,47243097  | 0,72088 |
| D10Wsu102e    | 1,472226862 | 0,73183 |
| Cby1          | 1,472226862 | 0,83396 |
| A430046D13Rik | 1,471920753 | 0,8324  |
| Prdx3         | 1,471818731 | 0,77012 |
| Srebf1        | 1,471818731 | 0,83242 |
| Tmem109       | 1,471512707 | 0,73238 |
| Dhx8          | 1,471512707 | 0,7799  |
| Uba3          | 1,471512707 | 0,81693 |
| 1110065P20Rik | 1,471410713 | 0,7698  |
| Slc7a6os      | 1,471206746 | 0,79859 |
| Clpx          | 1,470900849 | 0,75113 |
| Vps13b        | 1,470493085 | 0,82196 |
| Vprbp         | 1,470493085 | 0,82912 |
| Zfand1        | 1,470391162 | 0,8445  |
| Ankrd35       | 1,470187336 | 0,8981  |
| Mrps16        | 1,469983539 | 0,74017 |
| Gm45084       | 1,469881651 | 0,90694 |
| Pdcl3         | 1,46977977  | 0,86396 |

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|---------------|-------------|---------|
| Hotairm1      | 1,469677897 | 0,81559 |
| Gm10269       | 1,469677897 | 0,82982 |
| Gm36266       | 1,46957603  | 0,91972 |
| Smarce1       | 1,469372317 | 0,83518 |
| Gm10288       | 1,469168633 | 0,78252 |
| Gm5764        | 1,469168633 | 0,99114 |
| Btf3l4        | 1,469066802 | 0,85076 |
| Slc25a17      | 1,468964977 | 0,77832 |
| Btbd7         | 1,468964977 | 0,87033 |
| Hnrnpr        | 1,46886316  | 0,74664 |
| Vgll4         | 1,46886316  | 0,76213 |
| Itgb1         | 1,468354179 | 0,71305 |
| 1810022K09Rik | 1,468252404 | 0,81559 |
| C2cd5         | 1,468150636 | 0,81693 |
| Gyg           | 1,467743635 | 0,75269 |
| Gpr137b       | 1,467540176 | 0,78671 |
| Dr1           | 1,466523307 | 0,81136 |
| Nup50         | 1,466421659 | 0,78078 |
| Gpr137        | 1,466421659 | 0,84936 |
| Snx2          | 1,466320018 | 0,80505 |
| Hmgcr         | 1,466218384 | 0,76675 |
| Capns1        | 1,465811918 | 0,77219 |
| Uba7          | 1,46571032  | 0,84851 |
| Cfl1          | 1,465608728 | 0,78061 |
| Gm27029       | 1,465303995 | 0,92234 |
| Tet3          | 1,465202431 | 0,82464 |
| Ddx23         | 1,465100875 | 0,80334 |
| RP23-402A24.3 | 1,464694719 | 0,96337 |
| Cdyl2         | 1,464390176 | 0,85094 |
| Gm24959       | 1,464390176 | 0,96864 |
| Gm15131       | 1,464187182 | 0,98388 |
| Thap1         | 1,463375489 | 0,83871 |
| Lxn           | 1,463172637 | 0,88129 |
| Nucks1        | 1,463071221 | 0,72552 |
| Atf5          | 1,462665627 | 0,7895  |
| Anp32b-ps1    | 1,462564247 | 0,83268 |
| Rpl23a        | 1,462564247 | 0,87399 |
| Gm5117        | 1,462564247 | 0,96265 |
| Tmem41b       | 1,462361506 | 0,8271  |
| Zfp382        | 1,462158794 | 0,90666 |
| Creb1         | 1,46195611  | 0,78252 |
| Krit1         | 1,461854778 | 0,78391 |
| Susd6         | 1,461246936 | 0,82282 |
| Ppp4r1l-ps    | 1,461145654 | 0,86038 |
| Zfyve27       | 1,460841849 | 0,80367 |
| C87436        | 1,460841849 | 0,86396 |
| Magohb        | 1,460133216 | 0,89134 |
| Gm12501       | 1,459728437 | 0,86613 |
| Utrn          | 1,45962726  | 0,8092  |
| Eef1d         | 1,459424927 | 0,81449 |
| Kantr         | 1,458919216 | 0,86613 |
| Gm8093        | 1,458919216 | 0,95179 |

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|---------------|-------------|---------|
| Slc30a5       | 1,458818095 | 0,83551 |
| Fnbp1l        | 1,458514774 | 0,79993 |
| Gm13433       | 1,458514774 | 0,99774 |
| Kirrel3       | 1,458413681 | 0,91093 |
| Ywhaq         | 1,458211516 | 0,7575  |
| Tmem63a       | 1,458009379 | 0,77608 |
| Fyttd1        | 1,457908321 | 0,7734  |
| Cenpm         | 1,45780727  | 0,87329 |
| Actr2         | 1,457605189 | 0,77608 |
| Ggh           | 1,457504159 | 0,84957 |
| Cdc42         | 1,456898126 | 0,76272 |
| Lmtk2         | 1,456494244 | 0,90893 |
| Apip          | 1,456393291 | 0,87977 |
| Rnf13         | 1,455989549 | 0,82296 |
| Ldha          | 1,455888631 | 0,76031 |
| Psmc9         | 1,45578772  | 0,81527 |
| Kbtbd8        | 1,455686816 | 0,98012 |
| Napb          | 1,455485029 | 0,83236 |
| Gm14165       | 1,455384146 | 0,87675 |
| Ccdc25        | 1,45528327  | 0,84262 |
| Cd36          | 1,455182401 | 0,84066 |
| Uba6          | 1,455081539 | 0,80448 |
| AB124611      | 1,454980684 | 0,78391 |
| Sin3a         | 1,454980684 | 0,79064 |
| Spcs2-ps      | 1,454879836 | 0,95379 |
| Whamm         | 1,454577333 | 0,85132 |
| Capn1         | 1,4543757   | 0,83225 |
| Gps1          | 1,454174095 | 0,91148 |
| 4632404H12Rik | 1,453972517 | 0,85286 |
| Hcst          | 1,453871739 | 0,84836 |
| Gm8805        | 1,453770968 | 0,85563 |
| Snhg18        | 1,453770968 | 0,86193 |
| Gm15163       | 1,453569446 | 0,97606 |
| Ruvbl2        | 1,453367953 | 0,88184 |
| Cd52          | 1,453166487 | 0,7398  |
| Erap1         | 1,453065765 | 0,85958 |
| Aldh1l1       | 1,452864341 | 0,84653 |
| Snu13         | 1,452662945 | 0,85249 |
| Gm44024       | 1,452461578 | 0,92938 |
| Gm11694       | 1,452461578 | 0,93325 |
| Mipol1        | 1,452260238 | 0,86228 |
| Dhx40         | 1,452058925 | 0,84481 |
| RP24-325P4.5  | 1,452058925 | 1       |
| 9330111N05Rik | 1,451857641 | 0,84851 |
| Gm26497       | 1,451555767 | 0,94257 |
| Hmga1-rs1     | 1,450952208 | 0,89799 |
| Gm45630       | 1,450952208 | 0,95518 |
| Gm14173       | 1,450851639 | 0,91372 |
| Patl1         | 1,450751077 | 0,85286 |
| Lta4h         | 1,450248372 | 0,82743 |
| Swt1          | 1,450047339 | 0,83416 |
| Ggnbp1        | 1,449946833 | 0,84938 |

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|---------------|-------------|---------|
| E330037G11Rik | 1,449143035 | 0,91377 |
| Qars          | 1,449042591 | 0,79942 |
| Golga3        | 1,448942155 | 0,83455 |
| Lamtor5       | 1,448741302 | 0,83347 |
| Mrpl50        | 1,448440076 | 0,82724 |
| Nr1d1         | 1,448339682 | 0,85996 |
| Nicn1         | 1,448239294 | 0,84653 |
| Gm15694       | 1,448038539 | 0,93648 |
| Lactb2        | 1,447737459 | 0,85688 |
| Ncaph         | 1,447637113 | 0,87992 |
| Slc35a2       | 1,447637113 | 0,88683 |
| Rnase4        | 1,447536774 | 0,81001 |
| Prkcsh        | 1,447436442 | 0,80769 |
| Cenpa         | 1,446734312 | 0,81165 |
| Uck1          | 1,446634036 | 0,86608 |
| Bcl7a         | 1,446232999 | 0,86895 |
| Dusp28        | 1,44573186  | 0,89181 |
| Stk40         | 1,445631653 | 0,86608 |
| Gm26601       | 1,445631653 | 0,96929 |
| Gm37706       | 1,445431259 | 0,98567 |
| Adk           | 1,445331073 | 0,85465 |
| Mta3          | 1,445230894 | 0,87855 |
| Gm13736       | 1,445130722 | 1       |
| Etfa          | 1,444529834 | 0,87945 |
| Cdk2          | 1,444029285 | 0,86608 |
| Fkbp3         | 1,443528909 | 0,83933 |
| Gm10499       | 1,443528909 | 1       |
| Arl6ip6       | 1,443328807 | 0,87137 |
| Cers5         | 1,443128733 | 0,83944 |
| Cnst          | 1,442928687 | 0,88758 |
| Gm11687       | 1,442728668 | 0,9072  |
| Mroh2a        | 1,442728668 | 1       |
| Guca1a        | 1,442628669 | 0,82401 |
| Cops2         | 1,442428693 | 0,8468  |
| 2510039O18Rik | 1,442028822 | 0,8224  |
| Tubg1         | 1,441928871 | 0,86353 |
| Arpc3         | 1,441529139 | 0,83856 |
| Gm37354       | 1,441529139 | 0,99951 |
| RP23-331E5.10 | 1,441229413 | 0,90088 |
| Gm45206       | 1,441129518 | 1       |
| Capza2        | 1,440730007 | 0,85111 |
| Abi1          | 1,440530294 | 0,87027 |
| Rin1          | 1,440130949 | 0,93325 |
| Rps11-ps4     | 1,44003113  | 0,95719 |
| Gm37589       | 1,439931319 | 0,9633  |
| Pdxk          | 1,439831514 | 0,85249 |
| Kcnab2        | 1,439731715 | 0,86934 |
| Ola1          | 1,438734115 | 0,86286 |
| Rpl19-ps1     | 1,438534678 | 0,90327 |
| 2310022A10Rik | 1,438235574 | 0,85858 |
| Spryd7        | 1,438235574 | 0,86286 |
| 2310009B15Rik | 1,437737206 | 0,88058 |

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|-----------|-------------|---------|
| Selenoh   | 1,437637553 | 0,86737 |
| E2f2      | 1,437338636 | 0,87622 |
| Rab6a     | 1,437039781 | 0,85335 |
| Rock2     | 1,436740988 | 0,86981 |
| Ap1s2     | 1,436143589 | 0,87676 |
| Ppme1     | 1,436044046 | 0,88093 |
| Sdccag3   | 1,436044046 | 0,89425 |
| Ulk4      | 1,436044046 | 0,91359 |
| Adamts1   | 1,435247955 | 0,93067 |
| Gm8806    | 1,435148475 | 0,93132 |
| Gm12020   | 1,435049001 | 0,89409 |
| Coq2      | 1,435049001 | 0,90179 |
| Gm4707    | 1,434651176 | 0,90195 |
| Aplp2     | 1,434452305 | 0,85641 |
| Sumo1     | 1,434452305 | 0,88373 |
| Hbp1      | 1,433955248 | 0,86248 |
| Zbtb8a    | 1,433855857 | 0,9224  |
| Arhgef11  | 1,433756473 | 0,90612 |
| Cd300a    | 1,433756473 | 0,90743 |
| Rpl35     | 1,433160315 | 0,93885 |
| Dynll2    | 1,432862328 | 0,86266 |
| Stbd1     | 1,43246511  | 0,94241 |
| Usp37     | 1,432266542 | 0,88769 |
| Diaph1    | 1,432167268 | 0,87395 |
| Gpn3      | 1,43157177  | 0,91041 |
| Mettl10   | 1,43157177  | 0,92279 |
| Klhl35    | 1,43157177  | 1       |
| Xxylt1    | 1,431373326 | 0,93885 |
| Gm7206    | 1,430877336 | 0,9609  |
| Ccdc137   | 1,429984986 | 0,89768 |
| Phka2     | 1,429786762 | 0,9063  |
| Rmrp      | 1,429390396 | 0,94919 |
| Bcl2l2    | 1,42899414  | 0,93348 |
| Gm12967   | 1,428895093 | 0,91732 |
| Pdpk1     | 1,428201957 | 0,90126 |
| Lrp1      | 1,42780603  | 0,8928  |
| Snx8      | 1,427410213 | 0,89425 |
| Gm14323   | 1,427212346 | 0,99759 |
| Il15      | 1,427113422 | 0,90583 |
| Tmem208   | 1,427014506 | 0,90282 |
| Mb21d2    | 1,426816693 | 0,91989 |
| Gatad2b   | 1,426520026 | 0,90243 |
| Gm10616   | 1,426520026 | 0,93321 |
| Cdc34b    | 1,42642115  | 0,95297 |
| Rara      | 1,425828042 | 0,9127  |
| Lmbrd2    | 1,425729214 | 0,91498 |
| Gm14584   | 1,42553158  | 0,9633  |
| BC085271  | 1,425333973 | 0,95518 |
| Zfp81     | 1,425136394 | 0,91808 |
| Map2k1    | 1,424642565 | 0,90831 |
| Rpl7a-ps5 | 1,424642565 | 0,941   |
| Hypk      | 1,424445081 | 0,92155 |

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| Gm7722        | 1,424445081 | 0,94404 |
| Gm44190       | 1,424346349 | 0,9938  |
| 0610030E20Rik | 1,424148907 | 0,90903 |
| Tcea1-ps1     | 1,423260753 | 0,92013 |
| Zfat          | 1,423063461 | 0,92526 |
| Bbof1         | 1,42257035  | 0,92155 |
| Utp14a        | 1,422471749 | 0,90893 |
| Tapbpl        | 1,422274566 | 0,92526 |
| Sccpdh        | 1,421683182 | 0,92155 |
| Stip1         | 1,420993544 | 0,91372 |
| Dhx58         | 1,420993544 | 0,92451 |
| Rbm39         | 1,420599616 | 0,91377 |
| Wdr37         | 1,420599616 | 0,92013 |
| Txndc17       | 1,420402692 | 0,91849 |
| Tfb1m         | 1,420304241 | 0,93745 |
| Gm13436       | 1,420008928 | 0,93132 |
| Tnfrsf26      | 1,419713676 | 0,9191  |
| Dek           | 1,419615272 | 0,92032 |
| Repin1        | 1,419516875 | 0,92132 |
| Pfdn2         | 1,419516875 | 0,9224  |
| Adgre5        | 1,419516875 | 0,98999 |
| Mrpl33        | 1,419418485 | 0,92132 |
| Acd           | 1,419418485 | 0,9232  |
| Slc35a4       | 1,419418485 | 0,92526 |
| AC168977.1    | 1,419221726 | 0,92181 |
| Snapc1        | 1,419123356 | 0,92132 |
| Sap30l        | 1,419123356 | 0,925   |
| Dnaaf5        | 1,418926638 | 0,9224  |
| Sep 11        | 1,418041741 | 0,92507 |
| Nbas          | 1,418041741 | 0,92639 |
| Zcchc11       | 1,417943453 | 0,92451 |
| Fbxo30        | 1,416175438 | 0,93067 |
| Gpr179        | 1,41607728  | 0,93234 |
| Gm9530        | 1,415782845 | 0,95111 |
| Cct5          | 1,41558659  | 0,92912 |
| Dnm1          | 1,415390361 | 0,93396 |
| Arhgap17      | 1,414997986 | 0,93321 |
| BC030499      | 1,41460572  | 1       |
| Mdh1          | 1,413821513 | 0,93605 |
| Rbm14         | 1,413527548 | 0,93661 |
| Runx1         | 1,413135689 | 0,93809 |
| Atp1a3        | 1,412450198 | 0,9387  |
| Ndufv3        | 1,411373669 | 0,94376 |
| Elof1         | 1,411275843 | 0,94373 |
| Hnrnpa2b1     | 1,410689032 | 0,945   |
| Lamtor2       | 1,410591254 | 0,94404 |
| Tsg101-ps     | 1,410591254 | 1       |
| Hprt          | 1,410395718 | 0,94476 |
| Lrig2         | 1,41029796  | 0,94314 |
| Slfn9         | 1,410200209 | 1       |
| Gm37060       | 1,410102465 | 0,94163 |
| Stk19         | 1,409809273 | 0,94396 |

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|---------------|-------------|---------|
| Cd5l          | 1,409809273 | 0,94476 |
| Lmtk3         | 1,409613846 | 0,9633  |
| Ccar1         | 1,409516142 | 0,94729 |
| E4f1          | 1,409320755 | 0,94399 |
| Pafah1b1-ps2  | 1,409125395 | 0,9692  |
| Pafah1b3      | 1,408930063 | 0,94476 |
| Gm15484       | 1,408734757 | 0,99732 |
| Slc9a5        | 1,408539478 | 0,94404 |
| Rpl28         | 1,408246611 | 0,94435 |
| Scarna2       | 1,4080514   | 0,94466 |
| Foxm1         | 1,4080514   | 0,94476 |
| Oxr1          | 1,407563492 | 0,94476 |
| Gm7863        | 1,407173286 | 0,99327 |
| 2610021A01Rik | 1,407075752 | 0,94756 |
| Pdcd2l        | 1,406783189 | 0,94651 |
| Gm32175       | 1,406783189 | 0,98533 |
| Mob2          | 1,40629572  | 0,95518 |
| Col18a1       | 1,406003319 | 0,95375 |
| Ppp1r16a      | 1,405905866 | 0,94538 |
| Rhox5         | 1,405710979 | 1       |
| Gm9762        | 1,405613546 | 0,94689 |
| Rbm18         | 1,4054187   | 0,95433 |
| Plch2         | 1,405321287 | 0,97759 |
| Gm43560       | 1,405321287 | 0,98088 |
| Atl3          | 1,405223881 | 0,95326 |
| Gm44609       | 1,405126482 | 0,94919 |
| Ctdp1         | 1,405126482 | 0,94971 |
| Vaultrc5      | 1,404834325 | 0,95123 |
| Aurka         | 1,404639587 | 0,95411 |
| Cxcl16        | 1,404639587 | 0,95786 |
| Cuedc2        | 1,403860905 | 0,95518 |
| Lrwd1         | 1,403666302 | 0,95738 |
| Sugp2         | 1,403179913 | 0,95793 |
| Mex3d         | 1,403082655 | 0,95305 |
| Lrrc45        | 1,402985404 | 0,95315 |
| Gm17491       | 1,40288816  | 0,95179 |
| Ripk2         | 1,402790922 | 0,9633  |
| B3gnt2        | 1,402499251 | 0,9964  |
| Oat           | 1,402110449 | 0,95786 |
| Zmym6         | 1,401624599 | 0,95793 |
| Gm42748       | 1,401527449 | 0,95111 |
| Gm10260       | 1,40123604  | 0,95136 |
| lpo5          | 1,40123604  | 0,98127 |
| Aip           | 1,400944691 | 0,9633  |
| Gna11         | 1,400847589 | 0,96227 |
| Gpr157        | 1,400653403 | 0,95297 |
| Dnajb2        | 1,400653403 | 0,95433 |
| Ccdc50        | 1,400265114 | 0,97345 |
| Gm6501        | 1,400265114 | 1       |
| Xlr           | 1,399779903 | 0,95433 |
| Acyp1         | 1,399682881 | 0,95326 |
| RP23-307F3.6  | 1,399682881 | 0,95672 |

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|---------------|-------------|---------|
| Sntb2         | 1,399682881 | 0,96741 |
| Ftsj1         | 1,399585866 | 0,95593 |
| Sparc         | 1,39929486  | 1       |
| RP24-550H10.4 | 1,399197872 | 1       |
| Lars2         | 1,398906947 | 0,95835 |
| Mrpl23        | 1,398906947 | 0,96337 |
| Zbtb11        | 1,398519141 | 0,96929 |
| Hsp90b1       | 1,398228358 | 0,98629 |
| Rest          | 1,39784074  | 0,97554 |
| B230307C23Rik | 1,397646972 | 0,96698 |
| Rev1          | 1,39745323  | 0,96373 |
| Ssr3          | 1,39735637  | 0,98533 |
| D2hgdh        | 1,397259516 | 1       |
| Spaca6        | 1,397162668 | 0,95653 |
| Mycn          | 1,396968994 | 0,97501 |
| Fkbp1a        | 1,396872167 | 0,9938  |
| Gm7160        | 1,396678532 | 0,95642 |
| Tmem120b      | 1,396484925 | 0,96149 |
| Slc8a1        | 1,396097791 | 0,99018 |
| Prpf8         | 1,395807511 | 0,97419 |
| Pja2          | 1,395807511 | 0,98406 |
| Mrpl51        | 1,395130425 | 0,97312 |
| Rad51d        | 1,395033725 | 0,97312 |
| Ap2a2         | 1,395033725 | 0,98406 |
| Unc119        | 1,394840346 | 0,99751 |
| Zfp143        | 1,394646993 | 0,98313 |
| Etnk1         | 1,394646993 | 0,99414 |
| Ndufaf2       | 1,393390855 | 0,96872 |
| A630081D01Rik | 1,393294276 | 1       |
| Ssbp3         | 1,393004579 | 0,96929 |
| Traf4         | 1,392521884 | 0,97759 |
| Eif3k         | 1,392425365 | 0,99759 |
| Lsr           | 1,392232347 | 1       |
| Gm26799       | 1,392135848 | 0,96766 |
| Icam5         | 1,391942871 | 0,96995 |
| Clpb          | 1,391942871 | 0,98673 |
| Vcl           | 1,391846392 | 0,97443 |
| Marf1         | 1,39174992  | 0,9755  |
| Sult2b1       | 1,391653454 | 1       |
| Anp32-ps      | 1,391074802 | 1       |
| Zbtb21        | 1,390978384 | 0,96337 |
| Zmym2         | 1,390881972 | 0,99414 |
| 5730405O15Rik | 1,390881972 | 1       |
| Cebpz         | 1,390592776 | 0,97278 |
| Gm43445       | 1,390592776 | 1       |
| Abcb1b        | 1,390207275 | 1       |
| Abca7         | 1,390110917 | 0,97988 |
| Snx12         | 1,38972555  | 0,99481 |
| Gm16523       | 1,389340289 | 0,99114 |
| Med21         | 1,389243991 | 0,98376 |
| Evl           | 1,389051414 | 0,98762 |
| Cpsf7         | 1,388570089 | 0,98406 |

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| Gm7436        | 1,388088931 | 0,96853 |
| Gm13578       | 1,387896514 | 0,96741 |
| Rps15         | 1,387896514 | 1       |
| Ppfia3        | 1,387800316 | 0,98281 |
| Gm26947       | 1,387607939 | 0,96766 |
| Orc4          | 1,387223266 | 1       |
| Gm37105       | 1,387127114 | 0,99018 |
| RP23-123D6.12 | 1,387030969 | 0,96864 |
| Eps15l1       | 1,386742574 | 0,98627 |
| Gm5909        | 1,386646456 | 0,97584 |
| Ctbp2         | 1,386550344 | 0,99739 |
| Cs            | 1,386550344 | 1       |
| Hspb11        | 1,386069886 | 0,9938  |
| Pebp1         | 1,386069886 | 1       |
| Ikzf5         | 1,385973814 | 1       |
| Cep164        | 1,38578169  | 0,97759 |
| Stxbp4        | 1,385589594 | 0,96978 |
| Stag1         | 1,385301498 | 0,98762 |
| Gm4540        | 1,384917464 | 0,98085 |
| Gm15541       | 1,384917464 | 1       |
| Gm10704       | 1,384629509 | 0,98251 |
| Strn4         | 1,384341613 | 1       |
| Metrn1        | 1,384053777 | 1       |
| Cry1          | 1,38386192  | 0,99533 |
| Xpa           | 1,383766001 | 0,99327 |
| Akirin2       | 1,383574184 | 0,98999 |
| Nfam1         | 1,383478285 | 0,98088 |
| Cwf19l1       | 1,383286508 | 0,9783  |
| Cd164         | 1,382998891 | 1       |
| Gm43756       | 1,382998891 | 1       |
| Sdhaf2        | 1,38280718  | 1       |
| Fgd4          | 1,382711335 | 0,98762 |
| Gm12074       | 1,382711335 | 1       |
| Smc3          | 1,382711335 | 1       |
| Atp6ap1       | 1,382519664 | 1       |
| Gm8995        | 1,382423838 | 0,97443 |
| Aen           | 1,382040602 | 1       |
| Ubr7          | 1,381753244 | 1       |
| Fcgr3         | 1,381753244 | 1       |
| Gm10031       | 1,381465947 | 1       |
| Ube2g2        | 1,381082976 | 1       |
| Zfp652        | 1,38098725  | 1       |
| Ifitm6        | 1,380700112 | 1       |
| Stk24         | 1,38022168  | 1       |
| Katna1        | 1,38022168  | 1       |
| Hjulp         | 1,379934701 | 1       |
| Supt7l        | 1,379839055 | 0,99247 |
| Galnt6        | 1,379456535 | 1       |
| Xpo1          | 1,379265315 | 1       |
| Inhbe         | 1,379074122 | 1       |
| Tfe3          | 1,378787381 | 1       |
| Pcm1          | 1,378787381 | 1       |

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| P4hb          | 1,3785007   | 1       |
| Gm14822       | 1,377450046 | 0,98388 |
| Rap2a         | 1,377450046 | 1       |
| Agps          | 1,377354572 | 1       |
| 1110003F10Rik | 1,377163643 | 1       |
| Gxylt1        | 1,376972741 | 1       |
| Mkln1         | 1,376591016 | 1       |
| Bloc1s3       | 1,376304792 | 0,99414 |
| Phf6          | 1,376209397 | 1       |
| Sem1          | 1,376114009 | 1       |
| Rps18         | 1,376018627 | 0,99055 |
| Cda           | 1,375732522 | 0,99624 |
| Psmb1         | 1,375637167 | 1       |
| Cdc42se1      | 1,375255812 | 1       |
| Hapln3        | 1,375065174 | 1       |
| Plcl2         | 1,374874563 | 0,99909 |
| Siva1         | 1,374779267 | 1       |
| Lppos         | 1,374683978 | 1       |
| Tusc2         | 1,374683978 | 1       |
| Creb3         | 1,37439815  | 1       |
| Rgs3          | 1,374207631 | 0,98673 |
| Fam214a       | 1,374207631 | 1       |
| Nt5dc3        | 1,374207631 | 1       |
| Pgm3          | 1,373921903 | 0,9938  |
| Zc3h11a       | 1,373826673 | 0,98406 |
| Myo1f         | 1,37344582  | 1       |
| Gabarap       | 1,37344582  | 1       |
| Vdac3-ps1     | 1,373350624 | 0,99018 |
| Mapk1ip1      | 1,37316025  | 1       |
| Sgcb          | 1,372969903 | 0,98406 |
| Acot9         | 1,372874739 | 1       |
| Armc8         | 1,372684431 | 1       |
| Star          | 1,372589287 | 0,98454 |
| 1110046J04Rik | 1,372589287 | 0,98713 |
| Gm11450       | 1,372589287 | 0,98999 |
| Nectin1       | 1,37249415  | 1       |
| D16Ert472e    | 1,372399019 | 0,99476 |
| 1810058I24Rik | 1,372303895 | 1       |
| Gm45856       | 1,372208778 | 0,99759 |
| Gm25636       | 1,371923464 | 1       |
| Dpm3          | 1,371923464 | 1       |
| Gm17039       | 1,371257964 | 1       |
| Gnb2          | 1,371067881 | 1       |
| 2310022B05Rik | 1,370592787 | 1       |
| Nxt1          | 1,370402796 | 1       |
| Bscl2         | 1,37030781  | 1       |
| Prpf38a       | 1,369927933 | 1       |
| Pop1          | 1,369738034 | 0,99476 |
| Tomm20        | 1,369738034 | 1       |
| Plekhh2       | 1,369548161 | 1       |
| Gm12751       | 1,369358314 | 1       |
| Cnih4         | 1,369168494 | 1       |

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| Gm25291       | 1,3689787   | 1       |
| Bax           | 1,368883813 | 1       |
| Bckdhb        | 1,368504331 | 1       |
| Rps26-ps1     | 1,368409476 | 1       |
| Eif3l         | 1,368314629 | 1       |
| Tprn          | 1,368219788 | 1       |
| Gm11334       | 1,368124953 | 1       |
| Med18         | 1,367745681 | 0,99055 |
| Rhbdf2        | 1,367745681 | 1       |
| Skp1a         | 1,367271739 | 1       |
| Gm45109       | 1,366703224 | 0,99414 |
| Rer1          | 1,366608495 | 1       |
| Gm3283        | 1,366513772 | 1       |
| Csnk1g2       | 1,366229643 | 1       |
| Snx21         | 1,366134947 | 1       |
| Akirin1       | 1,365945573 | 1       |
| Irgq          | 1,365661562 | 1       |
| Dna2          | 1,365377611 | 1       |
| Sar1b         | 1,365377611 | 1       |
| Rps27a-ps1    | 1,364904489 | 1       |
| Glrx          | 1,364904489 | 1       |
| Hexb          | 1,364809884 | 1       |
| Abhd2         | 1,364620694 | 1       |
| Pik3c2a       | 1,364431531 | 1       |
| Inip          | 1,364336959 | 1       |
| Top1          | 1,364147835 | 1       |
| Acadl         | 1,364053283 | 1       |
| Tcf7l2        | 1,363958737 | 1       |
| Gm43247       | 1,363958737 | 1       |
| Gm11952       | 1,363675139 | 0,99624 |
| Casp7         | 1,363108121 | 1       |
| 5031434O11Rik | 1,363108121 | 1       |
| Ergic3        | 1,363108121 | 1       |
| Tchp          | 1,36301364  | 1       |
| Kansl3        | 1,36301364  | 1       |
| Rpl10a-ps1    | 1,362919167 | 1       |
| 2410131K14Rik | 1,362730239 | 1       |
| Klhl24        | 1,362730239 | 1       |
| Noct          | 1,362635785 | 0,9964  |
| Zbtb43        | 1,362635785 | 1       |
| Elovl1        | 1,362635785 | 1       |
| Sub1          | 1,362446897 | 1       |
| E330020D12Rik | 1,362163613 | 1       |
| Scp2          | 1,362163613 | 1       |
| Gm13140       | 1,36197479  | 1       |
| Usp32         | 1,361880389 | 1       |
| Gm43275       | 1,361691605 | 1       |
| Casp8ap2      | 1,361219761 | 1       |
| Bahd1         | 1,361219761 | 1       |
| 2200002J24Rik | 1,361125411 | 1       |
| Itpka         | 1,361125411 | 1       |
| Gm5905        | 1,360842403 | 0,99785 |

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| Mars2         | 1,36074808  | 1       |
| Wbp1          | 1,360653763 | 1       |
| Terf1         | 1,360276562 | 1       |
| Pigl          | 1,359805208 | 0,99941 |
| Tpp2          | 1,359522474 | 1       |
| Pag1          | 1,359334017 | 1       |
| Adck2         | 1,359145586 | 1       |
| Cgrrf1        | 1,358957182 | 1       |
| Htt           | 1,358862989 | 1       |
| Prmt7         | 1,358674624 | 1       |
| RP23-38L16.3  | 1,358580451 | 0,99797 |
| Luzp1         | 1,358580451 | 1       |
| Gm12182       | 1,357921423 | 1       |
| Pcbd2         | 1,357921423 | 1       |
| Engase        | 1,357827303 | 1       |
| Sep 10        | 1,357356797 | 1       |
| 2410006H16Rik | 1,357074572 | 1       |
| Kazald1       | 1,356886455 | 1       |
| Poc1a         | 1,356792406 | 0,99951 |
| Slc7a7        | 1,356416275 | 1       |
| Cstf3         | 1,356416275 | 1       |
| Paxbp1        | 1,356416275 | 1       |
| Mre11a        | 1,356228249 | 1       |
| a             | 1,356040249 | 1       |
| Smyd5         | 1,356040249 | 1       |
| Gm43533       | 1,355758298 | 1       |
| B130034C11Rik | 1,355570363 | 1       |
| Pld4          | 1,355194571 | 1       |
| Atp6v1g1      | 1,355100639 | 1       |
| Cd200r3       | 1,354724977 | 1       |
| Upp2          | 1,35444433  | 1       |
| 1700034H15Rik | 1,354255547 | 1       |
| Mtor          | 1,354255547 | 1       |
| Mnt           | 1,35406782  | 1       |
| Gm13015       | 1,353692445 | 1       |
| Rhog          | 1,353692445 | 1       |
| Car5b         | 1,353598617 | 1       |
| Bzw1          | 1,353598617 | 1       |
| Serpine1      | 1,353317174 | 1       |
| Gtf2f1        | 1,353317174 | 1       |
| Rpl23         | 1,352942007 | 1       |
| Sirt2         | 1,352942007 | 1       |
| Yjefn3        | 1,352848231 | 1       |
| BC030867      | 1,352566943 | 1       |
| Ift52         | 1,352191984 | 1       |
| Gli1          | 1,352191984 | 1       |
| Zfp444        | 1,352004544 | 1       |
| Arrdc3        | 1,351910833 | 1       |
| Tmem30a       | 1,351817129 | 1       |
| Mknk1         | 1,351536056 | 1       |
| Wdr44         | 1,351161382 | 1       |
| Als2cl        | 1,351161382 | 1       |

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| Cib2          | 1,350225153 | 1 |
| Cyth2         | 1,350131566 | 1 |
| Il6ra         | 1,350131566 | 1 |
| Mlf1          | 1,349757282 | 1 |
| Jag1          | 1,349570179 | 1 |
| Sympk         | 1,349476637 | 1 |
| Hps5          | 1,349289573 | 1 |
| Bak1          | 1,348728536 | 1 |
| Gm4866        | 1,348635052 | 1 |
| Gchfr         | 1,348541575 | 1 |
| Foxn3         | 1,348448104 | 1 |
| Nudt16l1      | 1,348261183 | 1 |
| A430110C17Rik | 1,348167732 | 1 |
| Taf10         | 1,347980849 | 1 |
| Phf1          | 1,347980849 | 1 |
| Zfp414        | 1,347887417 | 1 |
| Tubb2a        | 1,347887417 | 1 |
| Ppp6c         | 1,347700573 | 1 |
| Ptprj         | 1,347420356 | 1 |
| Nudt2         | 1,347233577 | 1 |
| Eif4h         | 1,347046824 | 1 |
| Prpf4b        | 1,346300069 | 1 |
| Aaed1         | 1,345553729 | 1 |
| Pik3r6        | 1,345553729 | 1 |
| Tmem242       | 1,345460466 | 1 |
| Sgsm2         | 1,345367209 | 1 |
| Zfp609        | 1,345180714 | 1 |
| Snrpe         | 1,344994245 | 1 |
| Stk35         | 1,344901021 | 1 |
| Grasp         | 1,344901021 | 1 |
| Cops9         | 1,344901021 | 1 |
| Max           | 1,344901021 | 1 |
| Hsbp1         | 1,344621385 | 1 |
| Gm11221       | 1,344528187 | 1 |
| Dusp7         | 1,344434994 | 1 |
| Hmces         | 1,344341808 | 1 |
| Rps20         | 1,344341808 | 1 |
| Ebi3          | 1,343969129 | 1 |
| Gm6794        | 1,343875976 | 1 |
| D430013B06Rik | 1,343782828 | 1 |
| Pigg          | 1,343503426 | 1 |
| Gm9843        | 1,343503426 | 1 |
| Casp4         | 1,34331719  | 1 |
| Gm42783       | 1,343130979 | 1 |
| Npepps        | 1,343037884 | 1 |
| 9430015G10Rik | 1,342758636 | 1 |
| Gm42548       | 1,342479446 | 1 |
| Fkbp1b        | 1,342386396 | 1 |
| Rhebl1        | 1,342014259 | 1 |
| Stx7          | 1,341735224 | 1 |
| Sharpin       | 1,341642225 | 1 |
| Btbd6         | 1,341084368 | 1 |

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| Srsf4         | 1,340991414 | 1 |
| Pi4kb         | 1,340805526 | 1 |
| Lrig3         | 1,340619664 | 1 |
| Rab4a         | 1,340526742 | 1 |
| M6pr          | 1,340526742 | 1 |
| Aga           | 1,340526742 | 1 |
| Taf8          | 1,340433827 | 1 |
| Stard10       | 1,340155121 | 1 |
| Gm11488       | 1,339876472 | 1 |
| Sart1         | 1,339690739 | 1 |
| Gm12338       | 1,339505031 | 1 |
| Aspm          | 1,339226518 | 1 |
| Gm2225        | 1,339226518 | 1 |
| Pdp1          | 1,339226518 | 1 |
| Rpl14         | 1,339226518 | 1 |
| 9330160F10Rik | 1,338669665 | 1 |
| Blcap         | 1,338484099 | 1 |
| Nufip1        | 1,338391326 | 1 |
| Wasl          | 1,338298559 | 1 |
| Ppp1r13l      | 1,338205798 | 1 |
| Edc3          | 1,338205798 | 1 |
| Nomo1         | 1,338205798 | 1 |
| Gm11599       | 1,338113044 | 1 |
| Angptl6       | 1,338020296 | 1 |
| Nmral1        | 1,338020296 | 1 |
| Rad21         | 1,337927555 | 1 |
| A930005H10Rik | 1,337556654 | 1 |
| Tomm7         | 1,337463945 | 1 |
| Dmpk          | 1,337371242 | 1 |
| Gpx4          | 1,337371242 | 1 |
| Trem2         | 1,337185856 | 1 |
| Zbtb26        | 1,336907825 | 1 |
| Tecpr1        | 1,336907825 | 1 |
| Gm5801        | 1,336815161 | 1 |
| S100a13       | 1,336722503 | 1 |
| Gm15625       | 1,336444568 | 1 |
| Rps10         | 1,336351936 | 1 |
| Rap1a         | 1,334870696 | 1 |
| Leo1          | 1,334778173 | 1 |
| Arpc5l        | 1,334778173 | 1 |
| Murc          | 1,334500642 | 1 |
| Ccdc85b       | 1,33422317  | 1 |
| Sestd1        | 1,334130692 | 1 |
| Gm13602       | 1,333391098 | 1 |
| G3bp2         | 1,332651913 | 1 |
| Lpin2         | 1,332559544 | 1 |
| Ndufa1        | 1,332467181 | 1 |
| Maged1        | 1,332190132 | 1 |
| Gripap1       | 1,331820821 | 1 |
| Gm16418       | 1,331082508 | 1 |
| Gm2756        | 1,331082508 | 1 |
| Gtf2e2        | 1,331082508 | 1 |

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| Copg2         | 1,330897993 | 1 |
| Cox6c         | 1,330805746 | 1 |
| Hsf2          | 1,330713504 | 1 |
| D630029K05Rik | 1,33062127  | 1 |
| Gm16399       | 1,330436819 | 1 |
| Srpr          | 1,330344603 | 1 |
| Cotl1         | 1,330344603 | 1 |
| Hscb          | 1,330252394 | 1 |
| Map3k3        | 1,329975805 | 1 |
| mt-Rnr1       | 1,329791444 | 1 |
| Gna13         | 1,329791444 | 1 |
| Cdk1          | 1,329699273 | 1 |
| Card14        | 1,32951495  | 1 |
| Gm2223        | 1,32951495  | 1 |
| Plod3         | 1,32951495  | 1 |
| Znrf1         | 1,329054255 | 1 |
| Sil1          | 1,329054255 | 1 |
| Mtl5          | 1,32840955  | 1 |
| Gm8451        | 1,328225406 | 1 |
| Phkg2         | 1,328133344 | 1 |
| Fbxl5         | 1,328133344 | 1 |
| Txn2          | 1,328133344 | 1 |
| Bet1          | 1,327949238 | 1 |
| Yy1           | 1,327949238 | 1 |
| Ercc1         | 1,327857195 | 1 |
| Calr3         | 1,327581104 | 1 |
| Cep76         | 1,327489086 | 1 |
| Pym1          | 1,327397075 | 1 |
| Txndc5        | 1,327029093 | 1 |
| Mgat4a        | 1,327029093 | 1 |
| Dohh          | 1,326845141 | 1 |
| MacroD1       | 1,326661214 | 1 |
| Lrrfip1       | 1,326293436 | 1 |
| Gm4430        | 1,326201507 | 1 |
| Cbr1          | 1,326201507 | 1 |
| Ppm1m         | 1,326201507 | 1 |
| Hmg20b        | 1,326201507 | 1 |
| Galnt11       | 1,326109585 | 1 |
| Itgb7         | 1,325833857 | 1 |
| Gm16200       | 1,325374438 | 1 |
| Aktip         | 1,325374438 | 1 |
| Gm37349       | 1,325282573 | 1 |
| Rab2b         | 1,324180692 | 1 |
| Rpl27a        | 1,32408891  | 1 |
| Rbpms         | 1,323997135 | 1 |
| Mrpl32        | 1,323905365 | 1 |
| Akr7a5        | 1,323813602 | 1 |
| Dusp19        | 1,323263158 | 1 |
| Bmpr1a        | 1,323079728 | 1 |
| Sag           | 1,322988022 | 1 |
| Gm45902       | 1,322896323 | 1 |
| Gm7123        | 1,322712943 | 1 |

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| Casp2        | 1,322712943 | 1 |
| Ss18l1       | 1,322621263 | 1 |
| Ywhaz        | 1,322529589 | 1 |
| Gfpt1        | 1,322437921 | 1 |
| Utp14b       | 1,32234626  | 1 |
| Elf1         | 1,32234626  | 1 |
| Vamp1        | 1,321979679 | 1 |
| Glo1         | 1,321888049 | 1 |
| Bdp1         | 1,321796426 | 1 |
| Cep192       | 1,321613199 | 1 |
| Rbm25        | 1,321613199 | 1 |
| Selenof      | 1,321521595 | 1 |
| Gm15800      | 1,321429997 | 1 |
| Rpl19-ps9    | 1,320972104 | 1 |
| Klhdc4       | 1,320880544 | 1 |
| Cdc42se2     | 1,320788991 | 1 |
| Ak2          | 1,320605903 | 1 |
| Scaf1        | 1,320514369 | 1 |
| Brwd3        | 1,320514369 | 1 |
| Znhit1       | 1,320514369 | 1 |
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| Gramd1a      | 1,320239804 | 1 |
| Gm1943       | 1,319965297 | 1 |
| Gm3724       | 1,319873807 | 1 |
| Osbp         | 1,319782323 | 1 |
| Zfyve16      | 1,319782323 | 1 |
| Hmgb3        | 1,319690846 | 1 |
| Gabpa        | 1,319690846 | 1 |
| Gm45413      | 1,319599375 | 1 |
| St13         | 1,319325001 | 1 |
| Lmo2         | 1,319142116 | 1 |
| Cd320        | 1,318776423 | 1 |
| Cdk2ap1      | 1,318593614 | 1 |
| RP23-184H3.5 | 1,318593614 | 1 |
| Zfp280b      | 1,318136704 | 1 |
| Acer3        | 1,318136704 | 1 |
| Myl12a       | 1,317953984 | 1 |
| Tbc1d12      | 1,317862634 | 1 |
| Cep120       | 1,31777129  | 1 |
| Slc35e4      | 1,317679952 | 1 |
| Gm12762      | 1,31758862  | 1 |
| Nuak2        | 1,317497295 | 1 |
| Tmem263      | 1,317497295 | 1 |
| Rpl34        | 1,317497295 | 1 |
| Tom1l1       | 1,317040765 | 1 |
| Yod1         | 1,316858197 | 1 |
| Fam187b      | 1,316766922 | 1 |
| Tnpo2        | 1,316766922 | 1 |
| Arvcf        | 1,316675654 | 1 |
| Palb2        | 1,316675654 | 1 |
| Hic2         | 1,316310644 | 1 |
| Gm12115      | 1,31576332  | 1 |

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| Thbs3    | 1,31576332  | 1 |
| Tpcn2    | 1,31576332  | 1 |
| Usmg5    | 1,315580929 | 1 |
| Dda1     | 1,31530739  | 1 |
| Mbnl2    | 1,31530739  | 1 |
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| Cdk19         | 1,207982873 | 1 |
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| Snapc3        | 1,201802643 | 1 |
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| Bmp2k      | -0,11244 | 1 |
| Trip6      | -0,11242 | 1 |
| Lamp2      | -0,1127  | 1 |
| Rab7       | -0,11284 | 1 |
| Pwwp2b     | -0,11318 | 1 |
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| Jak1       | -0,11352 | 1 |
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| Gm2950         | -0,11519 | 1 |
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| Ddx51          | -0,12157 | 1 |
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| Clasp2         | -0,12215 | 1 |
| Ndufb7         | -0,12243 | 1 |

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| Slc25a16      | -0,12272 | 1 |
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| Cspg5         | -0,13093 | 1 |

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| Atp5d         | -0,13099 | 1 |
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| Prpf18        | -0,13276 | 1 |
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| Zfp148        | -0,13357 | 1 |
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| Mrpl40        | -0,13464 | 1 |
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| Hdac8         | -0,13491 | 1 |
| Flrt2         | -0,13512 | 1 |
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| Dirc2         | -0,13844 | 1 |
| Timm17b       | -0,13839 | 1 |

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| Zfp651        | -0,13849 | 1 |
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| Ptges3        | -0,14026 | 1 |
| Rack1         | -0,14027 | 1 |
| Dennd2c       | -0,14037 | 1 |
| Aff1          | -0,14064 | 1 |
| Mrps26        | -0,14067 | 1 |
| 3830406C13Rik | -0,14088 | 1 |
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| Sf3b6         | -0,14196 | 1 |
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| Safb2         | -0,14246 | 1 |
| Kif1c         | -0,14274 | 1 |
| Psca          | -0,14289 | 1 |
| Plpp5         | -0,14285 | 1 |
| Gm29462       | -0,14346 | 1 |
| Ring1         | -0,14354 | 1 |
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| Dock7         | -0,14395 | 1 |
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| Slfn2         | -0,14444 | 1 |
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| Uqcrc2        | -0,14455 | 1 |
| Mrpl48        | -0,14474 | 1 |

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| Rnd1          | -0,14522 | 1 |
| Ccdc94        | -0,14543 | 1 |
| N4bp2l1       | -0,14538 | 1 |
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| Eif4ebp2      | -0,14609 | 1 |
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| Traf3ip3      | -0,14915 | 1 |
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| Hip1          | -0,14936 | 1 |
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| Irf9          | -0,15043 | 1 |
| Nfia          | -0,1506  | 1 |
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| Yeats2        | -0,15128 | 1 |
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| Snw1          | -0,15133 | 1 |
| Mtx2          | -0,15185 | 1 |
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| Cdc25a        | -0,15232 | 1 |

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| Tpr      | -0,15239 | 1 |
| Lrrc27   | -0,15255 | 1 |
| Thg1l    | -0,15245 | 1 |
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| Rabep1   | -0,15407 | 1 |
| Gm13822  | -0,15419 | 1 |
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| Nat10    | -0,15522 | 1 |
| Irak2    | -0,15531 | 1 |
| Ctif     | -0,15536 | 1 |
| Mlxip    | -0,15545 | 1 |
| Clec16a  | -0,15605 | 1 |
| Cbll1    | -0,15609 | 1 |
| Leprotl1 | -0,1561  | 1 |
| Ddrgk1   | -0,15622 | 1 |
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| Pitpnm1  | -0,15694 | 1 |
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| Cdk11b   | -0,15717 | 1 |
| Dctn3    | -0,15734 | 1 |
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| Itpk1    | -0,15903 | 1 |
| Cops7b   | -0,15898 | 1 |
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| Ghitm    | -0,15937 | 1 |
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| Thra     | -0,15995 | 1 |
| Rhbdd1   | -0,16011 | 1 |

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| Acp6          | -0,16012 | 1 |
| Gpd1l         | -0,16011 | 1 |
| Zfp335        | -0,16012 | 1 |
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| Pih1d1        | -0,16077 | 1 |
| Eif2ak4       | -0,16091 | 1 |
| Park2         | -0,16095 | 1 |
| Ubr3          | -0,16121 | 1 |
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| Sgta          | -0,16143 | 1 |
| Hspa14        | -0,16162 | 1 |
| Vamp5         | -0,16174 | 1 |
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| Elovl5        | -0,16179 | 1 |
| Ocr1          | -0,16209 | 1 |
| Klc1          | -0,16222 | 1 |
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| Gm23722       | -0,16331 | 1 |
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| Commd2        | -0,16349 | 1 |
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| Mia2          | -0,16379 | 1 |
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| Srp19         | -0,16441 | 1 |
| Msrb1         | -0,16438 | 1 |
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| Slc26a11      | -0,16718 | 1 |
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| Pdcd2         | -0,16794 | 1 |
| Pgm2l1        | -0,16793 | 1 |
| Prmt9         | -0,16799 | 1 |
| Ctsl          | -0,16816 | 1 |

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| Bsn           | -0,16873 | 1 |
| Ctu2          | -0,16878 | 1 |
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| Rce1          | -0,17176 | 1 |
| Wdtdc1        | -0,17182 | 1 |
| Snpc4         | -0,17186 | 1 |
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| Rnf139        | -0,17404 | 1 |
| Xrcc6         | -0,17414 | 1 |
| Ebpl          | -0,17414 | 1 |
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| Ints2         | -0,17644 | 1 |
| Ids           | -0,17639 | 1 |

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| Ccp1          | -0,1772  | 1 |
| Naca          | -0,17733 | 1 |
| Abcd2         | -0,17735 | 1 |
| Spg20         | -0,17751 | 1 |
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| Gtf2a1        | -0,17786 | 1 |
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| Ice2          | -0,17843 | 1 |
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| Mrpl12        | -0,1788  | 1 |
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| Cfap126       | -0,18486 | 1 |
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| Brp           | -0,18499 | 1 |
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| Gstp1         | -0,18564 | 1 |
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| Dcbld2        | -0,19578 | 1 |
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| Tmem26        | -0,19641 | 1 |

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| Psmc7       | -0,19658 | 1 |
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| Emd         | -0,19789 | 1 |
| Clcn3       | -0,19813 | 1 |
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| Cntrl       | -0,19867 | 1 |
| Ndufa11     | -0,19921 | 1 |
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| Zfp219      | -0,20035 | 1 |
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| Mmp2        | -0,20134 | 1 |
| Rab18       | -0,2013  | 1 |
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| Dffb        | -0,20224 | 1 |
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| Rabgap1     | -0,20231 | 1 |
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| Dolpp1      | -0,20265 | 1 |
| Gm20432     | -0,20281 | 1 |
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| Prr14        | -0,20442 | 1 |
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| Fig4         | -0,20473 | 1 |
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| Washc2       | -0,20751 | 1 |
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| Cryga        | -0,20834 | 1 |
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| Rrp1         | -0,20848 | 1 |
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| Cxxc1         | -0,21087 | 1 |
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| Ppp2r5b       | -0,22    | 1 |
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| Jrkl          | -0,22065 | 1 |

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| Lrrc59        | -0,22101 | 1 |
| Rnaseh2b      | -0,22123 | 1 |
| Fbxl19        | -0,22166 | 1 |
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| Rbm6-ps1      | -0,22344 | 1 |
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| Ttc4          | -0,22636 | 1 |
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| Mcl1          | -0,22908 | 1 |
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| Cdk16         | -0,2302  | 1 |

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| Dhx38         | -0,23492 | 1 |
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| Actr6         | -0,23619 | 1 |
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| Map1s         | -0,23949 | 1 |
| Stard9        | -0,23962 | 1 |
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| Chd1l         | -0,25033 | 1 |
| Exoc3         | -0,25031 | 1 |
| Sec63         | -0,25036 | 1 |
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| Prdm2         | -0,2539  | 1 |
| Zfp608        | -0,25405 | 1 |
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| Hspd1         | -0,25869 | 1 |

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| St7l          | -0,41112 | 1 |

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| Srbd1         | -0,42782 | 1 |
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| Dnajc17       | -0,42791 | 1 |
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| Prrc2b        | -0,42955 | 1 |
| Vps9d1        | -0,42964 | 1 |
| Ptpdc1        | -0,42972 | 1 |
| Ranbp6        | -0,42967 | 1 |
| Pik3cb        | -0,42977 | 1 |
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| Gm14140       | -0,43035 | 1 |
| Gpatch8       | -0,43044 | 1 |
| Timm10        | -0,43036 | 1 |
| Tapt1         | -0,43075 | 1 |
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| Gm12589       | -0,4317  | 1 |
| Ebp           | -0,43182 | 1 |
| Pml           | -0,43211 | 1 |
| Aldh5a1       | -0,43273 | 1 |
| Herc2         | -0,43293 | 1 |
| Ybey          | -0,43319 | 1 |
| Ssx2ip        | -0,43352 | 1 |
| Dmap1         | -0,43348 | 1 |
| AA914427      | -0,4341  | 1 |
| Gphn          | -0,43423 | 1 |
| Trap1         | -0,43454 | 1 |
| Pbrm1         | -0,43456 | 1 |
| Gm13868       | -0,43468 | 1 |
| Abhd17b       | -0,4347  | 1 |
| March6        | -0,43486 | 1 |
| Caml          | -0,43528 | 1 |
| Rbm6          | -0,43533 | 1 |
| Reps1         | -0,43554 | 1 |
| Tmem181a      | -0,43593 | 1 |
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| Sin3b         | -0,43603 | 1 |
| Lonrf1        | -0,43652 | 1 |
| Rpl21-ps5     | -0,43658 | 1 |
| Enpp4         | -0,4368  | 1 |
| Rtel1         | -0,43696 | 1 |
| Nasp          | -0,43719 | 1 |
| Eapp          | -0,43729 | 1 |

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| Ufl1          | -0,43732 | 1       |
| Ap4s1         | -0,43791 | 1       |
| Mtmt10        | -0,43791 | 1       |
| Gm42566       | -0,43793 | 1       |
| Ganc          | -0,43802 | 1       |
| Mtmt6         | -0,43834 | 1       |
| Myo6          | -0,43836 | 1       |
| Mllt6         | -0,43858 | 1       |
| Ppp3r1        | -0,43858 | 1       |
| Wac           | -0,43902 | 1       |
| Pxmp4         | -0,43924 | 1       |
| Zc3h13        | -0,43958 | 1       |
| Cct6a         | -0,43958 | 1       |
| Emg1          | -0,43966 | 1       |
| Nrde2         | -0,43988 | 1       |
| Ndst1         | -0,44003 | 1       |
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| Rtn3          | -0,44072 | 1       |
| Cep290        | -0,44077 | 1       |
| Nt5m          | -0,44097 | 1       |
| Dguok         | -0,44097 | 1       |
| Itsn1         | -0,44109 | 1       |
| Grb2          | -0,4416  | 1       |
| Brd2          | -0,44169 | 1       |
| Wdr41         | -0,44184 | 1       |
| Gm5871        | -0,44193 | 0,99951 |
| Sdcbp         | -0,44189 | 1       |
| Gm4943        | -0,44196 | 0,99819 |
| Gm13998       | -0,44204 | 1       |
| Cct7          | -0,44225 | 1       |
| Psmc2         | -0,44217 | 1       |
| Rilpl1        | -0,44231 | 1       |
| Arsk          | -0,44252 | 1       |
| Parp10        | -0,44259 | 1       |
| Trpm1         | -0,44343 | 1       |
| Zfp710        | -0,44379 | 1       |
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| Phax          | -0,44438 | 1       |
| Ube2r2        | -0,44474 | 1       |
| Sap130        | -0,44484 | 1       |
| Gars          | -0,44494 | 1       |
| Ppm1b         | -0,44545 | 1       |
| Chtop         | -0,44564 | 1       |
| Prr13         | -0,44592 | 1       |
| Ppfia1        | -0,44596 | 1       |
| Irf8          | -0,44679 | 1       |
| Tmem14c       | -0,44686 | 1       |
| Pak1ip1       | -0,44695 | 1       |
| Kdelr1        | -0,44741 | 1       |
| 1700123O20Rik | -0,44748 | 0,9974  |
| Pthr2         | -0,44784 | 1       |
| Was           | -0,44794 | 1       |

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| Uckl1         | -0,44842 | 1       |
| Trpc4ap       | -0,44851 | 1       |
| Pomt1         | -0,44857 | 0,99624 |
| Usp8          | -0,44892 | 1       |
| Nipal3        | -0,44909 | 1       |
| C5ar1         | -0,44909 | 1       |
| Cst7          | -0,44928 | 1       |
| Yipf2         | -0,44927 | 1       |
| Flot1         | -0,44943 | 0,99951 |
| Lamp1         | -0,44962 | 1       |
| Cnbd2         | -0,44975 | 1       |
| Prelid3b      | -0,44981 | 1       |
| Gm16072       | -0,45004 | 0,99211 |
| Rnpepl1       | -0,45003 | 1       |
| D430042O09Rik | -0,45031 | 1       |
| Acaca         | -0,45027 | 1       |
| Cenpj         | -0,45036 | 0,99055 |
| Gm4880        | -0,45067 | 1       |
| Tbc1d15       | -0,45074 | 1       |
| Pip4k2c       | -0,45086 | 1       |
| Foxo1         | -0,45112 | 1       |
| Gm22299       | -0,4511  | 1       |
| Rpp30         | -0,45125 | 0,99486 |
| Lair1         | -0,45134 | 1       |
| Gm8762        | -0,45125 | 1       |
| Stim2         | -0,45142 | 1       |
| Senp5         | -0,45153 | 1       |
| Mapk12        | -0,45168 | 0,99327 |
| Hipk3         | -0,45172 | 1       |
| Rabepk        | -0,45174 | 1       |
| Llgl1         | -0,45179 | 1       |
| Ttc3          | -0,45193 | 1       |
| Rab3ip        | -0,45204 | 1       |
| Zfyve9        | -0,45225 | 1       |
| Sfxn1         | -0,4523  | 1       |
| Vsir          | -0,45239 | 1       |
| Sh2b2         | -0,45253 | 1       |
| Gmpr2         | -0,45255 | 0,99414 |
| Mylpf         | -0,45324 | 1       |
| Gm26982       | -0,45328 | 0,99878 |
| Zfp512b       | -0,45354 | 0,99055 |
| Slc6a6        | -0,45369 | 1       |
| Snrnp200      | -0,45407 | 1       |
| C1rb          | -0,45416 | 1       |
| Gm16845       | -0,45433 | 0,99774 |
| E330011M16Rik | -0,45432 | 1       |
| Dolk          | -0,45437 | 0,98999 |
| Sema4d        | -0,45487 | 1       |
| Ankrd27       | -0,45501 | 1       |
| Tctn3         | -0,45532 | 0,98533 |
| Tln1          | -0,4553  | 1       |
| Add1          | -0,45575 | 1       |

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| Psme4         | -0,45664 | 1       |
| Nhej1         | -0,45673 | 1       |
| Gm6542        | -0,4569  | 0,98999 |
| Wdr36         | -0,45693 | 1       |
| Rab2a         | -0,45691 | 1       |
| Masp2         | -0,457   | 1       |
| Dpp9          | -0,45727 | 0,99414 |
| Ercc5         | -0,45726 | 1       |
| Ubr2          | -0,45731 | 1       |
| Gm44694       | -0,45745 | 0,98403 |
| Map2k2        | -0,45834 | 1       |
| Ngdn          | -0,45839 | 1       |
| Gm7967        | -0,45851 | 0,98875 |
| Clptm1        | -0,45846 | 1       |
| Gm15703       | -0,45865 | 1       |
| Atg4a-ps      | -0,45923 | 1       |
| Zfp740        | -0,45917 | 1       |
| Tnrc6c        | -0,45928 | 0,99299 |
| Tmppe         | -0,45945 | 1       |
| Runx2os1      | -0,4597  | 0,99476 |
| Eif2ak2       | -0,46001 | 0,98306 |
| Tfpi          | -0,46005 | 0,99486 |
| Eif5b         | -0,46034 | 1       |
| Dtnbp1        | -0,46039 | 0,99732 |
| Celf2         | -0,46053 | 1       |
| Nanos1        | -0,46069 | 0,9964  |
| Wdr46         | -0,46079 | 0,98544 |
| Orai1         | -0,46165 | 0,99414 |
| Eif4g3        | -0,46195 | 1       |
| Commd7        | -0,46242 | 1       |
| Esf1          | -0,46237 | 1       |
| Gm43660       | -0,46253 | 1       |
| Ptk2          | -0,46262 | 0,99601 |
| Gatad2a       | -0,46261 | 1       |
| Ccdc6         | -0,46295 | 1       |
| Ptpn23        | -0,46315 | 0,98426 |
| Kat5          | -0,46323 | 0,9964  |
| R3hcc1        | -0,4633  | 0,97756 |
| Sumf2         | -0,46342 | 0,97759 |
| Rfxank        | -0,46351 | 0,9938  |
| RP24-365A12.2 | -0,4639  | 1       |
| Usp49         | -0,46398 | 0,97638 |
| Adamts15      | -0,46412 | 0,98085 |
| Fam63a        | -0,46429 | 1       |
| Zfp788        | -0,4646  | 0,97832 |
| Wipi2         | -0,4647  | 1       |
| Fam71e1       | -0,46492 | 1       |
| Usf3          | -0,46501 | 1       |
| Zbed5         | -0,46515 | 0,97759 |
| Tnfsf8        | -0,46506 | 1       |
| Gk            | -0,46518 | 0,99501 |
| Trim21        | -0,46515 | 1       |

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| Gm32856  | -0,46515 | 1       |
| Rbmxl1   | -0,46529 | 0,98484 |
| Sfswap   | -0,46551 | 1       |
| Prrc2c   | -0,4656  | 1       |
| Slc25a20 | -0,46607 | 0,9755  |
| Ncf2     | -0,46634 | 1       |
| Akt1     | -0,46635 | 1       |
| Gm14126  | -0,46625 | 1       |
| Ston1    | -0,46641 | 0,98992 |
| Ube2z    | -0,46646 | 0,99951 |
| Zfp51    | -0,46661 | 0,97418 |
| Psmc1    | -0,46673 | 1       |
| Slc45a4  | -0,46688 | 0,99057 |
| Tmem161b | -0,46727 | 1       |
| Gm12497  | -0,46771 | 0,982   |
| Slc37a3  | -0,46832 | 0,97254 |
| Mib2     | -0,46849 | 0,97759 |
| Gm26930  | -0,46854 | 1       |
| Gm43727  | -0,46858 | 1       |
| Zdhhc6   | -0,46882 | 0,97449 |
| Focad    | -0,46891 | 0,98913 |
| Colec12  | -0,46926 | 0,97254 |
| Dbp      | -0,46937 | 1       |
| Capzb    | -0,46961 | 1       |
| Vta1     | -0,46992 | 0,99909 |
| Rae1     | -0,4703  | 1       |
| Nrg4     | -0,47028 | 1       |
| Dcaf8    | -0,47044 | 1       |
| Dgcr8    | -0,47047 | 0,96978 |
| Lhpp     | -0,4706  | 0,97481 |
| Gm17100  | -0,47062 | 1       |
| Snta1    | -0,47091 | 1       |
| Inpp1    | -0,47125 | 0,98309 |
| Nyap1    | -0,47132 | 0,96872 |
| Al506816 | -0,47132 | 0,97013 |
| Prep     | -0,47133 | 0,97759 |
| Skil     | -0,47176 | 1       |
| Noa1     | -0,47195 | 0,97584 |
| Rbm41    | -0,47195 | 0,99018 |
| Tmem251  | -0,47216 | 0,98406 |
| Agpat1   | -0,47245 | 0,99486 |
| Cwc22    | -0,4731  | 0,97759 |
| Ptov1    | -0,4731  | 0,99669 |
| Snrpa1   | -0,47343 | 0,98999 |
| Tyw1     | -0,47371 | 0,97418 |
| Twistnb  | -0,47389 | 0,99055 |
| Tbc1d23  | -0,47414 | 0,98426 |
| Spcs2    | -0,47476 | 0,98406 |
| Dzip3    | -0,47553 | 0,9653  |
| Acot10   | -0,47559 | 0,9719  |
| Kbtbd11  | -0,47562 | 1       |
| Cdkl2    | -0,47614 | 0,97443 |

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| Entpd5        | -0,47629 | 0,9633  |
| Decr2         | -0,47635 | 0,96355 |
| Uso1          | -0,47674 | 0,98406 |
| Csrp2bp       | -0,47682 | 0,96929 |
| Ppm1f         | -0,4769  | 0,97759 |
| Edem2         | -0,47693 | 0,98305 |
| Ehbp1l1       | -0,47689 | 1       |
| Sp3os         | -0,47703 | 0,96711 |
| Klhl18        | -0,47719 | 0,9633  |
| Prkrip1       | -0,47716 | 0,97759 |
| Otud5         | -0,47732 | 0,99018 |
| Ubac1         | -0,47754 | 0,97638 |
| Slc50a1       | -0,47774 | 0,98426 |
| Tada3         | -0,47777 | 0,96813 |
| Itpa          | -0,4779  | 0,9633  |
| Cbfa2t2       | -0,47805 | 0,96396 |
| Ap3m1         | -0,47804 | 0,97988 |
| Plekha3       | -0,47822 | 0,99819 |
| Elk1          | -0,47826 | 0,96978 |
| Ralgds        | -0,47881 | 0,98533 |
| Arhgef2       | -0,47899 | 0,99569 |
| Zmat1         | -0,47899 | 1       |
| Hsdl2         | -0,47935 | 0,96006 |
| Nsmaf         | -0,47939 | 0,98762 |
| Hus1          | -0,47962 | 0,95986 |
| Qtrtd1        | -0,47967 | 0,96929 |
| Ccdc69        | -0,47974 | 1       |
| Dcun1d4       | -0,47978 | 0,96924 |
| Edc4          | -0,48019 | 0,96853 |
| Ppp1r9b       | -0,48019 | 0,97479 |
| Terf2         | -0,48059 | 0,97974 |
| Plpp1         | -0,48097 | 0,96978 |
| Hgs           | -0,48114 | 0,97013 |
| Afp           | -0,48106 | 0,97449 |
| S100a4        | -0,48117 | 0,98913 |
| Mbtps1        | -0,48174 | 0,98475 |
| 9230102O04Rik | -0,4819  | 1       |
| Mrpl13        | -0,48218 | 0,96766 |
| Zfp329        | -0,48236 | 0,95614 |
| Tmem43        | -0,48288 | 0,98673 |
| Wls           | -0,4831  | 0,97418 |
| Mvb12b        | -0,48321 | 0,97755 |
| Gm3355        | -0,48323 | 0,98947 |
| Zc2hc1a       | -0,48331 | 0,95848 |
| Zfp664        | -0,48334 | 0,9633  |
| Rab11fip1     | -0,48333 | 0,96835 |
| Gclm          | -0,4834  | 0,97449 |
| Rfc2          | -0,48351 | 0,96864 |
| Mirlet7b      | -0,48364 | 0,99018 |
| Hk3           | -0,48368 | 0,95442 |
| Mbtps2        | -0,48373 | 0,96337 |
| Specc1l       | -0,48408 | 0,96741 |

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| Tubgcp5    | -0,48425 | 0,95738 |
| Rrp15      | -0,4844  | 0,96112 |
| Efcab14    | -0,48512 | 0,96853 |
| Akip1      | -0,48509 | 0,96929 |
| Cuedc1     | -0,48535 | 0,96741 |
| Coq3       | -0,48544 | 0,96106 |
| Drosha     | -0,48546 | 0,96337 |
| Gm38162    | -0,48548 | 0,96396 |
| Srprb      | -0,48585 | 0,9633  |
| Fam216a    | -0,48598 | 0,96227 |
| Gm9403     | -0,4865  | 0,97759 |
| Srgap3     | -0,48693 | 0,96741 |
| Fam96b     | -0,48706 | 0,96183 |
| Arhgef6    | -0,48734 | 0,96413 |
| Thtpa      | -0,48744 | 0,95205 |
| Tmbim1     | -0,48742 | 0,97449 |
| Alg9       | -0,4877  | 0,95029 |
| Csad       | -0,48777 | 0,95179 |
| Zc3h6      | -0,48799 | 0,95828 |
| Pik3r1     | -0,48798 | 0,9633  |
| Stard3     | -0,48827 | 0,95614 |
| Gm9347     | -0,48838 | 0,95433 |
| Mrpl22     | -0,48917 | 0,94898 |
| Nup214     | -0,48935 | 0,95379 |
| Rnf168     | -0,48943 | 0,95475 |
| Ptgs2os2   | -0,48939 | 0,96766 |
| Itpr1      | -0,48964 | 0,95523 |
| Ppip5k1    | -0,48986 | 0,95084 |
| Creb3l2    | -0,49043 | 0,95165 |
| Olfml3     | -0,49039 | 0,97449 |
| Zfr2       | -0,4905  | 0,94651 |
| Trp53inp2  | -0,49122 | 0,952   |
| Cd151      | -0,49137 | 0,94538 |
| Gfm1       | -0,49156 | 0,94971 |
| Rnf169     | -0,49159 | 0,95433 |
| Hspa9      | -0,49169 | 0,96741 |
| Trmt61a    | -0,49178 | 0,94499 |
| Ccdc88c    | -0,49185 | 1       |
| Rpl3-ps1   | -0,49191 | 0,94729 |
| Vapa       | -0,4919  | 0,96413 |
| Cep85      | -0,49206 | 0,94729 |
| Supt16     | -0,49231 | 0,95786 |
| March8     | -0,49236 | 0,94699 |
| Mrps36-ps2 | -0,49237 | 0,97781 |
| Lrrc8c     | -0,49255 | 0,94476 |
| Dcaf15     | -0,49245 | 0,95074 |
| Trim44     | -0,49271 | 0,9493  |
| Nradd      | -0,49283 | 0,94646 |
| Nedd1      | -0,49293 | 0,94476 |
| Gm9726     | -0,49316 | 0,97347 |
| Smad1      | -0,49375 | 0,94376 |
| Mbip       | -0,49371 | 0,94539 |

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| Top2b         | -0,49366 | 0,95297 |
| Osbpl7        | -0,49401 | 0,94476 |
| Glmn          | -0,4941  | 0,9445  |
| Gm38380       | -0,49409 | 0,96929 |
| Tmem38a       | -0,49452 | 0,94376 |
| Ppp1r8        | -0,49453 | 0,94409 |
| Ttyh2         | -0,49502 | 0,94373 |
| Slc25a51      | -0,49502 | 0,94729 |
| Tceanc2       | -0,49526 | 0,94435 |
| B4galt5       | -0,49559 | 0,94476 |
| Tal1          | -0,49569 | 0,94201 |
| Tctex1d2      | -0,49584 | 0,94919 |
| Ccdc43        | -0,49591 | 0,94203 |
| Epc2          | -0,4961  | 0,94212 |
| Ppp2r3d       | -0,49622 | 0,94125 |
| Mertk         | -0,49646 | 0,94065 |
| Asxl1         | -0,49659 | 0,94296 |
| Fads2         | -0,49678 | 0,9413  |
| Gm45456       | -0,49678 | 1       |
| Cdc25b        | -0,49702 | 0,94373 |
| Ash1l         | -0,49695 | 0,94376 |
| Gm9434        | -0,49698 | 1       |
| 2610507B11Rik | -0,4973  | 0,94376 |
| Ilvbl         | -0,49741 | 0,93905 |
| Tpmt          | -0,49745 | 0,9964  |
| Kdm5d         | -0,49753 | 0,9387  |
| Mex3a         | -0,4976  | 0,9387  |
| Tuba4a        | -0,49793 | 0,939   |
| Dgka          | -0,49795 | 0,95786 |
| Gm16096       | -0,49823 | 0,938   |
| Setdb1        | -0,49841 | 0,93735 |
| Tstd3         | -0,49843 | 0,93757 |
| Srpk2         | -0,49839 | 0,94125 |
| Ankrd28       | -0,49851 | 0,93735 |
| Nckap5l       | -0,49847 | 0,938   |
| Dph6          | -0,49872 | 0,93728 |
| Echdc1        | -0,49866 | 0,93735 |
| Ocel1         | -0,4989  | 0,93734 |
| Senp6         | -0,49886 | 0,93804 |
| Sec24c        | -0,49897 | 0,93728 |
| Cd200r2       | -0,49916 | 0,939   |
| Pgap3         | -0,49918 | 0,952   |
| Vapb          | -0,49954 | 0,93652 |
| Sh2b3         | -0,49955 | 0,93557 |
| Mtch2         | -0,49992 | 0,93446 |
| Parvg         | -0,50004 | 0,9341  |
| Nras          | -0,50001 | 0,9341  |
| Ift81         | -0,49999 | 0,94476 |
| C430042M11Rik | -0,50013 | 0,94814 |
| Ttc17         | -0,50021 | 0,93396 |
| Psmc2         | -0,50058 | 0,93325 |
| Spout1        | -0,50077 | 0,93325 |

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| Htatsf1  | -0,50093 | 0,93321 |
| Hs2st1   | -0,50106 | 0,93234 |
| Klhdc3   | -0,50118 | 0,93225 |
| Sec23a   | -0,50127 | 0,93172 |
| Nupr1l   | -0,50142 | 0,93325 |
| Rpusd1   | -0,50142 | 0,94373 |
| Stat6    | -0,5015  | 0,93181 |
| Arl2bp   | -0,50162 | 0,93132 |
| Gm42893  | -0,50161 | 1       |
| Spg11    | -0,5017  | 0,96929 |
| Maml1    | -0,502   | 0,94212 |
| Iqsec1   | -0,50223 | 0,92917 |
| Nsfl1c   | -0,50218 | 0,93199 |
| Esrp2    | -0,50225 | 1       |
| Gm12582  | -0,50239 | 1       |
| Macf1    | -0,50261 | 0,92704 |
| Adprhl2  | -0,50257 | 0,93067 |
| Armc1    | -0,50279 | 0,92731 |
| Tceal8   | -0,50286 | 0,93396 |
| Mir7078  | -0,50307 | 0,9633  |
| Tnrc6a   | -0,50335 | 0,92422 |
| Gm45840  | -0,50348 | 0,94583 |
| Rpp14    | -0,50371 | 0,92517 |
| Zfp182   | -0,50372 | 0,95433 |
| Fbf1     | -0,50389 | 0,94188 |
| Sacm1l   | -0,50398 | 0,925   |
| Gm16286  | -0,50409 | 0,92558 |
| P3h1     | -0,50421 | 0,92678 |
| Amt      | -0,50428 | 0,94404 |
| Ddx18    | -0,50439 | 0,92569 |
| Nubpl    | -0,50443 | 0,93036 |
| Sec23ip  | -0,50478 | 0,9232  |
| Pfkm     | -0,50477 | 0,925   |
| Sp2      | -0,5049  | 0,93067 |
| Abcf2    | -0,5053  | 0,92507 |
| Tfg      | -0,50581 | 0,9224  |
| Ankrd13b | -0,50582 | 0,9258  |
| Gm36445  | -0,506   | 1       |
| Naaa     | -0,50606 | 0,93325 |
| Ddx5     | -0,50628 | 0,91702 |
| Dmxi2    | -0,50645 | 0,9224  |
| Atp6v1a  | -0,50653 | 0,91091 |
| Ipo11    | -0,50649 | 0,9224  |
| Ccdc90b  | -0,50675 | 0,92132 |
| Tab1     | -0,50684 | 0,9224  |
| Rap2b    | -0,50705 | 0,91483 |
| Znrf2    | -0,50707 | 0,92132 |
| Actl6a   | -0,50739 | 0,91546 |
| Nol11    | -0,5074  | 0,92049 |
| Fcnaos   | -0,50753 | 1       |
| Fuk      | -0,50762 | 0,92279 |
| Nadk     | -0,50791 | 0,91224 |

|         |          |         |
|---------|----------|---------|
| Suds3   | -0,50838 | 0,90784 |
| Impact  | -0,50884 | 0,92132 |
| Dennd1a | -0,50888 | 0,92132 |
| Pex11a  | -0,50901 | 0,91822 |
| Sema5a  | -0,50909 | 0,91895 |
| Gm38111 | -0,50934 | 1       |
| Hdac4   | -0,50942 | 0,91224 |
| Mogs    | -0,50961 | 0,90126 |
| Stam2   | -0,50985 | 0,91377 |
| Zfp322a | -0,50981 | 0,92004 |
| Dnajc9  | -0,50987 | 0,93067 |
| Klhl11  | -0,50999 | 0,96953 |
| Emc3    | -0,51011 | 0,90604 |
| Rabgef1 | -0,51012 | 0,91505 |
| Zdhhc9  | -0,51014 | 0,91889 |
| Fabp7   | -0,5101  | 0,98127 |
| Rufy1   | -0,51022 | 0,92013 |
| Pum2    | -0,51167 | 0,90482 |
| Zswim1  | -0,51175 | 0,92181 |
| Dtx2    | -0,51192 | 0,92449 |
| Scd2    | -0,51286 | 0,9005  |
| Blzf1   | -0,51323 | 0,89968 |
| Ascc2   | -0,51325 | 0,9095  |
| Slc9a6  | -0,51396 | 0,90123 |
| Iqcf1   | -0,5141  | 0,96029 |
| Nosip   | -0,51445 | 0,90903 |
| Hira    | -0,51435 | 0,91224 |
| Ehmt1   | -0,51494 | 0,90126 |
| Clec1a  | -0,51494 | 0,93355 |
| Fam129a | -0,5151  | 0,90279 |
| Wapl    | -0,51534 | 0,87715 |
| Arhgef7 | -0,51598 | 0,89134 |
| Fbxw5   | -0,51608 | 0,90526 |
| Mtmt1   | -0,51637 | 0,97756 |
| Cpt1a   | -0,51684 | 0,89931 |
| Gm2199  | -0,51718 | 0,92132 |
| Taok2   | -0,51766 | 0,9035  |
| Acox3   | -0,51779 | 0,88093 |
| Ccp110  | -0,51801 | 0,93132 |
| Setx    | -0,51815 | 0,90482 |
| Gga2    | -0,51821 | 0,88751 |
| Zfp687  | -0,51869 | 0,90903 |
| Rpusd3  | -0,51887 | 0,92569 |
| Zfp619  | -0,51891 | 0,99731 |
| Tulp3   | -0,51914 | 0,87855 |
| Eml3    | -0,51906 | 0,91077 |
| Ctnnb1  | -0,51917 | 0,85241 |
| Dnmt1   | -0,51934 | 0,86613 |
| Ndufaf6 | -0,51988 | 0,90743 |
| Mob3c   | -0,51986 | 0,91792 |
| Hspa4   | -0,52003 | 0,86056 |
| Gm11966 | -0,52132 | 0,89813 |

|               |          |         |
|---------------|----------|---------|
| Gm20633       | -0,52127 | 1       |
| Glrx5         | -0,52144 | 0,86248 |
| Tmem115       | -0,52136 | 0,90027 |
| 2410002F23Rik | -0,52172 | 0,87339 |
| Serpinb8      | -0,52228 | 0,87704 |
| Wdr76         | -0,52235 | 0,91786 |
| Grk5          | -0,52241 | 0,91093 |
| Shox2         | -0,52236 | 0,91377 |
| Wdr25         | -0,52266 | 0,92558 |
| Aftph         | -0,52284 | 0,85983 |
| Adam10        | -0,52293 | 0,89134 |
| Wrap73        | -0,52297 | 0,90739 |
| Med17         | -0,52345 | 0,86296 |
| Rrp1b         | -0,52382 | 0,87033 |
| Zfp688        | -0,52376 | 0,88927 |
| Slc6a9        | -0,52378 | 0,93325 |
| E330009J07Rik | -0,52402 | 0,89453 |
| Alpk1         | -0,52427 | 0,88223 |
| Clcn5         | -0,52428 | 0,89425 |
| Lrp4          | -0,5245  | 0,96227 |
| Prpf19        | -0,52458 | 0,88115 |
| Phf19         | -0,52501 | 0,92451 |
| Slc38a9       | -0,52519 | 0,86903 |
| Dnajc19-ps    | -0,52516 | 0,90126 |
| Mapkap1       | -0,52537 | 0,87109 |
| Aim2          | -0,52557 | 0,85109 |
| Ak1           | -0,52556 | 0,86193 |
| Nsmf          | -0,5256  | 0,89646 |
| Zufsp         | -0,52591 | 0,87872 |
| Cyb5a         | -0,52605 | 0,85559 |
| Hmgxb3        | -0,52612 | 0,87946 |
| Mtx1          | -0,52624 | 0,88392 |
| Gorasp2       | -0,52634 | 0,84314 |
| Sergef        | -0,52633 | 0,89134 |
| Phtf2         | -0,52689 | 0,8809  |
| Lptm4a        | -0,52723 | 0,83069 |
| Cecr5         | -0,52735 | 0,90658 |
| Lrrk1         | -0,52742 | 0,88683 |
| Rnaseh2a      | -0,52778 | 0,91069 |
| Lgals8        | -0,52829 | 0,8502  |
| Asxl2         | -0,52849 | 0,85858 |
| Gm10039       | -0,52859 | 0,87766 |
| Rfesd         | -0,52863 | 0,90126 |
| Ikbke         | -0,5286  | 0,90915 |
| Btrc          | -0,52871 | 0,89286 |
| Gm11722       | -0,52929 | 0,90985 |
| Tagap1        | -0,52965 | 0,86608 |
| Hmbs          | -0,52982 | 0,91077 |
| Efnb1         | -0,53015 | 0,94199 |
| Csde1         | -0,53023 | 0,80417 |
| Med13l        | -0,53017 | 0,83711 |
| Gm13443       | -0,53021 | 0,97793 |

|               |          |         |
|---------------|----------|---------|
| BC037034      | -0,53045 | 0,86903 |
| Rnf216        | -0,53093 | 0,87704 |
| Fbxl17        | -0,53182 | 0,89839 |
| Zfp984        | -0,53191 | 0,90976 |
| Pxylp1        | -0,53188 | 1       |
| BC005624      | -0,53196 | 0,88062 |
| Stau2         | -0,53206 | 0,87977 |
| Tmem158       | -0,53221 | 0,88773 |
| Ap1m1         | -0,53234 | 0,85958 |
| Gm12791       | -0,53229 | 0,94979 |
| Ppat          | -0,53244 | 0,85938 |
| Btk           | -0,53267 | 0,87704 |
| Gbf1          | -0,53302 | 0,83501 |
| Gpr35         | -0,53302 | 0,99751 |
| Oxnad1        | -0,53321 | 0,85956 |
| Nos1          | -0,53317 | 0,98762 |
| Tm2d2         | -0,53345 | 0,86248 |
| Dmtf1         | -0,53353 | 0,83933 |
| Cdk5rap2      | -0,53352 | 0,87704 |
| Ppp3cc        | -0,53352 | 0,95074 |
| Ralgapa2      | -0,53379 | 0,89832 |
| Smarca4       | -0,53386 | 0,80902 |
| Mrpl3         | -0,5339  | 0,85274 |
| Nufip2        | -0,53406 | 0,83371 |
| Gm5805        | -0,53424 | 0,85575 |
| Ninl          | -0,53442 | 0,85996 |
| Psme2         | -0,53494 | 0,90975 |
| Arf4          | -0,53497 | 0,80317 |
| Plekhm2       | -0,53563 | 0,81347 |
| Cmtm3         | -0,536   | 0,87832 |
| Msh2          | -0,53627 | 0,86608 |
| Pdcd6ip       | -0,53642 | 0,80224 |
| Pi4ka         | -0,53637 | 0,8092  |
| Smim4         | -0,53641 | 0,85835 |
| Dnajc16       | -0,53646 | 0,85559 |
| Prkab2        | -0,53654 | 0,86091 |
| Crybg3        | -0,53676 | 0,85956 |
| Zmat5         | -0,53684 | 0,88085 |
| Nol10         | -0,53733 | 0,83617 |
| Ppargc1b      | -0,53747 | 0,85956 |
| Atxn1         | -0,53764 | 0,84481 |
| Ift122        | -0,53766 | 0,8848  |
| Psmc3         | -0,53781 | 0,84312 |
| Rnpc3         | -0,53786 | 0,87255 |
| Gm11131       | -0,53801 | 0,9268  |
| Ptgr2         | -0,53808 | 0,84911 |
| Commd3        | -0,53845 | 0,81767 |
| Stxbp5        | -0,53891 | 0,82682 |
| Zbed4         | -0,53914 | 0,88758 |
| 9330159M07Rik | -0,53943 | 0,93396 |
| Unc50         | -0,53973 | 0,83069 |
| Alkbh4        | -0,54009 | 0,89333 |

|               |          |         |
|---------------|----------|---------|
| Trim2         | -0,5402  | 0,88373 |
| Arhgef25      | -0,54038 | 0,86477 |
| Lmna          | -0,54049 | 0,75975 |
| Klf13         | -0,54053 | 0,81794 |
| Alad          | -0,54063 | 0,86266 |
| Gm42479       | -0,54059 | 1       |
| Atp2a2        | -0,54091 | 0,79487 |
| Gm13350       | -0,54089 | 1       |
| Gimp          | -0,54101 | 0,82151 |
| Usp11         | -0,54118 | 0,92938 |
| Prkar1a       | -0,54154 | 0,78257 |
| Zcchc4        | -0,54161 | 0,79239 |
| Trib3         | -0,54156 | 0,87756 |
| Prkce         | -0,54168 | 0,89618 |
| Yars          | -0,54175 | 0,83518 |
| Phb           | -0,542   | 0,88758 |
| Six4          | -0,54218 | 0,86608 |
| Exosc9        | -0,54231 | 0,83518 |
| Synrg         | -0,54231 | 0,84312 |
| Riok3         | -0,54257 | 0,818   |
| Cwc27         | -0,54258 | 0,83711 |
| Tram2         | -0,54313 | 0,9191  |
| Cacnb1        | -0,54327 | 1       |
| Ythdc2        | -0,54339 | 0,86613 |
| Ascl2         | -0,54355 | 0,94929 |
| Ccni          | -0,54391 | 0,7702  |
| Fam3a         | -0,54438 | 0,86613 |
| Lin37         | -0,5452  | 0,94373 |
| 9330162012Rik | -0,54522 | 1       |
| Pip5k1c       | -0,54529 | 0,8321  |
| Scamp2        | -0,54561 | 0,76466 |
| St6gal1       | -0,54604 | 0,88537 |
| Cxxc5         | -0,54604 | 0,95379 |
| Neil1         | -0,54647 | 0,83875 |
| Ice1          | -0,54646 | 0,84341 |
| Tbp           | -0,54673 | 0,87775 |
| Sfpq          | -0,54689 | 0,78918 |
| Fth-ps2       | -0,54719 | 0,99896 |
| Cfap97        | -0,54749 | 0,85956 |
| Gm3608        | -0,54756 | 0,96201 |
| Tmem94        | -0,54807 | 0,86194 |
| Gsr           | -0,54857 | 0,86248 |
| Zfp429        | -0,54863 | 0,87832 |
| RP23-440I21.3 | -0,54882 | 1       |
| Ankhd1        | -0,54886 | 0,77332 |
| Rab32         | -0,54896 | 0,82464 |
| Cyp4f13       | -0,54895 | 0,85996 |
| Snora57       | -0,54957 | 0,88373 |
| Cacfd1        | -0,54965 | 0,76108 |
| Unk           | -0,54971 | 0,85076 |
| Pdia5         | -0,55003 | 0,85417 |
| Klk8          | -0,55012 | 0,91358 |

|               |          |         |
|---------------|----------|---------|
| Thoc6         | -0,55051 | 0,82282 |
| Wdr26         | -0,55068 | 0,7459  |
| Nsmce1        | -0,55066 | 0,84911 |
| Hsd17b11      | -0,55126 | 0,8252  |
| Atg4b         | -0,55145 | 0,80634 |
| E130308A19Rik | -0,55144 | 0,87796 |
| A130010J15Rik | -0,55169 | 0,84957 |
| Vasp          | -0,55184 | 0,73238 |
| 6430511E19Rik | -0,55185 | 0,99951 |
| Sdf4          | -0,55213 | 0,74563 |
| Mettl15       | -0,55219 | 0,85465 |
| Cebpz         | -0,55322 | 0,78585 |
| Erp29         | -0,55395 | 0,70967 |
| Gga3          | -0,55404 | 0,80063 |
| Micu2         | -0,55423 | 0,8029  |
| St7           | -0,55453 | 0,85111 |
| Polr3k        | -0,55458 | 0,84373 |
| Ate1          | -0,55471 | 0,73404 |
| Mfhas1        | -0,55481 | 0,88341 |
| Rhno1         | -0,55613 | 0,78391 |
| RP23-442M18.5 | -0,5562  | 0,99785 |
| Scyl1         | -0,55653 | 0,82342 |
| Atg2a         | -0,55658 | 0,73967 |
| Fam160b1      | -0,55661 | 0,79132 |
| Gm37238       | -0,5567  | 0,90123 |
| Zfp120        | -0,55686 | 0,81817 |
| Zfp358        | -0,55729 | 0,85574 |
| Mcrs1         | -0,55733 | 0,88093 |
| Tfam          | -0,55745 | 0,81839 |
| Herpud1       | -0,55781 | 0,7146  |
| Npc2          | -0,55785 | 0,72323 |
| Gm7496        | -0,55821 | 1       |
| Sgpp1         | -0,55852 | 0,70656 |
| Zdhhc16       | -0,55867 | 0,85973 |
| Supt6         | -0,55918 | 0,74018 |
| Fam98a        | -0,55917 | 0,84371 |
| Mrgbp         | -0,5599  | 0,83754 |
| Rsu1          | -0,56014 | 0,81794 |
| Tnip3         | -0,56031 | 0,7895  |
| Inpp5k        | -0,56056 | 0,80474 |
| Hcls1         | -0,56074 | 0,73591 |
| Dicer1        | -0,56094 | 0,76886 |
| Galnt4        | -0,56086 | 0,85575 |
| Pex11b        | -0,56135 | 0,77401 |
| Gpr68         | -0,56169 | 0,81559 |
| Atmin         | -0,56179 | 0,78038 |
| Cul9          | -0,56194 | 0,80769 |
| G3bp1         | -0,56262 | 0,73716 |
| Dync1li2      | -0,56291 | 0,71531 |
| Romo1         | -0,56295 | 0,76005 |
| Gm29284       | -0,56303 | 0,91093 |
| Ckap4         | -0,56309 | 0,70268 |

|               |          |         |
|---------------|----------|---------|
| Ankrd17       | -0,56321 | 0,72696 |
| Mfsd11        | -0,56368 | 0,7799  |
| Yeats4        | -0,56396 | 0,7071  |
| Gcdh          | -0,56398 | 0,89813 |
| Nectin2       | -0,56405 | 0,83371 |
| Gm13421       | -0,56428 | 0,94404 |
| Preb          | -0,56444 | 0,76299 |
| Psme3         | -0,56441 | 0,76497 |
| Lym7          | -0,56439 | 0,86396 |
| Bod1l         | -0,56447 | 0,79239 |
| Poldip2       | -0,56503 | 0,78395 |
| Pnkp          | -0,56584 | 0,8092  |
| Zzef1         | -0,56612 | 0,78215 |
| Ifi27         | -0,56644 | 0,75818 |
| Slc40a1       | -0,56653 | 0,85559 |
| Gdap2         | -0,56703 | 0,75809 |
| Aim1          | -0,56705 | 0,7895  |
| Odf2l         | -0,56721 | 0,84481 |
| Fam192a       | -0,56735 | 0,75804 |
| Rtca          | -0,56743 | 0,75816 |
| Spen          | -0,56766 | 0,7702  |
| Bfar          | -0,56812 | 0,69945 |
| Crygn         | -0,56819 | 0,88373 |
| Klhl2         | -0,56834 | 0,80445 |
| Med29         | -0,5683  | 0,88671 |
| Socs6         | -0,56862 | 0,75412 |
| Synj2         | -0,56855 | 0,79306 |
| Trabd         | -0,5687  | 0,65714 |
| Pycr1         | -0,5688  | 0,85942 |
| Rad50         | -0,56891 | 0,78671 |
| Tmem104       | -0,56897 | 0,88758 |
| Stambp        | -0,56937 | 0,73078 |
| Adrm1         | -0,5697  | 0,86524 |
| Tecpr2        | -0,5698  | 0,82986 |
| Ubr4          | -0,56988 | 0,6681  |
| 3300005D01Rik | -0,56989 | 0,77596 |
| Arrb1         | -0,5703  | 0,75786 |
| Gm43668       | -0,57055 | 0,8635  |
| Dock11        | -0,57056 | 0,81559 |
| Slc9a3r2      | -0,57059 | 0,81794 |
| Gm42937       | -0,57064 | 0,93905 |
| Smug1         | -0,57072 | 0,80254 |
| Eif3j2        | -0,57085 | 0,69092 |
| Gm38213       | -0,57094 | 0,84943 |
| Xab2          | -0,57102 | 0,81297 |
| Ep400         | -0,57111 | 0,72088 |
| Cnpy2         | -0,57111 | 0,80996 |
| RP23-243B24.1 | -0,57166 | 0,92556 |
| Gm9774        | -0,57198 | 0,82232 |
| Snx11         | -0,57208 | 0,72344 |
| Ankrd13c      | -0,57218 | 0,75975 |
| Atg2b         | -0,57228 | 0,77261 |

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|---------------|----------|---------|
| Pik3c3        | -0,57228 | 0,84121 |
| Akr1c13       | -0,57241 | 0,7702  |
| Tmem192       | -0,57264 | 0,7668  |
| Pqlc1         | -0,57282 | 0,69766 |
| Twf2          | -0,57278 | 0,74707 |
| Gm6293        | -0,57285 | 0,90543 |
| Gdi2          | -0,57325 | 0,64995 |
| Maats1os      | -0,57388 | 0,93661 |
| Ldlrap1       | -0,57405 | 0,65478 |
| Fam195a       | -0,57408 | 0,85111 |
| Tmem237       | -0,57545 | 0,81693 |
| Xpnpep3       | -0,5755  | 0,82958 |
| Ddx10         | -0,57569 | 0,74208 |
| Trps1         | -0,57576 | 0,71527 |
| Gm43513       | -0,5759  | 0,94104 |
| Snap29        | -0,57601 | 0,67692 |
| Myo10         | -0,576   | 0,72422 |
| Trmt10b       | -0,57615 | 0,83062 |
| Prpsap1       | -0,57616 | 0,73365 |
| Thoc7         | -0,57645 | 0,70264 |
| Zfp296        | -0,57638 | 0,82461 |
| Ccz1          | -0,57661 | 0,67675 |
| Gm4879        | -0,57673 | 0,78585 |
| 4933412L11Rik | -0,57673 | 0,98876 |
| Gm10268       | -0,57694 | 0,97501 |
| 9130401M01Rik | -0,57699 | 0,75665 |
| Ap1s1         | -0,5771  | 0,66025 |
| D330050G23Rik | -0,57741 | 0,94699 |
| Gm5624        | -0,578   | 0,85956 |
| Tmem91        | -0,57795 | 0,91077 |
| Ankrd12       | -0,57809 | 0,74664 |
| Rdh1          | -0,57818 | 1       |
| Clns1a        | -0,5789  | 0,66091 |
| Rad17         | -0,5789  | 0,74589 |
| Gm14017       | -0,57912 | 0,89604 |
| Ykt6          | -0,57928 | 0,68557 |
| L3hypdh       | -0,57952 | 0,81053 |
| Clcc1         | -0,57975 | 0,73177 |
| Gm42690       | -0,58001 | 0,97312 |
| Bloc1s5       | -0,58027 | 0,78203 |
| Zfp451        | -0,58036 | 0,63255 |
| Gpank1        | -0,58067 | 0,78289 |
| Rpl3l         | -0,581   | 0,9127  |
| Uchl3         | -0,58112 | 0,70146 |
| Cers2         | -0,5816  | 0,62049 |
| Ppil1         | -0,5816  | 0,85249 |
| Ttc9          | -0,58158 | 0,86264 |
| 2310009A05Rik | -0,58166 | 0,77321 |
| Ociad1        | -0,58186 | 0,6332  |
| G730013B05Rik | -0,58188 | 0,7146  |
| Gm21816       | -0,58186 | 0,92013 |
| Sh3kbp1       | -0,58205 | 0,75225 |

|               |          |         |
|---------------|----------|---------|
| Man2c1os      | -0,58217 | 0,8976  |
| Zbtb24        | -0,58241 | 0,78662 |
| Cox18         | -0,58273 | 0,7382  |
| Chpf          | -0,58304 | 0,78391 |
| Cpne8         | -0,58321 | 0,65594 |
| Fbxl6         | -0,58324 | 0,76813 |
| Vim           | -0,58334 | 0,6268  |
| Arhgap21      | -0,58349 | 0,75786 |
| Pramef8       | -0,58356 | 0,78078 |
| Rsad1         | -0,58366 | 0,88765 |
| Map3k4        | -0,58385 | 0,73126 |
| Naa25         | -0,58407 | 0,66172 |
| Tsfm          | -0,58426 | 0,86613 |
| Apc           | -0,58437 | 0,71966 |
| Clybl         | -0,58487 | 0,73078 |
| Zmynd11       | -0,58525 | 0,62324 |
| Gm9796        | -0,5854  | 1       |
| 1110059G10Rik | -0,58554 | 0,75225 |
| Utp3          | -0,58556 | 0,53106 |
| Dnajc10       | -0,58555 | 0,6358  |
| Dimt1         | -0,58567 | 0,99018 |
| Myo19         | -0,58581 | 0,84851 |
| Gm44510       | -0,58601 | 1       |
| Fam188b       | -0,58626 | 0,96929 |
| Ncl           | -0,5868  | 0,57644 |
| Gm9333        | -0,58709 | 0,82817 |
| Tsnax         | -0,58758 | 0,79908 |
| Vps4a         | -0,58775 | 0,72665 |
| Slc25a43      | -0,58767 | 0,90694 |
| Wdr12         | -0,58815 | 0,71992 |
| Oprl1         | -0,58822 | 0,97759 |
| Abhd11        | -0,58865 | 0,67704 |
| Gpatch11      | -0,58884 | 0,67458 |
| Wdfy3         | -0,58912 | 0,74833 |
| Sppl3         | -0,58942 | 0,69035 |
| Glt8d1        | -0,58988 | 0,7245  |
| Prkaa1        | -0,59009 | 0,7202  |
| Cdk5r1        | -0,59045 | 0,75249 |
| Snx10         | -0,59083 | 0,63554 |
| Slc12a4       | -0,59092 | 0,74604 |
| Trak1         | -0,59095 | 0,72623 |
| Grik5         | -0,59099 | 0,89765 |
| Pigh          | -0,59119 | 0,8624  |
| Dnmt3a        | -0,59146 | 0,58008 |
| Slc7a1        | -0,59168 | 0,58874 |
| Klhl20        | -0,59166 | 0,79977 |
| Zfp950        | -0,5918  | 0,80254 |
| Zcchc7        | -0,59224 | 0,65818 |
| Setd6         | -0,59232 | 0,71222 |
| Rab35         | -0,59269 | 0,67906 |
| Gm44291       | -0,59274 | 0,98533 |
| Tnks2         | -0,59325 | 0,61426 |

|               |          |         |
|---------------|----------|---------|
| Nop16         | -0,59332 | 0,58008 |
| Eif4g1        | -0,59351 | 0,55526 |
| Immt          | -0,59366 | 0,62818 |
| Man2a1        | -0,59367 | 0,79989 |
| Poc1b         | -0,59427 | 0,71689 |
| Gm15506       | -0,59427 | 0,96074 |
| Farsb         | -0,59441 | 0,60692 |
| Lrp8          | -0,59442 | 0,63211 |
| Maip1         | -0,59497 | 0,82803 |
| Exd1          | -0,59616 | 0,87704 |
| Rapgef3       | -0,59616 | 0,92013 |
| Polr2f        | -0,5964  | 0,64978 |
| Ell2          | -0,5965  | 0,60264 |
| Tceanc        | -0,59662 | 0,81297 |
| Ltv1          | -0,59693 | 0,71966 |
| Zfp281        | -0,59704 | 0,76539 |
| 5031439G07Rik | -0,59726 | 0,58126 |
| Gaa           | -0,59751 | 0,63306 |
| Tmem18        | -0,59752 | 0,74664 |
| Gm13341       | -0,59756 | 0,91093 |
| Josd1         | -0,59772 | 0,59468 |
| Ammecr1l      | -0,59768 | 0,68244 |
| Relb          | -0,59796 | 0,69342 |
| Slc7a6        | -0,59801 | 0,69788 |
| Ep300         | -0,5982  | 0,6661  |
| Ddx55         | -0,59834 | 0,74664 |
| Vipas39       | -0,5988  | 0,73689 |
| Fancc         | -0,59937 | 0,82997 |
| Alas1         | -0,59945 | 0,73377 |
| Gm26542       | -0,59967 | 0,83627 |
| 2610306M01Rik | -0,59985 | 0,85373 |
| Ddx1          | -0,60031 | 0,64773 |
| Gm38340       | -0,6003  | 0,81596 |
| Lrmp          | -0,60063 | 0,6343  |
| Ccs           | -0,60058 | 0,69798 |
| Gm38366       | -0,60066 | 0,9035  |
| Kifap3        | -0,60082 | 0,68222 |
| Eprs          | -0,60089 | 0,50127 |
| Chpf2         | -0,60108 | 0,70014 |
| Lrba          | -0,60121 | 0,72161 |
| Pip5k1b       | -0,60132 | 0,65429 |
| Al606181      | -0,60136 | 0,76775 |
| Rcc2          | -0,60196 | 0,49713 |
| Rpp40         | -0,60232 | 0,7811  |
| Cacna1b       | -0,60239 | 1       |
| Gm10557       | -0,60246 | 0,92259 |
| Ercc8         | -0,60289 | 0,72588 |
| Zfp668        | -0,60296 | 0,76808 |
| Smarcc1       | -0,60361 | 0,56369 |
| Acbd4         | -0,60358 | 0,68417 |
| Amdhd2        | -0,60375 | 0,70656 |
| Clcn4         | -0,60377 | 0,73251 |

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|---------------|----------|---------|
| Fmn1          | -0,60388 | 0,6102  |
| Map2k3        | -0,60485 | 0,45897 |
| Gart          | -0,60479 | 0,67416 |
| Tuft1         | -0,60504 | 0,65106 |
| Tgif1         | -0,60531 | 0,62581 |
| Ccdc91        | -0,60541 | 0,73078 |
| Glud1         | -0,60579 | 0,51645 |
| Ppm1g         | -0,60597 | 0,51038 |
| Tom1l2        | -0,6061  | 0,68222 |
| Nudt13        | -0,60699 | 0,64561 |
| 1700001C19Rik | -0,60698 | 0,96149 |
| Samm50        | -0,60706 | 0,56407 |
| Zfp282        | -0,60724 | 0,7665  |
| Vav2          | -0,60727 | 0,83459 |
| Aar2          | -0,60735 | 0,71367 |
| Supt5         | -0,60751 | 0,59408 |
| Pi4k2b        | -0,60746 | 0,6744  |
| Zfp110        | -0,60751 | 0,68115 |
| Pafah1b2      | -0,60756 | 0,49225 |
| Zdhhc4        | -0,6076  | 0,72663 |
| Stat1         | -0,60765 | 0,82488 |
| Wdr81         | -0,60794 | 0,68244 |
| Gtpbp6        | -0,60804 | 0,77109 |
| Cd276         | -0,60811 | 0,74604 |
| Sdhc          | -0,60835 | 0,4679  |
| Taf12         | -0,60863 | 0,7082  |
| Tpgs1         | -0,60881 | 0,79291 |
| Cenpo         | -0,60875 | 0,82752 |
| Thap11        | -0,60897 | 0,53706 |
| Vps37a        | -0,60907 | 0,61758 |
| Klhl22        | -0,60914 | 0,73249 |
| Gm38247       | -0,6091  | 0,94163 |
| Dennd1c       | -0,60925 | 0,9341  |
| Smarcd2       | -0,60926 | 0,46835 |
| Dcun1d2       | -0,6099  | 0,83416 |
| Fbxo38        | -0,61019 | 0,61559 |
| Exosc7        | -0,61032 | 0,64228 |
| Jarid2        | -0,61064 | 0,59527 |
| Def8          | -0,61064 | 0,74604 |
| Clec11a       | -0,6109  | 0,79064 |
| Rnf20         | -0,61104 | 0,50402 |
| 2610203C20Rik | -0,61098 | 0,8321  |
| Cdo1          | -0,61106 | 0,93225 |
| Traf3ip2      | -0,61159 | 0,73628 |
| Kiss1r        | -0,6117  | 0,96005 |
| Wdr78         | -0,61189 | 0,85574 |
| Dnajb11       | -0,61232 | 0,61758 |
| Dhrs13        | -0,6125  | 0,84741 |
| Spsb1         | -0,61259 | 0,78881 |
| Zfyve19       | -0,61274 | 0,84696 |
| Pitpna        | -0,61295 | 0,52581 |
| Gpr108        | -0,61299 | 0,62076 |

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|-----------|----------|---------|
| Sun1      | -0,61327 | 0,66529 |
| Abcf1     | -0,61353 | 0,50559 |
| Ubxn2b    | -0,61387 | 0,75696 |
| Flnc      | -0,61407 | 0,58504 |
| Ube2d2a   | -0,61406 | 0,7203  |
| BC005561  | -0,61455 | 0,66149 |
| Utp4      | -0,61512 | 0,68115 |
| Prune1    | -0,61562 | 0,55478 |
| Tsc22d4   | -0,61565 | 0,61404 |
| Hnrnpab   | -0,61609 | 0,47617 |
| Slc3a2    | -0,61608 | 0,55848 |
| Mmgt2     | -0,61611 | 0,58702 |
| Nubp2     | -0,61618 | 0,75809 |
| Cluap1    | -0,61626 | 0,70336 |
| Pdss1     | -0,6166  | 0,90583 |
| Mum1      | -0,61666 | 0,73238 |
| Oas1g     | -0,61665 | 0,99951 |
| Szt2      | -0,61692 | 0,8107  |
| Gfi1      | -0,61688 | 0,92639 |
| Smarca2   | -0,61724 | 0,49232 |
| Tsr1      | -0,61745 | 0,59848 |
| Srgap2    | -0,6182  | 0,52261 |
| Ddb2      | -0,61871 | 0,79451 |
| Wdr3      | -0,6188  | 0,43286 |
| Pck2      | -0,61879 | 0,72551 |
| Wiz       | -0,61916 | 0,62564 |
| Mrps10    | -0,61927 | 0,74007 |
| Gtpbp3    | -0,61977 | 0,76381 |
| Plekha5   | -0,62022 | 0,73638 |
| Myh7b     | -0,62047 | 0,91895 |
| Disp1     | -0,62111 | 0,77659 |
| Lasp1     | -0,62132 | 0,59873 |
| Mepce     | -0,62192 | 0,62922 |
| Stat5a    | -0,62191 | 0,67675 |
| Arl15     | -0,62193 | 0,83518 |
| Stk4      | -0,62202 | 0,57073 |
| Psap      | -0,62234 | 0,59162 |
| Tm9sf3    | -0,62241 | 0,50714 |
| Pogk      | -0,62238 | 0,58504 |
| Eif5      | -0,62251 | 0,3671  |
| Cyp20a1   | -0,62269 | 0,64449 |
| Slc25a46  | -0,62276 | 0,63941 |
| Klhl8     | -0,62277 | 0,74432 |
| D10Jhu81e | -0,62285 | 0,64446 |
| Lypla2    | -0,62301 | 0,59306 |
| Vars2     | -0,62313 | 0,71151 |
| Zfp398    | -0,62308 | 0,75562 |
| Gon4l     | -0,62347 | 0,63954 |
| Rbm45     | -0,62365 | 0,78358 |
| Jkamp     | -0,62384 | 0,6274  |
| Acat2     | -0,62423 | 0,63071 |
| Nbeal2    | -0,6244  | 0,7799  |

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|---------------|----------|---------|
| Vps36         | -0,62475 | 0,59268 |
| Ccdc138       | -0,62473 | 0,91358 |
| Cd82          | -0,62497 | 0,57659 |
| Eftud2        | -0,62514 | 0,6343  |
| Timp1         | -0,62517 | 0,93172 |
| Enpp1         | -0,62569 | 0,76539 |
| Dgcr2         | -0,6259  | 0,66394 |
| Cdk20         | -0,62633 | 0,78918 |
| Pik3ca        | -0,62714 | 0,61611 |
| 9230114K14Rik | -0,6278  | 0,68358 |
| Malsu1        | -0,62853 | 0,61045 |
| Unc93b1       | -0,62857 | 0,56218 |
| Hif1a         | -0,62867 | 0,50833 |
| Gskip         | -0,62866 | 0,68244 |
| Syne1         | -0,62893 | 0,57591 |
| Cntln         | -0,62897 | 0,80063 |
| Cebpa         | -0,62908 | 0,68222 |
| Gmip          | -0,6294  | 0,62031 |
| Usp9x         | -0,62974 | 0,56967 |
| Zbtb2         | -0,62985 | 0,71308 |
| Pla2g16       | -0,63014 | 0,57535 |
| Mrps12        | -0,63008 | 0,6343  |
| 1700052K11Rik | -0,63036 | 0,941   |
| Ccdc191       | -0,63053 | 0,70856 |
| Nrbp1         | -0,63065 | 0,60818 |
| Top3a         | -0,63058 | 0,75591 |
| Wdr13         | -0,63069 | 0,51404 |
| Tubd1         | -0,63091 | 0,84938 |
| Pcdhb15       | -0,63105 | 0,98309 |
| Gata3         | -0,6313  | 0,7963  |
| Gm30329       | -0,63135 | 0,87821 |
| Slc9a9        | -0,63136 | 0,8137  |
| 5430403G16Rik | -0,63153 | 0,86608 |
| Pou2f2        | -0,6317  | 0,5061  |
| Pkn1          | -0,63179 | 0,5181  |
| Ehbp1         | -0,63194 | 0,73592 |
| Map4k3        | -0,63212 | 0,74664 |
| Lancl1        | -0,63217 | 0,60557 |
| Tiam1         | -0,63253 | 0,69371 |
| Slc38a6       | -0,63299 | 0,59869 |
| Tlcd1         | -0,6331  | 0,9072  |
| Ide           | -0,63325 | 0,64856 |
| Ttc26         | -0,63333 | 0,81914 |
| Pcnx3         | -0,6335  | 0,48522 |
| Usp10         | -0,6338  | 0,57613 |
| Kri1          | -0,63454 | 0,67027 |
| Polr3h        | -0,63484 | 0,57647 |
| Plekha8       | -0,63492 | 0,67347 |
| Zrsr1         | -0,63516 | 0,61713 |
| Psme2b        | -0,63572 | 0,63954 |
| Gm6206        | -0,63591 | 0,79859 |
| Eri1          | -0,63603 | 0,57807 |

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|---------------|----------|---------|
| Stab1         | -0,636   | 0,74833 |
| Nxpe3         | -0,63708 | 0,58599 |
| Socs3         | -0,63731 | 0,6982  |
| Ippk          | -0,63726 | 0,77401 |
| Atp6v0b       | -0,63739 | 0,56059 |
| Sec31a        | -0,63758 | 0,49966 |
| Bcor          | -0,63782 | 0,63954 |
| Zmpste24      | -0,63798 | 0,65646 |
| Lgi4          | -0,63796 | 0,96758 |
| Vrk3          | -0,63833 | 0,59869 |
| Psmc10        | -0,63844 | 0,51265 |
| Taf1a         | -0,63848 | 0,75269 |
| Grin1         | -0,63859 | 0,94539 |
| Ubtd2         | -0,63873 | 0,94203 |
| Rbm15b        | -0,63898 | 0,65594 |
| Wdr43         | -0,63923 | 0,38133 |
| Elmo2         | -0,63931 | 0,74612 |
| Rcan3         | -0,63951 | 0,58656 |
| Vps33a        | -0,63977 | 0,5597  |
| Pithd1        | -0,64054 | 0,57621 |
| Gm5590        | -0,64073 | 0,95342 |
| Zfp84         | -0,64101 | 0,71951 |
| Slc6a12       | -0,64116 | 0,58315 |
| Tifa          | -0,64116 | 0,6133  |
| Pmm2          | -0,64122 | 0,67502 |
| Impa2         | -0,64125 | 0,5126  |
| Rrp8          | -0,64218 | 0,54267 |
| Nphp1         | -0,64231 | 0,87625 |
| Axin1         | -0,64241 | 0,6165  |
| Rspry1        | -0,64241 | 0,64446 |
| Zfp770        | -0,64252 | 0,70212 |
| Degs1         | -0,64313 | 0,3389  |
| Parp1         | -0,64312 | 0,3454  |
| Gm5609        | -0,64328 | 0,77834 |
| Csrnp2        | -0,6433  | 0,92558 |
| Cse1l         | -0,64335 | 0,38869 |
| Ythdf1        | -0,64369 | 0,44119 |
| Cops6         | -0,64372 | 0,55196 |
| Nol9          | -0,6443  | 0,49882 |
| Gab3          | -0,64429 | 0,63954 |
| Gstp-ps       | -0,64449 | 0,7913  |
| Sh2d3c        | -0,64451 | 0,84187 |
| Stc1          | -0,64451 | 0,90831 |
| B3glct        | -0,64464 | 0,69934 |
| Gm6395        | -0,64476 | 0,94296 |
| Usp4          | -0,64502 | 0,41105 |
| Gm37333       | -0,6451  | 0,8558  |
| Dok3          | -0,64529 | 0,52065 |
| D230017M19Rik | -0,64569 | 0,92132 |
| Txlna         | -0,64612 | 0,50147 |
| Mars          | -0,64614 | 0,55037 |
| Bphl          | -0,64607 | 0,76775 |

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|--------------|----------|---------|
| Lyz2         | -0,64628 | 0,43206 |
| Cnot11       | -0,64643 | 0,57613 |
| Gm43707      | -0,64637 | 0,85519 |
| Tacc2        | -0,64664 | 0,62949 |
| Scaf4        | -0,64679 | 0,62925 |
| Lysmd1       | -0,64683 | 0,67517 |
| Eif4ebp1     | -0,64693 | 0,47708 |
| Sf1          | -0,64712 | 0,36074 |
| Limd1        | -0,64755 | 0,46346 |
| Txnrd3       | -0,64765 | 0,75415 |
| Atic         | -0,64814 | 0,49209 |
| R3hcc1l      | -0,64817 | 0,55286 |
| Ppm1d        | -0,64835 | 0,57435 |
| Sos2         | -0,64854 | 0,5811  |
| Rraga        | -0,64875 | 0,63437 |
| Ppm1a        | -0,64893 | 0,48147 |
| Nr6a1        | -0,64896 | 0,7264  |
| Casz1        | -0,64907 | 0,75405 |
| RP24-282C4.9 | -0,64937 | 0,75252 |
| Mrps22       | -0,64946 | 0,80099 |
| Sypl         | -0,64965 | 0,39719 |
| Llph-ps2     | -0,6497  | 0,60866 |
| Sqrdl        | -0,64966 | 0,68847 |
| Gm6377       | -0,64968 | 0,7799  |
| Narfl        | -0,65015 | 0,6136  |
| Zfp780b      | -0,65012 | 0,73207 |
| Tmem138      | -0,65022 | 0,75282 |
| Gm16053      | -0,65047 | 0,92558 |
| Gm12529      | -0,65061 | 0,95136 |
| Ifngr1       | -0,65069 | 0,64563 |
| Gm13835      | -0,65067 | 0,65342 |
| Cited2       | -0,65094 | 0,57174 |
| Ddx46        | -0,65097 | 0,44739 |
| Gm14403      | -0,65207 | 0,95433 |
| Asns         | -0,65269 | 0,65761 |
| Usp7         | -0,65318 | 0,34092 |
| Ccdc92       | -0,65368 | 0,79859 |
| Zranb2       | -0,65386 | 0,44221 |
| Celf5        | -0,65389 | 0,93731 |
| Trmt2a       | -0,65428 | 0,56913 |
| Mplkip       | -0,655   | 0,50864 |
| Psd          | -0,65505 | 0,88373 |
| Prrc1        | -0,6555  | 0,35255 |
| Derl1        | -0,65578 | 0,28955 |
| Neat1        | -0,65674 | 0,56435 |
| Fam118b      | -0,65689 | 0,55857 |
| F8a          | -0,65744 | 0,67347 |
| Cluh         | -0,65791 | 0,36074 |
| Map4k4       | -0,65893 | 0,36101 |
| Lrrc1        | -0,65902 | 0,81622 |
| Chpt1        | -0,66037 | 0,66041 |
| Zik1         | -0,66069 | 0,75506 |

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|---------------|----------|---------|
| Rmdn1         | -0,66174 | 0,59854 |
| Ppp4r2        | -0,66242 | 0,48492 |
| Aph1c         | -0,66274 | 0,45864 |
| Hars          | -0,66285 | 0,41181 |
| Borcs5        | -0,66279 | 0,65818 |
| A630033H20Rik | -0,66287 | 0,67052 |
| Zbtb4         | -0,66317 | 0,4297  |
| Rpl36a-ps1    | -0,66322 | 0,96741 |
| Tcf4          | -0,66337 | 0,34351 |
| Dync1li1      | -0,66346 | 0,34351 |
| Nup37         | -0,66347 | 0,51645 |
| 1810011H11Rik | -0,66356 | 0,70761 |
| Ppp3ca        | -0,66369 | 0,38578 |
| Atp6v0d1      | -0,66385 | 0,50272 |
| Stx2          | -0,66407 | 0,50864 |
| Mok           | -0,66433 | 0,87468 |
| Snai2         | -0,66432 | 0,89661 |
| Zfp1          | -0,66453 | 0,45507 |
| Senp1         | -0,66464 | 0,5232  |
| Rhbdd3        | -0,6646  | 0,71308 |
| Gm13268       | -0,66514 | 0,9075  |
| Ermap         | -0,66516 | 0,80063 |
| Reps2         | -0,66549 | 0,92586 |
| Phlpp2        | -0,66559 | 0,69017 |
| Gm42829       | -0,66557 | 0,92912 |
| Tubb4a        | -0,66567 | 0,78698 |
| Simc1         | -0,66646 | 0,67502 |
| Zfp280c       | -0,66663 | 0,75477 |
| Txnrd1        | -0,66684 | 0,4102  |
| Brf2          | -0,66678 | 0,57956 |
| Lrrc75a       | -0,66706 | 0,49041 |
| Rhbdf1        | -0,6671  | 0,73219 |
| B230369F24Rik | -0,66726 | 0,86    |
| Snx15         | -0,66755 | 0,73078 |
| Tmem68        | -0,66763 | 0,64281 |
| Qser1         | -0,66774 | 0,50852 |
| Arl6          | -0,66819 | 0,8092  |
| Zdhhc5        | -0,6685  | 0,51391 |
| Gm5857        | -0,6688  | 0,93396 |
| Wdr4          | -0,66898 | 0,72696 |
| Zfp964        | -0,66938 | 0,95379 |
| Gm340         | -0,66956 | 0,71192 |
| Spats2        | -0,67037 | 0,5361  |
| RP23-114G13.1 | -0,67072 | 0,9633  |
| Xkr5          | -0,67091 | 0,938   |
| Foxred1       | -0,67104 | 0,52709 |
| H2-Oa         | -0,67157 | 0,90743 |
| Gm10167       | -0,67158 | 0,94476 |
| Mapkbp1       | -0,67182 | 0,44493 |
| Kbtbd7        | -0,67191 | 0,73705 |
| Cnot2         | -0,67225 | 0,40262 |
| Pacsin2       | -0,67232 | 0,6165  |

|               |          |         |
|---------------|----------|---------|
| Acad8         | -0,67249 | 0,54122 |
| Tbc1d24       | -0,67284 | 0,56877 |
| Nop2          | -0,67312 | 0,51942 |
| Dnase2a       | -0,67336 | 0,27984 |
| Zmynd19       | -0,67336 | 0,54797 |
| Crtc3         | -0,67353 | 0,62523 |
| Lins1         | -0,67381 | 0,73238 |
| Gm42484       | -0,67411 | 0,76813 |
| Ttc33         | -0,67426 | 0,39515 |
| Cdhr4         | -0,67439 | 0,8558  |
| Ebag9         | -0,67485 | 0,59844 |
| Phospho2      | -0,67538 | 0,55763 |
| Cd63          | -0,67563 | 0,25294 |
| Cltb          | -0,67593 | 0,58698 |
| Ttyh3         | -0,67628 | 0,44748 |
| Gm9712        | -0,67632 | 0,91106 |
| Matk          | -0,67636 | 0,89221 |
| Etfb          | -0,67646 | 0,52342 |
| Herc3         | -0,67653 | 0,72552 |
| Pex3          | -0,67728 | 0,55631 |
| Dtd1          | -0,67765 | 0,28205 |
| Srm           | -0,67807 | 0,49966 |
| Slc2a6        | -0,67808 | 0,70818 |
| Gm11298       | -0,6782  | 0,90583 |
| Prtn3         | -0,67863 | 0,94399 |
| Micall1       | -0,67866 | 0,47679 |
| Gm44116       | -0,67926 | 0,94971 |
| Ccnk          | -0,67963 | 0,41747 |
| Zfp958        | -0,67961 | 0,56059 |
| Plekhm1       | -0,67971 | 0,32026 |
| Ncf1          | -0,67982 | 0,23701 |
| Pttg1ip       | -0,67978 | 0,45073 |
| Osbpl2        | -0,67978 | 0,50517 |
| 1110032A03Rik | -0,68017 | 0,6681  |
| Txndc9        | -0,68036 | 0,40119 |
| Pycr2         | -0,6809  | 0,39862 |
| Eepd1         | -0,68087 | 0,44748 |
| Tst           | -0,6814  | 0,79487 |
| Rad54l2       | -0,6816  | 0,44414 |
| Slc12a7       | -0,68174 | 0,40196 |
| Nckap1        | -0,68188 | 0,82885 |
| Fam120a       | -0,68204 | 0,40237 |
| Rbpj          | -0,68216 | 0,26113 |
| B3gntl1       | -0,6826  | 0,74017 |
| Selplg        | -0,68339 | 0,37003 |
| Zc3h8         | -0,68402 | 0,65851 |
| Gm8566        | -0,68413 | 0,71813 |
| Gm28875       | -0,68425 | 0,34919 |
| Ppp2r3a       | -0,68443 | 0,72623 |
| Mrnip         | -0,68484 | 0,77668 |
| Aatf          | -0,68487 | 0,51154 |
| Nudt3         | -0,68495 | 0,25809 |

|               |          |         |
|---------------|----------|---------|
| Trpv2         | -0,68578 | 0,31313 |
| Mpeg1         | -0,68578 | 0,43206 |
| Cdk7          | -0,68633 | 0,61019 |
| A130048G24Rik | -0,68653 | 0,86773 |
| Cd101         | -0,68656 | 0,79306 |
| Rnf214        | -0,68666 | 0,50864 |
| Xylt2         | -0,68756 | 0,54622 |
| Dctn6         | -0,68778 | 0,36504 |
| Dclre1b       | -0,68783 | 0,70268 |
| Pbxip1        | -0,68832 | 0,2592  |
| Tram1         | -0,68826 | 0,27691 |
| Ccdc186       | -0,68835 | 0,37935 |
| Gm38021       | -0,68859 | 0,86241 |
| Helz          | -0,68933 | 0,37514 |
| Slc25a37      | -0,68996 | 0,25585 |
| Tvp23b        | -0,69    | 0,47236 |
| Nin           | -0,69011 | 0,62173 |
| Vps33b        | -0,69011 | 0,65927 |
| Letm1         | -0,69032 | 0,3114  |
| Nav1          | -0,69039 | 0,36082 |
| Ttll3         | -0,69035 | 0,61019 |
| Foxo4         | -0,69087 | 0,55993 |
| Ap4b1         | -0,69111 | 0,52084 |
| Ube2v2        | -0,69113 | 0,74589 |
| Klc3          | -0,69141 | 0,72422 |
| Cox11         | -0,69153 | 0,6046  |
| Gm45292       | -0,69162 | 0,88537 |
| Nsun3         | -0,69179 | 0,48239 |
| Rxrb          | -0,69247 | 0,25674 |
| Ccnf          | -0,6925  | 0,62867 |
| Puf60         | -0,6927  | 0,36006 |
| Gtf2h1        | -0,69293 | 0,52344 |
| Wfikkn1       | -0,69307 | 0,72088 |
| Rpn1          | -0,69315 | 0,18582 |
| Zfp760        | -0,69343 | 0,70011 |
| RP23-277D1.1  | -0,69345 | 0,88673 |
| Rpap1         | -0,69372 | 0,5348  |
| Gm44950       | -0,6944  | 0,85996 |
| Atp10d        | -0,69464 | 0,74449 |
| Scfd2         | -0,69571 | 0,71305 |
| Atp6v1b2      | -0,69575 | 0,11563 |
| Nmnat1        | -0,69613 | 0,67789 |
| Umps          | -0,69682 | 0,50895 |
| P2rx4         | -0,69706 | 0,46278 |
| Ncoa7         | -0,69734 | 0,55651 |
| S1pr2         | -0,69782 | 0,31528 |
| Scamp5        | -0,69778 | 0,45484 |
| Gm44557       | -0,69841 | 0,90264 |
| Osbpl11       | -0,69866 | 0,64846 |
| Fan1          | -0,69873 | 0,83627 |
| Cd53          | -0,69881 | 0,40033 |
| Herpud2       | -0,69881 | 0,50864 |

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|---------|----------|---------|
| Map3k11 | -0,69915 | 0,59527 |
| Gk5     | -0,69921 | 0,70269 |
| C1qbp   | -0,69944 | 0,15316 |
| Timm21  | -0,69952 | 0,66172 |
| Atp2b4  | -0,69963 | 0,35591 |
| Pdhx    | -0,6996  | 0,57082 |
| Prex1   | -0,70009 | 0,39313 |
| Arfgef2 | -0,7004  | 0,48964 |
| App     | -0,70046 | 0,32939 |
| Llgl2   | -0,70048 | 0,83724 |
| Nifk    | -0,7008  | 0,23526 |
| Cfap43  | -0,70076 | 0,74502 |
| Camta2  | -0,70095 | 0,35696 |
| Mon1b   | -0,70113 | 0,66172 |
| Orc3    | -0,7012  | 0,45484 |
| Crocc   | -0,70129 | 0,83871 |
| Plekhg5 | -0,70223 | 0,52716 |
| Hs6st1  | -0,70244 | 0,30351 |
| Ttc27   | -0,70254 | 0,59468 |
| Tsen2   | -0,70253 | 0,62093 |
| Abtb2   | -0,70299 | 0,64523 |
| Dnajc25 | -0,70318 | 0,40597 |
| Dnaaf2  | -0,70345 | 0,50282 |
| Usb1    | -0,70362 | 0,31477 |
| Mfap3   | -0,70407 | 0,53557 |
| Prrc2a  | -0,70408 | 0,53749 |
| Map7d1  | -0,70418 | 0,19267 |
| Mkl1    | -0,7042  | 0,38634 |
| Kcnn4   | -0,70484 | 0,27044 |
| Pdzd8   | -0,70506 | 0,50559 |
| Cdv3    | -0,70528 | 0,20138 |
| Snai1   | -0,70533 | 0,70175 |
| Atp5g3  | -0,70545 | 0,20749 |
| Ugt1a7c | -0,7055  | 0,83627 |
| Exosc5  | -0,70564 | 0,45847 |
| Ercc2   | -0,70576 | 0,51804 |
| Abcb10  | -0,70652 | 0,69783 |
| Tango2  | -0,70663 | 0,54797 |
| Parp2   | -0,7071  | 0,53057 |
| Clec4a3 | -0,70723 | 0,78554 |
| Bptf    | -0,70748 | 0,26128 |
| Nlrc5   | -0,7077  | 0,59209 |
| Cpsf6   | -0,70795 | 0,27666 |
| Sri     | -0,70796 | 0,35268 |
| Tsen34  | -0,70803 | 0,69934 |
| Gsg2    | -0,70806 | 0,77332 |
| Pygo2   | -0,70825 | 0,31623 |
| Dagla   | -0,7085  | 0,9341  |
| Tomm70a | -0,70904 | 0,17935 |
| Mdfic   | -0,70905 | 0,31974 |
| Zdhhc2  | -0,70914 | 0,33225 |
| Cmbi    | -0,70909 | 0,75809 |

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|---------------|----------|---------|
| Tm9sf2        | -0,70928 | 0,2549  |
| Sgms1         | -0,70964 | 0,53057 |
| 9530062K07Rik | -0,70981 | 0,61019 |
| Gm5578        | -0,71015 | 0,92387 |
| Tcea2         | -0,7107  | 0,85575 |
| Rrad          | -0,71079 | 0,87832 |
| Tbc1d8        | -0,71195 | 0,92132 |
| Cpt1c         | -0,71211 | 0,63909 |
| Bcl7c         | -0,71208 | 0,78252 |
| Zfp407        | -0,71238 | 0,66091 |
| Zfp445        | -0,71248 | 0,34351 |
| Zcchc10       | -0,71259 | 0,37339 |
| Dcaf17        | -0,71264 | 0,65636 |
| Mutyh         | -0,71279 | 0,92132 |
| 1700112E06Rik | -0,71309 | 0,63899 |
| Elfn2         | -0,71323 | 0,75809 |
| Thumpd1       | -0,71349 | 0,41823 |
| Rexo2         | -0,71445 | 0,29401 |
| Miga1         | -0,71436 | 0,45484 |
| Ube4b         | -0,71448 | 0,25268 |
| Tlk1          | -0,71447 | 0,30116 |
| Dcaf10        | -0,71528 | 0,36082 |
| Cib1          | -0,71555 | 0,30613 |
| Ampd2         | -0,71561 | 0,1892  |
| G6pdx         | -0,71565 | 0,44455 |
| Prdx1         | -0,71596 | 0,14215 |
| Oma1          | -0,71614 | 0,55857 |
| Srp68         | -0,71683 | 0,25149 |
| Rnf128        | -0,71688 | 0,26785 |
| Sacs          | -0,71686 | 0,57174 |
| Polg          | -0,71711 | 0,56943 |
| 1700086P04Rik | -0,71706 | 0,83062 |
| Gm43672       | -0,71721 | 0,91837 |
| Nacc2         | -0,71744 | 0,48081 |
| Gm37726       | -0,71784 | 0,96396 |
| Dcaf13        | -0,71823 | 0,15326 |
| Smarcb1       | -0,71858 | 0,47708 |
| Tmem203       | -0,71887 | 0,41343 |
| Dffa          | -0,71912 | 0,79458 |
| Gclc          | -0,71922 | 0,31998 |
| RP23-139H6.1  | -0,71919 | 0,52225 |
| Fhod3         | -0,72017 | 0,6789  |
| Mcm3ap        | -0,72041 | 0,40237 |
| Cnrip1        | -0,72065 | 0,66625 |
| Bin3          | -0,72088 | 0,58576 |
| Tfcp2         | -0,72134 | 0,61758 |
| Pon3          | -0,72137 | 0,44292 |
| Slc25a44      | -0,72165 | 0,43697 |
| Rab10         | -0,72269 | 0,15362 |
| Olfr933       | -0,72335 | 0,64603 |
| Ppa2          | -0,72359 | 0,41795 |
| Gm37760       | -0,72366 | 0,67334 |

|               |          |         |
|---------------|----------|---------|
| Calu          | -0,7238  | 0,41153 |
| Gm33370       | -0,72401 | 0,85249 |
| Tti2          | -0,72412 | 0,61818 |
| Gm42480       | -0,72427 | 0,60826 |
| 1110037F02Rik | -0,72485 | 0,34948 |
| Slco4a1       | -0,7253  | 0,14438 |
| Wdr60         | -0,7253  | 0,33543 |
| Gapvd1        | -0,72535 | 0,19101 |
| Tex9          | -0,72552 | 0,74664 |
| Thap6         | -0,72553 | 0,78786 |
| Mtdh          | -0,72564 | 0,07162 |
| Mad1l1        | -0,72555 | 0,68115 |
| D5Ert579e     | -0,72609 | 0,34707 |
| Rps6kb2       | -0,72606 | 0,56003 |
| Cul2          | -0,72616 | 0,39064 |
| Mrpl10        | -0,72634 | 0,31703 |
| Wdr75         | -0,72643 | 0,27796 |
| 2510009E07Rik | -0,7265  | 0,27204 |
| Ngly1         | -0,7265  | 0,7041  |
| Mtg1          | -0,72669 | 0,4823  |
| Ap5z1         | -0,72754 | 0,46278 |
| Ylpm1         | -0,72774 | 0,30094 |
| Kif16b        | -0,72892 | 0,5062  |
| Fbxl8         | -0,7289  | 0,59554 |
| Gm12059       | -0,72898 | 0,7202  |
| Tsacc         | -0,72948 | 0,80277 |
| Gm11448       | -0,72946 | 0,87089 |
| Plekho1       | -0,72957 | 0,07612 |
| Sigmar1       | -0,72955 | 0,48239 |
| Nme4          | -0,72962 | 0,66727 |
| Phf3          | -0,72969 | 0,15462 |
| Lgalsl        | -0,72981 | 0,45562 |
| Hs1bp3        | -0,72989 | 0,6351  |
| Slain2        | -0,73018 | 0,22285 |
| Mdc1          | -0,7306  | 0,51172 |
| Gm43859       | -0,73076 | 0,94539 |
| Rcn1          | -0,73114 | 0,37755 |
| Phldb3        | -0,73139 | 0,62417 |
| Tsga10ip      | -0,73143 | 0,90128 |
| Zfp821        | -0,73169 | 0,56035 |
| Ubr5          | -0,73283 | 0,27153 |
| Ofd1          | -0,73312 | 0,66529 |
| Dlat          | -0,73362 | 0,20804 |
| Slc30a4       | -0,73373 | 0,19032 |
| Dyrk2         | -0,73391 | 0,44739 |
| B4galt1       | -0,73452 | 0,11586 |
| Snx16         | -0,73471 | 0,54221 |
| Chac2         | -0,73481 | 0,7895  |
| Hmcn2         | -0,73487 | 0,78196 |
| Dgkq          | -0,73525 | 0,48921 |
| Gm17530       | -0,73525 | 0,81222 |
| Kmt2b         | -0,73543 | 0,47816 |

|               |          |         |
|---------------|----------|---------|
| Zmynd8        | -0,73552 | 0,18794 |
| Gm43681       | -0,73573 | 0,90583 |
| Fads1         | -0,7359  | 0,19071 |
| Jaml          | -0,73586 | 0,30733 |
| Mief1         | -0,73617 | 0,3925  |
| Iffo2         | -0,73625 | 0,55478 |
| Xpo4          | -0,73693 | 0,52179 |
| Lym2          | -0,73694 | 0,52619 |
| Mpnd          | -0,73702 | 0,32696 |
| Pelo          | -0,73746 | 0,26896 |
| Opn3          | -0,7376  | 0,6203  |
| Fam208b       | -0,73758 | 0,63071 |
| Ift140        | -0,73772 | 0,57374 |
| 3830403N18Rik | -0,73788 | 0,87796 |
| Cdk10         | -0,73821 | 0,64523 |
| Slc38a10      | -0,73842 | 0,1676  |
| Rnf220        | -0,73839 | 0,27305 |
| Slc4a2        | -0,7384  | 0,35255 |
| D330041H03Rik | -0,73864 | 0,74861 |
| Zfp513        | -0,73881 | 0,36082 |
| Zfp865        | -0,73894 | 0,61538 |
| Mdrl          | -0,73929 | 0,87117 |
| Comt          | -0,73952 | 0,44631 |
| Cldn12        | -0,73979 | 0,62303 |
| Tmem14a       | -0,73997 | 0,85292 |
| Eif2b3        | -0,74024 | 0,27046 |
| Tubb6         | -0,74039 | 0,3421  |
| Dhdds         | -0,7417  | 0,26272 |
| C2cd3         | -0,74194 | 0,62982 |
| Nfu1          | -0,74213 | 0,62224 |
| Fbxo4         | -0,74223 | 0,50039 |
| Senp7         | -0,74284 | 0,37262 |
| Pom121        | -0,74284 | 0,38688 |
| Gm10478       | -0,74298 | 0,78252 |
| Hpgds         | -0,74321 | 0,25471 |
| Neu3          | -0,74335 | 0,88184 |
| Mios          | -0,74373 | 0,57338 |
| Tmie          | -0,74376 | 0,65946 |
| Hgsnat        | -0,74425 | 0,45642 |
| Wrnip1        | -0,74441 | 0,66473 |
| Tspan3        | -0,74481 | 0,18296 |
| Fam91a1       | -0,74481 | 0,28679 |
| Hps1          | -0,74477 | 0,4165  |
| Slk           | -0,74503 | 0,21792 |
| Elp3          | -0,74517 | 0,38259 |
| Dusp14        | -0,74542 | 0,4642  |
| Abcc5         | -0,74558 | 0,24106 |
| 6430573P05Rik | -0,74556 | 0,83302 |
| Traf5         | -0,74565 | 0,35434 |
| Gm11716       | -0,74596 | 0,62269 |
| Riox2         | -0,74624 | 0,53786 |
| Aldh4a1       | -0,74632 | 0,56494 |

|               |          |         |
|---------------|----------|---------|
| Tyms          | -0,74644 | 0,70289 |
| Nat8f1        | -0,74653 | 0,57811 |
| A930024E05Rik | -0,74657 | 0,7297  |
| B630019K06Rik | -0,74707 | 0,56867 |
| Hars2         | -0,74782 | 0,35386 |
| Rabif         | -0,74841 | 0,60826 |
| Rpain         | -0,74846 | 0,67079 |
| Gm42869       | -0,74857 | 0,77301 |
| Bap1          | -0,74872 | 0,43729 |
| Ift74         | -0,74873 | 0,68859 |
| Gm16638       | -0,749   | 0,87151 |
| Slc25a12      | -0,74912 | 0,27511 |
| Gm45221       | -0,74952 | 0,80334 |
| Gm6329        | -0,74984 | 0,34877 |
| Gm37660       | -0,74978 | 0,73238 |
| Impa1         | -0,74992 | 0,17303 |
| Spata7        | -0,75023 | 0,54888 |
| Ms4a6b        | -0,7503  | 0,87756 |
| Zbtb7a        | -0,75071 | 0,14717 |
| Znfx1         | -0,75083 | 0,25674 |
| Nsun5         | -0,75121 | 0,66923 |
| Gm7666        | -0,75115 | 0,87151 |
| Zkscan17      | -0,75162 | 0,15651 |
| Tbc1d7        | -0,75158 | 0,67906 |
| Mtcl1         | -0,75177 | 0,94929 |
| Sdad1         | -0,75198 | 0,2012  |
| Ubac2         | -0,752   | 0,42352 |
| Dlst          | -0,75252 | 0,14291 |
| Pccb          | -0,75274 | 0,56988 |
| Gm9173        | -0,75282 | 0,76039 |
| Qrsl1         | -0,75322 | 0,32651 |
| Zfp30         | -0,75351 | 0,36754 |
| Thap12        | -0,75476 | 0,38378 |
| Top3b         | -0,75498 | 0,56088 |
| Sipa1         | -0,75564 | 0,35255 |
| Orc5          | -0,75569 | 0,49839 |
| Yipf5         | -0,75584 | 0,17579 |
| Ago2          | -0,75577 | 0,1758  |
| Gm26606       | -0,75575 | 0,91849 |
| Atg9b         | -0,75603 | 0,51581 |
| Gtf3c3        | -0,75697 | 0,48985 |
| Gm36930       | -0,75723 | 0,85111 |
| Flnb          | -0,75768 | 0,20369 |
| BC024386      | -0,75791 | 0,86608 |
| Gm37699       | -0,75804 | 0,73078 |
| Adamtsl4      | -0,75813 | 0,58256 |
| Nars          | -0,75907 | 0,1159  |
| Mt2           | -0,7593  | 0,13603 |
| Gas2l1        | -0,75954 | 0,44737 |
| Eif3a         | -0,75976 | 0,10169 |
| Fryl          | -0,75984 | 0,29024 |
| Phka1         | -0,75983 | 0,48081 |

|               |          |          |
|---------------|----------|----------|
| Arid2         | -0,75988 | 0,37445  |
| Kin           | -0,75999 | 0,37315  |
| RP24-282C4.10 | -0,76034 | 0,49966  |
| Mesdc2        | -0,76055 | 0,28147  |
| Dsel          | -0,76103 | 0,59794  |
| Ric8a         | -0,76145 | 0,50203  |
| Ntmt1         | -0,76175 | 0,40218  |
| Zfp472        | -0,76176 | 0,43299  |
| Crybg3        | -0,76193 | 0,80417  |
| Ostm1         | -0,76201 | 0,34366  |
| Nfkbia        | -0,76223 | 0,054073 |
| Smn1          | -0,76297 | 0,17792  |
| Dock9         | -0,76311 | 0,71308  |
| Tlk2          | -0,76394 | 0,17579  |
| Xpo5          | -0,76414 | 0,63602  |
| Pptc7         | -0,76418 | 0,20964  |
| Lrpprc        | -0,76424 | 0,41286  |
| Snapc5        | -0,76531 | 0,6678   |
| Hmgb1-ps6     | -0,7658  | 0,80334  |
| Cdk13         | -0,7661  | 0,46408  |
| Actb          | -0,76622 | 0,22162  |
| Zfp930        | -0,76633 | 0,29226  |
| Smim19        | -0,76699 | 0,38327  |
| Trim12c       | -0,76722 | 0,64659  |
| Ccdc17        | -0,76751 | 0,83285  |
| 1110059E24Rik | -0,76783 | 0,28429  |
| Ankrd46       | -0,76845 | 0,5348   |
| Dnajc12       | -0,76853 | 0,73078  |
| Ano7          | -0,76925 | 0,81165  |
| Mrpl36        | -0,76953 | 0,15844  |
| Cspg4         | -0,76973 | 0,80319  |
| Gm44250       | -0,76984 | 0,52619  |
| Gm7733        | -0,7702  | 0,85996  |
| Rabl6         | -0,77031 | 0,11891  |
| Rnf41         | -0,77116 | 0,63039  |
| Opa3          | -0,77137 | 0,28857  |
| Tmem209       | -0,77175 | 0,60826  |
| Vav1          | -0,77189 | 0,23769  |
| Psen2         | -0,7721  | 0,2309   |
| Mcm9          | -0,77214 | 0,61757  |
| Zbtb5         | -0,77306 | 0,50054  |
| Gm43062       | -0,77355 | 0,85956  |
| Uba5          | -0,77382 | 0,21885  |
| Tm7sf3        | -0,77392 | 0,2592   |
| Plagl2        | -0,77392 | 0,45527  |
| Mesdc1        | -0,77387 | 0,59987  |
| Araf          | -0,77405 | 0,35833  |
| Pld2          | -0,77398 | 0,66172  |
| Dcun1d1       | -0,77406 | 0,20737  |
| Pde8b         | -0,77417 | 0,093748 |
| Natd1         | -0,77448 | 0,49031  |
| Smcr8         | -0,77464 | 0,42883  |

|               |          |          |
|---------------|----------|----------|
| Ccdc97        | -0,77482 | 0,27806  |
| Kctd3         | -0,77489 | 0,58635  |
| Gbas          | -0,77499 | 0,46681  |
| 6030442K20Rik | -0,77521 | 0,88115  |
| Galnt7        | -0,77586 | 0,1184   |
| Cc2d1a        | -0,77585 | 0,61559  |
| Mfsd5         | -0,77604 | 0,17957  |
| Gsap          | -0,77612 | 0,2821   |
| Larp4b        | -0,77646 | 0,095633 |
| Fen1          | -0,77668 | 0,54622  |
| Ap3b1         | -0,77691 | 0,26661  |
| Gm10033       | -0,77691 | 0,6653   |
| Gm42595       | -0,77686 | 0,697    |
| Hmox2         | -0,77707 | 0,19072  |
| Tfrc          | -0,77743 | 0,21596  |
| Msra          | -0,77744 | 0,71218  |
| Gcfc2         | -0,77756 | 0,49225  |
| Spsb3         | -0,77756 | 0,75215  |
| Slc11a2       | -0,77784 | 0,06637  |
| Rgl2          | -0,77805 | 0,37262  |
| Ubtf          | -0,77831 | 0,19976  |
| Sepsecs       | -0,77834 | 0,56361  |
| Vash2         | -0,77833 | 0,91106  |
| Hmx3          | -0,77842 | 0,73519  |
| Ptcd2         | -0,77889 | 0,10266  |
| Mir17hg       | -0,77897 | 0,59662  |
| Ap1g2         | -0,77927 | 0,61838  |
| 1700003F12Rik | -0,77968 | 0,48831  |
| Usp16         | -0,78003 | 0,16593  |
| Nos3          | -0,78001 | 0,45527  |
| Slu7          | -0,7801  | 0,11802  |
| C1qtnf6       | -0,78036 | 0,7702   |
| Per2          | -0,78054 | 0,2708   |
| D5Erttd605e   | -0,78052 | 0,83455  |
| Ttc38         | -0,78149 | 0,68914  |
| Wdfy1         | -0,78164 | 0,14233  |
| Slc37a2       | -0,78167 | 0,12551  |
| Zfp606        | -0,78171 | 0,61658  |
| Zfp141        | -0,78195 | 0,49394  |
| Tmem201       | -0,78231 | 0,5833   |
| Tbc1d14       | -0,78312 | 0,36395  |
| Fam175b       | -0,78349 | 0,10351  |
| Fam32a        | -0,78379 | 0,1027   |
| Gm15185       | -0,78408 | 0,84704  |
| Ehd4          | -0,78454 | 0,06216  |
| Ddx27         | -0,78464 | 0,17198  |
| Lig3          | -0,78482 | 0,30783  |
| Cebpe         | -0,78486 | 0,61714  |
| Eif2b4        | -0,78565 | 0,19032  |
| Tubgcp6       | -0,78582 | 0,49446  |
| Ccdc14        | -0,78617 | 0,49222  |
| 1810021B22Rik | -0,78627 | 0,59601  |

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|----------|----------|----------|
| Poln     | -0,78715 | 0,79859  |
| Ppp1r12b | -0,78728 | 0,09143  |
| Zfp952   | -0,78772 | 0,48831  |
| Zfp64    | -0,78796 | 0,37862  |
| Grpel1   | -0,7884  | 0,20479  |
| Gm43111  | -0,78839 | 0,68986  |
| Tnip1    | -0,78857 | 0,13086  |
| Grwd1    | -0,78882 | 0,54888  |
| Zfp260   | -0,78943 | 0,39435  |
| Hlcs     | -0,78942 | 0,63255  |
| Cyb561   | -0,78944 | 0,71132  |
| Sec31b   | -0,78982 | 0,84957  |
| Dram2    | -0,79012 | 0,41943  |
| Zfp626   | -0,79018 | 0,56193  |
| Morn1    | -0,79022 | 0,87704  |
| Vps4b    | -0,79035 | 0,17947  |
| Serbp1   | -0,79094 | 0,051002 |
| Tnfaip8  | -0,79086 | 0,083869 |
| Dusp6    | -0,7913  | 0,25567  |
| Akap11   | -0,79142 | 0,22434  |
| Ksr1     | -0,79148 | 0,73467  |
| Cct3     | -0,7918  | 0,060713 |
| Polm     | -0,79187 | 0,7202   |
| Tgs1     | -0,79352 | 0,25471  |
| Pced1a   | -0,79359 | 0,36474  |
| Slc35d1  | -0,79369 | 0,26625  |
| Dnajc2   | -0,79414 | 0,1502   |
| Slc35e2  | -0,79424 | 0,54267  |
| Rrs1     | -0,79444 | 0,15104  |
| Gm26917  | -0,79461 | 0,068014 |
| Tmem268  | -0,79511 | 0,22267  |
| Dnttip2  | -0,79522 | 0,24201  |
| Ikbkg    | -0,7952  | 0,28079  |
| Ulk2     | -0,79557 | 0,35555  |
| Gm11772  | -0,79573 | 0,79474  |
| Ngrn     | -0,79584 | 0,14982  |
| Gm42876  | -0,79611 | 0,88435  |
| Tpm3-rs7 | -0,79633 | 0,15408  |
| Slc2a4   | -0,79646 | 0,66819  |
| Mia3     | -0,79657 | 0,19682  |
| Gm15440  | -0,79675 | 0,56992  |
| Bcap29   | -0,79679 | 0,22051  |
| Xrra1    | -0,79711 | 0,85826  |
| Zc3h7b   | -0,79725 | 0,49809  |
| Hsd17b7  | -0,79738 | 0,27305  |
| Appl1    | -0,79764 | 0,076632 |
| Il17rc   | -0,7978  | 0,64449  |
| Cyp4f16  | -0,79798 | 0,6774   |
| Chm      | -0,79822 | 0,62417  |
| Diexf    | -0,79853 | 0,31365  |
| Adar     | -0,79862 | 0,13502  |
| Lrrc25   | -0,79856 | 0,45867  |

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|---------------|----------|----------|
| Gnl2          | -0,79875 | 0,31866  |
| 1600020E01Rik | -0,79883 | 0,64043  |
| Klc4          | -0,79944 | 0,13331  |
| Cand1         | -0,79946 | 0,14832  |
| Mitf          | -0,79954 | 0,19073  |
| Aldoc         | -0,79959 | 0,081053 |
| Timm44        | -0,79958 | 0,2295   |
| Dhrs1         | -0,80051 | 0,21826  |
| Rnf149        | -0,80116 | 0,43808  |
| Ttc32         | -0,80151 | 0,54008  |
| Mustn1        | -0,80185 | 0,39292  |
| Ptcd1         | -0,80221 | 0,30282  |
| Stx5a         | -0,80239 | 0,343    |
| Gm10060       | -0,80243 | 0,73967  |
| Wdr11         | -0,80275 | 0,50864  |
| Arl8a         | -0,8034  | 0,22903  |
| Cdk14         | -0,80356 | 0,3504   |
| Golga2        | -0,80398 | 0,027503 |
| Suc1g1        | -0,80396 | 0,16106  |
| Gm43792       | -0,80461 | 0,63264  |
| Gm16061       | -0,80471 | 0,89375  |
| Srrm2         | -0,80477 | 0,076525 |
| Tdrkh         | -0,80544 | 0,29176  |
| Ly96          | -0,80538 | 0,56595  |
| Gm38387       | -0,8056  | 0,86259  |
| Uhrf1bp1l     | -0,80569 | 0,052335 |
| Adsl          | -0,80566 | 0,39099  |
| Acvr1b        | -0,80584 | 0,70656  |
| Zfp236        | -0,80588 | 0,5172   |
| Cdpf1         | -0,80593 | 0,55289  |
| Zfp52         | -0,80591 | 0,69342  |
| Parn          | -0,80635 | 0,27044  |
| Pik3cg        | -0,80637 | 0,43208  |
| Tmigd3        | -0,80648 | 0,80334  |
| Mtrf1         | -0,80671 | 0,57323  |
| Pum3          | -0,80729 | 0,10844  |
| Brox          | -0,80808 | 0,1409   |
| 1110019D14Rik | -0,80848 | 0,69825  |
| Gm21967       | -0,80863 | 0,78395  |
| Mzf1          | -0,80878 | 0,86491  |
| Rabep2        | -0,80892 | 0,52769  |
| Acaa2         | -0,80905 | 0,28752  |
| Nr2c2         | -0,80921 | 0,26854  |
| D930016D06Rik | -0,80928 | 0,64156  |
| Atp13a2       | -0,80938 | 0,16841  |
| Dok1          | -0,80963 | 0,089513 |
| Rasa2         | -0,80975 | 0,25149  |
| Ppp1r13b      | -0,81017 | 0,6103   |
| Gm11222       | -0,81021 | 0,85111  |
| Gpalpp1       | -0,81127 | 0,36074  |
| Gm7895        | -0,81169 | 0,90027  |
| Mapre3        | -0,81184 | 0,65169  |

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|---------------|----------|----------|
| Bre           | -0,81234 | 0,13812  |
| Supv3l1       | -0,81233 | 0,29362  |
| Cntnap1       | -0,81226 | 0,71689  |
| 1700021F05Rik | -0,81255 | 0,27555  |
| Nt5dc2        | -0,81249 | 0,46681  |
| Crebbp        | -0,81267 | 0,1815   |
| Gm37297       | -0,81287 | 0,72363  |
| Ift43         | -0,81297 | 0,53424  |
| Sdhd          | -0,81309 | 0,15586  |
| Rtf1          | -0,81432 | 0,049328 |
| Riok1         | -0,81428 | 0,16857  |
| Afg3l1        | -0,81442 | 0,16754  |
| Slc38a7       | -0,81449 | 0,30366  |
| Rnf113a2      | -0,81453 | 0,34083  |
| Trim32        | -0,81477 | 0,37339  |
| Snapin        | -0,81477 | 0,37831  |
| Cdc14a        | -0,81497 | 0,67017  |
| Atp6v1e1      | -0,81546 | 0,042539 |
| Cdr2          | -0,81557 | 0,42579  |
| Zkscan1       | -0,81615 | 0,23004  |
| Rb1cc1        | -0,81669 | 0,23007  |
| Kif5c         | -0,8171  | 0,83371  |
| Stub1         | -0,81727 | 0,05249  |
| Plpp6         | -0,81847 | 0,41439  |
| Gm16433       | -0,81853 | 0,67626  |
| Plxna2        | -0,81863 | 0,15799  |
| Zcchc6        | -0,81863 | 0,16392  |
| Cep250        | -0,81913 | 0,29367  |
| Exog          | -0,81944 | 0,67741  |
| Myo1c         | -0,8201  | 0,094088 |
| Carf          | -0,82008 | 0,5503   |
| Sec61a1       | -0,82035 | 0,041551 |
| Trub1         | -0,82054 | 0,26183  |
| Zfp709        | -0,82077 | 0,89931  |
| Polr1b        | -0,82135 | 0,62729  |
| Mtif2         | -0,82154 | 0,2884   |
| Tmem205       | -0,8216  | 0,16897  |
| Angel2        | -0,82171 | 0,18984  |
| Gmeb2         | -0,82197 | 0,13656  |
| Stoml1        | -0,82212 | 0,39759  |
| Mtap          | -0,82221 | 0,28857  |
| Zbtb12        | -0,82238 | 0,36895  |
| Pja1          | -0,82238 | 0,37412  |
| Fcgr1         | -0,82264 | 0,41286  |
| Dtwd1         | -0,82335 | 0,29688  |
| Hsd1l1        | -0,82342 | 0,44926  |
| Traf2         | -0,82421 | 0,53876  |
| Slc25a42      | -0,82426 | 0,73638  |
| Alg1          | -0,82493 | 0,19848  |
| Ccdc86        | -0,82491 | 0,29782  |
| RP23-403E19.1 | -0,82501 | 0,80334  |
| Cyc1          | -0,82558 | 0,19827  |

|               |          |          |
|---------------|----------|----------|
| Ube2o         | -0,82562 | 0,3006   |
| Ddx24         | -0,82566 | 0,14433  |
| 1600010M07Rik | -0,82639 | 0,57621  |
| Poll          | -0,82696 | 0,16596  |
| Wdr33         | -0,82715 | 0,20779  |
| Akap9         | -0,82769 | 0,064735 |
| Rnf183        | -0,82768 | 0,66091  |
| Taf7          | -0,82782 | 0,35645  |
| Tmem87a       | -0,82802 | 0,17163  |
| Abcc4         | -0,82831 | 0,39515  |
| Slc30a6       | -0,82836 | 0,25076  |
| Ifrd1         | -0,82904 | 0,1944   |
| Nudt1         | -0,82909 | 0,58599  |
| Slc16a9       | -0,82949 | 0,70993  |
| Fam13c        | -0,82959 | 0,3454   |
| Dph5          | -0,82968 | 0,33225  |
| Abr           | -0,82976 | 0,022575 |
| 1110038F14Rik | -0,83003 | 0,17669  |
| Sfmbt1        | -0,83002 | 0,28049  |
| Gm43961       | -0,83039 | 0,83416  |
| Casd1         | -0,8306  | 0,29349  |
| Hp1bp3        | -0,83065 | 0,022152 |
| Garnl3        | -0,83066 | 0,75225  |
| Ralgapb       | -0,83076 | 0,14002  |
| Gm11451       | -0,83098 | 0,75791  |
| Ipo13         | -0,83129 | 0,50152  |
| Ikbkb         | -0,83148 | 0,20872  |
| Tigar         | -0,83173 | 0,14063  |
| 2310039H08Rik | -0,83175 | 0,28578  |
| Atp5k-ps2     | -0,83176 | 0,69766  |
| Samsn1        | -0,83243 | 0,45055  |
| Smg8          | -0,83288 | 0,20509  |
| Lcp1          | -0,83362 | 0,067569 |
| Mgat4b        | -0,834   | 0,064705 |
| Gm37900       | -0,83417 | 0,85443  |
| Prkag2        | -0,83446 | 0,073063 |
| Kcne3         | -0,83498 | 0,81156  |
| Parp4         | -0,83512 | 0,44224  |
| A130050O07Rik | -0,83515 | 0,78812  |
| Polr2a        | -0,8356  | 0,14152  |
| Rassf4        | -0,83567 | 0,077371 |
| Sass6         | -0,83569 | 0,4829   |
| Gm10132       | -0,83621 | 0,79694  |
| Paxip1        | -0,83636 | 0,38523  |
| Pdcd1         | -0,83645 | 0,66175  |
| Aqp11         | -0,83662 | 0,62544  |
| Ripk1         | -0,83673 | 0,4579   |
| 2310061I04Rik | -0,83689 | 0,12168  |
| Rap1b         | -0,83698 | 0,029375 |
| Cd63-ps       | -0,83732 | 0,15362  |
| Sec13         | -0,83727 | 0,17443  |
| Gpatch1       | -0,8373  | 0,30942  |

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|---------------|----------|-----------|
| Etohd2        | -0,83768 | 0,75797   |
| Gm43742       | -0,83786 | 0,43376   |
| Lman2         | -0,83824 | 0,062457  |
| D3Ert254e     | -0,83823 | 0,30642   |
| Shb           | -0,83867 | 0,37315   |
| Esyt2         | -0,83906 | 0,099202  |
| Ints11        | -0,83951 | 0,23947   |
| Polr3gl       | -0,83985 | 0,096451  |
| Rprd2         | -0,84034 | 0,10169   |
| Zdhhc20       | -0,84069 | 0,027898  |
| Abhd3         | -0,84146 | 0,77785   |
| Fgd3          | -0,84204 | 0,1376    |
| Mtus2         | -0,84218 | 0,21006   |
| Mfsd1         | -0,84255 | 0,018307  |
| Wdr53         | -0,84298 | 0,38056   |
| 2810428J06Rik | -0,84323 | 0,68496   |
| Kyat1         | -0,84351 | 0,47173   |
| Ccdc12        | -0,84397 | 0,40582   |
| Zbtb25        | -0,84413 | 0,23004   |
| Xrn1          | -0,84431 | 0,12025   |
| Gm37274       | -0,84427 | 0,55355   |
| Gm12421       | -0,84448 | 0,82886   |
| Gm10425       | -0,84473 | 0,86396   |
| Usp46         | -0,84511 | 0,21666   |
| Ccl25         | -0,84511 | 0,36463   |
| Zfp943        | -0,84512 | 0,74651   |
| Pemt          | -0,84551 | 0,69389   |
| Rhpn2         | -0,84566 | 0,76675   |
| Derl2         | -0,84582 | 0,15679   |
| Ralgps1       | -0,84603 | 0,57647   |
| Retsat        | -0,84647 | 0,34742   |
| Rpf2          | -0,84659 | 0,11052   |
| Gm42483       | -0,84695 | 0,76491   |
| Atp8a1        | -0,8476  | 0,23615   |
| Chmp3         | -0,84807 | 0,044541  |
| Slc24a3       | -0,84834 | 0,52854   |
| Nudt5         | -0,84836 | 0,45159   |
| Agpat2        | -0,84882 | 0,4704    |
| Pus1          | -0,84916 | 0,24692   |
| Zfp59         | -0,85017 | 0,78395   |
| Sf3a3         | -0,8503  | 0,15128   |
| Fbxo28        | -0,85044 | 0,14574   |
| Zfp607a       | -0,85057 | 0,63662   |
| Rapgef1       | -0,85074 | 0,082107  |
| Tm9sf4        | -0,85077 | 0,0098131 |
| Gm16536       | -0,85099 | 0,4536    |
| Trim28        | -0,85139 | 0,12587   |
| Acta2         | -0,8517  | 0,78698   |
| Gm37116       | -0,85183 | 0,84094   |
| Amacr         | -0,85191 | 0,68473   |
| Pop7          | -0,85213 | 0,2609    |
| Rab11fip5     | -0,85266 | 0,071867  |

|               |          |          |
|---------------|----------|----------|
| Atp6v1c1      | -0,85281 | 0,014201 |
| Actr5         | -0,85343 | 0,18868  |
| Zfp867        | -0,85348 | 0,73497  |
| Prickle2      | -0,85383 | 0,40109  |
| Wdfy4         | -0,85426 | 0,043917 |
| Ndufb8        | -0,85434 | 0,13316  |
| Uck2          | -0,85443 | 0,021596 |
| Chchd4        | -0,85437 | 0,067876 |
| Itga4         | -0,85476 | 0,12699  |
| Dhx29         | -0,85486 | 0,079716 |
| Sft2d3        | -0,85498 | 0,2775   |
| Vwa7          | -0,85499 | 0,58399  |
| Pex16         | -0,8554  | 0,21821  |
| Gm45445       | -0,85556 | 0,76914  |
| Gm37606       | -0,85577 | 0,63154  |
| BC065397      | -0,85653 | 0,77219  |
| Fam175a       | -0,85666 | 0,51393  |
| Ddx42         | -0,85734 | 0,21792  |
| Mypopos       | -0,85727 | 0,73628  |
| Elovl6        | -0,85751 | 0,19269  |
| Entpd7        | -0,85749 | 0,43317  |
| Zfp961        | -0,85826 | 0,51917  |
| Eif2ak1       | -0,85846 | 0,14137  |
| Cherp         | -0,85851 | 0,14566  |
| Ube2q1        | -0,85878 | 0,02685  |
| Eli           | -0,85913 | 0,1048   |
| Sod1          | -0,85949 | 0,034478 |
| Actg1         | -0,85956 | 0,80413  |
| 1700084J12Rik | -0,85956 | 0,84957  |
| Jmy           | -0,86032 | 0,14892  |
| C1galt1c1     | -0,86025 | 0,43448  |
| mt-Tt         | -0,86041 | 0,56455  |
| Tor1b         | -0,86085 | 0,10262  |
| Tmem127       | -0,86087 | 0,14717  |
| Capn3         | -0,86118 | 0,78257  |
| Gm43924       | -0,86264 | 0,65804  |
| Slc10a7       | -0,86271 | 0,34351  |
| Def6          | -0,86276 | 0,39875  |
| Zfp341        | -0,86304 | 0,42475  |
| Cog2          | -0,86401 | 0,37819  |
| Adamts6       | -0,86414 | 0,72124  |
| Tirap         | -0,86433 | 0,23773  |
| Otub2         | -0,86523 | 0,57078  |
| 5830444B04Rik | -0,8656  | 0,20889  |
| Ticam2        | -0,86594 | 0,39719  |
| Snx24         | -0,86658 | 0,35758  |
| Micall2       | -0,8668  | 0,2975   |
| Mrpl2         | -0,86706 | 0,14148  |
| Mif4gd        | -0,86731 | 0,34083  |
| Ccdc71        | -0,86762 | 0,2884   |
| Copa          | -0,86788 | 0,051002 |
| Ankrd54       | -0,8684  | 0,41112  |

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|---------------|----------|----------|
| Psm2          | -0,86855 | 0,02848  |
| Pank1         | -0,86959 | 0,44542  |
| Tango6        | -0,8699  | 0,74214  |
| B4gat1        | -0,87    | 0,38176  |
| Gpr65         | -0,87007 | 0,24994  |
| Rcl1          | -0,87038 | 0,079769 |
| Uchl4         | -0,87067 | 0,62818  |
| Ncoa2         | -0,87134 | 0,1764   |
| AU019823      | -0,87227 | 0,20745  |
| Actr8         | -0,87237 | 0,10169  |
| Fut10         | -0,87244 | 0,55341  |
| Trim65        | -0,87259 | 0,61166  |
| Surf4         | -0,87312 | 0,013279 |
| 2210406H18Rik | -0,87308 | 0,78711  |
| Gusb          | -0,87349 | 0,013955 |
| Ung           | -0,87373 | 0,36474  |
| Frmd4b        | -0,87414 | 0,081689 |
| Abcf3         | -0,87412 | 0,23459  |
| Ttpal         | -0,87471 | 0,41198  |
| Dhrs9         | -0,87495 | 0,55478  |
| AA414768      | -0,87509 | 0,67052  |
| Ick           | -0,87586 | 0,49798  |
| Chid1         | -0,87655 | 0,20683  |
| Coa3          | -0,87786 | 0,17957  |
| Usp42         | -0,87795 | 0,23643  |
| Il17ra        | -0,87806 | 0,19506  |
| Cnpy3         | -0,87842 | 0,10345  |
| Col20a1       | -0,87933 | 0,32199  |
| Ccdc57        | -0,87994 | 0,50461  |
| Exoc3l4       | -0,88022 | 0,39759  |
| Ulk3          | -0,88053 | 0,27447  |
| Irf5          | -0,8821  | 0,031102 |
| Psm2          | -0,88223 | 0,067666 |
| Atp6v0a2      | -0,88252 | 0,2295   |
| Tamm41        | -0,88249 | 0,28932  |
| Idh2          | -0,88263 | 0,079769 |
| Ppcdc         | -0,88257 | 0,11023  |
| Gm3375        | -0,88337 | 0,57374  |
| Adssl1        | -0,88346 | 0,062457 |
| Jmjd4         | -0,88363 | 0,56147  |
| Gm37718       | -0,88356 | 0,61404  |
| Btd           | -0,88379 | 0,46368  |
| Dhx57         | -0,88398 | 0,44457  |
| Ipo8          | -0,88406 | 0,18733  |
| Gm12251       | -0,88411 | 0,41618  |
| Mysm1         | -0,88418 | 0,14363  |
| Wdr59         | -0,88429 | 0,36074  |
| Shc4          | -0,88442 | 0,6043   |
| 9130221H12Rik | -0,88458 | 0,41353  |
| Kifc3         | -0,88486 | 0,062457 |
| Inpp5d        | -0,88498 | 0,084632 |
| Tfip11        | -0,88504 | 0,27212  |

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|---------------|----------|----------|
| Slc36a4       | -0,88511 | 0,13112  |
| Ube4a         | -0,88589 | 0,49834  |
| Asb8          | -0,88633 | 0,23903  |
| Gm13423       | -0,88631 | 0,6661   |
| Hivep1        | -0,88638 | 0,48469  |
| Mpv17         | -0,88658 | 0,20279  |
| Hook3         | -0,88672 | 0,036655 |
| Tmub2         | -0,88676 | 0,36463  |
| Wdr45         | -0,88686 | 0,46822  |
| AA986860      | -0,88719 | 0,83062  |
| Ube2l3        | -0,88749 | 0,04974  |
| Bcl2l1        | -0,88772 | 0,01958  |
| H6pd          | -0,88807 | 0,2398   |
| Ormdl1        | -0,88823 | 0,39862  |
| Fbrsl1        | -0,88872 | 0,31727  |
| Tbc1d32       | -0,8891  | 0,37262  |
| Gm37101       | -0,88923 | 0,68914  |
| Sde2          | -0,88934 | 0,015625 |
| Zfand3        | -0,88944 | 0,037864 |
| Bcl9l         | -0,88969 | 0,19495  |
| Gm45422       | -0,89028 | 0,75225  |
| Exosc1        | -0,89044 | 0,16563  |
| Dync2h1       | -0,8906  | 0,060414 |
| Susd3         | -0,89062 | 0,11586  |
| 8430408G22Rik | -0,89062 | 0,69949  |
| Pecr          | -0,89066 | 0,15427  |
| Csnk2a2       | -0,89078 | 0,014201 |
| Ankrd9        | -0,8909  | 0,47236  |
| Zfp994        | -0,89091 | 0,6522   |
| Atxn7l3b      | -0,89127 | 0,017159 |
| Gm6088        | -0,8914  | 0,83069  |
| Zbtb20        | -0,89159 | 0,071145 |
| Dock8         | -0,89164 | 0,21295  |
| Sucla2        | -0,89234 | 0,081149 |
| Cfap36        | -0,89228 | 0,38643  |
| Itpr2         | -0,89264 | 0,027691 |
| Tas1r1        | -0,89299 | 0,7085   |
| Nfyc          | -0,89328 | 0,80224  |
| Aggf1         | -0,8934  | 0,051651 |
| Gtf3c6        | -0,89359 | 0,26643  |
| Fam58b        | -0,89393 | 0,32987  |
| Tanc2         | -0,8941  | 0,43491  |
| Gstt1         | -0,89456 | 0,6358   |
| Plbd2         | -0,89485 | 0,016576 |
| Gm44075       | -0,89531 | 0,83711  |
| Ddx21         | -0,89541 | 0,018712 |
| Elf2          | -0,89561 | 0,2592   |
| Maged2        | -0,89562 | 0,56943  |
| F830115B05Rik | -0,89588 | 0,79306  |
| Psmc6         | -0,89622 | 0,046793 |
| Slc20a2       | -0,89637 | 0,56898  |
| Dnajc27       | -0,89654 | 0,50585  |

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|---------------|----------|----------|
| Ktn1          | -0,89683 | 0,014745 |
| Med24         | -0,89698 | 0,57621  |
| Zfp526        | -0,89735 | 0,68358  |
| Zfp747        | -0,89755 | 0,57613  |
| Lif           | -0,89753 | 0,70847  |
| Tmtc4         | -0,89854 | 0,57082  |
| Hnrnpm        | -0,89865 | 0,01702  |
| Gm42639       | -0,89878 | 0,40801  |
| Pigw          | -0,89879 | 0,42369  |
| Gm37234       | -0,89877 | 0,78358  |
| Zdhhc24       | -0,89889 | 0,52297  |
| Tada2a        | -0,8993  | 0,079609 |
| Iars2         | -0,90027 | 0,096216 |
| Rbm10         | -0,90114 | 0,11858  |
| Gm43793       | -0,90136 | 0,64045  |
| Msr1          | -0,90155 | 0,023896 |
| Tyw3          | -0,90148 | 0,69504  |
| Rai14         | -0,90165 | 0,069928 |
| Erp27         | -0,90167 | 0,76619  |
| Sdcbp2        | -0,90183 | 0,3161   |
| Gm44916       | -0,90194 | 0,76619  |
| RP23-228B2.5  | -0,90193 | 0,78842  |
| 9130008F23Rik | -0,90305 | 0,47351  |
| Hectd1        | -0,90326 | 0,011696 |
| Rad1          | -0,90332 | 0,2821   |
| Mib1          | -0,90353 | 0,048272 |
| Xrcc3         | -0,90379 | 0,61019  |
| 4930556M19Rik | -0,90471 | 0,73638  |
| Pitpnb        | -0,90575 | 0,052877 |
| Cep78         | -0,90586 | 0,49031  |
| Madd          | -0,90602 | 0,17214  |
| Serinc2       | -0,90657 | 0,14103  |
| Cd109         | -0,90733 | 0,021649 |
| Fam213a       | -0,90734 | 0,2075   |
| Nudt14        | -0,90731 | 0,31313  |
| Cpt2          | -0,90785 | 0,24893  |
| Foxp1         | -0,90819 | 0,013527 |
| Rab8a         | -0,90858 | 0,06812  |
| Ostc          | -0,90873 | 0,037063 |
| Mbd6          | -0,90918 | 0,27773  |
| Plin3         | -0,90967 | 0,10924  |
| Fam46c        | -0,90974 | 0,81884  |
| Anapc4        | -0,91006 | 0,23149  |
| Gar1          | -0,91012 | 0,24212  |
| B230377A18Rik | -0,91042 | 0,69504  |
| Zfp386        | -0,91058 | 0,36006  |
| Myliip        | -0,91089 | 0,29464  |
| Sh3bp5        | -0,9112  | 0,015353 |
| Zfp707        | -0,91297 | 0,46767  |
| Elp6          | -0,91301 | 0,50037  |
| Lpar2         | -0,91302 | 0,64683  |
| Eci1          | -0,91314 | 0,36145  |

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|----------------|----------|-----------|
| RP24-286J14.3  | -0,91324 | 0,45847   |
| CAAA01194877.2 | -0,91386 | 0,52253   |
| Tpm1           | -0,91488 | 0,003094  |
| Gtf2ird2       | -0,91644 | 0,40609   |
| Sirt6          | -0,91675 | 0,54181   |
| Rdh14          | -0,91709 | 0,28561   |
| Calcoco1       | -0,9174  | 0,29119   |
| Cutc           | -0,918   | 0,44737   |
| Cars           | -0,91864 | 0,044234  |
| Myo9b          | -0,91892 | 0,18865   |
| Sfxn5          | -0,91995 | 0,53106   |
| Nt5c3b         | -0,92045 | 0,48137   |
| Letmd1         | -0,92054 | 0,28848   |
| D6Erttd527e    | -0,92061 | 0,80318   |
| Pard6a         | -0,92156 | 0,32843   |
| Stk11ip        | -0,92172 | 0,40892   |
| 2810025M15Rik  | -0,9227  | 0,021649  |
| Wdr61          | -0,92305 | 0,017869  |
| Kcnn1          | -0,92383 | 0,57814   |
| Pced1b         | -0,92386 | 0,67121   |
| Bysl           | -0,92406 | 0,076336  |
| Rsph1          | -0,92443 | 0,56867   |
| Zdhhc7         | -0,92459 | 0,21811   |
| Lhfp12         | -0,9247  | 0,0040801 |
| Hif1an         | -0,92565 | 0,15997   |
| Fam160b2       | -0,92572 | 0,11273   |
| Nom1           | -0,92589 | 0,090386  |
| Il7r           | -0,92591 | 0,83268   |
| Cux1           | -0,92662 | 0,011641  |
| Ptpa           | -0,92678 | 0,039038  |
| Mis12          | -0,92698 | 0,19895   |
| Ptpn11         | -0,92731 | 0,11946   |
| Ccdc92b        | -0,92734 | 0,73981   |
| Tmem186        | -0,92742 | 0,45159   |
| Gramd1b        | -0,92783 | 0,025018  |
| Efl1           | -0,92789 | 0,079769  |
| Sirt7          | -0,928   | 0,12704   |
| Ago1           | -0,92818 | 0,16844   |
| Serinc3        | -0,92838 | 0,059844  |
| Trim14         | -0,92844 | 0,73177   |
| Rin3           | -0,92861 | 0,183     |
| Sorl1          | -0,92891 | 0,71689   |
| Blnk           | -0,92895 | 0,1394    |
| Dpp8           | -0,92978 | 0,066326  |
| Cebpd          | -0,93025 | 0,16333   |
| Egr2           | -0,93042 | 0,29603   |
| Alg14          | -0,93057 | 0,27984   |
| Mrpl37         | -0,93086 | 0,025864  |
| Tpm2           | -0,93088 | 0,30011   |
| BC060293       | -0,93095 | 0,76347   |
| Uqcc1          | -0,93096 | 0,080899  |
| Tyk2           | -0,93111 | 0,024033  |

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|-----------|----------|-----------|
| Strn3     | -0,93159 | 0,0028935 |
| Lgals9    | -0,93187 | 0,61818   |
| Gm37474   | -0,9321  | 0,25173   |
| Tasp1     | -0,93223 | 0,56988   |
| Fance     | -0,93231 | 0,14319   |
| Tbxas1    | -0,93308 | 0,77596   |
| Eva1b     | -0,93317 | 0,44156   |
| Galk1     | -0,93355 | 0,088478  |
| Wdr7      | -0,93392 | 0,24758   |
| Toe1      | -0,93391 | 0,36504   |
| Usp25     | -0,93474 | 0,046804  |
| Slc22a5   | -0,93479 | 0,36895   |
| Acad12    | -0,93551 | 0,54203   |
| Zfp566    | -0,93562 | 0,58118   |
| U2surp    | -0,93584 | 0,011851  |
| Hps4      | -0,93647 | 0,10598   |
| Slc25a53  | -0,93646 | 0,29041   |
| Cmtr1     | -0,93648 | 0,48656   |
| Gemin5    | -0,93701 | 0,33043   |
| Arhgap27  | -0,93759 | 0,030384  |
| Taok3     | -0,93778 | 0,010536  |
| Arhgef12  | -0,93781 | 0,025721  |
| Mtr       | -0,93822 | 0,087683  |
| Mapk11    | -0,93834 | 0,68625   |
| Rps6ka3   | -0,93877 | 0,11252   |
| Fhl3      | -0,93892 | 0,095157  |
| Eml5      | -0,93895 | 0,3006    |
| Oxld1     | -0,93922 | 0,36074   |
| Sel1l     | -0,93936 | 0,004843  |
| Gas7      | -0,93965 | 0,13423   |
| Zfp316    | -0,93981 | 0,32991   |
| Snx33     | -0,93996 | 0,31578   |
| Tnfrsf13b | -0,94027 | 0,63211   |
| Becn1     | -0,94051 | 0,014701  |
| Slf1      | -0,94047 | 0,49772   |
| Tut1      | -0,94065 | 0,2459    |
| Celsr3    | -0,94091 | 0,58008   |
| Pex12     | -0,94119 | 0,34428   |
| Ptgr1     | -0,94133 | 0,40931   |
| Trmu      | -0,94136 | 0,40816   |
| Eif3b     | -0,94155 | 0,013798  |
| Csk       | -0,94155 | 0,055929  |
| Mon1a     | -0,94218 | 0,32738   |
| Pik3r4    | -0,94246 | 0,1092    |
| Cenpv     | -0,94256 | 0,17579   |
| Apoe      | -0,94263 | 0,60814   |
| Lgals2    | -0,94275 | 0,73177   |
| Ncbp1     | -0,94286 | 0,019449  |
| Abcd3     | -0,94336 | 0,038355  |
| Mkl2      | -0,94487 | 0,32228   |
| Foxc1     | -0,9455  | 0,53706   |
| Rab20     | -0,94557 | 0,38894   |

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|---------------|----------|-----------|
| Ddn           | -0,94568 | 0,74852   |
| Tbc1d10b      | -0,94616 | 0,02178   |
| Tmem202       | -0,94645 | 0,63211   |
| R74862        | -0,94679 | 0,56435   |
| Hrc           | -0,94782 | 0,62818   |
| Alg5          | -0,94785 | 0,088399  |
| Gm37080       | -0,94795 | 0,57374   |
| Trim47        | -0,94828 | 0,55774   |
| Agap1         | -0,94865 | 0,12525   |
| 4930568A12Rik | -0,94874 | 0,74219   |
| Nudt18        | -0,9495  | 0,1621    |
| Cant1         | -0,94961 | 0,012919  |
| Rassf5        | -0,94974 | 0,07641   |
| Il10rb        | -0,95083 | 0,054939  |
| Tmem129       | -0,95081 | 0,38803   |
| Gm38077       | -0,95089 | 0,5172    |
| AW046200      | -0,95192 | 0,48948   |
| Slpi          | -0,95253 | 0,079716  |
| Slc26a9       | -0,95253 | 0,61713   |
| Csnk1d        | -0,95288 | 0,011757  |
| Tgm2          | -0,95287 | 0,014701  |
| Eri2          | -0,95295 | 0,37022   |
| Tnfrsf1a      | -0,9533  | 0,018521  |
| Zfhx2         | -0,95346 | 0,4704    |
| Msantd4       | -0,95508 | 0,028059  |
| Ppp6r1        | -0,95547 | 0,037541  |
| Ltbp2         | -0,95553 | 0,59073   |
| Adck1         | -0,95582 | 0,24509   |
| RP24-91J7.1   | -0,9558  | 0,69092   |
| Gm4258        | -0,95593 | 0,57038   |
| Pstpip1       | -0,95629 | 0,006927  |
| Naglu         | -0,95643 | 0,05614   |
| Pms1          | -0,95639 | 0,44325   |
| Cmc4          | -0,95642 | 0,51111   |
| Plscr3        | -0,95668 | 0,11824   |
| Kif3b         | -0,95713 | 0,033736  |
| Cox15         | -0,95714 | 0,3114    |
| Tlr2          | -0,95733 | 0,064432  |
| Dopey2        | -0,95742 | 0,10119   |
| Slc29a3       | -0,95762 | 0,093748  |
| B230354K17Rik | -0,95758 | 0,45621   |
| Ubqln2        | -0,95791 | 0,16623   |
| Dapp1         | -0,95788 | 0,22499   |
| Pigp          | -0,95857 | 0,30933   |
| Trim26        | -0,95931 | 0,17392   |
| Ccdc136       | -0,95944 | 0,44979   |
| Ppm1l         | -0,96118 | 0,024044  |
| Imp4          | -0,96161 | 0,055281  |
| Washc5        | -0,96157 | 0,31846   |
| Mtmr2         | -0,96199 | 0,0071097 |
| Ankrd33b      | -0,96204 | 0,64446   |
| Fbxo31        | -0,96262 | 0,25694   |

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|---------------|----------|-----------|
| Zcchc2        | -0,96295 | 0,033371  |
| Glyctk        | -0,9633  | 0,71689   |
| Enox2         | -0,96367 | 0,10807   |
| Kif5a         | -0,96423 | 0,28578   |
| Rgs16         | -0,96432 | 0,13408   |
| Carmil1       | -0,96453 | 0,73177   |
| Acp2          | -0,96544 | 0,30532   |
| Cep131        | -0,96572 | 0,39434   |
| Pwp2          | -0,96607 | 0,28224   |
| Nup160        | -0,96607 | 0,53057   |
| 1700088E04Rik | -0,96654 | 0,60255   |
| Thoc3         | -0,96665 | 0,050653  |
| Dapk3         | -0,96673 | 0,3114    |
| Ankrd39       | -0,96713 | 0,30366   |
| Rnf219        | -0,9673  | 0,15269   |
| Fancm         | -0,96749 | 0,5126    |
| Cwc25         | -0,96763 | 0,069148  |
| Pgm5          | -0,96755 | 0,55162   |
| Gm42482       | -0,96769 | 0,46547   |
| Mrps36-ps1    | -0,96788 | 0,48877   |
| Rpusd2        | -0,96837 | 0,5025    |
| Tpcn1         | -0,9688  | 0,028977  |
| Tysnd1        | -0,96928 | 0,18051   |
| Avl9          | -0,97003 | 0,059342  |
| Taco1         | -0,97014 | 0,33848   |
| Zfp217        | -0,97022 | 0,041663  |
| Myof          | -0,97032 | 0,015625  |
| Bccip         | -0,97039 | 0,27814   |
| Noc4l         | -0,97047 | 0,17255   |
| Ss18          | -0,97088 | 0,062962  |
| Scyl3         | -0,97154 | 0,2752    |
| Gab2          | -0,97162 | 0,010492  |
| Gm5391        | -0,9725  | 0,74882   |
| Gm6526        | -0,97256 | 0,65576   |
| Rpusd4        | -0,97269 | 0,062457  |
| Cerk          | -0,97278 | 0,011329  |
| Psph          | -0,97304 | 0,37162   |
| Rwdd2b        | -0,9732  | 0,52619   |
| Mccc2         | -0,97391 | 0,72696   |
| Crtap         | -0,97413 | 0,32608   |
| Mettl2        | -0,97417 | 0,27806   |
| E230016M11Rik | -0,97418 | 0,72124   |
| Gm20156       | -0,97537 | 0,70518   |
| Adat3         | -0,9757  | 0,094492  |
| Syvn1         | -0,97622 | 0,056482  |
| Galnt1        | -0,97686 | 0,0068016 |
| Casp1         | -0,97707 | 0,11514   |
| Bcl2l12       | -0,97711 | 0,763     |
| Prorsd1       | -0,97725 | 0,011702  |
| Idh1          | -0,9788  | 0,0011639 |
| Aig1          | -0,97892 | 0,019654  |
| Shmt1         | -0,97941 | 0,062167  |

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|---------------|----------|-----------|
| 6430548M08Rik | -0,97954 | 0,076796  |
| Arid1b        | -0,9804  | 0,016454  |
| Gm45342       | -0,98038 | 0,45602   |
| H2afy         | -0,98064 | 0,01615   |
| Abcc1         | -0,98076 | 0,010232  |
| Sdhaf4        | -0,98109 | 0,17579   |
| Sephs2        | -0,98146 | 0,084434  |
| Brpf1         | -0,98199 | 0,02704   |
| Bid           | -0,98215 | 0,025201  |
| Rad9b         | -0,98261 | 0,48562   |
| Fkbp1         | -0,98267 | 0,27162   |
| Gm6162        | -0,98347 | 0,69943   |
| Zfp568        | -0,98379 | 0,4159    |
| Gm42481       | -0,98383 | 0,6046    |
| Ecel1         | -0,98395 | 0,50729   |
| Dmrta2        | -0,98466 | 0,71772   |
| Mark2         | -0,98503 | 0,076153  |
| Zkscan7       | -0,98564 | 0,63264   |
| Nol6          | -0,98668 | 0,33225   |
| Nf2           | -0,98687 | 0,024925  |
| Ppp4r1        | -0,98702 | 0,32991   |
| Pelp1         | -0,98714 | 0,18191   |
| Gsto1         | -0,98749 | 0,064014  |
| Rnft1         | -0,98771 | 0,53706   |
| Mbp           | -0,98881 | 0,0042059 |
| Gm18913       | -0,98915 | 0,24689   |
| Catsper2      | -0,98925 | 0,52477   |
| Notch2        | -0,98939 | 0,026249  |
| Brf1          | -0,98993 | 0,11858   |
| Gm8463        | -0,99002 | 0,48831   |
| Sars2         | -0,99022 | 0,51391   |
| E430021H15Rik | -0,99085 | 0,40582   |
| Al661453      | -0,99085 | 0,47827   |
| Miga2         | -0,99106 | 0,45867   |
| Gm37578       | -0,99139 | 0,73238   |
| Slc9a8        | -0,99183 | 0,038175  |
| Pgd           | -0,99211 | 0,0022665 |
| Hbs1l         | -0,99212 | 0,0044088 |
| Gm43547       | -0,99217 | 0,75006   |
| Chordc1       | -0,99301 | 0,0046974 |
| Smad1         | -0,99298 | 0,038355  |
| Mgrn1         | -0,99303 | 0,046609  |
| Gm9711        | -0,99308 | 0,71308   |
| Tcirg1        | -0,99353 | 0,0057512 |
| Ccdc71l       | -0,99365 | 0,40773   |
| Haus2         | -0,99391 | 0,024099  |
| Spata13       | -0,99466 | 0,01707   |
| BC004004      | -0,99539 | 0,09559   |
| Map3k7        | -0,99546 | 0,0057568 |
| Gm37494       | -0,99581 | 0,36463   |
| Mxra8         | -0,99599 | 0,3114    |
| Gm43627       | -0,99733 | 0,6343    |

|               |          |           |
|---------------|----------|-----------|
| Ythdf2        | -0,99748 | 0,016134  |
| Pld1          | -0,99782 | 0,34919   |
| Frmd8os       | -0,99796 | 0,66535   |
| Rab23         | -0,99854 | 0,35696   |
| A630072M18Rik | -0,99847 | 0,52801   |
| 2310033P09Rik | -0,99964 | 0,079853  |
| Tfr2          | -0,99976 | 0,61119   |
| Tmem69        | -1,0002  | 0,23261   |
| Gm29155       | -1,0003  | 0,56929   |
| Naip6         | -1,0008  | 0,30996   |
| BC052040      | -1,0008  | 0,35186   |
| Smim10l1      | -1,0011  | 0,2742    |
| Kctd11        | -1,0015  | 0,39624   |
| 6720475M21Rik | -1,002   | 0,7146    |
| Nudc-ps1      | -1,0032  | 0,37953   |
| Ank2          | -1,0032  | 0,42823   |
| Akna          | -1,0034  | 0,32707   |
| Foxred2       | -1,0038  | 0,011851  |
| Zfp330        | -1,0046  | 0,023755  |
| Gm15964       | -1,0053  | 0,57346   |
| Gne           | -1,0058  | 0,19853   |
| Zfp809        | -1,0068  | 0,0052513 |
| Tldc1         | -1,0074  | 0,28768   |
| Pnpla7        | -1,0076  | 0,0079758 |
| Fhad1         | -1,0076  | 0,39837   |
| 2310057M21Rik | -1,0084  | 0,17198   |
| Cenpt         | -1,0086  | 0,49966   |
| Atp6ap2       | -1,0091  | 0,0013357 |
| Zmiz1         | -1,0093  | 0,032462  |
| Accs          | -1,0101  | 0,38514   |
| Tmcc1         | -1,0102  | 0,16664   |
| Farp2         | -1,0108  | 0,60806   |
| Wdyhv1        | -1,011   | 0,30381   |
| Osbp2         | -1,0111  | 0,75377   |
| Parp3         | -1,0113  | 0,067891  |
| Kbtbd3        | -1,012   | 0,091374  |
| Slc7a4        | -1,012   | 0,18661   |
| Nlr1x1        | -1,0122  | 0,082522  |
| Mmab          | -1,013   | 0,343     |
| Tnfsf13b      | -1,0132  | 0,39909   |
| Serpinc1      | -1,0134  | 0,51599   |
| Sprtn         | -1,0135  | 0,36182   |
| Neo1          | -1,0144  | 0,065149  |
| Gnl3          | -1,0145  | 0,014735  |
| Ash2l         | -1,0145  | 0,063085  |
| RP23-110E20.5 | -1,0149  | 0,7702    |
| Arhgap9       | -1,0155  | 0,073545  |
| Zfp882        | -1,0158  | 0,65621   |
| Mtus1         | -1,016   | 0,62985   |
| Scfd1         | -1,017   | 0,048378  |
| Dus1l         | -1,0172  | 0,12647   |
| Angpt2        | -1,0173  | 0,067123  |

|               |         |            |
|---------------|---------|------------|
| Eya4          | -1,0176 | 0,099769   |
| Ttl1          | -1,0181 | 0,40703    |
| Lrch1         | -1,0187 | 0,23669    |
| Zdhhc14       | -1,0188 | 0,086478   |
| Crybb3        | -1,0188 | 0,57374    |
| Fth1          | -1,019  | 0,00044509 |
| Bbs7          | -1,0196 | 0,39543    |
| Ddr1          | -1,0198 | 0,67091    |
| Rreb1         | -1,02   | 0,11506    |
| Urb1          | -1,02   | 0,17478    |
| Psmg2         | -1,0202 | 0,052231   |
| Gm44822       | -1,0217 | 0,63205    |
| 9930120I10Rik | -1,0224 | 0,61818    |
| Tmem25        | -1,0229 | 0,37205    |
| RP24-499N24.6 | -1,0247 | 0,36395    |
| Phf20         | -1,0248 | 0,012042   |
| Tmem156       | -1,0248 | 0,24324    |
| 6030460B20Rik | -1,0251 | 0,70901    |
| Sat2          | -1,026  | 0,49704    |
| Arid3a        | -1,0264 | 0,21389    |
| RP23-3F1.8    | -1,0268 | 0,096367   |
| Zfp874a       | -1,0272 | 0,27067    |
| Sco2          | -1,0276 | 0,28433    |
| Dclre1c       | -1,0277 | 0,30389    |
| Mrpl17        | -1,0286 | 0,019642   |
| Gm14248       | -1,0286 | 0,73767    |
| Gm26569       | -1,0288 | 0,71966    |
| Gm13675       | -1,0291 | 0,56088    |
| Gm42515       | -1,0293 | 0,66126    |
| Smim12        | -1,0295 | 0,040783   |
| Ankle1        | -1,0296 | 0,66066    |
| Gm5054        | -1,0302 | 0,70701    |
| Thada         | -1,0305 | 0,29119    |
| Nme6          | -1,0311 | 0,46361    |
| B4galt6       | -1,0313 | 0,10687    |
| Srd5a3        | -1,0316 | 0,30783    |
| Mtmr4         | -1,0317 | 0,041036   |
| Nip7          | -1,032  | 0,0069682  |
| Trim25        | -1,0323 | 0,0096155  |
| Fn3k          | -1,0328 | 0,59933    |
| 6030458C11Rik | -1,0331 | 0,064616   |
| Armc7         | -1,0333 | 0,24283    |
| Ttl           | -1,0342 | 0,066733   |
| Gucd1         | -1,0348 | 0,41259    |
| Kdelr3        | -1,0351 | 0,67593    |
| Grhl1         | -1,0355 | 0,52396    |
| F9            | -1,0356 | 0,75442    |
| Kdelc1        | -1,0358 | 0,35177    |
| Tnfaip2       | -1,0361 | 0,0059077  |
| Gm44053       | -1,0361 | 0,64546    |
| Wars2         | -1,0365 | 0,42448    |
| 9030624J02Rik | -1,0371 | 0,072764   |

|               |         |            |
|---------------|---------|------------|
| Phf14         | -1,0372 | 0,092624   |
| Gm44178       | -1,0372 | 0,65818    |
| Prob1         | -1,0376 | 0,65818    |
| Nol4l         | -1,038  | 0,12548    |
| 4933440N22Rik | -1,038  | 0,58635    |
| Clpp          | -1,0381 | 0,11858    |
| Zswim3        | -1,0383 | 0,2876     |
| Ccdc122       | -1,0389 | 0,42291    |
| Rin2          | -1,0393 | 0,016273   |
| Zfp942        | -1,0406 | 0,44167    |
| C2cd2         | -1,0408 | 0,29499    |
| Gm4924        | -1,0408 | 0,32669    |
| D2Bwg1423e    | -1,0413 | 0,45159    |
| Klf9          | -1,0416 | 0,00076777 |
| Trafd1        | -1,0421 | 0,010119   |
| Tnfrsf18      | -1,0423 | 0,48817    |
| Atat1         | -1,0427 | 0,256      |
| Creg1         | -1,0428 | 0,0040542  |
| Smarcd1       | -1,0436 | 0,14263    |
| Gm43351       | -1,0437 | 0,46053    |
| Snora21       | -1,0444 | 0,41286    |
| Ccdc32        | -1,0445 | 0,12222    |
| Hal           | -1,0445 | 0,58682    |
| Gm26514       | -1,0448 | 0,59869    |
| Zfp467        | -1,045  | 0,16458    |
| C030013C21Rik | -1,0451 | 0,38805    |
| Itfg2         | -1,0458 | 0,17425    |
| Stac3         | -1,0459 | 0,67948    |
| Mus81         | -1,0468 | 0,36266    |
| Bend6         | -1,0471 | 0,64228    |
| Gm28535       | -1,0474 | 0,56088    |
| Vps37d        | -1,0484 | 0,70289    |
| 1700007K09Rik | -1,0491 | 0,74304    |
| Slc17a5       | -1,0497 | 0,011557   |
| Gm29487       | -1,0498 | 0,74471    |
| Gm44237       | -1,0499 | 0,52477    |
| Zfp672        | -1,0505 | 0,18805    |
| Gm43359       | -1,0506 | 0,27698    |
| Arfgap1       | -1,0516 | 0,1105     |
| Gm8738        | -1,0531 | 0,47094    |
| Prdm9         | -1,0538 | 0,44002    |
| Tnk2          | -1,0549 | 0,18464    |
| Faf2          | -1,055  | 0,025516   |
| St8sia4       | -1,0555 | 0,024925   |
| Gpr107        | -1,0561 | 0,0019433  |
| Kdm4d         | -1,0565 | 0,59209    |
| Sppl2b        | -1,0567 | 0,1356     |
| Mical2        | -1,0572 | 0,089719   |
| Fadd          | -1,0573 | 0,6977     |
| Myh11         | -1,0577 | 0,70415    |
| Fkbp11        | -1,0579 | 0,14709    |
| Oip5          | -1,0595 | 0,40301    |

|               |         |           |
|---------------|---------|-----------|
| Lipt1         | -1,06   | 0,22285   |
| Fech          | -1,0608 | 0,17155   |
| Dars2         | -1,0609 | 0,19748   |
| Nsf           | -1,0615 | 0,023014  |
| Gm38157       | -1,0617 | 0,65576   |
| Rgl1          | -1,0619 | 0,0011231 |
| Pus3          | -1,0619 | 0,069158  |
| Tbc1d4        | -1,0625 | 0,050328  |
| Mapk9         | -1,0629 | 0,10844   |
| Uxt           | -1,063  | 0,62949   |
| Tmem214       | -1,0644 | 0,13596   |
| Ifit2         | -1,0647 | 0,63792   |
| Tug1          | -1,0651 | 0,21283   |
| Bcl2l11       | -1,0653 | 0,021048  |
| Pfn2          | -1,0653 | 0,43016   |
| Cep68         | -1,0654 | 0,060321  |
| Arhgdig       | -1,0672 | 0,4536    |
| Zfp78         | -1,0676 | 0,60806   |
| Tns3          | -1,0681 | 0,0034847 |
| BC003965      | -1,0681 | 0,039886  |
| Glb1          | -1,0688 | 0,0023874 |
| Adprh         | -1,0694 | 0,0051165 |
| Fbxo15        | -1,0694 | 0,6084    |
| Dusp18        | -1,0698 | 0,12882   |
| Sac3d1        | -1,0698 | 0,15253   |
| Ubr1          | -1,0704 | 0,1138    |
| Tgfb1i1       | -1,071  | 0,52801   |
| Atg4d         | -1,0718 | 0,18751   |
| Pla1a         | -1,0719 | 0,46321   |
| Fastkd3       | -1,0726 | 0,04063   |
| Akr1b3        | -1,0726 | 0,27832   |
| Ddx56         | -1,0728 | 0,076502  |
| Rnf8          | -1,0728 | 0,11432   |
| Nptxr         | -1,0734 | 0,096343  |
| Mmp19         | -1,0738 | 0,090178  |
| L3mbtl3       | -1,0741 | 0,37275   |
| 2810004N23Rik | -1,075  | 0,0062914 |
| Gm8168        | -1,0754 | 0,6358    |
| Ptpn1         | -1,0758 | 0,0015936 |
| Gm6743        | -1,0763 | 0,67733   |
| Lrrc73        | -1,0772 | 0,46246   |
| Exoc7         | -1,0773 | 0,11287   |
| Habp4         | -1,0774 | 0,3332    |
| Dtwd2         | -1,0776 | 0,5597    |
| Stc2          | -1,0783 | 0,50729   |
| Poli          | -1,0784 | 0,20675   |
| Cldn15        | -1,0787 | 0,68759   |
| Tspyl2        | -1,0789 | 0,4083    |
| Gm44623       | -1,08   | 0,51596   |
| Rab29         | -1,0808 | 0,064432  |
| Chrac1        | -1,081  | 0,07162   |
| Uvssa         | -1,0811 | 0,071867  |

|               |         |            |
|---------------|---------|------------|
| RP23-359K10.9 | -1,0813 | 0,52089    |
| Loxl3         | -1,0815 | 0,32994    |
| Tmem150a      | -1,0817 | 0,45878    |
| Tmem19        | -1,0819 | 0,183      |
| Plat          | -1,0824 | 0,5025     |
| Prmt3         | -1,0836 | 0,030918   |
| Phf10         | -1,0842 | 0,0023445  |
| Prr12         | -1,0856 | 0,18858    |
| Brca2         | -1,0857 | 0,24497    |
| Ncf4          | -1,0862 | 0,022069   |
| Slfn5         | -1,0865 | 0,087184   |
| Pcdhb16       | -1,0865 | 0,60168    |
| Itpril2       | -1,0866 | 0,0031772  |
| Ing4          | -1,0869 | 0,54613    |
| Snx4          | -1,0878 | 0,016572   |
| Nucb2         | -1,0883 | 0,0083157  |
| Sec24d        | -1,089  | 0,079609   |
| Alg3          | -1,0893 | 0,22709    |
| Rere          | -1,0896 | 0,00012236 |
| Cmas          | -1,0899 | 0,0022936  |
| Usp38         | -1,0904 | 0,16484    |
| Slc39a9       | -1,0906 | 0,026249   |
| Ctnnal1       | -1,0915 | 0,39742    |
| Tmcc2         | -1,0916 | 0,1459     |
| Fibp          | -1,0918 | 0,093675   |
| Gpn1          | -1,0924 | 0,098194   |
| Nrip1         | -1,093  | 0,066326   |
| 4930550C14Rik | -1,093  | 0,52619    |
| Gm37788       | -1,0937 | 0,53173    |
| 2310015A10Rik | -1,0938 | 0,69949    |
| Wbscr22       | -1,0939 | 0,054      |
| Amer1         | -1,0942 | 0,32055    |
| Atg10         | -1,0946 | 0,16623    |
| Pogz          | -1,0947 | 0,0086365  |
| Gm20707       | -1,095  | 0,43206    |
| Gm22767       | -1,0955 | 0,54797    |
| Wdr5b         | -1,0961 | 0,48985    |
| Zbtb48        | -1,0963 | 0,52801    |
| Fam219a       | -1,097  | 0,29846    |
| Rbsn          | -1,0985 | 0,15844    |
| Lrrc61        | -1,0989 | 0,065286   |
| 0610007P14Rik | -1,0993 | 0,014271   |
| 1810062G17Rik | -1,0993 | 0,57174    |
| Ftx           | -1,0997 | 0,34351    |
| Mdn1          | -1,0998 | 0,0066849  |
| Gm14698       | -1,101  | 0,47094    |
| A330074K22Rik | -1,101  | 0,63314    |
| n-R5-8s1      | -1,1017 | 0,39719    |
| Gm11410       | -1,1022 | 0,53984    |
| Ears2         | -1,1024 | 0,1616     |
| Acy3          | -1,1024 | 0,5348     |
| 4930453N24Rik | -1,1026 | 0,14345    |

|               |         |            |
|---------------|---------|------------|
| Ryk           | -1,103  | 0,0014452  |
| Kctd7         | -1,103  | 0,30962    |
| Alkbh3        | -1,1041 | 0,02419    |
| Nagpa         | -1,1044 | 0,033409   |
| Gm13378       | -1,1045 | 0,43562    |
| Slc26a6       | -1,1047 | 0,30532    |
| Abcb4         | -1,1048 | 0,0014856  |
| Gm7292        | -1,1054 | 0,66186    |
| Nfatc4        | -1,1055 | 0,57367    |
| Akap7         | -1,1057 | 0,081083   |
| RP23-278O17.1 | -1,1064 | 0,60818    |
| Cog7          | -1,1065 | 0,055207   |
| Gm20696       | -1,1067 | 0,48964    |
| Gm42918       | -1,1079 | 0,58859    |
| Rasgrp3       | -1,1084 | 0,0046328  |
| Ndufaf7       | -1,1084 | 0,0296     |
| Parp12        | -1,1084 | 0,13153    |
| B130021K23Rik | -1,1085 | 0,58099    |
| Snrk          | -1,1086 | 0,072401   |
| Gm14328       | -1,1094 | 0,32669    |
| Zfp69         | -1,1097 | 0,57014    |
| Oxsm          | -1,11   | 0,37091    |
| Gm43147       | -1,111  | 0,45159    |
| Zfp14         | -1,1115 | 0,56943    |
| Pde4a         | -1,1135 | 0,035181   |
| Kat6a         | -1,1141 | 0,0096321  |
| Matn1         | -1,1149 | 0,50729    |
| Gm12743       | -1,1164 | 0,64773    |
| Fbxo25        | -1,117  | 0,039916   |
| Slc39a2       | -1,1173 | 0,35565    |
| Mtif3         | -1,1178 | 0,086625   |
| Mdm2          | -1,118  | 0,0059453  |
| Elmod2        | -1,118  | 0,18117    |
| Mlycd         | -1,1181 | 0,048525   |
| Amotl1        | -1,1189 | 0,00098233 |
| 3110080O07Rik | -1,1192 | 0,60978    |
| Mettl8        | -1,1196 | 0,11191    |
| Trdmt1        | -1,1199 | 0,56435    |
| Trmt5         | -1,1201 | 0,2995     |
| Cables2       | -1,1204 | 0,27057    |
| Hspa2         | -1,1205 | 0,56049    |
| Gm19705       | -1,1206 | 0,28872    |
| Aptx          | -1,1208 | 0,047116   |
| Mfsd13b       | -1,1212 | 0,71425    |
| Htra2         | -1,1216 | 0,01336    |
| Zc3h10        | -1,1225 | 0,043295   |
| Arhgef17      | -1,1229 | 0,6069     |
| Kank3         | -1,1239 | 0,15942    |
| Tab3          | -1,124  | 0,2075     |
| Gpr146        | -1,1247 | 0,12623    |
| Grk6          | -1,125  | 0,059254   |
| Tgfbra1       | -1,1251 | 0,13423    |

|               |         |            |
|---------------|---------|------------|
| Panx1         | -1,1256 | 0,15192    |
| Dbt           | -1,126  | 0,078861   |
| Mavs          | -1,1264 | 0,11858    |
| Dnajb12       | -1,1268 | 0,061175   |
| Zfp319        | -1,1274 | 0,32384    |
| Angptl4       | -1,1283 | 0,46278    |
| Zbtb1         | -1,1292 | 0,2508     |
| Stard7        | -1,1308 | 0,0029036  |
| Rbm5          | -1,131  | 0,0037554  |
| Parp16        | -1,131  | 0,05183    |
| Lclat1        | -1,1312 | 0,30942    |
| Mrps35        | -1,1322 | 0,038355   |
| Atp6v1g2      | -1,1328 | 0,52769    |
| Tubgcp3       | -1,1329 | 0,027148   |
| Coa7          | -1,1346 | 0,30619    |
| Laptm5        | -1,1361 | 0,00016771 |
| Tnfaip8l2     | -1,1368 | 0,11088    |
| Ptpn12        | -1,137  | 0,0019615  |
| 1110002L01Rik | -1,1372 | 0,30733    |
| Ccr2          | -1,1378 | 0,56218    |
| Gnat2         | -1,1382 | 0,60204    |
| 4732491K20Rik | -1,1389 | 0,46402    |
| Arhgap18      | -1,139  | 0,0058601  |
| Fam208a       | -1,1396 | 0,19795    |
| Slc26a2       | -1,1397 | 0,0050344  |
| Tesk2         | -1,1399 | 0,33225    |
| B230208H11Rik | -1,1399 | 0,57341    |
| Xpot          | -1,1402 | 0,0069486  |
| Slc25a10      | -1,1405 | 0,10262    |
| Bag5          | -1,1412 | 0,0219     |
| Rnf123        | -1,1421 | 0,34832    |
| Ppan          | -1,1429 | 0,0021313  |
| Zfp959        | -1,1429 | 0,41747    |
| Gspt2         | -1,143  | 0,58374    |
| Fbxw17        | -1,1437 | 0,14605    |
| Gm37968       | -1,1447 | 0,48823    |
| Rpl7l1        | -1,1451 | 0,009777   |
| Zfp703        | -1,1454 | 0,084152   |
| Aak1          | -1,1465 | 0,0037915  |
| Csf1r         | -1,1474 | 0,00042504 |
| Als2cr12      | -1,148  | 0,70026    |
| Zfp523        | -1,1518 | 0,076502   |
| Nlrp10        | -1,1518 | 0,39742    |
| Rint1         | -1,1527 | 0,20042    |
| Chrna1os      | -1,1527 | 0,47689    |
| Zfp729a       | -1,1528 | 0,25149    |
| Klhl41        | -1,1528 | 0,34196    |
| Fads6         | -1,1529 | 0,12168    |
| Zfp62         | -1,1531 | 0,14091    |
| Eno3          | -1,1532 | 0,035962   |
| Kbtbd4        | -1,1534 | 0,15586    |
| Zfp1          | -1,1535 | 0,17787    |

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|---------------|---------|------------|
| March9        | -1,1536 | 0,023896   |
| Sptlc1        | -1,1537 | 0,023502   |
| Mrpl46        | -1,154  | 0,14041    |
| Hacd3         | -1,1549 | 0,021046   |
| Trmt11        | -1,1551 | 0,25173    |
| Ctdsp1        | -1,1558 | 0,19823    |
| Eef2k         | -1,156  | 0,3114     |
| Gm38399       | -1,1562 | 0,40218    |
| Pdss2         | -1,1567 | 0,20904    |
| 6330418K02Rik | -1,1572 | 0,33901    |
| Faap100       | -1,1577 | 0,059719   |
| Slc35b4       | -1,1578 | 0,17865    |
| Arhgap1       | -1,1583 | 0,11099    |
| Ssh1          | -1,1585 | 0,06789    |
| Dhx32         | -1,1588 | 0,19677    |
| Tmem246       | -1,1592 | 0,33885    |
| Ptges         | -1,1595 | 0,16484    |
| Eid2b         | -1,1596 | 0,15598    |
| Mtrf1l        | -1,1601 | 0,14862    |
| Adck5         | -1,1608 | 0,18861    |
| Ccdc66        | -1,1611 | 0,15687    |
| D630045J12Rik | -1,1611 | 0,56946    |
| Nfs1          | -1,1641 | 0,004625   |
| Zfp868        | -1,1651 | 0,35255    |
| Gm11918       | -1,1655 | 0,42125    |
| Trmt12        | -1,1655 | 0,47563    |
| Cyba          | -1,1661 | 0,0013432  |
| Fam19a3       | -1,1666 | 0,48916    |
| Snx7          | -1,1673 | 0,18037    |
| Mier2         | -1,1675 | 0,00026419 |
| Spats1        | -1,169  | 0,58256    |
| Cetn4         | -1,1705 | 0,30126    |
| Gm44103       | -1,1711 | 0,62607    |
| Lrrc20        | -1,1713 | 0,04531    |
| Naif1         | -1,1722 | 0,11443    |
| Gm44434       | -1,1724 | 0,57579    |
| mt-Nd1        | -1,1728 | 0,0038394  |
| Fzd9          | -1,1732 | 0,58126    |
| Plk3          | -1,1738 | 0,064797   |
| Ncoa6         | -1,1739 | 0,0054125  |
| Fam213b       | -1,1739 | 0,41365    |
| RP23-380K24.3 | -1,1739 | 0,51391    |
| Tm4sf5        | -1,1745 | 0,46557    |
| Mettl21a      | -1,1753 | 0,01767    |
| Zswim4        | -1,176  | 0,14006    |
| Bicd1         | -1,176  | 0,15731    |
| Gid8          | -1,1774 | 0,004704   |
| Ammecr1       | -1,1783 | 0,016585   |
| Anxa9         | -1,1786 | 0,35963    |
| Reep6         | -1,1791 | 0,085694   |
| Ssc5d         | -1,1796 | 0,65429    |
| C130050O18Rik | -1,1807 | 0,1194     |

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|---------------|---------|------------|
| Zfp599        | -1,181  | 0,36463    |
| Twf1          | -1,1837 | 0,064705   |
| Mfap1a        | -1,1841 | 0,48177    |
| Clptm1l       | -1,186  | 0,00045593 |
| Zfp830        | -1,1862 | 0,032462   |
| Sema4a        | -1,1864 | 0,0021492  |
| Fkbp15        | -1,1881 | 0,0016172  |
| Des           | -1,1885 | 0,40203    |
| Aldh18a1      | -1,1889 | 0,1274     |
| Ufsp2         | -1,1899 | 0,0023588  |
| Nphp3         | -1,1906 | 0,23092    |
| Islr2         | -1,191  | 0,57295    |
| Kat6b         | -1,1914 | 0,11614    |
| Gm44951       | -1,1917 | 0,53473    |
| Dixdc1        | -1,1918 | 0,17947    |
| Gm37978       | -1,1922 | 0,66453    |
| Zfp106        | -1,1926 | 0,00017251 |
| Samd10        | -1,1928 | 0,39377    |
| Rbm12b1       | -1,1928 | 0,56246    |
| A730062M13Rik | -1,1943 | 0,61115    |
| B230398E01Rik | -1,1947 | 0,29375    |
| Gm44423       | -1,1949 | 0,60307    |
| Kif1bp        | -1,195  | 0,052714   |
| Faah          | -1,1982 | 0,53119    |
| Slc24a5       | -1,1984 | 0,58702    |
| Rpp38         | -1,1985 | 0,1701     |
| Gm43715       | -1,1987 | 0,69225    |
| Gm29539       | -1,1992 | 0,49459    |
| Scarf1        | -1,1996 | 0,11296    |
| Slc46a3       | -1,2003 | 0,43467    |
| Nudt16        | -1,2005 | 0,0098312  |
| Trub2         | -1,2006 | 0,05867    |
| Bcl9          | -1,2019 | 0,064034   |
| Fbxo36        | -1,2021 | 0,35792    |
| Yif1a         | -1,2026 | 0,038076   |
| Tbcc          | -1,2028 | 0,053608   |
| Prkar2b       | -1,2035 | 0,23529    |
| Exosc4        | -1,2045 | 0,019642   |
| Gtf2h2        | -1,2045 | 0,062457   |
| Nif3l1        | -1,2076 | 0,037603   |
| 5730480H06Rik | -1,2079 | 0,20478    |
| Coro1c        | -1,208  | 0,0002279  |
| Zc4h2         | -1,2082 | 0,34351    |
| Atxn7l3       | -1,2083 | 0,0026934  |
| Zfp180        | -1,2091 | 0,014161   |
| Son           | -1,2098 | 0,00078781 |
| Mks1          | -1,2098 | 0,037541   |
| Exo5          | -1,2108 | 0,15813    |
| Ap5s1         | -1,2121 | 0,024017   |
| Hoxa1         | -1,2127 | 0,36182    |
| Cage1         | -1,2127 | 0,41181    |
| Knop1         | -1,2134 | 0,0014574  |

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|---------------|---------|------------|
| Ddx58         | -1,2138 | 0,092716   |
| Rftn2         | -1,2149 | 0,27864    |
| Smim1         | -1,2152 | 0,3389     |
| Dennd2d       | -1,2155 | 0,05614    |
| Mapkapk2      | -1,2159 | 0,00013604 |
| Cnr2          | -1,2161 | 0,23835    |
| Rab11fip3     | -1,2167 | 0,32119    |
| Spryd3        | -1,2169 | 0,038355   |
| Nr1h2         | -1,2172 | 0,063138   |
| Spr           | -1,2181 | 0,10348    |
| Alg11         | -1,2183 | 0,062183   |
| AW146154      | -1,2194 | 0,50889    |
| Slc27a1       | -1,2195 | 0,070619   |
| Cul4a         | -1,2196 | 0,023291   |
| Gm18867       | -1,2197 | 0,44292    |
| Bcar3         | -1,2202 | 0,0050784  |
| A930018M24Rik | -1,2204 | 0,60702    |
| 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 |
| Hmgxb4        | -1,2261 | 0,057018   |
| Gm20257       | -1,2278 | 0,40218    |
| Cxcr3         | -1,2278 | 0,54453    |
| Ier2          | -1,2279 | 0,094298   |
| Oxt           | -1,2279 | 0,5275     |
| Pfas          | -1,228  | 0,087306   |
| Xrcc5         | -1,2282 | 0,13077    |
| Tmem173       | -1,2295 | 0,30366    |
| Ubn1          | -1,2299 | 0,00043129 |
| Sh3pxd2a      | -1,2306 | 0,0047151  |
| Dnajc8        | -1,2315 | 0,00030933 |
| Ranbp1        | -1,2331 | 0,02538    |
| Snora73b      | -1,2339 | 0,1192     |
| Slc16a6       | -1,2352 | 0,0054043  |
| Polr1a        | -1,2354 | 0,0063115  |
| 4833418N02Rik | -1,2355 | 0,53494    |
| Znhit6        | -1,2367 | 0,036655   |
| Tor4a         | -1,2372 | 0,13326    |
| D11Wsu47e     | -1,2373 | 0,13851    |
| Prdm4         | -1,2378 | 0,099202   |
| Mblac2        | -1,2378 | 0,30793    |
| Adap2         | -1,238  | 0,27293    |
| Ppip5k2       | -1,2385 | 0,0042739  |
| Wipf1         | -1,2385 | 0,0052898  |
| D130007C19Rik | -1,2385 | 0,18821    |
| Ppcs          | -1,2393 | 0,19157    |
| Lrp8os3       | -1,24   | 0,41795    |
| Tmem44        | -1,24   | 0,61182    |
| Srr           | -1,2404 | 0,023124   |
| Lrrc8a        | -1,2409 | 0,088743   |

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|---------------|---------|------------|
| A930016O22Rik | -1,2411 | 0,53557    |
| Hexim2        | -1,2418 | 0,4433     |
| Lgals3bp      | -1,2423 | 0,051002   |
| Arsg          | -1,2428 | 0,35255    |
| Tbc1d13       | -1,2432 | 0,0052898  |
| Ints7         | -1,2432 | 0,018393   |
| Syk           | -1,2438 | 0,0015193  |
| Ddx59         | -1,2439 | 0,36082    |
| Gm12258       | -1,244  | 0,54226    |
| Slc22a15      | -1,2457 | 0,35206    |
| 1810024B03Rik | -1,246  | 0,39759    |
| Slc35c1       | -1,2471 | 0,0067471  |
| Irgm1         | -1,2479 | 0,40182    |
| Rnmt          | -1,248  | 0,00072199 |
| Rtfdc1        | -1,2481 | 0,0032082  |
| Cbr3          | -1,2483 | 0,0035426  |
| Pin1          | -1,2488 | 0,023206   |
| Ctdspl        | -1,2495 | 0,30018    |
| Gm6304        | -1,2503 | 0,64087    |
| Txk           | -1,251  | 0,18934    |
| Srrd          | -1,2516 | 0,2543     |
| Pigc          | -1,2523 | 0,006756   |
| Gm15327       | -1,2534 | 0,49031    |
| Dnajc30       | -1,2546 | 0,16789    |
| Haus4         | -1,2558 | 0,22282    |
| Slc4a11       | -1,2559 | 0,17572    |
| Mzb1          | -1,258  | 0,2593     |
| Inf2          | -1,2581 | 7,48E-05   |
| Sh3bp5l       | -1,2583 | 0,0082578  |
| Akap17b       | -1,2593 | 0,14279    |
| Fdxacb1       | -1,2599 | 0,13618    |
| Med1          | -1,2601 | 0,0001971  |
| Tnfaip8l1     | -1,2604 | 0,36006    |
| Mgat5         | -1,2628 | 0,0026934  |
| Wdr6          | -1,2631 | 0,047649   |
| Tbx15         | -1,2633 | 0,25894    |
| Calhm2        | -1,264  | 0,10096    |
| Gdpd1         | -1,2648 | 0,0057579  |
| Ltbr          | -1,2649 | 0,011263   |
| Car9          | -1,2651 | 0,031039   |
| Lpcat3        | -1,2654 | 0,078912   |
| Fendrr        | -1,2656 | 0,40218    |
| Atad1         | -1,2658 | 0,01905    |
| Blvra         | -1,2662 | 0,0013254  |
| Tmem55a       | -1,2669 | 0,0037031  |
| Gm5113        | -1,2671 | 0,3798     |
| Emp2          | -1,2674 | 0,063511   |
| Rasa3         | -1,2682 | 0,0021664  |
| Faap24        | -1,2683 | 0,26388    |
| Ercc6l2       | -1,2686 | 0,11669    |
| Tmem184c      | -1,269  | 0,095249   |
| Pde4d         | -1,2691 | 0,13812    |

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|---------------|---------|------------|
| Rrp9          | -1,2692 | 0,024283   |
| Pcdhb22       | -1,2697 | 0,54275    |
| Ppm1h         | -1,2703 | 0,054203   |
| Cc2d2a        | -1,2705 | 0,42733    |
| Gsk3b         | -1,2709 | 0,0002857  |
| Arhgap30      | -1,2711 | 0,0045236  |
| Kctd12        | -1,2727 | 0,21596    |
| Zfp362        | -1,2729 | 0,039235   |
| Peg12         | -1,2736 | 0,62544    |
| Gm15530       | -1,2742 | 0,40123    |
| Fah           | -1,2748 | 0,1309     |
| Slc43a3       | -1,2749 | 0,038761   |
| Zbtb8os       | -1,275  | 0,064201   |
| Gm15787       | -1,2756 | 0,43265    |
| Zc3h12a       | -1,276  | 0,14376    |
| Cul5          | -1,2762 | 0,00023473 |
| Stra8         | -1,2763 | 0,46278    |
| Fnip2         | -1,2765 | 2,31E-05   |
| 5430427O19Rik | -1,2773 | 0,082981   |
| Lamc2         | -1,2779 | 0,49966    |
| Mblac1        | -1,2784 | 0,31949    |
| Zfp944        | -1,2787 | 0,44414    |
| Stx17         | -1,2801 | 0,022846   |
| Thap7         | -1,2803 | 0,018301   |
| Lym1          | -1,2811 | 0,10121    |
| 9530053A07Rik | -1,2814 | 0,37315    |
| Abcd1         | -1,2819 | 0,12997    |
| Zfp420        | -1,2826 | 0,1539     |
| Kmt2e         | -1,2831 | 0,0005556  |
| Enpp5         | -1,2835 | 0,011005   |
| Gns           | -1,2845 | 7,95E-05   |
| Gm10180       | -1,285  | 0,44806    |
| Ssu72         | -1,2853 | 0,00022245 |
| RP23-444K20.4 | -1,2856 | 0,03838    |
| 1300002E11Rik | -1,2859 | 0,29226    |
| Tradd         | -1,2866 | 0,15506    |
| Zfp365        | -1,2867 | 0,20096    |
| Polr3f        | -1,287  | 0,021842   |
| Xylb          | -1,2882 | 0,46689    |
| Zbtb3         | -1,2902 | 0,52906    |
| Noc2l         | -1,2907 | 9,37E-05   |
| Elp4          | -1,2908 | 0,43729    |
| Pdcd11        | -1,2917 | 0,00038391 |
| Ak3           | -1,2925 | 0,096013   |
| mt-Nd4        | -1,294  | 0,010829   |
| Gldc          | -1,2942 | 0,56748    |
| Gm42967       | -1,2944 | 0,49041    |
| Zfp712        | -1,2948 | 0,49041    |
| Gm15708       | -1,2949 | 0,53741    |
| Gm44509       | -1,295  | 0,45206    |
| Adcy2         | -1,2964 | 0,13071    |
| Mrps6         | -1,2968 | 0,00038116 |

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|---------------|---------|------------|
| Ln timer      | -1,2971 | 0,009777   |
| Pde6g         | -1,2972 | 0,46149    |
| mt-Cytb       | -1,2973 | 0,0023325  |
| Gipc2         | -1,2979 | 0,53259    |
| Zscan29       | -1,2986 | 0,15554    |
| Gls2          | -1,2987 | 0,46928    |
| Dtx4          | -1,2991 | 0,0001324  |
| Mfap1b        | -1,2999 | 0,1191     |
| Pqlc2         | -1,3002 | 0,46533    |
| Asb7          | -1,3004 | 0,022166   |
| Gpatch4       | -1,3006 | 0,0057573  |
| Atp6v1d       | -1,3009 | 1,78E-05   |
| Zfp748        | -1,3016 | 0,19823    |
| Cep63         | -1,3017 | 0,20958    |
| Acsl4         | -1,3018 | 1,64E-05   |
| Col15a1       | -1,3018 | 0,36069    |
| Pla2g2e       | -1,3024 | 0,18123    |
| Slc12a2       | -1,303  | 0,024424   |
| Fam173b       | -1,303  | 0,13417    |
| Prkca         | -1,3034 | 0,04063    |
| Dennd4b       | -1,3046 | 0,071498   |
| Ftsj3         | -1,3057 | 0,00036245 |
| Med8          | -1,3058 | 0,012019   |
| Lig4          | -1,3059 | 0,1191     |
| Fli1          | -1,3061 | 0,0031071  |
| Mpv17l        | -1,3063 | 0,16413    |
| Gm25596       | -1,3072 | 0,45602    |
| Fam102a       | -1,3081 | 1,60E-05   |
| Gm44775       | -1,3089 | 0,38216    |
| Sirt4         | -1,3089 | 0,48757    |
| Zfp26         | -1,3097 | 0,041003   |
| Nsrp1         | -1,31   | 0,0028637  |
| 2810006K23Rik | -1,3106 | 0,3089     |
| Ubash3b       | -1,311  | 0,0007513  |
| Ptpro         | -1,312  | 0,032133   |
| Sp110         | -1,3123 | 0,13239    |
| Gm15892       | -1,3123 | 0,33171    |
| Slc22a21      | -1,3127 | 0,33976    |
| Gm8539        | -1,3127 | 0,36546    |
| Zfp446        | -1,3131 | 0,2141     |
| Ift20         | -1,3133 | 0,0099012  |
| Trim11        | -1,3139 | 0,00010067 |
| 2510016D11Rik | -1,3139 | 0,47563    |
| Gm43379       | -1,3146 | 0,41823    |
| Magee1        | -1,3152 | 0,1394     |
| Oas1c         | -1,3152 | 0,15292    |
| Ivns1abp      | -1,3154 | 3,02E-06   |
| 9330102E08Rik | -1,3154 | 0,49966    |
| Rundc1        | -1,3166 | 0,035181   |
| Tnnc2         | -1,3166 | 0,51562    |
| Gm15513       | -1,3168 | 0,29112    |
| Prtg          | -1,3171 | 0,048031   |

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|---------------|---------|------------|
| Npc1l1        | -1,3182 | 0,46308    |
| Zfp629        | -1,3197 | 0,16305    |
| Saysd1        | -1,3205 | 0,063805   |
| Slc16a7       | -1,3208 | 0,098194   |
| Heatr3        | -1,3215 | 0,10764    |
| Cyb5rl        | -1,3216 | 0,15023    |
| RP23-476G10.1 | -1,322  | 0,46311    |
| Poglut1       | -1,3222 | 0,00050507 |
| Cmtr2         | -1,3222 | 0,004603   |
| Gm19552       | -1,3225 | 0,27529    |
| Actn1         | -1,3235 | 9,37E-05   |
| Znhit2        | -1,324  | 0,12621    |
| Nelfa         | -1,3241 | 0,010221   |
| 1600014C23Rik | -1,3244 | 0,44554    |
| Crebl2        | -1,3249 | 0,15527    |
| Gm43071       | -1,3263 | 0,41343    |
| Zbtb6         | -1,3264 | 0,012792   |
| Cd33          | -1,3272 | 0,00013527 |
| Arih1         | -1,3285 | 1,62E-05   |
| Ncdn          | -1,3285 | 0,042679   |
| Agbl3         | -1,3286 | 0,076308   |
| Acacb         | -1,3305 | 0,57323    |
| Orai3         | -1,3306 | 0,015968   |
| Epc1          | -1,3311 | 0,035466   |
| Fam3c         | -1,3317 | 0,0020958  |
| Fbxo9         | -1,3326 | 0,087683   |
| Twink         | -1,333  | 0,011297   |
| Mppe1         | -1,333  | 0,050959   |
| Fam57a        | -1,3331 | 0,34948    |
| Crtam         | -1,3333 | 0,33064    |
| Hfe           | -1,3337 | 0,15249    |
| Hsd17b14      | -1,3341 | 0,41259    |
| Gm42636       | -1,3343 | 0,026409   |
| Slc25a14      | -1,3354 | 0,18081    |
| Bcar1         | -1,3368 | 0,12891    |
| Gm43364       | -1,3368 | 0,50471    |
| Abi3          | -1,3369 | 0,19506    |
| Ppp1r7        | -1,3376 | 0,023448   |
| Tsku          | -1,3383 | 0,49966    |
| Slc35f6       | -1,3387 | 0,0019864  |
| A930001C03Rik | -1,3396 | 0,27385    |
| Zfp983        | -1,34   | 0,14215    |
| Gnmt          | -1,34   | 0,45527    |
| Ppp6r3        | -1,341  | 7,76E-05   |
| Ddx28         | -1,3416 | 0,036238   |
| Tars          | -1,3418 | 0,0011712  |
| Rlf           | -1,3422 | 0,0049064  |
| Zbtb39        | -1,3429 | 0,35996    |
| Dedd          | -1,3437 | 0,046587   |
| Ldb3          | -1,3439 | 0,25062    |
| Ints3         | -1,345  | 3,41E-05   |
| Ttll12        | -1,3467 | 0,00032975 |

|               |         |            |
|---------------|---------|------------|
| Neurl1a       | -1,3468 | 0,49966    |
| Polr3d        | -1,3482 | 0,0045723  |
| Gm38125       | -1,349  | 0,49957    |
| Atp8b4        | -1,3496 | 0,12135    |
| Klhl36        | -1,3506 | 0,31846    |
| N4bp3         | -1,3518 | 0,34475    |
| Pcyt1a        | -1,3519 | 3,97E-06   |
| Slc25a33      | -1,352  | 0,0012167  |
| Wfs1          | -1,353  | 0,042558   |
| 9130230N09Rik | -1,353  | 0,39592    |
| Slc41a2       | -1,3532 | 0,0010463  |
| Lrrc8d        | -1,3541 | 0,00089359 |
| Ccdc173       | -1,3544 | 0,24443    |
| Gm43761       | -1,3546 | 0,22566    |
| 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 |
| RP23-104D6.2  | -1,3582 | 0,49225    |
| Pms2          | -1,3588 | 0,049042   |
| Gm12966       | -1,3602 | 0,14695    |
| Zfp235        | -1,3602 | 0,14835    |
| Clec7a        | -1,3607 | 0,014828   |
| Gm37569       | -1,3608 | 0,22204    |
| Gatb          | -1,3615 | 0,076487   |
| Slc23a2       | -1,3618 | 0,045094   |
| Mfsd4b4       | -1,3629 | 0,49232    |
| Trim68        | -1,3636 | 0,035083   |
| Gm11764       | -1,364  | 0,48964    |
| Frk           | -1,3652 | 0,34806    |
| Gzf1          | -1,366  | 0,015228   |
| Clec5a        | -1,3664 | 0,0061879  |
| Bckdk         | -1,3665 | 0,0034846  |
| Igtp          | -1,3674 | 0,31941    |
| Irak4         | -1,3679 | 0,017568   |
| Gm42850       | -1,3681 | 0,46464    |
| Nfatc3        | -1,3687 | 4,25E-05   |
| Tac4          | -1,3695 | 0,53807    |
| Slc1a5        | -1,3697 | 2,01E-05   |
| Cox6a2        | -1,3699 | 0,13777    |
| Cep19         | -1,3701 | 0,028428   |
| Rhbdd2        | -1,3702 | 0,11858    |
| Slc11a1       | -1,371  | 0,0012161  |
| 1810030O07Rik | -1,3712 | 0,0032015  |
| Pid1          | -1,3722 | 0,0033629  |
| Zfp839        | -1,3722 | 0,020591   |
| Zfp689        | -1,3727 | 0,29041    |
| BC005537      | -1,3736 | 0,00028612 |
| Vps25         | -1,374  | 0,43097    |
| Gm42970       | -1,3746 | 0,50703    |
| Elp2          | -1,3748 | 0,0023109  |

|               |         |            |
|---------------|---------|------------|
| Etfrf1        | -1,3755 | 0,024848   |
| Pex11g        | -1,3755 | 0,38943    |
| Hps6          | -1,376  | 0,035901   |
| Gm13223       | -1,3781 | 0,50511    |
| Rhot2         | -1,3787 | 0,11868    |
| Platr3        | -1,3789 | 0,35792    |
| Kdm4a         | -1,3792 | 2,59E-05   |
| Cracr2a       | -1,3795 | 0,35738    |
| Lmbr1         | -1,381  | 0,14041    |
| 2210016F16Rik | -1,3811 | 0,038355   |
| Nfatc1        | -1,3813 | 0,0001641  |
| Bet1l         | -1,382  | 0,00083994 |
| Cat           | -1,3833 | 1,02E-05   |
| Gm5544        | -1,3837 | 0,4875     |
| Mllt1         | -1,384  | 0,1394     |
| Atp8b3        | -1,3855 | 0,39325    |
| Phactr1       | -1,3858 | 0,36018    |
| Tbl3          | -1,3865 | 0,018321   |
| Tctex1d4      | -1,387  | 0,36754    |
| Tm4sf19       | -1,3889 | 0,39903    |
| Maf1          | -1,3891 | 0,00029254 |
| Slc16a13      | -1,3896 | 0,37003    |
| Trim27        | -1,3922 | 0,00034125 |
| Apbb1ip       | -1,3926 | 1,03E-05   |
| Gm13398       | -1,393  | 0,45762    |
| Cyb561d1      | -1,3935 | 0,15903    |
| Spi1          | -1,3949 | 0,00028736 |
| Bcl2l15       | -1,3955 | 0,26585    |
| Ica1          | -1,3968 | 0,018301   |
| Naa40         | -1,3971 | 0,0081005  |
| Trappc12      | -1,3982 | 0,0068305  |
| Zhx1          | -1,3988 | 0,0025675  |
| Mov10         | -1,3998 | 0,18342    |
| Aldh3b1       | -1,3999 | 0,0063448  |
| BC002059      | -1,4006 | 0,0023184  |
| 2210008F06Rik | -1,4015 | 0,40868    |
| Tfec          | -1,4019 | 0,14091    |
| Hhex          | -1,402  | 0,028702   |
| Prss44        | -1,4023 | 0,41806    |
| Gm15157       | -1,4027 | 0,44591    |
| 4632427E13Rik | -1,403  | 0,0027045  |
| Rit1          | -1,4031 | 0,0030769  |
| Gm6921        | -1,4041 | 0,45206    |
| Lsm10         | -1,4043 | 0,028776   |
| Smco3         | -1,4053 | 0,49778    |
| Pknnox1       | -1,4054 | 0,021596   |
| Taf1c         | -1,4055 | 0,054939   |
| Adora2b       | -1,4061 | 0,13417    |
| Gm37010       | -1,4061 | 0,30271    |
| Sh2d6         | -1,4077 | 0,42229    |
| Zfp799        | -1,4089 | 0,18169    |
| Prkdc         | -1,4094 | 0,11443    |

|            |         |            |
|------------|---------|------------|
| Zfp74      | -1,4115 | 0,16754    |
| Zadh2      | -1,4116 | 0,0090214  |
| Zfp975     | -1,4118 | 0,45078    |
| Plcd1      | -1,4155 | 0,4631     |
| Flywch1    | -1,4171 | 0,018636   |
| Bcl2a1b    | -1,4183 | 0,062871   |
| F7         | -1,4187 | 0,42831    |
| Rela       | -1,4201 | 0,0003129  |
| Creb3l1    | -1,4201 | 0,30206    |
| Dbnl       | -1,4209 | 0,0048116  |
| Lrp12      | -1,4209 | 0,0053647  |
| Ccdc171    | -1,4213 | 0,38992    |
| Zfp456     | -1,4214 | 0,19283    |
| Rnf157     | -1,4248 | 0,0013245  |
| Cog8       | -1,4252 | 0,018381   |
| Gdf9       | -1,4264 | 0,42416    |
| Tmem62     | -1,4276 | 0,3208     |
| Zfp759     | -1,4276 | 0,45507    |
| Tm9sf1     | -1,4282 | 0,1962     |
| Speer9-ps1 | -1,4289 | 0,60946    |
| Arhgap31   | -1,4297 | 0,040534   |
| Sbk1       | -1,4305 | 0,25505    |
| Pde8a      | -1,4311 | 0,020601   |
| Gm45871    | -1,4315 | 0,14888    |
| Tsc2       | -1,4323 | 0,2028     |
| Gm45495    | -1,433  | 0,1616     |
| Rsl1       | -1,4331 | 0,46895    |
| Plxnb3     | -1,434  | 0,30011    |
| Zfhx4      | -1,4342 | 0,0023313  |
| Uri1       | -1,4351 | 0,00056528 |
| Trmt44     | -1,4351 | 0,14319    |
| Nudt22     | -1,4356 | 0,0041901  |
| Bag2       | -1,4356 | 0,018961   |
| Mfsd6      | -1,4375 | 0,0010886  |
| Oscp1      | -1,4375 | 0,41181    |
| Rpgr       | -1,4384 | 0,16007    |
| Bbs9       | -1,4392 | 0,066168   |
| Gm15824    | -1,4397 | 0,41488    |
| Gemin8     | -1,4422 | 0,41198    |
| Fam212b    | -1,4427 | 0,10342    |
| Alg8       | -1,4432 | 0,096295   |
| Utp20      | -1,4434 | 0,0077762  |
| Etv6       | -1,444  | 0,0075223  |
| Ifih1      | -1,4444 | 0,15064    |
| Nek4       | -1,4448 | 0,16675    |
| Vsig10     | -1,4449 | 0,13675    |
| Gm9732     | -1,4449 | 0,25149    |
| Zkscan5    | -1,4458 | 0,13851    |
| Slc15a3    | -1,4472 | 0,18288    |
| Eif1ad     | -1,448  | 0,0018622  |
| Zfp945     | -1,4491 | 0,22484    |
| Ifi203-ps  | -1,4506 | 0,43856    |

|                |         |            |
|----------------|---------|------------|
| Camk2a         | -1,4511 | 0,011851   |
| Kmt5b          | -1,4519 | 0,0047073  |
| Metap2         | -1,4527 | 0,00018232 |
| Glrp1          | -1,4545 | 0,23769    |
| Tefm           | -1,4572 | 0,14148    |
| Fblim1         | -1,4575 | 0,0014574  |
| Afmid          | -1,4585 | 0,45078    |
| Fam212a        | -1,4616 | 0,19417    |
| Ptpn21         | -1,4617 | 0,14628    |
| Tgfbr2         | -1,462  | 0,0010229  |
| Pou4f1         | -1,4634 | 0,49704    |
| Ankrd34a       | -1,4674 | 0,22367    |
| C530005A16Rik  | -1,4682 | 0,34351    |
| Slc38a1        | -1,469  | 7,70E-06   |
| Mgam           | -1,4702 | 0,4165     |
| Zscan12        | -1,4703 | 0,0051914  |
| Ccdc51         | -1,4716 | 0,071867   |
| Iqsec3         | -1,472  | 0,34351    |
| Cd93           | -1,4723 | 0,2952     |
| Gm20056        | -1,4723 | 0,38438    |
| Iars           | -1,4724 | 0,0011814  |
| Rhobtb1        | -1,4734 | 0,18582    |
| Gm36963        | -1,4736 | 0,14859    |
| Ficd           | -1,4742 | 0,21479    |
| Plag1          | -1,4744 | 0,24398    |
| 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   |
| C1rl           | -1,4817 | 0,2895     |
| Fgfr1          | -1,4827 | 0,035261   |
| Gm43457        | -1,483  | 0,36674    |
| 2610044O15Rik8 | -1,4831 | 0,40582    |
| Evi5l          | -1,4832 | 0,16675    |
| Stat5b         | -1,4835 | 0,016375   |
| Gm44667        | -1,4841 | 0,2543     |
| Trp53rka       | -1,4842 | 0,06216    |
| Zfp551         | -1,4845 | 0,084879   |
| Tmem241        | -1,4846 | 0,041208   |
| Champ1         | -1,4853 | 4,69E-05   |
| Ankrd26        | -1,4856 | 0,037063   |
| Gm42600        | -1,4863 | 0,42686    |
| Timp2          | -1,4871 | 0,00041078 |
| Dennd2a        | -1,4873 | 0,0059856  |
| Trmt6          | -1,4877 | 0,0011806  |

|                |         |            |
|----------------|---------|------------|
| Mypop          | -1,4877 | 0,13423    |
| A930015D03Rik  | -1,4886 | 0,32544    |
| Wbp1l          | -1,4889 | 0,00028612 |
| Aars           | -1,4889 | 0,010189   |
| Cradd          | -1,4893 | 0,05614    |
| AW209491       | -1,4902 | 0,012936   |
| Zfp426         | -1,4913 | 0,060713   |
| Gm43692        | -1,4914 | 0,1197     |
| Pih1d2         | -1,4922 | 0,41823    |
| Mettl22        | -1,4931 | 0,10638    |
| Ttl113         | -1,4934 | 0,5125     |
| Zfp623         | -1,4939 | 0,10008    |
| Sec16b         | -1,4949 | 0,0010166  |
| Trem11         | -1,4956 | 0,0004193  |
| Cyfp2          | -1,4957 | 0,00012342 |
| Zfp605         | -1,4957 | 0,22051    |
| Tk2            | -1,4971 | 5,59E-05   |
| Golim4         | -1,4975 | 0,0003676  |
| Jagn1          | -1,498  | 0,0024581  |
| Rnf135         | -1,4981 | 0,23008    |
| Celf6          | -1,4986 | 0,20412    |
| Cyp26b1        | -1,4989 | 0,33564    |
| Gm29994        | -1,4994 | 0,45013    |
| RP24-233B16.6  | -1,5013 | 0,23769    |
| Gpr85          | -1,5027 | 0,36182    |
| Soga1          | -1,5029 | 0,004875   |
| Gstt3          | -1,5029 | 0,012919   |
| Wdr77          | -1,5038 | 0,0041976  |
| RP24-226A8.2   | -1,5038 | 0,45957    |
| Xbp1           | -1,504  | 1,96E-05   |
| Fkrp           | -1,5043 | 0,059674   |
| RP24-131G14.10 | -1,5049 | 0,33827    |
| Zfp775         | -1,5059 | 0,041445   |
| Sec14l2        | -1,5069 | 0,092624   |
| mt-Nd2         | -1,5089 | 0,0001793  |
| B130006D01Rik  | -1,5093 | 0,15129    |
| Zfp113         | -1,5095 | 0,022161   |
| Sh2d2a         | -1,5102 | 0,16716    |
| Hmga2          | -1,5123 | 3,89E-06   |
| Ighmbp2        | -1,5124 | 0,019199   |
| Lrif1          | -1,5128 | 0,032384   |
| Gm19325        | -1,5134 | 0,13423    |
| Cep162         | -1,5139 | 0,066711   |
| 1700008J07Rik  | -1,5152 | 0,44634    |
| Prss36         | -1,5168 | 0,21792    |
| Setmar         | -1,5176 | 0,2775     |
| Zfp579         | -1,5184 | 0,10546    |
| Lin28b         | -1,5198 | 0,49839    |
| Slc7a11        | -1,5199 | 0,0020777  |
| Fam136a        | -1,52   | 0,0039305  |
| Acot2          | -1,5203 | 0,15615    |
| Btbd19         | -1,5221 | 0,0043995  |

|               |         |            |
|---------------|---------|------------|
| Fus           | -1,5226 | 0,0023082  |
| Gm7769        | -1,524  | 0,40262    |
| Zbtb22        | -1,5244 | 0,0013573  |
| Dlx1          | -1,5257 | 0,021747   |
| Nudt7         | -1,5263 | 0,054      |
| Zfp850        | -1,5264 | 0,15566    |
| Lipt2         | -1,5266 | 0,24505    |
| Surf2         | -1,5271 | 0,011851   |
| 5730409E04Rik | -1,5286 | 0,019526   |
| Rab12         | -1,5291 | 0,00013499 |
| Cbarp         | -1,5292 | 0,23184    |
| Pmepa1        | -1,5307 | 0,0003536  |
| Dlg3          | -1,5317 | 0,15023    |
| Fam35a        | -1,5327 | 0,08046    |
| Phykpl        | -1,5346 | 0,06188    |
| Keap1         | -1,535  | 9,13E-05   |
| Usp20         | -1,5353 | 6,64E-05   |
| Zscan20       | -1,5377 | 0,068014   |
| Myo1d         | -1,5385 | 1,21E-05   |
| Tada2b        | -1,5386 | 0,032235   |
| 2310011J03Rik | -1,5388 | 0,0048285  |
| Gm16537       | -1,5407 | 0,40202    |
| Spn           | -1,5411 | 0,10262    |
| Lrrc47        | -1,5413 | 6,10E-06   |
| Plpp7         | -1,5422 | 0,077428   |
| Nsun4         | -1,5424 | 0,023849   |
| Tmem220       | -1,5427 | 0,012208   |
| Vac14         | -1,5437 | 0,047733   |
| Zfp251        | -1,5447 | 0,06789    |
| Cdc42ep2      | -1,5449 | 0,024283   |
| Srd5a1        | -1,5458 | 0,32361    |
| Ccar2         | -1,5469 | 0,17128    |
| Mocs3         | -1,549  | 0,068697   |
| 4921511C10Rik | -1,5492 | 0,080965   |
| Ajuba         | -1,5503 | 0,35461    |
| Epop          | -1,5513 | 0,18537    |
| Trim16        | -1,5532 | 0,21369    |
| Polr3a        | -1,5553 | 0,029986   |
| Serac1        | -1,5553 | 0,267      |
| Gm37033       | -1,5579 | 0,20907    |
| Uaca          | -1,5603 | 0,00013265 |
| Trak2         | -1,561  | 0,00055718 |
| Ndor1         | -1,5613 | 0,13917    |
| Itgb3         | -1,562  | 0,18392    |
| 4930556M19Rik | -1,564  | 0,30771    |
| Gm12151       | -1,564  | 0,36787    |
| Nr2c1         | -1,5642 | 0,082148   |
| Dpp3          | -1,5651 | 0,042876   |
| Piwil2        | -1,5651 | 0,2335     |
| Adgrl2        | -1,5654 | 0,27806    |
| Gm12799       | -1,5664 | 0,24856    |
| 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   |
| Shq1         | -1,5745 | 0,065238   |
| Nek3         | -1,5745 | 0,30724    |
| Scap         | -1,5747 | 0,0024888  |
| Drg2         | -1,5748 | 0,076359   |
| Ints10       | -1,5755 | 0,064705   |
| Frmd8        | -1,5773 | 1,89E-05   |
| Bok          | -1,5774 | 0,033205   |
| Zfp811       | -1,5787 | 0,31535    |
| Ddx17        | -1,58   | 3,00E-05   |
| Gm20604      | -1,5819 | 0,0196     |
| Snip1        | -1,5832 | 0,0085532  |
| RP23-225D5.4 | -1,5844 | 0,34307    |
| Ahrr         | -1,5856 | 0,21885    |
| Gm38345      | -1,5874 | 0,46744    |
| Ccl5         | -1,588  | 0,20988    |
| Slfn10-ps    | -1,5908 | 0,14654    |
| Zfp455       | -1,5908 | 0,33225    |
| Cenpb        | -1,5912 | 0,0043856  |
| Plcb4        | -1,5913 | 1,61E-06   |
| Zpr1         | -1,5913 | 3,10E-06   |
| Airn         | -1,5917 | 0,013824   |
| Slc27a4      | -1,5918 | 0,065449   |
| Cd3eap       | -1,594  | 0,0026066  |
| Ccdc120      | -1,5944 | 0,28449    |
| Gba2         | -1,5945 | 0,14628    |
| Ttc30b       | -1,5946 | 0,40229    |
| Myom1        | -1,5956 | 0,042326   |
| Fzd2         | -1,598  | 0,26867    |
| Pitpnm2      | -1,5982 | 0,02584    |
| Foxd2        | -1,5993 | 0,27488    |
| 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   |
| Ublcp1       | -1,6038 | 0,2995     |
| Pla2g5       | -1,6042 | 0,0001993  |
| D3Ertd751e   | -1,6048 | 0,13431    |
| Eef1akmt1    | -1,6049 | 0,063805   |
| Cyth4        | -1,605  | 1,02E-05   |
| Bms1         | -1,6056 | 4,13E-06   |
| Nod1         | -1,6062 | 0,02747    |
| Ovca2        | -1,6101 | 0,0023985  |
| Adal         | -1,6111 | 0,062774   |
| Tssk6        | -1,6121 | 0,3114     |
| Lhx1         | -1,6122 | 0,24856    |

|               |         |            |
|---------------|---------|------------|
| Mrps2         | -1,6133 | 0,00061557 |
| Dhx33         | -1,6137 | 0,0068583  |
| Marveld1      | -1,6141 | 5,46E-05   |
| AI987944      | -1,6141 | 0,011024   |
| Fam129c       | -1,6149 | 0,2775     |
| Ccdc116       | -1,6195 | 0,31078    |
| RP24-84O13.9  | -1,6197 | 0,148      |
| Taf1b         | -1,6211 | 0,0063448  |
| Acvr1         | -1,6213 | 0,0044655  |
| Ppm1e         | -1,6229 | 0,22134    |
| Dph2          | -1,6235 | 0,046433   |
| Rnf170        | -1,6239 | 0,15651    |
| BC017158      | -1,6243 | 0,14115    |
| Ccnd2         | -1,6261 | 1,05E-05   |
| Tdrd3         | -1,6262 | 0,080031   |
| RP23-138K22.2 | -1,6269 | 0,34351    |
| BC048403      | -1,6278 | 0,15162    |
| Erlin2        | -1,6283 | 0,010326   |
| Tmem17        | -1,6311 | 0,29451    |
| Il15ra        | -1,6333 | 0,11744    |
| Iba57         | -1,6337 | 0,06433    |
| Zfp846        | -1,6338 | 0,11206    |
| Lrtm2         | -1,6361 | 0,33523    |
| Gm24890       | -1,6381 | 0,41153    |
| 6430590A07Rik | -1,6383 | 0,13539    |
| 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   |
| Emc9          | -1,6428 | 0,12107    |
| Irf2bp1       | -1,6429 | 0,00041609 |
| Fem1a         | -1,6433 | 1,99E-05   |
| Wbscr27       | -1,6451 | 0,0058265  |
| Zfp772        | -1,6458 | 0,10759    |
| Grap          | -1,6471 | 0,0047414  |
| Rab43         | -1,6477 | 0,039369   |
| Klhl30        | -1,6478 | 0,059765   |
| Dcaf11        | -1,6481 | 0,002515   |
| Ophn1         | -1,6487 | 0,19056    |
| Nipa1         | -1,6511 | 0,14899    |
| 6330403L08Rik | -1,6513 | 0,1007     |
| Nrp2          | -1,6517 | 2,42E-08   |
| Mst1          | -1,652  | 0,032462   |
| Gm23054       | -1,6534 | 0,41206    |
| Pik3r2        | -1,6545 | 0,0013549  |
| Fam69b        | -1,6565 | 0,24754    |
| Fancg         | -1,6569 | 0,093048   |
| Matn4         | -1,6574 | 0,31906    |
| Dock5         | -1,6576 | 0,0032395  |
| Il4ra         | -1,6586 | 0,012222   |

|               |         |            |
|---------------|---------|------------|
| Det1          | -1,6594 | 0,036811   |
| 1600002H07Rik | -1,6604 | 0,0075763  |
| Zfp119a       | -1,6607 | 0,36101    |
| Fastkd2       | -1,6621 | 0,023671   |
| Zfp248        | -1,6623 | 0,20918    |
| Hgh1          | -1,6639 | 0,015968   |
| Tmem198b      | -1,664  | 0,065459   |
| Aldh7a1       | -1,6661 | 0,17572    |
| Dapk1         | -1,6668 | 1,16E-06   |
| Ddr2          | -1,6677 | 0,12639    |
| C130023A14Rik | -1,6695 | 0,1041     |
| Cdkl4         | -1,6704 | 0,071357   |
| Ptgir         | -1,6724 | 0,00012759 |
| Rars2         | -1,6754 | 0,0062637  |
| Zfp85         | -1,6763 | 0,32729    |
| Elf4          | -1,6771 | 0,026866   |
| Atad3aos      | -1,6779 | 0,21821    |
| Gm26740       | -1,6787 | 0,31764    |
| Snx20         | -1,6795 | 0,00013841 |
| Igf2bp1       | -1,6803 | 0,26843    |
| Isl2          | -1,682  | 0,047096   |
| Cpsf3         | -1,6828 | 0,00053285 |
| Frrs1         | -1,6835 | 1,84E-06   |
| Gm24336       | -1,6836 | 0,26271    |
| Zfp202        | -1,6838 | 0,10994    |
| Gm10463       | -1,6841 | 0,23023    |
| Gm45728       | -1,6854 | 0,26282    |
| Fut8          | -1,6856 | 0,14391    |
| 4930590J08Rik | -1,69   | 0,3114     |
| Alkbh2        | -1,6902 | 0,011192   |
| Ccdc166       | -1,6921 | 0,049641   |
| Lat2          | -1,6937 | 3,03E-06   |
| Lcmt2         | -1,6941 | 0,032721   |
| Nmi           | -1,6952 | 0,15586    |
| 6430571L13Rik | -1,6955 | 0,31473    |
| Card11        | -1,696  | 0,26867    |
| Prr14l        | -1,6977 | 0,00026988 |
| Ermard        | -1,6997 | 0,086376   |
| Nkpd1         | -1,7008 | 0,31769    |
| Kif13a        | -1,7021 | 0,061768   |
| Rbks          | -1,7021 | 0,33225    |
| Cpne2         | -1,7049 | 0,00044509 |
| Gm26890       | -1,7068 | 0,093897   |
| Shtn1         | -1,7069 | 2,01E-05   |
| Mrap          | -1,7081 | 0,28484    |
| Slc39a13      | -1,7082 | 7,08E-05   |
| E130311K13Rik | -1,7082 | 0,025201   |
| Fam161a       | -1,7086 | 0,0018433  |
| Lysmd4        | -1,7096 | 0,0017644  |
| Slc16a12      | -1,7137 | 0,076359   |
| Fbxw7         | -1,7138 | 0,0015913  |
| Tlr6          | -1,7143 | 0,0041344  |

|               |         |            |
|---------------|---------|------------|
| 6720464F23Rik | -1,7152 | 0,34672    |
| C330018D20Rik | -1,7162 | 0,03714    |
| Cbfa2t3       | -1,7171 | 0,26193    |
| Oit3          | -1,7182 | 0,038091   |
| Bcdin3d       | -1,7186 | 0,034993   |
| Egfl8         | -1,7192 | 0,31313    |
| Zfp820        | -1,7226 | 0,34395    |
| Stx1a         | -1,725  | 0,2821     |
| BC037039      | -1,7267 | 0,19034    |
| Cstf2t        | -1,729  | 0,00051975 |
| Srf           | -1,7305 | 1,03E-05   |
| Mlkl          | -1,7306 | 0,16364    |
| Msi1          | -1,7313 | 0,025094   |
| Ttc28         | -1,7314 | 0,12246    |
| Gm10676       | -1,7314 | 0,31432    |
| Ffar4         | -1,7329 | 0,13085    |
| Elk3          | -1,733  | 0,0013814  |
| Bdh2          | -1,7332 | 2,32E-05   |
| Tmem65        | -1,7339 | 4,81E-05   |
| B3galnt1      | -1,7355 | 0,14178    |
| Spata2l       | -1,7355 | 0,29801    |
| Trim45        | -1,7359 | 0,049332   |
| Irf4          | -1,7367 | 0,34283    |
| Gm15696       | -1,7381 | 0,14033    |
| Zfp128        | -1,7392 | 0,22484    |
| Dnajc11       | -1,7414 | 0,0026934  |
| Ptafr         | -1,742  | 0,089513   |
| Crtc1         | -1,7432 | 0,074063   |
| Zfp239        | -1,7447 | 0,189      |
| Prss50        | -1,7458 | 0,013527   |
| Selenos       | -1,748  | 1,11E-06   |
| Prss42        | -1,749  | 0,15326    |
| Gm45640       | -1,749  | 0,20274    |
| Magi2         | -1,7508 | 0,068049   |
| Extl1         | -1,7536 | 0,06208    |
| Zfp866        | -1,7555 | 0,21885    |
| lqce          | -1,7564 | 0,047323   |
| Tiam2         | -1,7568 | 0,16316    |
| Tmem51os1     | -1,757  | 0,25451    |
| Egf           | -1,7578 | 0,17669    |
| Slc39a8       | -1,762  | 0,3114     |
| Ms4a6c        | -1,7632 | 0,096632   |
| Phf11c        | -1,7632 | 0,21826    |
| Slc39a11      | -1,7646 | 6,98E-07   |
| Zfp459        | -1,7655 | 0,14562    |
| Slc39a4       | -1,7689 | 0,076699   |
| A430105I19Rik | -1,7695 | 0,10924    |
| Gm43728       | -1,771  | 0,11858    |
| Zfp462        | -1,772  | 0,021386   |
| Scamp1        | -1,7724 | 1,00E-05   |
| Rhou          | -1,7726 | 0,19375    |
| Jade2         | -1,7756 | 0,010969   |

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|---------------|---------|------------|
| Nfkbie        | -1,7757 | 0,039595   |
| Cish          | -1,7788 | 0,33803    |
| Tns2          | -1,7791 | 0,16413    |
| Tuba1c        | -1,7807 | 0,0002501  |
| Pde4b         | -1,7824 | 0,011851   |
| Al464131      | -1,7825 | 0,25705    |
| 5430420F09Rik | -1,7839 | 0,28429    |
| Tlr3          | -1,7873 | 0,12323    |
| Zfp46         | -1,7878 | 0,013932   |
| Tmem181b-ps   | -1,7894 | 0,046384   |
| Gm12655       | -1,7915 | 0,10325    |
| Ctbp1         | -1,7916 | 4,76E-06   |
| Pde4dip       | -1,7918 | 0,0011785  |
| Hck           | -1,7931 | 0,018228   |
| 2310043L19Rik | -1,7977 | 0,2821     |
| Gm5251        | -1,7984 | 0,18203    |
| Extl2         | -1,7991 | 0,011052   |
| Mtmr9         | -1,8001 | 0,1815     |
| Traf6         | -1,8005 | 0,028059   |
| Gsn           | -1,8016 | 2,71E-07   |
| Igsf3         | -1,8019 | 0,0069726  |
| Nudt12        | -1,8043 | 0,053214   |
| Zfp653        | -1,8058 | 0,035083   |
| 9030407P20Rik | -1,8081 | 0,11517    |
| 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   |
| 9130023H24Rik | -1,8149 | 0,15342    |
| Prag1         | -1,8154 | 0,0028968  |
| Gm43378       | -1,8159 | 0,26896    |
| D030028A08Rik | -1,8174 | 0,092012   |
| Upk1a         | -1,8187 | 0,085013   |
| Tspan10       | -1,8211 | 0,0041913  |
| 4931414P19Rik | -1,8229 | 0,028657   |
| Ivd           | -1,8235 | 0,0062804  |
| 0610010F05Rik | -1,8243 | 0,0086606  |
| Zfp661        | -1,8297 | 0,079512   |
| P2ry6         | -1,8322 | 0,00017183 |
| Trim30a       | -1,8334 | 0,085605   |
| Arhgap35      | -1,8342 | 0,041883   |
| Cdk5rap1      | -1,8359 | 0,02094    |
| Capn10        | -1,8362 | 0,057268   |
| Fam120b       | -1,8389 | 0,019131   |
| Ticam1        | -1,8419 | 0,00066456 |
| Kdm1b         | -1,8426 | 0,1194     |
| Wdr46-ps      | -1,8436 | 0,18757    |
| Sema4b        | -1,8437 | 0,012882   |
| Tlr7          | -1,8447 | 0,00013542 |
| Mrgpre        | -1,8449 | 0,1104     |
| Ncmap         | -1,845  | 0,16244    |

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|----------|---------|------------|
| Wdr73    | -1,8455 | 0,0048341  |
| Gm38009  | -1,8459 | 0,093423   |
| Slc25a15 | -1,846  | 0,043356   |
| Slx4     | -1,8498 | 0,06789    |
| Mir22hg  | -1,8521 | 5,36E-05   |
| Frg2f1   | -1,8531 | 0,13597    |
| Zfp764   | -1,8593 | 0,022554   |
| Hoga1    | -1,8641 | 0,18958    |
| Tmem140  | -1,8653 | 0,020455   |
| Chst14   | -1,8677 | 0,025721   |
| Oas2     | -1,8681 | 0,19667    |
| Klhl40   | -1,8683 | 0,26854    |
| Zdhhc12  | -1,8694 | 0,01194    |
| Msantd3  | -1,8714 | 0,00048583 |
| Cyb561d2 | -1,8719 | 0,15903    |
| Irx5     | -1,8723 | 0,20064    |
| Pde4c    | -1,8729 | 0,15269    |
| Efna2    | -1,8791 | 0,17094    |
| Fbxo32   | -1,8829 | 0,02303    |
| Rab7b    | -1,8844 | 1,30E-05   |
| Slc9a3r1 | -1,8866 | 0,075668   |
| Gpt2     | -1,8867 | 0,00010067 |
| Gsto2    | -1,887  | 0,14267    |
| Scly     | -1,8871 | 0,0056131  |
| Hemk1    | -1,8872 | 0,020421   |
| Sphk2    | -1,8877 | 6,98E-07   |
| Cptp     | -1,8903 | 0,049204   |
| Nat14    | -1,8914 | 0,15326    |
| Txn14b   | -1,8919 | 0,051344   |
| Sgsm1    | -1,8934 | 5,32E-08   |
| Nadsyn1  | -1,8938 | 0,17163    |
| Zkscan4  | -1,8938 | 0,19053    |
| Bmf      | -1,8943 | 0,011069   |
| Arhgef3  | -1,895  | 0,0017234  |
| Zfp418   | -1,8975 | 0,19677    |
| Ecd      | -1,8992 | 0,00061417 |
| Zbtb38   | -1,8993 | 1,95E-06   |
| Ceacam10 | -1,8996 | 0,13678    |
| Setd1b   | -1,9035 | 9,93E-05   |
| Tmem116  | -1,9037 | 0,011897   |
| Il1rap   | -1,9048 | 0,044541   |
| B3galt4  | -1,9051 | 0,22488    |
| Dido1    | -1,9055 | 0,00047157 |
| Tnks1bp1 | -1,9081 | 0,15816    |
| Gm2885   | -1,9104 | 0,13538    |
| Hoxa7    | -1,911  | 0,075175   |
| Tbc1d25  | -1,9115 | 0,020461   |
| Pomk     | -1,9128 | 0,011069   |
| Mfsd3    | -1,9141 | 0,14115    |
| Rftn1    | -1,9147 | 0,00072327 |
| Klhl5    | -1,9153 | 3,90E-05   |
| Ino80c   | -1,9166 | 2,58E-06   |

|               |         |            |
|---------------|---------|------------|
| Gm20699       | -1,9189 | 0,12704    |
| Tbc1d2b       | -1,9217 | 4,48E-08   |
| Pygm          | -1,922  | 0,18879    |
| Al467606      | -1,9238 | 0,0016867  |
| Suox          | -1,9245 | 0,014917   |
| C8g           | -1,928  | 0,12568    |
| Robo3         | -1,9288 | 0,0079853  |
| Eogt          | -1,929  | 0,0062631  |
| Gm37063       | -1,929  | 0,26295    |
| Lars          | -1,9292 | 6,86E-08   |
| Lta           | -1,93   | 0,13553    |
| Gja1          | -1,9308 | 0,043099   |
| Sfxn2         | -1,933  | 0,0050344  |
| Ribc1         | -1,9343 | 0,22769    |
| Bbs1          | -1,9365 | 0,15199    |
| Gcc1          | -1,9388 | 2,79E-05   |
| Zfp933        | -1,9391 | 0,10374    |
| Pfkfb4        | -1,9414 | 2,66E-05   |
| Gm9776        | -1,9417 | 0,050043   |
| Ccr1          | -1,9448 | 0,20421    |
| Ptpn14        | -1,9468 | 0,022756   |
| Prkar1b       | -1,9476 | 0,012955   |
| Mthfr         | -1,9494 | 0,0028612  |
| Stx11         | -1,9501 | 0,060627   |
| Polr3e        | -1,9506 | 0,0013104  |
| Cep41         | -1,9537 | 0,088387   |
| Sec16a        | -1,9543 | 0,0014609  |
| Gm11205       | -1,9572 | 0,077421   |
| 2810021J22Rik | -1,9591 | 0,082711   |
| 4930432K21Rik | -1,9626 | 0,0034716  |
| Ankrd49       | -1,9696 | 0,00083819 |
| Pspc1         | -1,9727 | 0,0022481  |
| Cmklr1        | -1,9729 | 0,1394     |
| Gm44829       | -1,9732 | 0,079484   |
| Zfp953        | -1,9732 | 0,17185    |
| Zfp276        | -1,9756 | 0,02788    |
| Zfp65         | -1,9768 | 0,0057579  |
| Tmem37        | -1,9812 | 0,038355   |
| Zfp628        | -1,9817 | 0,015526   |
| Gm45224       | -1,9835 | 0,1776     |
| Slc22a4       | -1,9844 | 0,049931   |
| Gm37124       | -1,9858 | 0,10763    |
| Gtpbp8        | -1,9867 | 0,015161   |
| Zfp473        | -1,9867 | 0,13469    |
| Gm10605       | -1,9884 | 0,10842    |
| Gm20554       | -1,9892 | 0,1614     |
| Gnptab        | -1,992  | 2,01E-07   |
| Gm26532       | -1,993  | 0,027452   |
| Ttc7          | -1,9936 | 0,00014862 |
| Slc39a1       | -1,9939 | 1,87E-05   |
| Tfb2m         | -2,0004 | 0,076308   |
| Lyl1          | -2,0016 | 0,0001534  |

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|---------------|---------|------------|
| Arl14ep1      | -2,0028 | 0,12838    |
| Hpd1          | -2,0036 | 0,18081    |
| Zfp169        | -2,0061 | 0,06073    |
| Zscan22       | -2,0093 | 0,11829    |
| Rwdd3         | -2,0101 | 0,0035029  |
| Armc5         | -2,0113 | 0,0082547  |
| Gm29243       | -2,0126 | 0,11532    |
| Mkx           | -2,0172 | 0,11188    |
| Catip         | -2,0173 | 0,058125   |
| Tmem8         | -2,0209 | 0,0015061  |
| Phxr4         | -2,023  | 0,10339    |
| Mrm2          | -2,034  | 0,0062631  |
| Katnb1        | -2,0374 | 0,13609    |
| D7Bwg0826e    | -2,0378 | 0,11755    |
| Arl11         | -2,0387 | 0,027133   |
| Evi2a         | -2,0393 | 0,00012236 |
| 2310001H17Rik | -2,0397 | 0,19016    |
| Apbb1         | -2,0406 | 0,081258   |
| Tubg2         | -2,0428 | 0,11858    |
| Adh7          | -2,0497 | 0,088726   |
| Galnt15       | -2,0541 | 0,075781   |
| 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   |
| Caskin2       | -2,0644 | 0,098717   |
| 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    |
| Asah2         | -2,0694 | 0,069991   |
| Sdr42e1       | -2,0696 | 0,010872   |
| Olfm1         | -2,0713 | 3,00E-08   |
| Tlcd2         | -2,072  | 0,10844    |
| Tlr4          | -2,0732 | 0,0020756  |
| Zfp189        | -2,0744 | 0,018521   |
| Apba1         | -2,0749 | 0,13609    |
| Gm37776       | -2,0776 | 0,18759    |
| Tmem185b      | -2,0798 | 0,0010793  |
| Homez         | -2,0803 | 0,13757    |
| Pla2g2d       | -2,0816 | 0,011954   |
| Gm33142       | -2,0816 | 0,1394     |
| Csf2rb        | -2,0846 | 0,00013298 |
| Pomgnt1       | -2,0863 | 0,0018068  |
| Slfn8         | -2,0865 | 0,079402   |
| Il34          | -2,0877 | 0,016458   |
| Tlr13         | -2,0894 | 0,0083787  |
| Snord13       | -2,0975 | 6,97E-06   |
| E430018J23Rik | -2,0998 | 0,063484   |

|               |         |            |
|---------------|---------|------------|
| Gm15496       | -2,1056 | 0,035902   |
| Pctp          | -2,1061 | 0,0060925  |
| Zfp35         | -2,1065 | 0,016218   |
| A430033K04Rik | -2,1086 | 0,038761   |
| Zfp617        | -2,1086 | 0,074813   |
| Nrros         | -2,1104 | 1,78E-06   |
| Ampd3         | -2,1113 | 0,00066834 |
| Gm17455       | -2,1116 | 0,094678   |
| Pter          | -2,1154 | 0,0052513  |
| Frmd4a        | -2,1161 | 2,32E-05   |
| Zfp11         | -2,1162 | 0,15798    |
| Tti1          | -2,1178 | 0,10819    |
| Zfp768        | -2,1188 | 2,62E-05   |
| Trmo          | -2,1192 | 0,044307   |
| Gramd2        | -2,1199 | 0,065941   |
| Ints5         | -2,1242 | 0,00024645 |
| Bcl3          | -2,1278 | 0,0005292  |
| Rorc          | -2,1288 | 0,099197   |
| Qsox2         | -2,1292 | 0,060055   |
| Rcan1         | -2,133  | 8,78E-07   |
| Cyp2u1        | -2,1345 | 0,0057994  |
| Zfp229        | -2,1354 | 0,14514    |
| Gm43112       | -2,1375 | 0,12498    |
| Egr1          | -2,1378 | 0,00049174 |
| Gm43144       | -2,1418 | 0,18333    |
| Fuz           | -2,1439 | 0,060627   |
| St18          | -2,1445 | 7,37E-05   |
| Arhgef19      | -2,1446 | 0,11802    |
| CH25-309J2.1  | -2,1457 | 0,14391    |
| Cxcl2         | -2,1467 | 0,00090622 |
| Tnfrsf4       | -2,1494 | 0,05507    |
| Alg2          | -2,1496 | 0,051743   |
| Acot11        | -2,1551 | 0,14407    |
| Nt5e          | -2,1615 | 0,0015483  |
| Pkd2          | -2,162  | 0,027306   |
| Zfp39         | -2,1632 | 0,12102    |
| Ptpn7         | -2,1657 | 0,00056973 |
| Acy1          | -2,1658 | 0,012562   |
| Tmem67        | -2,1748 | 0,093236   |
| Gpr183        | -2,1782 | 2,32E-05   |
| Mul1          | -2,1786 | 0,001598   |
| 3110070M22Rik | -2,1894 | 0,0714     |
| Tepsin        | -2,1924 | 0,00016884 |
| Zfp810        | -2,1928 | 0,0061032  |
| Zfp729b       | -2,1945 | 0,0039647  |
| Nprl3         | -2,1948 | 0,0055092  |
| Prokr1        | -2,1963 | 0,079196   |
| Gtf2h3        | -2,1979 | 0,040679   |
| RP23-38L16.4  | -2,1997 | 0,050481   |
| Zfp61         | -2,2028 | 0,003349   |
| Mboat1        | -2,2048 | 0,011204   |
| Acsf3         | -2,2051 | 0,081807   |

|               |         |           |
|---------------|---------|-----------|
| Zfp518a       | -2,2053 | 0,0016508 |
| Amigo3        | -2,2063 | 0,069991  |
| Vwf           | -2,2083 | 0,063596  |
| Zfp763        | -2,2084 | 0,016327  |
| Atp6v0d2      | -2,2104 | 4,27E-08  |
| Arg1          | -2,2125 | 0,11858   |
| Cnksr1        | -2,218  | 0,12048   |
| 4930461G14Rik | -2,2193 | 0,062435  |
| Naip2         | -2,2251 | 7,76E-05  |
| Exoc8         | -2,2262 | 0,0072795 |
| Nkrf          | -2,2263 | 0,016682  |
| 9130019O22Rik | -2,2276 | 0,03873   |
| Abhd1         | -2,228  | 0,057268  |
| Gm16740       | -2,2298 | 0,10763   |
| Tagap         | -2,2302 | 0,0013184 |
| Nr0b2         | -2,2323 | 0,076191  |
| Pafah2        | -2,2341 | 0,036739  |
| Gm6257        | -2,2412 | 0,073816  |
| Celf3         | -2,2435 | 0,075781  |
| Sfn           | -2,2463 | 0,097846  |
| Birc3         | -2,2471 | 9,06E-06  |
| Depdc5        | -2,2476 | 0,010616  |
| Trib1         | -2,2527 | 3,05E-05  |
| Gpatch3       | -2,2561 | 0,01054   |
| Vil1          | -2,2571 | 0,058126  |
| Gmppb         | -2,2584 | 0,00111   |
| Mettl18       | -2,2604 | 0,016129  |
| Gm38020       | -2,2608 | 0,03266   |
| Gabrd         | -2,267  | 0,065238  |
| Gstm4         | -2,2694 | 0,049332  |
| B3galt6       | -2,2713 | 0,05249   |
| Zfp119b       | -2,2722 | 0,057785  |
| Nmnat3        | -2,2724 | 0,0063415 |
| Gm42835       | -2,2739 | 0,081149  |
| Tmem260       | -2,2755 | 0,020455  |
| Sema6b        | -2,2761 | 0,05911   |
| Clec2l        | -2,2795 | 0,082981  |
| 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 |
| Chd5          | -2,2994 | 0,066326  |
| Ifi44         | -2,3033 | 0,11583   |
| Ccdc80        | -2,3069 | 0,0998    |
| Slc9a4        | -2,3132 | 0,10503   |
| Nlrp3         | -2,3151 | 5,00E-05  |
| Adamts4       | -2,3156 | 0,11087   |
| Hebp2         | -2,3158 | 0,0024132 |
| Slc43a2       | -2,3164 | 5,32E-08  |
| Gm42640       | -2,3166 | 0,015968  |

|               |         |            |
|---------------|---------|------------|
| Slc9b1        | -2,3193 | 0,046587   |
| Zfp93         | -2,3204 | 0,11354    |
| Zfp90         | -2,3254 | 0,0084119  |
| Gm13657       | -2,3286 | 0,059517   |
| Gm10842       | -2,3316 | 0,084152   |
| Nlrc4         | -2,3335 | 0,09143    |
| Kctd21        | -2,3362 | 0,21654    |
| 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   |
| Gm7815        | -2,3575 | 0,12346    |
| Klhl23        | -2,3576 | 0,14495    |
| Lima1         | -2,3584 | 6,62E-07   |
| Gm42486       | -2,3616 | 0,13719    |
| Tmem98        | -2,3643 | 0,036646   |
| Mlh3          | -2,372  | 0,0015624  |
| Inpp5b        | -2,3727 | 0,0014609  |
| Arhgap4       | -2,3764 | 0,060993   |
| Gm17586       | -2,3768 | 0,036757   |
| Cstad         | -2,3769 | 0,15128    |
| 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 |
| C1ra          | -2,4152 | 0,097409   |
| Six5          | -2,4167 | 0,062391   |
| Gm28071       | -2,4175 | 0,08885    |
| Snx19         | -2,4208 | 0,003761   |
| Ubiad1        | -2,4214 | 0,00068792 |
| Mfsd9         | -2,4223 | 0,011466   |
| Slc30a2       | -2,4381 | 0,072401   |
| 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   |
| Pars2         | -2,4672 | 0,062963   |
| RP24-325N9.5  | -2,4682 | 0,05173    |
| Zfp738        | -2,4684 | 0,023755   |
| Commd5        | -2,4709 | 0,00063186 |
| Tigd5         | -2,4768 | 0,044996   |

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|---------------|---------|------------|
| Prss46        | -2,4784 | 0,045094   |
| Ociad2        | -2,4842 | 0,14291    |
| Skor1         | -2,4845 | 0,045178   |
| Jrk           | -2,49   | 0,04587    |
| Ubxn8         | -2,4923 | 0,0040593  |
| Bdh1          | -2,4929 | 0,012012   |
| Fam83h        | -2,4942 | 0,059765   |
| Jdp2          | -2,4946 | 4,63E-06   |
| Ehd2          | -2,5048 | 0,016043   |
| Gm20712       | -2,5055 | 0,010801   |
| Oas1d         | -2,5069 | 0,028418   |
| Fancf         | -2,5139 | 0,059052   |
| Il20rb        | -2,5211 | 0,0019866  |
| Gm25514       | -2,5221 | 0,013413   |
| Gm37642       | -2,5228 | 0,015868   |
| Nupl2         | -2,5248 | 0,01785    |
| Gm12663       | -2,5252 | 0,062216   |
| 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  |
| Zfp58         | -2,5591 | 0,050553   |
| Nmb           | -2,5598 | 0,02728    |
| Aldh1b1       | -2,5611 | 0,0014466  |
| Limk1         | -2,5634 | 0,010512   |
| Fbxo10        | -2,5653 | 0,055468   |
| 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  |
| Dcp1b         | -2,6562 | 0,05214    |
| 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  |

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|----------------|---------|------------|
| Zfp658         | -2,6877 | 0,024017   |
| Erbb3          | -2,6923 | 0,0095732  |
| Gm4262         | -2,6944 | 0,020701   |
| Col7a1         | -2,7072 | 0,024426   |
| BC024978       | -2,7169 | 0,011765   |
| Fut7           | -2,7192 | 0,02685    |
| Numb1          | -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   |
| Rin1           | -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   |
| Ifi47          | -2,9366 | 0,06188    |
| 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  |
| Gdpdp1        | -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   |