Table S1: RNA sequencing of CM-272-treated MO4 cells *in vitro* - normalized gene expression counts and log₂-fold changes (page 1-58); Table S2: RNA sequencing of CM-272-treated MO4 cells *in vitro* - significantly changed gene sets (page 59-68); Table S3: Multiplex gene expression analysis on *ex vivo* tumor tissue - significantly changed gene sets (page 69); Table S4: Report on statistical significance pertaining to Figure 5C (page 70).

Table S1 – RNA sequencing of CM-272-treated MO4 cells *in vitro* - normalized gene expression counts and log₂-fold changes. ¹

| Gene symbol | Log₂-fold change ² | q-value | p-value |
|-------------|-------------------|---------|---------|
| Ccnb1-ps    | -4,1347375        | 0,000000 | 0,00000000 |
| Ska1        | -4,0254682        | 0,000000 | 0,00000000 |
| H2ac12      | -3,9147032        | 0,000000 | 0,00000000 |
| Gm12856     | -3,7981566        | 0,000000 | 0,00000000 |
| Pimreg      | -3,6647352        | 0,000000 | 0,00000000 |
| Depdc1a     | -3,6566913        | 0,000000 | 0,00000000 |
| Ccnb1       | -3,6081603        | 0,000000 | 0,00000000 |
| Cenpe       | -3,5921527        | 0,000000 | 0,00000000 |
| Hmmr        | -3,540225         | 0,000000 | 0,00000000 |
| Plk1        | -3,499661         | 0,000000 | 0,00000000 |
| Cenb1       | -3,4988183        | 0,000000 | 0,00000000 |
| Cdkn3       | -3,4883359        | 0,000000 | 0,00000000 |
| Mki67       | -3,4763774        | 0,000000 | 0,00000000 |
| Spag5       | -3,4481612        | 0,000000 | 0,00000000 |
| Pif1        | -3,4407567        | 0,000000 | 0,00000000 |
| Aurkb       | -3,4194024        | 0,000000 | 0,00000000 |
| Nek2        | -3,4183896        | 0,000000 | 0,00000000 |
| Ccnb2       | -3,4131431        | 0,000000 | 0,00000000 |
| Cdk1        | -3,3936285        | 0,000000 | 0,00000000 |
| Troap       | -3,3870243        | 0,000000 | 0,00000000 |
| H2bu1-ps    | -3,3667004        | 0,000000 | 0,00000000 |
| H3e8        | -3,3658868        | 0,000000 | 0,00000000 |
| Kif20a      | -3,3619289        | 0,000000 | 0,00000000 |
| Aspm        | -3,3548509        | 0,000000 | 0,00000000 |
| H2ac4       | -3,3493837        | 0,000000 | 0,00000000 |
| Bub1        | -3,3368604        | 0,000000 | 0,00000000 |
| Ubc2c       | -3,3337322        | 0,000000 | 0,00000000 |
| Sapcd2      | -3,3300053        | 0,000000 | 0,00000000 |
| Pbk         | -3,3245753        | 0,000000 | 0,00000000 |
| Nuf2        | -3,3144117        | 0,000000 | 0,00000000 |
| Cdc25c      | -3,3112061        | 0,000000 | 0,00000000 |
| Gene   | Log2FC | P-value 1 | P-value 2 |
|--------|--------|-----------|-----------|
| Ttk    | -3.307 | 0.00000   | 0.00000   |
| Cit    | -3.302 | 0.00000   | 0.00000   |
| Tacc3  | -3.290 | 0.00000   | 0.00000   |
| Knl1   | -3.283 | 0.00000   | 0.00000   |
| Cenpa  | -3.277 | 0.00000   | 0.00000   |
| Kif11  | -3.276 | 0.00000   | 0.00000   |
| Ckap21 | -3.272 | 0.00000   | 0.00000   |
| Birc5  | -3.271 | 0.00000   | 0.00000   |
| Kif2c  | -3.258 | 0.00000   | 0.00000   |
| H3c3   | -3.253 | 0.00000   | 0.00000   |
| Prr11  | -3.226 | 0.00000   | 0.00000   |
| Kif14  | -3.221 | 0.00000   | 0.00000   |
| Dlgap5 | -3.216 | 0.00000   | 0.00000   |
| Kif15  | -3.212 | 0.00000   | 0.00000   |
| H2bc11 | -3.191 | 0.00000   | 0.00000   |
| Cep55  | -3.186 | 0.00000   | 0.00000   |
| Sgo1   | -3.182 | 0.00000   | 0.00000   |
| Raegap1| -3.166 | 0.00000   | 0.00000   |
| Cdca3  | -3.159 | 0.00000   | 0.00000   |
| Nde80  | -3.150 | 0.00000   | 0.00000   |
| H2bc12 | -3.145 | 0.00000   | 0.00000   |
| Igqap3 | -3.125 | 0.00000   | 0.00000   |
| Knstrn | -3.123 | 0.00000   | 0.00000   |
| E2f8   | -3.116 | 0.00000   | 0.00000   |
| Tpx2   | -3.098 | 0.00000   | 0.00000   |
| Cdca8  | -3.094 | 0.00000   | 0.00000   |
| Shcbp1 | -3.078 | 0.00000   | 0.00000   |
| Cip2a  | -3.070 | 0.00000   | 0.00000   |
| Spc24  | -3.069 | 0.00000   | 0.00000   |
| Clspn  | -3.068 | 0.00000   | 0.00000   |
| Top2a  | -3.067 | 0.00000   | 0.00000   |
| Mybl2  | -3.038 | 0.00000   | 0.00000   |
| Phf19  | -3.037 | 0.00000   | 0.00000   |
| Esp1   | -3.034 | 0.00000   | 0.00000   |
| Hmgb2  | -3.020 | 0.00000   | 0.00000   |
| Cdeca2 | -3.016 | 0.00000   | 0.00000   |
| Kif4   | -3.014 | 0.00000   | 0.00000   |
| Arhgef39| -3.013 | 0.00000   | 0.00000   |
| Kif18b | -2.992 | 0.00000   | 0.00000   |
| Gm13237| -2.983 | 0.00000   | 0.00000   |
| Bub1b  | -2.982 | 0.00000   | 0.00000   |
| Kif23  | -2.973 | 0.00000   | 0.00000   |
| Gene     | Value   | std   | p-value |
|----------|---------|-------|---------|
| Neil3    | -2.9665909 | 0.0000000 | 0.0000000 |
| H2ac8    | -2.9551475 | 0.0000000 | 0.0000000 |
| Cdc5     | -2.9471841 | 0.0000000 | 0.0000000 |
| H2ac10   | -2.9435189 | 0.0000000 | 0.0000000 |
| Arhgap19 | -2.9418074 | 0.0000000 | 0.0000000 |
| Kif20b   | -2.9403812 | 0.0000000 | 0.0000000 |
| Sgo2a    | -2.939783  | 0.0000000 | 0.0000000 |
| H2bc3    | -2.936635  | 0.0000000 | 0.0000000 |
| Gmnn     | -2.9306823 | 0.0000000 | 0.0000000 |
| Polq     | -2.9302649 | 0.0000000 | 0.0000000 |
| Melk     | -2.9160451 | 0.0000000 | 0.0000000 |
| Chaf1b   | -2.913269  | 0.0000000 | 0.0000000 |
| Cdc20    | -2.9104946 | 0.0000000 | 0.0000000 |
| Dna2     | -2.9067503 | 0.0000000 | 0.0000000 |
| H3c1     | -2.9036269 | 0.0000000 | 0.0000000 |
| Kif22    | -2.8979858 | 0.0000000 | 0.0000000 |
| Fbxo5    | -2.8979286 | 0.0000000 | 0.0000000 |
| Ncapd2   | -2.8955089 | 0.0000000 | 0.0000000 |
| Mec5     | -2.8934462 | 0.0000000 | 0.0000000 |
| Aurka    | -2.8899949 | 0.0000000 | 0.0000000 |
| Mns1     | -2.8767008 | 0.0000000 | 0.0000000 |
| Hrob     | -2.8636668 | 0.0000000 | 0.0000000 |
| Uhrf1    | -2.862257  | 0.0000000 | 0.0000000 |
| Ncapg    | -2.8537155 | 0.0000000 | 0.0000000 |
| H2ax     | -2.8493259 | 0.0000000 | 0.0000000 |
| Cenpi    | -2.8439729 | 0.0000000 | 0.0000000 |
| Tk1      | -2.8423123 | 0.0000000 | 0.0000000 |
| Prc1     | -2.8381259 | 0.0000000 | 0.0000000 |
| Parpbp   | -2.8353337 | 0.0000000 | 0.0000000 |
| H4f16    | -2.8326882 | 0.0000000 | 0.0000000 |
| Nup210   | -2.8228022 | 0.0000000 | 0.0000000 |
| H2ac11   | -2.8145992 | 0.0000000 | 0.0000000 |
| Tierr    | -2.8018397 | 0.0000000 | 0.0000000 |
| Gm15428  | -2.7952902 | 0.0000000 | 0.0000000 |
| Ccnf     | -2.7890627 | 0.0000000 | 0.0000000 |
| Gm6091   | -2.7858897 | 0.0000000 | 0.0000000 |
| Kntc1    | -2.7825599 | 0.0000000 | 0.0000000 |
| Gm5853   | -2.775122  | 0.0000000 | 0.0000000 |
| Gm5648   | -2.7714933 | 0.0000000 | 0.0000000 |
| Erec6l   | -2.7678747 | 0.0000000 | 0.0000000 |
| Pclaf    | -2.7641846 | 0.0000000 | 0.0000000 |
| Mtfr2    | -2.7429425 | 0.0000000 | 0.0000000 |
| Gene   | Value   | Start   | Stop    |
|--------|---------|---------|---------|
| Lig1   | -2.7212199 | 0.0000000 | 0.0000000 |
| H2bc6  | -2.7197708 | 0.0000000 | 0.0000000 |
| Nsl1   | -2.7190627 | 0.0000000 | 0.0000000 |
| Gm13160| -2.7169813 | 0.0000001 | 0.00000001 |
| Incenp | -2.7152748 | 0.0000000 | 0.00000000 |
| Atad2  | -2.7029774 | 0.0000000 | 0.00000000 |
| Mis18bp1| -2.6921126 | 0.0000000 | 0.00000000 |
| Dsccl  | -2.6868389 | 0.0000000 | 0.00000000 |
| H4c14  | -2.6784439 | 0.0000000 | 0.00000000 |
| Rmi2   | -2.6567392 | 0.0000000 | 0.00000000 |
| Ect2   | -2.6506809 | 0.0000000 | 0.00000000 |
| H4c6   | -2.6493017 | 0.0000000 | 0.00000000 |
| Mcm10  | -2.6420664 | 0.0000000 | 0.00000000 |
| Mxd3   | -2.6408284 | 0.0000000 | 0.00000000 |
| H3c7   | -2.6407454 | 0.0000000 | 0.00000000 |
| Kif18a | -2.6385523 | 0.0000000 | 0.00000000 |
| Aunip  | -2.6368671 | 0.0000000 | 0.00000000 |
| H2bc8  | -2.6234364 | 0.0000000 | 0.00000000 |
| Fanci  | -2.6212722 | 0.0000000 | 0.00000000 |
| Faned2 | -2.6196934 | 0.0000000 | 0.00000000 |
| Mcm2   | -2.6129593 | 0.0000000 | 0.00000000 |
| Ncapg2 | -2.6069562 | 0.0000000 | 0.00000000 |
| Mcm3   | -2.6038143 | 0.0000000 | 0.00000000 |
| Gen1   | -2.599698  | 0.0000000 | 0.00000000 |
| E2f2   | -2.5959678 | 0.0000000 | 0.00000000 |
| Exo1   | -2.5510484 | 0.0000000 | 0.00000000 |
| Bard1  | -2.5468316 | 0.0000000 | 0.00000000 |
| Rad51ap1| -2.5468007 | 0.0000000 | 0.00000000 |
| H1f3   | -2.5407484 | 0.0000000 | 0.00000000 |
| H4c1   | -2.5403381 | 0.0000000 | 0.00000000 |
| Traip  | -2.5235152 | 0.0000000 | 0.00000000 |
| Cdc6   | -2.4924737 | 0.0000000 | 0.00000000 |
| H3c6   | -2.4915301 | 0.0000000 | 0.00000000 |
| Mad2l1 | -2.4893762 | 0.0000000 | 0.00000000 |
| Cdc45  | -2.4862271 | 0.0000000 | 0.00000000 |
| Gins1  | -2.4764353 | 0.0000000 | 0.00000000 |
| N4bp3  | -2.4695288 | 0.0000000 | 0.00000000 |
| H2bc4  | -2.4633956 | 0.0000000 | 0.00000000 |
| Cdc34  | -2.4619313 | 0.0000000 | 0.00000000 |
| Wdr62  | -2.4443986 | 0.0000000 | 0.00000000 |
| Pmfl   | -2.4339944 | 0.0000000 | 0.00000000 |
| Cdc25b | -2.4276333 | 0.0000000 | 0.00000000 |
| Gene      | Value 1     | Value 2     | Value 3     |
|-----------|-------------|-------------|-------------|
| Pold1     | -2.4176296  | 0.0000000   | 0.0000000   |
| Cdt1      | -2.4171866  | 0.0000000   | 0.0000000   |
| Depdc1b   | -2.4153508  | 0.0000003   | 0.0000004   |
| Rrm2      | -2.4150193  | 0.0000000   | 0.0000000   |
| Rad51     | -2.4085386  | 0.0000000   | 0.0000000   |
| Eme1      | -2.406928   | 0.0000000   | 0.0000000   |
| Eso2      | -2.4043727  | 0.0000000   | 0.0000000   |
| Gjb2      | -2.4042934  | 0.0000000   | 0.0000000   |
| Lmnb1     | -2.3996858  | 0.0000000   | 0.0000000   |
| H4c2      | -2.3988428  | 0.0000000   | 0.0000000   |
| Pkmvt1    | -2.3984089  | 0.0000000   | 0.0000000   |
| Foxm1     | -2.3867811  | 0.0000000   | 0.0000000   |
| Trip13    | -2.3852999  | 0.0000000   | 0.0000000   |
| Cenpu     | -2.3849786  | 0.0000000   | 0.0000000   |
| Nusap1    | -2.3830458  | 0.0000000   | 0.0000000   |
| Cntfr     | -2.3751741  | 0.0000000   | 0.0000000   |
| Rbl1      | -2.3745396  | 0.0000000   | 0.0000000   |
| Cenpw     | -2.3696453  | 0.0000000   | 0.0000000   |
| Plk4      | -2.3612534  | 0.0000000   | 0.0000000   |
| Chek1     | -2.3583141  | 0.0000000   | 0.0000000   |
| Chaf1a    | -2.3570417  | 0.0000000   | 0.0000000   |
| Fanca     | -2.355321   | 0.0000000   | 0.0000000   |
| Prim1     | -2.3526523  | 0.0000000   | 0.0000000   |
| Cenph     | -2.3526083  | 0.0000000   | 0.0000000   |
| Aire      | -2.3467895  | 0.000225    | 0.0000424   |
| H4c8      | -2.339366   | 0.0000000   | 0.0000000   |
| H1f6      | -2.3288339  | 0.0000000   | 0.0000000   |
| Ank1e1    | -2.3265039  | 0.0000000   | 0.0000000   |
| H1f4      | -2.3222333  | 0.0000000   | 0.0000000   |
| Arhgap11a | -2.3075014  | 0.0000000   | 0.0000000   |
| Gpsm2     | -2.3058961  | 0.0000000   | 0.0000000   |
| Ung       | -2.292136   | 0.0000000   | 0.0000000   |
| Pole      | -2.2862413  | 0.0000000   | 0.0000000   |
| Gm12387   | -2.2703188  | 0.001610    | 0.0003492   |
| H2ac6     | -2.2679386  | 0.0000000   | 0.0000000   |
| Mcm7      | -2.2568544  | 0.0000000   | 0.0000000   |
| Mlf1      | -2.2476333  | 0.0000000   | 0.0000000   |
| Cenpm     | -2.2468687  | 0.0000000   | 0.0000000   |
| Fndc3c1   | -2.246597   | 0.0000000   | 0.0000000   |
| H2ac20    | -2.2434024  | 0.0000000   | 0.0000000   |
| Wdhd1     | -2.2353798  | 0.0000000   | 0.0000000   |
| Dbf4      | -2.2308662  | 0.0000000   | 0.0000000   |
| Gene         | log2FoldChange | pValue1 | pValue2 |
|--------------|----------------|---------|---------|
| Cenps        | -2.2131403     | 0.000000 | 0.000000 |
| Tymbs        | -2.207161      | 0.000000 | 0.000000 |
| Hmx2         | -2.192737      | 0.000000 | 0.000000 |
| Mastl        | -2.1882585     | 0.000000 | 0.000000 |
| Cdc25a       | -2.1858425     | 0.000000 | 0.000000 |
| Impa2        | -2.1824926     | 0.000000 | 0.000000 |
| Cenpq        | -2.1798743     | 0.000000 | 0.000000 |
| Ska3         | -2.1780578     | 0.000000 | 0.000000 |
| Atad5        | -2.1729647     | 0.000000 | 0.000000 |
| Lmo1         | -2.1706644     | 0.000000 | 0.000000 |
| 2700099C18Rik| -2.1695322     | 0.000000 | 0.000000 |
| Chtf18       | -2.1672372     | 0.000000 | 0.000000 |
| Hmgb1-ps3    | -2.1623297     | 0.000000 | 0.000000 |
| H4c3         | -2.1619331     | 0.000000 | 0.000000 |
| Iqgap2       | -2.1586557     | 0.000000 | 0.000000 |
| Mmc4         | -2.1574914     | 0.000000 | 0.000000 |
| Vash1        | -2.1479079     | 0.000000 | 0.000000 |
| Egf11        | -2.1427908     | 0.000000 | 0.000000 |
| H4c4         | -2.1388975     | 0.000000 | 0.000000 |
| Enpp2        | -2.1350249     | 0.000000 | 0.000000 |
| Smc2         | -2.1288572     | 0.000000 | 0.000000 |
| Cep152       | -2.1266937     | 0.000000 | 0.000000 |
| 2810429I04Rik| -2.125589      | 0.000000 | 0.000000 |
| Cep89        | -2.1228246     | 0.000000 | 0.000000 |
| Gm44521      | -2.1222818     | 0.002261 | 0.000000 |
| Lrr1         | -2.1194085     | 0.000000 | 0.000000 |
| Rrm1         | -2.1115537     | 0.000000 | 0.000000 |
| Cdk2         | -2.1114148     | 0.000000 | 0.000000 |
| Ccne2        | -2.1062309     | 0.000000 | 0.000000 |
| Ccsap        | -2.0969306     | 0.000000 | 0.000000 |
| Cdc85e       | -2.0768439     | 0.000000 | 0.000000 |
| Stil         | -2.0721507     | 0.000000 | 0.000000 |
| Mgam2-ps     | -2.0702346     | 0.000001 | 0.000000 |
| Timeless     | -2.0641858     | 0.000000 | 0.000000 |
| Dut          | -2.05539       | 0.000000 | 0.000000 |
| E2f7         | -2.053647      | 0.000000 | 0.000000 |
| Gm20667      | -2.0512635     | 0.000002 | 0.000000 |
| Orc1         | -2.047915      | 0.000000 | 0.000000 |
| Arhgap33     | -2.0453785     | 0.000547 | 0.0001391|
| Asf1b        | -2.0428776     | 0.000000 | 0.000000 |
| Rad54l       | -2.0425766     | 0.000000 | 0.000000 |
| Spd11        | -2.0403423     | 0.000000 | 0.000000 |
| Gene        | Log2FoldChange | FDR   | Bonferroni   |
|-------------|----------------|-------|--------------|
| 4930558J18Rik | -2.0384679     | 0.0000061 | 0.00000107  |
| Ube2t       | -2.0229467     | 0.0000000 | 0.00000000  |
| E2f1        | -2.026574      | 0.0000000 | 0.00000000  |
| Dtl         | -2.0207382     | 0.0000000 | 0.00000000  |
| Kifc1       | -2.0196331     | 0.0000000 | 0.00000000  |
| Spec25      | -2.0165306     | 0.0000000 | 0.00000000  |
| Mccm6       | -2.0165224     | 0.0000000 | 0.00000000  |
| Pitpnm3     | -2.0129947     | 0.000003126 | 0.00007185  |
| Recql4      | -2.0127097     | 0.0000000 | 0.00000000  |
| Smtnl2      | -2.0123602     | 0.0000000 | 0.00000000  |
| Aqp1        | -2.0115104     | 0.0000001 | 0.00000002  |
| Gm15452     | -2.011721      | 0.0000000 | 0.00000000  |
| Lpar5       | -2.0084814     | 0.0000000 | 0.00000000  |
| Shmt1       | -2.0078264     | 0.0000000 | 0.00000000  |
| Dnmt1       | -1.9916607     | 0.0000000 | 0.00000000  |
| Xkr5        | -1.9782918     | 0.0000000 | 0.00000000  |
| Nckap5l     | -1.9743013     | 0.0000000 | 0.00000000  |
| Ccne1       | -1.9733045     | 0.0000000 | 0.00000000  |
| Batf3       | -1.9722207     | 0.0000000 | 0.00000000  |
| Gm10282     | -1.9720448     | 0.0000000 | 0.00000000  |
| Haspin      | -1.9627518     | 0.0000000 | 0.00000000  |
| Megf6       | -1.9592576     | 0.0000000 | 0.00000000  |
| Ddx11       | -1.957994      | 0.0000000 | 0.00000000  |
| Mpp6        | -1.9560401     | 0.0000000 | 0.00000000  |
| Pla2g4c     | -1.9492965     | 0.00007419 | 0.00018376  |
| Gm12261     | -1.9445674     | 0.0000000 | 0.00000000  |
| Sggeg       | -1.9440108     | 0.0000000 | 0.00000000  |
| Rpa2        | -1.9412146     | 0.0000000 | 0.00000000  |
| Rragd       | -1.9312524     | 0.0000000 | 0.00000000  |
| Ncaph       | -1.9283816     | 0.0000000 | 0.00000000  |
| Nasp        | -1.9280666     | 0.0000000 | 0.00000000  |
| Lrfn1       | -1.9237936     | 0.0000000 | 0.00000000  |
| Smc4        | -1.9230941     | 0.0000000 | 0.00000000  |
| Diaph3      | -1.9201467     | 0.0000000 | 0.00000000  |
| Hmgn2       | -1.9186663     | 0.0000000 | 0.00000000  |
| Cep128      | -1.9124486     | 0.0000000 | 0.00000000  |
| Zwilch      | -1.9100512     | 0.0000000 | 0.00000000  |
| Pole2       | -1.9085832     | 0.0000000 | 0.00000000  |
| H3c2        | -1.9052792     | 0.0000000 | 0.00000000  |
| Neurl1b     | -1.901566      | 0.00002277 | 0.00000429  |
| Cenpk       | -1.9005434     | 0.0000000 | 0.00000000  |
| Brip1       | -1.8992739     | 0.0000000 | 0.00000000  |
| Gene          | Log2 Ratio | P-Value | Adjusted P-Value |
|--------------|------------|---------|------------------|
| 2010110K18Rik | -1.8961877 | 0.0012089 | 0.00031104 |
| Rad54b       | -1.8850622 | 0.0000000 | 0.00000000 |
| Gins2        | -1.8812065 | 0.0000000 | 0.00000000 |
| Wdr76        | -1.8758767 | 0.0000000 | 0.00000000 |
| Cenpn        | -1.8679685 | 0.0000000 | 0.00000000 |
| Gm3756       | -1.8646015 | 0.0000000 | 0.00000000 |
| Gm15387      | -1.8614012 | 0.0000000 | 0.00000000 |
| Fignl1       | -1.8612409 | 0.0000000 | 0.00000000 |
| Ctdspl       | -1.8569196 | 0.0000000 | 0.00000000 |
| Bora         | -1.8561479 | 0.0000000 | 0.00000000 |
| Cks2         | -1.8530874 | 0.0000000 | 0.00000000 |
| Hlf          | -1.8511282 | 0.0000000 | 0.00000000 |
| Fam83d       | -1.8509055 | 0.0000000 | 0.00000400 |
| Glt1d1       | -1.8479909 | 0.0000000 | 0.00000000 |
| Rapsn        | -1.8432006 | 0.0000000 | 0.00000000 |
| Pola2        | -1.8391981 | 0.0000000 | 0.00000000 |
| Gm6750       | -1.8370299 | 0.0002925 | 0.00006679 |
| Mis18a       | -1.8357435 | 0.0000000 | 0.00000000 |
| Rfc5         | -1.8330447 | 0.0000000 | 0.00000000 |
| Fam110a      | -1.8327323 | 0.0000000 | 0.00000000 |
| Poc1a        | -1.8317179 | 0.0000000 | 0.00000000 |
| Gm37599      | -1.8270008 | 0.0000049 | 0.0000805 |
| Gm9430       | -1.8103811 | 0.003453 | 0.00007990 |
| Arhgap32     | -1.8078322 | 0.0000000 | 0.00000000 |
| Hpsn         | -1.8036443 | 0.0000000 | 0.00000000 |
| Dm xl2       | -1.7955166 | 0.0000000 | 0.00000000 |
| Blm          | -1.7946543 | 0.0000000 | 0.00000000 |
| Vrk2         | -1.7904219 | 0.0000000 | 0.00000000 |
| Myo7a        | -1.784834  | 0.0000000 | 0.00000000 |
| Tcf19        | -1.7821047 | 0.0000000 | 0.00000000 |
| Map2k6       | -1.775362  | 0.0000000 | 0.00000000 |
| Tyro3        | -1.7752341 | 0.0000000 | 0.00000000 |
| Prickle1     | -1.774294  | 0.0000000 | 0.00000000 |
| 2010008C14Rik | -1.7727535 | 0.0000000 | 0.00000000 |
| Nmral1       | -1.7724385 | 0.0000000 | 0.00000000 |
| Khl23        | -1.7692622 | 0.0000000 | 0.00000000 |
| Pmel         | -1.7659252 | 0.0000000 | 0.00000000 |
| Rapgef3os2   | -1.76436   | 0.0000006 | 0.00000009 |
| Dnmt3b       | -1.7641819 | 0.0000000 | 0.00000000 |
| Lockd        | -1.7572736 | 0.0000000 | 0.00000000 |
| Ptprs        | -1.7546021 | 0.0000000 | 0.00000000 |
| Hmgn2-ps1    | -1.7545762 | 0.0000437 | 0.00000865 |
| Gene   | Value 1  | Value 2  | Value 3  |
|--------|---------|---------|---------|
| Fancb  | -1.7535402 | 0.0000000 | 0.0000000 |
| Bace2  | -1.75283  | 0.0000000 | 0.0000000 |
| Hvcln  | -1.7502179 | 0.0000000 | 0.0000000 |
| Tuba1b | -1.7492275 | 0.0000000 | 0.0000000 |
| Gm10357| -1.7479874 | 0.0003568 | 0.00008290 |
| Gm21596| -1.7451742 | 0.0000001 | 0.00000002 |
| Gm11349| -1.7429325 | 0.0000623 | 0.00000126 |
| Xylb   | -1.7415624 | 0.0000000 | 0.00000000 |
| Gm43096| -1.7361797 | 0.0000000 | 0.00000000 |
| Cep72  | -1.7322786 | 0.0000000 | 0.00000000 |
| Selenoh| -1.7315521 | 0.0000000 | 0.00000000 |
| Gm37510| -1.7280946 | 0.0000120 | 0.00000020 |
| Myb    | -1.7259414 | 0.0007340 | 0.00018156 |
| Rad51b | -1.7249977 | 0.0000000 | 0.00000000 |
| Itpk1  | -1.720371  | 0.0000000 | 0.00000000 |
| Tenm4  | -1.7194629 | 0.0000000 | 0.00000000 |
| Mbo1t1 | -1.7129792 | 0.0000000 | 0.00000000 |
| Kifc5b | -1.7116408 | 0.0000000 | 0.00000000 |
| Cbx3-ps7| -1.7096555 | 0.0000000 | 0.00000000 |
| Enkd1  | -1.7064411 | 0.0000000 | 0.00000000 |
| Ezh2   | -1.7035047 | 0.0000000 | 0.00000000 |
| Alms1  | -1.7022229 | 0.0000000 | 0.00000000 |
| Fndc4  | -1.6950347 | 0.0000000 | 0.00000000 |
| Haus4  | -1.6939715 | 0.0002056 | 0.00004544 |
| Echdc2 | -1.6868505 | 0.0000000 | 0.00000000 |
| Rfc4   | -1.682516  | 0.0002056 | 0.00004544 |
| Mnd1   | -1.6791919 | 0.0004737 | 0.00011281 |
| Gm36401| -1.6772626 | 0.0000000 | 0.00000000 |
| Adams20| -1.6751614 | 0.0000000 | 0.00000000 |
| H1f1   | -1.6710142 | 0.0000000 | 0.00000000 |
| Smo    | -1.6681306 | 0.0000000 | 0.00000000 |
| Gm43096| -1.6664051 | 0.0000000 | 0.00000000 |
| Mnd1-ps| -1.6661662 | 0.0000000 | 0.00000000 |
| Nsme4a | -1.6593869 | 0.0000000 | 0.00000000 |
| Gene       | Log2 Fold Change | StdErr 1 | StdErr 2 |
|------------|-----------------|---------|---------|
| Chek2      | -1.6566106      | 0.000000| 0.000000|
| Gm16436    | -1.6523979      | 0.001034| 0.000262|
| Hirip3     | -1.6469574      | 0.000000| 0.000000|
| Tnfaip8l1  | -1.6440393      | 0.000000| 0.000000|
| Tmem51     | -1.6389469      | 0.000000| 0.000000|
| Palh2      | -1.6389381      | 0.000000| 0.000000|
| Hmgb3      | -1.6351362      | 0.000000| 0.000000|
| Brca1      | -1.6320397      | 0.000000| 0.000000|
| Dcbld1     | -1.6314189      | 0.000000| 0.000000|
| Cdca7      | -1.6310517      | 0.000000| 0.000000|
| Galnt12    | -1.6293282      | 0.000000| 0.000000|
| 5031439G07Rik | -1.6281196 | 0.000000| 0.000000|
| Cdc7       | -1.6263398      | 0.000000| 0.000000|
| Tfdp4      | -1.6152388      | 0.000000| 0.000000|
| Cers1      | -1.6149443      | 0.000000| 0.000000|
| Hat1       | -1.6144047      | 0.000000| 0.000000|
| Wee1       | -1.6127475      | 0.000000| 0.000000|
| Macroh2a1  | -1.6091532      | 0.000000| 0.000000|
| Gm6104     | -1.6080714      | 0.000000| 0.000000|
| Kif24      | -1.608055       | 0.000000| 0.000000|
| Tmcc2      | -1.6005149      | 0.000000| 0.000000|
| Trim59     | -1.5969864      | 0.000000| 0.000000|
| Pygo1      | -1.5937739      | 0.000000| 0.000000|
| Scl16a3    | -1.5936605      | 0.000285| 0.000650|
| Dlk2       | -1.5919667      | 0.001143| 0.000292|
| Pola1      | -1.5913261      | 0.000000| 0.000000|
| Mms22l     | -1.5901189      | 0.000000| 0.000000|
| Gm28229    | -1.5898851      | 0.000000| 0.000000|
| Hells      | -1.589837       | 0.000000| 0.000000|
| Pchl1      | -1.5886979      | 0.000000| 0.000000|
| Poc1b      | -1.5871307      | 0.000000| 0.000000|
| Gm17383    | -1.5858665      | 0.000000| 0.000000|
| Gm12870    | -1.5840846      | 0.000511| 0.001225|
| Hmcn1      | -1.5815843      | 0.000000| 0.000000|
| Usp1       | -1.5811451      | 0.000000| 0.000000|
| Cpne4      | -1.5784176      | 0.000000| 0.000000|
| Exosc8     | -1.5690392      | 0.000000| 0.000000|
| Ckap5      | -1.568641       | 0.000000| 0.000000|
| Dsn1       | -1.563507       | 0.000000| 0.000000|
| Mdm1       | -1.5611608      | 0.000000| 0.000000|
| H2ac21     | -1.557662       | 0.000030| 0.000057|
| Tnk2       | -1.5540373      | 0.000000| 0.000000|
| Gene      | Log2 Fold Change | p-value 1 | p-value 2 |
|-----------|-----------------|-----------|-----------|
| Degs2     | -1.5536161      | 0.0009131 | 0.00022919|
| Skp2      | -1.5533928      | 0.0000000 | 0.00000000|
| Gm11223   | -1.5533413      | 0.0000000 | 0.00000000|
| Tipin     | -1.5521749      | 0.0000000 | 0.00000000|
| Pcnaps2   | -1.5448787      | 0.0000000 | 0.00000000|
| BC055324  | -1.5463626      | 0.0000000 | 0.00000000|
| Cgas      | -1.5419054      | 0.0000000 | 0.00000000|
| Hip1r     | -1.5415877      | 0.0000000 | 0.00000000|
| Mapk11    | -1.5380426      | 0.0000000 | 0.00000000|
| Stmn1     | -1.5377802      | 0.0000000 | 0.00000000|
| Tspan10   | -1.5362846      | 0.0000000 | 0.00000000|
| Pcnas     | -1.5358703      | 0.0000000 | 0.00000000|
| Ppid      | -1.5354476      | 0.0000000 | 0.00000000|
| Oip5      | -1.5318855      | 0.0000000 | 0.00000000|
| Clmn      | -1.5307064      | 0.0000000 | 0.00000000|
| Cbx2      | -1.5264321      | 0.0000000 | 0.00000000|
| Mtfp1     | -1.5254271      | 0.0000000 | 0.00000000|
| Sass6     | -1.5246978      | 0.0000000 | 0.00000000|
| Kpna2     | -1.5215986      | 0.0000000 | 0.00000000|
| Vrk1      | -1.5202885      | 0.0000000 | 0.00000000|
| Gm10184   | -1.5165647      | 0.0000000 | 0.00000000|
| Cenpl     | -1.5111397      | 0.0000000 | 0.00000000|
| Lmnb2     | -1.5076918      | 0.0000000 | 0.00000000|
| Gm7931    | -1.5072555      | 0.001944   | 0.00004276|
| Net1      | -1.5046169      | 0.0000000 | 0.00000000|
| Gm13577   | -1.5005041      | 0.000029   | 0.00000049|
| Vegfb     | -1.4985282      | 0.0000000 | 0.00000000|
| Mt2       | -1.4970963      | 0.000018   | 0.00000029|
| Hsf4      | -1.4959603      | 0.0000000 | 0.00000000|
| Cks1b     | -1.4936192      | 0.0000000 | 0.00000000|
| Dek       | -1.4903492      | 0.0000000 | 0.00000000|
| Pold2     | -1.4850986      | 0.0000000 | 0.00000000|
| Mtbp      | -1.4840852      | 0.0000000 | 0.00000000|
| Fxn       | -1.4813692      | 0.0000000 | 0.00000000|
| Mknk2     | -1.4812741      | 0.0000000 | 0.00000000|
| Tamm41    | -1.4804289      | 0.0000000 | 0.00000000|
| Eglin1    | -1.4776218      | 0.0000000 | 0.00000000|
| Paqr6     | -1.4735791      | 0.0000001 | 0.00000002|
| Plekhg3   | -1.4653316      | 0.0000000 | 0.00000000|
| Abca12    | -1.4616558      | 0.0000000 | 0.00000000|
| Rec1      | -1.4611474      | 0.0000000 | 0.00000000|
| Ttf2      | -1.4607659      | 0.0000000 | 0.00000000|
| Gene  | Log2 Fold Change | p-value 1 | p-value 2 |
|-------|-----------------|-----------|-----------|
| Tubg1 | -1.4531276      | 0.0000000 | 0.0000000 |
| Cibar1| -1.4528908      | 0.0000000 | 0.0000000 |
| Gpr157| -1.4479397      | 0.0000000 | 0.0000000 |
| Nsd2 | -1.4455873      | 0.0000000 | 0.0000000 |
| Biic1 | -1.4403303      | 0.0000000 | 0.0000000 |
| Hjurrp| -1.4399345      | 0.0000000 | 0.0000000 |
| Tubb5 | -1.4354177      | 0.0000000 | 0.0000000 |
| Sdf2l1| -1.4338622      | 0.0000000 | 0.0000000 |
| Fbxo48| -1.4327951      | 0.0000000 | 0.0000000 |
| Ntrk3 | -1.4304455      | 0.0000000 | 0.0000000 |
| Gm10619| -1.4257182     | 0.0000000 | 0.0000000 |
| Rcor2 | -1.4221586      | 0.0000000 | 0.0000000 |
| Suv39h1| -1.4244619     | 0.0000000 | 0.0000000 |
| Cerox1| -1.4240455      | 0.0000000 | 0.0000000 |
| Gm14276| -1.4207134     | 0.0000000 | 0.0000000 |
| Gm12919| -1.4159314     | 0.0000000 | 0.0000000 |
| Dck   | -1.4107803      | 0.0000000 | 0.0000000 |
| Rnaseh2b| -1.4064145    | 0.0000000 | 0.0000000 |
| Fbn1  | -1.4043517      | 0.0000000 | 0.0000000 |
| Paxip1| -1.4000419      | 0.0000000 | 0.0000000 |
| Cdec57| -1.3990442      | 0.0000000 | 0.0000000 |
| Terf1 | -1.3988194      | 0.0000000 | 0.0000000 |
| Slfn9 | -1.3952052      | 0.0000000 | 0.0000000 |
| Tmem109| -1.3912244    | 0.0000000 | 0.0000000 |
| Rwtn  | -1.3904136      | 0.0000000 | 0.0000000 |
| Afap111| -1.3894963    | 0.0000000 | 0.0000000 |
| Bckdhb| -1.3832128      | 0.0000000 | 0.0000000 |
| Tjp2  | -1.3827337      | 0.0000000 | 0.0000000 |
| Gm14150| -1.3817134     | 0.0000000 | 0.0000000 |
| D630045J12Rik| -1.3798563| 0.0000000 | 0.0000000 |
| Gene       | Value    | P-value 1 | P-value 2 |
|------------|----------|-----------|-----------|
| Bhlhe40    | -1,3757357 | 0,0000000 | 0,00000000 |
| Dnph1      | -1,37455  | 0,0000000 | 0,00000000 |
| Plekhg5    | -1,373761 | 0,0000000 | 0,00000000 |
| Cntrub     | -1,3733027 | 0,0000000 | 0,00000000 |
| Cbx3-ps6   | -1,37235  | 0,0000000 | 0,00000000 |
| Gas2l3     | -1,369141 | 0,0000000 | 0,00000000 |
| Gm10074    | -1,3670756 | 0,0000000 | 0,00000000 |
| Slc29a1    | -1,3624428 | 0,0000000 | 0,00000000 |
| Tmem268    | -1,3496785 | 0,0000000 | 0,00000000 |
| Tube1      | -1,346785  | 0,0000002 | 0,00000003 |
| Cars2      | -1,348735  | 0,0000000 | 0,00000000 |
| Neapd3     | -1,343735  | 0,0000000 | 0,00000000 |
| Rbmx       | -1,3414642 | 0,0000000 | 0,00000000 |
| Metrn      | -1,3399493 | 0,0000000 | 0,00000032 |
| 2810410L24Rik | -1,3399056 | 0,0000000 | 0,0000005 |
| Bcl7a      | -1,3395675 | 0,0000000 | 0,00000000 |
| Mcph1      | -1,3370937 | 0,0000000 | 0,00000000 |
| Haus1      | -1,3350358 | 0,0000000 | 0,00000000 |
| Gpr143     | -1,3345582 | 0,0000000 | 0,00000000 |
| Wdr90      | -1,3343104 | 0,0000000 | 0,00000000 |
| Prkez      | -1,3342679 | 0,0000000 | 0,00000000 |
| Brca2      | -1,3289344 | 0,0000000 | 0,00000000 |
| Aff3       | -1,3270444 | 0,0000000 | 0,00000000 |
| Cdca7l     | -1,3269764 | 0,0000000 | 0,00000000 |
| Pkp4       | -1,3238606 | 0,0000000 | 0,00000000 |
| Fam184b    | -1,322853  | 0,0000000 | 0,00000000 |
| Arhgef37   | -1,3224172 | 0,0002161 | 0,00004797 |
| Fen1       | -1,3220808 | 0,0000000 | 0,00000000 |
| Mt1        | -1,3206777 | 0,0000017 | 0,00000028 |
| Lin9       | -1,3176814 | 0,0000000 | 0,00000000 |
| Kdm2b      | -1,3173155 | 0,0000000 | 0,00000000 |
| Thra       | -1,3169475 | 0,0000000 | 0,00000000 |
| Eogt       | -1,3168114 | 0,0000000 | 0,00000000 |
| Gm8146     | -1,3148394 | 0,0003076 | 0,00007059 |
| Tal1       | -1,3139247 | 0,0000060 | 0,00000106 |
| Tnfsf9     | -1,312176  | 0,0000000 | 0,00000000 |
| 4930579G24Rik | -1,3093117 | 0,0000000 | 0,00000000 |
| Msh6       | -1,3063047 | 0,0000000 | 0,00000000 |
| Ifrd2      | -1,302833  | 0,0000000 | 0,00000000 |
| Pwpp3a     | -1,2972639 | 0,0000000 | 0,00000000 |
| Kmt5a      | -1,2972367 | 0,0000000 | 0,00000000 |
| Gene        | log2FoldChange | p.value 1 | p.value 2 |
|-------------|----------------|-----------|-----------|
| Gm11585     | -1.2956657     | 0.000000  | 0.000000  |
| Pde9a       | -1.2953117     | 0.0000001 | 0.0000002 |
| Gm42549     | -1.2950817     | 0.0018740 | 0.000000  |
| Parvb       | -1.2907131     | 0.000000  | 0.000000  |
| Uchl5       | -1.2906329     | 0.000000  | 0.000000  |
| Hunk        | -1.2855301     | 0.000000  | 0.000000  |
| Thrap3      | -1.2846699     | 0.000000  | 0.000000  |
| Odf2        | -1.2834141     | 0.000000  | 0.000000  |
| Tedc1       | -1.2833681     | 0.000000  | 0.000000  |
| Ybx3        | -1.2810631     | 0.000000  | 0.000000  |
| Alg13       | -1.2798782     | 0.000000  | 0.000000  |
| Gm5841      | -1.2797041     | 0.0000017 | 0.000000  |
| Cyp39a1     | -1.2792588     | 0.000000  | 0.000000  |
| A930004J17Rik | -1.2789907 | 0.001261  | 0.00002692|
| Paqr4       | -1.2786124     | 0.000000  | 0.000000  |
| Anp32b      | -1.2748199     | 0.000000  | 0.000000  |
| Vars        | -1.2744722     | 0.000000  | 0.000000  |
| Eps8        | -1.2732668     | 0.000000  | 0.000000  |
| Slf1        | -1.2715996     | 0.000000  | 0.000000  |
| Prdm16      | -1.2658516     | 0.000000  | 0.000000  |
| Dnajc3      | -1.2639504     | 0.000000  | 0.000000  |
| Teof1       | -1.2604584     | 0.000000  | 0.000000  |
| Cenpp       | -1.2570019     | 0.000000  | 0.000000  |
| Cecd88c     | -1.2560564     | 0.000000  | 0.000000  |
| Rad21       | -1.2556611     | 0.000000  | 0.000000  |
| Ube2s       | -1.2549193     | 0.000000  | 0.000000  |
| Foxd2os     | -1.2542571     | 0.0000009 | 0.00000014|
| Mroph2a     | -1.2534542     | 0.0000002 | 0.00000004|
| Zbed3       | -1.2520683     | 0.000000  | 0.000000  |
| Gm4617      | -1.2473962     | 0.000000  | 0.000000  |
| Dc1pp1      | -1.2449474     | 0.000000  | 0.000000  |
| Nup85       | -1.244719      | 0.000000  | 0.000000  |
| Cecd138     | -1.2446733     | 0.0001174 | 0.00002492|
| Rab11fip4   | -1.243218      | 0.000000  | 0.000000  |
| Card14      | -1.2430993     | 0.000000  | 0.000000  |
| Ska2        | -1.2372181     | 0.000000  | 0.000000  |
| Nrm         | -1.2327228     | 0.0000002 | 0.00000002|
| Srtt        | -1.2296633     | 0.000000  | 0.000000  |
| Pfk1        | -1.2293757     | 0.000000  | 0.000000  |
| 2010204K13Rik | -1.229308     | 0.000000  | 0.000000  |
| Gm5898      | -1.2292594     | 0.000000  | 0.000000  |
| Gm9800      | -1.2284225     | 0.000000  | 0.000000  |
| Gene   | Log2FoldChange | p-value   | Bonferroni-corrected p-value |
|--------|----------------|-----------|-----------------------------|
| Rangap1| -1.2256575     | 0.0000000 | 0.0000000                   |
| Ankrd44| -1.2248737     | 0.0000000 | 0.0000000                   |
| 6720489N17Rik | -1.2242665 | 0.0000492 | 0.00000983                  |
| Rasd2  | -1.2238508     | 0.0001161 | 0.00002461                  |
| Insc   | -1.223542      | 0.0000000 | 0.0000000                   |
| Axin2  | -1.2215192     | 0.0000006 | 0.0000009                   |
| Tfdp1  | -1.220881      | 0.0000000 | 0.0000000                   |
| Evc    | -1.2177802     | 0.0000000 | 0.0000000                   |
| Polr3g | -1.2175973     | 0.0000000 | 0.0000000                   |
| Gm5903 | -1.2175243     | 0.0000000 | 0.0000000                   |
| Galk1  | -1.2165457     | 0.0000000 | 0.0000000                   |
| Suv39h2| -1.2161961     | 0.0000000 | 0.0000000                   |
| Piaes  | -1.2158727     | 0.0000000 | 0.0000000                   |
| D130058E05Rik | -1.2151701 | 0.0000000 | 0.0000000                   |
| AU020206| -1.2137479    | 0.0000000 | 0.0000000                   |
| Gm16216| -1.2130903     | 0.0017127 | 0.00045300                  |
| Zfp651 | -1.2055753     | 0.0000000 | 0.0000000                   |
| Epop   | -1.2054813     | 0.0000000 | 0.0000000                   |
| Pent   | -1.2049721     | 0.0000000 | 0.0000000                   |
| Lpetat1| -1.2045146     | 0.0000000 | 0.0000000                   |
| 4930526A20Rik | -1.2025551 | 0.0000071 | 0.0000126                   |
| Idh2   | -1.201506      | 0.0000000 | 0.0000000                   |
| C77080 | -1.2014944     | 0.005002  | 0.0011961                   |
| H3c15  | -1.2005739     | 0.0000155 | 0.00000285                  |
| Ssbp4  | -1.200562      | 0.0000000 | 0.0000000                   |
| Exosc2 | -1.196803      | 0.0000000 | 0.0000000                   |
| Gm4430 | -1.1947201     | 0.002126  | 0.0004711                   |
| Miip   | -1.1942858     | 0.0000000 | 0.0000000                   |
| Scrib  | -1.1925872     | 0.0000000 | 0.0000000                   |
| Bri3bp | -1.1902453     | 0.0000000 | 0.0000000                   |
| Bri3   | -1.1899258     | 0.0000000 | 0.0000000                   |
| Hk2    | -1.1881508     | 0.0000000 | 0.0000000                   |
| Ccedc18| -1.1873121     | 0.0002536 | 0.00005712                  |
| H1f2   | -1.1857038     | 0.0000000 | 0.0000000                   |
| Dhrs2  | -1.1850438     | 0.0000000 | 0.0000000                   |
| Hyls1  | -1.1848636     | 0.0000000 | 0.0000000                   |
| Bsn    | -1.1837534     | 0.0000000 | 0.0000000                   |
| Aif1l  | -1.1780457     | 0.0000000 | 0.0000000                   |
| Zfp382 | -1.1770634     | 0.0000001 | 0.0000001                   |
| Etaa1  | -1.1757215     | 0.0000000 | 0.0000000                   |
| Itga9  | -1.175323      | 0.0000000 | 0.0000000                   |
| Car14  | -1.1736306     | 0.0000000 | 0.0000000                   |
| Gene       | Value 1  | Value 2  | Value 3  |
|------------|---------|---------|---------|
| Tmem50b    | -1,1722466 | 0,0000000 | 0,0000000 |
| Dstyk      | -1,1717213 | 0,0000000 | 0,0000000 |
| Tpgs2      | -1,168591 | 0,0000000 | 0,0000000 |
| Gm26448    | -1,1682897 | 0,0000000 | 0,0000000 |
| Haus5      | -1,1662879 | 0,0002577 | 0,00005811 |
| G2e3       | -1,16546 | 0,0000000 | 0,0000000 |
| Tsen34     | -1,1650226 | 0,0000000 | 0,0000000 |
| Aph1c      | -1,1636941 | 0,0000000 | 0,0000000 |
| Rfc2       | -1,1634602 | 0,0000000 | 0,0000000 |
| Rfwd3      | -1,1624836 | 0,0000000 | 0,0000000 |
| Gm8652     | -1,1621373 | 0,007334 | 0,00018136 |
| Dhrs13     | -1,1601112 | 0,007028 | 0,00017292 |
| Hs3st1     | -1,1580833 | 0,0000000 | 0,0000000 |
| Nin        | -1,1574237 | 0,0000000 | 0,0000000 |
| Tcf3       | -1,1571831 | 0,0000000 | 0,0000000 |
| Siah1b     | -1,1555065 | 0,0000010 | 0,00000016 |
| Csrnp2     | -1,1544645 | 0,0000000 | 0,0000000 |
| Cmtm5      | -1,1544423 | 0,007196 | 0,00017771 |
| Rnf26      | -1,1520139 | 0,0000000 | 0,0000000 |
| Ryr3       | -1,1513524 | 0,0000028 | 0,0000047 |
| Klf15      | -1,1512752 | 0,0000000 | 0,0000000 |
| Gm11246    | -1,1500511 | 0,000102 | 0,0000183 |
| Gnptab     | -1,1491453 | 0,0000000 | 0,0000000 |
| Mipol1     | -1,1477726 | 0,0000000 | 0,0000000 |
| Kit        | -1,1473852 | 0,0000000 | 0,0000000 |
| Kif26a     | -1,1465698 | 0,001646 | 0,0003581 |
| Zw10       | -1,1459843 | 0,0000000 | 0,0000000 |
| Lsm5       | -1,1457486 | 0,0000000 | 0,0000000 |
| Fam111a    | -1,1444437 | 0,0000000 | 0,0000000 |
| Grk6       | -1,1441873 | 0,0000000 | 0,0000000 |
| Fkbp11     | -1,1427024 | 0,0000000 | 0,0000001 |
| Med12l     | -1,1395644 | 0,0000000 | 0,0000000 |
| Evl        | -1,1392006 | 0,0000000 | 0,0000000 |
| Ano3       | -1,1348132 | 0,0000000 | 0,0000000 |
| Hsp90b1    | -1,1318835 | 0,0000000 | 0,0000000 |
| Ephb4      | -1,1302456 | 0,0000000 | 0,0000000 |
| Ppp1r16b   | -1,1300929 | 0,0000000 | 0,0000000 |
| Cfap20     | -1,1291675 | 0,0000000 | 0,0000000 |
| Hpgds      | -1,1291641 | 0,0000000 | 0,0000000 |
| Dixdc1     | -1,1240565 | 0,0000000 | 0,0000000 |
| Pou6f1     | -1,1240087 | 0,0000000 | 0,0000000 |
| Gene       | Zscore  | P-value           | q-value          |
|------------|---------|------------------|-----------------|
| Zmiz2      | -1.121528 | 0.0000000        | 0.0000000       |
| Cpsf6      | -1.1201555 | 0.0000000        | 0.0000000       |
| Adi1       | -1.1192466 | 0.0000000        | 0.0000000       |
| Rfc3       | -1.1192048 | 0.0000000        | 0.0000000       |
| Gm9256     | -1.118874  | 0.0001437        | 0.00003093      |
| Mbd4       | -1.1187781 | 0.0000000        | 0.0000000       |
| Ebp41414b  | -1.1175525 | 0.0000019        | 0.00000031      |
| Ptna       | -1.1173661 | 0.0000000        | 0.0000000       |
| Sms-ps     | -1.116643  | 0.0000000        | 0.0000000       |
| Lpgat1     | -1.1157473 | 0.0000000        | 0.0000000       |
| Mlt6       | -1.1151057 | 0.0000000        | 0.0000000       |
| Tbc1d31    | -1.1149604 | 0.0000000        | 0.0000000       |
| Xndc1      | -1.1140759 | 0.0000000        | 0.0000000       |
| Prim2      | -1.1134768 | 0.0000000        | 0.0000000       |
| L3hypdh    | -1.1107059 | 0.0000000        | 0.0000000       |
| Uaca       | -1.1094839 | 0.0000000        | 0.0000000       |
| Alyref     | -1.1094653 | 0.0000000        | 0.0000000       |
| Prelid2    | -1.1088639 | 0.000026         | 0.0000043       |
| Cdc42ep5   | -1.1073064 | 0.0000000        | 0.0000000       |
| Dennd11    | -1.1056225 | 0.0000000        | 0.0000000       |
| Cdkn2d     | -1.1044749 | 0.0000000        | 0.0000000       |
| Cep295     | -1.1040759 | 0.0000000        | 0.0000000       |
| Chd11      | -1.1021139 | 0.0000000        | 0.0000000       |
| Rappg1     | -1.1006912 | 0.0000000        | 0.0000000       |
| Gm4204     | -1.1004745 | 0.0000000        | 0.0000000       |
| Rtel1      | -1.1002668 | 0.0000000        | 0.0000000       |
| Mphosph9   | -1.0997624 | 0.0000000        | 0.0000000       |
| Rab27a     | -1.0995786 | 0.0000000        | 0.0000000       |
| Pdia4      | -1.0991713 | 0.0000000        | 0.0000000       |
| Mcmbp      | -1.0987098 | 0.0000000        | 0.0000000       |
| Celsr2     | -1.0985377 | 0.0000000        | 0.0000000       |
| Srm        | -1.0983752 | 0.0000000        | 0.0000000       |
| Scml2      | -1.0983454 | 0.011238         | 0.00028687      |
| St6galnac3 | -1.0974567 | 0.0000000        | 0.0000000       |
| Reep4      | -1.0969022 | 0.0000000        | 0.0000000       |
| Cbx3       | -1.095573  | 0.0000000        | 0.0000000       |
| C330018A13Rik | -1.0937059 | 0.0000573        | 0.00001159      |
| Sc1t1      | -1.0936687 | 0.0000001        | 0.0000000       |
| Crec      | -1.0927178 | 0.0000000        | 0.0000000       |
| Mdc1       | -1.0921785 | 0.0000000        | 0.0000000       |
| Zfp395     | -1.0919161 | 0.0000001        | 0.0000000       |
| Gene          | Log2 Fold Change | P-value 1  | P-value 2 |
|---------------|-----------------|-----------|-----------|
| Mbnl3         | 1.0916495       | 0.0000000 | 0.0000000 |
| Ak3M2-ps      | 1.0912183       | 0.0001080 | 0.00002280|
| Gxylt1        | 1.088497        | 0.0000000 | 0.0000000 |
| Ppp5c         | 1.0877707       | 0.0000000 | 0.0000000 |
| Msh2          | 1.0873271       | 0.0000000 | 0.0000000 |
| Myo5a         | 1.0872796       | 0.0000000 | 0.0000000 |
| Telo2         | 1.0872066       | 0.0000000 | 0.0000000 |
| Adams10       | 1.0857418       | 0.0000000 | 0.0000000 |
| L3mbl2        | 1.0845031       | 0.0000000 | 0.0000000 |
| Lrrc4b        | 1.0839927       | 0.0000000 | 0.0000000 |
| Dpy30         | 1.0836161       | 0.0000000 | 0.0000000 |
| Mcm8          | 1.0808227       | 0.0000000 | 0.0000000 |
| Nup107        | 1.0806382       | 0.0000000 | 0.0000000 |
| Hmces         | 1.0804799       | 0.0000000 | 0.0000000 |
| Zc3hav1l      | 1.0799935       | 0.0000000 | 0.0000000 |
| Nup205        | 1.0782937       | 0.0000000 | 0.0000000 |
| Plxnd1        | 1.077397        | 0.0000000 | 0.0000000 |
| Prex2         | 1.0771887       | 0.0000000 | 0.0000000 |
| Snc45a2       | 1.0756319       | 0.0000000 | 0.0000000 |
| Nup37         | 1.0754255       | 0.0000000 | 0.0000000 |
| Rgma          | 1.0752775       | 0.0000000 | 0.0000000 |
| Arhgap10      | 1.0747068       | 0.0000000 | 0.0000000 |
| Sirpa         | 1.074646        | 0.0000000 | 0.0000000 |
| Dcbs          | 1.0722326       | 0.0000000 | 0.0000000 |
| Arrb2         | 1.0721591       | 0.0000000 | 0.0000000 |
| Cyba          | 1.0721098       | 0.0000000 | 0.0000000 |
| Gm5643        | 1.071088        | 0.0018403 | 0.00049018|
| Cln6          | 1.0707426       | 0.0000000 | 0.0000000 |
| Pdia6         | 1.0702522       | 0.0000000 | 0.0000000 |
| Gm10052       | 1.0691454       | 0.0000000 | 0.0000000 |
| Tpcc1         | 1.0685825       | 0.0000000 | 0.0000000 |
| Prps1         | 1.068535        | 0.0000000 | 0.0000000 |
| Rnaseh2a      | 1.0684469       | 0.0000000 | 0.0000000 |
| Gf2h1         | 1.06312         | 0.0000000 | 0.0000000 |
| Srsf4         | 1.0623892       | 0.0000000 | 0.0000000 |
| Zc3hav8       | 1.0584608       | 0.0000000 | 0.0000000 |
| Cnap298       | 1.0582918       | 0.0000000 | 0.0000000 |
| Nup210l       | 1.0572988       | 0.0017713 | 0.00049018|
| Pnn           | 1.0572476       | 0.0000000 | 0.0000000 |
| Palm          | 1.0571799       | 0.0000000 | 0.0000000 |
| 1700019D03Rik  | 1.0571096       | 0.0014655 | 0.00038268|
| Baz1b         | 1.0568089       | 0.0000000 | 0.0000000 |
| Gene     | Log2 Fold Change | p-Value 1  | p-Value 2  |
|----------|-----------------|-----------|-----------|
| Gm6682   | -1.0546043      | 0.0000041 | 0.00000069|
| Gins3    | -1.0544405      | 0.0000000 | 0.00000000|
| Col9a1   | -1.0542262      | 0.0000709 | 0.0001456 |
| Gm6166   | -1.053476       | 0.0000000 | 0.00000000|
| Atm      | -1.0523103      | 0.0000000 | 0.00000000|
| Fgd1     | -1.0500457      | 0.0000000 | 0.00000000|
| Sh3bp1   | -1.0499706      | 0.0000000 | 0.00000000|
| Spcs3    | -1.0493956      | 0.0000709 | 0.00001456|
| Zkscan17 | -1.0486253      | 0.0000000 | 0.00000000|
| Fzr1     | -1.0485424      | 0.0000000 | 0.00000000|
| Fbxo31   | -1.0484582      | 0.0000000 | 0.00000000|
| G0s2     | -1.0478461      | 0.0000000 | 0.00000000|
| Cmc2     | -1.0451193      | 0.0000000 | 0.00000000|
| Stau2    | -1.0446402      | 0.0000000 | 0.00000000|
| 3110082I17Rik | -1.0445583 | 0.0000000 | 0.00000000|
| Nolc1    | -1.0444056      | 0.0000000 | 0.00000000|
| Ttbk1    | -1.0436792      | 0.0000000 | 0.00000000|
| Cfap410  | -1.0423646      | 0.0000000 | 0.00000000|
| Snrpa1   | -1.041913       | 0.0000000 | 0.00000000|
| Ckap2    | -1.0410329      | 0.0000000 | 0.00000000|
| Gm11353  | -1.0402162      | 0.0000410 | 0.00009642|
| Hnrnpab  | -1.0399136      | 0.0000000 | 0.00000000|
| Zik1     | -1.0394104      | 0.0000000 | 0.00000000|
| Gnb11    | -1.0391121      | 0.0000066 | 0.00001115|
| Nfkbib   | -1.0389637      | 0.0000000 | 0.00000000|
| Pgaml-ps2| -1.0367433      | 0.0000000 | 0.00000000|
| Mrpl12   | -1.0367387      | 0.0000000 | 0.00000000|
| Slc7a5   | -1.0365982      | 0.0000000 | 0.00000000|
| Donson   | -1.036301       | 0.0000000 | 0.00000000|
| Gm7846   | -1.033654       | 0.0000006 | 0.00000009|
| Nova1    | -1.033082       | 0.000036  | 0.00000061|
| Elapor2  | -1.0319341      | 0.0000013 | 0.00000020|
| Zmynd19  | -1.030808       | 0.0000000 | 0.00000000|
| Get4     | -1.029791       | 0.0000000 | 0.00000000|
| Sec61a2  | -1.0296645      | 0.0000000 | 0.00000000|
| Nfya     | -1.0295983      | 0.0000000 | 0.00000000|
| Fam53b   | -1.029552       | 0.0000000 | 0.00000000|
| Ncaph2   | -1.0295335      | 0.0000000 | 0.00000000|
| Ddx39a   | -1.0279413      | 0.0000000 | 0.00000000|
| 1700066M21Rik | -1.0269416 | 0.0000001 | 0.00000002|
| Nt5c2    | -1.0239182      | 0.0000000 | 0.00000000|
| Gene   | Score  | FDR   | p-value   |
|--------|--------|-------|-----------|
| Arfge3 | -1.0236564 | 0.0000000 | 0.00000000 |
| Cort   | -1.0235975  | 0.0008348  | 0.00020841 |
| 2700038G22Rik | -1.0231082 | 0.0000192  | 0.0000359  |
| Lsm2   | -1.0226708  | 0.0000000  | 0.00000000 |
| Epb41  | -1.0223414  | 0.0000000  | 0.00000000 |
| Pgap1  | -1.0207285  | 0.0008348  | 0.00020841 |
| Mif-ps4| -1.0205697  | 0.0000000  | 0.00000000 |
| Nap1l1 | -1.0190144  | 0.0000000  | 0.00000000 |
| Stk39  | -1.0179488  | 0.0000000  | 0.00000000 |
| Dnaaf2 | -1.0166116  | 0.0000000  | 0.00000000 |
| Epm2a  | -1.0161448  | 0.0015183  | 0.00039757 |
| Fut10  | -1.0158727  | 0.0000000  | 0.00000000 |
| Lrrc8b | -1.0143428  | 0.0000000  | 0.00000000 |
| 4930503L19Rik | -1.014311  | 0.0000000  | 0.00000000 |
| Sgsm2  | -1.0137992  | 0.0000000  | 0.00000000 |
| Scl9a5 | -1.0134848  | 0.005455   | 0.00013151 |
| Casp8ap2| -1.0131164  | 0.0000000  | 0.00000000 |
| Lmx1b  | -1.0121199  | 0.0000000  | 0.00000000 |
| Rpa1   | -1.0119965  | 0.0000000  | 0.00000000 |
| Orc6   | -1.0116128  | 0.0000000  | 0.00000000 |
| Prag1  | -1.0104798  | 0.0000000  | 0.00000000 |
| Plekha8| -1.0094914  | 0.0000000  | 0.00000000 |
| Smc5   | -1.0086911  | 0.0000000  | 0.00000000 |
| Sae1   | -1.0058299  | 0.0000000  | 0.00000000 |
| Sfpq   | -1.0030329  | 0.0000000  | 0.00000000 |
| Myo1h  | -1.0029867  | 0.005711   | 0.00013816 |
| Myc    | -1.0012896  | 0.0000000  | 0.00000000 |
| Srsf7  | -1.0010466  | 0.0000000  | 0.00000000 |
| Tex30  | -1.0008965  | 0.0000000  | 0.00000000 |
| Dusp8  | 1.00043071 | 0.0000000  | 0.00000001 |
| Zdhhc1 | 1.00063261 | 0.0004801  | 0.00011450 |
| Micall2| 1.00124565 | 0.0000000  | 0.00000002 |
| Tmco6  | 1.00168131 | 0.0003875  | 0.00009078 |
| Myl12a | 1.00294026 | 0.0000000  | 0.00000000 |
| Zwint  | 1.00372494 | 0.0000000  | 0.00000000 |
| Scl35d2| 1.00555842 | 0.000755   | 0.00001559 |
| Jrkl   | 1.00725244 | 0.000108   | 0.00000195 |
| Glid8d1| 1.00812199 | 0.0000000  | 0.00000000 |
| Maff   | 1.00871755 | 0.0000002  | 0.00000003 |
| Tefm   | 1.00942985 | 0.0000000  | 0.00000000 |
| Psme1  | 1.01066735 | 0.0000000  | 0.00000000 |
| Gm7809 | 1.01246776 | 0.0000000  | 0.00000000 |
| Gene       | Value1 | Value2 | Value3 |
|------------|--------|--------|--------|
| Car8       | 1,01629641 | 0,0013296 | 0,00034446 |
| B230354K17Rik | 1,01634553 | 0,0000000 | 0,00000000 |
| Enpp1      | 1,0166091 | 0,0008810 | 0,00000000 |
| E130311K13Rik | 1,01717476 | 0,0000154 | 0,00000000 |
| Coq8a      | 1,01792993 | 0,0000000 | 0,00000000 |
| Hmges1     | 1,0187606 | 0,0000000 | 0,00000000 |
| Snapc5     | 1,01980249 | 0,0000000 | 0,00000000 |
| Snhg15     | 1,02174124 | 0,0000000 | 0,00000000 |
| Eola1      | 1,02449313 | 0,0000000 | 0,00000000 |
| Zfp945     | 1,02579263 | 0,0000000 | 0,00000000 |
| Rcan1      | 1,02605972 | 0,0000000 | 0,00000000 |
| Lrp1       | 1,02473254 | 0,0000000 | 0,00000000 |
| Arhgap28   | 1,02570307 | 0,0000000 | 0,00000000 |
| Nagk       | 1,02579263 | 0,0000000 | 0,00000000 |
| Ccnd2      | 1,0265972 | 0,0000000 | 0,00000000 |
| Tspo       | 1,02668339 | 0,0000000 | 0,00000000 |
| Abca7      | 1,02777739 | 0,0000000 | 0,00000000 |
| 2310039H08Rik | 1,02875202 | 0,0000212 | 0,00004697 |
| Gale       | 1,0291022 | 0,0000000 | 0,00000000 |
| Crabp2     | 1,0291022 | 0,0000000 | 0,00000000 |
| Qsox1      | 1,0291022 | 0,0000000 | 0,00000000 |
| Ctxn1      | 1,0291022 | 0,0000000 | 0,00000000 |
| Speg       | 1,0291022 | 0,0000000 | 0,00000000 |
| Stat3      | 1,03123086 | 0,0000000 | 0,00000000 |
| 3000002C10Rik | 1,0319459 | 0,0000402 | 0,00009452 |
| Klf6       | 1,03241875 | 0,0000000 | 0,00000000 |
| Pdph1      | 1,03420544 | 0,0000000 | 0,00000000 |
| Oaz2       | 1,03433967 | 0,0000000 | 0,00000000 |
| Lipa       | 1,03494437 | 0,0000000 | 0,00000000 |
| Ston1      | 1,03706152 | 0,0000000 | 0,00000000 |
| Runx1      | 1,03720356 | 0,0000000 | 0,00000000 |
| Rmdn2      | 1,03805356 | 0,0000000 | 0,00000000 |
| Klr2       | 1,03974083 | 0,0000267 | 0,00006047 |
| Zswim6     | 1,04005295 | 0,0000000 | 0,00000000 |
| Zbtb38     | 1,04033607 | 0,0000000 | 0,00000000 |
| Psmb10     | 1,04085487 | 0,0000000 | 0,00000000 |
| Kctd21     | 1,04119582 | 0,0015294 | 0,00000000 |
| Col20a1    | 1,04160583 | 0,0000191 | 0,00000000 |
| Decr2      | 1,04162029 | 0,0000000 | 0,00000000 |
| Tapbpl     | 1,04236044 | 0,0000000 | 0,00000000 |
| Tgfb2      | 1,04271052 | 0,0000000 | 0,00000000 |
| Tpm1       | 1,04329331 | 0,0000000 | 0,00000000 |
| Gene   | Log2FC | p-value1 | p-value2 |
|--------|--------|----------|----------|
| Ccdc73 | 1.04330855 | 0.0004311 | 0.0010171 |
| Zfp119b | 1.0447741 | 0.0001152 | 0.00002440 |
| F8a    | 1.04514077 | 0.0000008 | 0.00000013 |
| Cfap157 | 1.0451841 | 0.0011030 | 0.00028110 |
| Hint2  | 1.05067008 | 0.0000001 | 0.00000001 |
| Efcab2 | 1.0533849 | 0.0000007 | 0.00000011 |
| Deaf8l | 1.05416709 | 0.0000000 | 0.00000000 |
| Btg1   | 1.05429467 | 0.0000000 | 0.00000000 |
| Hpcal1 | 1.05704661 | 0.0000000 | 0.00000000 |
| Serpinb6a | 1.05714632 | 0.0000000 | 0.00000000 |
| Rhod   | 1.05794384 | 0.0000000 | 0.00000000 |
| Gm6222 | 1.05886322 | 0.0000664 | 0.00001356 |
| Slc35f5 | 1.06012651 | 0.0000000 | 0.00000000 |
| Tpm4   | 1.06332669 | 0.0000000 | 0.00000000 |
| Lnpep  | 1.06457401 | 0.0000000 | 0.00000000 |
| Smim1011 | 1.06525809 | 0.0000000 | 0.00000000 |
| Myd88  | 1.0661068  | 0.0000000 | 0.00000000 |
| Ppp1r18 | 1.06632563 | 0.0000000 | 0.00000000 |
| Pla2r1 | 1.06636274 | 0.0000000 | 0.00000000 |
| Lasp1  | 1.06738818 | 0.0000000 | 0.00000000 |
| Zfp703 | 1.07032193 | 0.0000000 | 0.00000000 |
| Dtna   | 1.07043464 | 0.0000000 | 0.00000000 |
| Lhfpl2 | 1.071938    | 0.0000000 | 0.00000000 |
| Cd9    | 1.07207248 | 0.0000000 | 0.00000000 |
| Htatip2 | 1.07209617 | 0.0000000 | 0.00000000 |
| Ddit4  | 1.07216476 | 0.0000000 | 0.00000000 |
| Pkpp6  | 1.0738764  | 0.0000000 | 0.00000000 |
| Zfp874b | 1.07698263 | 0.0000000 | 0.00000000 |
| Calhm5 | 1.07733699 | 0.0000000 | 0.00000000 |
| Creb3l1 | 1.07768461 | 0.0003229 | 0.00007446 |
| Acox3  | 1.07796575 | 0.0000000 | 0.00000000 |
| Zbtb4  | 1.08080663 | 0.0000000 | 0.00000000 |
| Acot2  | 1.08184632 | 0.0000000 | 0.00000000 |
| Chpf2  | 1.08212951 | 0.0000000 | 0.00000000 |
| Cryab  | 1.08219054 | 0.0000000 | 0.00000000 |
| Gent1  | 1.08290865 | 0.0000000 | 0.00000000 |
| Pggghg | 1.08340564 | 0.0000000 | 0.00000000 |
| Sfxn5  | 1.08371551 | 0.0000000 | 0.00000000 |
| Gpr146 | 1.08457316 | 0.0000000 | 0.00000000 |
| Snhg8  | 1.0868262  | 0.0000000 | 0.00000000 |
| S100a1 | 1.08704322 | 0.0000000 | 0.00000000 |
| Gene       | Value          | P-value1 | P-value2 |
|------------|----------------|----------|----------|
| Ctsb       | 1.08753713     | 0.00000000 | 0.00000000 |
| Gstm5      | 1.08777863     | 0.00000000 | 0.00000000 |
| Rps6ka3    | 1.08779084     | 0.00000000 | 0.00000000 |
| Neill      | 1.08821057     | 0.00001550 | 0.00000286 |
| Nsdhl      | 1.08858752     | 0.00000000 | 0.00000000 |
| Lpin1      | 1.08901686     | 0.00016110 | 0.00003497 |
| Tpp1       | 1.08912418     | 0.00000000 | 0.00000000 |
| Pigm       | 1.09114101     | 0.00000000 | 0.00000000 |
| Gm10080    | 1.09170499     | 0.00000000 | 0.00000000 |
| Lztfl1     | 1.09178077     | 0.00000000 | 0.00000000 |
| Psrcl      | 1.09179473     | 0.00000000 | 0.00000000 |
| Glib1      | 1.09384650     | 0.00137270 | 0.00035648 |
| Slec25a24  | 1.09573279     | 0.00000000 | 0.00000000 |
| Snord104   | 1.09614843     | 0.00000000 | 0.00000000 |
| Beas3      | 1.09672051     | 0.00000000 | 0.00000000 |
| 1700086O06Rik | 1.09772587    | 0.00005410 | 0.00010900 |
| Gstt3      | 1.09833824     | 0.00004420 | 0.00000876 |
| Lats2      | 1.10023316     | 0.00000000 | 0.00000000 |
| Gpr153     | 1.10081164     | 0.00002240 | 0.00004210 |
| Skil       | 1.10085851     | 0.00000000 | 0.00000000 |
| Cpeb2      | 1.10245893     | 0.00000000 | 0.00000000 |
| Orai2      | 1.10306516     | 0.00000000 | 0.00000000 |
| Cd151      | 1.10503091     | 0.00000000 | 0.00000000 |
| Rtn4       | 1.10509493     | 0.00000000 | 0.00000000 |
| Rtn2       | 1.10735865     | 0.00000230 | 0.00000370 |
| Gpcpd1     | 1.10853683     | 0.00000000 | 0.00000000 |
| Rock2      | 1.10915070     | 0.00000000 | 0.00000000 |
| C430049B03Rik | 1.11026451   | 0.00073980 | 0.00018310 |
| Dnajb2     | 1.11078071     | 0.00000000 | 0.00000000 |
| Btbd19     | 1.11270185     | 0.00000000 | 0.00000000 |
| Plxna3     | 1.11333169     | 0.00004880 | 0.00000975 |
| Crip1      | 1.11522434     | 0.00120660 | 0.00031026 |
| Hint3      | 1.11538636     | 0.00002480 | 0.00000471 |
| Prorsd1    | 1.11614128     | 0.00000000 | 0.00000000 |
| Tte30b     | 1.11702588     | 0.00003600 | 0.00000703 |
| Wdr5b      | 1.11743441     | 0.00005150 | 0.00001034 |
| Pmp22      | 1.11768365     | 0.00000000 | 0.00000000 |
| Pycr1      | 1.11906522     | 0.00000250 | 0.00000420 |
| Cd81       | 1.11932684     | 0.00000000 | 0.00000000 |
| Boc        | 1.121744       | 0.00000000 | 0.00000000 |
| Jade1      | 1.12180441     | 0.00000000 | 0.00000000 |
| Basp1      | 1.12189754     | 0.00000000 | 0.00000000 |
| Gene          | Log2Ratio | p-value 1    | p-value 2    |
|--------------|-----------|-------------|-------------|
| Plec         | 1.1229126 | 0.000584    | 0.0001184   |
| Tmem43       | 1.12257478| 0.0000000   | 0.0000000   |
| Bphl         | 1.12262711| 0.0000000   | 0.0000000   |
| Gm38317      | 1.12274537| 0.0004195   | 0.00009879  |
| Pck2         | 1.1233986 | 0.0000000   | 0.0000000   |
| 4930429F24Rik| 1.12381597| 0.0000103   | 0.0000185   |
| Gnb4         | 1.12535207| 0.0000000   | 0.0000000   |
| Arsg         | 1.12582422| 0.0000000   | 0.0000000   |
| Rabac1       | 1.1263379 | 0.0000000   | 0.0000000   |
| Mdm2         | 1.12772612| 0.0000000   | 0.0000000   |
| Ccndbp1      | 1.12800638| 0.0000000   | 0.0000000   |
| Lrrec24      | 1.12887975| 0.0000000   | 0.0000000   |
| 1600014C10Rik| 1.12998588| 0.0000000   | 0.0000000   |
| Gm19426      | 1.13011243| 0.0000513   | 0.0001029   |
| Coa4         | 1.13025153| 0.000104    | 0.0000188   |
| Cyp26b1      | 1.13044704| 0.0000000   | 0.0000000   |
| Rhobtb3      | 1.13160179| 0.0000000   | 0.0000000   |
| Atp6v0a4     | 1.13372675| 0.000038    | 0.0000065   |
| Dnase111     | 1.13445414| 0.0001942   | 0.0004271   |
| Usp1         | 1.13592178| 0.000230    | 0.0000434   |
| E430018J23Rik| 1.13600302| 0.0010400   | 0.00026398  |
| Gpsm3        | 1.13618376| 0.0000000   | 0.0000000   |
| Tnfrsf10b    | 1.13712324| 0.0000000   | 0.0000000   |
| Sdr42e1      | 1.13764225| 0.0004515   | 0.00010710  |
| Fam102a      | 1.13838533| 0.0000000   | 0.0000000   |
| Ier5         | 1.13983935| 0.0000000   | 0.0000000   |
| Gm4875       | 1.14097287| 0.0002947   | 0.00006741  |
| Gsk1b        | 1.14439433| 0.0000000   | 0.0000000   |
| Arhgap26     | 1.14619896| 0.0000000   | 0.0000000   |
| Lifr         | 1.14654338| 0.0000070   | 0.0000124   |
| Itgb5        | 1.14731328| 0.0000000   | 0.0000000   |
| Hexim1       | 1.14888454| 0.0000000   | 0.0000000   |
| Usp27x       | 1.14974318| 0.0000012   | 0.0000019   |
| Wbp1         | 1.15315031| 0.0000000   | 0.0000000   |
| Trappc2      | 1.15333379| 0.0000051   | 0.0000089   |
| Tram111      | 1.15416093| 0.0000008   | 0.0000013   |
| Tnfaip3      | 1.15449223| 0.0010230   | 0.00025943  |
| Zbtb26       | 1.15555203| 0.0000000   | 0.0000000   |
| Tmem176a     | 1.15696274| 0.0000000   | 0.0000000   |
| Rcn3         | 1.15912838| 0.0002097   | 0.0000393   |
| Gm29083      | 1.15991768| 0.0018252   | 0.00048572  |
| Ubald1       | 1.16185937| 0.0000000   | 0.0000000   |
| Gene         | Log2 Fold Change | P-value 1 | P-value 2 |
|-------------|-----------------|-----------|-----------|
| Relb        | 1.16235881      | 0.00000000| 0.00000000|
| Plaat3      | 1.16566255      | 0.00000000| 0.00000000|
| Prokr1      | 1.16624303      | 0.00000000| 0.00000000|
| Zfp874a     | 1.16657049      | 0.00000000| 0.00000000|
| Gstm2       | 1.16770141      | 0.00000000| 0.00000000|
| Slec5a1     | 1.1682268       | 0.0005946  | 0.00014438|
| Dubr        | 1.16982677      | 0.00000000| 0.00000000|
| E130317F20Rik| 1.17008169     | 0.0000138  | 0.00000253|
| C1rl        | 1.17382055      | 0.00000000| 0.00000000|
| Atxn1       | 1.17471135      | 0.00000000| 0.00000000|
| Slec15a2    | 1.17524899      | 0.00000000| 0.00000000|
| Gpm6b       | 1.17646433      | 0.000620   | 0.0001263  |
| Usp20       | 1.17692282      | 0.00000000| 0.00000000|
| Csf2ra      | 1.1784671       | 0.0000261  | 0.0000499  |
| Dpy19I3     | 1.17910268      | 0.00000000| 0.00000000|
| Gm6665      | 1.18000835      | 0.00000000| 0.00000000|
| Lpp         | 1.18084114      | 0.00000000| 0.00000000|
| Qpctl       | 1.18111796      | 0.00000000| 0.00000000|
| Rdh5        | 1.18269855      | 0.001371   | 0.0002940  |
| Vim         | 1.18420154      | 0.00000000| 0.00000000|
| Loxl2       | 1.18683843      | 0.0000074  | 0.0000131  |
| Zfp57       | 1.18935549      | 0.0000005  | 0.0000008  |
| H2bc21      | 1.18967118      | 0.00000000| 0.00000000|
| Klf2        | 1.19043808      | 0.0000580  | 0.00001174|
| Camk2d      | 1.19067404      | 0.00000000| 0.00000000|
| Vgll3       | 1.19154621      | 0.00000000| 0.00000000|
| Cpeb3       | 1.19187274      | 0.00000000| 0.00000000|
| Adamts13    | 1.19320239      | 0.003698   | 0.0008623  |
| Mcts2       | 1.19333791      | 0.00000000| 0.00000000|
| Serf1       | 1.19351897      | 0.00000000| 0.00000000|
| Trim7       | 1.19521632      | 0.0000456  | 0.00000905|
| Otub2       | 1.19742576      | 0.00000000| 0.00000000|
| R74862      | 1.19862267      | 0.0000007  | 0.0000011  |
| Ache        | 1.20175939      | 0.0000040  | 0.0000067  |
| Atf3        | 1.20324056      | 0.00000000| 0.00000000|
| 2900041M22Rik| 1.20549074   | 0.0002763  | 0.00006275|
| Pedhb5      | 1.20697815      | 0.0000072  | 0.00000127|
| Aldh1a3     | 1.20760389      | 0.00000000| 0.00000000|
| Pedhb17     | 1.20773071      | 0.000090   | 0.0000161  |
| Klhl29      | 1.21031299      | 0.00000000| 0.00000000|
| Khk         | 1.21046553      | 0.00000000| 0.00000000|
| Alpk1       | 1.21117383      | 0.0000002  | 0.0000003  |
| Gene      | Ratio  | Exp Val 1 | Exp Val 2 |
|-----------|--------|-----------|-----------|
| Inppl1    | 1.21387036 | 0.00000000 | 0.00000000 |
| Coq10b    | 1.21608954 | 0.00000000 | 0.00000000 |
| Wipf3     | 1.21763812 | 0.00000000 | 0.00000000 |
| Pik3ip1   | 1.21997299 | 0.00009810 | 0.00002059 |
| Klf9      | 1.22059256 | 0.00000000 | 0.00000000 |
| Csrnp1    | 1.22099908 | 0.00000000 | 0.00000000 |
| Fars2     | 1.22155139 | 0.00000000 | 0.00000000 |
| Rab39b    | 1.22168976 | 0.00000000 | 0.00000000 |
| Usp11     | 1.22231824 | 0.00000000 | 0.00000000 |
| Nat9      | 1.22283912 | 0.00000000 | 0.00000000 |
| Acbd4     | 1.22299971 | 0.00000000 | 0.00000000 |
| Itm2b     | 1.22420427 | 0.00000000 | 0.00000000 |
| Cpm       | 1.22633735 | 0.00000000 | 0.00000000 |
| Nfil3     | 1.22763325 | 0.00000000 | 0.00000000 |
| Pdrg1     | 1.22835641 | 0.00000000 | 0.00000000 |
| Hap1      | 1.22858040 | 0.00000000 | 0.00000000 |
| Inafm2    | 1.23231840 | 0.00000000 | 0.00000000 |
| Casq2     | 1.23359095 | 0.00002738 | 0.00006217 |
| Mrsr1     | 1.23402460 | 0.00000000 | 0.00000000 |
| Gstk1     | 1.23453843 | 0.00000000 | 0.00000000 |
| Erap1     | 1.23501457 | 0.00000000 | 0.00000000 |
| Exd1      | 1.23569311 | 0.00127250 | 0.00032845 |
| Plekhn1   | 1.23643386 | 0.00183700 | 0.00048919 |
| Flna      | 1.23700614 | 0.00000000 | 0.00000000 |
| Mob3a     | 1.23827742 | 0.00006180 | 0.00001256 |
| Crem      | 1.23910759 | 0.00000000 | 0.00000000 |
| Mrps6     | 1.24107088 | 0.00000000 | 0.00000000 |
| Sat2      | 1.24135971 | 0.00032727 | 0.00006364 |
| Smim14    | 1.24146991 | 0.00000000 | 0.00000000 |
| Ckb       | 1.24153222 | 0.00000000 | 0.00000000 |
| Marchf3   | 1.24215008 | 0.00091360 | 0.00022935 |
| Ahr       | 1.24409915 | 0.00000000 | 0.00000000 |
| Cyld      | 1.24412638 | 0.00000000 | 0.00000000 |
| Dhrs1     | 1.24639561 | 0.00000000 | 0.00000000 |
| Tmem198b  | 1.24720356 | 0.00000000 | 0.00000000 |
| Asah2     | 1.24756673 | 0.00000000 | 0.00000000 |
| Lrp11     | 1.24759999 | 0.00000000 | 0.00000000 |
| Pigp      | 1.24766926 | 0.00000000 | 0.00000000 |
| Mertk     | 1.24830768 | 0.00000464 | 0.00000078 |
| Gm10825   | 1.24928516 | 0.00002102 | 0.00000035 |
| Soga3     | 1.24936894 | 0.00021350 | 0.00004735 |
| Gene      | Value 1   | Value 2   | Value 3   | Value 4   |
|-----------|-----------|-----------|-----------|-----------|
| Trmt12    | 1,25042685| 0,0000000 | 0,0000000 |           |
| Dock8     | 1,25274455| 0,0000000 | 0,0000000 |           |
| Cyp2u1    | 1,2527853 | 0,0000000 | 0,0000000 |           |
| Cirbp     | 1,25323395| 0,0000000 | 0,0000000 |           |
| Slc44a3   | 1,25896043| 0,0000000 | 0,0000000 |           |
| Gxylt2    | 1,26084543| 0,0000000 | 0,0000000 |           |
| Cldn12    | 1,2622195 | 0,0000000 | 0,0000000 |           |
| Aff1      | 1,26472449| 0,0000000 | 0,0000000 |           |
| A730017L22Rik | 1,26485198 | 0,0000000 | 0,0000000 |           |
| Bbs10     | 1,26596091| 0,0000000 | 0,0000000 |           |
| Eva1c     | 1,26633663| 0,0000000 | 0,0000000 |           |
| P3h2      | 1,26666979| 0,0000000 | 0,0000000 |           |
| Slc10a3   | 1,26736053| 0,0000000 | 0,0000000 |           |
| Etv5      | 1,26746085| 0,0000000 | 0,0000000 |           |
| Pxm4      | 1,26782576| 0,0000000 | 0,0000000 |           |
| Acad10    | 1,26825809| 0,0000000 | 0,0000000 |           |
| Sesn2     | 1,26882939| 0,0000000 | 0,0000000 |           |
| 2010320M18Rik | 1,26896126 | 0,0000000 | 0,0000000 |           |
| Pgam2     | 1,26935369| 0,0000000 | 0,0000000 |           |
| Mcam      | 1,27018887| 0,0000000 | 0,0000000 |           |
| Pthr1     | 1,2717537 | 0,0000000 | 0,0000000 |           |
| Shisa4    | 1,27309814| 0,0000000 | 0,0000000 |           |
| Pcx       | 1,27396053| 0,0000000 | 0,0000000 |           |
| Gm37352   | 1,27430054| 0,0000000 | 0,0000000 |           |
| Anxa11    | 1,27464085| 0,0000000 | 0,0000000 |           |
| Trim45    | 1,27642804| 0,0000000 | 0,0000000 |           |
| Exoc3l4   | 1,28102042| 0,0000000 | 0,0000000 |           |
| Tdrd7     | 1,2821395 | 0,0000000 | 0,0000000 |           |
| Tspan17   | 1,28380394| 0,0000000 | 0,0000000 |           |
| Ebf4      | 1,2846221 | 0,0007723 | 0,00019187|           |
| Pde5a     | 1,28541889| 0,0000000 | 0,0000000 |           |
| Noct      | 1,28694001| 0,0000000 | 0,0000000 |           |
| Idi1-ps1  | 1,28746444| 0,0000000 | 0,0000000 |           |
| Kif6      | 1,29213466| 0,0000000 | 0,0000000 |           |
| Zscan2    | 1,29288847| 0,0000000 | 0,0000000 |           |
| Cdkl2     | 1,29306477| 0,0000000 | 0,0000000 |           |
| Rims2     | 1,29333593| 0,0000000 | 0,0000000 |           |
| Coll11a1  | 1,29612935| 0,0016826 | 0,00044430|           |
| Acadvl    | 1,29615982| 0,0000000 | 0,0000000 |           |
| Tm7sf2    | 1,29618043| 0,000058  | 0,0000102 |           |
| Avpi1     | 1,29778411| 0,0000000 | 0,0000000 |           |
| Gene       | Log2 Fold Change | P Value | Adj. P Value |
|------------|-----------------|---------|--------------|
| Aamdc      | 1.29913364      | 0.0000000 | 0.00000000   |
| Barl1      | 1.29924591      | 0.0000000 | 0.00000000   |
| Gm572      | 1.2994321       | 0.0008765 | 0.0021945    |
| Ly6g5c     | 1.30294933      | 0.0004184 | 0.00009851   |
| Pttg1      | 1.30327608      | 0.0000000 | 0.00000000   |
| Ehd4       | 1.30603795      | 0.0000000 | 0.00000000   |
| 0610038B21Rik | 1.30684865 | 0.0008765 | 0.0021945 |
| Slc9a9     | 1.30852909      | 0.0000000 | 0.00000000   |
| Lancl1     | 1.30914501      | 0.0000000 | 0.00000000   |
| Carmn      | 1.31061479      | 0.0016978 | 0.00044864   |
| Nuak1      | 1.31116836      | 0.0000000 | 0.00000000   |
| Alcam      | 1.31304602      | 0.0000000 | 0.00000000   |
| Sh3tc1     | 1.31306519      | 0.0009801 | 0.00024746   |
| Il3ra1     | 1.31405215      | 0.0000000 | 0.00000000   |
| Blcapi     | 1.31499784      | 0.0000000 | 0.00000000   |
| Kcnd1      | 1.31523696      | 0.0001112 | 0.0000203    |
| Unc93b1    | 1.31533458      | 0.0000000 | 0.00000000   |
| Mmd        | 1.31616757      | 0.0000000 | 0.00000000   |
| Ctsl       | 1.31657628      | 0.0000000 | 0.00000000   |
| Dynnt1b    | 1.31774326      | 0.0000000 | 0.00000000   |
| Hspa4l     | 1.317884        | 0.0000000 | 0.00000000   |
| Taf9b      | 1.31852936      | 0.0000000 | 0.00000000   |
| Zcwpw1     | 1.31858366      | 0.0000719 | 0.00001479   |
| Tafa5      | 1.31862679      | 0.0002222 | 0.0000418    |
| Map7       | 1.32017794      | 0.0002429 | 0.00005442   |
| Hbegf      | 1.3225787       | 0.0000001 | 0.00000001   |
| Ubash3b    | 1.32328209      | 0.0000000 | 0.00000000   |
| Ehd2       | 1.32334609      | 0.0002658 | 0.00006014   |
| Tnrc18     | 1.32347996      | 0.0000000 | 0.00000000   |
| Yjefn3     | 1.32546638      | 0.0000001 | 0.00000001   |
| Id3        | 1.32670964      | 0.0000000 | 0.00000000   |
| Gm10863    | 1.32896108      | 0.0000000 | 0.00000000   |
| 5930430L01Rik | 1.32996699 | 0.0005360 | 0.00012895 |
| Spaar      | 1.3301941       | 0.0003674 | 0.00008556   |
| Acad11     | 1.33085667      | 0.0000000 | 0.00000000   |
| Pld3       | 1.33135891      | 0.0000000 | 0.00000000   |
| Hspa2      | 1.33174934      | 0.0000000 | 0.00000000   |
| Crebl2     | 1.33297753      | 0.0000000 | 0.00000000   |
| 1600012H06Rik | 1.33300704 | 0.0000000 | 0.00000000 |
| F3         | 1.33316217      | 0.0000000 | 0.00000000   |
| Nudt18     | 1.33366761      | 0.0000000 | 0.00000000   |
| Gene          | Value1  | Value2   | Value3   |
|--------------|---------|----------|----------|
| 1110032A03Rik| 1,33438124 | 0,0000000 | 0,0000000 |
| Crebrf       | 1,33590116 | 0,0000000 | 0,0000000 |
| Acyp1        | 1,33678948 | 0,0000000 | 0,0000000 |
| Dusp6        | 1,33821057 | 0,0000000 | 0,0000000 |
| 1810024B03Rik| 1,33852789 | 0,0000099 | 0,00000178 |
| Dlg4         | 1,33870583 | 0,0000000 | 0,0000000 |
| Spry4        | 1,34294174 | 0,0000000 | 0,0000000 |
| Tmem80       | 1,34428747 | 0,0000000 | 0,0000000 |
| Ntng2        | 1,3443916  | 0,0017187 | 0,00045475 |
| Pakap        | 1,34916681 | 0,0002999 | 0,0000576 |
| Tmtc2        | 1,34960638 | 0,000031  | 0,0000051 |
| Cyb5r3       | 1,35034637 | 0,0000000 | 0,0000000 |
| Gm9791       | 1,35046231 | 0,0000038 | 0,0000064 |
| Wrn          | 1,35077483 | 0,0000000 | 0,0000000 |
| Rrm2b        | 1,35390315 | 0,0000000 | 0,0000000 |
| Ype14        | 1,3554107  | 0,0000004 | 0,0000006 |
| Duox1        | 1,35634509 | 0,0000018 | 0,0000030 |
| Cyb5d2       | 1,35764632 | 0,0000000 | 0,0000000 |
| Daam2        | 1,35778873 | 0,0000000 | 0,0000000 |
| Ppp1r14c     | 1,35843235 | 0,0000022 | 0,0000035 |
| Tmem230      | 1,3587987  | 0,0000000 | 0,0000000 |
| Myrfl        | 1,36240769 | 0,0000138 | 0,00004743 |
| Anxa7        | 1,3626737  | 0,0000000 | 0,0000000 |
| Fam234a      | 1,36307605 | 0,0000000 | 0,0000000 |
| 4930556M19Rik| 1,36506769 | 0,0001174 | 0,0002495 |
| Gdi1         | 1,36715015 | 0,0000000 | 0,0000000 |
| Rnh1         | 1,36870694 | 0,0000000 | 0,0000000 |
| Thnsl2       | 1,36912253 | 0,000005  | 0,0000008 |
| Kctd12       | 1,3708295  | 0,0000000 | 0,0000000 |
| Mageh1       | 1,37085239 | 0,0000006 | 0,0000009 |
| Ptp4a3       | 1,37125095 | 0,0000000 | 0,0000000 |
| Gsta1        | 1,37250769 | 0,0000000 | 0,0000000 |
| Akr1b8       | 1,37275654 | 0,0000000 | 0,0000000 |
| Zfp365       | 1,37302956 | 0,0000754 | 0,00001555 |
| Zyx          | 1,37450647 | 0,0000000 | 0,0000000 |
| Pomp         | 1,37505744 | 0,0014598 | 0,00038098 |
| 5730471H19Rik| 1,37516701 | 0,0000001 | 0,0000001 |
| Fam160a1     | 1,37807469 | 0,0000107 | 0,0000192 |
| Asic3        | 1,37855986 | 0,0003031 | 0,00006947 |
| Gm38391      | 1,3789155  | 0,0000067 | 0,0000118 |
| Gm9522       | 1,38044279 | 0,0006941 | 0,00017055 |
| Myl6         | 1,38134086 | 0,0000000 | 0,0000000 |
| Gene      | Fold Change | P value 1 | P value 2 |
|-----------|-------------|-----------|-----------|
| Cavin1    | 1.3827991   | 0.0000000 | 0.0000000 |
| Cx3cl1    | 1.38346349  | 0.0000000 | 0.0000000 |
| Gm18609   | 1.38671595  | 0.000636   | 0.0001297 |
| Dstn      | 1.3875504   | 0.0000000 | 0.0000000 |
| Bbc3      | 1.387654    | 0.0000000 | 0.0000000 |
| CITED2    | 1.38801386  | 0.0000000 | 0.0000000 |
| Bloc1s6   | 1.38997691  | 0.0000000 | 0.0000000 |
| L1cam     | 1.39198369  | 0.0000000 | 0.0000000 |
| NMI       | 1.39287214  | 0.0000000 | 0.0000000 |
| Srnx1     | 1.39341551  | 0.0000000 | 0.0000000 |
| Trib3     | 1.3935769   | 0.0000000 | 0.0000000 |
| Klhdc7a   | 1.39475526  | 0.003145   | 0.0007230 |
| 1700052K11Rik | 1.394844 | 0.000502   | 0.0001007 |
| Capn1     | 1.39522868  | 0.0000000 | 0.0000000 |
| Fbxl20    | 1.39548905  | 0.0000000 | 0.0000000 |
| Arid5a    | 1.39581871  | 0.0000000 | 0.0000000 |
| Fzd5      | 1.39604642  | 0.0000000 | 0.0000000 |
| Morrbid   | 1.39754317  | 0.0000000 | 0.0000000 |
| Pdzd7     | 1.39831672  | 0.0000000 | 0.0000000 |
| H1f0      | 1.39979796  | 0.0000000 | 0.0000000 |
| Arli11    | 1.40133659  | 0.0000000 | 0.0000000 |
| Carhsp1   | 1.40189705  | 0.0000000 | 0.0000000 |
| Cspg4     | 1.40215584  | 0.0000000 | 0.0000000 |
| Fam71f1   | 1.40257043  | 0.0000000 | 0.0000000 |
| Adar      | 1.40343106  | 0.0000000 | 0.0000000 |
| Snap47    | 1.40620119  | 0.0000000 | 0.0000000 |
| Slc25a1   | 1.40705003  | 0.0000000 | 0.0000000 |
| Sfn       | 1.4075629   | 0.0000000 | 0.0000000 |
| Nox4      | 1.40940856  | 0.0000000 | 0.0000000 |
| Gm45495   | 1.41003041  | 0.0008277 | 0.00020653 |
| Larp1b    | 1.41144621  | 0.0000000 | 0.0000000 |
| Pak6      | 1.41313708  | 0.000408   | 0.0000803 |
| Cdc42ep1  | 1.41501625  | 0.0000000 | 0.0000000 |
| Itgb3     | 1.4166197   | 0.0000000 | 0.0000000 |
| Tmem203   | 1.41734392  | 0.0006975 | 0.00017149 |
| Rnasel    | 1.41781535  | 0.0000000 | 0.0000000 |
| 1500015A07Rik | 1.41886044 | 0.0000039 | 0.0000066 |
| Cyb561    | 1.42032075  | 0.0003170 | 0.00007294 |
| Zfp467    | 1.4251473   | 0.0000000 | 0.0000000 |
| Eif2ak2   | 1.42678687  | 0.0000000 | 0.0000000 |
| Pyurf     | 1.42773813  | 0.0000000 | 0.0000000 |
| Tmem14a   | 1.42910566  | 0.0000000 | 0.0000000 |
| Gene       | Log2 Fold Change | P-value 1  | P-value 2  |
|------------|-----------------|-----------|-----------|
| Jak3       | 1.42910575      | 0.0000042 | 0.0000071 |
| Shh        | 1.4310155       | 0.0000000 | 0.0000000 |
| Eno2       | 1.43335289      | 0.0000000 | 0.0000000 |
| Gm28809    | 1.43446414      | 0.0000001 | 0.0000002 |
| Pkia       | 1.43515654      | 0.0000000 | 0.0000000 |
| Tnfaip2    | 1.4354219       | 0.0000000 | 0.0000000 |
| Cyp4f17    | 1.43685109      | 0.0000031 | 0.0000052 |
| Hacl1      | 1.43689077      | 0.0000000 | 0.0000000 |
| Zc2hc1a    | 1.4376408       | 0.0000000 | 0.0000000 |
| Aldoc      | 1.43865575      | 0.0000000 | 0.0000000 |
| Macrod1    | 1.4381545       | 0.0000000 | 0.0000000 |
| Large1     | 1.43847709      | 0.0000000 | 0.0000000 |
| Cyb561a3   | 1.4391793       | 0.0000000 | 0.0000001 |
| Zbed5      | 1.44005474      | 0.0001595 | 0.0000345 |
| Lrre5l     | 1.4410366       | 0.0000000 | 0.0000000 |
| Dlx6os1    | 1.44197051      | 0.0000000 | 0.0000000 |
| Tmem35b    | 1.44319599      | 0.0000239 | 0.0000045 |
| Nalp1      | 1.44324327      | 0.0000000 | 0.0000000 |
| 4921531C22Rik | 1.44417573   | 0.0000020 | 0.0000033 |
| Prob1      | 1.44515656      | 0.0001735 | 0.0000378 |
| Gabral1    | 1.4520923       | 0.0007734 | 0.0001922 |
| Gm13067    | 1.4559745       | 0.0003779 | 0.0000882 |
| G6pdx      | 1.4562960       | 0.0000000 | 0.0000000 |
| Rb1        | 1.4565192       | 0.0000000 | 0.0000000 |
| Mylk       | 1.45802208      | 0.0000000 | 0.0000000 |
| Gstm4      | 1.46223668      | 0.0000000 | 0.0000000 |
| Gm42778    | 1.46300888      | 0.0007267 | 0.0001796 |
| 2610306M01Rik | 1.46362201   | 0.0000000 | 0.0000000 |
| Kyat1      | 1.46438903      | 0.0000000 | 0.0000000 |
| Cavin2     | 1.46494955      | 0.0000000 | 0.0000000 |
| Akr1b3     | 1.4653992       | 0.0000000 | 0.0000000 |
| Ctnnal1    | 1.4683331       | 0.0000000 | 0.0000000 |
| 2810013P06Rik | 1.46917065   | 0.0000000 | 0.0000000 |
| Tmem220    | 1.47063237      | 0.000452  | 0.0000898 |
| Dok5       | 1.47082744      | 0.0000000 | 0.0000000 |
| She3       | 1.47129936      | 0.0000000 | 0.0000000 |
| Cced63     | 1.47130547      | 0.0011284 | 0.0028825 |
| Kif9       | 1.47336388      | 0.001518  | 0.0003280 |
| Pdlim5     | 1.47403778      | 0.0000000 | 0.0000000 |
| Akr1b10    | 1.47403990      | 0.0000000 | 0.0000000 |
| Ehd3       | 1.47518193      | 0.0000000 | 0.0000000 |
| Gm42829    | 1.47529679      | 0.002480  | 0.0005571 |
| Gene Symbol | Fold Change | p-value 1 | p-value 2 |
|-------------|-------------|-----------|-----------|
| Dgka        | 1.47893233  | 0.0000000 | 0.0000000 |
| Slec30a4    | 1.47943816  | 0.0000000 | 0.0000000 |
| Gm7267      | 1.48292842  | 0.0004732 | 0.0001126 |
| Dner        | 1.48326022  | 0.0007164 | 0.0001768 |
| 4930455G09Rik | 1.4832964  | 0.0000107 | 0.00000193 |
| B230206L02Rik | 1.4834033 | 0.0001950 | 0.0000428 |
| Adams1      | 1.48582782  | 0.0000000 | 0.0000000 |
| Cmb1        | 1.48654943  | 0.0000000 | 0.0000000 |
| Dyrk1b      | 1.49254689  | 0.0000000 | 0.0000000 |
| 1700007L15Rik | 1.49256464 | 0.0000000 | 0.0000000 |
| Fuz         | 1.49670156  | 0.0000000 | 0.0000000 |
| Polr2l      | 1.49723167  | 0.0000000 | 0.0000000 |
| Nacad       | 1.4974076   | 0.0000000 | 0.0000000 |
| Tnfrsf14    | 1.49891713  | 0.0008236 | 0.0002054 |
| Lrcc27      | 1.4994076   | 0.0000000 | 0.0000000 |
| Gm6736      | 1.49997153  | 0.0000000 | 0.0000000 |
| Klhdc1      | 1.50209177  | 0.0000000 | 0.0000000 |
| Malat1      | 1.50330046  | 0.0000000 | 0.0000000 |
| Ccdc2       | 1.503467    | 0.0000652 | 0.0000133 |
| B230216N24Rik | 1.50477659 | 0.0005116 | 0.0001225 |
| Gm37696     | 1.50592801  | 0.000283  | 0.0000544 |
| Arl14a      | 1.5069684   | 0.0000000 | 0.0000000 |
| Rnfl128     | 1.50865799  | 0.0000000 | 0.0000000 |
| BC024978    | 1.5097364   | 0.0000000 | 0.0000000 |
| H18         | 1.51159249  | 0.004314   | 0.0010181 |
| Hdac9       | 1.51165727  | 0.000238   | 0.0000451 |
| Gfap        | 1.51299034  | 0.000015   | 0.0000025 |
| Spry2       | 1.51426344  | 0.0000000 | 0.0000000 |
| Pbxip1      | 1.51484493  | 0.0000000 | 0.0000000 |
| Slec46a1    | 1.51701525  | 0.0000000 | 0.0000000 |
| Veph1       | 1.51899545  | 0.001067   | 0.0002249 |
| Bach2       | 1.51909674  | 0.0000000 | 0.0000000 |
| Gm37305     | 1.52009733  | 0.0000000 | 0.0000000 |
| Rhd         | 1.52056485  | 0.0000000 | 0.0000000 |
| Gm5454      | 1.52058927  | 0.0000000 | 0.0000000 |
| Mylpf       | 1.5207133   | 0.0000002 | 0.0000003 |
| Arhgef9     | 1.52113875  | 0.0000001 | 0.0000001 |
| Fbxs32      | 1.52148749  | 0.0000000 | 0.0000000 |
| Pla2g2e     | 1.52286946  | 0.0000000 | 0.0000000 |
| Itpr3       | 1.52381701  | 0.0000000 | 0.0000000 |
| Ptms        | 1.52600976  | 0.0000000 | 0.0000000 |
| Gene    | Value 1 | Value 2   | Value 3   |
|---------|---------|-----------|-----------|
| C1ra    | 1,5289543 | 0,0000000 | 0,0000000 |
| Gsto1   | 1,52973323 | 0,0000000 | 0,0000000 |
| Gm5456  | 1,53018706 | 0,0000430 | 0,0000851 |
| Eps8l1  | 1,53138275 | 0,0000000 | 0,0000000 |
| Nudt7   | 1,53418817 | 0,0000000 | 0,0000000 |
| Nrep    | 1,53465168 | 0,0000000 | 0,0000000 |
| Etv1    | 1,53473564 | 0,0000000 | 0,0000000 |
| Mr1     | 1,53513072 | 0,0000000 | 0,0000000 |
| Sclc1a4 | 1,53614067 | 0,0000000 | 0,0000000 |
| Sema6d  | 1,53705565 | 0,0000000 | 0,0000000 |
| Olfm13  | 1,5378737 | 0,0000000 | 0,0000000 |
| 9330102E08Rik | 1,54148977 | 0,0000000 | 0,0000000 |
| Gm38158 | 1,54457839 | 0,0000000 | 0,0000000 |
| Ddce2a  | 1,54889552 | 0,001694 | 0,00003691 |
| Gsn     | 1,55107493 | 0,0000000 | 0,0000000 |
| Tcta    | 1,55151922 | 0,0000000 | 0,0000000 |
| Tmem86a | 1,55373029 | 0,0000000 | 0,0000000 |
| Prdx5   | 1,55561259 | 0,0000000 | 0,0000000 |
| Colgalt2| 1,55715358 | 0,0000000 | 0,0000000 |
| Sclc39a13 | 1,55755465 | 0,0000000 | 0,0000000 |
| Nipal4  | 1,55797107 | 0,0000000 | 0,0000000 |
| Ptprd   | 1,56174733 | 0,0005124 | 0,00012281 |
| Tlcd3b  | 1,56177206 | 0,0016793 | 0,00044334 |
| 4930402H24Rik | 1,56246207 | 0,0000000 | 0,0000000 |
| H2-T22  | 1,56256573 | 0,0000000 | 0,0000000 |
| Maged2  | 1,56388893 | 0,0000000 | 0,0000000 |
| Lncenc1 | 1,56495595 | 0,0000038 | 0,00000064 |
| Pam     | 1,5654993 | 0,0000000 | 0,0000000 |
| 2010001A14Rik | 1,56560657 | 0,0002144 | 0,00004758 |
| Naip2   | 1,5661432 | 0,0000000 | 0,0000000 |
| Sync    | 1,56649311 | 0,0010849 | 0,00027616 |
| Gja1    | 1,56772175 | 0,0000000 | 0,0000000 |
| B230217C12Rik | 1,57004894 | 0,0000000 | 0,0000000 |
| Gm2115  | 1,57238397 | 0,0001837 | 0,00004023 |
| Olfm1   | 1,57266769 | 0,0000000 | 0,0000000 |
| C330011M18Rik | 1,57506244 | 0,0009058 | 0,00022718 |
| Exoc3l  | 1,57689814 | 0,0000462 | 0,0000919 |
| Lama5   | 1,57806185 | 0,0000000 | 0,0000000 |
| Zfp697  | 1,58149087 | 0,0000000 | 0,0000000 |
| Asap3   | 1,58161356 | 0,0010524 | 0,00026739 |
| Fhl3    | 1,5835488 | 0,0000000 | 0,0000000 |
| Mgat3   | 1,58454359 | 0,0017717 | 0,00047022 |
| Gene    | Value1 | Value2  | Value3  |
|---------|--------|---------|---------|
| Dhh     | 1,58538942 | 0,0003770 | 0,00008802 |
| Kenu1   | 1,58637001 | 0,0000793 | 0,00001643 |
| Pls3    | 1,58683768 | 0,0000000 | 0,00000000 |
| Klf7    | 1,58684018 | 0,0000000 | 0,00000000 |
| Drc3    | 1,5903551 | 0,0000019 | 0,00000000 |
| Scube3  | 1,5908861 | 0,0000000 | 0,00000000 |
| S100a10 | 1,59581152 | 0,0000000 | 0,00000000 |
| Adey5   | 1,5964771 | 0,0000318 | 0,0000614 |
| Gm4285  | 1,59688224 | 0,0000592 | 0,00001200 |
| Eme2    | 1,59693481 | 0,0000000 | 0,00000000 |
| Cyp4f13 | 1,59793008 | 0,0000000 | 0,00000000 |
| Gm17435 | 1,60226433 | 0,0000000 | 0,00000000 |
| Cercam  | 1,6037173 | 0,0000004 | 0,00000000 |
| Phyh    | 1,60409593 | 0,0000000 | 0,00000000 |
| Tent5a  | 1,6050494 | 0,0000000 | 0,00000000 |
| Ephb4I1 | 1,6059993 | 0,0000000 | 0,00000000 |
| Rbm11   | 1,60676309 | 0,0008458 | 0,00021148 |
| Gm19569 | 1,60731085 | 0,0001894 | 0,0004160 |
| Otos    | 1,60821988 | 0,0000072 | 0,0000127 |
| F8      | 1,60885765 | 0,0000000 | 0,00000000 |
| Rnd3    | 1,60902584 | 0,0000000 | 0,00000000 |
| Col7a1  | 1,60924785 | 0,0000000 | 0,00000000 |
| Traf5   | 1,60946271 | 0,0006471 | 0,0015788 |
| Runx2   | 1,60966022 | 0,0000000 | 0,00000000 |
| Mllt11  | 1,61273235 | 0,0000000 | 0,00000000 |
| Rep15   | 1,6145789 | 0,0000029 | 0,00000048 |
| Tmem190 | 1,61479133 | 0,0005064 | 0,00012122 |
| Sphk1   | 1,61489163 | 0,0000000 | 0,00000000 |
| Scl17a7 | 1,61502544 | 0,000562 | 0,0001135 |
| Procr   | 1,61510122 | 0,0000000 | 0,00000000 |
| Was     | 1,61534616 | 0,0002816 | 0,0006408 |
| Tgfb1   | 1,61603368 | 0,0000000 | 0,00000000 |
| Scrn1   | 1,61966241 | 0,0000000 | 0,00000000 |
| Prrg2   | 1,62114571 | 0,0000000 | 0,00000000 |
| Il4ra   | 1,62148586 | 0,0000529 | 0,00001065 |
| Scl2a13 | 1,62446179 | 0,000694 | 0,0001424 |
| Scl43a2 | 1,63319219 | 0,0000000 | 0,00000000 |
| Nat8f1  | 1,6339804 | 0,000137 | 0,0000251 |
| H2-Eb1  | 1,63418453 | 0,0017306 | 0,00045805 |
| Chrm1   | 1,63456749 | 0,0013816 | 0,00035905 |
| Psd3    | 1,63740347 | 0,0000001 | 0,00000000 |
| Etfef1  | 1,63808298 | 0,0000000 | 0,00000000 |
| Gene       | Log2 Fold Change | P-value 1 | P-value 2 |
|------------|-----------------|-----------|-----------|
| IIIrap     | 1.63860141      | 0.00000000 | 0.00000000 |
| Elovl7     | 1.642172        | 0.00000000 | 0.00000000 |
| Nnmt       | 1.64374643      | 0.00000000 | 0.00000000 |
| Eva1a      | 1.64641174      | 0.00000000 | 0.00000000 |
| Abhd4      | 1.64834561      | 0.00000000 | 0.00000000 |
| Hdac7      | 1.65087622      | 0.00000000 | 0.00000000 |
| 9330104G04Rik | 1.65207711    | 0.0000016  | 0.00000026 |
| Ahrr       | 1.65231131      | 0.00000000 | 0.00000000 |
| Ypel2      | 1.65256007      | 0.00000000 | 0.00000000 |
| Ceng1      | 1.65260266      | 0.00000000 | 0.00000000 |
| Hkdc1      | 1.65505735      | 0.0002449  | 0.00005490 |
| Foxr2      | 1.65578968      | 0.00000000 | 0.00000000 |
| Dop1b      | 1.65653544      | 0.00000000 | 0.00000000 |
| Gadd45b    | 1.65656423      | 0.00000000 | 0.00000000 |
| Irs2       | 1.65832447      | 0.00000000 | 0.00000000 |
| Ten2       | 1.65891315      | 0.00000000 | 0.00000000 |
| C030014123Rik | 1.6614541     | 0.0000043  | 0.00000073 |
| Rasl11a    | 1.66319844      | 0.00000000 | 0.00000000 |
| Mgst1      | 1.66502574      | 0.00000000 | 0.00000000 |
| Kcnn4      | 1.66551036      | 0.0003693  | 0.00008608 |
| Bel2l1     | 1.66706534      | 0.00000000 | 0.00000000 |
| Adey1      | 1.66782497      | 0.0016872  | 0.00044559 |
| Fbxo6      | 1.66856857      | 0.00000000 | 0.00000000 |
| Ampd3      | 1.66881518      | 0.00000000 | 0.00000000 |
| Aldh3b1    | 1.66918052      | 0.00000000 | 0.00000000 |
| Gm20125    | 1.67158568      | 0.0016741  | 0.00044190 |
| Neb1       | 1.67196876      | 0.00000000 | 0.00000000 |
| Myl6b      | 1.67328703      | 0.00000000 | 0.00000000 |
| Mylip      | 1.67437848      | 0.00000000 | 0.00000000 |
| 1700096K18Rik | 1.67743156    | 0.0002480  | 0.00005569 |
| Hmox1      | 1.67922639      | 0.00000000 | 0.00000000 |
| Fam214a    | 1.68061285      | 0.00000000 | 0.00000000 |
| Map1lc3a   | 1.68131841      | 0.00000000 | 0.00000000 |
| Rgs2       | 1.68154569      | 0.00000000 | 0.00000000 |
| Epha7      | 1.68374879      | 0.00000000 | 0.00000000 |
| H2-DMa     | 1.68389668      | 0.0002945  | 0.00006734 |
| Kazald1    | 1.6844781       | 0.0005889  | 0.00014282 |
| 1110025M09Rik | 1.68604108    | 0.0002475  | 0.00005555 |
| Alyref2    | 1.69036912      | 0.0002048  | 0.00004524 |
| Eef1a2     | 1.69266862      | 0.0001490  | 0.00003214 |
| Gm16124    | 1.69667766      | 0.0001204  | 0.00002561 |
| Ssc5d      | 1.69711477      | 0.00000000 | 0.00000000 |
| gene       | log2FoldChange | adj.P-value | FDR          |
|------------|----------------|-------------|--------------|
| Fgfr11     | 1.7001107      | 0.0000000   | 0.0000000    |
| 3930402G23Rik | 1.70110365  | 0.0000090   | 0.00000160   |
| Arap3      | 1.7018172      | 0.0000000   | 0.0000000    |
| CebpB      | 1.70235908     | 0.0000000   | 0.0000000    |
| Ifi27l2a   | 1.70367892     | 0.0013697   | 0.00035536   |
| Esd        | 1.70794999     | 0.0000000   | 0.0000000    |
| Parp11     | 1.70834871     | 0.0000000   | 0.0000000    |
| Cartpt     | 1.70863394     | 0.0014432   | 0.00037625   |
| Cd59a      | 1.70974142     | 0.0000000   | 0.0000000    |
| Platr22    | 1.70976361     | 0.0016989   | 0.00044902   |
| Mme        | 1.7106419      | 0.0000000   | 0.0000000    |
| Abcg2      | 1.71148117     | 0.0000000   | 0.0000000    |
| Fam71e1    | 1.71223957     | 0.0000352   | 0.00000686   |
| Lyz2       | 1.7184312      | 0.0016158   | 0.00042544   |
| Junb       | 1.72111065     | 0.0000000   | 0.0000000    |
| Flot1      | 1.72248586     | 0.0000000   | 0.0000000    |
| Gucy1a1    | 1.7239646      | 0.0003536   | 0.00008205   |
| Ccdd28a    | 1.7246903      | 0.0000000   | 0.0000000    |
| Cadm4      | 1.72637005     | 0.0000000   | 0.0000000    |
| Emp2       | 1.72771884     | 0.0013148   | 0.00034030   |
| Syne3      | 1.72937978     | 0.0000000   | 0.0000000    |
| Dtx4       | 1.73186575     | 0.00003536  | 0.0000058    |
| Ggta1      | 1.73412185     | 0.0000000   | 0.0000000    |
| Capn5      | 1.73427932     | 0.0000000   | 0.0000000    |
| Atf5       | 1.73515856     | 0.0000000   | 0.0000000    |
| Sparc      | 1.736879       | 0.0000000   | 0.0000000    |
| Vwa5a      | 1.73882561     | 0.0000000   | 0.0000000    |
| Kdm7a      | 1.73972455     | 0.0000000   | 0.0000000    |
| Kdm5b      | 1.74146198     | 0.0000000   | 0.0000000    |
| Lpar6      | 1.74270562     | 0.0000000   | 0.0000000    |
| Bmp8a      | 1.74350689     | 0.0003951   | 0.00009270   |
| Magi3      | 1.74562411     | 0.0000000   | 0.0000000    |
| Thsd4      | 1.74980477     | 0.0011100   | 0.00028308   |
| Yipf2      | 1.75138048     | 0.0000000   | 0.0000000    |
| Col4a1     | 1.75315805     | 0.0000000   | 0.0000000    |
| BC043934   | 1.75461677     | 0.0000000   | 0.0000000    |
| Gm11696    | 1.75615523     | 0.0000005   | 0.0000000    |
| Acad12     | 1.75648524     | 0.0000000   | 0.0000000    |
| Crim1      | 1.75809038     | 0.0000000   | 0.0000000    |
| Inka2      | 1.7603129      | 0.001708    | 0.0003723    |
| Nobox      | 1.76377122     | 0.0010901   | 0.00027759   |
| Serinc3    | 1.7664747      | 0.0000000   | 0.0000000    |
| Gene   | Log2FoldChange | p-value | q-value |
|--------|----------------|---------|---------|
| Fosb   | 1.76661178     | 0.0000008 | 0.00000013 |
| Hsd3b1 | 1.76663538     | 0.0011243 | 0.00028705 |
| Hspb2  | 1.76678803     | 0.0000000 | 0.00000000 |
| Hmga2  | 1.76922655     | 0.0000000 | 0.00000000 |
| C920009B18Rik | 1.77067293 | 0.0000000 | 0.00000000 |
| Tinagl1| 1.77192134     | 0.0000000 | 0.000000612 |
| Scl11a1| 1.77503182     | 0.0000000 | 0.00000037 |
| Entpd2 | 1.77588151     | 0.0000000 | 0.00000000 |
| Gstm7  | 1.77643594     | 0.0000000 | 0.00000000 |
| Khdc8b | 1.77691855     | 0.0000000 | 0.00000000 |
| Trp53cor1 | 1.77709168 | 0.0000000 | 0.00000000 |
| Tse22d1| 1.77819942     | 0.0000000 | 0.00000000 |
| Hmge3l1| 1.77832417     | 0.0000000 | 0.00000000 |
| Gm42901| 1.77832417     | 0.0000000 | 0.00000000 |
| Phldb2 | 1.77926288     | 0.0000000 | 0.00000000 |
| Jph2   | 1.77932531     | 0.0000000 | 0.00000034 |
| Gm37397| 1.78057093     | 0.0000000 | 0.00000000 |
| Gm12138| 1.78420597     | 0.0000000 | 0.00000000 |
| Itga2  | 1.78452243     | 0.0000000 | 0.00000000 |
| Serpinb8| 1.78455097   | 0.0000000 | 0.00000000 |
| Stom   | 1.78456064     | 0.0000000 | 0.00000000 |
| 9130023H24Rik | 1.78475285 | 0.0000000 | 0.00000000 |
| Tulp1  | 1.78539749     | 0.0000000 | 0.00000000 |
| Gm15850| 1.78651546     | 0.0000000 | 0.00000000 |
| Zfp36  | 1.78719898     | 0.0000000 | 0.00000000 |
| Mapre3 | 1.78903365     | 0.0000000 | 0.00000000 |
| Cst6   | 1.79094597     | 0.0000000 | 0.00000000 |
| Fam161a| 1.79138602     | 0.0000000 | 0.000008195 |
| Sse4d  | 1.79563411     | 0.0000000 | 0.00000000 |
| Tiam2  | 1.79690216     | 0.0000000 | 0.00000000 |
| H2-M10.5-ps1 | 1.7972992 | 0.00009862 | 0.00024914 |
| Cracdl | 1.79731574     | 0.0000000 | 0.00017846 |
| Ephx1  | 1.79734027     | 0.0000000 | 0.00000000 |
| Atf6   | 1.79749122     | 0.0000000 | 0.00000000 |
| Plat   | 1.7995395      | 0.0000000 | 0.00000000 |
| Cdk14  | 1.80075436     | 0.0000000 | 0.00000000 |
| Angpt2 | 1.8024121      | 0.0000000 | 0.00000000 |
| A930033H14Rik | 1.80241974 | 0.0000804 | 0.00001670 |
| Rhpn2  | 1.80273983     | 0.0000000 | 0.0000376 |
| Rgs16  | 1.8027542      | 0.0000000 | 0.00000000 |
| Tlr3   | 1.80362114     | 0.0000000 | 0.00000000 |
| Tor4a  | 1.80403014     | 0.0000000 | 0.00000000 |
| Gene        | Log2 Fold Change | p-value | Adjusted p-value |
|-------------|-----------------|---------|-----------------|
| Ces2g       | 1.80436469      | 0.0009648 | 0.00024328     |
| Cib4        | 1.80436469      | 0.0009648 | 0.00024328     |
| Gm11638     | 1.80799258      | 0.0009423 | 0.00023738     |
| Rtl5        | 1.80816918      | 0.000276  | 0.00000528     |
| Maf         | 1.8101436       | 0.0000000 | 0.00000000     |
| Adam8       | 1.81027859      | 0.0000012 | 0.00000002     |
| Tmeff2      | 1.81036626      | 0.0004041 | 0.00009494     |
| Mpv17l      | 1.81104518      | 0.0000000 | 0.00000000     |
| Pinlyp      | 1.81146711      | 0.0009363 | 0.00023559     |
| Duox2       | 1.81146711      | 0.0009363 | 0.00023559     |
| Gm7936      | 1.81260942      | 0.0000004 | 0.00000006     |
| Bcl6        | 1.81311236      | 0.0000000 | 0.00000000     |
| Aldh1l2     | 1.81355938      | 0.0000000 | 0.00000000     |
| Trim17      | 1.81475727      | 0.0000053 | 0.00000911     |
| Coro2a      | 1.8150761       | 0.0006975 | 0.00017149     |
| Fgfr1       | 1.81574926      | 0.0000000 | 0.00000000     |
| Ankrd42     | 1.81632815      | 0.0000000 | 0.00000000     |
| Dgat2       | 1.81963359      | 0.0000000 | 0.00000000     |
| Fam43a      | 1.82058114      | 0.0000000 | 0.00000000     |
| D330050G23Rik| 1.82075481     | 0.00000242 | 0.00000460     |
| Plk3        | 1.82573953      | 0.0000000 | 0.00000000     |
| Olfr56      | 1.82587557      | 0.0003694 | 0.00086121     |
| Nectin4     | 1.82619827      | 0.0000000 | 0.00022726     |
| Map3k9      | 1.82702462      | 0.0000003 | 0.00000004     |
| Adam23      | 1.82710601      | 0.0000000 | 0.00000000     |
| Fegrt       | 1.83058612      | 0.0000000 | 0.00000000     |
| Pcolce2     | 1.83059        | 0.00000619 | 0.00001258     |
| Tymp        | 1.83425241      | 0.0000000 | 0.00000001     |
| Vmac        | 1.83720084      | 0.0000000 | 0.00000000     |
| Ctsh        | 1.83749117      | 0.0000000 | 0.00000000     |
| Bmp1        | 1.83819218      | 0.0000000 | 0.00000000     |
| Apol10b     | 1.83912496      | 0.0008236 | 0.00020545     |
| Gm11639     | 1.83932529      | 0.0007398 | 0.00018309     |
| Guca1a      | 1.83975697      | 0.0000000 | 0.00000000     |
| Tec         | 1.84053456      | 0.0000000 | 0.00000000     |
| 4930447F24Rik| 1.84249265     | 0.00000563 | 0.00001137     |
| Gch1        | 1.84314715      | 0.0000001 | 0.00000001     |
| B4galnt3    | 1.84339828      | 0.0017456 | 0.00046228     |
| Beam        | 1.84916211      | 0.0000000 | 0.00000000     |
| Gm11490     | 1.85010903      | 0.0014018 | 0.00036458     |
| Jup         | 1.85125263      | 0.0000000 | 0.00000000     |
| Plin2       | 1.85145833      | 0.0000000 | 0.00000000     |
| Gene          | Mean | P-Value 1 | P-Value 2 |
|--------------|------|-----------|-----------|
| E230013L22Rik| 1.85227842 | 0.0007694 | 0.00019111 |
| Camk2b      | 1.85354633 | 0.0000000 | 0.00000000 |
| Ano1         | 1.85477798 | 0.0000000 | 0.00000000 |
| 8030451A03Rik| 1.8553003  | 0.0007099 | 0.00017509 |
| Ptk7         | 1.85824174 | 0.0000002 | 0.00000000 |
| Prss56       | 1.85915058 | 0.0013181 | 0.00034127 |
| Chac1        | 1.85993682 | 0.0000000 | 0.00000000 |
| Cd1d1        | 1.86151733 | 0.0001281 | 0.00002739 |
| Rbpms2       | 1.86451574 | 0.0000000 | 0.00000000 |
| Fam117a      | 1.86819294 | 0.0000011 | 0.00000018 |
| Efnb2        | 1.86927782 | 0.0000000 | 0.00000000 |
| Rimbp3       | 1.86967327 | 0.0000000 | 0.00000000 |
| Tmem229b     | 1.8705056  | 0.0000000 | 0.00000000 |
| Egr2         | 1.87161346 | 0.0016284 | 0.00042906 |
| Serpinf1     | 1.8746418  | 0.0000000 | 0.00000000 |
| Atp10b       | 1.87532343 | 0.0000001 | 0.00000001 |
| Wdr45        | 1.87546689 | 0.0000000 | 0.00000000 |
| Gm15753      | 1.87773884 | 0.0007098 | 0.00017501 |
| Hrh1         | 1.87824964 | 0.0007122 | 0.00017568 |
| Glis3        | 1.87892372 | 0.0000000 | 0.00000000 |
| Isoc2b       | 1.8791344  | 0.0000000 | 0.00000000 |
| Abca8b       | 1.87919949 | 0.0000000 | 0.00000000 |
| Tgf1         | 1.87977824 | 0.0000000 | 0.00000000 |
| Olig3        | 1.88047657 | 0.0006347 | 0.00015467 |
| Coll2a1      | 1.88236857 | 0.0000000 | 0.00000000 |
| P2rx3        | 1.88399028 | 0.0005128 | 0.00012291 |
| Tnfrs12a     | 1.88546585 | 0.0000000 | 0.00000000 |
| Grik3        | 1.88562646 | 0.0000000 | 0.00000000 |
| Gm20005      | 1.88571268 | 0.0000077 | 0.00001363 |
| Hid1         | 1.88670053 | 0.0000000 | 0.00000000 |
| Cd68         | 1.88804298 | 0.0000000 | 0.00000000 |
| Slec40a1     | 1.88887907 | 0.0000000 | 0.00000000 |
| Steap1       | 1.88963751 | 0.0000000 | 0.00000000 |
| Gsta5        | 1.89173038 | 0.0002601 | 0.00005872 |
| Gm12854      | 1.89483469 | 0.0000000 | 0.00000000 |
| Rln1         | 1.8975674  | 0.0011920 | 0.00030588 |
| Trim47       | 1.89767906 | 0.0000000 | 0.00000000 |
| Sert1        | 1.89861362 | 0.0006384 | 0.00015563 |
| Pde7b        | 1.90109842 | 0.0000000 | 0.00000000 |
| Tmem102      | 1.9026744  | 0.0013788 | 0.00035826 |
| Gm14808      | 1.90352349 | 0.0000005 | 0.00000007 |
| Hsd11b1      | 1.90384465 | 0.0000000 | 0.00000000 |
| Gene   | Fold Change | P-value   | Q-value   |
|--------|-------------|-----------|-----------|
| Psme2  | 1.90490207  | 0.0000000 | 0.0000000 |
| Flnc   | 1.90580271  | 0.000136  | 0.00000248|
| Bpifa2 | 1.90604347  | 0.006347  | 0.0015465 |
| Mettl27| 1.90613673  | 0.0000000 | 0.0000000 |
| Pcdhb3 | 1.9071872   | 0.0006416 | 0.0001465 |
| Igf23  | 1.9098204   | 0.000437  | 0.0000865 |
| Flnc   | 1.91102407  | 0.000627  | 0.0001465 |
| Papln  | 1.91177241  | 0.0000000 | 0.0000000 |
| Sec16b | 1.91407385  | 0.0000000 | 0.0000000 |
| Tnfrsf1b| 1.9142587   | 0.0000437 | 0.0000865 |
| Aldh6a1| 1.91618073  | 0.0000000 | 0.0000000 |
| Shisa5 | 1.9187639   | 0.0000000 | 0.0000000 |
| Bpigm  | 1.92253767  | 0.0000000 | 0.0000000 |
| Glrx   | 1.92376644  | 0.0000045 | 0.0000078 |
| Iglo5  | 1.92501887  | 0.0000339 | 0.0000658 |
| Ned9   | 1.92614922  | 0.0000000 | 0.0000000 |
| Bcar3  | 1.9292159   | 0.0000000 | 0.0000000 |
| Exyt1  | 1.93080899  | 0.0000000 | 0.0000000 |
| Pedhb16| 1.93548992  | 0.0000000 | 0.0000000 |
| Gm5617 | 1.93850714  | 0.0000548 | 0.0001323 |
| Zswim4 | 1.93975303  | 0.0000000 | 0.0000000 |
| Mmp10  | 1.94173685  | 0.0005450 | 0.0001319 |
| Trim66 | 1.9489109   | 0.0000000 | 0.0000000 |
| Neurl1a| 1.9522613   | 0.0000000 | 0.0000000 |
| F11r   | 1.95270656  | 0.0000000 | 0.0000000 |
| Klhl26 | 1.95608957  | 0.0000000 | 0.0000000 |
| Gm37855| 1.95970717  | 0.0000796 | 0.0001982 |
| Ano2   | 1.95911509  | 0.0001346 | 0.0000288 |
| Pon3   | 1.95959241  | 0.0000000 | 0.0000000 |
| Tmem119| 1.96095641  | 0.0005586 | 0.0001349 |
| Ell2   | 1.96118679  | 0.0000000 | 0.0000000 |
| Apoa2  | 1.96170543  | 0.0000042 | 0.0000007 |
| Galr2  | 1.9618053   | 0.0000000 | 0.0000000 |
| Ypel3  | 1.96242286  | 0.0000000 | 0.0000000 |
| Gsap   | 1.9629209   | 0.0011934 | 0.0003063 |
| Cstb   | 1.96399738  | 0.0000000 | 0.0000000 |
| Prune2 | 1.96476946  | 0.0000000 | 0.0000000 |
| Gcnt2  | 1.96547323  | 0.0000000 | 0.0000000 |
| Pnck   | 1.9664037   | 0.0000000 | 0.0000000 |
| Gene       | Fold Change | p-value 1  | p-value 2 |
|-----------|-------------|-----------|-----------|
| Tnfsf10   | 1.9675809   | 0.0004845 | 0.00011564|
| Dusp5     | 1.96813737  | 0.0000007 | 0.00000012|
| Gsta2     | 1.96898258  | 0.0000000 | 0.00000000|
| Pcdhb7    | 1.96901388  | 0.000610   | 0.0001240 |
| Ifit1b1   | 1.97026089  | 0.007538   | 0.0018685 |
| Gm45713   | 1.97078664  | 0.001461   | 0.0003148 |
| Ppm1j     | 1.97177992  | 0.005878   | 0.0014252 |
| Irs1      | 1.97569574  | 0.0000000  | 0.00000000|
| Gm37170   | 1.9758134   | 0.0001461  | 0.0000022 |
| 1700057H21Rik | 1.97584518 | 0.003818   | 0.0008929 |
| Serinc5   | 1.97622882  | 0.0000000  | 0.00000000|
| Gm13110   | 1.976444    | 0.0000000  | 0.00000000|
| Ptpn      | 1.97688718  | 0.0000629  | 0.00001281|
| 4930539M17Rik | 1.97713076 | 0.007416   | 0.0018361 |
| Arid5b    | 1.97716767  | 0.0000000  | 0.00000000|
| Aldh11I   | 1.98453018  | 0.0000000  | 0.00000000|
| Mthfd2l   | 1.98483144  | 0.0000000  | 0.00000000|
| Cpt1c     | 1.98485155  | 0.0000000  | 0.00000000|
| S100a11   | 1.9853842   | 0.0000000  | 0.00000000|
| Fbxw9     | 1.98721218  | 0.0000000  | 0.00000000|
| Odf3l1    | 1.98812252  | 0.0000000  | 0.00000000|
| Dio2      | 1.98816233  | 0.0000931  | 0.00001948|
| Herc3     | 1.98820461  | 0.0000000  | 0.00000000|
| Atoh8     | 1.98827322  | 0.0000000  | 0.00000000|
| Ilk       | 1.9895433   | 0.010244   | 0.00025984|
| Adams7    | 1.99333356  | 0.0000076  | 0.0000135 |
| Mcub      | 1.993689    | 0.001488   | 0.0003209 |
| Gm8860    | 1.99684351  | 0.004062   | 0.00009545|
| Adams4    | 1.99734027  | 0.0000000  | 0.00000000|
| Syt11     | 1.99820372  | 0.0000000  | 0.00000000|
| Cxcl1     | 1.99988561  | 0.002125   | 0.0004708 |
| Wnt3      | 2.00016036  | 0.004161   | 0.00009789|
| Adssl1    | 2.00016828  | 0.0000000  | 0.00000000|
| Fahd1     | 2.00343172  | 0.0000000  | 0.00000000|
| Gm12187   | 2.0041593   | 0.004239   | 0.00009994|
| Gm7665    | 2.00519248  | 0.0000000  | 0.00000000|
| 4930533K18Rik | 2.00647074 | 0.0016682  | 0.00044010|
| Gm10602   | 2.00895419  | 0.0000000  | 0.00000000|
| Gm10461   | 2.01118049  | 0.0000004  | 0.00000006|
| Tnfrsf26  | 2.01150644  | 0.0007140  | 0.00017617|
| Gm15663   | 2.01214641  | 0.002365   | 0.00005292|
| Fam13c    | 2.0155199   | 0.0000000  | 0.00000000|
| Gene      | Value1 | Value2  | Value3   |
|-----------|--------|---------|----------|
| Rfpl4b    | 2,01600684 | 0,0003537 | 0,00008210 |
| Serpini1  | 2,01760834 | 0,0000000 | 0,00000000 |
| Paerg     | 2,0187318  | 0,0002259 | 0,0005029  |
| Trim56    | 2,02042824 | 0,0000000 | 0,00000000 |
| Gm4755    | 2,02261847 | 0,0000180 | 0,00000000 |
| Xkr6      | 2,02322632 | 0,0003816 | 0,00008923 |
| Mst       | 2,02380142 | 0,0000000 | 0,00000000 |
| Gm42815   | 2,0266634  | 0,0000518 | 0,00001040 |
| Card10    | 2,0285316  | 0,0000000 | 0,00000000 |
| Spred3    | 2,02963046 | 0,0000000 | 0,00000000 |
| Dhrs9     | 2,0319364  | 0,0003555 | 0,00008255 |
| Slit2     | 2,03258296 | 0,0000000 | 0,00000000 |
| Hes1      | 2,03278391 | 0,0000000 | 0,00000000 |
| Gmpr      | 2,03545798 | 0,0000000 | 0,00000000 |
| Def6      | 2,03702045 | 0,0000000 | 0,00000000 |
| Sema3c    | 2,03832071 | 0,0000000 | 0,00000000 |
| 9230114K14Rik | 2,04068389 | 0,0000000 | 0,00000000 |
| Rom1      | 2,04276053 | 0,0000000 | 0,00000000 |
| Lipc      | 2,04449625 | 0,0001837 | 0,00000000 |
| Syt8      | 2,0449586  | 0,0003521 | 0,00008165 |
| Zscan4d   | 2,0449586  | 0,0003521 | 0,00008165 |
| Sthd1     | 2,04572378 | 0,0009877 | 0,00024963 |
| Sag       | 2,04588442 | 0,0000000 | 0,00000000 |
| Map2k3os  | 2,04629527 | 0,0000000 | 0,00000000 |
| Lgals9    | 2,04962034 | 0,0000000 | 0,00000000 |
| Rfx4      | 2,04980634 | 0,0001766 | 0,00003858 |
| Tspyl4    | 2,05102637 | 0,0000000 | 0,00000000 |
| Gm28818   | 2,05337773 | 0,0003733 | 0,00008713 |
| Gm26651   | 2,06007064 | 0,0014401 | 0,00037530 |
| Oit3      | 2,06354879 | 0,0013377 | 0,00034675 |
| Ctso      | 2,06367315 | 0,0000000 | 0,00000000 |
| Gm10575   | 2,06936458 | 0,000124  | 0,0000226  |
| Scn2a     | 2,06999246 | 0,0000000 | 0,00000000 |
| Mical2    | 2,07262741 | 0,0000000 | 0,00000000 |
| Lcp1      | 2,07292579 | 0,0000000 | 0,00000000 |
| Rsph1     | 2,07760011 | 0,0000001 | 0,00000002 |
| Socs1     | 2,07810555 | 0,0000000 | 0,00000000 |
| Slec5a3   | 2,07888438 | 0,0000000 | 0,00000000 |
| Hrc       | 2,08457762 | 0,0000350 | 0,0000682  |
| Pcedhb15  | 2,08516175 | 0,0000000 | 0,00000000 |
| Rnd1      | 2,08551189 | 0,0000000 | 0,00000000 |
| Sarm1     | 2,08685122 | 0,0000000 | 0,00000000 |
| Gene      | Value1 | Value2 | Value3 |
|-----------|--------|--------|--------|
| Dnmt3l    | 2,08739353 | 0,0002702 | 0,00006128 |
| Gm11216   | 2,08939294 | 0,0002975 | 0,00006809 |
| Gadd45a   | 2,08967923 | 0,0000000 | 0,00000000 |
| Phkg1     | 2,09002453 | 0,0000000 | 0,00000000 |
| Capg      | 2,09008989 | 0,0000000 | 0,00000000 |
| Cebpd     | 2,09362845 | 0,0002930 | 0,00006692 |
| Tmemb2    | 2,09534689 | 0,0002833 | 0,00006692 |
| Tecf2     | 2,09563774 | 0,0000000 | 0,00000000 |
| Thrb      | 2,09831899 | 0,0001797 | 0,00003931 |
| Gm15910   | 2,10381666 | 0,0000002 | 0,00000003 |
| Dusp14    | 2,10367058 | 0,0000000 | 0,00000000 |
| Lrtm2     | 2,10602296 | 0,0000760 | 0,00001570 |
| Ttl7      | 2,1103024  | 0,0000000 | 0,00000000 |
| Hsd17b7   | 2,11371665 | 0,0000000 | 0,00000000 |
| Irak2     | 2,11687397 | 0,0000000 | 0,00000000 |
| Reps2     | 2,11803389 | 0,0002589 | 0,00005841 |
| Fut4      | 2,11979007 | 0,0001258 | 0,00002684 |
| Bgn       | 2,11983487 | 0,0002632 | 0,00005950 |
| 4930447N08Rik | 2,12322547 | 0,0004497 | 0,00010662 |
| Ddah1     | 2,12335379 | 0,0000000 | 0,00000000 |
| Cma1      | 2,12485059 | 0,0002589 | 0,00005841 |
| Cstad     | 2,12529125 | 0,0001258 | 0,00002684 |
| Slec9a    | 2,13080142 | 0,0000000 | 0,00000000 |
| Gm32591   | 2,13160137 | 0,0000000 | 0,00000000 |
| Gstm6     | 2,13252855 | 0,0000000 | 0,00000000 |
| Lhx6      | 2,13625418 | 0,0000999 | 0,0000177 |
| Upp1      | 2,13768138 | 0,0000192 | 0,0000358 |
| Svop      | 2,13905672 | 0,0002081 | 0,00004603 |
| Anxa2     | 2,14228759 | 0,0000000 | 0,00000000 |
| Loxl4     | 2,14260495 | 0,0000000 | 0,00000000 |
| Col4a5    | 2,14405128 | 0,0000000 | 0,00000000 |
| Muc13     | 2,14636055 | 0,0000000 | 0,00000000 |
| 1700003M07Rik | 2,14669956 | 0,0009877 | 0,00024957 |
| Psme2b    | 2,14745906 | 0,0000000 | 0,00000000 |
| Uox       | 2,14881575 | 0,0000566 | 0,00001142 |
| AW011738  | 2,15039036 | 0,0000000 | 0,00000000 |
| Pcdhb11   | 2,15094262 | 0,0000000 | 0,00000000 |
| Recan2    | 2,15249727 | 0,0002540 | 0,00005721 |
| Cede96    | 2,15355732 | 0,0000000 | 0,00000000 |
| Siglecg   | 2,15570246 | 0,0001993 | 0,00004395 |
| A1839979   | 2,16271317 | 0,0000000 | 0,00000000 |
| Gene   | Log2 Fold Change | p-Value 1 | p-Value 2 |
|--------|-----------------|-----------|-----------|
| Piwil4 | 2.16448265      | 0.0002130 | 0.00004721|
| Mvp    | 2.16606531      | 0.0000000 | 0.00000000|
| Tek    | 2.17030707      | 0.0002102 | 0.00004652|
| Dexr   | 2.1713572       | 0.0000000 | 0.00000000|
| Tmem217| 2.17645526      | 0.0002307 | 0.00005146|
| Zscan4c| 2.17725467      | 0.0008490 | 0.00021232|
| S100a8 | 2.17729609      | 0.0002071 | 0.00004579|
| Pedhb9 | 2.17778997      | 0.000430  | 0.0000850 |
| Defb25 | 2.17817578      | 0.0000346 | 0.0000673 |
| Nol4   | 2.18076595      | 0.0000000 | 0.00000000|
| Tcam1  | 2.18288798      | 0.0000226 | 0.0000427 |
| Cpne5  | 2.18367303      | 0.0008212 | 0.00000000|
| Cngb1  | 2.18769198      | 0.0000000 | 0.00000000|
| Cnga3  | 2.19257806      | 0.001887  | 0.0004140 |
| Fgfl   | 2.19753693      | 0.0000000 | 0.00000000|
| Tmem202| 2.19808165      | 0.0000000 | 0.00000000|
| Gm43549| 2.19972088      | 0.0000000 | 0.00000000|
| Pcp4l1 | 2.20001444      | 0.0001867 | 0.00004092|
| Pedh9  | 2.20059174      | 0.0000000 | 0.00000000|
| Cyp3a16| 2.20363474      | 0.0000610 | 0.00001239|
| Ddx4   | 2.20387588      | 0.0000570 | 0.00001151|
| 2210010C04Rik | 2.20534051 | 0.0000017 | 0.0000027 |
| Ccn4   | 2.20706011      | 0.0000000 | 0.00000000|
| Sglk1  | 2.20852808      | 0.0000000 | 0.00000000|
| Fam214b| 2.20878358      | 0.0000000 | 0.00000000|
| Ank3   | 2.21024568      | 0.0000000 | 0.00000000|
| Sv2b   | 2.21172112      | 0.0000000 | 0.00000000|
| Tor3a  | 2.21282093      | 0.0000000 | 0.00000000|
| Ptges  | 2.21455415      | 0.0002292 | 0.00005111|
| Vcl    | 2.21716023      | 0.0000000 | 0.00000000|
| Pwwp3b | 2.21850728      | 0.0000000 | 0.00000000|
| Gm26616| 2.21862569      | 0.0000000 | 0.00000000|
| Psd2   | 2.22672072      | 0.0000013 | 0.00000606|
| Gm16201| 2.2274807       | 0.0000035 | 0.00000606|
| Timp1  | 2.22756959      | 0.0000000 | 0.00000000|
| C130013H08Rik | 2.22875209 | 0.0000000 | 0.00000000|
| Sult6b1| 2.22912923      | 0.0000000 | 0.00000000|
| Tbc1d2 | 2.22920759      | 0.0000000 | 0.00000000|
| C130083M11Rik | 2.2299371 | 0.0000000 | 0.00000000|
| Cend1  | 2.23010944      | 0.0000000 | 0.00000000|
| Vamp1  | 2.23220055      | 0.0000000 | 0.00000000|
| A230083G16Rik | 2.23566463 | 0.00000001| 0.00000001|
| Gene  | log2 Fold Change | p-value 1  | p-value 2  |
|-------|------------------|------------|------------|
| Marchf4 | 2.23656466 | 0.0001033 | 0.00002172 |
| Neurl3  | 2.23758105 | 0.0000000 | 0.00000000 |
| Gm4524  | 2.23993211 | 0.0000000 | 0.00000000 |
| Slc2a9  | 2.24113486 | 0.0000000 | 0.00000000 |
| Pcdhb8  | 2.24129195 | 0.0000274 | 0.00000525 |
| Sned1   | 2.24212237 | 0.0000000 | 0.00000000 |
| Eif1ad8 | 2.24264705 | 0.0001512 | 0.00003267 |
| Hao1    | 2.24622011 | 0.0000335 | 0.00000649 |
| Septin4 | 2.25063762 | 0.0000000 | 0.00000000 |
| 9130008F23Rik | 2.25127411 | 0.0000000 | 0.00000000 |
| Hif11-ps | 2.2519974 | 0.0000670 | 0.00001370 |
| Gm16104 | 2.25236631 | 0.000019 | 0.00000301 |
| Elfn1   | 2.25301964 | 0.0005351 | 0.00012871 |
| Ttl6    | 2.25580668 | 0.0005303 | 0.00012751 |
| Pcdhb2  | 2.25679869 | 0.0000005 | 0.00000007 |
| Pramel31| 2.25828356 | 0.0005760 | 0.00013939 |
| Rbms3   | 2.25982379 | 0.0000003 | 0.00000005 |
| Gm12216 | 2.26060296 | 0.0002933 | 0.00006699 |
| Dpf3    | 2.26193769 | 0.0000093 | 0.00001676 |
| Gm5546  | 2.26374979 | 0.0000000 | 0.00000000 |
| Fosl1   | 2.2643095 | 0.0000002 | 0.00000002 |
| Gm20257 | 2.26629238 | 0.0000000 | 0.00000000 |
| Adams14 | 2.26696854 | 0.0000000 | 0.00000000 |
| Rras    | 2.27128516 | 0.0000000 | 0.00000000 |
| Camk1d  | 2.27316768 | 0.0017545 | 0.00046522 |
| Lpin3   | 2.27694556 | 0.0000000 | 0.00000000 |
| Btla    | 2.27865836 | 0.0000682 | 0.00001398 |
| Styk1   | 2.28110886 | 0.0001540 | 0.00003333 |
| Uchl1   | 2.28162522 | 0.0000000 | 0.00000000 |
| Trim16  | 2.28827934 | 0.0000000 | 0.00000000 |
| Samd5   | 2.29029723 | 0.0000000 | 0.00000000 |
| Gngt2   | 2.29399602 | 0.0016467 | 0.00043410 |
| Podn    | 2.2985527 | 0.0001240 | 0.00002644 |
| Trp53inp1 | 2.29952869 | 0.0000000 | 0.00000000 |
| Neb     | 2.30253942 | 0.0000000 | 0.00000000 |
| Frat2   | 2.30263781 | 0.0000000 | 0.00000001 |
| Slc39a4 | 2.3027069 | 0.0000203 | 0.00000380 |
| Pqle3   | 2.30304807 | 0.0000000 | 0.00000000 |
| Spp1    | 2.30329949 | 0.0000000 | 0.00000000 |
| Pdlim2  | 2.30788529 | 0.0000000 | 0.00000000 |
| Gm13056 | 2.30872343 | 0.0001191 | 0.00002534 |
| Msrb3   | 2.31052511 | 0.0000000 | 0.00000000 |
| Gene      | Fold Change | p-value | q-value |
|-----------|-------------|---------|---------|
| Igfbp6    | 2.31451118  | 0.0000257 | 0.00000489 |
| Senn1a    | 2.31582891  | 0.0000513 | 0.00001030 |
| Gm5152    | 2.32042464  | 0.0015140 | 0.00039622 |
| Tm4sf1    | 2.32075809  | 0.0000000 | 0.00000000 |
| Pde4a     | 2.32359642  | 0.0000000 | 0.00000000 |
| Gm44386   | 2.32476375  | 0.0000000 | 0.00000000 |
| Igf2bp2   | 2.32631439  | 0.0000000 | 0.00000000 |
| Pkp2      | 2.32644063  | 0.0000000 | 0.00000000 |
| Ptprf     | 2.327558    | 0.0000000 | 0.00000000 |
| Calcoco1  | 2.3281609   | 0.0000000 | 0.00000000 |
| Usp17tc   | 2.3308913   | 0.0001033 | 0.00002173 |
| Gm8818    | 2.33096136  | 0.0000000 | 0.00000000 |
| Haed4     | 2.33281234  | 0.0000000 | 0.00000000 |
| 2700046G09Rik | 2.33488312 | 0.0000000 | 0.00000000 |
| Shank1    | 2.33789576  | 0.0000000 | 0.00000000 |
| Pdcd4     | 2.33884759  | 0.0000000 | 0.00000000 |
| Ccedc189  | 2.34435557  | 0.0000000 | 0.00000000 |
| 9530034E10Rik | 2.34578897 | 0.0000946 | 0.00001980 |
| Trim21    | 2.3458533   | 0.0000000 | 0.00000000 |
| Pdcd1     | 2.34778451  | 0.0000000 | 0.00000000 |
| Tmem72    | 2.350519    | 0.0013287 | 0.00034416 |
| Ypel5     | 2.35125604  | 0.0000000 | 0.00000000 |
| Aldh1a1   | 2.35520238  | 0.0000859 | 0.00001789 |
| 0610009L18Rik | 2.35602919 | 0.000001 | 0.00000001 |
| Gm44250   | 2.35618539  | 0.0000000 | 0.00000000 |
| Spsb2     | 2.36030929  | 0.0000000 | 0.00000000 |
| Ass1      | 2.36203112  | 0.0000000 | 0.00000000 |
| Mov10     | 2.36250337  | 0.0000000 | 0.00000000 |
| Gm26645   | 2.36952137  | 0.0000007 | 0.00000010 |
| H2aw      | 2.36993425  | 0.0000000 | 0.00000000 |
| H2-D1     | 2.37279197  | 0.0000000 | 0.00000000 |
| Cd79a     | 2.37420431  | 0.0000010 | 0.00000015 |
| Mt3       | 2.38235657  | 0.0002876 | 0.00006362 |
| Greb1     | 2.38253971  | 0.0000000 | 0.00000000 |
| Akp-ps1   | 2.38411984  | 0.0000222 | 0.00000418 |
| Scl22a4   | 2.38551055  | 0.0000008 | 0.00000012 |
| Gm5424    | 2.39366779  | 0.0000000 | 0.00000000 |
| Fosl2     | 2.39429414  | 0.0000000 | 0.00000000 |
| Pedhb4    | 2.39653651  | 0.0000000 | 0.00000000 |
| Cntn1     | 2.39741339  | 0.0000000 | 0.00000000 |
| Cdkn1a    | 2.39798428  | 0.0000000 | 0.00000000 |
| Zcche24   | 2.40355044  | 0.0000000 | 0.00000000 |
| Gene      | Value     | p-value  | q-value |
|-----------|-----------|----------|---------|
| Gpr35     | 2.40719669| 0.00000000 | 0.00000000 |
| Pyroxd2   | 2.40816507| 0.00000000 | 0.00000000 |
| Syn1      | 2.41127012| 0.00000000 | 0.00000000 |
| Gbe1      | 2.41306017| 0.00000000 | 0.00000000 |
| Gm3716    | 2.41851831| 0.00000000 | 0.00000000 |
| Gm10800   | 2.42505843| 0.00000005 | 0.00000007 |
| Jam2      | 2.42881822| 0.00000000 | 0.00000000 |
| Pparg     | 2.42933711| 0.00000000 | 0.00000000 |
| Gm12059   | 2.42955359| 0.00000000 | 0.00000000 |
| Telp11l2  | 2.4346037 | 0.00000000 | 0.00000000 |
| Tslp      | 2.435082  | 0.00000000 | 0.00000000 |
| Gsdmd     | 2.44330388| 0.00000000 | 0.00000000 |
| Ptehkh2   | 2.44554727| 0.00000000 | 0.00000000 |
| Txlnb     | 2.44645181| 0.00000008 | 0.00000013 |
| B2m       | 2.4469379 | 0.00000000 | 0.00000000 |
| Tent5c    | 2.44989681| 0.00000000 | 0.00000000 |
| Mturn     | 2.45056448| 0.00000000 | 0.00000000 |
| Psmb9     | 2.45139067| 0.00000854 | 0.00001778 |
| P2ry6     | 2.45157536| 0.0000656  | 0.0001340  |
| Nptx1     | 2.45305759| 0.00000000 | 0.00000000 |
| Megf10    | 2.45333225| 0.00000000 | 0.00000000 |
| Faim2     | 2.45739247| 0.0009340  | 0.00023483 |
| Slc16a13  | 2.45834762| 0.00000000 | 0.00000000 |
| Gm28447   | 2.46052278| 0.00000176 | 0.0000002  |
| Robo2     | 2.46185427| 0.00003049 | 0.00000049 |
| Cyb5r2    | 2.46214729| 0.00000000 | 0.00000000 |
| Gm12602   | 2.46745354| 0.00000000 | 0.00000000 |
| Cnn2      | 2.46806223| 0.00000000 | 0.00000000 |
| Mxd4      | 2.47131692| 0.00000000 | 0.00000000 |
| Slco2a1   | 2.47650098| 0.0000001  | 0.00000001 |
| Gm11816   | 2.47670132| 0.0000591  | 0.00001199 |
| Gadd45g   | 2.47840084| 0.00000000 | 0.00000000 |
| Sp110     | 2.48041845| 0.0000716  | 0.00001471 |
| Ahnak     | 2.48434457| 0.00000000 | 0.00000000 |
| Jag1      | 2.4851173 | 0.00000000 | 0.00000000 |
| Cpg1os    | 2.48547258| 0.00000000 | 0.00000000 |
| Chst11    | 2.48912392| 0.00000000 | 0.00000000 |
| Dtx3l     | 2.49527986| 0.00000000 | 0.00000000 |
| Azin2     | 2.49538698| 0.00000000 | 0.00000000 |
| Glipr2    | 2.4965854 | 0.00000000 | 0.00000000 |
| Gstm1     | 2.49665809| 0.00000000 | 0.00000000 |
| Ilgp1     | 2.50100238| 0.0000506  | 0.00001015 |
| Gene   | Log2FoldChange | p-value 1 | p-value 2 |
|--------|----------------|-----------|-----------|
| Bcl11b | 2.51035471     | 0.0000060 | 0.00000104|
| Kenk3  | 2.51172301     | 0.0000463 | 0.00000922|
| Cdk5r2 | 2.51174822     | 0.0000000 | 0.00000000|
| Sfxn3  | 2.51378478     | 0.0000000 | 0.00000000|
| Tmem171| 2.51381869     | 0.0000502 | 0.00000000|
| Slc7a11| 2.51672301     | 0.0000463 | 0.00000922|
| Cdk5r2 | 2.5167466      | 0.0000000 | 0.00000000|
| Arhgef19| 2.5196302     | 0.0000000 | 0.00000000|
| Niban1 | 2.52218077     | 0.0000000 | 0.00000000|
| Hecw2  | 2.52486749     | 0.0000000 | 0.00000000|
| Trp53inp2| 2.5286497     | 0.0000000 | 0.00000000|
| Sod3   | 2.5289469      | 0.0000000 | 0.00000000|
| Plcb2  | 2.52965738     | 0.0000000 | 0.00000000|
| Selenop| 2.5365024      | 0.0000000 | 0.00000000|
| Ctsf   | 2.53772462     | 0.0000000 | 0.00000000|
| Gm11734| 2.53828163     | 0.0000000 | 0.00000000|
| Gm9899 | 2.5388394      | 0.0000453 | 0.00000900|
| Rida   | 2.54182349     | 0.0000000 | 0.00000000|
| Usp17lb| 2.54246115     | 0.007051   | 0.0017359 |
| Gstm2-ps1| 2.54293575   | 0.0000000 | 0.00000000|
| Esr2   | 2.5438285      | 0.0000401 | 0.00000790|
| Adgra1 | 2.54925011     | 0.007068   | 0.0017418 |
| Trim14 | 2.5511084      | 0.0000000 | 0.00000000|
| Sec14l5| 2.55146369     | 0.0006621 | 0.00016205|
| Gpat3  | 2.55364004     | 0.0000002 | 0.00000000|
| Susd3  | 2.55378288     | 0.0000000 | 0.00000000|
| Arhgef28| 2.5538354     | 0.0000000 | 0.00000000|
| Oas1c  | 2.5572971      | 0.0000000 | 0.00000000|
| Parp3  | 2.55784076     | 0.0000000 | 0.00000000|
| Synm   | 2.55911913     | 0.0000000 | 0.00000000|
| Mir22hg| 2.5637348      | 0.0000000 | 0.00000000|
| Asb2   | 2.56670867     | 0.0000000 | 0.00000000|
| Pltp   | 2.5667154      | 0.0000000 | 0.00000000|
| Unc5b  | 2.57177879     | 0.0000000 | 0.00000000|
| Dusp10 | 2.57407662     | 0.0000000 | 0.00000000|
| Aox1   | 2.57531556     | 0.0000000 | 0.00000000|
| P2rx5  | 2.57643921     | 0.0000000 | 0.00000000|
| Cp     | 2.58045777     | 0.0000000 | 0.00000000|
| Cited4 | 2.58234143     | 0.0000049 | 0.00000085|
| Slc37a2| 2.58727233     | 0.0000000 | 0.00000000|
| Mx1    | 2.58753803     | 0.0000000 | 0.00000000|
| Dnah5  | 2.58943153     | 0.0006134 | 0.00014923|
| Gene    | Log2 Fold Change | P-value       | Adjusted P-value |
|---------|-----------------|---------------|-----------------|
| Dusp27  | 2.59287089      | 0.00000000    | 0.00000000      |
| Cd109   | 2.59384553      | 0.00000000    | 0.00000000      |
| Gm10687 | 2.59527434      | 0.00000000    | 0.00000000      |
| Chit1   | 2.59819302      | 0.00000345    | 0.00000671      |
| Gldn    | 2.59977848      | 0.0001028     | 0.00002162      |
| Slc16a5 | 2.60331977      | 0.00000000    | 0.00000000      |
| Plch2   | 2.60565892      | 0.00000000    | 0.00000000      |
| Cald1   | 2.60871046      | 0.00000000    | 0.00000000      |
| Anxa1   | 2.60921343      | 0.00000000    | 0.00000000      |
| Gm21818 | 2.61368842      | 0.00000334    | 0.00000648      |
| Csfl    | 2.61668261      | 0.00000000    | 0.00000000      |
| Hr      | 2.61854075      | 0.00000000    | 0.00000000      |
| Sh3bgr  | 2.62079418      | 0.00000000    | 0.00000000      |
| Mill2   | 2.6211226       | 0.00000000    | 0.00000000      |
| Plaur   | 2.62534089      | 0.00000000    | 0.00000000      |
| Xdh     | 2.63196356      | 0.0005367     | 0.0012914       |
| 2310043P16Rik | 2.63631219 | 0.00000000    | 0.00000000      |
| Adra1b  | 2.63724654      | 0.0006065     | 0.0001398       |
| Ddit4l  | 2.64555788      | 0.00000000    | 0.00000000      |
| Mgrprf  | 2.65096562      | 0.00000277    | 0.00000532      |
| Steap2  | 2.65297483      | 0.00000000    | 0.00000000      |
| Celf5   | 2.66186335      | 0.00000006    | 0.00000010      |
| Mylk3   | 2.66227799      | 0.00000001    | 0.0000001       |
| Stat2   | 2.66470369      | 0.00000000    | 0.00000000      |
| Des     | 2.67028133      | 0.00000000    | 0.00000000      |
| Mfge8   | 2.67071057      | 0.00000000    | 0.00000000      |
| Upk3bl  | 2.67203286      | 0.0000258     | 0.00000491      |
| Klf5    | 2.67243112      | 0.00000000    | 0.00000000      |
| Pcdnh17 | 2.68087951      | 0.00000000    | 0.00000000      |
| Hspb6   | 2.6816573       | 0.00000000    | 0.00000000      |
| Tgm2    | 2.68423918      | 0.00000000    | 0.00000000      |
| Slc4a11 | 2.68470435      | 0.00000000    | 0.00000000      |
| Eno3    | 2.68617141      | 0.00000000    | 0.00000000      |
| Ccn1    | 2.6867464       | 0.00000000    | 0.00000000      |
| Id1     | 2.68820925      | 0.00000000    | 0.00000000      |
| Ndr4g   | 2.69002336      | 0.00000000    | 0.00000000      |
| Cmpk2   | 2.69016671      | 0.00000000    | 0.00000000      |
| Fxyd5   | 2.69320162      | 0.00000000    | 0.00000000      |
| Serpinb6b | 2.69958146   | 0.00000000    | 0.00000000      |
| Coll9a1 | 2.70023823     | 0.00000512    | 0.00001027      |
| 4732419C18Rik | 2.70534363 | 0.00000000    | 0.00000000      |
| LctI    | 2.71317874      | 0.00000000    | 0.00000000      |
| Gene   | Fold Change | P-value   | Log2 Fold Change |
|--------|-------------|-----------|-----------------|
| Adora2a | 2,7166581   | 0,0000000 | 0,00000000      |
| Col8a1  | 2,71694374  | 0,0000216 | 0,00000406      |
| Ttll11  | 2,7175328   | 0,0000000 | 0,00000000      |
| Arnt2   | 2,71995518  | 0,0000000 | 0,00000000      |
| Prph    | 2,72278366  | 0,0000000 | 0,00000000      |
| Lrrc75b | 2,72324145  | 0,0000216 | 0,00000406      |
| Fos     | 2,7234784   | 0,0000000 | 0,00000000      |
| Scn1b   | 2,726054    | 0,0000000 | 0,00000000      |
| Lgr6    | 2,72770603  | 0,0000000 | 0,00000000      |
| Fat2    | 2,73558174  | 0,0000199 | 0,00000371      |
| Irgm1   | 2,7406177   | 0,0000000 | 0,00000000      |
| Pcdhb14 | 2,74190372  | 0,0000000 | 0,00000000      |
| G730013B05Rik | 2,74597524 | 0,0000000 | 0,00000000      |
| Arl4d   | 2,75102501  | 0,0000000 | 0,00000000      |
| Map1a   | 2,75610389  | 0,0000000 | 0,00000000      |
| Vdr     | 2,75645869  | 0,0000000 | 0,00000000      |
| Clea2   | 2,76647098  | 0,0000171 | 0,00000317      |
| Rgs4    | 2,77288923  | 0,0000135 | 0,00000245      |
| Ifi211  | 2,774543    | 0,0000168 | 0,00000311      |
| Pdgfa   | 2,78031101  | 0,0000000 | 0,00000000      |
| Frmd4b  | 2,78428395  | 0,0000000 | 0,00000000      |
| Apobr   | 2,78648747  | 0,0000000 | 0,00000000      |
| Rasa4   | 2,79193483  | 0,0000000 | 0,00000000      |
| Pdkg2   | 2,79438907  | 0,0000000 | 0,00000000      |
| Mgst2   | 2,79442181  | 0,0000000 | 0,00000000      |
| Mpeg1   | 2,79486592  | 0,0000155 | 0,00000285      |
| Bmf     | 2,79988967  | 0,0000000 | 0,00000000      |
| Pik3r5  | 2,80364001  | 0,0000136 | 0,00000249      |
| Suncn1  | 2,80372169  | 0,0000000 | 0,00000000      |
| Rims1   | 2,8080645   | 0,0000000 | 0,00000000      |
| Gm16010 | 2,80839193  | 0,0000000 | 0,00000000      |
| Serpine2| 2,81054055  | 0,0000000 | 0,00000000      |
| Lhfp    | 2,81469306  | 0,0000000 | 0,00000000      |
| Galnt18 | 2,8258757   | 0,0000000 | 0,00000000      |
| Lgals3bp| 2,83611803  | 0,0000000 | 0,00000000      |
| Pla1a   | 2,83627058  | 0,0000263 | 0,00000595      |
| Apod    | 2,84094507  | 0,0000000 | 0,00000000      |
| Gm43197 | 2,84115383  | 0,0000000 | 0,00000000      |
| Gm9887  | 2,84580407  | 0,0000000 | 0,00000000      |
| Itga3   | 2,84623325  | 0,0000000 | 0,00000000      |
| Mmp19   | 2,85480223  | 0,0000000 | 0,00000000      |
| Myh3    | 2,85611947  | 0,0000000 | 0,00000000      |
| Gene       | Log2 Fold Change | FDR  | p-value  |
|------------|-----------------|------|----------|
| Tfec       | 2.85617318      | 0.0000000 | 0.0000000 |
| Col18a1    | 2.86894139      | 0.0000000 | 0.0000000 |
| Fcgr4      | 2.87398346      | 0.0000247 | 0.0000047 |
| Hret1      | 2.88003486      | 0.0000000 | 0.0000000 |
| Epha4      | 2.88443935      | 0.0000000 | 0.0000000 |
| Myl9       | 2.88675844      | 0.0000000 | 0.0000000 |
| Serpinb1b  | 2.89143766      | 0.0000096 | 0.00000172 |
| Cd248      | 2.89733329      | 0.0000000 | 0.0000000 |
| Pcdhb10    | 2.89756587      | 0.0000000 | 0.0000000 |
| Pld2       | 2.90666799      | 0.0000000 | 0.0000000 |
| Tmem106a   | 2.91142346      | 0.0000000 | 0.0000000 |
| Pcyt1b     | 2.91716487      | 0.0000000 | 0.0000000 |
| Aox4       | 2.91739745      | 0.0000090 | 0.00000161 |
| Dmpk       | 2.91766442      | 0.0000000 | 0.0000000 |
| Fbxo2      | 2.92733254      | 0.0000000 | 0.0000000 |
| Dnm3       | 2.92755848      | 0.0000000 | 0.0000000 |
| Rnf150     | 2.92796854      | 0.0000000 | 0.0000000 |
| Ptgs1      | 2.93196816      | 0.0000000 | 0.0000000 |
| 6330403L08Rik | 2.93970008   | 0.0000000 | 0.0000000 |
| Smtnl1     | 2.94932291      | 0.0000001 | 0.00000002 |
| Uba7       | 2.95255961      | 0.0000000 | 0.0000000 |
| Lgals3     | 2.95337322      | 0.0000000 | 0.0000000 |
| Parp8      | 2.95626286      | 0.0000000 | 0.0000000 |
| Hfm1       | 2.95637991      | 0.0000072 | 0.00000127 |
| Trim25     | 2.95688963      | 0.0000000 | 0.0000000 |
| Folr1      | 2.95762794      | 0.0000000 | 0.0000000 |
| Me3        | 2.96061451      | 0.0000000 | 0.0000000 |
| Gm6556     | 2.96163532      | 0.0000000 | 0.0000000 |
| Kctd11     | 2.96237918      | 0.0000000 | 0.0000000 |
| Gm16325    | 2.9660451       | 0.0000000 | 0.0000000 |
| Slec41a2   | 2.96988352      | 0.0000000 | 0.0000000 |
| Gm15640    | 2.97330382      | 0.0000000 | 0.0000000 |
| Plscr2     | 2.97767826      | 0.0000000 | 0.0000000 |
| Nfam1      | 2.98192788      | 0.0000060 | 0.00000104 |
| Kcnb1      | 2.98401664      | 0.0000000 | 0.0000000 |
| Nmb        | 2.99316162      | 0.0000000 | 0.0000000 |
| Gata3      | 2.99972023      | 0.0000000 | 0.0000000 |
| Atp2a3     | 3.00089568      | 0.0001105 | 0.00002336 |
| H2-T23     | 3.00370311      | 0.0000000 | 0.0000000 |
| Thbs1      | 3.01036692      | 0.0000000 | 0.0000000 |
| Slec22a23  | 3.01817581      | 0.0000000 | 0.0000000 |
| Dchs2      | 3.01866987      | 0.0000001 | 0.00000001 |
| Gene   | Log2 Fold Change | P-value 1 | P-value 2 |
|--------|-----------------|-----------|-----------|
| Irf5   | 3.02464555      | 0.0000000 | 0.0000000 |
| Cadm2  | 3.02917133      | 0.0000000 | 0.0000000 |
| Grb10  | 3.03416195      | 0.001295  | 0.0002772 |
| Scn3b  | 3.03452607      | 0.0000000 | 0.0000000 |
| Gm20559| 3.04057018      | 0.0000000 | 0.0000000 |
| Ccn3   | 3.04341619      | 0.0001295 | 0.0000277 |
| Fn1    | 3.05774849      | 0.0000000 | 0.0000000 |
| Myl1   | 3.0589247       | 0.0000077 | 0.0000136 |
| Spef1l | 3.06813228      | 0.0000045 | 0.0000078 |
| Gm7893 | 3.07217263      | 0.0000034 | 0.0000058 |
| Igde4  | 3.0747407       | 0.0000000 | 0.0000000 |
| Gm17501| 3.07691121      | 0.0000000 | 0.0000000 |
| Tmem151a| 3.07881464     | 0.0000000 | 0.0000000 |
| Nppb   | 3.08042347      | 0.0000000 | 0.0000000 |
| Sle27a1| 3.08262198      | 0.0000000 | 0.0000000 |
| Sema3e | 3.08922703      | 0.0000000 | 0.0000000 |
| S100a13| 3.09019088      | 0.0000000 | 0.0000000 |
| Kcnk2  | 3.09898397      | 0.0000000 | 0.0000000 |
| Gm26797| 3.0994878       | 0.0000000 | 0.0000000 |
| Sqor   | 3.10195861      | 0.0001040 | 0.0000218 |
| Psmb8  | 3.11306855      | 0.0000039 | 0.0000066 |
| Ppff1  | 3.12521966      | 0.0000937 | 0.0000196 |
| Acsg1  | 3.12928048      | 0.0000000 | 0.0000000 |
| Prr5l  | 3.1303633       | 0.0000000 | 0.0000000 |
| 2310008N11Rik | 3.13439544   | 0.0000035 | 0.0000060 |
| Akap12 | 3.13518405      | 0.0000000 | 0.0000000 |
| Ptn    | 3.13738006      | 0.0000920 | 0.0000125 |
| Postn  | 3.14106776      | 0.0000000 | 0.0000000 |
| Irq1   | 3.1415434       | 0.0000000 | 0.0000000 |
| Tnn    | 3.1438506       | 0.0000032 | 0.0000053 |
| Lama3  | 3.14716797      | 0.0000051 | 0.0000087 |
| Ace    | 3.14960826      | 0.0000000 | 0.0000000 |
| Hmcn2  | 3.16079393      | 0.0000000 | 0.0000000 |
| Gsta4  | 3.16222915      | 0.0000000 | 0.0000000 |
| Prkag3 | 3.16557483      | 0.0000030 | 0.0000050 |
| Edil3  | 3.16708863      | 0.0000000 | 0.0000000 |
| Oasl1  | 3.16774858      | 0.0000000 | 0.0000000 |
| 1700007K13Rik | 3.16961543 | 0.0000000 | 0.0000000 |
| Acap1  | 3.17139233      | 0.0000000 | 0.0000000 |
| Lamb1  | 3.17334302      | 0.0000000 | 0.0000000 |
| Gm42765| 3.17641428      | 0.0000030 | 0.0000049 |
| Ttc9   | 3.17751903      | 0.0000000 | 0.0000000 |
| Gene   | Expression | Log2 Fold Change | Adjusted P-Value |
|--------|------------|-----------------|------------------|
| Parp10 | 3.18238426 | 0.00000000      | 0.00000000       |
| Ifi47  | 3.18641291 | 0.00000000      | 0.00000000       |
| Slc17a8| 3.18870286 | 0.00000000      | 0.00000000       |
| Cpz    | 3.18938315 | 0.00000000      | 0.00000000       |
| Tap2   | 3.19531853 | 0.00000000      | 0.00000000       |
| Adeyap1r1| 3.20002892| 0.00000170      | 0.00000028       |
| Samd9l | 3.20104391 | 0.00000000      | 0.00000000       |
| Tapbp  | 3.21262175 | 0.00000000      | 0.00000000       |
| Sp9    | 3.2200972  | 0.00000000      | 0.00000000       |
| Ube2l6 | 3.22039102 | 0.00000000      | 0.00000000       |
| Tnfrsf22| 3.22608948| 0.00000000      | 0.00000000       |
| Helz2  | 3.2294615  | 0.00000000      | 0.00000000       |
| Lst1   | 3.2307126  | 0.00000000      | 0.00000000       |
| Myof   | 3.23154279 | 0.00000000      | 0.00000000       |
| Ier5l  | 3.23234759 | 0.00000000      | 0.00000000       |
| Sgms2  | 3.23738494 | 0.00000000      | 0.00000000       |
| 4930417H01Rik | 3.2378151 | 0.00000230      | 0.00000370       |
| Tspan2 | 3.24361907 | 0.00000000      | 0.00000000       |
| S100a7a| 3.24878933 | 0.00000170      | 0.00000027       |
| Grhl3  | 3.24908847 | 0.00000000      | 0.00000000       |
| Nmnat2 | 3.25242712 | 0.00000000      | 0.00000000       |
| 0610012D04Rik | 3.2607123 | 0.00000000      | 0.00000000       |
| Bst2   | 3.26199203 | 0.00000000      | 0.00000000       |
| Lgals7 | 3.26748407 | 0.00000003      | 0.00000004       |
| Akap3  | 3.27550562 | 0.00000240      | 0.00000390       |
| S100a3 | 3.27602685 | 0.00000000      | 0.00000001       |
| Igf2   | 3.2831933  | 0.00000140      | 0.00000022       |
| Nlrc10 | 3.28878592 | 0.00000000      | 0.00000000       |
| Cdsn   | 3.29376801 | 0.00000000      | 0.00000000       |
| Corin  | 3.29698906 | 0.00000000      | 0.00000000       |
| Mdg1   | 3.30003467 | 0.00000020      | 0.00000003       |
| Padi3  | 3.31027046 | 0.00000020      | 0.00000002       |
| Ggt1   | 3.31084894 | 0.00000000      | 0.00000000       |
| Rnase4 | 3.31375567 | 0.00000000      | 0.00000000       |
| Rab11fip5 | 3.31567627| 0.00000000      | 0.00000000       |
| Nlrc3  | 3.32307612 | 0.00000000      | 0.00000000       |
| Sertad4| 3.32531507 | 0.00000000      | 0.00000000       |
| Notch1 | 3.33034803 | 0.00000000      | 0.00000000       |
| Irf9   | 3.34330996 | 0.00000000      | 0.00000000       |
| Nlrc5  | 3.35012438 | 0.00000000      | 0.00000000       |
| Serpina3n | 3.35235632| 0.00000001      | 0.00000002       |
| Fblim1 | 3.35400629 | 0.00000000      | 0.00000000       |
| Gene       | Log2FC | p-value | q-value |
|------------|--------|---------|---------|
| Hcfc1r1    | 3.36317482 | 0.0000000 | 0.00000000 |
| Artn       | 3.36941709 | 0.0000000 | 0.00000000 |
| Lmod1      | 3.37448008 | 0.0000000 | 0.00000000 |
| Oasl2      | 3.37455711 | 0.0000000 | 0.00000000 |
| Pkhd1      | 3.37586603 | 0.0000000 | 0.00000000 |
| Ltbp1      | 3.37988218 | 0.0000000 | 0.00000000 |
| Usp17ld    | 3.38871853 | 0.0000364 | 0.00000712 |
| Cav1       | 3.39093826 | 0.0000000 | 0.00000000 |
| Kenh2      | 3.39353226 | 0.0000000 | 0.00000000 |
| Palld      | 3.4015898  | 0.0000000 | 0.00000000 |
| Cen2       | 3.4068118  | 0.0000000 | 0.00000000 |
| Cd34       | 3.4096655  | 0.0000000 | 0.00000000 |
| 9330175E14Rik | 3.41366524 | 0.0000000 | 0.00000000 |
| Cd38       | 3.42410259 | 0.0000000 | 0.00000000 |
| Robo3      | 3.42821319 | 0.0000000 | 0.00000000 |
| Hspa1b     | 3.42889793 | 0.0000000 | 0.00000000 |
| Apobec1    | 3.43189033 | 0.0000000 | 0.00000000 |
| Atp1b2     | 3.44205057 | 0.0000000 | 0.00000000 |
| Gst3       | 3.44521772 | 0.0000000 | 0.00000000 |
| C1s1       | 3.4540066  | 0.0000000 | 0.00000000 |
| Slc16a11   | 3.46297201 | 0.0000000 | 0.00000000 |
| Adh7       | 3.4636076  | 0.0000000 | 0.00000000 |
| Galnt15    | 3.46470117 | 0.0000007 | 0.00000111 |
| Plk2       | 3.46974525 | 0.0000000 | 0.00000000 |
| Slfn8      | 3.47423988 | 0.0000269 | 0.00000514 |
| Dhx58      | 3.47719225 | 0.0000000 | 0.00000000 |
| Pramel19   | 3.47847877 | 0.0000269 | 0.00000515 |
| Btg2       | 3.47975584 | 0.0000000 | 0.00000000 |
| 4930461G14Rik | 3.48274365 | 0.0000007 | 0.00000011 |
| Ak1        | 3.48732787 | 0.0000000 | 0.00000000 |
| Trim34a    | 3.4927983  | 0.0000000 | 0.00000000 |
| Tmprss11f  | 3.50184159 | 0.0000000 | 0.00000000 |
| Pdgfb      | 3.50539838 | 0.0000000 | 0.00000000 |
| Foxn1      | 3.51201868 | 0.0000218 | 0.00000411 |
| Cccdc180   | 3.51537322 | 0.0000006 | 0.00000009 |
| Zbp1       | 3.52171611 | 0.0000005 | 0.00000008 |
| Serpinb1a  | 3.53136119 | 0.0000000 | 0.00000000 |
| Lif        | 3.53286167 | 0.0000000 | 0.00000000 |
| III2rb1    | 3.54547355 | 0.0000000 | 0.00000000 |
| Gm15767    | 3.54571007 | 0.0000006 | 0.00000009 |
| Ldb3       | 3.5474811  | 0.0000000 | 0.00000000 |
| Spn        | 3.5505323  | 0.0000000 | 0.00000000 |
| Gene   | Value1  | Value2  | Value3  |
|--------|---------|---------|---------|
| Ppm1e  | 3.55147322 | 0.0000000 | 0.0000000 |
| Nupr1  | 3.5541424 | 0.0000000 | 0.0000000 |
| Rin1   | 3.55563316 | 0.0000000 | 0.0000000 |
| Gm15228| 3.55670617 | 0.0000005 | 0.0000008 |
| Trim12a| 3.56163454 | 0.0000000 | 0.0000000 |
| Cst3   | 3.56469586 | 0.0000000 | 0.0000000 |
| Nckap5 | 3.57196083 | 0.0000000 | 0.0000000 |
| Gdpd2  | 3.57284597 | 0.0000000 | 0.0000000 |
| Rnf213 | 3.57737315 | 0.0000000 | 0.0000000 |
| Col10a1| 3.5800396 | 0.0000000 | 0.0000000 |
| Tnnt2  | 3.58068119 | 0.0000000 | 0.0000000 |
| Efhd1  | 3.5933022 | 0.0000000 | 0.0000000 |
| Usp17la| 3.61261257 | 0.0000004 | 0.0000006 |
| Tnxb   | 3.61834307 | 0.0000000 | 0.0000000 |
| Ccdc9b | 3.62355495 | 0.0000000 | 0.0000000 |
| Nqo1   | 3.63321988 | 0.0000000 | 0.0000000 |
| Gm2065 | 3.63437788 | 0.0000000 | 0.0000000 |
| Ptn5   | 3.65695135 | 0.0000003 | 0.0000005 |
| Plekha6| 3.66769677 | 0.0000000 | 0.0000000 |
| Itga8  | 3.67772269 | 0.0000000 | 0.0000000 |
| Nell2  | 3.68820435 | 0.0000001 | 0.0000002 |
| Cobl   | 3.69733617 | 0.0000003 | 0.0000004 |
| Ifit1b2| 3.7428771 | 0.0000102 | 0.0000184 |
| Cfap70 | 3.74966521 | 0.0000000 | 0.0000000 |
| Ifi35  | 3.76451817 | 0.0000000 | 0.0000000 |
| Serpinb9| 3.77137219 | 0.0000000 | 0.0000000 |
| Parp12 | 3.79995505 | 0.0000000 | 0.0000000 |
| Parp9  | 3.8046578 | 0.0000000 | 0.0000000 |
| H2-K1  | 3.81858347 | 0.0000000 | 0.0000000 |
| Lrig1  | 3.82589172 | 0.0000000 | 0.0000000 |
| Tap1   | 3.83030603 | 0.0000000 | 0.0000000 |
| Fbn1   | 3.85114136 | 0.0000064 | 0.0000112 |
| Stat1  | 3.85927604 | 0.0000000 | 0.0000000 |
| Prl2c5 | 3.87047593 | 0.0000000 | 0.0000000 |
| Iqsec3 | 3.87331414 | 0.0000060 | 0.0000105 |
| Tmem40 | 3.87979958 | 0.0000000 | 0.0000000 |
| Prkg2  | 3.88275792 | 0.0000000 | 0.0000000 |
| Wnt9a  | 3.8900451 | 0.0000000 | 0.0000001 |
| Gpr176 | 3.8923745 | 0.0000000 | 0.0000000 |
| Krt7   | 3.90427006 | 0.0000054 | 0.0000094 |
| Ifi27  | 3.91227526 | 0.0000000 | 0.0000000 |
| Timp4  | 3.91948685 | 0.0000000 | 0.0000000 |
| Gene   | Log2 Fold Change | P-value 1 | P-value 2 |
|--------|-----------------|-----------|-----------|
| Tgtp2  | 3.92772311      | 0.0000001 | 0.0000001 |
| Fas    | 3.94091531      | 0.0000001 | 0.0000001 |
| Egr1   | 3.9528833       | 0.0000000 | 0.0000000 |
| Hspb1  | 3.95617505      | 0.0000000 | 0.0000000 |
| Rsad2  | 3.95763586      | 0.0000000 | 0.0000000 |
| Usp17le| 3.97058788      | 0.0000004 | 0.0000007 |
| Sympo2 | 3.97235165      | 0.0000000 | 0.0000000 |
| Oas1b  | 3.97275948      | 0.0000000 | 0.0000000 |
| Ndrg2  | 3.9773921       | 0.0000000 | 0.0000000 |
| Actg2  | 3.99734185      | 0.0000000 | 0.0000000 |
| Prl2c2 | 4.00598222      | 0.0000000 | 0.0000000 |
| Kitl   | 4.0335247       | 0.0000000 | 0.0000000 |
| Otog   | 4.05628075      | 0.0000000 | 0.0000000 |
| Car5b  | 4.06098315      | 0.0000000 | 0.0000000 |
| Ifih1  | 4.06403621      | 0.0000000 | 0.0000000 |
| Pgf    | 4.10457395      | 0.0000000 | 0.0000000 |
| Tmem179| 4.11046593      | 0.0000000 | 0.0000000 |
| Vgf    | 4.13779807      | 0.0000000 | 0.0000000 |
| Khdc8a | 4.14273464      | 0.0000000 | 0.0000000 |
| Plb1   | 4.15780134      | 0.0000000 | 0.0000000 |
| Gm20658| 4.15908247      | 0.0000000 | 0.0000000 |
| Fbn1e2 | 4.1713756       | 0.0000000 | 0.0000000 |
| Eda2r  | 4.19516565      | 0.0000000 | 0.0000000 |
| Serping1| 4.20782289    | 0.0000000 | 0.0000000 |
| Chrnb1 | 4.20843519      | 0.0000000 | 0.0000000 |
| Vat1l  | 4.21854713      | 0.0000000 | 0.0000000 |
| Gm40038| 4.23431821      | 0.0000000 | 0.0000000 |
| Mx2    | 4.24995465      | 0.0000000 | 0.0000000 |
| Axl    | 4.30423295      | 0.0000000 | 0.0000000 |
| Slit1  | 4.30747501      | 0.0000000 | 0.0000000 |
| Phf11d | 4.32081259      | 0.0000010 | 0.00000015|
| Ifit3b | 4.3446813       | 0.0000000 | 0.0000000 |
| Sp100  | 4.34905847      | 0.0000000 | 0.0000000 |
| Ecm1   | 4.35611429      | 0.0000000 | 0.0000000 |
| Ifit3  | 4.42112797      | 0.0000000 | 0.0000000 |
| Trim12c| 4.42254757      | 0.0000000 | 0.0000000 |
| Parp14 | 4.43081677      | 0.0000000 | 0.0000000 |
| Trim30d| 4.44049241      | 0.0000006 | 0.0000000 |
| Marchf10| 4.45455384    | 0.0000000 | 0.0000000 |
| Ifi44  | 4.45650693      | 0.0000005 | 0.0000000 |
| Gbp2   | 4.45668972      | 0.0000000 | 0.0000000 |
| Oas1a  | 4.46174809      | 0.0000000 | 0.0000000 |
| Gene       | Score  | Log2 Fold Change | p-value  |
|------------|--------|-----------------|----------|
| Cacna1a    | 4.4791 | 0.00000000      | 0.00000000 |
| Uroc1      | 4.4863 | 0.00000000      | 0.00000000 |
| Eph2       | 4.4969 | 0.00000000      | 0.00000000 |
| Ptpn7      | 4.4982 | 0.00000005      | 0.00000007 |
| Ifit1      | 4.5136 | 0.00000000      | 0.00000000 |
| S100a4     | 4.5410 | 0.00000000      | 0.00000000 |
| Slc18a1    | 4.6053 | 0.00000000      | 0.00000000 |
| Clu        | 4.6125 | 0.00000000      | 0.00000000 |
| Igfbp7     | 4.6282 | 0.00000000      | 0.00000000 |
| Lrrc15     | 4.6850 | 0.00000000      | 0.00000000 |
| Isg20      | 4.7094 | 0.00000000      | 0.00000000 |
| Gbp7       | 4.7053 | 0.00000000      | 0.00000000 |
| Dgldc5     | 4.7536 | 0.00000000      | 0.00000000 |
| Gm19705    | 4.7553 | 0.00000002      | 0.00000002 |
| Dysf       | 4.7793 | 0.00000000      | 0.00000000 |
| Ces2e      | 4.8096 | 0.00000000      | 0.00000000 |
| Pkp3       | 4.8169 | 0.00000000      | 0.00000000 |
| Cot6a1     | 4.8307 | 0.00000000      | 0.00000000 |
| Ifitm3     | 4.8461 | 0.00000000      | 0.00000000 |
| Oas3       | 4.8461 | 0.00000000      | 0.00000000 |
| Ntn4       | 4.8744 | 0.00000000      | 0.00000000 |
| Cd80       | 4.8970 | 0.00000000      | 0.00000000 |
| Ddax560    | 4.9505 | 0.00000000      | 0.00000000 |
| Cemip      | 4.9505 | 0.00000000      | 0.00000000 |
| Pcdh12     | 4.9686 | 0.00000000      | 0.00000000 |
| Oas1g      | 4.9741 | 0.00000000      | 0.00000000 |
| Prss23     | 4.9764 | 0.00000000      | 0.00000000 |
| Ddax58     | 5.0664 | 0.00000000      | 0.00000000 |
| Dnase1l3   | 5.1191 | 0.00000000      | 0.00000000 |
| Syn2       | 5.1937 | 0.00000000      | 0.00000000 |
| Wincr1     | 5.1974 | 0.00000000      | 0.00000000 |
| Ifi204     | 5.1993 | 0.00000000      | 0.00000000 |
| Gbp3       | 5.2728 | 0.00000000      | 0.00000000 |
| S100a6     | 5.3185 | 0.00000000      | 0.00000000 |
| Col1a1     | 5.3475 | 0.00000000      | 0.00000000 |
| S1c6a12    | 5.3567 | 0.00000000      | 0.00000000 |
| Hspb7      | 5.3852 | 0.00000000      | 0.00000000 |
| Tgfb1      | 5.3957 | 0.00000000      | 0.00000000 |
| 9530053A07Rik | 5.4262 | 0.00000000      | 0.00000000 |
| Serpinb2   | 5.4344 | 0.00000000      | 0.00000000 |
| Usp18      | 5.5285 | 0.00000000      | 0.00000000 |
| Xaf1       | 5.7429 | 0.00000000      | 0.00000000 |
| Gene   | Log2 Fold Change | P-value | Q-value |
|--------|-----------------|---------|---------|
| Trim30a| 5.82596206      | 0.0000000 | 0.00000000 |
| Follr2 | 5.86887308      | 0.0000000 | 0.00000000 |
| Irf7   | 5.90694971      | 0.0000000 | 0.00000000 |
| Ccdc80 | 5.9929708       | 0.0000000 | 0.00000000 |
| Irgm2  | 6.04934234      | 0.0000000 | 0.00000000 |
| Rtp4   | 6.0891282       | 0.0000000 | 0.00000000 |
| Oas2   | 6.12990547      | 0.0000000 | 0.00000000 |
| Fgd3   | 6.3064106       | 0.0000000 | 0.00000000 |
| Serpine1| 6.32353614     | 0.0000000 | 0.00000000 |
| Isg15  | 6.4068244       | 0.0000000 | 0.00000000 |
| Igtp   | 6.67842264      | 0.0000000 | 0.00000000 |
| Il11   | 6.70096026      | 0.0000000 | 0.00000000 |
| Sncg   | 7.35680016      | 0.0000000 | 0.00000000 |
| Tnfrsf23| 7.4369703       | 0.0000000 | 0.00000000 |
| Apol9a | 7.52919892      | 0.0000000 | 0.00000000 |
| Serpinb9b| 7.61596295     | 0.0000000 | 0.00000000 |
| Apol9b | 7.87800091      | 0.0000000 | 0.00000000 |
| Lamc2  | 7.90218155      | 0.0000000 | 0.00000000 |

1 MO4 cells exposed to 1μM CM-272 for 24 hours were subjected to RNA sequencing. Gene expression counts were processed using DESeq2 R-package to render normalized expression counts and report on log2-fold changes with corresponding p-values and q-values. Listed genes comply with following cut-offs: p-value <0.0005, q-value <0.002, and |log2-fold change| >1.

2 log2-fold change represents CM-272 condition relative to vehicle condition.
Table S2 – RNA sequencing of CM-272-treated MO4 cells in vitro - significantly changed gene sets. ¹

| Gene set name                                                                 | # genes | NES     | FDR-value | p-value |
|------------------------------------------------------------------------------|---------|---------|-----------|---------|
| **Epigenetic regulation of gene expression and protein stability**          |         |         |           |         |
| **Golgi to ER transport**                                                   |         |         |           |         |
| REACTOME_GOLGI_TO_ER RETROGRADE_TRANS                                       | 125     | -1.9019 | 0.0025    | 0.0     |
| REACTOME_COPI_DEPENDENT_GOLGI_TO_ERRetrograde_TRAFFIC                      | 91      | -2.13   | 0.0001    | 0.0     |
| REACTOME_KINESINS                                                           | 53      | -2.2377 | 0.0       | 0.0     |
| REACTOME_MHC_CLASS_II_ANTIGEN_PRESENTATION                                  | 112     | -1.4152 | 0.0914    | 0.0     |
| REACTOME_INTRAFEROGRADE_GOLGI_TO_ER_TRAFFIC                                | 191     | -1.4671 | 0.0688    | 0.0     |
| REACTOME_FACTORS_INVOLVED_IN_MEGAKARYOCYTE_DEVELOPMENT_AND_PLATELET_PRODUCTION | 138     | -1.9897 | 0.0009    | 0.0     |
| REACTOME_RHO_GTPASES.ACTIVATE_IQGAPS                                         | 26      | -1.7509 | 0.0099    | 0.0     |
| **DNA modifications**                                                       |         |         |           |         |
| REACTOME DNA METHYLATION                                                    | 27      | -2.4511 | 0.0       | 0.0     |
| REACTOME_POSITIVE_EPIGENETIC_REGULATION_OF_RRNA_EXPRESSION                 | 68      | -2.3641 | 0.0       | 0.0     |
| REACTOME_PRC2_METHYLATES_HISTONES_AND_DNA                                   | 35      | -2.5158 | 0.0       | 0.0     |
| REACTOME_EPIGENETIC_REGULATION_OF_GENE_EXPRESSION                           | 109     | -2.4318 | 0.0       | 0.0     |
| **Histone modifications**                                                   |         |         |           |         |
| WP_HISTONE_MODIFICATIONS                                                    | 44      | -1.9623 | 0.0012    | 0.0     |
| REACTOME_PKMTS_METHYLATE_HISTONE_LYSINES                                     | 49      | -2.2776 | 0.0       | 0.0     |
| REACTOME_RMTS_METHYLATE_HISTONE_ARGININES                                   | 46      | -2.0037 | 0.0008    | 0.0     |
| REACTOME_CROMATIN_MODIFYING_ENZYMES                                        | 230     | -2.0504 | 0.0004    | 0.0     |
| REACTOME_HATS_ACETYLATE_HISTONES                                            | 99      | -2.0788 | 0.0002    | 0.0     |
| REACTOME_HDACS_DEACETYLATE_HISTONES                                         | 51      | -2.1175 | 0.0001    | 0.0     |
| **mRNA processing**                                                         |         |         |           |         |
| REACTOME_PROCESSING_OF_CAPPED_INTRONLESS_PRE_MRNA                           | 28      | -2.1348 | 0.0001    | 0.0     |
| REACTOME_PROCESSING_OF_CAPPED_INTRONContaining_PRE_MRNA                    | 237     | -2.8765 | 0.0       | 0.0     |
| REACTOME_MRNA SPlicing                                                      | 187     | -2.585  | 0.0       | 0.0     |
| KEGG_SPliceosome                                                            | 121     | -2.3184 | 0.0       | 0.0     |
| REACTOME_MRNA SPlicing_MINOR_PATHWAY                                        | 52      | -1.9737 | 0.0011    | 0.0     |
| WP_MRNA_PROCESSING                                                          | 125     | -2.633  | 0.0       | 0.0     |
| REACTOME_RNA_POLYMERASE_II_TRANSCRIPTATION_TERMINATION                      | 65      | -2.4017 | 0.0       | 0.0     |
| **Pyrimidine metabolism**                                                   |         |         |           |         |
| KEGG_PYRIMIDINE_METABOLISM                                                  | 94      | -1.8542 | 0.0004    | 0.0     |
| WP_PYRIMIDINE_METABOLISM                                                    | 81      | -1.7382 | 0.0109    | 0.0     |
| **RNA degradation**                                                         |         |         |           |         |
| REACTOME DEADENYLATION_OF_MRNA                                              | 25      | -1.9513 | 0.0014    | 0.0     |
| Pathway                                      | ID  | Score   | P-value | q-value |
|----------------------------------------------|-----|---------|---------|---------|
| REACTOME DEADENYLATION_DEPENDENT_MRNA DECAY  | 55  | -2.245  | 0.0     | 0.0     |
| KEGG RNA DEGRADATION                        | 56  | -1.8081 | 0.0064  | 0.0     |
| **Sumoylation of proteins**                  |     |         |         |         |
| REACTOME GLUCOSE METABOLISM                  | 89  | -1.4631 | 0.0702  | 0.0     |
| REACTOME HCMV LATE EVENTS                    | 68  | -2.3627 | 0.0     | 0.0     |
| REACTOME SNRNP ASSEMBLY                      | 51  | -2.6013 | 0.0     | 0.0     |
| REACTOME HIV LIFE CYCLE                      | 141 | -1.932  | 0.0018  | 0.0     |
| REACTOME TRANSCRIPTIONAL_REGULATION_BY SMALL_RNAS | 67  | -2.5892 | 0.0     | 0.0     |
| REACTOME INTERACTIONS_OF_VPR_WITH_HOST CELLULAR PROTEINS | 34  | -2.3605 | 0.0     | 0.0     |
| REACTOME EXPORT_OF_VIRAL_RIBONUCLEOPROTEINS_FROM_NUCLEUS | 30  | -2.3538 | 0.0     | 0.0     |
| REACTOME INTERACTIONS_OF_REV_WITH_HOST CELLULAR PROTEINS | 35  | -2.4247 | 0.0     | 0.0     |
| REACTOME HCMV INFECTION                      | 108 | -2.2718 | 0.0     | 0.0     |
| REACTOME GLYCOLYSIS                          | 69  | -1.7334 | 0.0113  | 0.0     |
| REACTOME TRNA_PROCESSING                     | 107 | -2.0594 | 0.0003  | 0.0     |
| REACTOME_SUMOYLATION_OF_SUMOYLATION_PROTEINS | 33  | -2.4211 | 0.0     | 0.0     |
| REACTOME_TRANSPORT_OF_MATURE_MRNAS_DERIVED_FROM_INTRONLESS_TRANSCRIPTS | 41  | -2.4636 | 0.0     | 0.0     |
| REACTOME_TRNA_PROCESSING_IN_THE_NUCLEUS     | 57  | -2.3999 | 0.0     | 0.0     |
| REACTOME_SUMOYLATION_OF_RNA_BINDING_PROTEINS | 44  | -2.3122 | 0.0     | 0.0     |
| REACTOME_SUMOYLATION_OF_DNA_DAMAGE_RESPONSE_AND_REPAIR_PROTEINS | 73  | -2.131  | 0.0001  | 0.0     |
| REACTOME_POSTMITOTIC_NUCLEAR_PORE_COMPLEX_NPC_REFORMATION | 26  | -2.369  | 0.0     | 0.0     |
| REACTOME_SUMOYLATION_OF_DNA_REPLICATION_PROTEINS | 44  | -2.5818 | 0.0     | 0.0     |
| REACTOME_REGULATION_OF_HSF1_MEDIATED_HEAT_SHOCK_RESPONSE | 77  | -1.6503 | 0.0207  | 0.0     |
| REACTOME_VIRAL_MESSENGER_RNA_SYNTHESIS       | 42  | -2.2042 | 0.0     | 0.0     |
| REACTOME_NUCLEAR_PORE_COMPLEX_npc_disassembly | 34  | -2.5401 | 0.0     | 0.0     |
| REACTOME_SUMOYLATION                         | 169 | -2.0821 | 0.0002  | 0.0     |
| REACTOME_NUCLEAR_IMPORT_OF_REV_PROTEIN       | 32  | -2.4397 | 0.0     | 0.0     |
| REACTOME_TRANSPORT_OF_THE_SLBP_DEPENDENT_MATURE_MRNA | 34  | -2.4215 | 0.0     | 0.0     |
| REACTOME_NUCLEAR_ENVELOPEBREAKDOWN           | 51  | -2.3189 | 0.0     | 0.0     |
| REACTOME_NSI1_MEDIATED_EFFECTS_ON_HOST_PATHWAYS | 38  | -1.9847 | 0.0009  | 0.0     |
| REACTOME_HCMV_EARLY_EVENTS                   | 87  | -2.4343 | 0.0     | 0.0     |
| REACTOME_SUMOYLATION_OF_UBIQUITINYLATION_PROTEINS | 37  | -2.126  | 0.0001  | 0.0     |
| REACTOME_GENE_SILENCING_BY_RNA              | 98  | -2.2526 | 0.0     | 0.0     |
| REACTOME_TRANSPORT_OF_MATURE_TRANSCRIPT_TO_CYTOPLASM | 80  | -2.6262 | 0.0     | 0.0     |
| REACTOME_SUMOYLATION_OF_CHROMATIN_ORGANIZATION_PROTEINS | 55  | -2.3872 | 0.0     | 0.0     |
| Pathway                                                                 | FDR   | Adjusted FDR | p-val | q-val |
|------------------------------------------------------------------------|-------|--------------|-------|-------|
| REACTOME_REGULATION_OF_GLUCOKINASE_BY_GLUCOKINASE_REGULATORY_PROTEIN    | 30    | -2.2865      | 0.0   | 0.0   |

**Immune recognition and responses**

| Pathway                                                                 | FDR   | Adjusted FDR | p-val | q-val |
|------------------------------------------------------------------------|-------|--------------|-------|-------|
| Antigen presentation                                                   |       |              |       |       |
| KEGG_ANTIGEN_PROCESSING_AND_PRESENTATION                              | 53    | 1.623        | 0.0339| 0.0023|
| REACTOME_ANTIGEN_PRESENTATION_FOLDING_ASSEMBLY_AND_PEPTEIDE_LOADING_OF_CLASS_I_MHC | 21    | 1.6003       | 0.0408| 0.0027|
| Autoimmune signaling                                                   |       |              |       |       |
| KEGG_ALLOGRAFT_REJECTION                                              | 27    | 1.8458       | 0.0033| 0.0   |
| KEGG_VIRAL_MYOCARDITIS                                                | 60    | 1.6186       | 0.0349| 0.0   |
| WP_ALLOGRAFT_REJECTION                                                | 77    | 1.6921       | 0.0185| 0.0011|
| KEGG_TYPE_I_DIABETES_MELLITUS                                        | 33    | 1.743        | 0.0108| 0.0   |
| KEGG_GRAFT_VERSUS_HOST_DISEASE                                        | 26    | 1.7866       | 0.0067| 0.0   |
| KEGG_AUTOIMMUNE_THYROID_DISEASE                                       | 31    | 1.8228       | 0.0041| 0.0   |
| Complement system                                                      |       |              |       |       |
| REACTOME_COMPLEMENT_CASCADE                                           | 58    | 1.6089       | 0.0375| 0.0023|
| REACTOME_FORMATION_OF_FIBRIN_CLOT_CLOTTING_CASCADE                    | 37    | 1.6206       | 0.0344| 0.0025|
| WP_COMPLEMENT_AND_COAGULATIONCASCADE                                  | 55    | 1.6055       | 0.0391| 0.0012|
| KEGG_COMPLEMENT_AND_COAGULATIONCASCADE                                | 64    | 1.7139       | 0.0146| 0.0   |
| WP_HUMAN_COMPLEMENT_SYSTEM                                            | 89    | 1.8625       | 0.0022| 0.0   |
| Inflammatory response                                                 |       |              |       |       |
| REACTOME_INTERLEUKIN_10_SIGNALING                                     | 42    | 1.9482       | 0.0002| 0.0   |
| WP_CYTOKINES_AND_INFLAMMATARY_RESPONSE                                 | 26    | 1.7504       | 0.0105| 0.0013|
| KEGG_JAK_STAT_SIGNALING_PATHWAY                                       | 138   | 1.5014       | 0.0926| 0.0011|
| WP_DEVELOPMENT_AND_HETEROGENEITY_OF_THE_ILC_FAMILY                    | 32    | 1.8309       | 0.0037| 0.0   |
| KEGGHEMEATOPOIEITIC_Cell_LINEAGE                                     | 78    | 1.9497       | 0.0003| 0.0   |
| KEGG_CYTOKINE_CYTOKINE_RECEPTOR_INTERACTION                           | 231   | 1.7192       | 0.0136| 0.0   |
| Interferon signaling                                                  |       |              |       |       |
| WP_TYPE_II_INTERFERON_SIGNALING_IFNG                                   | 34    | 1.8623       | 0.0021| 0.0   |
| WP_THE_HUMAN_IMMUNE_RESPONSE_TO_TUBERCULOSIS                          | 22    | 2.0883       | 0.0   | 0.0   |
| REACTOME_INTERFERON_GAMMA_SIGNALING                                   | 76    | 2.0867       | 0.0   | 0.0   |
| REACTOME_INTERFERON_ALPHA_BETA_SIGNALING                              | 52    | 2.3095       | 0.0   | 0.0   |
| REACTOME_INTERFERON_SIGNALING                                         | 166   | 1.9177       | 0.0009| 0.0   |
| Interleukin pathways                                                  |       |              |       |       |
| PID_IL12_2PATHWAY                                                     | 61    | 1.6012       | 0.0406| 0.0   |
| PID_IL27_PATHWAY                                                     | 26    | 1.5955       | 0.0418| 0.0   |
| REACTOME_INTERLEUKIN_4_AND_INTERLEUKIN_13_SIGNALING                   | 109   | 1.8759       | 0.0021| 0.0   |
| PID_IL23_PATHWAY                                                     | 37    | 1.7323       | 0.0112| 0.0039|
| TGF-β signaling                                                       |       |              |       |       |
| WP_HYPOTHESIZED_PATHWAYS_IN_PATHOGENESIS_OF_CARDIOVASCULAR_DISEASE    | 24    | 1.7069       | 0.0153| 0.0013|
| WP_TGF_BETA_RECEPTOR_SIGNALING                                       | 54    | 1.6506       | 0.0264| 0.0   |
| Pathway Description                                                                 | P-value | q-value | FDR  |
|------------------------------------------------------------------------------------|---------|---------|------|
| WP_TGFbeta_receptor_signalling_in_skeletal_dysplasias                              | 58      | 1.6447  | 0.0  |
| **Toll-like receptor signaling**                                                    |         |         |      |
| KEGG_TOLL_LIKE_RECEPTOR_SIGNALING_PATHWAY                                           | 88      | 1.5516  | 0.0661 | 0.0022 |
| WP_REGULATION_OF_TOLLLIKE_RECEPTOR_SIGNALING_PATHWAY                              | 128     | 1.5392  | 0.0716 | 0.0  |
| WP_TOLLLIKE_RECEPTOR_SIGNALING_PATHWAY                                             | 90      | 1.5144  | 0.084  | 0.0022 |
| REACTOME_TRAF6_MEDIATED_IRF7_ACTIVATION                                            | 18      | 1.6801  | 0.0209 | 0.0027 |
| WP_TOLLLIKE_RECEPTOR_SIGNALING_RELATED_TO_MYD88                                   | 31      | 1.6168  | 0.0349 | 0.0025 |
| WP_SARS_Coronavirus_and_Innate_Immunity                                             | 20      | 1.7346  | 0.0109 | 0.0027 |
| WP_MIRNAS_INVOLVEMENT_IN_THE_IMMUNE_RESPONSE_INFERS_IN_SEPSIS                      | 60      | 1.5995  | 0.0406 | 0.0023 |
| WP_HOSTPATHOGEN_INTERACTION_OF_HUMAN_CORONA_VIRUSES_INTERFERON_INDUCTION           | 33      | 1.7904  | 0.0065 | 0.0  |
| WP_TYPE_1_INTERFERON_INDUCTION_AND_SIGNALING_DURING_SARSCOV2_INFECTION             | 29      | 1.7061  | 0.0153 | 0.0026 |
| WP_FIBRIN_COMPLEMENT_RECEPTOR_3_SIGNALING_PATHWAY                                  | 41      | 1.6355  | 0.0293 | 0.0012 |
| **Carcinogenesis-related pathways**                                                |         |         |      |
| **Cell cycle**                                                                      |         |         |      |
| REACTOME_RHO_GTPASE_EFFECTORS                                                      | 274     | -2.6005 | 0.0   | 0.0  |
| REACTOME_CELL_CYCLE_CHECKPOINTS                                                    | 265     | -3.1369 | 0.0   | 0.0  |
| REACTOME_ANCHORING_OF_THE_BASAL_BODY_TO_THE_PLASMA_MEMBRANE                         | 96      | -2.4938 | 0.0   | 0.0  |
| REACTOME_RECRUITMENT_OF_NUMA_TO_MITOTIC_CENTROSOMES                               | 87      | -2.4848 | 0.0   | 0.0  |
| REACTOME_INHIBITION_OF_DNA_RECOMBINATION_AT_TELOMERE                               | 38      | -2.1621 | 0.0001 | 0.0  |
| REACTOME_INHIBITION_OF_THE_PROTEOLYTIC_ACTIVITY_OF_APC_C_REQUIRED_FOR_THE_ONSET_OF_ANAPHASE_BY_MITOTIC_SPINDLE_CHECKPOINT_COMPONENTS | 21      | -2.0011 | 0.0008 | 0.0  |
| REACTOME_CYCLIN_A1_B1_B2_ASSOCIATED EVENTS_DURING_G2_M_TRANSITION                  | 25      | -2.6381 | 0.0   | 0.0  |
| REACTOME_RUNX1_REGULATES_GENES_INVOLVED_IN_MEGAKARYOCYTE_DIFFERENTIATION_AND_PLATELET_FUNCTION | 59      | -1.6988 | 0.0145 | 0.0  |
| PID_E2F_PATHWAY                                                                    | 72      | -2.2036 | 0.0   | 0.0  |
| REACTOME_INITIATION_OF_NUCLEAR_ENVELOPE_REFORMATION                                | 19      | -2.069  | 0.0003 | 0.0  |
| REACTOMEFORMATION_OF_THE_BETA_CATENIN_TCF_TRANSACTIVATING_COMPLEX                   | 53      | -2.2427 | 0.0   | 0.0  |
| WP_DNA_IRDOUBLE_STRAND_BREAKS_DSBS_AND_CELLULAR_RESPONSE_VIA_ATM                   | 55      | -2.5294 | 0.0   | 0.0  |
| REACTOME_TELOMERE_C_STRAND_LAGGING_STRAND_SYNTHESIS                                 | 33      | -2.6074 | 0.0   | 0.0  |
| PID_ATM_PATHWAY                                                                    | 34      | -2.2806 | 0.0   | 0.0  |
| REACTOME_REPRODUCTION                                                              | 104     | -2.3235 | 0.0   | 0.0  |
| REACTOME_ORGANELLE_BIOGENESIS_AND_MAINTENANCE                                       | 288     | -1.7125 | 0.0132 | 0.0  |
| Pathway                                                                 | Gene Set ID | q-value | p-value           |
|------------------------------------------------------------------------|-------------|---------|-------------------|
| Reactome Senescence-associated secretory phenotype (SASP)              | 72          | 1.9527  | 0.0014            |
| Reactome Polymerase switching on the C strand of the telomere          | 25          | 2.5368  | 0.0               |
| Reactome B-Wich complex positively regulates rRNA expression            | 53          | 2.2701  | 0.0               |
| Reactome Mitotic G2 G2 M phases                                       | 191         | 2.4314  | 0.0               |
| Reactome Activation of anterior Hox genes in hindbrain development during early embryogenesis | 84          | 2.2113  | 0.0               |
| Reactome Chromosome maintenance                                       | 109         | 3.1124  | 0.0               |
| Reactome Telomere maintenance                                         | 83          | 2.8198  | 0.0               |
| Pid Fanci Pathway                                                      | 46          | 2.7261  | 0.0               |
| Reactome Translesion synthesis by Y family DNA polymerases by bypasses lesions on DNA template | 39          | 1.7728  | 0.0083            |
| Reactome ERCC6-CSB and EHMT2 G9A positively regulate rRNA expression   | 38          | 2.4181  | 0.0               |
| Reactome Mitotic prophase                                             | 102         | 2.6825  | 0.0               |
| Reactome regulation of TP53 activity                                  | 158         | 2.0434  | 0.0004            |
| Wp Retinoblastoma gene in cancer                                      | 86          | 3.1195  | 0.0               |
| Reactome Cyclin A CDK2 associated events at S phase entry              | 85          | 1.5635  | 0.0371            |
| Reactome G2 M DNA damage checkpoint                                   | 70          | 2.8504  | 0.0               |
| Reactome negative epigenetic regulation of rRNA expression             | 70          | 2.3514  | 0.0               |
| Reactome recruitment of mitotic centromere some proteins and complexes | 78          | 2.496   | 0.0               |
| Reactome conversion from APC-C-CDC20 to APC-C-Cdh1 in late anaphase    | 20          | 1.8448  | 0.0044            |
| Reactome Termination of translesion DNA synthesis                     | 32          | 1.7089  | 0.0134            |
| Pid Atr Pathway                                                        | 39          | 2.8735  | 0.0               |
| Reactome transcription of E2f targets under negative control by P107 Rbl1 and P130 Rbl2 in complex with HDAC1 | 16          | 2.3997  | 0.0               |
| Kegg Oocyte meiosis                                                   | 107         | 2.0208  | 0.0006            |
| Reactome separation of sister chromatids                              | 183         | 2.8433  | 0.0               |
| Reactome regulation of TP53 activity through phosphorylation          | 91          | 2.2074  | 0.0               |
| Reactome lagging strand synthesis                                     | 20          | 2.6226  | 0.0               |
| Reactome Aurora activation by TPX2                                    | 71          | 2.6781  | 0.0               |
| Pid Plk1 Pathway                                                       | 46          | 2.9439  | 0.0               |
| Reactome phosphorylation of the APC-C                                   | 20          | 1.9603  | 0.0012            |
| Reactome switching of origins to a post replicative state              | 91          | 2.054   | 0.0004            |
| Wp DNA IR damage and cellular response via ATR                         | 80          | 2.9654  | 0.0               |
| Reactome G1 S specific transcription                                   | 28          | 2.7196  | 0.0               |
| Reactome dual incision in Gg NER                                       | 40          | 2.3625  | 0.0               |
| Reactome Processive synthesis on the C strand of the telomere          | 18          | 2.1099  | 0.0001            |
| Pathway Description | Z-Score | P-Value | q-Value |
|---------------------|---------|---------|---------|
| Reactome Activation of ATR in Response to Replication Stress | -2.8539 | 0.0000 | 0.0000 |
| KEGG DNA Replication | -2.9181 | 0.0000 | 0.0000 |
| Reactome Dual Incision in TC NER | -2.0551 | 0.0004 | 0.0000 |
| Reactome E2F Mediated Regulation of DNA Replication | -2.2966 | 0.0000 | 0.0000 |
| Reactome Transcription of E2F Targets Under Negative Control by DREAM Complex | -2.3834 | 0.0000 | 0.0000 |
| KEGG Progesterone Mediated Oocyte Maturation | -1.9003 | 0.0025 | 0.0025 |
| Reactome Translesion Synthesis by Polk | -2.0197 | 0.0006 | 0.0000 |
| Reactome Translesion Synthesis by Polh | -2.1091 | 0.0001 | 0.0000 |
| Reactome RNA Polymerase I Transcription | -2.2326 | 0.0000 | 0.0000 |
| WP G1 to S Cell Cycle Control | -2.4889 | 0.0000 | 0.0000 |
| Reactome Rho GTPases Activate Formins | -3.0313 | 0.0000 | 0.0000 |
| Reactome Resolution of AP Sites Via the Multiple Nucleotide Patch Replacement Pathway | -2.5118 | 0.0000 | 0.0000 |
| Reactome Diseases of Mitotic Cell Cycle | -1.7759 | 0.0082 | 0.0082 |
| Reactome HDR Through Single Strand Annealing SSA | -2.5529 | 0.0000 | 0.0000 |
| WP DNA Mismatch Repair | -2.5945 | 0.0000 | 0.0000 |
| Reactome Resolution of D Loop Structures | -2.4205 | 0.0000 | 0.0000 |
| Reactome M Phase | -2.9423 | 0.0000 | 0.0000 |
| Reactome DNA Damage Telomere Stress Induced Senescence | -2.3346 | 0.0000 | 0.0000 |
| Reactome Extension of Telomerases | -2.7375 | 0.0000 | 0.0000 |
| Reactome G0 and Early G1 | -2.6346 | 0.0000 | 0.0000 |
| Reactome Processive Synthesis On The Lagging Strand | -2.4115 | 0.0000 | 0.0000 |
| Reactome Resolution of Abasic Sites Ap Sites | -2.5524 | 0.0000 | 0.0000 |
| Reactome Mitotic G1 Phase and G1 S Transition | -2.7303 | 0.0000 | 0.0000 |
| Reactome HDR Through Homologous Recombination HRR | -2.7893 | 0.0000 | 0.0000 |
| Reactome Meiotic Synapsis | -2.3809 | 0.0000 | 0.0000 |
| Reactome Meiosis | -2.5991 | 0.0000 | 0.0000 |
| Reactome Polo Like Kinase Mediated Events | -2.4900 | 0.0000 | 0.0000 |
| Reactome Activation of The Pre Replicative Complex | -2.9215 | 0.0000 | 0.0000 |
| Reactome Recognition and Association Of DNA Glycosylase With Site Containing An Affected Purine | -2.4810 | 0.0000 | 0.0000 |
| Reactome APC CDC20 Mediated Degradation of NEK2A | -2.1708 | 0.0000 | 0.0000 |
| Reactome Sirt1 Negatively Regulates RNA Expression | -2.4826 | 0.0000 | 0.0000 |
| Reactome Oxidative Stress Induced Senescence | -2.1904 | 0.0000 | 0.0000 |
| Reaction/Metabolism                                      | Count | Log2 Fold Change | P-Value | q-Value |
|--------------------------------------------------------|-------|-----------------|---------|---------|
| Reactome G2 M Checkpoints                              | 143   | -2.7554         | 0.0     | 0.0     |
| Reactome Transcriptional Regulation of Granulopoiesis  | 52    | -2.2394         | 0.0     | 0.0     |
| Reactome Transcription Coupled Nucleotide Excision Repair TC_NER_ | 76    | -2.1176         | 0.0001  | 0.0     |
| Reactome Cilium Assembly                               | 195   | -1.8208         | 0.0058  | 0.0     |
| Kegg Homologous Recombination                         | 27    | -2.5111         | 0.0     | 0.0     |
| Reactome Cyclin D Associated Events In G1              | 47    | -1.7167         | 0.0129  | 0.0     |
| Reactome Nuclear Envelope Ne Reassembly                | 67    | -2.4833         | 0.0     | 0.0     |
| Reactome Mitotic Metaphase And Anaphase                | 225   | -2.9416         | 0.0     | 0.0     |
| Reactome Mitotic Prometaphase                          | 193   | -3.2758         | 0.0     | 0.0     |
| Reactome APC C CDC20 Mediated Degradation Of Cyclin B  | 24    | -2.0514         | 0.0004  | 0.0     |
| WP Regulation Of Sister Chromatid Separation At The Metaphase Anaphase Transition | 15    | -2.1792         | 0.0001  | 0.0     |
| WP Cell Cycle                                          | 119   | -2.5818         | 0.0     | 0.0     |
| Reactome Assembly Of The Pre Replication VE Complex    | 68    | -1.8755         | 0.0032  | 0.0     |
| Reactome Resolution Of Sister Chromatid Cohesion       | 118   | -3.3488         | 0.0     | 0.0     |
| Reactome Rho GTPases Activate PKNs                     | 53    | -1.973          | 0.0011  | 0.0     |
| Reactome Cellular Senescence                           | 155   | -2.1188         | 0.0001  | 0.0     |
| Reactome Fanconi Anemia Pathway                        | 37    | -2.1185         | 0.0001  | 0.0     |
| Reactome Estrogen Dependent Gene Expression            | 111   | -1.7563         | 0.0094  | 0.0     |
| Kegg Cell Cycle                                        | 123   | -2.63           | 0.0     | 0.0     |
| Reactome Condensation Of Prophase Chromosomes          | 35    | -2.6805         | 0.0     | 0.0     |
| Reactome RunX1 Regulates Transcription Of Genes Involved In Differentiation Of HSCS | 92    | -1.5984         | 0.0296  | 0.0     |
| Reactome DNA Replication                               | 127   | -2.7513         | 0.0     | 0.0     |
| Reactome Regulation Of PLK1 Activity At G2 M Transition | 86    | -2.6285         | 0.0     | 0.0     |
| Reactome RNA Polymerase I Promoter Escape              | 52    | -2.2517         | 0.0     | 0.0     |
| Reactome Pre Notch Expression And Processing           | 82    | -1.6885         | 0.0156  | 0.0     |
| Reactome Gap Filling DNA Repair Synthesis Is And Ligation In GG NER_ | 25    | -2.4277         | 0.0     | 0.0     |
| WP Base Excision Repair                                | 31    | -2.5328         | 0.0     | 0.0     |
| Reactome Global Genome Nucleotide Excision Repair GG NER_ | 83    | -2.1227         | 0.0001  | 0.0     |
| Reactome DNA Replication Pre Initiation                | 84    | -2.4054         | 0.0     | 0.0     |
| Kegg Mismatch Repair                                   | 22    | -2.559          | 0.0     | 0.0     |
| Reactome Mitotic Spindle Checkpoint                    | 109   | -3.2107         | 0.0     | 0.0     |
| Reactome Signaling By Rho GTPases                     | 402   | -2.3289         | 0.0     | 0.0     |
| Reactome DNA Strand Elongation                         | 32    | -3.0646         | 0.0     | 0.0     |
| Pathway                                                                 | Rank | Score  | Adjusted p-value | False Discovery Rate | FDR Corrected p-value |
|------------------------------------------------------------------------|------|--------|-------------------|----------------------|-----------------------|
| REACTOME_APC_C_MEDIATED_DEGRADATION_OF_CELL_CYCLE_PROTEINS             | 88   | -1.9093| 0.0023            | 0.0                  |
| REACTOME_MEIOTIC_RECOMBINATION                                         | 48   | -2.6358| 0.0               | 0.0                  |
| REACTOME_ORC1_REMOVAL_FROM_CHROMATIN                                   | 71   | -1.7797| 0.008             | 0.0                  |
| REACTOME_RESOLUTION_OF_D_LOOP_STRUCTURES_THROUGH_SYNTHESIS_DEPENDENT_STRAND_ANNEALING_SDSA | 26   | -2.4311| 0.0               | 0.0                  |
| REACTOME_ACTIVATED_PKN1_STIMULATES_TRANScription_OF_AR_ANDROGEN_RECEPTOR_REGULATED_GENES_KLK2_AND_KLK3 | 27   | -2.4351| 0.0               | 0.0                  |
| WP_DNA_REPLICATION                                                      | 41   | -2.967 | 0.0               | 0.0                  |
| PID_BARD1_PATHWAY                                                      | 29   | -2.5673| 0.0               | 0.0                  |
| REACTOME_S_PHASE                                                      | 162  | -2.7695| 0.0               | 0.0                  |
| REACTOME_DEPOSITION_OF_NEW_CENPAContaining_NUCLEOSOMES_AT_THE_CENTROMERE | 44   | -2.8681| 0.0               | 0.0                  |
| **DNA damage response**                                               |      |        |                   |                      |
| WP_MIRNA_REGULATION_OF_DNA_DAMAGE_RESPONSE                              | 88   | -1.8351| 0.0049            | 0.0                  |
| WP_DNA_DAMAGE_RESPONSE                                                | 66   | -1.8157| 0.006             | 0.0                  |
| WP_ATM_SIGNALING_PATHWAY                                               | 40   | -2.0345| 0.0005            | 0.0                  |
| WP_INTEGRATED_CANCER_PATHWAY                                           | 44   | -1.8389| 0.0048            | 0.0                  |
| KEGG_NUCLEOTIDE_EXCISION_REPAIR                                       | 42   | -2.4169| 0.0               | 0.0                  |
| REACTOME_DNA_DAMAGE_BYPASS                                             | 48   | -1.8898| 0.0028            | 0.0                  |
| REACTOME_NONHOMOLOGOUS_END_JOINING_NHEJ                                | 44   | -2.4834| 0.0               | 0.0                  |
| REACTOME_HOMOLOGOUS_DNA_PAIRING_AND_STRAND_EXCHANGE                   | 42   | -2.7215| 0.0               | 0.0                  |
| REACTOME_PCNA_DEPENDENT_LONG_PATCH_BASE_EXCISION_REPAIR               | 21   | -2.5942| 0.0               | 0.0                  |
| REACTOME_NUCLEOTIDE_EXCISION_REPAIR                                   | 108  | -2.1   | 0.0001            | 0.0                  |
| REACTOME_DNA_REPAIR                                                   | 296  | -2.6978| 0.0               | 0.0                  |
| KEGG_BASE_EXCISION_REPAIR                                             | 33   | -2.169 | 0.0001            | 0.0                  |
| REACTOME_BASE_EXCISION_REPAIR                                         | 60   | -2.8635| 0.0               | 0.0                  |
| REACTOME_DNA_DOUBLE_STRAND_BREAK_RESPONSE                              | 52   | -2.4418| 0.0               | 0.0                  |
| REACTOME_BASE_EXCISION_REPAIR_AP_SITEFORMATION                       | 33   | -2.4868| 0.0               | 0.0                  |
| REACTOME_MISMATCH_REPAIR                                              | 15   | -2.2441| 0.0               | 0.0                  |
| REACTOME_HOMOLOGY_DIRECTED_REPAIR                                     | 112  | -3.046 | 0.0               | 0.0                  |
| REACTOME_RECOGNITION_OF_DNA_DAMAGE_BY_PCNA_CONTAINING_REPLICATION_COMPLEX | 30   | -2.4868| 0.0               | 0.0                  |
| WP_NUCLEOTIDE_EXCISION_REPAIR                                        | 42   | -2.4755| 0.0               | 0.0                  |
| REACTOME_DNA_DOUBLE_STRAND_BREAK_REPAIR                               | 140  | -3.0429| 0.0               | 0.0                  |
| REACTOME_PROCESSING_OF_DNA_DOUBLE_STRAND_BREAK_ENDS                   | 73   | -2.8438| 0.0               | 0.0                  |
| **ECM metabolism**                                                    |      |        |                   |                      |
| WP_MATRIX_METALLOPROTEINASES                                          | 29   | 1.6362 | 0.0292            | 0.0038               |
| PID_INTEGRIN5_PATHWAY                                                 | 17   | 1.6712 | 0.023             | 0.0                  |
| KEGG_FOCAL_ADHESION                                                   | 195  | 1.6641 | 0.0237            | 0.0                  |
| REACTOME_LAMININ_INTERACTIONS                                         | 30   | 1.8015 | 0.0057            | 0.0                  |
| REACTOME_MET_ACTIVATES_PTK2_SIGNALING                                 | 30   | 1.6404 | 0.0282            | 0.0026               |
| PID_INTEGRIN1_PATHWAY                                                 | 66   | 1.9123 | 0.0009            | 0.0                  |
| Pathway Description                                           | Value 1 | Value 2   | Value 3   | Value 4 |
|--------------------------------------------------------------|---------|-----------|-----------|---------|
| **REACTOME_COLLAGEN_CHAIN_TRIMERIZATION**                    | 43      | 1.6418    | 0.0278    | 0.0012  |
| **REACTOME_INTEGRIN_CELL_SURFACE_INTERACTIONS**             | 84      | 1.7676    | 0.0081    | 0.0     |
| **REACTOME_ANCHORING_FIBRILFORMATION**                      | 15      | 1.8935    | 0.0015    | 0.0     |
| WP_ALPHA_6_BETA_4_SIGNALING_PATHWAY                          | 33      | 1.5979    | 0.0409    | 0.0026  |
| **REACTOME_COLLAGENFORMATION**                              | 89      | 1.8363    | 0.0038    | 0.0     |
| PID_AVB3_OPN_PATHWAY                                         | 31      | 1.6701    | 0.0232    | 0.0012  |
| **REACTOME_DEGRADATION_OF_THE_EXTRACELLULAR_MATRIX**        | 134     | 1.8377    | 0.0039    | 0.0     |
| PID_INTEGRIN2_PATHWAY                                        | 28      | 1.7013    | 0.0166    | 0.0013  |
| **REACTOME_COLLAGEN_BIOSYNTHESIS_AND_MODIFYING_ENZYMES**    | 66      | 1.5997    | 0.0408    | 0.0023  |
| **REACTOME_ASSEMBLY_OF_COLLAGEN_FIBRILS_AND_OTHER_MULTIMERIC_STRUCTURES** | 61      | 1.8358    | 0.0037    | 0.0     |
| **REACTOME_ECM_PROTEOGLYCANS**                              | 76      | 1.7397    | 0.0108    | 0.0     |
| **REACTOME_EXTRACELLULAR_MATRIX_ORGANIZATION**              | 291     | 1.7677    | 0.0083    | 0.0     |
| **REACTOME_COLLAGEN_DEGRADATION**                           | 63      | 1.7591    | 0.0094    | 0.0     |
| **REACTOME_NON_INTEGRIN_MEMBRANE_ECM_INTERACTIONS**         | 59      | 1.773     | 0.0077    | 0.0     |
| **KEGG_ECM_RECEPTOR_INTERACTION**                           | 83      | 1.637     | 0.0292    | 0.0     |
| **PID_AVB3_INTEGRIN_PATHWAY**                                | 74      | 1.6628    | 0.0234    | 0.0     |
| **PID_INTEGRIN3_PATHWAY**                                    | 43      | 1.9161    | 0.0008    | 0.0     |
| **PID_SYNDECAN_1_PATHWAY**                                   | 46      | 1.5358    | 0.0734    | 0.0048  |
| **PID_UPA_UPAR_PATHWAY**                                     | 42      | 1.7766    | 0.0075    | 0.0     |
| WP_FOCAL_ADHESION                                           | 195     | 1.6186    | 0.0352    | 0.0     |
| **Keratinization**                                          |         |           |           |         |
| **REACTOMEFORMATION_OF_THE_CORNIFIED_ENVELOPE**              | 99      | 1.6139    | 0.0361    | 0.0     |
| **REACTOME_KERATINIZATION**                                 | 130     | 1.6896    | 0.019     | 0.0     |
| **NCAM signaling**                                          |         |           |           |         |
| **REACTOME_NCAM1_INTERACTIONS**                             | 42      | 1.7417    | 0.0108    | 0.0     |
| **REACTOME_NCAM_SIGNALING_FOR_NEURITE_OUT_GROWTH**           | 63      | 1.7358    | 0.0108    | 0.0     |
| **PPAR signaling**                                          |         |           |           |         |
| **KEGG_PPAR_SIGNALING_PATHWAY**                             | 68      | 1.5814    | 0.0491    | 0.0035  |
| **WP_PPAR_SIGNALING_PATHWAY**                               | 67      | 1.618     | 0.0349    | 0.0035  |
| **TP53 regulation**                                         |         |           |           |         |
| **REACTOME_TP53_REGULATES_TRANSCRIPTION_OF_CELL_CYCLE_GENES** | 48      | -1.9636   | 0.0012    | 0.0     |
| **REACTOME_TRANSCRIPTIONAL_REGULATION_BY_TP53**              | 350     | -1.7507   | 0.0099    | 0.0     |
| **PID_P53_DOWNSTREAM_PATHWAY**                              | 131     | 1.4861    | 0.0998    | 0.0021  |
| **REACTOME_TP53_REGULATES_TRANSCRIPTION_OF_GENES_INVOLVED_IN_G2_CELL_CYCLE_ARREST** | 17      | -1.9329   | 0.0018    | 0.0     |
| **Others**                                                   |         |           |           |         |
| **Adipogenesis**                                            |         |           |           |         |
| WP_ADIPOGENESIS                                             | 129     | 1.7206    | 0.0136    | 0.0     |
| WP_TRANSCRIPTION_FACTOR_REGULATION_IN_ADIPOGENESIS           | 22      | 1.8038    | 0.0055    | 0.0     |
| **Cardiomyopathy**                                          |         |           |           |         |
| **KEGG_HYPERTROPHIC_CARDIOMYOPATHY_HCM**                    | 83      | 1.6682    | 0.0232    | 0.0     |
| Gene Set                                           | Gene Set ID | NES | FDR   | p-value   |
|---------------------------------------------------|-------------|-----|-------|-----------|
| KEGG DILATED CARDIOMYOPATHY                       | 89          | 1.6431 | 0.0277 | 0.0011    |
| KEGG_ARRHYTHMOGENIC_RIGHT_VENTRICULAR CARDIOMYOPATH_ARVC | 74          | 1.5454 | 0.0682 | 0.0011    |
| WP_ARRHYTHMOGENIC_RIGHT_VENTRICULAR/Cardiomyopathy | 74          | 1.5328 | 0.074  | 0.0034    |

**Fatty acid metabolism**

| Gene Set                                           | Gene Set ID | NES | FDR   | p-value   |
|---------------------------------------------------|-------------|-----|-------|-----------|
| REACTOME_ARACHIDONIC_ACID_METABOLISM               | 53          | 1.663 | 0.0236 | 0.0       |
| WP_EICOSANOID_SYNTHESIS                           | 22          | 1.6724 | 0.0229 | 0.0027    |
| WP_EICOSANOID_METABOLISM_VIA_LIPO_OXYGENASES_LOX  | 28          | 1.6988 | 0.0171 | 0.0013    |
| REACTOME_FATTY_ACID_METABOLISM                    | 168         | 1.5306 | 0.0756 | 0.0       |

**Glutathione/cytochrome p450 metabolism**

| Gene Set                                           | Gene Set ID | NES | FDR   | p-value   |
|---------------------------------------------------|-------------|-----|-------|-----------|
| WP_GLUTATHIONE_METABOLISM                         | 19          | 1.6734 | 0.0228 | 0.0028    |
| REACTOME_PHASE_II_CONJUGATION_OF_COMPOUNDS        | 86          | 1.7161 | 0.0141 | 0.0       |
| KEGG_METABOLISM_OF_XENOBOTICS_BY_CYTOCHROME_P450  | 48          | 1.9572 | 0.0002 | 0.0       |
| WP_METAPATHWAY_BIOTRANSFORMATION_PHASE_I_AND_II   | 149         | 1.6565 | 0.0249 | 0.0       |
| REACTOME_PHASE_I_FUNCTIONALIZATION_OF_COMPOUNDS   | 93          | 1.6458 | 0.0276 | 0.0       |
| REACTOME_CYTOCHROME_P450_ARRANGED_BY_SUBSTRATE_TYPE | 55       | 1.5261 | 0.0781 | 0.0048    |
| KEGG RETINOL_METABOLISM                           | 44          | 1.7199 | 0.0136 | 0.0       |
| REACTOME_BIOLOGICAL_OXIDATIONS                    | 184         | 1.7924 | 0.0065 | 0.0       |
| KEGG_GLUTATHIONE_METABOLISM                       | 46          | 1.5179 | 0.0812 | 0.0012    |
| REACTOME_GLUTATHIONE_CONJUGATION                  | 31          | 1.8742 | 0.0002 | 0.0       |
| KEGG_DRUG_METABOLISM_CYTOCHROME_P450              | 50          | 1.925  | 0.0006 | 0.0       |

**Muscle contraction**

| Gene Set                                           | Gene Set ID | NES | FDR   | p-value   |
|---------------------------------------------------|-------------|-----|-------|-----------|
| REACTOME_ION_HOMEOSTASIS                           | 52          | 1.723  | 0.0132 | 0.0       |
| REACTOME_SMOOTH_MUSCLE_CONTRACTION                 | 36          | 2.0309 | 0.0    | 0.0       |
| WP_STRIATED_MUSCLE_CONTRACTION_PATHWAY             | 38          | 1.7136 | 0.0145 | 0.005     |
| REACTOME_MUSCLE_CONTRACTION                        | 200         | 1.866  | 0.002  | 0.0       |
| REACTOME_CARDIAC_CONDUCTION                        | 134         | 1.6643 | 0.0239 | 0.0       |

1 MO4 cells exposed to 1µM CM-272 for 24 hours were subjected to RNA sequencing, followed by GSEA on normalized gene expression counts. Listed gene sets comply with the following cut-offs: nominal p-value <0.005, FDR-value <0.1, and |NES| >1.
Table S3 – Multiplex gene expression analysis on *ex vivo* tumor tissue - significantly changed gene sets. ¹

| Gene set name                                                                 | # genes | NES    | FDR-value | p-value |
|------------------------------------------------------------------------------|---------|--------|-----------|---------|
| **Immune response**                                                          |         |        |           |         |
| *Toll-like receptor signaling*                                                |         |        |           |         |
| REACTOME_MYD88_INDEPENDENT_TLR4_CASCADE                                       | 16      | 2.3143 | 0.0       | 0.0     |
| REACTOME_TOLLLIKE_RECEPTOR_4_TLR4_CASCADE                                     | 20      | 2.223  | 0.0005    | 0.0     |
| REACTOME_TOLLLIKE_RECEPTORCASCADE                                            | 22      | 2.1434 | 0.0003    | 0.0     |
| REACTOME_TOLLLIKE_RECEPTOR_TLR1_TLR2_CASCADE                                 | 16      | 2.0911 | 0.0008    | 0.0     |
| WP_CYTOSOLIC_DNASENSING_PATHWAY                                              | 16      | 1.9938 | 0.0025    | 0.0016  |
| WP_NOVEL_INTRACELLULAR_COMPONENTS_OF_RIGILIKE_RECEPTOR_RLR_PATHWAY           | 15      | 1.934  | 0.0042    | 0.0     |
| KEGG_RIG_ILIKE_RECEPTOR_SIGNALING_PATHWAY                                    | 16      | 1.8374 | 0.0088    | 0.0     |
| KEGG_TOLLLIKE_RECEPTOR_SIGNALING_PATHWAY                                     | 23      | 1.7758 | 0.0122    | 0.0046  |
| WP_TOLLLIKE_RECEPTOR_SIGNALING_PATHWAY                                       | 23      | 1.7679 | 0.0116    | 0.0046  |
| **IFN-I response**                                                           |         |        |           |         |
| REACTOME_DDX58_IFIH1_MEDIATED_INDUCTION_OF_INTERFERON_ALPHA_BETA              | 17      | 2.0716 | 0.0008    | 0.0     |
| **T cell receptor signaling**                                                |         |        |           |         |
| WP_TCELL_ANTIGEN_RECEPTOR_TCR_SIGNALING_PATHWAY                              | 24      | 1.7989 | 0.0104    | 0.0     |
| **Other pathways**                                                           |         |        |           |         |
| *Signaling by nuclear receptors*                                             |         |        |           |         |
| REACTOME_SIGNALING_BY_NUCLEAR_RECEPTORS                                      | 17      | 1.9016 | 0.0051    | 0.0016  |
| **Cancer-related pathways**                                                  |         |        |           |         |
| WP_INTEGRATED_BREAST_CANCER_PATHWAY                                          | 15      | 1.961  | 0.0035    | 0.0     |
| REACTOME_TRANSCRIPTIONAL_REGULATION_BY_TP53                                   | 16      | 1.8904 | 0.0054    | 0.0047  |
| WP_GASTRIN_SIGNALING_PATHWAY                                                  | 16      | 1.8744 | 0.0061    | 0.0015  |
| KEGG_APOPTOSIS                                                               | 15      | 1.8212 | 0.0096    | 0.015   |
| KEGG_PATHWAYS_IN_CANCER                                                      | 32      | 1.8003 | 0.0105    | 0.0015  |
| KEGG_APOPTOSIS                                                               | 15      | 1.8212 | 0.0096    | 0.015   |

¹ Tumors of MO4 tumor-bearing mice subjected to the CM-272 treatment regimen were resected at 706.9±193.8 mm³ tumor volume and subjected to multiplex gene expression analysis, followed by GSEA on normalized gene expression counts. Listed gene sets comply with following cut-offs: nominal *p*-value <0.005, FDR-value <0.1, and |NES| >1.
|                  | Days after tumor inoculation | 7 | 10 | 11 | 12 | 13 | 14 | 17 | 18 | 19 |
|------------------|-----------------------------|---|----|----|----|----|----|----|----|----|
| **Sidak multiple comparison test** |                             |   |     |     |     |     |     |     |     |     |
| vehicle vs CM-272 |                             | - | -  | -  | -  | -  | -  | -  | -  | -  |
| vehicle vs DC     |                             | - | -  | *  | *  | ** | *  | -  | -  | -  |
| vehicle vs DC + CM-272 |                        | * | ** | *  | ** | ***| ***|*** |*** |*** |
| CM-272 vs DC      |                             | - | -  | -  | -  | -  | -  | -  | -  | -  |
| CM-272 vs DC + CM-272 |                         | - | -  | *  | *  | ** | *  | -  | -  | -  |
| DC vs DC + CM-272 |                             | - | -  | -  | -  | -  | -  | -  | -  | -  |

1 MO4 tumor-bearing C57Bl6J mice were subjected to following treatment regimen: vehicle treatment, CM-272 treatment, vehicle treatment + DC vaccination, or CM-272 treatment + DC vaccination, until 1000 mm³ tumor volume endpoint was reached. Mean tumor volume in time was plotted for each experimental group, until the first mouse of the concerning group had reached the experimental endpoint tumor volume (Figure 5C). Experimental conditions were statistically compared using REML modeling with Geisser-Greenhouse correction and post-hoc Sidak multiple comparison test. Fixed effects of ‘treatment’ was significant (p<0.0001). Adjusted p-values (q-values) of the Sidak multiple comparison tests are listed in this table. Asterisks indicate statistical significance: * q≤0.05; ** q≤0.01; *** q≤0.001; **** q≤0.0001.