Supplementary Material

1.1 Supplementary Tables

**Table S1.** Clinical information of patients in TCGA-OV and ICGC OV-AU datasets.

| Clinical Parameters | Subtype | TCGA-OV Samples | ICGC OV-AU Samples |
|---------------------|---------|----------------|-------------------|
| Age                 | <60     | 190            | 50                |
|                     | ≥60     | 171            | 43                |
| Stage               | I       | 1              | /                 |
|                     | II      | 21             | /                 |
|                     | III     | 286            | 79                |
|                     | IV      | 53             | 14                |
| OS times (months)   | <12     | 62             | 11                |
|                     | ≥12     | 299            | 82                |

Notes: TCGA, The Cancer Genome Atlas; ICGC, International Cancer Genome Consortium; OS, Overall survival.

**Table S2.** The results of immune-related differentially expressed genes (DEGs).

| Gene             | conMean | treatMean | logFC  | pValue  | FDR     |
|------------------|---------|-----------|--------|---------|---------|
| TSPEAR           | 0.359972| 0.136653  | -1.39737| 2.64E-08| 2.49E-07|
| SYCP2L           | 0.207928| 0.100134  | -1.05415| 0.00028 | 0.000979|
| CDHR4            | 1.745065| 0.613497  | -1.50815| 0.009826| 0.021175|
| SULT1C2          | 1.621802| 1.030727  | -0.65394| 2.87E-05| 0.000132|
| SLC9A9           | 0.738347| 1.597264  | 1.113231| 1.05E-30| 4.82E-29 |
| CD68             | 0.794459| 1.856841  | 1.224806| 2.68E-36| 1.78E-34 |
| NPM2             | 0.592847| 0.257861  | -1.20106| 3.05E-07| 2.32E-06 |
| ST6GALNAC3       | 0.683108| 0.360941  | -0.92035| 8.00E-06| 4.29E-05 |
| OSMR             | 6.433393| 11.6608   | 0.858015| 1.91E-13| 3.51E-12 |
| CFAP70           | 0.819098| 0.524898  | -0.642  | 1.74E-05| 8.48E-05 |
| FBN3             | 4.852862| 1.73253   | -1.48596| 1.63E-12| 2.72E-11 |
| ZNF99            | 0.208317| 0.117077  | -0.83132| 1.79E-06| 1.13E-05 |
| RSPH9            | 1.596742| 0.904138  | -0.82052| 0.001751| 0.004786 |
| SEPTIN5          | 3.906884| 2.421345  | -0.69021| 1.01E-05| 5.24E-05 |
| POSTN            | 9.570291| 23.89095  | 1.319829| 1.18E-10| 1.59E-09 |
| NHLRC4           | 0.998503| 0.611544  | -0.70731| 0.000512| 0.001652 |
| C1orf158         | 0.863978| 0.302027  | -1.51632| 8.86E-06| 4.68E-05 |
| CCDC81           | 0.497545| 0.183069  | -1.44244| 3.81E-05| 0.000169 |
| TMIGD2           | 0.100914| 0.436627  | 2.113274| 3.79E-34| 2.18E-32 |
| TTC25            | 1.566488| 0.847449  | -0.88633| 1.04E-10| 1.41E-09 |
| ABCA6            | 0.092077| 0.160569  | 0.802274| 3.21E-07| 2.43E-06 |
| Gene       | conMean | treatMean | logFC  | pValue     | FDR       |
|------------|---------|-----------|--------|------------|-----------|
| CFAP100    | 1.188425| 0.452378  | -1.39345| 1.80E-07   | 1.44E-06  |
| FAM167A    | 1.479431| 0.972842  | -0.60477| 0.010086   | 0.021675  |
| MYOD1      | 1.210053| 0.453719  | -1.4152 | 0.000317   | 0.001091  |
| SPIB       | 0.148787| 0.29714   | 0.997895| 1.80E-17   | 4.21E-16  |
| ZNF679     | 0.423219| 0.194353  | -1.12272| 4.11E-07   | 3.02E-06  |
| CHRNA4     | 0.173261| 0.028442  | -2.60687| 2.57E-09   | 2.94E-08  |
| CRISPLD1   | 3.126004| 2.078664  | -0.58866| 0.002533   | 0.006614  |
| SH2D5      | 0.194863| 0.1117    | -0.80283| 5.76E-06   | 3.20E-05  |
| NOG        | 1.668393| 0.74132   | -1.17029| 0.01956    | 0.037981  |
| PYCARD     | 9.606856| 16.25206  | 0.758486| 3.0E-18    | 7.24E-17  |
| AQP12B     | 0.20886 | 0.049051  | -2.0902 | 0.010249   | 0.021966  |
| PRR18      | 0.44793 | 0.204339  | -1.13231| 0.005296   | 0.012471  |
| ITGA9      | 1.211358| 3.352529  | 1.468624| 1.13E-38   | 8.68E-37  |
| DLEU7      | 0.182702| 0.320521  | 0.810929| 3.93E-16   | 8.63E-15  |
| ADAMTS8    | 0.652421| 0.261305  | -1.32007| 1.36E-06   | 8.88E-06  |
| GPR82      | 0.313838| 0.653048  | 1.057166| 9.78E-22   | 2.75E-20  |
| TEKT4      | 0.739754| 0.248409  | -1.57433| 0.000522   | 0.00168   |
| EFCAB10    | 1.063362| 0.448875  | -1.24245| 2.10E-08   | 2.02E-07  |
| TFF2       | 2.65782 | 0.988331  | -1.42718| 0.001107   | 0.003222  |
| WDR87      | 0.140138| 0.072695  | -0.94692| 3.38E-06   | 1.99E-05  |
| SLURP1     | 1.281996| 2.536396  | 0.983888| 0.011412   | 0.024102  |
| TNFSF13B   | 2.22479 | 6.655539  | 1.580887| 2.43E-44   | 3.70E-42  |
| DNAH12     | 0.232311| 0.101018  | -1.20145| 0.000488   | 0.001587  |
| REM2       | 1.028757| 0.687687  | -0.58108| 5.96E-06   | 3.30E-05  |
| WDR93      | 0.770642| 0.469999  | -0.7134 | 1.58E-05   | 7.84E-05  |
| OASL       | 4.775295| 7.447358  | 0.641139| 8.51E-11   | 1.17E-09  |
| GRID2IP    | 0.654267| 0.35457   | -0.88381| 0.000447   | 0.00147   |
| CCDC173    | 1.379642| 0.594608  | -1.21428| 6.92E-12   | 1.08E-10  |
| SRGN       | 31.3311990.16996 | 1.525047 | 1.21E-45 | 2.45E-43   |
| WDR63      | 0.582682| 0.229291  | -1.34553| 0.0007     | 0.002168  |
| MYLK3      | 0.26614 | 0.144514  | -0.88097| 5.53E-05   | 0.000235  |
| C16orf54   | 0.327228| 0.922793  | 1.49571 | 4.39E-37   | 3.05E-35  |
| CXCL5      | 1.39056 | 3.329877  | 1.259803| 0.003342   | 0.008399  |
| JAKMIP2    | 0.327775| 0.178165  | -0.87949| 0.012452   | 0.025979  |
| CAMK1G     | 1.444418| 0.83081   | -0.7979 | 0.000145   | 0.000548  |
| HTRA4      | 0.079615| 0.226107  | 1.505893| 2.04E-26   | 7.27E-25  |
| CMKLIR1    | 1.030875| 2.039123  | 0.984079| 2.70E-21   | 7.42E-20  |
| INA        | 4.280601| 1.475514  | -1.5366 | 0.000382   | 0.001282  |
| SLC16A11   | 1.700028| 0.968261  | -0.81209| 0.000268   | 0.000944  |
| ACTA2      | 36.94142| 69.85329  | 0.919089| 8.40E-10   | 1.03E-08  |
| GJA3       | 0.310623| 0.516056  | 0.732362| 0.00107    | 0.003128  |
| GIMAP6     | 1.42239 | 3.781833  | 1.410769| 4.85E-41   | 4.61E-39  |
| NELL1      | 0.551908| 0.100171  | -2.46197| 8.14E-06   | 4.36E-05  |
| IL4R       | 3.452214| 6.266343  | 0.860102| 2.95E-18   | 7.13E-17  |
| IGFALS     | 1.200692| 0.787409  | -0.60868| 7.23E-06   | 3.92E-05  |
| Gene    | conMean | treatMean | logFC   | pValue   | FDR    |
|---------|---------|-----------|---------|----------|--------|
| CDH11   | 3.857347| 6.263828  | 0.699436| 8.43E-06 | 4.48E-05|
| MRC1    | 0.856743| 2.157696  | 1.332557| 5.47E-02 | 1.40E-18|
| APOL2   | 10.77689| 18.178    | 0.754253| 3.58E-15 | 7.38E-14|
| TUBA3D  | 1.481381| 0.680325  | -1.12265| 0.000839 | 0.002538|
| LRR3C4  | 0.727665| 0.454949  | -0.67757| 6.37E-06 | 3.49E-05|
| ARL11   | 0.474171| 0.948003  | 0.999485| 7.38E-24 | 2.32E-22|
| FMO1    | 0.979801| 1.769672  | 0.852921| 2.74E-09 | 3.11E-08|
| CFAP74  | 0.278172| 0.106928  | -1.37934| 0.002214 | 0.005876|
| AK7     | 1.313799| 0.806666  | -0.7037 | 0.012617 | 0.026301|
| GPC3    | 17.86385| 5.60723   | -1.67168| 0.000483 | 0.001573|
| SLC7A10 | 0.730386| 0.334114  | -1.12832| 6.97E-05 | 0.000288|
| MYBPHL  | 1.398241| 0.843826  | -0.7286 | 0.002872 | 0.007381|
| CFAP53  | 2.079232| 1.382377  | -0.5889 | 2.22E-05 | 0.000105|
| LYSM2   | 4.153017| 6.452333  | 0.635661| 1.08E-15 | 2.30E-14|
| PLPPR4  | 0.474594| 0.880285  | 0.891277| 1.45E-08 | 1.43E-07|
| RBM24   | 1.765151| 1.047076  | -0.75343| 0.002653 | 0.006889|
| SLC7A2  | 0.248627| 0.161237  | -0.6248 | 0.000518 | 0.001669|
| AGAP2   | 0.250178| 0.525476  | 1.070671| 4.01E-27 | 1.50E-25|
| TAS2R19 | 0.188973| 0.120665  | -0.64717| 8.39E-06 | 4.47E-05|
| RTN1    | 0.677128| 1.337965  | 0.982538| 5.62E-19 | 1.39E-17|
| SLA     | 0.663194| 1.99695   | 1.590296| 2.07E-46 | 5.35E-44|
| KRT16   | 1.966296| 4.015537  | 1.030113| 3.32E-08 | 3.06E-07|
| ZNF850  | 1.313475| 0.781996  | -0.74816| 1.31E-06 | 8.62E-06|
| DUSP9   | 3.229004| 1.891371  | -0.77166| 0.000505 | 0.001634|
| GLIS1   | 0.80458 | 0.531362  | -0.59854| 0.020104 | 0.038835|
| TCTE1   | 0.428215| 0.178998  | -1.25839| 1.86E-05 | 8.98E-05|
| TMEM59L | 1.699671| 0.420564  | -2.01486| 1.70E-11 | 2.52E-10|
| ISM2    | 0.708925| 0.328687  | -1.10892| 4.03E-05 | 0.000178|
| TRDN    | 0.234431| 0.140046  | -0.74327| 0.001905 | 0.00515|
| CFAP57  | 0.919067| 0.394427  | -1.22041| 7.71E-07 | 5.36E-06|
| CELSR3  | 0.895601| 0.559958  | -0.67754| 0.000337 | 0.001149|
| HK3     | 0.57201 | 1.713771  | 1.583062| 2.68E-36 | 1.78E-34|
| LAG3    | 1.583582| 3.970109  | 1.325986| 5.99E-24 | 1.90E-22|
| GRM4    | 0.4529  | 0.204996  | -1.1436 | 6.00E-07 | 4.26E-06|
| ADGRF4  | 0.150498| 0.312983  | 1.056343| 1.39E-09 | 1.66E-08|
| ZNF10   | 1.758573| 1.123311  | -0.64665| 6.27E-12 | 9.85E-11|
| DOK3    | 1.30042 | 2.701841  | 1.054966| 1.89E-34 | 1.13E-32|
| COLEC12 | 2.024451| 3.3099    | 0.709257| 1.21E-10 | 1.63E-09|
| FXYD6   | 8.507765| 4.238782  | -1.00513| 2.54E-07 | 1.97E-06|
| LAT2    | 1.211704| 3.25886   | 1.42733 | 5.74E-46 | 1.25E-43|
| CIB4    | 0.187541| 0.086839  | -1.11079| 3.80E-06 | 2.21E-05|
| OSM     | 0.877584| 2.489129  | 1.504031| 2.79E-24 | 9.03E-23|
| RAB31   | 6.833693| 12.85393  | 0.911472| 1.88E-22 | 5.50E-21|
| MYT1    | 0.578127| 0.282475  | -1.03326| 1.10E-06 | 7.34E-06|
| SLC13A5 | 0.847678| 0.515209  | -0.71836| 0.015257 | 0.030825|
| ARHGAP9 | 0.657939| 2.039487  | 1.632181| 7.64E-48 | 2.52E-45|
| Gene     | conMean | treatMean | logFC  | pValue     | FDR       |
|----------|---------|-----------|--------|------------|-----------|
| NIBAN1   | 1.940315| 3.536869  | 0.866182| 7.63E-18   | 1.81E-16  |
| CYP11A1  | 1.741696| 0.981306  | -0.82772| 9.66E-06   | 5.05E-05  |
| EFR3B    | 0.63563 | 0.280742  | -1.17894| 1.05E-11   | 1.60E-10  |
| WASF1    | 10.40096| 5.694147  | -0.86917| 5.21E-07   | 3.75E-06  |
| CD38     | 0.481399| 1.563591  | 1.699558| 5.51E-25   | 1.84E-23  |
| CD48     | 1.426227| 5.638118  | 1.98301 | 1.05E-54   | 3.71E-51  |
| CCDC33   | 1.048416| 0.657     | -0.67425| 2.27E-06   | 1.40E-05  |
| ACVR2B   | 2.018164| 1.236177  | -0.70716| 3.44E-12   | 5.57E-11  |
| TGFB1    | 13.73598| 29.79194  | 1.116962| 4.75E-26   | 1.66E-24  |
| CXCL11   | 4.236244| 13.6058   | 1.683364| 2.65E-25   | 9.06E-24  |
| GZMB     | 1.122263| 5.10075   | 2.184299| 2.76E-33   | 1.48E-31  |
| SIX3     | 5.294023| 1.383491  | -1.93605| 4.67E-08   | 4.19E-07  |
| RAX2     | 0.271395| 0.125109  | -1.1172 | 0.000253   | 0.000894  |
| ZBP1     | 0.72527 | 1.348409  | 0.894668| 1.76E-13   | 3.26E-12  |
| KRT6B    | 0.379021| 0.758772  | 1.001389| 0.000815   | 0.002479  |
| LILRB4   | 1.25555 | 4.718977  | 1.910155| 1.77E-48   | 6.86E-46  |
| PYGO1    | 0.686323| 0.426546  | -0.68619| 0.003156   | 0.007992  |
| SLC39A5  | 0.51232 | 0.115193  | -2.15299| 2.09E-07   | 1.65E-06  |
| SCIMP    | 0.430953| 1.241472  | 1.52645 | 1.08E-40   | 1.01E-38  |
| TMEM252  | 0.547946| 0.147133  | -1.89691| 0.021537   | 0.04116   |
| STRA6    | 5.052852| 3.136311  | -0.6803 | 0.00289    | 0.007415  |
| COL28A1  | 0.448559| 0.176096  | -1.34894| 3.53E-05   | 0.000158  |
| C8orf34  | 0.184917| 0.103988  | -0.83046| 0.001658   | 0.004566  |
| NCF4     | 1.829447| 4.95382   | 1.437134| 1.74E-48   | 6.86E-46  |
| SV2A     | 3.231649| 1.821512  | -0.82713| 0.001435   | 0.004024  |
| TLR6     | 0.277459| 0.599913  | 1.112478| 6.29E-29   | 2.56E-27  |
| DUOX2    | 0.174044| 0.112785  | -0.62587| 0.013577   | 0.027978  |
| EFHC2    | 2.039692| 1.258737  | -0.69637| 0.000624   | 0.001962  |
| C2BP1    | 0.13382 | 0.083935  | -0.67296| 0.025681   | 0.04776   |
| LUM      | 49.60071| 115.1115  | 1.214599| 1.37E-11   | 2.05E-10  |
| LPAR5    | 1.893647| 3.630532  | 0.939014| 4.64E-22   | 1.33E-20  |
| HAVCR2   | 1.857386| 5.838874  | 1.652417| 3.45E-51   | 3.06E-48  |
| CACNA2D4 | 0.345709| 0.620448  | 0.843753| 1.11E-23   | 3.44E-22  |
| GLRX     | 1.343586| 2.724406  | 1.019853| 4.74E-38   | 3.55E-36  |
| AL645941.2 | 0.130883 | 0.27681  | 1.080614| 7.69E-12   | 1.20E-10  |
| IL11RA   | 4.848528| 3.072542  | -0.65811| 0.007606   | 0.017003  |
| PCYT1B   | 0.454853| 0.220687  | -1.0434 | 0.004004   | 0.009807  |
| MMP13    | 1.261966| 3.665112  | 1.538184| 1.85E-07   | 1.48E-06  |
| AIM2     | 0.370661| 1.222511  | 1.721676| 5.69E-36   | 3.70E-34  |
| GRIK4    | 0.44827 | 0.227441  | -0.97888| 1.74E-05   | 8.48E-05  |
| GPR25    | 0.245158| 0.586184  | 1.257639| 5.41E-14   | 1.04E-12  |
| NEFH     | 5.032091| 3.066963  | -0.71435| 0.025558   | 0.047586  |
| HAS1     | 0.248396| 0.569974  | 1.198254| 0.000167   | 0.000623  |
| CCDC170  | 2.241059| 1.412897  | -0.66552| 0.000335   | 0.001146  |
| CSF1R    | 6.478676| 19.9099   | 1.619715| 2.43E-36   | 1.64E-34  |
| Gene     | conMean | treatMean | logFC  | pValue   | FDR     |
|----------|---------|-----------|--------|----------|---------|
| STK17B   | 5.480969| 8.341256  | 0.605834| 3.26E-16 | 7.20E-15|
| FN1      | 54.16565| 124.3622  | 1.199097| 1.73E-13 | 3.19E-12|
| SLC18A3  | 0.770211| 0.473139  | -0.70299| 0.000119 | 0.00046 |
| SLC35D3  | 0.130246| 0.401861  | 1.625458| 2.64E-07 | 2.04E-06|
| TMEM253  | 0.181386| 0.095258  | -0.92914| 3.70E-06 | 2.16E-05|
| ADARB2   | 0.320169| 0.096343  | -1.73258| 1.60E-08 | 1.57E-07|
| SCN4B    | 0.732173| 0.460083  | -0.67029| 0.002149 | 0.00572 |
| PLCB2    | 1.326873| 2.488393  | 0.907184| 3.86E-21 | 1.05E-19|
| FBN1     | 2.367358| 4.508605  | 0.929403| 8.02E-08 | 6.89E-07|
| TLR8     | 0.201793| 0.839888  | 2.05731 | 9.26E-40 | 7.77E-38|
| CD207    | 0.740893| 1.669505  | 1.172084| 0.008589 | 0.018886|
| GPR1     | 0.39607 | 0.822857  | 1.054885| 8.30E-10 | 1.02E-08|
| TLR3     | 1.639173| 2.594994  | 0.662763| 1.85E-12 | 3.06E-11|
| MCIIDAS  | 1.081069| 0.550438  | -0.97381| 0.000814 | 0.002473|
| GRID2    | 0.265557| 0.094455  | -1.49133| 3.15E-06 | 1.87E-05|
| FZD10    | 9.095835| 4.976811  | -0.86998| 0.000104 | 0.000409|
| ITGB6    | 2.492895| 5.088306  | 1.029363| 1.36E-10 | 1.82E-09|
| PLEKHB1  | 17.47989| 11.44819  | -0.61058| 4.92E-07 | 3.56E-06|
| NKAIN1   | 0.932152| 0.421612  | -1.14465| 5.33E-09 | 5.78E-08|
| TMEM154  | 0.219166| 0.391309  | 0.836282| 1.53E-19 | 3.86E-18|
| CERKL    | 0.819311| 1.274913  | 0.637916| 7.45E-22 | 2.11E-20|
| SCGB1C1  | 0.949509| 0.440021  | -1.10961| 0.0033   | 0.008313|
| FMO2     | 0.569739| 1.799082  | 1.658889| 2.16E-12 | 3.54E-11|
| PPI6     | 2.086622| 1.390749  | -0.58531| 4.99E-07 | 3.60E-06|
| AKR7A3   | 1.261924| 0.789080  | -0.67605| 0.001854 | 0.005031|
| FSTL4    | 0.748598| 0.345101  | -1.11717| 8.38E-07 | 5.77E-06|
| B4GALNT3 | 4.704625| 2.630667  | -0.83865| 3.79E-10 | 4.86E-09|
| NPY2R    | 0.213733| 0.082285  | -1.3771 | 0.000908 | 0.002717|
| CTXND1   | 0.740924| 0.16175   | -2.19556| 2.82E-09 | 3.21E-08|
| SSC4D    | 4.287016| 2.608462  | -0.71677| 2.37E-09 | 2.73E-08|
| IRAK2    | 1.378496| 2.439542  | 0.823515| 1.32E-12 | 2.23E-11|
| MYO7B    | 0.674963| 0.427651  | -0.65838| 0.00748  | 0.016761|
| FGBP1    | 1.600229| 2.618155  | 0.710272| 0.006801 | 0.01545 |
| CCDC138  | 1.931283| 1.25967   | -0.61651| 1.04E-13 | 1.94E-12|
| APOC2    | 0.111689| 0.323885  | 1.535992| 4.47E-26 | 1.56E-24|
| GNAO1    | 1.751826| 0.818261  | -1.09823| 0.000449 | 0.001474|
| TMIGD3   | 1.158603| 2.925966  | 1.336527| 8.68E-30 | 3.77E-28|
| GBX2     | 0.164116| 0.048152  | -1.76905| 0.001274 | 0.003636|
| SPI1     | 8.717976| 26.95166  | 1.628309| 3.87E-55 | 2.74E-51|
| MYO5A    | 1.143941| 1.772468  | 0.631747| 5.88E-15 | 1.20E-13|
| VENTX    | 0.196715| 0.484737  | 1.301094| 3.32E-23 | 1.01E-21|
| S100A7A  | 0.19069 | 0.486179  | 1.350263| 4.00E-07 | 2.95E-06|
| MS4A14   | 0.187947| 0.444912  | 1.243194| 4.67E-23 | 1.41E-21|
| HKDC1    | 3.944794| 2.561576  | -0.62292| 0.000298 | 0.001033|
| PRSS33   | 11.85437| 3.96802   | -1.57893| 5.62E-05 | 0.000238|
| DMBX1    | 0.759119| 1.38032   | 0.862605| 0.013398 | 0.027682|
| Gene   | conMean | treatMean | logFC  | pValue   | FDR    |
|--------|---------|-----------|--------|----------|--------|
| P2RX7  | 0.958485| 1.812748  | 0.919351| 4.71E-27 | 1.76E-25 |
| SLC3A1 | 0.323928| 0.147312  | -1.1368| 0.000105 | 0.000413 |
| FIGNL2 | 1.406401| 0.864732  | -0.70168| 0.00177  | 0.004835 |
| FCGBP  | 3.470674| 6.827029  | 0.976042| 2.15E-05 | 0.000102 |
| RSPH14 | 0.50574 | 0.271869  | -0.89548| 8.56E-09 | 8.95E-08 |
| NOX4   | 1.320374| 2.017255  | 0.611446| 7.62E-06 | 4.12E-05 |
| MYLTF  | 5.520939| 3.621628  | -0.60828| 0.007113 | 0.016061 |
| CFAP44 | 0.772241| 0.491282  | -0.6525 | 3.37E-07 | 2.53E-06 |
| CFAP73 | 2.660061| 1.426119  | -0.89937| 0.000273 | 0.000958 |
| LRRTM1 | 20.58715| 12.19547  | -0.7554 | 0.018934 | 0.036989 |
| MAK    | 1.030338| 0.669326  | -0.62234| 3.53E-05 | 0.000158 |
| CASP1  | 2.66974 | 5.673986  | 1.087663| 1.07E-32 | 5.43E-31 |
| TLR2   | 1.622961| 4.194078  | 1.369725| 2.33E-40 | 2.06E-38 |
| SALL2  | 8.154051| 4.603272  | -0.82486| 1.04E-08 | 1.06E-07 |
| PPP1R42| 0.553486| 0.232287  | -1.25264| 2.34E-06 | 1.44E-05 |
| NOS1   | 0.275589| 0.176967  | -0.63904| 0.00076  | 0.002332 |
| C1S    | 23.91902| 46.97206  | 0.973645| 3.03E-21 | 8.29E-20 |
| POU3F3 | 1.565043| 0.103137  | -3.92357| 0.005941 | 0.013766 |
| Dinha11| 0.228729| 0.105986  | -1.10976| 2.83E-08 | 2.65E-07 |
| SEMA6A | 1.909666| 0.974981  | -0.96987| 0.001109 | 0.003223 |
| RHOU   | 16.99168| 11.34642  | -0.58259| 1.72E-08 | 1.67E-07 |
| FERMT3 | 3.332738| 9.736891  | 1.546754| 1.83E-51 | 1.73E-48 |
| SEMA4G | 2.990546| 1.60186   | -0.90066| 1.73E-06 | 1.09E-05 |
| BIRC3  | 2.598427| 4.509962  | 0.795477| 4.57E-15 | 9.39E-14 |
| HFM1   | 0.267662| 0.112892  | -1.24546| 1.11E-09 | 1.33E-08 |
| SH2B3  | 3.735042| 6.404435  | 0.777947| 7.18E-22 | 2.04E-20 |
| CARMIL3| 0.436499| 0.196978  | -1.14794| 1.75E-10 | 2.31E-09 |
| ZNF726 | 1.182231| 0.72677   | -0.70194| 3.36E-09 | 3.77E-08 |
| MASP1  | 0.182102| 0.046142  | -1.98061| 6.69E-07 | 4.72E-06 |
| NALCN  | 0.147175| 0.235164  | 0.676136| 1.50E-06 | 9.65E-06 |
| FBX06  | 8.920763| 13.65771  | 0.614476| 1.31E-11 | 1.97E-10 |
| ADH1B  | 0.537975| 1.877129  | 1.802916| 2.87E-06 | 1.72E-05 |
| ABC3   | 1.198533| 1.80787   | 0.593021| 5.39E-09 | 5.84E-08 |
| PDYN   | 2.0308  | 1.302268  | -0.64102| 0.00606  | 0.013999 |
| KLK10  | 50.20504| 76.92688  | 0.615655| 1.13E-05 | 5.80E-05 |
| SPRR1A | 1.045041| 0.652862  | -0.67871| 0.002257 | 0.005976 |
| ATP8B4 | 0.133434| 0.296424  | 1.15153 | 2.14E-29 | 9.04E-28 |
| STAR   | 1.830956| 0.935019  | -0.96953| 3.68E-06 | 2.14E-05 |
| RNF157 | 1.605197| 0.796022  | -1.01187| 2.09E-07 | 1.65E-06 |
| NR4A3  | 0.655415| 1.500436  | 1.194901| 7.24E-05 | 0.000298 |
| CCL14  | 0.064276| 0.143905  | 1.162752| 0.003615 | 0.008977 |
| CTNND2 | 0.684069| 0.371289  | -0.8816 | 0.00555  | 0.012985 |
| COTL1  | 10.68851| 16.31563  | 0.610194| 2.48E-20 | 6.54E-19 |
| ARHGDIG| 0.66086| 0.340022  | -0.95872| 0.023593 | 0.044419 |
| ALDH1A3| 0.939992| 1.684739  | 0.841804| 9.51E-08 | 8.06E-07 |
| Gene   | conMean | treatMean | logFC  | pValue   | FDR     |
|--------|---------|-----------|--------|----------|---------|
| MLN    | 0.14099 | 0.081634  | -0.78836 | 0.000946 | 0.002813 |
| CASP5  | 0.054252 | 0.17262   | 1.669856 | 5.72E-28 | 2.25E-26 |
| CFD    | 4.858538 | 13.04799  | 1.425233 | 5.95E-25 | 1.98E-23 |
| GBP3   | 6.269449 | 10.39858  | 0.729976 | 3.33E-12 | 5.39E-11 |
| SCGB2B2| 0.413368 | 0.241539  | -0.77517 | 3.78E-05 | 0.000168 |
| ODF3L1 | 0.471607 | 0.309345  | -0.60837 | 0.00023 | 0.000823 |
| ETS1   | 3.371958 | 5.461228  | 0.695639 | 1.04E-15 | 2.22E-14 |
| TNFAIP2| 64.84923 | 100.985   | 0.638979 | 7.30E-06 | 3.96E-05 |
| CLEC4F | 0.379328 | 0.222041  | -0.77262 | 1.14E-05 | 5.82E-05 |
| C1orf194| 8.555842 | 3.092808  | -1.46799 | 3.47E-07 | 2.60E-06 |
| ADGRGL3| 0.583528 | 0.273767  | -1.09185 | 0.000178 | 0.000658 |
| ATP1B2 | 6.155169 | 2.64485   | -1.21861 | 8.57E-07 | 5.88E-06 |
| TEKT2  | 6.196009 | 3.063541  | -1.01614 | 2.81E-07 | 2.14E-06 |
| GPAT3  | 0.490805 | 0.747583  | 0.607084 | 1.67E-11 | 2.48E-10 |
| CLEC10A| 0.279101 | 1.24575   | 2.158157 | 7.80E-32 | 3.81E-30 |
| TPSD1  | 0.51705  | 1.096232  | 1.084176 | 7.03E-05 | 0.00029 |
| VMO1   | 1.705843 | 3.144859  | 0.88251  | 5.43E-20 | 1.39E-18 |
| CACNG6 | 0.814587 | 0.212909  | -1.93583 | 0.011399 | 0.024089 |
| VASH2  | 0.857684 | 0.558494  | -0.61891 | 0.000505 | 0.001634 |
| FOXA2  | 5.196147 | 2.247999  | -1.2088  | 0.000988 | 0.002924 |
| PYHIN1 | 0.111827 | 0.497999  | 2.154878 | 1.20E-40 | 1.11E-38 |
| FRAS1  | 1.774843 | 1.166543  | -0.60545 | 4.79E-06 | 2.72E-05 |
| HPSE2  | 0.985309 | 0.09108   | -3.43537 | 1.89E-08 | 1.83E-07 |
| HIVEP3 | 0.568484 | 0.94033   | 0.726047 | 2.84E-14 | 5.55E-13 |
| MAGEE2 | 0.187557 | 0.094265  | -0.99254 | 0.000936 | 0.002788 |
| RPRM   | 2.477784 | 1.280387  | -0.95247 | 3.93E-09 | 4.38E-08 |
| TESPA1 | 0.090438 | 0.33551   | 1.891346 | 1.10E-46 | 2.95E-44 |
| MS4A4A | 1.943333 | 5.473052  | 1.493812 | 2.35E-37 | 1.66E-35 |
| LINGO4 | 0.295256 | 0.194515  | -0.60209 | 0.022855 | 0.043243 |
| SOWAHD | 0.541815 | 0.889131  | 0.714595 | 1.24E-17 | 2.92E-16 |
| SLC7A7 | 2.958846 | 4.837341  | 0.70918  | 9.04E-35 | 5.52E-33 |
| CCDC80 | 5.197448 | 9.851885  | 0.922596 | 1.48E-08 | 1.46E-07 |
| CTSS   | 9.301059 | 24.59614  | 1.402965 | 4.79E-41 | 4.59E-39 |
| CCL3L1 | 1.288259 | 2.50386   | 0.958732 | 3.16E-14 | 6.17E-13 |
| SEMA5B | 6.119882 | 3.13211   | -0.96637 | 8.07E-06 | 4.32E-05 |
| TIMP4  | 0.812235 | 1.66503   | 1.035579 | 1.01E-07 | 8.54E-07 |
| DLK1   | 20.11822 | 1.39403   | -3.85111 | 9.43E-08 | 8.00E-07 |
| ARHGAP45| 2.492021 | 4.851572  | 0.961136 | 6.86E-27 | 2.52E-25 |
| GBP6   | 0.084061 | 0.159717  | 0.926001 | 4.78E-13 | 8.37E-12 |
| FLVCR2 | 0.637857 | 1.011625  | 0.665369 | 1.06E-16 | 2.39E-15 |
| PCE1D1B| 2.429434 | 3.663679  | 0.592673 | 1.96E-20 | 5.19E-19 |
| PLXNA4 | 1.703674 | 0.660261  | -1.36754 | 0.000343 | 0.001166 |
| SFRP4  | 8.991441 | 25.61228  | 1.510211 | 3.61E-13 | 6.39E-12 |
| TTC23L | 0.308243 | 0.16827   | -0.87329 | 3.92E-11 | 5.58E-10 |
| CA14   | 1.066964 | 0.504052  | -1.08187 | 9.06E-10 | 1.10E-08 |
| FTH1   | 860.0183 | 1316.721  | 0.61451  | 1.20E-12 | 2.03E-11 |
### Supplementary Material

| Gene | conMean | treatMean | logFC | pValue  | FDR  |
|------|---------|-----------|-------|---------|------|
| P2RY10   | 0.141672 | 0.76861 | 2.439694 | 3.27E-43 | 4.25E-41 |
| APOBEC3G | 2.730302 | 5.055484 | 0.888789 | 2.85E-21 | 7.80E-20 |
| DACT2    | 4.088464 | 1.825726 | -1.16309 | 5.24E-09 | 5.69E-08 |
| CBR3      | 2.349336 | 3.853512 | 0.713921 | 2.22E-13 | 4.05E-12 |
| GNAZ      | 2.927119 | 1.93783 | -0.59504 | 2.15E-06 | 1.33E-05 |
| FAM155A   | 0.170591 | 0.258136 | 0.597592 | 4.16E-07 | 3.06E-06 |
| SLC38A5   | 1.890263 | 3.438619 | 0.863242 | 8.10E-12 | 1.25E-10 |
| BAMBI     | 4.294582 | 2.005821 | -1.09833 | 1.14E-05 | 5.84E-05 |
| LIPA      | 11.18885 | 16.76707 | 0.583569 | 2.53E-15 | 5.29E-14 |
| OPRK1     | 0.247137 | 0.162181 | -0.60771 | 0.00072 | 0.00223 |
| TRIM71    | 0.651003 | 0.283718 | -1.19821 | 1.85E-06 | 1.17E-05 |
| ERAP2     | 3.510691 | 5.420675 | 0.626717 | 3.29E-05 | 0.000149 |
| IL18       | 5.068261 | 7.606752 | 0.58579 | 2.61E-13 | 4.70E-12 |
| P2RY13    | 0.567596 | 1.840355 | 1.697048 | 7.36E-33 | 3.82E-31 |
| PACRG     | 1.373267 | 0.668098 | -1.03948 | 4.19E-09 | 4.65E-08 |
| CFAP65    | 0.368952 | 0.154179 | -1.25883 | 8.15E-10 | 1.00E-08 |
| CFAP47    | 0.355403 | 0.174505 | -1.02619 | 1.40E-05 | 7.02E-05 |
| MYO3B     | 1.170878 | 0.779705 | -0.58659 | 0.002115 | 0.005642 |
| ABTB2     | 3.083688 | 1.830566 | -0.75237 | 4.48E-05 | 0.000195 |
| FIGN      | 1.957599 | 1.200337 | -0.70565 | 4.28E-05 | 0.000188 |
| PRTG      | 0.2349  | 0.107987 | -1.12119 | 1.69E-05 | 8.31E-05 |
| FABP4     | 1.929816 | 6.695299 | 1.794685 | 0.001201 | 0.003455 |
| ADRB2     | 0.165577 | 0.306666 | 0.889165 | 2.12E-15 | 4.44E-14 |
| ANO1      | 8.905888 | 4.334461 | -1.03891 | 0.008877 | 0.019448 |
| PDE4B     | 0.701836 | 1.590049 | 1.179866 | 1.07E-29 | 4.64E-28 |
| BMP7      | 25.9338 | 13.68986 | -0.92173 | 8.73E-07 | 5.98E-06 |
| C9orf24   | 8.915642 | 3.887834 | -1.19737 | 0.000186 | 0.000684 |
| BCL11B    | 0.200494 | 0.306444 | 0.612063 | 1.65E-12 | 2.75E-11 |
| KIF5A     | 1.533053 | 0.949013 | -0.69191 | 4.32E-05 | 0.000189 |
| RBP2      | 0.705305 | 0.447353 | -0.65683 | 0.000414 | 0.001377 |
| TMEM176A  | 11.56796 | 19.85013 | 0.779014 | 2.57E-15 | 5.36E-14 |
| VSIR      | 7.492258 | 12.66372 | 0.757229 | 4.13E-18 | 9.91E-17 |
| RAPSN     | 0.760256 | 0.404998 | -0.90857 | 0.000121 | 0.000467 |
| WNT8B     | 0.299199 | 0.144237 | -1.05267 | 0.01219 | 0.025519 |
| FBXO17    | 6.788365 | 3.810035 | -0.83326 | 6.24E-07 | 4.42E-06 |
| TMEM132B  | 0.70316 | 0.202599 | -1.79523 | 4.02E-10 | 5.14E-09 |
| TMSB15A   | 7.646376 | 2.164901 | -1.82048 | 7.18E-05 | 0.000296 |
| UPP1      | 2.24598 | 3.729051 | 0.731464 | 2.31E-13 | 4.20E-12 |
| MATN4     | 0.833102 | 0.213921 | -1.96142 | 8.67E-08 | 7.40E-07 |
| ALDH3A1   | 1.738591 | 1.063217 | -0.70948 | 2.27E-07 | 1.78E-06 |
| RADIL     | 0.699381 | 0.419621 | -0.73699 | 0.002719 | 0.007039 |
| RNASE1    | 176.0253 | 274.1773 | 0.639327 | 9.97E-12 | 1.52E-10 |
| SLA2      | 0.288979 | 1.040511 | 1.848257 | 5.74E-46 | 1.25E-43 |
| TP73      | 1.093561 | 0.691317 | -0.66161 | 0.004981 | 0.011841 |
| EPPIN     | 0.138838 | 0.08226 | -0.75514 | 0.006021 | 0.013924 |
| Gene    | conMean | treatMean | logFC   | pValue  | FDR    |
|---------|---------|-----------|---------|---------|--------|
| SNX20   | 0.316831| 1.270944  | 2.004114| 1.38E-51| 4.39E-48|
| IL15    | 0.615019| 1.447174  | 1.234535| 1.32E-24| 4.28E-23|
| TLL2    | 0.158576| 0.072107  | -1.13697| 0.00293 | 0.00751|
| GYPC    | 5.866552| 8.957828  | 0.610636| 4.89E-17| 1.13E-15|
| TMEM52B | 0.189196| 0.572622  | 1.597703| 3.74E-39| 2.99E-37|
| CACNA2D2| 3.684197| 1.337243  | -1.46209| 2.05E-12| 3.37E-11|
| HGFAC   | 1.081093| 0.609387  | -0.82706| 1.71E-06| 1.08E-05|
| PON1    | 1.298023| 0.679073  | -0.93468| 0.000465| 0.00152|
| BST1    | 2.574821| 4.567402  | 0.826902| 6.15E-15| 1.25E-13|
| MCUB    | 5.45088 | 8.469165  | 0.635731| 2.50E-12| 4.07E-11|
| ALOX5   | 4.348043| 10.39827  | 1.257906| 1.83E-28| 7.26E-27|
| MYOM3   | 0.368547| 0.206332  | -0.83689| 0.007638| 0.017066|
| ABI3    | 2.143772| 6.656652  | 1.634645| 4.83E-54| 1.37E-50|
| DNAH10  | 0.213263| 0.124181  | -0.78018| 8.83E-05| 0.000355|
| TMEM238L| 0.238169| 0.093674  | -1.34627| 0.009869| 0.021251|
| HCST    | 7.318767| 17.02954  | 1.218367| 1.82E-35| 1.15E-33|
| IL7R    | 0.6218  | 2.149656  | 1.789585| 1.62E-33| 8.97E-32|
| NTN4    | 8.034261| 12.18435  | 0.600792| 1.74E-07| 1.40E-06|
| FGF1    | 0.467734| 0.767233  | 0.713977| 9.47E-07| 6.43E-06|
| TMEM71  | 0.387369| 0.645444  | 0.736583| 2.33E-19| 5.83E-18|
| ATP1A2  | 1.176281| 0.265546  | -2.1472 | 6.62E-08| 5.79E-07|
| SLC30A3 | 0.226624| 0.094102  | -1.268  | 0.020103| 0.03835|
| CD86    | 1.466902| 4.884888  | 1.735553| 2.07E-52| 2.67E-49|
| LRRC10B | 3.329037| 1.554078  | -1.09905| 5.38E-06| 3.01E-05|
| CXCL6   | 0.854677| 1.64713   | 0.946504| 1.46E-08| 1.44E-07|
| MATK    | 0.561923| 1.027136  | 0.870182| 2.41E-26| 8.54E-25|
| PLD4    | 0.73819 | 1.822279  | 1.303679| 5.24E-18| 1.25E-16|
| PDE3A   | 4.688624| 3.087985  | -0.6025 | 0.001622| 0.004478|
| SPINK5  | 1.13415 | 0.625293  | -0.85901| 4.52E-09| 5.00E-08|
| MSR1    | 2.227749| 6.077337  | 1.447853| 6.49E-38| 4.76E-36|
| XDH     | 0.921951| 1.532041  | 0.732694| 0.001052| 0.003086|
| TCIRG1  | 15.97711| 24.36632  | 0.608877| 1.51E-15| 3.18E-14|
| TNFRSF19| 7.805849| 4.013377  | -0.95974| 8.94E-07| 6.10E-06|
| VWA5B2  | 0.422767| 0.175166  | -1.27114| 5.41E-08| 4.78E-07|
| TMEM86A | 1.541444| 2.350318  | 0.608574| 1.44E-16| 3.22E-15|
| CALHM6  | 3.723063| 9.794694  | 1.39551 | 3.02E-31| 1.43E-29|
| CHGA    | 4.317555| 0.837448  | -2.36614| 0.001968| 0.005297|
| KCNJ10  | 0.204174| 0.318289  | 0.640539| 9.04E-05| 0.00362|
| KCNMB2  | 1.058972| 0.589367  | -0.84543| 5.69E-05| 0.00241|
| PIP5K1B | 0.777228| 0.374518  | -1.0533 | 0.004058| 0.009914|
| CADPS   | 0.322066| 0.191326  | -0.75132| 0.000789| 0.002407|
| GBP2    | 4.879737| 11.62307  | 1.252115| 2.35E-32| 1.18E-30|
| KCNG1   | 3.468308| 1.75933   | -1.01524| 4.87E-09| 5.34E-08|
| MST1    | 3.49633 | 2.119948  | -0.72181| 1.30E-07| 1.07E-06|
| PLEK2   | 2.62999 | 4.148054  | 0.657377| 1.78E-14| 3.54E-13|
| GIMAP5  | 0.084495| 0.273113  | 1.692555| 3.44E-34| 1.99E-32|
| Gene      | conMean | treatMean | logFC  | pValue     | FDR     |
|-----------|---------|-----------|--------|------------|---------|
| CNNM1     | 0.289803| 0.097782  | -1.56743| 0.000362   | 0.001225|
| CNBH2     | 3.420844| 2.071902  | -0.7234 | 3.13E-05   | 0.000143|
| BSN       | 0.675921| 0.313228  | -1.10964| 4.23E-11   | 6.01E-10 |
| FAM110B   | 3.646865| 2.252977  | -0.69482| 2.05E-08   | 1.98E-07 |
| NAALAD2   | 0.348482| 0.191655  | -0.86257| 0.004094   | 0.000994|
| PAPPA     | 0.106245| 0.19408   | 0.869253| 3.45E-06   | 2.03E-05 |
| CXCL8     | 6.871517| 12.19152  | 0.827177| 4.66E-07   | 3.38E-06 |
| RAB9B     | 0.444959| 0.2817    | -0.65951| 0.002479   | 0.006489|
| HEPH      | 1.134495| 1.786723  | 0.655266| 1.22E-07   | 1.01E-06 |
| DLX4      | 0.944965| 0.572774  | -0.72229| 0.000455   | 0.001493|
| ABCG5     | 0.178708| 0.097668  | -0.87165| 4.98E-09   | 5.45E-08 |
| GEM       | 1.681142| 2.538959  | 0.594795| 1.91E-06   | 1.20E-05 |
| MYO1F     | 1.086015| 2.815537  | 1.374366| 5.89E-38   | 4.37E-36 |
| DRC1      | 1.612439| 0.697823  | -1.20831| 9.88E-05   | 0.000391|
| S100A12   | 0.433642| 0.932946  | 1.105287| 1.44E-11   | 2.15E-10 |
| SLC2A3    | 3.885928| 6.836901  | 0.815083| 4.97E-07   | 3.59E-06 |
| WARS1     | 21.83302| 32.84614  | 0.589213| 8.67E-11   | 1.19E-09 |
| SLC6A20   | 0.91609 | 0.394668  | -1.21485| 0.00085    | 0.002568|
| NCKAP1L   | 0.827216| 2.685165  | 1.698675| 4.94E-45   | 8.14E-43 |
| SPATA17   | 1.14389 | 0.628265  | -0.8645 | 2.95E-09   | 3.33E-08 |
| C1orf162  | 4.236546| 10.28583  | 1.279697| 1.32E-42   | 1.56E-40 |
| MAF       | 3.833037| 6.041073  | 0.656317| 1.45E-15   | 3.06E-14 |
| SLC4A8    | 0.611088| 0.38839   | -0.65387| 9.41E-08   | 7.99E-07 |
| C9orf92   | 0.628106| 0.356333  | -0.81778| 0.0013     | 0.003699|
| MCEMP1    | 0.168762| 0.374682  | 1.150672| 3.16E-09   | 3.57E-08 |
| HLA-F     | 5.357011| 12.07892  | 1.172991| 3.52E-26   | 1.24E-24 |
| CD44      | 5.491076| 10.13289  | 0.883886| 1.09E-21   | 3.05E-20 |
| IL18RAP   | 0.065932| 0.237681  | 1.84997 | 9.64E-38   | 6.97E-36 |
| NTM       | 0.680963| 1.373622  | 1.012337| 1.45E-10   | 1.93E-09 |
| TECTA     | 0.368785| 0.182958  | -1.01127| 0.015534   | 0.0313  |
| NKX6-2    | 0.300783| 0.113257  | -1.40912| 0.003541   | 0.008824|
| HPCAL4    | 0.267747| 0.117139  | -1.19265| 6.96E-05   | 0.000288|
| TPSB2     | 1.049106| 1.933218  | 0.881843| 6.76E-11   | 9.42E-10 |
| ALPP      | 9.098287| 3.344571  | -1.44377| 0.001477   | 0.004128|
| PURG      | 0.289111| 0.133844  | -1.11107| 1.63E-06   | 1.04E-05 |
| ACTL6B    | 0.303051| 0.014061  | -1.42975| 0.000845   | 0.002553|
| SERPINA6  | 0.582053| 0.112821  | -2.36712| 0.021363   | 0.041327|
| DUSP26    | 0.345628| 0.169055  | -1.03173| 0.014526   | 0.029637|
| PCDHA7    | 0.125026| 0.075635  | -0.7251 | 0.002735   | 0.007077|
| MARCHF1   | 0.650391| 1.432676  | 1.139333| 1.02E-36   | 7.01E-35 |
| CD7       | 1.113166| 4.116471  | 1.88674 | 3.88E-40   | 3.42E-38 |
| FGF7      | 0.400787| 0.910811  | 1.184317| 4.46E-14   | 8.64E-13 |
| ADAM12    | 1.851462| 3.92841   | 1.085281| 9.56E-09   | 9.79E-08 |
| ELOVL2    | 0.778817| 0.384672  | -1.01766| 0.000177   | 0.000656|
| SPOCK3    | 0.987093| 0.417568  | -1.24118| 0.007604   | 0.017003|

Supplementary Material
| Gene      | conMean | treatMean | logFC | pValue | FDR    |
|-----------|---------|-----------|-------|--------|--------|
| CCL21     | 3.362454| 11.91935  | 1.825719 | 1.42E-06 | 9.20E-06 |
| BDKRB1    | 0.135026| 0.20877   | 0.62867 | 1.21E-05 | 6.14E-05 |
| CLDN9     | 13.75427| 7.188984  | -0.93602 | 3.95E-07 | 2.92E-06 |
| TYMP      | 11.27437| 33.35021  | 1.564649 | 4.49E-43 | 5.73E-41 |
| C1orf48   | 6.230182| 13.08332  | 1.070383 | 3.30E-19 | 8.23E-18 |
| MNDA      | 1.59655 | 5.582373  | 1.805921 | 3.65E-50 | 2.07E-47 |
| CKB       | 83.04361| 47.20025  | -0.81507 | 9.61E-08 | 8.13E-07 |
| ITGAD     | 0.088332| 0.179972  | 1.026767 | 2.15E-08 | 2.07E-07 |
| CCDC74B   | 1.836095| 0.917935  | -1.00018 | 1.12E-08 | 1.13E-07 |
| EML6      | 0.185602| 0.111166  | -0.7395  | 4.49E-08 | 4.03E-07 |
| INHBE     | 0.393993| 0.222042  | -0.82734 | 4.60E-05 | 0.0002  |
| UCP1      | 0.178205| 0.110291  | -0.69223 | 0.000259 | 0.000914|
| EPYC      | 3.795484| 11.51431  | 1.601073 | 1.79E-10 | 2.37E-09 |
| MT2A      | 107.7304| 182.8591  | 0.763307 | 7.09E-13 | 1.22E-11 |
| CD33      | 0.313414| 0.874069  | 1.479677 | 1.95E-45 | 3.69E-43 |
| TGM3      | 0.24433 | 0.138499  | -0.81895 | 0.000468 | 0.00153 |
| ZMYND10   | 4.688866| 2.1553    | -1.12135 | 4.20E-05 | 0.000185|
| HHIPL2    | 0.508386| 0.147148  | -1.78865 | 0.002475 | 0.006481|
| ADAM19    | 1.156916| 2.274559  | 0.975303 | 3.54E-18 | 8.51E-17 |
| MARCO     | 1.318128| 4.313123  | 1.709641 | 3.58E-16 | 7.88E-15 |
| CCR8      | 0.281398| 0.424371  | 0.592716 | 1.32E-19 | 3.34E-18 |
| HPGDS     | 0.544475| 1.174629  | 1.109267 | 3.22E-19 | 8.04E-18 |
| ITK       | 0.079683| 0.383782  | 2.267937 | 3.02E-46 | 7.38E-44 |
| DOK2      | 1.291666| 3.662138  | 1.503453 | 3.79E-44 | 5.60E-42 |
| KLHL32    | 0.859093| 0.510481  | -0.75096 | 4.44E-06 | 2.54E-05 |
| MMP19     | 1.819048| 3.480526  | 0.936122 | 2.27E-17 | 5.30E-16 |
| RENBP     | 3.066529| 5.319491  | 0.794682 | 4.79E-19 | 1.19E-17 |
| PDE11A    | 0.604071| 0.401546  | -0.58915 | 0.008828 | 0.019363|
| PDZK1IP1  | 37.09506| 74.38445  | 1.003774 | 5.77E-14 | 1.11E-12 |
| CIITA     | 2.271944| 5.151896  | 1.181176 | 5.33E-19 | 1.37E-17 |
| ALPL      | 61.17052| 32.84247  | -0.89727 | 3.03E-06 | 1.81E-05 |
| VWA3B     | 0.443247| 0.21504  | -1.04351 | 0.009451 | 0.020501 |
| C22orf23  | 0.565337| 0.362229  | -0.64221 | 1.40E-07 | 1.15E-06 |
| PCDHA5    | 0.126201| 0.081061  | -0.63864 | 7.41E-05 | 0.00304  |
| SEC14L5   | 0.253618| 0.086105  | -1.55849 | 2.85E-08 | 2.67E-07 |
| DMTN      | 12.96789| 8.028902  | -0.69167 | 1.33E-07 | 1.09E-06 |
| ABHD12B   | 0.349742| 0.180571  | -0.95372 | 0.016645 | 0.033189 |
| PF4       | 0.160414| 1.291513  | 3.009194 | 0.002024 | 0.005427 |
| FLRT3     | 2.941145| 1.515285  | -0.95679 | 4.53E-05 | 0.000197 |
| DNAI1     | 1.2416  | 0.580708  | -1.09632 | 1.70E-07 | 1.37E-06 |
| CYTIP     | 0.717401| 2.227102  | 1.634317 | 1.15E-44 | 1.81E-42 |
| NREP      | 15.72885| 10.32041  | -0.60791 | 0.000128 | 0.000492 |
| ZMAT4     | 0.157887| 0.073498  | -1.10311 | 0.00517  | 0.01222 |
| ADAMDEC1  | 0.833061| 4.364588  | 2.389351 | 3.08E-31 | 1.46E-29 |
| TBX21     | 0.085254| 0.375272  | 2.138102 | 7.70E-43 | 9.40E-41 |
| IL2RA     | 0.399791| 1.230813  | 1.622292 | 9.58E-35 | 5.83E-33 |
| Gene          | conMean | treatMean | logFC | pValue   | FDR   |
|--------------|---------|-----------|-------|----------|-------|
| MUC3A        | 0.169741 | 0.306983  | 0.854819 | 0.014792 | 0.030053 |
| CH25H        | 0.654857 | 1.260621  | 0.944882 | 5.15E-15 | 1.05E-13 |
| ZNF682       | 1.560104 | 1.034311  | -0.59297 | 1.11E-10 | 1.50E-09 |
| HSPB6        | 27.51225 | 15.32368  | -0.84431 | 0.003322 | 0.008356 |
| LYL1         | 1.103684 | 2.007907  | 0.863365 | 3.60E-29 | 1.50E-27 |
| KCNH8        | 0.349263 | 0.199704  | -0.80645 | 1.02E-05 | 5.30E-05 |
| KCNH3        | 3.765136 | 1.878851  | -1.00285 | 8.35E-10 | 1.02E-08 |
| IQUB         | 0.245596 | 0.09701   | -1.34009 | 1.71E-06 | 1.08E-05 |
| ANKRD45      | 2.344355 | 1.17084   | -1.00165 | 4.17E-10 | 5.31E-09 |
| CST7         | 3.698734 | 10.33415  | 1.482317 | 9.32E-36 | 6.03E-34 |
| ZNF660       | 1.10724  | 0.668348  | -0.7283  | 4.24E-14 | 8.23E-13 |
| CSAG2        | 0.227469 | 0.450746  | 0.986646 | 1.30E-05 | 6.56E-05 |
| TET1         | 0.932852 | 0.462506  | -1.01217 | 9.90E-12 | 1.52E-10 |
| PSMB10       | 10.2438  | 19.6717   | 0.94137  | 3.73E-25 | 1.26E-23 |
| HOPX         | 1.875159 | 3.750061  | 0.999901 | 1.69E-13 | 3.13E-12 |
| PLAUR        | 6.518998 | 11.92755  | 0.871576 | 7.04E-23 | 2.10E-21 |
| MAP1B        | 5.38437  | 3.50161   | -0.62076 | 0.001324 | 0.003754 |
| TMEM200A     | 0.645532 | 1.111053  | 0.783367 | 1.93E-12 | 3.18E-11 |
| STX11        | 0.769027 | 2.289317  | 1.573812 | 3.74E-46 | 8.99E-44 |
| SLCO1A2      | 0.40609  | 0.167638  | -1.27645 | 2.76E-07 | 2.11E-06 |
| TNFSF10      | 33.31352 | 59.70242  | 0.841682 | 3.82E-15 | 7.88E-14 |
| IGFL1        | 0.208465 | 0.0326    | -2.67688 | 3.65E-06 | 2.13E-05 |
| KCNN1        | 1.266683 | 0.591221  | -1.09929 | 0.006355 | 0.014561 |
| NINL         | 3.507551 | 2.306158  | -0.60497 | 2.30E-08 | 2.19E-07 |
| DNAH7        | 0.260785 | 0.135816  | -0.94121 | 1.63E-09 | 1.92E-08 |
| SDS          | 2.140998 | 4.984671  | 1.219215 | 1.77E-28 | 7.06E-27 |
| ZC3H12B      | 0.351142 | 0.224946  | -0.64248 | 0.000174 | 0.000646 |
| IL12A        | 1.106054 | 1.780969  | 0.68724  | 2.52E-06 | 1.53E-05 |
| FAP          | 1.004136 | 2.450598  | 1.287179 | 4.12E-13 | 7.24E-12 |
| TCF24        | 0.215998 | 0.133495  | -0.69423 | 0.000523 | 0.001683 |
| STSSIA2      | 1.20615  | 0.553374  | -1.12408 | 0.000486 | 0.001582 |
| CTLA4        | 0.160894 | 0.774847  | 2.267799 | 1.29E-40 | 1.19E-38 |
| C1QTNF9B     | 0.313457 | 0.092179  | -1.76576 | 1.11E-06 | 7.38E-06 |
| CCDC146      | 18.48308 | 8.530288  | -1.11554 | 1.22E-07 | 1.01E-06 |
| IQSEC3       | 4.427613 | 2.825877  | -0.64783 | 0.012953 | 0.026886 |
| COL5A1       | 20.53262 | 39.57965  | 0.946841 | 4.12E-06 | 2.37E-05 |
| SEZ6         | 1.398877 | 0.303358  | -2.20508 | 0.004118 | 0.010034 |
| TTL9         | 0.685304 | 0.381027  | -0.84685 | 8.61E-09 | 8.99E-08 |
| CFAP77       | 1.753429 | 0.592374  | -1.5656  | 7.54E-05 | 0.000309 |
| ASPN         | 2.355894 | 3.698144  | 0.650527 | 3.37E-07 | 2.53E-06 |
| GPR171       | 0.201018 | 0.884551  | 2.137622 | 5.15E-38 | 3.84E-36 |
| VCX          | 0.335948 | 0.141482  | -1.24762 | 4.60E-05 | 0.0002 |
| PNMA3        | 4.153835 | 1.987079  | -1.06379 | 3.28E-13 | 5.82E-12 |
| CLDN2        | 0.28471  | 0.062466  | -2.18836 | 0.00061 | 0.001927 |
| CCDC65       | 2.955398 | 1.692428  | -0.80426 | 1.01E-08 | 1.03E-07 |
| Gene    | conMean  | treatMean | logFC   | pValue    | FDR       |
|---------|----------|-----------|---------|-----------|-----------|
| XCR1    | 0.042185 | 0.165414  | 1.971272| 3.48E-27  | 1.31E-25  |
| SLC34A3 | 0.517432 | 0.253916  | -1.02702| 2.50E-06  | 1.52E-05  |
| TRARG1  | 0.081423 | 0.380965  | 2.226155| 0.00064   | 0.002004  |
| CXCL1   | 8.828949 | 16.67234  | 0.917143| 2.61E-09  | 2.99E-08  |
| LRTM2   | 0.462493 | 0.0479    | -3.27132| 1.16E-08  | 1.17E-07  |
| NUPR1   | 12.71268 | 20.06349  | 0.658304| 1.15E-09  | 1.37E-08  |
| ORM1    | 0.714982 | 1.375331  | 0.9438  | 0.000604  | 0.001912  |
| CNTFR   | 9.123331 | 5.695954  | -0.67962| 1.27E-07  | 1.05E-06  |
| AGTR1   | 0.187688 | 0.318957  | 0.765023| 4.25E-06  | 2.44E-05  |
| RIBC1   | 2.298085 | 1.44902   | 0.66535 | 7.59E-05  | 0.00031   |
| MMP9    | 8.439042 | 33.03664  | 1.968916| 2.52E-23  | 7.66E-22  |
| ITGB7   | 0.714923 | 1.329487  | 0.89501 | 2.16E-16  | 4.80E-15  |
| CTSK    | 20.11946 | 43.2987   | 1.105732| 2.17E-14  | 4.29E-13  |
| PCDH3   | 1.57385  | 0.79072   | -0.99306| 0.001038  | 0.003051  |
| TMEM38A | 6.830471 | 4.181644  | -0.70791| 8.48E-07  | 5.83E-06  |
| THEMIS  | 0.065859 | 0.327031  | 2.311976| 1.39E-40  | 1.27E-38  |
| GPR65   | 0.423544 | 1.380975  | 1.705105| 4.51E-46  | 1.06E-43  |
| IGSF6   | 1.152355 | 3.226137  | 1.485222| 4.75E-45  | 8.01E-43  |
| WAS     | 2.707252 | 7.373475  | 1.445515| 6.22E-48  | 2.15E-45  |
| GDF6    | 0.215109 | 0.333296  | 0.631736| 0.000989  | 0.002928  |
| CPA2    | 13.2278 | 0.192134  | -6.10532| 1.18E-06  | 7.83E-06  |
| ITGBL1  | 0.261506 | 0.611935  | 1.226536| 2.08E-11  | 3.04E-10  |
| LHX1    | 11.70361 | 4.439415  | -1.39851| 1.69E-06  | 1.07E-05  |
| WSCD1   | 0.264233 | 0.136541  | -0.94261| 0.025619  | 0.047676  |
| MCHR1   | 0.118694 | 0.536068  | 2.175176| 1.81E-05  | 8.79E-05  |
| PRAM1   | 0.520191 | 0.917286  | 0.818332| 1.11E-16  | 2.50E-15  |
| LILRB3  | 0.314129 | 0.731656  | 1.21981 | 2.36E-33  | 1.28E-31  |
| STS1A3  | 0.222147 | 0.014376  | -3.94975| 1.31E-08  | 1.31E-07  |
| AOC3    | 1.435293 | 2.267888  | 0.660004| 2.25E-08  | 2.16E-07  |
| COPZ2   | 3.59361  | 5.842619  | 0.701181| 3.64E-10  | 4.67E-09  |
| GFRA2   | 1.094092 | 0.381247  | -1.52094| 0.003071  | 0.00781   |
| CORO1A  | 5.520445 | 12.88547  | 1.222888| 2.00E-34  | 1.19E-32  |
| UBE2U   | 0.160536 | 0.077856  | -1.04401| 0.006617  | 0.015084  |
| FOXP3   | 0.820113 | 2.181629  | 1.411512| 3.40E-34  | 1.97E-32  |
| CD74    | 665.6254 | 1512.714  | 1.184357| 3.71E-28  | 1.46E-26  |
| GALNT9  | 0.774882 | 0.242797  | -1.67423| 0.013331  | 0.027563  |
| ODAM    | 0.24254  | 0.071598  | -1.76022| 0.005545  | 0.012975  |
| SELPLG  | 3.578884 | 10.54321  | 1.558732| 4.39E-45  | 7.49E-43  |
| SHISA8  | 0.532687 | 0.320546  | -0.73275| 0.00782   | 0.017422  |
| ZNF676  | 1.030055 | 0.550599  | -0.90365| 0.000384  | 0.001288  |
| CCN5    | 0.552918 | 0.914304  | 0.725609| 0.020054  | 0.038754  |
| SLC16A3 | 6.031036 | 9.471679  | 0.651214| 3.42E-13  | 6.05E-12  |
| LRRC43  | 1.334364 | 0.782729  | -0.76957| 2.17E-06  | 1.34E-05  |
| CCDC74A | 7.14278  | 4.645175  | -0.62075| 2.85E-05  | 0.000131  |
| CECR2   | 0.596695 | 0.263257  | -1.18052| 7.56E-06  | 4.09E-05  |
| DTNA    | 1.319475 | 0.649353  | -1.02289| 3.81E-05  | 0.000169  |
| Gene   | conMean | treatMean | logFC   | pValue    | FDR       |
|--------|---------|-----------|---------|-----------|-----------|
| C1R    | 28.10157| 44.87367  | 0.675219| 7.50E-17  | 1.70E-15  |
| SLAMF6 | 0.316052| 1.407985  | 2.155399| 9.36E-42  | 9.90E-40  |
| CD300LF| 0.364042| 1.335326  | 1.875014| 8.18E-49  | 3.41E-46  |
| COL8A1 | 3.858759| 8.802493  | 1.189775| 2.10E-10  | 2.75E-09  |
| CFAP43 | 1.111382| 0.597661  | -0.89496| 1.36E-08  | 1.35E-07  |
| RGS4   | 1.37336 | 2.73112   | 0.991783| 2.28E-08  | 2.18E-07  |
| UPK1A  | 1.838023| 0.849702  | -1.11313| 0.014563  | 0.029701  |
| C7orf57| 1.869375| 0.756692  | -1.30478| 0.001807  | 0.00492   |
| GPC5   | 0.472875| 0.267806  | -0.82027| 0.022633  | 0.042902  |
| BRINP2 | 0.615238| 0.215865  | -1.51101| 3.14E-05  | 0.000143  |
| SPAG8  | 1.980217| 1.200384  | -0.72216| 4.48E-07  | 3.27E-06  |
| CD3E   | 1.105592| 5.369645  | 2.280008| 1.12E-47  | 3.60E-45  |
| UNC119B| 9.942262| 6.362047  | -0.64408| 6.14E-13  | 1.06E-11  |
| KCNA3  | 0.114536| 0.336914  | 1.556582| 3.90E-24  | 1.25E-22  |
| CRHR2  | 0.171938| 0.09629   | -0.83643| 0.007521  | 0.016836  |
| AGR3   | 7.046352| 3.11566   | -1.17734| 2.89E-07  | 2.21E-06  |
| C3AR1  | 3.448876| 10.82642  | 1.692846| 1.98E-45  | 3.69E-43  |
| TYROBP | 54.42428| 158.465   | 1.541842| 7.43E-49  | 3.28E-46  |
| TSNAXIP1| 0.685248| 0.398333  | -0.78265| 5.69E-10  | 7.12E-09  |
| IKZF1  | 0.500051| 1.508503  | 1.59297| 3.98E-40  | 3.48E-38  |
| ENO4   | 0.384157| 0.226285  | -0.76356| 1.07E-08  | 1.09E-07  |
| SOX18  | 19.29708| 29.09771  | 0.592523| 1.54E-06  | 9.88E-06  |
| PPP1R1A| 1.897867| 1.177988  | -0.68805| 0.010644  | 0.02688   |
| SRCIN1 | 0.856151| 0.560705  | -0.61062| 1.92E-05  | 9.25E-05  |
| SULT1E1| 0.445674| 0.272858  | -0.70784| 0.000193  | 0.000707  |
| SOX21  | 0.755363| 0.180332  | -2.06307| 0.006078  | 0.01403   |
| PAEP   | 8.061427| 23.61824  | 1.550794| 8.46E-05  | 0.000342  |
| PLEKHO2| 6.761839| 11.78797  | 0.801828| 1.70E-28  | 6.79E-27  |
| SELENOM| 17.90377| 27.84947  | 0.637386| 7.42E-08  | 6.43E-07  |
| EFCAB1 | 1.487329| 0.454172  | -1.71141| 0.000743  | 0.002284  |
| PRB3   | 0.430475| 0.173084  | -1.31446| 0.000211  | 0.000764  |
| MS4A1  | 0.045023| 0.295413  | 2.714015| 8.58E-25  | 2.82E-23  |
| HLA-DQA1| 8.010353| 28.09167  | 1.810205| 4.62E-40  | 3.97E-38  |
| FAM181B| 1.038462| 0.550626  | -0.9153 | 0.010389  | 0.02222   |
| CYP24A1| 0.548331| 0.83565   | 0.607851| 5.28E-08  | 4.68E-07  |
| RNASE6 | 6.195626| 18.25244  | 1.558768| 1.06E-43  | 1.51E-41  |
| FKBP5  | 3.923042| 5.875225  | 0.582671| 1.86E-07  | 1.49E-06  |
| SPTBN4 | 0.529007| 0.275139  | -0.94312| 0.000396  | 0.001326  |
| TEX45  | 0.993368| 0.599215  | -0.72926| 5.78E-06  | 3.21E-05  |
| COLEC11| 5.499892| 2.348557  | -1.22763| 3.69E-08  | 3.37E-07  |
| KIAA0895| 1.890273| 1.212538  | -0.64056| 3.58E-12  | 5.79E-11  |
| IGDCC3 | 1.433001| 0.128956  | -3.47409| 8.01E-09  | 8.41E-08  |
| C4orf54 | 0.44789 | 0.123185  | -1.86232| 4.61E-09  | 5.08E-08  |
| CSTL1  | 0.176678| 0.113526  | -0.6381 | 0.006138  | 0.014142  |
| FGD2   | 0.728052| 1.350113  | 0.890968| 1.31E-21  | 3.64E-20  |
| Gene    | conMean | treatMean | logFC  | pValue     | FDR    |
|---------|---------|-----------|--------|------------|--------|
| SLC29A4 | 2.760075| 1.536971  | -0.84462| 0.014907   | 0.03023|
| TCL1A   | 0.163884| 0.256764  | 0.647768| 7.80E-14   | 1.48E-12|
| LGSN    | 0.470079| 0.210433  | -1.15954| 2.80E-07   | 2.14E-06|
| CD1A    | 0.21218 | 1.288594  | 2.60244 | 2.04E-21   | 5.65E-20|
| LGALS14 | 0.259853| 0.405718  | 0.642786| 0.000777   | 0.002378|
| SPIRE2  | 2.031497| 1.069383  | -0.92576| 4.62E-11   | 6.53E-10|
| SCN11A  | 0.128588| 0.074199  | -0.79329| 5.94E-07   | 4.23E-06|
| CASC1   | 2.74113 | 1.199857  | -1.19191| 6.48E-09   | 6.94E-08|
| TCEAL5  | 1.891653| 0.680776  | -1.4744 | 1.04E-05   | 5.40E-05|
| TTLL10  | 0.893485| 0.488498  | -0.87109| 2.87E-05   | 0.000132|
| LYZ     | 13.83425| 74.59471  | 2.430829| 1.27E-41   | 1.30E-39|
| FAM117B | 6.018127| 3.946807  | -0.60863| 1.47E-13   | 2.73E-12|
| JAKMIP1 | 0.088496| 0.189841  | 1.101112| 5.36E-21   | 1.45E-19|
| MEDAG   | 1.551005| 2.862177  | 0.88391 | 4.65E-06   | 2.64E-05|
| RP1     | 0.189166| 0.112927  | -0.74427| 0.000352   | 0.001195|
| TUBA3E  | 0.35631 | 0.079488  | -2.16432| 0.011859   | 0.024945|
| ADGRG5  | 0.200525| 0.451888  | 1.172184| 1.06E-23   | 3.30E-22|
| GRAP    | 0.124795| 0.199973  | 0.680246| 3.08E-12   | 4.99E-11|
| FRZB    | 12.61759| 5.882823  | -1.10086| 0.018604   | 0.03644|
| CFA5P4  | 0.288068| 0.180963  | -0.67071| 0.000136   | 0.00052|
| HLA-A   | 189.0387| 337.2456  | 0.835118| 3.47E-21   | 9.44E-20|
| PTGDR   | 0.05282 | 0.154861  | 1.551822| 1.40E-30   | 6.34E-29|
| FREM2   | 0.331403| 0.063318  | -2.38789| 5.66E-07   | 4.05E-06|
| GAREM2  | 3.004437| 1.785142  | -0.75106| 0.000664   | 0.002069|
| CASR    | 0.228438| 0.14667   | -0.63923| 1.61E-06   | 1.03E-05|
| AEBP1   | 49.4041 | 90.86265  | 0.879057| 2.30E-07   | 1.80E-06|
| C19orf44| 3.537421| 2.320997  | -0.60795| 1.27E-09   | 1.51E-08|
| HRK     | 0.860792| 0.560079  | -0.62004| 0.000576   | 0.001835|
| SERPINI2| 1.82801 | 0.589696  | -1.63223| 2.03E-05   | 9.71E-05|
| CCDC78  | 2.295318| 1.464743  | -0.64805| 9.58E-05   | 0.000381|
| WFIKKN2 | 0.380454| 0.159244  | -1.25648| 1.22E-05   | 6.21E-05|
| HLA-C   | 228.0127| 456.9122  | 1.002803| 1.68E-21   | 4.66E-20|
| NCF2    | 1.584468| 4.426577  | 1.482193| 3.83E-42   | 4.21E-40|
| PTAFR   | 3.020319| 6.518972  | 1.109944| 5.97E-29   | 2.45E-27|
| FGL2    | 2.25097 | 8.026652  | 1.834251| 1.13E-45   | 2.33E-43|
| SM2NL2  | 1.164778| 0.45665   | -1.35089| 0.001925   | 0.005198|
| SECTM1  | 10.23104| 20.28313  | 0.987328| 2.71E-15   | 5.64E-14|
| TRAF1   | 1.096886| 1.69854   | 0.630882| 9.23E-15   | 1.86E-13|
| PCDHGC4 | 0.139671| 0.078976  | -0.82254| 1.65E-05   | 8.10E-05|
| ATP2A3  | 1.519908| 2.516911  | 0.727671| 1.95E-14   | 3.86E-13|
| TCAP    | 1.209047| 0.500242  | -1.27317| 8.61E-07   | 5.91E-06|
| FAM169A | 0.38825 | 0.201216  | -0.94824| 1.78E-07   | 1.43E-06|
| GPLD1   | 0.444143| 0.289705  | -0.61644| 1.64E-06   | 1.05E-05|
| HLA-DOA | 7.406687| 16.93376  | 1.193002| 9.50E-20   | 2.42E-18|
| NNX6-3  | 0.211515| 0.104988  | -1.01054| 0.001339   | 0.003792|
| SVEP1   | 0.519495| 1.027804  | 0.984384| 1.76E-07   | 1.42E-06|
| Gene          | conMean | treatMean | logFC    | pValue    | FDR     |
|--------------|---------|-----------|----------|-----------|---------|
| SIGLEC5      | 0.072201| 0.197236  | 1.449833 | 2.73E-26 | 9.65E-25|
| SIRPBP2      | 0.228671| 0.804634  | 1.810558 | 8.92E-40 | 7.53E-38|
| SPP1         | 119.4698| 310.6508  | 1.378648 | 9.21E-25 | 3.02E-23|
| IGFL1        | 0.851083| 2.14      | 1.330239 | 5.81E-05 | 0.000245|
| GAL3T1       | 2.2312  | 0.896392  | -1.31562 | 1.32E-08 | 1.32E-07|
| MYLK2        | 0.535487| 0.291152  | -0.87908 | 0.001859 | 0.005044|
| C1QB         | 59.65439| 204.5137  | 1.777497 | 1.42E-44 | 2.19E-42|
| LAIR2        | 0.060227| 0.184083  | 1.611879 | 2.80E-21 | 7.67E-20|
| CYP27C1      | 0.130967| 0.084059  | -0.63973 | 0.019171 | 0.037395|
| KLHDCC7B     | 1.18286 | 2.819591  | 1.253206 | 8.40E-23 | 2.50E-21|
| LINC00514    | 0.220073| 0.126621  | -0.79747 | 0.000417 | 0.001386|
| FCRL5        | 0.057631| 0.226641  | 1.97548  | 1.28E-19 | 3.24E-18|
| LY9          | 0.052155| 0.218446  | 2.06639  | 2.55E-42 | 2.89E-40|
| ARID3C       | 0.859864| 0.34725   | -1.30813 | 5.19E-07 | 3.73E-06|
| CD1C         | 0.217245| 1.069496  | 2.299538 | 9.96E-27 | 3.62E-25|
| CELF3        | 0.187032| 0.02308   | -3.0186  | 9.92E-07 | 6.71E-06|
| RHOH         | 0.128087| 0.477547  | 1.898514 | 2.33E-49 | 1.10E-46|
| ZAP70        | 0.255099| 0.813904  | 1.673801 | 2.12E-35 | 1.33E-33|
| IQCA1        | 4.09414 | 2.689002  | -0.60649 | 4.86E-08 | 4.33E-07|
| RGS20        | 0.384   | 0.183863  | -1.06247 | 0.00251  | 0.00656 |
| MSX1         | 20.53187 | 7.868059  | -1.38379 | 2.46E-05 | 0.000115|
| SERPINA1     | 12.64574| 30.08198  | 1.250248 | 6.68E-28 | 2.62E-26|
| BPIFA2       | 0.306285| 0.154315  | -0.98899 | 2.71E-06 | 1.63E-05|
| TTPA         | 0.230589| 0.390873  | 0.761376 | 0.000884 | 0.002656|
| MICB         | 2.969867| 5.165959  | 0.798638 | 1.88E-12 | 3.10E-11|
| NEK10        | 0.146282| 0.083419  | -0.8103  | 6.06E-05 | 0.000255|
| SOX3         | 1.133562| 0.114306  | -3.30989 | 5.18E-09 | 5.64E-08|
| GALNT17      | 7.45893 | 4.570689  | -0.70656 | 0.000682 | 0.002117|
| STAP1        | 0.122137| 0.350639  | 1.521488 | 3.83E-22 | 1.10E-20|
| MNS1         | 3.634549| 2.36759   | -0.61836 | 3.83E-07 | 2.84E-06|
| SMIM6        | 1.457625| 0.578679  | -1.33278 | 0.000251 | 0.000889|
| PLCB4        | 2.526095| 1.464808  | -0.7862  | 4.02E-09 | 4.48E-08|
| VCAM1        | 2.123293| 6.139369  | 1.531787 | 5.32E-22 | 1.52E-20|
| GPR87        | 0.369069| 0.613558  | 0.733311 | 0.000587 | 0.001864|
| GPR141       | 0.458008| 1.093892  | 1.256025 | 3.48E-25 | 1.18E-23|
| SLC6A13      | 1.72373 | 0.727654  | -1.24421 | 7.78E-07 | 5.41E-06|
| PGR          | 0.985429| 0.644415  | -0.61276 | 0.012     | 0.025196|
| CFAP61       | 0.338268| 0.146469  | -1.20757 | 2.27E-07 | 1.78E-06|
| PRRT2        | 1.274115| 0.804368  | -0.66357 | 0.002426 | 0.006372|
| CAMK2B       | 0.631707| 0.356982  | -0.8234  | 1.27E-08 | 1.27E-07|
| CD1D         | 0.433486| 0.807841  | 0.898085 | 6.69E-25 | 2.21E-23|
| ARC          | 1.64176 | 1.065345  | -0.62392 | 0.000369 | 0.001245|
| GNA15        | 1.447738| 3.890132  | 1.426019 | 3.04E-43 | 3.99E-41|
| GAD1         | 0.325422| 0.199081  | -0.07086 | 1.85E-05 | 8.95E-05|
| APOBEC3A     | 0.44543 | 0.996489  | 1.161655 | 4.56E-14 | 8.82E-13|
| Gene       | conMean | treatMean | logFC   | pValue     | FDR       |
|------------|---------|-----------|---------|------------|-----------|
| CFAP161    | 0.753149| 0.323342  | -1.21987| 0.0002     | 0.000731  |
| FAM155B    | 2.393058| 1.209999  | -0.98385| 4.40E-08   | 3.96E-07  |
| NME8       | 0.220533| 0.345043  | -0.645784| 3.19E-13   | 5.68E-12  |
| SCN5A      | 0.722023| 0.399193  | -0.85496| 2.01E-09   | 2.34E-08  |
| DRC3       | 1.260414| 0.775655  | -0.70041| 5.14E-10   | 6.50E-09  |
| CCL22      | 0.193594| 0.624258  | 1.689108| 5.74E-31   | 2.68E-29  |
| GCSAM      | 0.172589| 0.263447  | 0.610173| 7.20E-10   | 8.91E-09  |
| LOX        | 5.231193| 10.94669  | 1.065283| 6.36E-10   | 7.91E-09  |
| GPX3       | 102.1739| 240.1868  | 1.23313 | 2.16E-09   | 2.51E-08  |
| LGALS1     | 204.9425| 314.2719  | 0.616795| 1.72E-14   | 3.42E-13  |
| GLP1R      | 0.23545 | 0.114492  | -1.04018| 5.95E-05   | 0.000251  |
| NKG7       | 3.322437| 15.95923  | 2.264077| 2.98E-46   | 7.38E-44  |
| AQP9       | 3.24685 | 5.354984  | 0.721842| 6.70E-09   | 7.14E-08  |
| HCK        | 2.2858  | 6.559244  | 1.52083 | 3.28E-45   | 5.74E-43  |
| NLRP3      | 0.33149 | 0.869948  | 1.391966| 2.14E-35   | 1.34E-33  |
| SCGB3A1    | 16.92556| 4.297188  | -1.97774| 3.57E-05   | 0.00016   |
| CHST11     | 2.964851| 4.737432  | 0.676146| 2.17E-17   | 5.06E-16  |
| PPARC1A    | 0.286326| 0.113903  | -1.32986| 0.001738   | 0.004756  |
| KRTAP5-1   | 0.423535| 0.255035  | -0.73178| 1.71E-05   | 8.39E-05  |
| MYOG       | 0.442305| 0.094852  | -2.2213 | 0.000457   | 0.0015    |
| XIRP1      | 0.046201| 0.18151   | 1.974054| 1.63E-11   | 2.43E-10  |
| ZNF366     | 0.144677| 0.219869  | 0.603815| 4.35E-07   | 3.18E-06  |
| PRR29      | 1.485316| 0.913178  | -0.7018 | 0.001637   | 0.004516  |
| IL6        | 0.957876| 1.912865  | 0.997825| 3.79E-08   | 3.46E-07  |
| HELT       | 0.173758| 0.026979  | -2.68719| 0.000757   | 0.002325  |
| ADGRG2     | 5.92417 | 3.779148  | -0.64855| 0.006936   | 0.015709  |
| STEAP4     | 0.588482| 1.024875  | 0.800378| 3.15E-09   | 3.56E-08  |
| ACTC1      | 1.300845| 0.143421  | -3.18112| 0.01053    | 0.022483  |
| MS4A8      | 1.423702| 0.512908  | -1.47288| 0.002688   | 0.006966  |
| GPR84      | 0.600722| 2.324743  | 1.952301| 4.27E-45   | 7.38E-43  |
| PILRA      | 4.273242| 7.654246  | 0.840929| 1.56E-23   | 4.80E-22  |
| KCNRG      | 0.585071| 0.30874  | -0.92222| 4.21E-07   | 3.09E-06  |
| SMIM2      | 0.140646| 0.065468  | -1.10322| 0.020292   | 0.03913   |
| HNMT       | 3.277053| 5.322472  | 0.699697| 3.11E-20   | 8.13E-19  |
| SGSM1      | 0.437645| 0.287162  | -0.6079 | 1.38E-06   | 8.98E-06  |
| CD3D       | 0.824261| 4.328164  | 2.392582| 4.17E-47   | 1.21E-44  |
| MAPK8IP1   | 26.17284| 13.15353  | -0.99262| 5.08E-14   | 9.76E-13  |
| MILR1      | 1.631202| 3.777325  | 1.211429| 4.38E-33   | 2.30E-31  |
| GLI1       | 0.594839| 0.229122  | -1.37638| 5.32E-08   | 4.70E-07  |
| SLCO2B1    | 1.986669| 5.759345  | 1.535553| 1.02E-30   | 4.68E-29  |
| SAMSN1     | 0.973528| 3.091836  | 1.667169| 7.76E-50   | 3.93E-47  |
| ADAMTS19   | 0.214774| 0.054345  | -1.9826 | 1.52E-09   | 1.80E-08  |
| CCR4       | 0.103582| 0.405294  | 1.968196| 5.43E-36   | 3.56E-34  |
| HMOX1      | 8.71964 | 17.78931  | 1.02867 | 4.49E-29   | 1.86E-27  |
| NEXN       | 1.435007| 2.333508  | 0.701443| 8.85E-09   | 9.20E-08  |
| DAND5      | 0.940311| 0.253307  | -1.89225| 0.025496   | 0.04749   |
| Gene     | conMean | treatMean | logFC  | pValue    | FDR        |
|----------|---------|-----------|--------|-----------|------------|
| SIT1     | 0.695824| 2.668296  | 1.939125| 3.94E-43  | 5.08E-41   |
| PLN      | 0.707365| 1.347095  | 0.929325| 3.68E-11  | 5.26E-10   |
| MUC5AC   | 0.254581| 0.078181  | -1.70324| 8.64E-06  | 4.59E-05   |
| ARRDC5   | 0.086537| 0.22407   | 1.372568| 1.23E-24  | 4.01E-23   |
| IL1B     | 1.579187| 4.019721  | 1.347914| 1.03E-25  | 3.57E-24   |
| BTK      | 0.481862| 1.562573  | 1.697233| 1.04E-49  | 5.08E-47   |
| CLUL1    | 2.137374| 1.287857  | -0.73087| 2.06E-06  | 1.28E-05   |
| METTL24  | 2.67075 | 1.609809  | -0.73036| 0.001581  | 0.004381   |
| KLHDC8A  | 7.243874| 4.794124  | -0.59549| 1.96E-07  | 1.56E-06   |
| KCNJ4    | 0.534089| 0.264556  | -1.01351| 4.34E-05  | 0.00019    |
| FAM161A  | 1.965303| 1.302828  | -0.5931 | 1.17E-09  | 1.39E-08   |
| AMBP     | 1.446593| 0.140738  | -3.36158| 0.006056  | 0.013993   |
| JPH4     | 1.041687| 0.433388  | -1.26519| 1.08E-06  | 7.20E-06   |
| UPK2     | 6.163724| 2.763045  | -1.15754| 0.001734  | 0.004745   |
| CCL4L2   | 2.127146| 5.297673  | 1.316439| 1.04E-24  | 3.42E-23   |
| CENPV    | 5.649983| 3.026423  | -0.90063| 2.71E-05  | 0.000126   |
| CFA6P9   | 0.786987| 0.499588  | -0.6556 | 2.21E-08  | 2.12E-07   |
| GJA5     | 2.779807| 5.347337  | 0.943836| 3.56E-08  | 3.26E-07   |
| GRIN2C   | 0.322617| 0.193288  | -0.73907| 0.001011  | 0.002984   |
| LIN28A   | 0.192965| 0.049335  | -1.96766| 0.000905  | 0.002708   |
| HSPA6    | 1.617176| 2.455097  | 0.602303| 2.33E-08  | 2.22E-07   |
| SASH3    | 1.861496| 6.532201  | 1.811106| 5.54E-53  | 9.82E-50   |
| TUBB8B   | 0.328544| 0.168279  | -0.96523| 1.85E-06  | 1.16E-05   |
| ZNF804A  | 0.088239| 0.150659  | 0.771792| 1.62E-19  | 4.07E-18   |
| GBP4     | 4.441136| 13.87477  | 1.643463| 1.42E-29  | 6.05E-28   |
| ASGR2    | 0.060044| 0.180814  | 1.59042 | 2.64E-34  | 1.55E-32   |
| ANKDD1B  | 0.19301| 0.097994  | -0.9779 | 7.03E-06  | 3.83E-05   |
| LRRK2    | 0.156972| 0.370099  | 1.237398| 6.40E-24  | 2.02E-22   |
| PTGFR    | 0.096236| 0.174627  | 0.859636| 5.49E-10  | 6.89E-09   |
| DNAAF3   | 2.514293| 1.594257  | -0.65727| 1.61E-06  | 1.03E-05   |
| TAS1R1   | 0.319631| 0.210316  | -0.60385| 6.79E-06  | 3.70E-05   |
| PLAC8    | 0.388115| 0.728758  | 0.908955| 4.05E-16  | 8.89E-15   |
| TDO2     | 1.011345| 2.461241  | 1.28311 | 4.66E-14  | 9.00E-13   |
| WIFI1    | 1.255051| 0.240575  | -2.38319| 0.008247  | 0.018228   |
| HABP2    | 0.310267| 0.062352  | -2.31501| 0.002666  | 0.006918   |
| ACP5     | 10.3651 | 17.94472  | 0.791826| 1.75E-16  | 3.90E-15   |
| SLC28A3  | 1.718148| 3.215371  | 0.904131| 7.01E-12  | 1.09E-10   |
| SNX10    | 4.09392 | 6.718964  | 0.714756| 4.36E-22  | 1.25E-20   |
| ZNF711   | 2.03655 | 1.136019  | -0.84214| 6.47E-11  | 9.04E-10   |
| MUC6     | 1.925904| 0.758637  | -1.34405| 0.000211  | 0.000764   |
| GABRE    | 2.878655| 5.436673  | 0.917329| 6.13E-09  | 6.58E-08   |
| IL2RB    | 1.134478| 5.022469  | 2.146368| 1.93E-45  | 3.69E-43   |
| LILRA6   | 0.210562| 0.481868  | 1.194396| 5.40E-25  | 1.81E-23   |
| COL9A2   | 21.48385| 10.42724  | -1.0429 | 5.17E-05  | 0.000222   |
| PRDM8    | 0.170622| 0.318986  | 0.902693| 3.01E-20  | 7.88E-19   |
| Gene        | conMean | treatMean | logFC | pValue | FDR   |
|------------|---------|-----------|-------|--------|-------|
| ANKLE1     | 2.162064| 1.151188  | -0.90929 | 1.18E-07 | 9.83E-07 |
| TNFRSF17   | 0.240674| 0.89595   | 1.896335 | 2.26E-14 | 4.44E-13 |
| VNN3       | 0.212623| 0.519236  | 1.288094 | 1.24E-11 | 1.88E-10 |
| FRRS1L     | 0.608838| 0.316986  | -0.94164 | 1.13E-07 | 9.46E-07 |
| MEF2C      | 1.002253| 1.774276  | 0.823984 | 1.28E-23 | 3.96E-22 |
| MARCHF11   | 0.358265| 0.096983  | -1.88522 | 8.76E-09 | 9.14E-08 |
| CORO2B     | 4.283603| 2.41233   | -0.8284  | 3.25E-05 | 0.000147 |
| AC005041.1 | 6.636183| 4.336437  | -0.61384 | 4.95E-11 | 6.98E-10 |
| OIT3       | 0.156843| 0.092882  | -0.75585 | 0.003868 | 0.009518 |
| UBD        | 1.343837| 6.964636  | 2.37369  | 9.29E-28 | 3.58E-26 |
| COL11A2    | 1.136825| 0.645698  | -0.81608 | 0.01108 | 0.023494 |
| MYOZ3      | 0.219699| 0.11004   | -0.9975  | 0.000235 | 0.000839 |
| PCDHB11    | 2.904069| 1.483144  | -0.96942 | 3.57E-05 | 0.00016 |
| OTOS       | 0.488551| 0.106601  | -2.19628 | 1.83E-05 | 8.87E-05 |
| EDN3       | 3.77358 | 0.561853  | -2.74767 | 7.81E-08 | 6.72E-07 |
| CCL17      | 0.285068| 1.17484   | 2.043085 | 6.01E-21 | 1.62E-19 |
| TMEM156    | 0.116662| 0.395547  | 1.761515 | 9.26E-39 | 7.21E-37 |
| GPR174     | 0.066475| 0.28736   | 2.111983 | 3.83E-33 | 2.02E-31 |
| NCR3       | 0.130487| 0.568435  | 2.123094 | 1.54E-38 | 1.17E-36 |
| EZH2       | 0.381277| 0.110026  | -1.793   | 0.000368 | 0.001241 |
| ATRNL1     | 0.296865| 0.189719  | -0.64595 | 0.000119 | 0.000461 |
| FEZF2       | 0.154116| 0.416821  | 1.435409 | 0.002233 | 0.005919 |
| SBLK3      | 0.23234 | 0.114887  | -1.01602 | 1.14E-06 | 7.56E-06 |
| PRKGC      | 1.418627| 0.540842  | -1.39122 | 0.003801 | 0.009368 |
| SNX31      | 0.296909| 0.481781  | 0.698359 | 0.000207 | 0.00075 |
| CCDC187    | 0.52155 | 0.31459   | -0.72934 | 3.44E-06 | 2.02E-05 |
| MARCHF4    | 0.169005| 0.04446   | -1.92649 | 0.000317 | 0.001094 |
| NPW        | 21.90456 | 13.7928   | -0.66732 | 0.001021 | 0.00301 |
| HLA-DOB    | 1.490474| 2.648674  | 0.829499 | 2.41E-12 | 3.93E-11 |
| FLI1       | 0.69187 | 1.377894  | 0.993892 | 1.29E-33 | 7.24E-32 |
| SLC9A4     | 1.504285| 0.908227  | -0.72795 | 0.001622 | 0.004478 |
| IL32       | 15.07656 | 31.01188  | 1.040513 | 4.15E-20 | 1.07E-18 |
| DNAH9      | 0.238674| 0.11257   | -1.08422 | 1.29E-05 | 6.51E-05 |
| TNNC2      | 1.843493| 0.855498  | -0.69442 | 0.000755 | 0.002319 |
| CXCR1      | 0.060632| 0.16306   | 1.42726  | 9.41E-05 | 0.000375 |
| CATSPERD   | 0.308368| 0.108804  | -1.50293 | 0.00673 | 0.015307 |
| CYTH4      | 1.017597| 2.95306   | 1.537045 | 8.23E-43 | 9.88E-41 |
| IL5RA      | 0.414248| 0.172219  | -1.26625 | 0.001202 | 0.003457 |
| COL10A1    | 5.43317 | 12.22417  | 1.16987  | 4.43E-12 | 7.09E-11 |
| NPHS1      | 0.861446| 0.172964  | -2.31629 | 0.003052 | 0.007774 |
| CST11      | 0.174769| 0.116506  | -0.58505 | 0.004736 | 0.011344 |
| GIMAP8      | 0.620874| 1.493204  | 1.266038 | 1.28E-30 | 5.84E-29 |
| AIF1       | 7.361899| 23.09317  | 1.649317 | 3.76E-53 | 7.61E-50 |
| FAS         | 3.992714| 6.3312    | 0.665109 | 3.09E-16 | 6.83E-15 |
| PSTPIP1     | 0.660095| 1.206823  | 0.870468 | 1.84E-26 | 6.58E-25 |
| TIMP3       | 2.609338| 3.977649  | 0.608232 | 0.005054 | 0.011982 |
| Gene     | conMean | treatMean | logFC  | pValue     | FDR    |
|----------|---------|-----------|--------|------------|--------|
| SIAH3    | 0.998181| 0.556447  | -0.84306| 8.43E-05   | 0.000341|
| APOL1    | 25.0065 | 50.41269  | 1.011484| 3.07E-18   | 7.41E-17|
| TNFSF14  | 0.894515| 1.51061   | 0.755954| 7.20E-14   | 1.37E-12|
| TDRD12   | 1.051475| 0.323093  | -1.70239| 0.000183   | 0.000675|
| TP53TGD3 | 0.429221| 0.226677  | -0.92108| 5.42E-05   | 0.000231|
| DCAF12L1 | 1.516648| 0.827259  | -0.87448| 3.45E-06   | 2.02E-05|
| CCR2     | 0.169341| 0.830149  | 2.29344 | 3.85E-38   | 2.90E-36|
| PTGIS    | 5.327165| 10.33241  | 0.955738| 1.18E-06   | 7.80E-06|
| BRSK2    | 0.600409| 0.218171  | -1.46048| 7.50E-08   | 6.49E-07|
| CLIC2    | 1.276108| 2.424132  | 0.925718| 1.16E-26   | 4.18E-25|
| PDLIM3   | 2.23599 | 4.501275  | 1.00942 | 2.09E-10   | 2.74E-09|
| HAMP     | 0.36725 | 0.967183  | 1.397026| 9.13E-23   | 2.71E-21|
| SYP      | 0.926478| 0.505413  | -0.87429| 0.004387   | 0.010615|
| GNB4     | 2.206101| 3.685202  | 0.740245| 1.01E-20   | 2.70E-19|
| GSTA3    | 0.344977| 0.146737  | -1.23327| 0.001817   | 0.004943|
| PRR36    | 15.80539| 9.480348  | -0.7374 | 8.61E-06   | 4.57E-05|
| LBX2     | 0.561734| 0.286598  | -0.97086| 0.019855   | 0.038459|
| CCL26    | 0.223888| 0.453096  | 1.017037| 1.12E-10   | 1.51E-09|
| TM4SF4   | 0.658378| 0.241213  | -1.44861| 0.005869   | 0.013615|
| APOC1    | 16.94357| 46.43472  | 1.454466| 5.41E-32   | 2.66E-30|
| PLEKHG4B | 3.992978| 2.211857  | -0.85221| 1.48E-12   | 2.50E-11|
| MDFIC    | 2.270483| 3.600104  | 0.665039| 8.77E-15   | 1.77E-13|
| TOGARAM2 | 0.159504| 0.08384   | -0.92788| 1.37E-05   | 6.89E-05|
| DMKN     | 24.44581| 14.38092  | -0.76543| 1.10E-08   | 1.11E-07|
| ARSI     | 0.547267| 0.825558  | 0.593123| 8.69E-06   | 4.60E-05|
| PPM1E    | 0.289342| 0.129196  | -1.16321| 1.08E-05   | 5.59E-05|
| NUGGC    | 0.179093| 0.369604  | 1.045273| 1.86E-15   | 3.91E-14|
| MYCN     | 11.55003| 7.038302  | -0.7146 | 0.004839   | 0.011555|
| FAM171A2 | 18.75453| 10.05954  | -0.89868| 4.89E-08   | 4.35E-07|
| MT1G     | 76.15013| 138.3855  | 0.861775| 5.76E-05   | 0.000243|
| FILIP1   | 2.710601| 1.346097  | -1.00983| 1.91E-05   | 9.21E-05|
| HLA-E    | 112.0912| 203.6155  | 0.861174| 3.46E-30   | 1.53E-28|
| IL4I     | 25.46635| 46.38793  | 0.865157| 1.20E-12   | 2.02E-11|
| GNAT1    | 1.229254| 0.795994  | -0.62695| 5.01E-07   | 3.62E-06|
| USH1C    | 0.436684| 0.143635  | -1.60419| 7.69E-05   | 0.000314|
| LST1     | 2.226571| 7.536521  | 1.759075| 4.91E-51   | 3.66E-48|
| MEX3A    | 18.32754| 10.25831  | -0.83722| 4.99E-12   | 7.95E-11|
| EPHA6    | 0.455052| 0.284952  | -0.67531| 0.018839   | 0.036829|
| ADGREG3  | 0.278681| 0.426844  | 0.615093| 2.32E-07   | 1.81E-06|
| LILRB5   | 0.235717| 0.415198  | 0.816744| 6.01E-13   | 1.04E-11|
| TMEM272  | 0.128194| 0.074333  | -0.78626| 2.89E-05   | 0.000133|
| NFAM1    | 0.686834| 1.978089  | 1.526074| 3.51E-39   | 2.83E-37|
| DNALI1   | 12.08001| 7.037065  | -0.77958| 1.79E-06   | 1.13E-05|
| ADRA2B   | 1.804984| 1.126711  | -0.67987| 0.000168   | 0.000627|
| GAS2     | 0.628191| 0.181798  | -1.78886| 4.83E-09   | 5.31E-08|
| Gene         | conMean | treatMean | logFC | pValue     | FDR      |
|--------------|---------|-----------|-------|------------|----------|
| SERPINB8     | 2.05776 | 3.224499  | 0.648 | 7.10E-14   | 1.35E-12 |
| VGF          | 1.892532| 0.171245  | -3.46619| 2.52E-05   | 0.000118 |
| FOXP4        | 56.14222| 33.03169  | -0.76524| 9.33E-07   | 6.35E-06 |
| SNAI2        | 4.255725| 7.068636  | 0.732027| 1.24E-07   | 1.03E-06 |
| CLC          | 0.120473| 0.246942  | 1.035458| 3.95E-05   | 0.000175 |
| IDO1         | 5.06496 | 12.33198  | 1.283782| 1.92E-18   | 4.67E-17 |
| NLGN3        | 1.388994| 0.848117  | -0.7117 | 0.005802   | 0.013486 |
| RETREG1      | 2.654927| 1.666348  | -0.67198| 3.72E-07   | 2.77E-06 |
| KRTAP5-8     | 0.179037| 0.111876  | -0.67836| 9.99E-06   | 7.33E-28 |
| PAG1         | 0.724266| 1.153712  | 0.671692| 6.16E-17   | 1.41E-15 |
| PARP15       | 0.137356| 0.36863   | 1.42425| 2.05E-29   | 8.69E-28 |
| MCTP1        | 0.189187| 0.377983  | 0.998509| 7.33E-28   | 2.86E-26 |
| SIRPA        | 7.834822| 13.4571   | 0.780495| 5.34E-17   | 1.23E-15 |
| PIWIL1       | 0.343658| 0.207354  | -0.72888| 9.99E-06   | 0.001616 |
| FGRFR1       | 18.81564| 11.72805  | -0.68197| 9.88E-09   | 1.01E-07 |
| LILRA5       | 0.299622| 0.780485  | 1.381228| 2.50E-30   | 1.12E-28 |
| IL17RD       | 5.166221| 2.745805  | -0.91188| 1.55E-05   | 7.70E-05 |
| C1QA         | 45.27682| 150.1373  | 1.729438| 1.11E-45   | 2.30E-43 |
| GBP5         | 0.959065| 3.630007  | 1.920272| 2.55E-36   | 1.71E-34 |
| INPP4B       | 0.379408| 0.778976  | 1.037829| 7.18E-15   | 1.45E-13 |
| CSF2RA       | 0.836659| 2.394979  | 1.517301| 4.98E-40   | 4.25E-38 |
| SUCNR1       | 0.35809 | 0.948172  | 1.404826| 1.13E-25   | 3.89E-24 |
| KCNN3        | 1.116239| 0.740677  | -0.59173| 0.000449   | 0.001474 |
| CD2          | 1.365192| 7.179632  | 2.394806| 2.65E-50   | 1.56E-47 |
| MS4A4E       | 0.088327| 0.20775   | 1.233923| 8.31E-16   | 1.79E-14 |
| TPPP         | 2.037989| 1.292713  | -0.65674| 3.06E-06   | 1.82E-05 |
| LCN8         | 0.379156| 0.098081  | -1.95074| 0.000127   | 0.000487 |
| TFX46        | 0.169821| 0.108433  | -0.64721| 2.15E-07   | 1.69E-06 |
| TME1M45      | 0.962656| 0.128615  | -2.90396| 8.09E-07   | 5.61E-06 |
| DEU1P        | 0.604216| 0.328023  | -0.88127| 0.002661   | 0.006907 |
| C7D2         | 0.838608| 1.573831  | 0.908212| 2.78E-25   | 9.50E-24 |
| SEMA6C       | 5.535501| 2.810466  | -0.9779 | 3.47E-06   | 2.03E-05 |
| ARHGGEF38    | 0.178551| 0.099502  | -0.84354| 0.001801   | 0.004908 |
| CLEC18B      | 1.749147| 0.761755  | -1.19925| 0.000105   | 0.000412 |
| H2BW1        | 0.376047| 0.152928  | -1.29806| 4.79E-06   | 2.71E-05 |
| TLR10        | 0.091341| 0.305556  | 1.732623| 2.16E-28   | 8.55E-27 |
| DCDC1        | 0.147652| 0.088418  | -0.73978| 3.05E-07   | 2.32E-06 |
| C19orf67     | 0.283495| 0.184112  | -0.62274| 0.002989   | 0.007628 |
| SLC6A3       | 0.168756| 0.069621  | -1.27734| 0.002883   | 0.007397 |
| DEFB126      | 2.220986| 1.178581  | -0.91415| 0.000463   | 0.001515 |
| PIH1D3       | 0.258837| 0.094773  | -1.4495 | 0.000427   | 0.001412 |
| DEPP1        | 13.82092| 22.7856   | 0.721269| 9.50E-14   | 1.78E-12 |
| NANOS1       | 2.145324| 1.152219  | -0.89678| 1.18E-07   | 9.83E-07 |
| CLEC12A      | 0.254437| 0.678376  | 1.414775| 5.72E-19   | 1.41E-17 |
| NGB          | 0.686933| 0.355156  | -0.95172| 0.00701    | 0.015854 |
| CIDEC        | 0.185454| 0.643348  | 1.794535| 0.00011    | 0.000432 |
| Gene     | conMean | treatMean | logFC | pValue       | FDR     |
|----------|---------|-----------|-------|--------------|---------|
| LRRC75A  | 1.34844 | 0.880862  | -0.6143 | 1.65E-08   | 1.62E-07 |
| NEK5     | 0.977683 | 0.580697  | -0.75158 | 1.07E-07   | 9.00E-07 |
| KLRB1    | 0.362834 | 1.415779  | 1.964213 | 7.01E-44   | 1.00E-41 |
| GAL3ST3  | 7.860554 | 3.174763  | -1.30798 | 2.77E-09   | 3.15E-08 |
| ALX3     | 0.424874 | 0.167281  | -1.34476 | 0.009433   | 0.020474 |
| NRXN2    | 2.204451 | 1.397379  | -0.6577  | 0.019658   | 0.038135 |
| GALNT13  | 0.64283 | 0.346449  | -0.89179 | 0.000563   | 0.001798 |
| APOL3    | 1.734103 | 5.045965  | 1.540941 | 1.43E-33   | 7.95E-32 |
| BMP6     | 2.473007 | 1.489781  | -0.73117 | 0.01606    | 0.03221 |
| PIEZO2   | 0.232368 | 0.355857  | 0.614889 | 0.000485   | 0.001577 |
| RETN     | 0.164344 | 0.395109  | 1.265529 | 3.73E-12   | 6.01E-11 |
| GDAP1    | 1.558161 | 0.912775  | -0.77151 | 1.01E-05   | 5.26E-05 |
| BEX1     | 16.78367 | 4.835798  | -1.79523 | 1.72E-08   | 1.67E-07 |
| CFB      | 16.19624 | 25.36874  | 0.647393 | 9.22E-10   | 1.11E-08 |
| LRRC14B  | 0.534482 | 0.244321  | -1.12937 | 9.95E-10   | 1.20E-08 |
| B4GALNT4 | 15.04085 | 9.027772  | -0.73644 | 1.67E-09   | 1.96E-08 |
| CLDN6    | 95.31784 | 49.89068  | -0.93398 | 0.00014    | 0.000534 |
| SCGB1D2  | 105.0811 | 40.98469  | -1.35835 | 0.00063    | 0.001979 |
| C1QC     | 72.40289 | 235.8056  | 1.703479 | 3.24E-45   | 5.73E-43 |
| SP140    | 0.22197  | 0.677353  | 1.609547 | 1.99E-37   | 1.41E-35 |
| PRB4     | 0.155229 | 0.10325   | -0.58826 | 0.001113   | 0.003234 |
| RASGRF2  | 0.44179  | 0.694727  | 0.653086 | 8.67E-08   | 7.40E-07 |
| CYBB     | 4.952377 | 18.66941  | 1.914483 | 5.74E-46   | 1.25E-43 |
| ADCYAP1R1| 3.101011 | 1.286714  | -1.26905 | 3.71E-06   | 2.16E-05 |
| MEGF10   | 0.192354 | 0.337259  | 0.810097 | 0.000988   | 0.002924 |
| AP3B2    | 1.018406 | 0.654364  | -0.63815 | 2.06E-05   | 9.85E-05 |
| C10orf55 | 0.260568 | 0.528303  | 1.019707 | 9.43E-18   | 2.24E-16 |
| OAS2     | 16.15442 | 25.02632  | 0.631517 | 1.07E-08   | 1.08E-07 |
| CLECL1   | 0.183686 | 0.469127  | 1.352736 | 1.21E-29   | 5.19E-28 |
| RGS7BP   | 0.27757  | 0.1545    | -0.84524 | 0.000705   | 0.002183 |
| PLEK     | 2.652255 | 8.724862  | 1.717913 | 2.33E-47   | 7.03E-45 |
| MT1E     | 71.9049  | 110.1498  | 0.615305 | 2.28E-06   | 1.40E-05 |
| CAMKV    | 0.234508 | 0.031595  | -2.89187 | 6.78E-11   | 9.43E-10 |
| SMO      | 16.93275 | 9.774994  | -0.79265 | 2.55E-13   | 4.62E-12 |
| PCDHB9   | 0.897335 | 0.547348  | -0.71319 | 7.83E-05   | 0.000319 |
| UBASH3A  | 0.142892 | 0.495637  | 1.79436  | 5.89E-39   | 4.66E-37 |
| SERPINB5 | 1.250972 | 0.757633  | -0.72348 | 8.42E-07   | 5.80E-06 |
| CEP126   | 0.675397 | 0.390527  | -0.79031 | 9.42E-07   | 6.40E-06 |
| CCR1     | 2.471685 | 6.290572  | 1.347697 | 3.43E-39   | 2.78E-37 |
| DRAM1    | 3.049578 | 5.603415  | 0.877697 | 9.26E-30   | 4.01E-28 |
| ZNF683   | 0.346208 | 2.05893   | 2.572183 | 6.48E-41   | 6.12E-39 |
| PDCD1    | 0.468493 | 1.418373  | 1.598139 | 1.91E-26   | 6.84E-25 |
| GDAP1L1  | 0.249655 | 0.06423   | -1.95861 | 6.58E-06   | 3.60E-05 |
| KCNMB1   | 0.350751 | 0.611196  | 0.801188 | 2.13E-30   | 9.52E-29 |
| RSPH4A   | 1.602929 | 0.730398  | -1.13396 | 3.29E-07   | 2.48E-06 |

**Supplementary Material**
| Gene     | conMean | treatMean | logFC    | pValue     | FDR       |
|----------|---------|-----------|----------|------------|-----------|
| ANK1     | 0.370756| 0.16558   | -1.16294 | 0.014377   | 0.029361  |
| PEG10    | 27.47509| 17.25596  | -0.67103 | 2.03E-07   | 1.61E-06  |
| TLR4     | 0.800563| 2.196304  | 1.455991 | 1.59E-30   | 7.21E-29  |
| FAM166C  | 0.950038| 0.41135   | -1.20762 | 2.84E-09   | 3.22E-08  |
| SFMBT2   | 0.476206| 0.918424  | 0.947573 | 2.75E-26   | 9.68E-25  |
| SPATA46  | 0.142185| 0.092367  | -0.62232 | 0.000329   | 0.001129  |
| CYYR1    | 12.24399| 4.572956  | -1.42087 | 0.000113   | 0.000441  |
| C1orf189 | 1.82977 | 1.158865  | -0.65895 | 0.008081   | 0.017921  |
| BFSP1    | 0.587521| 0.343262  | -0.77533 | 0.004538   | 0.010938  |
| GPR183   | 2.699143| 8.887701  | 1.719309 | 6.03E-39   | 4.75E-37  |
| PTGIR    | 0.4985  | 0.954146  | 0.936617 | 2.38E-17   | 5.55E-16  |
| VEPH1    | 1.432974| 0.944746  | -0.60101 | 4.37E-05   | 0.000191  |
| CXCL9    | 3.460244| 25.3208   | 2.871377 | 3.06E-33   | 1.63E-31  |
| CRIP3    | 0.615216| 0.384447  | -0.67831 | 0.002367   | 0.006225  |
| CHIT1    | 0.297486| 0.565926  | 0.927792 | 3.92E-06   | 2.27E-05  |
| IRF4     | 0.200453| 0.792665  | 1.983447 | 6.29E-29   | 2.56E-27  |
| OLFML1   | 2.623354| 4.001244  | 0.609036 | 4.19E-08   | 3.78E-07  |
| JAML     | 0.180019| 0.692298  | 1.943422 | 6.04E-43   | 7.64E-41  |
| NELL2    | 1.227915| 0.701117  | -0.80848 | 0.003273   | 0.008253  |
| SAMD9L   | 3.391382| 6.025487  | 0.829204 | 3.30E-14   | 6.43E-13  |
| MS4A6A   | 2.279699| 7.839336  | 1.781888 | 1.75E-47   | 5.40E-45  |
| CAPN6    | 7.39864 | 1.980066  | -1.90171 | 0.000165   | 0.000619  |
| WFDC1    | 0.549598| 0.290444  | -0.92011 | 0.001124   | 0.003258  |
| P2R8Y    | 0.262609| 0.756442  | 1.526315 | 5.62E-31   | 2.63E-29  |
| TNFRSF11A| 0.324141| 0.681918  | 1.072978 | 1.11E-26   | 4.03E-25  |
| EMB      | 3.355338| 5.114397  | 0.608106 | 2.43E-13   | 4.40E-12  |
| FUT7     | 0.06585 | 0.199616  | 1.59977  | 2.25E-32   | 1.13E-30  |
| ADAMTS9  | 3.249314| 1.786452  | -0.86304 | 0.000125   | 0.000482  |
| SCARF1   | 1.029285| 1.575932  | 0.614563 | 1.08E-17   | 2.56E-16  |
| LYZ6     | 3.069224| 8.399024  | 1.452348 | 6.15E-42   | 6.60E-40  |
| IGFL3    | 0.077239| 0.25643   | 1.731712 | 0.000222   | 0.000797  |
| IGF2BP1  | 0.796698| 0.227348  | -1.80913 | 0.003756   | 0.009274  |
| LARI1    | 1.420903| 4.581528  | 1.68902  | 4.26E-50   | 2.32E-47  |
| TMEM163  | 0.814317| 0.539377  | -0.5943  | 0.01956    | 0.037981  |
| VAT1L    | 0.244668| 0.384538  | 0.652303 | 0.000119   | 0.00046   |
| SCUBE1   | 0.411513| 0.227326  | -0.85617 | 0.009023   | 0.019736  |
| SAMD15   | 1.341363| 0.821741  | -0.70694 | 3.06E-05   | 0.00014   |
| TNFRSF18 | 1.543883| 4.078455  | 1.40146  | 8.92E-16   | 1.92E-14  |
| SAMD13   | 0.734153| 0.466418  | -0.65446 | 3.14E-06   | 1.87E-05  |
| ASC1L    | 0.16295 | 0.066512  | -1.29275 | 0.008193   | 0.018138  |
| GALNT16  | 0.759159| 0.461661  | -0.71757 | 0.000371   | 0.001248  |
| SPN2L    | 1.135809| 0.610099  | -0.8966  | 0.000776   | 0.002377  |
| RSPH1    | 4.353212| 2.391074  | -0.86442 | 3.95E-05   | 0.000175  |
| ENKUR    | 1.58721 | 0.75998   | -1.06246 | 1.39E-06   | 9.01E-06  |
| PTPN22   | 0.348401| 1.16944   | 1.746997 | 6.39E-52   | 6.97E-49  |
| DGKG     | 1.151486| 0.589864  | -0.96504 | 0.015375   | 0.031015  |
| Gene          | conMean | treatMean | logFC  | pValue       | FDR           |
|--------------|---------|-----------|--------|--------------|---------------|
| STK36        | 8.765643| 5.726621  | -0.61418| 7.92E-10     | 9.75E-09      |
| FCMR         | 1.303488| 2.444658  | 0.907255| 1.01E-23     | 3.15E-22      |
| PRAP1        | 2.722768| 1.106561  | -1.29899| 7.01E-09     | 7.44E-08      |
| ANKRD66      | 0.347201| 0.100072  | -1.79473| 0.000782     | 0.002392      |
| FCER1A       | 0.399606| 1.394811  | 1.803421| 4.17E-16     | 9.14E-15      |
| MAB21L2      | 0.197065| 0.299449  | 0.603641| 1.43E-06     | 9.24E-06      |
| C16orf74     | 1.051911| 0.693935  | -0.60014| 0.022744     | 0.043072      |
| TNFRSF9      | 0.220594| 0.647815  | 1.55419 | 2.61E-30     | 1.16E-28      |
| GASK1B       | 2.705793| 4.119515  | 0.606423| 2.65E-08     | 2.50E-07      |
| C11orf88     | 0.915884| 0.371048  | -1.30356| 0.007376     | 0.016569      |
| TM6SF1       | 0.408907| 0.871579  | 1.091858| 3.22E-24     | 1.04E-22      |
| CCR5         | 0.458109| 1.990159  | 2.119122| 9.99E-53     | 1.42E-49      |
| ZNF559-ZNF177| 0.274461| 0.165031  | -0.73386| 5.20E-08     | 4.61E-07      |
| HLA-B        | 238.4393| 507.4848  | 1.089742| 5.19E-25     | 1.74E-23      |
| NTN3         | 0.681788| 0.342283  | -0.99413| 1.36E-06     | 8.88E-06      |
| TNFSF18      | 0.090686| 0.199908  | 1.140383| 8.78E-14     | 1.65E-12      |
| TIGD1        | 4.784664| 3.116699  | -0.6184 | 7.38E-13     | 1.27E-11      |
| PLP1         | 0.177926| 0.077114  | -1.20572| 0.022174     | 0.042185      |
| GPC2         | 1.322599| 0.662404  | -0.99759| 1.74E-08     | 1.70E-07      |
| SIRPB1       | 0.245749| 0.54122   | 1.139029| 2.17E-18     | 5.27E-17      |
| CCDC181      | 0.996541| 0.320232  | -1.63781| 2.60E-17     | 6.05E-16      |
| FYB1         | 1.154746| 4.226666  | 1.871944| 3.32E-52     | 3.92E-49      |
| CPA3         | 0.249513| 0.716993  | 1.522848| 3.92E-13     | 6.91E-12      |
| CCDC113      | 2.74834 | 1.704489  | -0.68922| 5.77E-07     | 4.12E-06      |
| PODXL2       | 30.8217 | 20.00914  | -0.62329| 2.43E-07     | 1.89E-06      |
| PAK5         | 0.244157| 0.112654  | -1.11591| 0.000321     | 0.001106      |
| CCL13        | 0.421159| 2.298707  | 2.448387| 3.72E-18     | 8.93E-17      |
| APOA1        | 122.278 | 64.23377  | -0.92876| 0.000611     | 0.001928      |
| CD53         | 6.099012| 21.55064  | 1.821083| 7.11E-56     | 1.01E-51      |
| GPR156       | 0.932651| 0.593285  | -0.65268| 1.17E-07     | 9.74E-07      |
| PRRT4        | 0.3882  | 0.104238  | -1.89691| 0.003317     | 0.00835       |
| PIFO         | 5.78082 | 2.945605  | -0.97271| 1.57E-06     | 1.01E-05      |
| FGF3         | 3.801299| 0.522067  | -2.86419| 9.45E-05     | 0.000377      |
| CD47         | 0.237225| 0.926543  | 1.9656  | 3.60E-48     | 1.31E-45      |
| FLACC1       | 0.309693| 0.143855  | -1.10622| 3.52E-06     | 2.06E-05      |
| CLEC2B       | 2.05422 | 4.417626  | 1.104681| 6.45E-27     | 2.39E-25      |
| CPLX2        | 3.029023| 1.366831  | -1.14802| 0.002002     | 0.005378      |
| NLGN1        | 0.326926| 0.186044  | -0.81332| 0.001666     | 0.004583      |
| VWA3A        | 1.807672| 0.95876   | -0.91489| 3.26E-09     | 3.68E-08      |
| KRTDAP       | 2.19645 | 0.625356  | -1.81242| 3.18E-08     | 2.94E-07      |
| RNFT2        | 2.134853| 1.293419  | -0.72295| 1.54E-10     | 2.04E-09      |
| EBI3         | 1.180407| 3.660623  | 1.632805| 1.49E-34     | 8.96E-33      |
| FOXN1        | 0.785938| 0.5227    | -0.58843| 0.022495     | 0.042697      |
| SERPINB7     | 0.568418| 1.2341    | 1.118434| 3.45E-05     | 0.000156      |
| SLC6A1L      | 0.651993| 1.063165  | 0.705438| 0.001011     | 0.002984      |
| Gene     | conMean   | treatMean  | logFC     | pValue   | FDR     |
|----------|-----------|------------|-----------|----------|---------|
| CYP2W1   | 1.700859  | 0.607416   | -1.48551  | 1.85E-05 | 8.95E-05 |
| C5AR2    | 0.126285  | 0.19331    | -0.61423  | 7.72E-16 | 1.66E-14 |
| GAL3ST4  | 3.085488  | 6.705705   | 1.11989   | 2.07E-27 | 7.87E-26 |
| PPP1R32  | 1.924094  | 1.155143   | -0.73611  | 5.47E-05 | 0.000232 |
| DUSP19   | 1.329728  | 0.849955   | -0.64567  | 9.34E-11 | 1.28E-09 |
| CAMK4    | 0.114756  | 0.182625   | 0.670307  | 8.65E-10 | 1.05E-08 |
| NPPC     | 0.693741  | 0.357373   | -0.95696  | 0.00023  | 0.000823 |
| ANPEP    | 10.59441  | 19.11872   | 0.851683  | 2.66E-11 | 3.87E-10 |
| FZD2     | 16.55265  | 10.77215   | -0.61976  | 0.008999 | 0.019688 |
| SLC2A5   | 0.850786  | 1.899069   | 1.158425  | 7.80E-28 | 3.02E-26 |
| SLC25A27 | 2.5818    | 1.608468   | -0.68269  | 4.25E-06 | 2.44E-05 |
| MYO15A   | 0.267006  | 0.142583   | -0.90507  | 4.37E-05 | 0.000191 |
| FASLG    | 0.113914  | 0.640526   | 2.491307  | 7.22E-45 | 1.18E-42 |
| SIGLEC1  | 1.866067  | 5.206685   | 1.464984  | 9.57E-27 | 3.50E-25 |
| GABRG2   | 0.170169  | 0.05114    | -1.73446  | 0.00019  | 0.000697 |
| TMEM176B | 19.5368   | 39.53061   | 1.016776  | 3.09E-20 | 8.07E-19 |
| SDK2     | 2.309532  | 0.881283   | -1.38992  | 1.94E-11 | 2.84E-10 |
| GSDMA    | 0.250613  | 0.41772    | 0.737073  | 1.28E-13 | 2.38E-12 |
| AFAP1L2  | 9.845156  | 6.229831   | -0.66022  | 0.013331 | 0.027563 |
| THBS1    | 16.15375  | 29.32981   | 0.860499  | 1.05E-10 | 1.43E-09 |
| DHR59    | 0.265248  | 0.614099   | 1.211129  | 1.13E-11 | 1.71E-10 |
| KYNU     | 0.157149  | 0.367986   | 1.227515  | 3.71E-32 | 1.85E-30 |
| KIAA0513 | 0.469439  | 0.713984   | 0.604953  | 1.63E-11 | 2.42E-10 |
| IGGL5    | 6.909335  | 20.84348   | 1.592977  | 3.34E-21 | 9.11E-20 |
| COL2A1   | 4.061582  | 0.546085   | -2.89485  | 3.06E-15 | 6.32E-14 |
| TCAF2    | 0.243677  | 0.376777   | 0.628739  | 8.23E-09 | 8.63E-08 |
| ADCY7    | 0.913902  | 1.453432   | 0.669353  | 6.56E-09 | 6.99E-08 |
| CASS4    | 0.410496  | 0.703432   | 0.777042  | 3.31E-22 | 9.62E-21 |
| HES6     | 12.07886  | 5.934796   | -1.02521  | 1.16E-05 | 5.93E-05 |
| RASGRP4  | 0.520366  | 0.823332   | 0.661948  | 1.24E-19 | 3.14E-18 |
| DDN      | 0.177883  | 0.090896   | -0.96864  | 6.58E-07 | 4.64E-06 |
| SIRPG    | 0.243814  | 1.145422   | 2.232023  | 1.26E-43 | 1.75E-41 |
| SV2C     | 0.570491  | 0.221236   | -1.36662  | 7.24E-11 | 1.00E-09 |
| GRIK5    | 8.096094  | 5.133468   | -0.65729  | 0.000205 | 0.000744 |
| TEKT1    | 1.47906   | 0.560533   | -1.39981  | 0.000153 | 0.000577 |
| SCTR     | 0.187154  | 0.056166   | -1.73644  | 0.006005 | 0.013891 |
| EOMES    | 0.144808  | 0.538758   | 1.895495  | 2.46E-33 | 1.34E-31 |
| STMND1   | 0.470294  | 0.166288   | -1.49988  | 7.42E-09 | 7.84E-08 |
| KMO      | 0.16529   | 0.309574   | 0.905286  | 2.26E-27 | 8.58E-26 |
| CCL18    | 1.466245  | 6.106165   | 2.05814   | 5.50E-13 | 9.60E-12 |
| GSDMC    | 0.731265  | 1.418103   | 0.955496  | 2.09E-14 | 4.14E-13 |
| KRT15    | 0.971796  | 1.885207   | 0.955997  | 0.000673 | 0.002093 |
| CFAP45   | 3.634255  | 1.764877   | -1.04209  | 3.15E-06 | 1.87E-05 |
| CBX2     | 6.814552  | 3.327508   | -1.03418  | 2.67E-09 | 3.05E-08 |
| LRRC23   | 6.377362  | 4.022977   | -0.6647   | 1.48E-07 | 1.21E-06 |
| CD40     | 6.685364  | 11.07592   | 0.728348  | 9.36E-14 | 1.76E-12 |
## Supplementary Material

| Gene       | conMean | treatMean | logFC | pValue | FDR     |
|------------|---------|-----------|-------|--------|---------|
| ERFE       | 5.167656 | 2.244216  | -1.2033 | 0.012127 | 0.025407 |
| DYDC1      | 0.317935  | 0.170213  | -0.90139 | 5.92E-05 | 0.000249 |
| DLGAP3     | 2.653496  | 1.234494  | -1.10398 | 4.75E-05 | 0.000206 |
| SGK1       | 5.673904  | 8.65615   | 0.609384 | 8.42E-12 | 1.30E-10 |
| C2orf72    | 0.582822  | 0.348448  | -0.74211 | 2.79E-05 | 0.000129 |
| SELENOV    | 0.742603  | 0.173806  | -2.09511 | 4.97E-06 | 2.81E-05 |
| CST1       | 16.58688 | 9.192117  | -0.85157 | 0.02394  | 0.044983 |
| PCDHGA12   | 0.418116  | 0.72015   | 0.784394 | 1.70E-06 | 1.08E-05 |
| PHOX2A     | 11.45806 | 7.249487  | -0.66041 | 0.01265  | 0.026347 |
| CXCR2      | 0.101241  | 0.318403  | 1.653053 | 6.04E-15 | 1.23E-13 |
| TMEM232    | 0.195859  | 0.117013  | -0.74315 | 0.000273 | 0.000958 |
| CXCR6      | 0.268582  | 1.22412   | 2.188313 | 5.66E-46 | 1.25E-43 |
| PECAM1     | 4.688566  | 8.331005  | 0.829344 | 2.50E-23 | 7.61E-22 |
| LEFTY2     | 1.425013  | 0.455325  | -1.64601 | 8.20E-07 | 5.67E-06 |
| DCN        | 17.35628  | 33.87438  | 0.964737 | 1.46E-12 | 2.47E-11 |
| SIGLEC12   | 0.11265   | 0.385113  | 1.773429 | 1.05E-11 | 1.60E-10 |
| ITM2C      | 118.8687  | 63.35122  | -0.90792 | 1.23E-06 | 8.15E-06 |
| TRPS1      | 4.583485  | 7.63592   | 0.745336 | 3.55E-09 | 3.98E-08 |
| FXYD7      | 4.762746  | 1.790644  | -1.40697 | 6.48E-09 | 6.94E-08 |
| SSTR3      | 0.286466  | 0.136604  | -1.06837 | 0.001087 | 0.003173 |
| CXCR3      | 0.66846   | 2.918788  | 2.126457 | 3.74E-44 | 5.59E-42 |
| DPT        | 1.218558  | 1.862897  | 0.612373 | 1.55E-07 | 1.26E-06 |
| VAX2       | 5.830926  | 3.4179    | -0.77061 | 2.26E-08 | 2.16E-07 |
| GDF10      | 1.508849  | 0.188321  | -3.00218 | 6.59E-08 | 5.77E-07 |
| TACC1      | 3.306549  | 5.021538  | 0.602803 | 8.10E-12 | 1.25E-10 |
| LINGO1     | 12.47759  | 8.053899  | -0.63158 | 6.56E-05 | 0.000274 |
| FABP7      | 0.193178  | 0.028259  | -2.77314 | 2.81E-05 | 0.00013 |
| CD274      | 0.487772  | 1.117379  | 1.195839 | 5.79E-23 | 1.74E-21 |
| NOD2       | 0.564785  | 1.161997  | 1.040832 | 2.42E-25 | 8.34E-24 |
| CLDN19     | 1.55622   | 0.348206  | -2.16003 | 1.34E-06 | 8.78E-06 |
| NRAP       | 0.273099  | 0.107174  | -1.34947 | 6.40E-05 | 0.000267 |
| C2orf73    | 0.370306  | 0.162983  | -1.184  | 5.33E-06 | 2.99E-05 |
| GBP1       | 13.19256  | 27.87808  | 1.079406 | 7.87E-22 | 2.23E-20 |
| SMIM10L2A  | 2.108534  | 1.301588  | -0.69597 | 2.61E-07 | 2.01E-06 |
| ARHGDIB    | 23.02697  | 51.30898  | 1.155887 | 2.12E-45 | 3.90E-43 |
| C20orf85   | 20.24492  | 5.736238  | -1.81938 | 0.000417 | 0.001385 |
| TLR1       | 0.954697  | 2.159494  | 1.177579 | 1.01E-30 | 4.65E-29 |
| TFEC       | 0.281967  | 1.044497  | 1.889212 | 5.71E-49 | 2.61E-46 |
| IGLL1      | 0.107496  | 0.365162  | 1.764255 | 5.46E-05 | 0.000232 |
| NPC1L1     | 0.224524  | 0.122614  | -0.87275 | 6.16E-05 | 0.000258 |
| RSP04      | 5.390432  | 3.404324  | -0.66303 | 0.001981 | 0.005324 |
| TFPI2      | 8.501946  | 18.74594  | 1.140713 | 9.08E-08 | 7.72E-07 |
| ANKRD13B   | 3.715483  | 2.079741  | -0.83715 | 2.24E-09 | 2.59E-08 |
| PCSK9      | 0.561338  | 0.255229  | -1.13708 | 0.009349 | 0.020323 |
| RDH12      | 0.271929  | 0.155638  | -0.80503 | 4.08E-06 | 2.35E-05 |
| Gene       | conMean  | treatMean | logFC  | pValue  | FDR     |
|------------|----------|-----------|--------|---------|---------|
| MMP24      | 3.738821 | 2.344715  | -0.67317 | 0.023478 | 0.04422 |
| TMPRSS2    | 0.736788 | 0.414901  | -0.82848 | 0.000912 | 0.002725|
| CD37       | 2.641654 | 7.697198  | 1.542892 | 1.47E-50 | 9.06E-48|
| RIMKLA     | 0.992356 | 0.553797  | -0.8415  | 0.00032  | 0.001102|
| CCDC178    | 0.246796 | 0.143072  | -0.78658 | 0.001169 | 0.003371|
| ADAP2      | 2.07397  | 4.812431  | 1.214371 | 7.59E-38 | 5.55E-36|
| LRRC55     | 1.976657 | 3.514348  | 0.830195 | 4.04E-06 | 2.33E-05|
| GABRQ      | 0.52211  | 0.155779  | -1.74486 | 0.00567  | 0.013222|
| SLC12A8    | 4.057398 | 6.115307  | 0.59187  | 1.26E-08 | 1.26E-07|
| GRIN2A     | 1.225193 | 0.658898  | -0.89488 | 0.002224 | 0.005898|
| TRO        | 4.884353 | 2.74332   | -0.83224 | 6.52E-09 | 6.96E-08|
| LPXN       | 3.05298  | 6.318678  | 1.049405 | 7.23E-43 | 8.91E-41|
| MPL        | 0.355706 | 0.237673  | -0.58171 | 1.25E-06 | 8.24E-06|
| BATF3      | 0.427934 | 0.640401  | 0.581586 | 4.41E-17 | 1.02E-15|
| ENPP3      | 0.952234 | 0.382098  | -1.31738 | 0.001285 | 0.003662|
| MROH2A     | 0.451023 | 0.281718  | -0.67895 | 0.000201 | 0.000735|
| PCDH8      | 0.468719 | 0.033468  | -3.80789 | 6.12E-05 | 0.000257|
| GRB14      | 1.172869 | 0.62427   | -0.9098  | 0.00409  | 0.001363|
| ADGRV1     | 0.173714 | 0.080592  | -1.10801 | 2.91E-07 | 2.21E-06|
| PODN       | 2.891743 | 5.145358  | 0.831332 | 1.29E-08 | 1.28E-07|
| IHH        | 2.028553 | 0.165311  | -3.61719 | 2.08E-06 | 1.29E-05|
| RIPPLY1     | 0.656132 | 0.076566  | -3.09921 | 0.009145 | 0.01997 |
| CCL3       | 2.218007 | 4.978961  | 1.166581 | 8.76E-24 | 2.74E-22|
| PSMB8      | 38.32048 | 65.80746  | 0.780136 | 1.45E-17 | 3.40E-16|
| BCL2A1     | 1.650325 | 4.939747  | 1.581687 | 4.25E-35 | 2.62E-33|
| CXCL13     | 1.371813 | 8.430766  | 2.61958  | 3.93E-27 | 1.48E-25|
| NCKAP5     | 0.395084 | 0.256489  | -0.62326 | 2.95E-06 | 1.76E-05|
| MARCHF10   | 0.287363 | 0.148153  | -0.95758 | 1.70E-06 | 1.08E-05|
| LILRB1     | 0.634143 | 2.027593  | 1.676889 | 6.32E-44 | 9.13E-42|
| EVP LL     | 0.209666 | 0.136947  | -0.61448 | 0.007922 | 0.017617|
| RND2       | 1.848806 | 0.99284   | -0.89696 | 2.89E-10 | 3.74E-09|
| TNIP3      | 0.136602 | 0.487124  | 1.834309 | 1.41E-29 | 6.04E-28|
| SCUBE3     | 2.320298 | 1.282584  | -0.85526 | 0.001035 | 0.003045|
| CLEC18A    | 0.240533 | 0.110982  | -1.11591 | 0.000263 | 0.000926|
| HCLS1      | 3.229264 | 6.187041  | 0.938044 | 2.73E-29 | 1.14E-27|
| KLHL13     | 0.764172 | 0.335868  | -1.186   | 0.000212 | 0.000768|
| HLA-DPA1    | 31.4225  | 91.89776  | 1.548232 | 2.35E-36 | 1.59E-34|
| TBX1       | 2.013928 | 0.659141  | -1.61135 | 7.86E-06 | 4.23E-05|
| CRTAC1     | 17.94128 | 10.64856  | -0.75262 | 0.009426 | 0.020461|
| PRF1       | 0.660871 | 2.679287  | 2.019409 | 9.60E-43 | 1.14E-40|
| SE MA3D    | 0.425271 | 0.706774  | 0.732866 | 0.002356 | 0.006203|
| MYL7       | 0.434943 | 0.207176  | -1.06997 | 2.54E-07 | 1.97E-06|
| GZMK       | 0.308694 | 1.641872  | 2.411091 | 1.80E-42 | 2.08E-40|
| UBE2L6     | 58.53392 | 91.62386  | 0.646451 | 8.03E-15 | 1.62E-13|
| FCGR1B     | 0.152295 | 0.467313  | 1.617519 | 1.09E-43 | 1.53E-41|
| CLEC7A     | 1.013798 | 3.155853  | 1.63826  | 6.30E-46 | 1.35E-43|
## Supplementary Material

| Gene       | conMean | treatMean | logFC | pValue     | FDR       |
|------------|---------|-----------|-------|------------|-----------|
| G0S2       | 7.594759| 12.1944   | 0.683142| 5.12E-12   | 8.13E-11  |
| GFAP       | 1.194952| 0.688495  | -0.79544| 1.54E-05   | 7.64E-05  |
| ADAMTS18   | 0.278913| 0.151714  | -0.87846| 0.02672    | 0.049367  |
| C1orf53    | 0.237547| 0.122072  | -0.96048| 0.003152   | 0.007986  |
| THSD7B     | 0.420614| 0.250944  | -0.74513| 0.000128   | 0.000492  |
| DIO3       | 0.273346| 0.534152  | 0.966522| 5.17E-07   | 3.72E-06  |
| CCDC169    | 0.207965| 0.114099  | -0.86605| 2.62E-07   | 2.02E-06  |
| CCDC39     | 0.476957| 0.273908  | -0.80017| 0.00026    | 0.000915  |
| TUBA4B     | 2.113369| 0.648768  | -1.70377| 0.013613   | 0.028035  |
| GDF11      | 6.996197| 4.090731  | -0.77421| 5.46E-08   | 4.81E-07  |
| CASQ1      | 0.811795| 0.355628  | -1.19075| 7.65E-06   | 4.13E-05  |
| TNFSF12    | 6.436536| 9.840029  | 0.612378| 2.47E-22   | 7.22E-21  |
| MEST       | 64.57797| 30.10167  | -1.10124| 2.86E-09   | 3.24E-08  |
| GPM6A      | 0.769843| 0.328382  | -1.22919| 0.000364   | 0.00123   |
| PRDM1      | 1.348236| 2.672242  | 0.986978| 7.59E-25   | 2.51E-23  |
| PCDHA1     | 0.230377| 0.111911  | -1.04166| 3.23E-07   | 2.44E-06  |
| PNNM8C     | 0.194092| 0.061362  | -1.66133| 2.09E-13   | 3.82E-12  |
| IBSP       | 0.853861| 2.33934   | 1.45029| 3.66E-09   | 4.09E-08  |
| FOXN4      | 1.378542| 0.37204   | -1.88961| 9.22E-11   | 1.26E-09  |
| FCGR2A     | 3.700573| 10.35572  | 1.484607| 6.20E-43   | 7.77E-41  |
| SAXO2      | 0.971857| 0.549654  | -0.82222| 6.04E-06   | 3.34E-05  |
| STAB1      | 3.597249| 8.283129  | 1.203282| 8.36E-26   | 2.91E-24  |
| OR2L13     | 0.348893| 0.144164  | -1.27507| 0.000163   | 0.000611  |
| CD80       | 0.13659 | 0.422856  | 1.63032| 5.19E-34   | 2.95E-32  |
| ZBTB8B     | 0.192332| 0.095402  | -1.10124| 9.20E-09   | 9.50E-08  |
| CSF2RB     | 0.584281| 2.034749  | 1.800117| 1.52E-40   | 1.38E-38  |
| JCHAIN     | 12.08754| 69.37788  | 2.520955| 3.16E-25   | 1.08E-23  |
| TGM5       | 0.083931| 0.130084  | 0.632162| 0.000729   | 0.002247  |
| AC136428.1 | 0.117566| 0.351432  | 1.579771| 1.15E-12   | 1.95E-11  |
| FGF9       | 1.749026| 0.744337  | -1.23252| 1.49E-09   | 1.76E-08  |
| GZMH       | 0.529947| 2.654864  | 2.324717| 1.65E-42   | 1.91E-40  |
| IL33       | 1.137033| 1.818361  | 0.677365| 2.30E-05   | 0.000108  |
| KAZALD1    | 5.760256| 2.5492    | -1.17609| 3.44E-10   | 4.43E-09  |
| OR211P     | 0.368067| 2.685741  | 2.867281| 1.71E-35   | 1.09E-33  |
| TCP11      | 0.643053| 0.388781  | -0.72598| 7.12E-05   | 0.000294  |
| FFAR4      | 0.214619| 0.425002  | 0.985692| 1.08E-23   | 3.35E-22  |
| NLRC3      | 0.465914| 0.726542  | 0.640982| 3.79E-10   | 4.86E-09  |
| RGS18      | 0.229465| 0.744714  | 1.698414| 4.56E-40   | 3.94E-38  |
| TPSAB1     | 1.84048 | 3.259137  | 0.824408| 2.50E-12   | 4.07E-11  |
| MRO        | 0.144596| 0.235778  | 0.705398| 2.16E-13   | 3.95E-12  |
| MAP3K15    | 0.188214| 0.100731  | -0.90187| 7.59E-06   | 4.10E-05  |
| DACH1      | 6.011568| 2.334909  | -1.36437| 3.12E-08   | 2.88E-07  |
| PTPRE      | 0.994224| 1.50854   | 0.601511| 3.34E-16   | 7.36E-15  |
| SERPINA3   | 0.110008| 0.300307  | 1.448837| 0.001413   | 0.003969  |
| INSYN1     | 0.703414| 0.325236  | -1.11289| 0.017074   | 0.03392   |
| Gene    | conMean | treatMean | logFC | pValue  | FDR    |
|---------|---------|-----------|-------|---------|--------|
| RD3     | 0.306049| 0.131803  | -1.21537| 0.000155| 0.000583|
| CHRNB2  | 0.354334| 0.063985  | -2.46931| 0.000371| 0.001248|
| CLVS1   | 0.3332  | 0.148766  | -1.16334| 1.71E-05| 8.37E-05|
| EMP3    | 11.48588| 21.68559  | 0.916875| 3.67E-31| 1.73E-29|
| C1orf38 | 1.137628| 1.710566  | 0.588445| 1.06E-15| 2.27E-14|
| DACH2   | 0.172   | 0.11337   | -0.60136| 6.11E-06| 3.37E-05|
| GREM2   | 0.134343| 0.203469  | 0.59888 | 0.000698| 0.002163|
| PLAT4   | 49.30285| 89.8563   | 0.865949| 7.03E-15| 1.42E-13|
| GNB3    | 0.611841| 0.334525  | -0.87104| 0.006849| 0.015541|
| CIB3    | 0.070814| 0.182073  | 1.362417| 0.002668| 0.006924|
| ZEB2    | 0.573302| 1.250302  | 1.12491| 5.91E-30| 2.59E-28|
| SOSTDC1 | 7.116607| 3.139457  | -1.18067| 7.16E-08| 6.23E-07|
| TNNC1   | 8.938103| 5.049287  | -0.82389| 0.000215| 0.000774|
| GDPD2   | 2.326473| 1.232815  | -0.91619| 0.002316| 0.006111|
| ARHGEF4 | 1.662216| 1.100507  | -0.59494| 2.13E-06| 1.32E-05|
| ABCG8   | 0.354392| 0.176943  | -1.00206| 3.66E-05| 0.000164|
| OMD     | 0.681614| 1.997222  | 1.550969| 1.45E-08| 1.43E-07|
| ATOH7   | 0.335834| 0.180925  | -0.89235| 0.000812| 0.00247|
| ZNF483  | 0.184961| 0.119049  | -0.63566| 2.32E-07| 1.81E-06|
| ROPN1L  | 4.399085| 1.750792  | -1.3292 | 4.77E-05| 0.000206|
| TNN1    | 1.567772| 0.676703  | -1.21212| 2.54E-05| 0.000118|
| PEAK3   | 0.172347| 0.363562  | 1.076881| 6.52E-27| 2.41E-25|
| FBP1    | 6.234814| 11.65581 | 0.902631| 1.50E-13| 2.79E-12|
| KLRCl   | 0.050501| 0.252231  | 2.520375| 1.53E-29| 6.48E-28|
| AQP6    | 0.826937| 0.544817  | -0.60201| 0.021949| 0.041818|
| SAA4    | 0.201874| 0.367325  | 0.863604| 2.50E-06| 1.52E-05|
| ZNF79   | 0.176883| 0.085454  | -1.04957| 3.30E-07| 2.48E-06|
| WIF1    | 2.824976| 5.545081  | 0.97297 | 1.84E-33| 1.01E-31|
| PIK3AP1 | 1.928005| 3.819789  | 0.986384| 1.01E-30| 4.65E-29|
| FCN1    | 0.413403| 1.524166  | 1.882401| 7.82E-27| 2.86E-25|
| ASTL    | 0.905564| 0.476237  | -0.97214| 5.83E-07| 4.15E-06|
| LGALS2  | 1.278363| 2.07563  | 0.699252| 4.54E-13| 7.96E-12|
| FCER1G  | 37.44779| 116.2286  | 1.634012| 9.56E-53| 1.42E-49|
| EFNB3   | 6.663331| 4.1642    | -0.6782 | 1.78E-07| 1.43E-06|
| DCAF12L2| 0.815293| 0.428376  | -0.92844| 2.11E-07| 1.66E-06|
| TREM1   | 0.595603| 1.362637  | 1.193978| 2.79E-15| 5.80E-14|
| USP6    | 0.19308 | 0.117635  | -0.71488| 2.11E-07| 1.67E-06|
| PTPN7   | 0.607406| 1.633967  | 1.427645| 1.16E-46| 3.05E-44|
| RIPK3   | 2.042112| 3.281862  | 0.684453| 6.07E-12| 9.56E-11|
| SPSB4   | 1.072538| 0.32171   | -1.7372 | 0.000432| 0.001426|
| CA10    | 0.200436| 0.025317  | -2.98498| 0.004195| 0.010204|
| LRR4C6  | 3.046104| 1.580326  | -0.94674| 0.000668| 0.002081|
| SAA2-SAA4| 0.32938 | 0.711458  | 1.111025| 8.53E-10| 1.04E-08|
| ZNF98   | 0.748643| 0.48964   | -0.61256| 1.49E-06| 9.60E-06|
| SLC38A8 | 0.565609| 0.242644  | -1.22097| 2.03E-07| 1.61E-06|
| NME9    | 0.480782| 0.270295  | -0.83085| 3.71E-08| 3.39E-07|
| Gene      | conMean | treatMean | logFC  | pValue   | FDR     |
|-----------|---------|-----------|--------|----------|---------|
| NXNL1     | 0.184399| 0.03735   | -2.30366| 1.78E-07 | 1.43E-06|
| SKIAD1    | 0.781452| 0.471834  | -0.72788| 0.003128 | 0.007932|
| TNN1I     | 1.778796| 0.687717  | -1.37101| 2.16E-12 | 3.54E-11|
| IGLON5    | 4.801715| 2.127198  | -1.1746 | 0.012902 | 0.026812|
| CLEC4A    | 0.732355| 2.498577  | 1.770492| 5.28E-48 | 1.87E-45|
| DPF1      | 1.183126| 0.537585  | -1.13804| 4.13E-05 | 0.000182|
| DYNLRB2   | 0.756916| 0.429545  | -0.81732| 9.92E-51 | 6.39E-48|
| IL2RG     | 2.968277| 12.33192  | 1.0547  | 9.92E-51 | 6.39E-48|
| CPB2      | 0.170489| 0.095946  | -0.82938| 5.93E-07 | 4.22E-06|
| RASL11B   | 2.812986| 1.77647   | -0.66309| 3.16E-05 | 0.000144|
| CCDC30    | 0.751761| 0.473785  | -0.66604| 3.55E-09 | 3.98E-08|
| IL24      | 0.329907| 0.523854  | 0.667107| 3.21E-13 | 5.72E-12|
| TMEM88    | 4.732714| 2.989703  | -0.66267| 9.94E-11 | 0.01034|
| DOCK2     | 0.390288| 1.236344  | 1.663471| 4.09E-42 | 4.46E-40|
| KHL6      | 0.347193| 0.62296   | 0.843403| 8.69E-22 | 2.45E-20|
| ONECUT2   | 0.497209| 0.160809  | -1.62851| 9.95E-16 | 0.000629|
| SLAMF8    | 1.578326| 6.672732  | 2.079883| 7.63E-49 | 3.28E-46|
| GJB2      | 6.04685 | 15.20369  | 1.330165| 3.15E-13 | 5.62E-12|
| PLA2G2D   | 0.219918| 1.30361   | 2.567475| 2.19E-29 | 9.19E-28|
| AC003002.2| 0.120343| 0.080304  | -0.5836 | 9.95E-16 | 0.000629|
| ICAM1     | 17.66027| 31.68258  | 0.843182| 4.31E-16 | 9.41E-15|
| CD79B     | 0.693573| 1.205483  | 0.797491| 3.06E-13 | 5.47E-12|
| CD27      | 1.159399| 3.263425  | 1.493009| 1.99E-33 | 1.09E-31|
| MYH7B     | 1.003735| 0.491224  | -1.03093| 1.10E-05 | 5.67E-05|
| CRM1      | 4.621143| 2.743223  | -0.75238| 2.61E-05 | 0.000122|
| FAM78A    | 0.754204| 1.707724  | 1.179047| 5.30E-36 | 3.50E-34|
| HHA1TL    | 0.182705| 0.038082  | -2.26234| 1.43E-05 | 7.17E-05|
| MDH1B     | 2.019287| 1.321605  | -0.61555| 2.12E-08 | 2.04E-07|
| IGSF5     | 0.139349| 0.074735  | -0.89885| 1.31E-06 | 8.62E-06|
| SLC28A2   | 0.462331| 0.300774  | -0.62025| 4.41E-05 | 0.000193|
| SMTNL1    | 0.965626| 1.579318  | 0.709765| 0.017915 | 0.035289|
| RPL3L     | 0.291228| 0.183487  | -0.66647| 2.38E-05 | 0.000112|
| WDR35     | 3.073981| 1.977992  | -0.63607| 1.51E-12 | 2.54E-11|
| GUCY1A1   | 1.086536| 2.035525  | 0.905665| 2.77E-11 | 4.01E-10|
| DLEC1     | 0.656504| 0.353656  | -0.89246| 9.95E-16 | 0.000633|
| EYA1      | 0.784144| 0.281823  | -1.47632| 9.95E-16 | 0.000633|
| LAPT5M    | 28.40656| 95.91171  | 1.755483| 5.34E-51 | 3.79E-48|
| COL3A1    | 164.3945| 308.2926  | 0.907138| 6.00E-09 | 6.45E-08|
| FAM177B   | 0.192911| 0.364876  | 0.919471| 2.38E-13 | 4.32E-12|
| RARRES1   | 22.48904| 43.48828  | 0.951405| 8.62E-11 | 1.18E-09|
| PPP1R18   | 8.358263| 13.72886  | 0.715937| 2.06E-21 | 5.69E-20|
| CD300LB   | 0.123998| 0.293276  | 1.24194 | 1.02E-20 | 2.74E-19|
| SLC13A4   | 0.645344| 0.347725  | -0.89212| 3.66E-05 | 0.000164|
| DUOX1     | 1.577578| 0.885468  | -0.8332 | 9.95E-16 | 0.000164|
| ZNF20     | 0.40951 | 0.272416  | -0.58809| 3.55E-06 | 2.07E-05|
| Gene          | conMean | treatMean | logFC | pValue       | FDR          |
|---------------|---------|-----------|-------|--------------|--------------|
| RNF103-CHMP3  | 0.144985| 0.094957  | -0.61055 | 2.93E-06     | 1.75E-05     |
| APOH         | 0.295016| 0.058072  | -2.34488 | 0.01236      | 0.025819     |
| CSAG3        | 0.568282| 0.951844  | 0.744119 | 3.84E-05     | 0.00017      |
| ADCY8        | 2.796589| 0.77018   | -1.8604  | 2.96E-07     | 2.25E-06     |
| EPHA7        | 0.419856| 0.145567  | -1.52821 | 9.58E-11     | 1.31E-09     |
| CCRL2        | 0.412819| 1.052995  | 1.350917 | 2.26E-45     | 4.11E-43     |
| PDIA2        | 2.675838| 0.869223  | -1.62219 | 5.63E-06     | 3.14E-05     |
| CPNE4        | 0.859793| 0.44406   | -0.95323 | 0.000344     | 0.001172     |
| TNFRSF14     | 4.110684| 6.954695  | 0.758609 | 1.39E-16     | 3.10E-15     |
| CCNO         | 10.41114| 5.938257  | -0.81002 | 0.011624     | 0.024512     |
| REEP1        | 0.954561| 0.59176   | -0.68983 | 9.60E-06     | 5.03E-05     |
| SNORC        | 2.309638| 1.511469  | -0.61171 | 6.23E-05     | 0.000261     |
| SPOCD1       | 0.143196| 0.299736  | 1.065696 | 8.28E-12     | 1.28E-10     |
| CTSG         | 0.065804| 0.19435   | 1.562401 | 2.05E-06     | 1.28E-05     |
| ZNF219       | 12.00631| 7.396418  | -0.69889 | 8.70E-10     | 1.06E-08     |
| LRRC71       | 0.70625 | 0.236236  | -1.57995 | 1.02E-06     | 6.85E-06     |
| FGR          | 1.001183| 2.874997  | 1.521855 | 2.38E-43     | 3.21E-41     |
| SPTB         | 0.392182| 0.193648  | -1.01809 | 0.000202     | 0.000735     |
| VDR          | 3.297019| 5.546428  | 0.750397 | 7.90E-14     | 1.49E-12     |
| CD93         | 3.178409| 5.100738  | 0.682401 | 2.55E-12     | 4.15E-11     |
| RAC2         | 5.818171| 15.81117  | 1.442307 | 6.09E-47     | 1.69E-44     |
| ZNF423       | 4.154062| 1.619031  | -1.35939 | 2.32E-09     | 2.67E-08     |
| NT5E         | 4.369367| 7.080791  | 0.696486 | 7.62E-09     | 8.02E-08     |
| GSTM3        | 6.13847 | 3.813964  | -0.68659 | 0.000946     | 0.002813     |
| INPP5D       | 1.643537| 3.504334  | 1.092336 | 7.41E-28     | 2.88E-26     |
| SLC37A2      | 0.831499| 2.201253  | 1.404538 | 1.85E-34     | 1.11E-32     |
| FMNL1        | 3.456847| 6.240697  | 0.852251 | 1.44E-27     | 5.52E-26     |
| NCF1         | 0.505794| 1.7815    | 1.81647 | 2.63E-48     | 9.81E-46     |
| PHF21B       | 0.286614| 0.045493  | -2.65539 | 8.72E-08     | 7.44E-07     |
| IRF1         | 8.123837| 15.73792  | 0.954012 | 1.16E-24     | 3.79E-23     |
| ZNF727       | 0.595685| 0.372249  | -0.67828 | 0.000131     | 0.000503     |
| IFNG         | 0.064269| 0.335378  | 2.383593 | 2.47E-31     | 1.18E-29     |
| PRG4         | 0.499668| 0.801338  | 0.681441 | 0.019463     | 0.037854     |
| SPNS3        | 0.20392 | 0.328838  | 0.68937 | 2.57E-07     | 1.99E-06     |
| PLA2G2A      | 2.066155| 6.240198  | 1.594643 | 9.93E-07     | 6.71E-06     |
| OLR1         | 1.688243| 5.80734   | 1.782355 | 8.99E-38     | 6.53E-36     |
| BICC1        | 1.301419| 2.10463   | 0.693481 | 8.28E-07     | 5.72E-06     |
| CAPSL        | 5.245109| 1.710936  | -1.61619 | 8.68E-06     | 4.60E-05     |
| GFY          | 0.193865| 0.079097  | -1.29337 | 0.000783     | 0.002393     |
| ARRB1        | 1.771411| 2.702603  | 0.609451 | 2.22E-14     | 4.38E-13     |
| ASCL5        | 0.429136| 0.209121  | -1.0371  | 1.65E-12     | 2.75E-11     |
| GPR31        | 0.099928| 0.157314  | 0.654691 | 1.98E-09     | 2.31E-08     |
| CYSLTR1      | 0.195891| 0.765176  | 1.965741 | 3.43E-36     | 2.27E-34     |
| H2BW2        | 0.152227| 0.051421  | -1.56578 | 4.79E-09     | 5.26E-08     |
| ELF2         | 0.208172| 0.121113  | -0.78142 | 0.023192     | 0.043754     |
| ASIC1        | 1.135649| 0.723016  | -0.65142 | 0.018651     | 0.036512     |
## Supplementary Material

| Gene       | conMean | treatMean | logFC   | pValue    | FDR       |
|------------|---------|-----------|---------|-----------|-----------|
| ADGRE1     | 0.25265 | 0.589126  | 1.221437| 3.66E-25  | 1.24E-23  |
| LILRA4     | 0.053626| 0.216005  | 2.010063| 1.44E-29  | 6.12E-28  |
| ADAMTS2    | 2.52632 | 4.949156  | 0.970145| 6.03E-08  | 5.30E-07  |
| MYH6       | 0.443827| 0.09315   | -2.25237| 3.05E-08  | 2.83E-07  |
| TEX15      | 0.157005| 0.065528  | -1.26064| 0.000183  | 0.000676  |
| BATF2      | 2.651888| 4.393525  | 0.728359| 3.93E-13  | 6.91E-12  |
| KY         | 0.212545| 0.103099  | -1.04374| 5.28E-07  | 3.79E-06  |
| CXorf21    | 0.435146| 1.280125  | 1.556714| 7.73E-41  | 7.25E-39  |
| CDH22      | 1.185961| 0.775671  | -0.61254| 0.018675  | 0.036552  |
| TEKT3      | 0.23148 | 0.15356   | -0.59209| 1.09E-05  | 5.64E-05  |
| XKR7       | 0.476476| 0.11696   | -2.02639| 0.007885  | 0.017551  |
| LIN28B     | 0.672484| 0.306703  | -1.13266| 0.001981  | 0.005324  |
| RASL10B    | 3.811384| 2.319263  | -0.71665| 0.016184  | 0.032407  |
| MALL       | 0.474712| 0.803896  | 0.759958| 0.000205  | 0.000746  |
| SCT        | 1.140149| 2.31253   | 1.02025 | 1.49E-09  | 1.76E-08  |
| FAM163A    | 0.233372| 0.1154    | -1.01598| 0.000185  | 0.000682  |
| ELAVL3     | 0.359297| 0.074968  | -2.26082| 5.32E-12  | 8.44E-11  |
| SMCO2      | 0.152372| 0.279659  | 0.876073| 3.02E-10  | 3.89E-09  |
| TIMD4      | 0.203752| 0.807362  | 1.986404| 7.81E-25  | 2.57E-23  |
| NKP1D1     | 0.272059| 0.169084  | -0.68618| 2.56E-06  | 1.55E-05  |
| DUSP10     | 3.857645| 6.57423   | 0.769102| 2.08E-11  | 3.04E-10  |
| TNNT3      | 1.53457 | 0.672549  | -1.19012| 5.04E-07  | 3.63E-06  |
| PNMT       | 2.874923| 0.743732  | -1.95067| 4.66E-09  | 5.13E-08  |
| CRYGC      | 2.532213| 0.816     | -1.63376| 0.015213  | 0.030759  |
| CFAP157    | 2.682117| 1.6757    | -0.67861| 9.21E-05  | 0.000368  |
| NOVA1      | 0.836228| 0.462051  | -0.85584| 1.89E-06  | 1.19E-05  |
| IFFO1      | 0.761366| 1.58357   | 1.056519| 2.38E-29  | 9.99E-28  |
| NCAM1      | 3.758856| 2.121717  | -0.82506| 8.30E-05  | 0.000336  |
| CRYGB      | 1.993004| 0.478011  | -2.05983| 3.76E-05  | 0.000167  |
| CALN1      | 0.089041| 0.201319  | 1.176944| 0.010248  | 0.021966  |
| RIIAD1     | 0.421326| 0.195548  | -1.10742| 0.00142   | 0.003986  |
| GPR68      | 0.544773| 1.144776  | 1.071339| 1.29E-21  | 3.62E-20  |
| TNFAIP3    | 6.835699| 12.1166   | 0.825824| 4.11E-17  | 9.51E-16  |
| HLA-DMB    | 9.642335| 20.53784  | 1.09083 | 2.65E-25  | 9.06E-24  |
| HTR1D      | 0.137743| 0.068857  | -1.00031| 0.000141  | 0.000537  |
| KLH1L38    | 0.147165| 0.499132  | 1.761982| 4.44E-08  | 4.00E-07  |
| MAFA       | 0.659584| 0.299307  | -1.13993| 4.36E-06  | 2.50E-05  |
| SOX11      | 3.032395| 0.582965  | -2.37898| 6.65E-05  | 0.000277  |
| CSRNP3     | 0.829931| 0.489368  | -0.76207| 6.03E-14  | 1.15E-12  |
| FAM216B    | 1.465634| 0.449775  | -1.70425| 0.014646  | 0.029834  |
| TEX11      | 0.094206| 0.160327  | 0.767119| 2.70E-08  | 2.55E-07  |
| QPCT       | 4.440627| 7.507423  | 0.757554| 1.36E-07  | 1.12E-06  |
| SELE       | 0.075338| 0.207326  | 1.460449| 1.64E-11  | 2.43E-10  |
| GAS2L2     | 0.611088| 0.302985  | -1.01213| 1.59E-07  | 1.29E-06  |
| EVA1C      | 6.510749| 10.8114   | 0.731658| 6.11E-12  | 9.61E-11  |


| Gene   | conMean | treatMean | logFC  | pValue   | FDR     |
|--------|---------|-----------|--------|----------|---------|
| LRRC31 | 0.384686| 0.104319  | -1.88269| 0.00086  | 0.002593|
| DRD5   | 0.134331| 0.077974  | -0.78473| 0.001808 | 0.00492 |
| SLIT3  | 4.519206| 2.938422  | -0.62103| 0.000196 | 0.000717|
| DHR52  | 1.643098| 0.293532  | -2.48483| 0.000354 | 0.001201|
| MYCBPAP| 0.310155| 0.201049  | -0.62544| 0.000269 | 0.000946|
| CATIP  | 0.487581| 0.28895   | -0.75482| 0.000748 | 0.002299|
| COL11A1| 4.347525| 10.44793  | 1.264951| 2.24E-07 | 1.76E-06|
| GPR83  | 0.282161| 0.095467  | -1.56344| 1.19E-05 | 6.09E-05|
| C5orf49| 4.320941| 2.228755  | -0.95511| 9.60E-06 | 5.03E-05|
| TCF7L1 | 11.61413| 4.753126  | -1.28893| 1.94E-10 | 2.55E-09|
| SIM2   | 1.34949 | 0.607176  | -1.15223| 9.81E-06 | 5.12E-05|
| PDCP2  | 2.415149| 1.524508  | -0.66377| 0.001358 | 0.003834|
| FCGR1A | 0.998424| 3.137733  | 1.651998| 1.41E-47 | 4.44E-45|
| MSTN   | 0.254105| 0.040544  | -2.64787| 4.59E-05 | 0.000199|
| AGXT   | 0.195678| 0.011625  | -4.07318| 3.22E-05 | 0.000146|
| SLC10A4| 0.755868| 0.345393  | -1.1299 | 0.00014 | 0.000534|
| ODC1   | 89.57852| 58.25621  | -0.62074| 3.00E-08 | 2.79E-07|
| ACSM3  | 3.807018| 2.277142  | -0.74144| 1.84E-08 | 1.79E-07|
| CTNN2  | 1.557545| 0.616074  | -1.3381 | 6.38E-08 | 5.60E-07|
| SLC26A10| 0.291012| 0.160898  | -0.85493| 0.001285 | 0.003662|
| CETP   | 0.312781| 0.56687   | 0.857865| 2.61E-13 | 4.70E-12|
| IRX6   | 0.727537| 0.486486  | -0.58062| 0.010895 | 0.023139|
| LRATD1 | 4.352689| 1.745444  | -1.31831| 1.62E-05 | 7.98E-05|
| PAX2   | 10.54625| 3.431807  | -1.61969| 1.38E-06 | 8.98E-06|
| BANK1  | 0.687127| 1.80571   | 0.65999 | 1.04E-06 | 6.96E-06|
| PCDB10 | 1.863964| 1.13128   | -0.72042| 0.000888 | 0.002666|
| TMPRSS6| 1.456289| 0.958507  | -0.60344| 0.010292 | 0.022038|
| HMGA2  | 5.92819 | 1.781458  | -1.73453| 1.00E-08 | 1.02E-07|
| DYSPL5 | 1.602619| 0.105986  | -3.91849| 8.69E-12 | 1.34E-10|
| MS11  | 14.97468| 6.611998  | -1.17937| 6.07E-12 | 9.56E-11|
| IG5F21 | 0.540303| 1.439892  | 1.414122| 2.07E-26 | 7.37E-25|
| GABRP  | 2.255442| 4.041438  | 0.841458| 2.57E-06 | 1.56E-05|
| FDCSP  | 0.243257| 1.632287  | 2.74634 | 7.70E-14 | 1.46E-12|
| ATP4B  | 0.229149| 0.048703  | -2.23421| 2.05E-11 | 2.99E-10|
| FPR2   | 0.08538 | 0.274171  | 1.683111| 3.76E-22 | 1.09E-20|
| SLC16A12| 0.301338| 0.049466  | -2.60687| 5.06E-08 | 4.49E-07|
| EMX2   | 66.48357| 38.31044  | -0.79526| 1.73E-10 | 2.29E-09|
| COL24A1| 0.172576| 0.302614  | 0.810251| 0.001236 | 0.00354 |
| P2RX1  | 0.174174| 0.357603  | 1.037829| 7.51E-10 | 9.26E-09|
| CXXC4  | 0.607054| 0.285936  | -1.08613| 0.005574 | 0.013031|
| OTULINL| 2.265441| 3.775593  | 0.736911| 5.90E-16 | 1.28E-14|
| TRAF3IP3| 0.146432| 0.497233  | 1.763692| 1.33E-45 | 2.62E-43|
| CYP17A1| 2.119979| 0.925484  | -1.19577| 0.000915 | 0.002734|
| ITGB2  | 5.2799  | 17.08722  | 1.694335| 2.69E-45 | 4.82E-43|
| TOX    | 3.890422| 2.048659  | -0.92525| 0.002727 | 0.00706 |
| CTSW   | 1.26498 | 5.2636    | 2.056936| 1.79E-40 | 1.62E-38|

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## Supplementary Material

| Gene  | conMean | treatMean | logFC  | pValue    | FDR     |
|-------|---------|-----------|--------|-----------|---------|
| SAMD5 | 0.49113 | 0.248124  | -0.98505 | 0.000161 | 0.000605 |
| CA8   | 3.846653| 2.309445  | -0.73606 | 4.06E-05 | 0.00179  |
| CD96  | 0.324218| 1.129664  | 1.800856 | 4.19E-42 | 4.54E-40 |
| PDCD1LG2 | 0.491489 | 1.848783 | 1.911345 | 2.45E-42 | 2.80E-40 |
| MT3   | 1.197085| 0.770999  | -0.63473 | 0.020004 | 0.038689 |
| GPR34 | 1.994524| 5.696313  | 1.513984 | 4.20E-32 | 2.08E-30 |
| CLCN4 | 1.797418| 1.140514  | -0.65624 | 5.86E-07 | 4.17E-06 |
| ADCY1 | 0.459315| 0.283048  | -0.69844 | 1.60E-06 | 1.02E-05 |
| CLEC3B| 0.845594| 1.600919  | 0.920863 | 0.001139 | 0.003295 |
| ST8SIA6| 0.238358| 0.45842   | 0.943541 | 2.08E-05 | 9.92E-05 |
| CEL   | 10.87696| 1.593821  | -2.77071 | 0.000208 | 0.000753 |
| SLC22A17 | 6.833736 | 4.562155 | -0.58296 | 0.000164 | 0.000615 |
| SELL  | 1.410472| 3.884734  | 1.461638 | 5.20E-31 | 2.44E-29 |
| ZNF285| 0.987021| 0.643521  | -0.61709 | 3.07E-07 | 2.33E-06 |
| LHFPL3| 0.24529 | 0.080135  | -1.61399 | 0.000209 | 0.000759 |
| GALNT5| 0.330913| 0.650172  | 0.974368 | 3.23E-07 | 2.44E-06 |
| EFEMP1 | 6.44557 | 11.01022  | 0.772463 | 2.88E-07 | 2.20E-06 |
| ITGA4 | 0.474   | 1.102576  | 1.217919 | 1.71E-24 | 5.54E-23 |
| NPL   | 1.376976| 2.948199  | 1.098331 | 1.22E-35 | 7.83E-34 |
| SLC49A3| 2.039119| 3.18274   | 0.642323 | 1.19E-11 | 1.79E-10 |
| CLMP  | 1.486517| 2.496119  | 0.747751 | 3.87E-08 | 3.52E-07 |
| CROCC2| 0.423392| 0.21772   | -0.95952 | 4.86E-09 | 5.32E-08 |
| RGS1  | 6.71441 | 19.87665  | 1.565742 | 6.16E-29 | 2.52E-27 |
| ZNF730| 0.732001| 0.420197  | -0.80078 | 3.70E-09 | 4.13E-08 |
| NR5A1 | 3.306138| 1.518047  | -1.12293 | 2.11E-06 | 1.31E-05 |
| NRB1  | 0.517852| 0.250745  | -1.04632 | 0.021968 | 0.041836 |
| ANKR22 | 0.725066| 2.450937  | 1.75715  | 3.25E-38 | 2.46E-36 |
| CD209 | 0.777697| 1.485456  | 0.933625 | 7.13E-13 | 1.23E-11 |
| ADGRE2| 0.232969| 0.682162  | 1.549977 | 7.63E-32 | 3.74E-30 |
| CLEC18C| 0.23051 | 0.118921  | -0.95483 | 0.000238 | 0.000849 |
| DLX2  | 0.764605| 0.166049  | -2.20311 | 0.006124 | 0.014116 |
| SLAMF7| 0.763755| 3.223171  | 2.077298 | 1.49E-35 | 9.51E-34 |
| MSC   | 2.03952 | 3.865141  | 0.922292 | 1.25E-15 | 2.65E-14 |
| DPY19L2 | 0.546581 | 0.29363  | -0.89644 | 2.67E-06 | 1.61E-05 |
| ZNF286A| 1.245638| 0.820202  | -0.60283 | 9.17E-14 | 1.72E-12 |
| TMEM89 | 0.150109| 0.085493  | -0.81214 | 5.77E-06 | 3.21E-05 |
| SPARC | 205.7082| 335.6258  | 0.706254 | 2.28E-06 | 1.40E-05 |
| TAP1  | 16.44725| 35.3552   | 1.104076 | 1.39E-23 | 4.30E-22 |
| SOD2  | 7.744653| 16.00334  | 1.047101 | 1.25E-22 | 3.70E-21 |
| CSF1  | 15.78145| 31.39227  | 0.99218  | 5.86E-19 | 1.44E-17 |
| CD200R1| 0.394806| 0.686487  | 0.798088 | 1.04E-17 | 2.46E-16 |
| CYTL1 | 5.125967| 1.820089  | -1.49382 | 0.000391 | 0.00131 |
| MAP6  | 2.030295| 1.166684  | -0.79928 | 0.000436 | 0.001439 |
| TBX4  | 0.206853| 0.086772  | -1.25331 | 1.36E-05 | 6.82E-05 |
| TBX2  | 11.66552| 6.398726  | -0.86639 | 1.62E-05 | 8.00E-05 |
| Gene      | conMean | treatMean | logFC  | pValue     | FDR       |
|-----------|---------|-----------|--------|------------|-----------|
| TMEM221   | 4.548723| 2.159695  | -1.07463| 1.63E-09   | 1.92E-08  |
| CAPS      | 26.75147| 16.94495  | -0.65876| 0.008107   | 0.017969  |
| LCP2      | 1.358989| 4.47015   | 1.717789| 1.05E-54   | 3.71E-51  |
| MORN5     | 3.693431| 1.081293  | -1.7722 | 7.25E-10   | 8.95E-09  |
| FPR3      | 3.165884| 11.05601  | 1.80415 | 2.16E-40   | 1.92E-38  |
| COL26A1   | 7.587029| 3.703627  | -1.0346 | 0.001601   | 0.004432  |
| CD180     | 0.487201| 1.414678  | 1.537886| 4.33E-41   | 4.20E-39  |
| C1orf87   | 0.351903| 0.151264  | -1.2181 | 0.008192   | 0.018138  |
| TUBB2B    | 12.6    | 1.661661  | -2.92273| 1.55E-09   | 1.83E-08  |
| TMEFF1    | 0.944602| 0.489661  | -0.94792| 5.00E-09   | 5.46E-08  |
| CALY      | 0.434956| 0.111872  | -1.95902| 5.24E-06   | 2.95E-05  |
| C5orf46   | 0.444236| 1.331887  | 1.584075| 1.78E-11   | 2.62E-10  |
| SULT1C4   | 2.27275 | 0.962514  | -1.23956| 2.21E-09   | 2.55E-08  |
| ITGA5     | 6.056127| 10.37018  | 0.775974| 2.35E-13   | 4.26E-12  |
| WDR38     | 5.140418| 2.065174  | -1.31562| 0.004755   | 0.011378  |
| TRPM5     | 0.781158| 0.461583  | -0.75902| 1.67E-06   | 1.06E-05  |
| BPIFB1    | 0.544819| 0.325505  | -0.7431 | 0.000522   | 0.001679  |
| GREM1     | 0.559068| 0.879922  | 0.654352| 5.33E-10   | 6.71E-09  |
| DNAAF4    | 0.939058| 0.620224  | -0.59843| 1.18E-08   | 1.19E-07  |
| HPN       | 28.82032| 15.12826  | -0.92984| 0.001001   | 0.00296   |
| SMIM24    | 6.072789| 2.20165   | -1.46377| 2.98E-05   | 0.000137  |
| IMPG2     | 3.994636| 1.386544  | -1.52657| 3.42E-06   | 2.01E-05  |
| DAPP1     | 1.296645| 2.388026  | 0.881036| 7.36E-19   | 1.80E-17  |
| MPEG1     | 2.496268| 7.658024  | 1.617199| 1.55E-37   | 1.10E-35  |
| PIK3R5    | 0.497988| 1.269358  | 1.349915| 3.74E-33   | 1.99E-31  |
| IL15RA    | 2.405255| 5.380965  | 1.161675| 1.08E-28   | 4.38E-27  |
| ESRRB     | 0.253704| 0.093005  | -1.44777| 0.002483   | 0.006497  |
| MT1H      | 12.83878| 27.34278  | 1.090652| 7.15E-05   | 0.000295  |
| FAM181A   | 6.149256| 4.076887  | -0.59294| 6.77E-05   | 0.000281  |
| PLEKHD1   | 0.19724 | 0.107674  | -0.87328| 5.15E-06   | 2.90E-05  |
| PCDHGB1   | 0.920667| 0.402463  | -1.19382| 0.000387   | 0.001297  |
| GIMAP7    | 1.622771| 4.651622  | 1.519274| 2.33E-41   | 2.34E-39  |
| DSCAML1   | 1.198   | 0.71797   | -0.73863| 0.008107   | 0.017969  |
| ACKR2     | 1.662732| 3.09093   | 0.894485| 1.40E-07   | 1.15E-06  |
| APOBEC2   | 0.410936| 0.234308  | -0.81051| 0.000167   | 0.000624  |
| NETO1     | 0.075897| 0.166282  | 1.131521| 5.31E-08   | 4.70E-07  |
| FAM81B    | 1.959036| 0.92131   | -1.08839| 0.000276   | 0.000967  |
| SH2D1B    | 0.075338| 0.21519   | 1.514157| 4.40E-25   | 1.48E-23  |
| KLF2      | 9.087485| 14.63894  | 0.687858| 1.85E-11   | 2.72E-10  |
| OSCAR     | 1.531918| 3.801093  | 1.311075| 1.06E-38   | 8.21E-37  |
| PCK1      | 3.348274| 5.19584   | 0.633939| 0.00228    | 0.006027  |
| LHFPL1    | 0.324579| 0.17912   | -0.85765| 1.30E-07   | 1.07E-06  |
| VNN2      | 0.46842 | 1.307767  | 1.481233| 1.35E-28   | 5.41E-27  |
| COL1A2    | 139.0364| 235.7702  | 0.761919| 1.49E-06   | 9.60E-06  |
| SLC5A12   | 0.356969| 0.186638  | -0.93556| 1.60E-07   | 1.30E-06  |
| DNAH6     | 0.411036| 0.179204  | -1.19766| 1.62E-12   | 2.70E-11  |
| Gene            | conMean | treatMean | logFC  | pValue     | FDR        |
|-----------------|---------|-----------|--------|------------|------------|
| GABRR1          | 0.566294| 0.214025  | -1.40377| 2.90E-05   | 0.000133   |
| EPB41L3         | 0.636191| 1.448994  | 1.18752| 3.11E-32   | 1.55E-30   |
| EGF             | 0.090098| 0.182147  | 1.015546| 0.007234   | 0.016305   |
| FOXJ1           | 46.24073| 28.19151  | -0.7139 | 0.000394   | 0.001318   |
| RASGRP3         | 0.419453| 0.660784  | 0.655669| 8.63E-19   | 2.11E-17   |
| ARMC3           | 1.69138 | 0.898994  | -0.91182| 1.06E-05   | 5.48E-05   |
| TREM2           | 7.673645| 20.49394  | 1.417213| 2.89E-31   | 1.38E-29   |
| KCNJ13          | 0.367326| 0.138134  | -1.41   | 5.91E-06   | 3.27E-05   |
| TAP2            | 4.323512| 7.383876  | 0.772175| 1.12E-16   | 2.52E-15   |
| ZIC2            | 4.271161| 2.499281  | -0.77311| 0.020694   | 0.03979    |
| CCL11           | 1.697003| 5.276292  | 1.636535| 6.65E-22   | 1.89E-20   |
| CNTN3           | 1.256234| 0.714266  | -0.81457| 3.59E-05   | 0.000161   |
| SIGLEC14        | 0.697136| 2.451787  | 1.814322| 9.41E-33   | 4.82E-31   |
| NPIPB15         | 2.238972| 1.148194  | -0.96347| 0.000218   | 0.000784   |
| CD14            | 25.7339 | 71.90335  | 1.482389| 2.71E-42   | 3.05E-40   |
| TNFAIP8         | 1.396186| 2.25991   | 0.694774| 2.99E-15   | 6.20E-14   |
| FBN2            | 2.322239| 0.985196  | -1.23703| 0.004564   | 0.010991   |
| ECRG4           | 9.709834| 3.924632  | -1.30689| 2.31E-07   | 1.81E-06   |
| TMEM158         | 7.525961| 12.02214  | 0.675746| 8.94E-08   | 7.61E-07   |
| DKK4            | 4.602531| 0.108533  | -5.40622| 0.025964   | 0.048203   |
| RUFY4           | 0.420638| 0.82299   | 0.968295| 4.05E-07   | 2.99E-06   |
| ZCCHC12         | 2.189587| 0.606997  | -1.8509 | 8.67E-08   | 7.40E-07   |
| UNC79           | 0.355664| 0.211587  | -0.74926| 0.0047     | 0.011267   |
| WDR66           | 0.54889 | 0.313862  | -0.80639| 0.000965   | 0.002863   |
| AC010325.1      | 0.402968| 0.255159  | -0.65927| 0.002644   | 0.006874   |
| GFI1            | 0.154404| 0.4441    | 1.524177| 3.34E-33   | 1.78E-31   |
| LRRIQ1          | 0.981871| 0.477236  | -1.04083| 7.17E-09   | 7.60E-08   |
| PCDHA6          | 0.336945| 0.220307  | -0.613   | 0.003857   | 0.009495   |
| GCCR            | 0.178779| 0.046262  | -1.95027| 3.21E-07   | 2.43E-06   |
| CCDC151         | 2.972618| 1.315817  | -1.17578| 5.44E-11   | 7.63E-10   |
| SLC44A5         | 1.412473| 0.784529  | -0.84832| 5.23E-05   | 0.000224   |
| GPBAR1          | 0.412102| 0.625263  | 0.601462| 2.27E-19   | 5.69E-18   |
| AATK            | 1.610977| 0.896233  | -0.84599| 0.014792   | 0.030053   |
| GPR18           | 0.152543| 0.425069  | 1.478482| 1.40E-34   | 8.49E-33   |
| OR7G2           | 0.052054| 0.355871  | 2.773273| 0.007501   | 0.0168     |
| GNLY            | 0.988818| 4.385549  | 2.14898 | 8.99E-29   | 3.64E-27   |
| TBXAS1          | 0.89673 | 2.074717  | 1.21017 | 2.07E-34   | 1.23E-32   |
| LLRC7           | 0.126575| 0.073441  | -0.78533| 0.01147    | 0.02421    |
| ARHGAP30        | 2.179778| 4.643826  | 1.091132| 2.69E-32   | 1.35E-30   |
| APLP1           | 16.10029| 9.036113  | -0.83331| 5.17E-05   | 0.000222   |
| LILRB2          | 0.717724| 2.329556  | 1.698553| 1.24E-45   | 2.48E-43   |
| CARD16          | 3.360503| 5.747539  | 0.774267| 2.10E-20   | 5.56E-19   |
| ECM1            | 5.835438| 11.00171 | 0.914814| 1.66E-12   | 2.76E-11   |
| MPO             | 0.154208| 0.097241  | -0.66524| 0.00559    | 0.01306    |
| APOBEC3D        | 1.756763| 2.916656  | 0.731396| 1.03E-13   | 1.93E-12   |
| Gene       | conMean | treatMean | logFC | pValue  | FDR      |
|------------|---------|-----------|-------|---------|----------|
| KCNE4      | 0.981513| 1.624576  | 0.726984| 4.98E-09| 5.45E-08 |
| LRP2BP     | 0.617231| 0.405986  | -0.60438| 0.000876| 0.002634 |
| EVI2B      | 2.965639| 10.5126   | 1.825705| 4.71E-51| 3.66E-48 |
| CRTAM      | 0.190358| 0.535195  | 1.491349| 5.19E-33| 2.72E-31 |
| LCN2       | 152.8127| 312.6142  | 1.032619| 2.86E-08| 2.67E-07 |
| CRLF1      | 3.136423| 0.8087    | -1.95544| 2.35E-07| 1.83E-06 |
| RSAD2      | 6.319434| 9.765263  | 0.627863| 9.51E-09| 9.76E-08 |
| STOML3     | 0.442093| 0.206286  | -1.0997 | 3.36E-06| 1.98E-05 |
| EYA4       | 2.239723| 1.079203  | -1.05335| 4.71E-06| 2.67E-05 |
| CCNB1IP1   | 22.08391| 14.24674  | -0.63236| 6.03E-09| 6.48E-08 |
| DPYD       | 1.15929 | 2.773291  | 1.258357| 1.13E-31| 5.53E-30 |
| CNMD       | 0.455577| 0.056701  | -3.00625| 2.47E-05| 0.000115 |
| CD36       | 0.670604| 1.294021  | 0.948328| 1.66E-07| 1.34E-06 |
| GIMAP2     | 1.731343| 3.572371  | 1.044991| 2.97E-30| 1.32E-28 |
| VSIG4      | 7.502651| 22.25988  | 1.568974| 2.67E-33| 1.44E-31 |
| JAK2       | 1.165468| 1.818419  | 0.641775| 5.73E-17| 1.31E-15 |
| IGF2       | 499.1142| 306.0784  | -0.70547| 0.004551| 0.010968 |
| PLEKHF1    | 10.79394| 16.56107  | 0.617574| 1.08E-05| 5.59E-05 |
| GABBR1     | 3.596635| 2.383144  | -0.59378| 0.003302| 0.008315 |
| CSPG5      | 3.139305| 2.051803  | -0.61355| 0.000421| 0.001395 |
| SPAG17     | 0.678267| 0.438746  | -0.62847| 0.000779| 0.002382 |
| TAGAP      | 0.612713| 2.024077  | 1.72398 | 4.97E-47| 1.41E-44 |
| C3orf80    | 0.716286| 1.338887  | 0.902428| 6.82E-15| 1.38E-13 |
| TFF3       | 19.37541| 5.497983  | -1.81725| 0.001463| 0.004095 |
| RTP4       | 12.52086| 19.99129  | 0.675038| 4.22E-10| 5.37E-09 |
| EXOC3L4    | 0.439858| 0.709078  | 0.688906| 9.93E-07| 6.71E-06 |
| NNMT       | 19.05742| 42.06915  | 1.14241 | 1.45E-18| 3.53E-17 |
| LCP1       | 11.98115| 22.37889  | 0.901371| 4.68E-24| 1.49E-22 |
| GNG2       | 0.918112| 1.58926   | 0.791612| 5.14E-27| 1.92E-25 |
| CPED1      | 0.66033 | 0.988251  | 0.581691| 7.36E-14| 1.40E-12 |
| GPR37L1    | 0.786459| 0.489316  | -0.6846 | 0.00537 | 0.012617 |
| ZNF443     | 3.261855| 2.170413  | -0.58772| 0.000435| 0.001435 |
| FCAR       | 0.090424| 0.279281  | 1.626931| 4.79E-20| 1.23E-18 |
| TSPAN7     | 12.57886| 8.265182  | -0.60588| 3.18E-06| 1.89E-05 |
| NKAIN4     | 3.741489| 0.817336  | -2.19461| 2.91E-09| 3.30E-08 |
| SPINK1     | 12.42822| 0.270934  | -5.51954| 0.002359| 0.006208 |
| PRRX1      | 2.743212| 4.313499  | 0.652993| 5.20E-10| 6.56E-09 |
| TMPRSS9    | 0.481968| 0.215222  | -1.16311| 0.001779| 0.004855 |
| NWD1       | 0.759308| 0.311557  | -1.28519| 0.000116| 0.000451 |
| RGS22      | 0.515573| 0.247151  | -1.06078| 3.48E-05| 0.000157 |
| CD84       | 0.646445| 2.169294  | 1.746626| 1.45E-42| 1.70E-40 |
| PAQR6      | 2.513132| 1.587091  | -0.6631 | 0.001018| 0.003002 |
| C6orf1118  | 1.013996| 0.424477  | -1.25629| 2.45E-09| 2.82E-08 |
| PTH2R      | 4.488319| 2.701813  | -0.73225| 1.67E-06| 1.06E-05 |
| P2RY12     | 0.154766| 0.456483  | 1.560475| 2.05E-21| 5.65E-20 |
| LSP1       | 4.693619| 11.69524  | 1.317148| 9.84E-42| 1.03E-39 |
| Gene          | conMean | treatMean | logFC  | pValue   | FDR      |
|--------------|---------|-----------|--------|----------|----------|
| TGFBI        | 15.69954| 25.83417  | 0.71859| 1.29E-20 | 3.43E-19 |
| CD8A         | 0.804653| 3.388725  | 2.074303 | 5.31E-37 | 3.66E-35 |
| GRM6         | 0.176009| 0.103003  | -0.77296| 4.54E-08 | 4.07E-07 |
| DOCK10       | 0.465464| 1.045172  | 1.167   | 1.03E-33 | 5.79E-32 |
| BIN2         | 0.743907| 2.460104  | 1.725525| 3.92E-51 | 3.27E-48 |
| NR0B2        | 0.361644| 0.045954  | -2.9763 | 4.58E-06 | 2.60E-05 |
| RASSF4       | 1.841681| 3.2456    | 0.817462| 6.78E-23 | 2.03E-21 |
| PIH1D2       | 1.501036| 0.935697  | -0.68184| 3.02E-07 | 2.30E-06 |
| ITGAM        | 0.964525| 2.885584  | 1.580973| 1.26E-37 | 9.06E-36 |
| ATP7B        | 3.631143| 2.422697  | -0.58381| 4.66E-05 | 0.000202 |
| MMP20        | 0.071764| 0.129169  | 0.847936| 0.007357 | 0.016539 |
| HAND1        | 0.163663| 0.348212  | 1.08924 | 0.003343 | 0.0084   |
| IL2RA2       | 0.056898| 0.151561  | 1.413437| 1.54E-14 | 3.07E-13 |
| C2CD6        | 0.333788| 0.20892   | -0.67598| 0.00013  | 0.000498 |
| ITGAL        | 0.769218| 2.921306  | 1.92515 | 4.88E-45 | 8.13E-43 |
| LCK          | 0.845995| 2.209862  | 1.385234| 1.58E-32 | 8.00E-31 |
| CCL24        | 0.225967| 0.628287  | 1.475312| 1.68E-11 | 2.49E-10 |
| SLFN12L      | 0.088486| 0.228868  | 1.370997| 7.29E-29 | 2.96E-27 |
| STAT4        | 0.237136| 0.502639  | 1.08381 | 1.28E-37 | 9.13E-36 |
| DCDC2B       | 0.604233| 0.403538  | -0.5824 | 9.39E-05 | 0.000375 |
| SCN3B        | 0.594805| 0.378317  | -0.65282| 0.016518 | 0.03295 |
| TTYH1        | 5.416259| 2.489429  | -1.12148| 0.000247 | 0.000875 |
| PITPN1C      | 4.593978| 3.034542  | -0.59827| 1.35E-05 | 6.78E-05 |
| GMFG         | 2.775053| 7.174143  | 1.370291| 4.06E-47 | 1.20E-44 |
| IL7          | 0.269283| 0.500155  | 0.893254| 5.18E-22 | 1.48E-20 |
| GCK          | 1.258672| 0.512694  | -1.29573| 2.28E-08 | 2.18E-07 |
| TTLL2        | 0.167375| 0.077897  | -1.10345| 5.92E-06 | 3.28E-05 |
| WDFY4        | 0.237073| 0.716034  | 1.594696| 4.34E-33 | 2.28E-31 |
| ATP6V0D2     | 0.109363| 0.187004  | 0.773944| 0.000215 | 0.000777 |
| ICOS         | 0.123444| 0.631123  | 2.354114| 5.70E-40 | 4.84E-38 |
| B2M          | 319.9477| 673.3362  | 1.073491| 2.35E-34 | 1.39E-32 |
| ATP6V1FBN    | 1.001679| 0.621611  | -0.68834| 3.93E-07 | 2.91E-06 |
| DAW1         | 0.828463| 0.258176  | -1.68208| 0.000152 | 0.000574 |
| SIGLEC8      | 0.213844| 0.796325  | 1.896801| 3.20E-27 | 1.21E-25 |
| RAPGEPFL1    | 2.965738| 1.964541  | -0.5942 | 3.09E-05 | 0.000141 |
| LY6H         | 2.686195| 0.586717  | -2.19483| 0.004058 | 0.009914 |
| INHBA        | 2.243886| 5.204011  | 1.213625| 1.17E-10 | 1.57E-09 |
| TMEM178A     | 4.364554| 2.339173  | -0.89984| 6.35E-08 | 5.57E-07 |
| C7orf61      | 1.052439| 0.642826  | -0.71124| 0.002238 | 0.005931 |
| CYP1B1       | 3.501737| 6.177184  | 0.818879| 3.98E-08 | 3.60E-07 |
| ARHGEF6      | 0.959532| 2.033422  | 1.083507| 2.82E-31 | 1.35E-29 |
| ANKRD53      | 1.14201| 0.651799  | -0.80908| 1.47E-06 | 9.52E-06 |
| FAXC         | 0.384393| 0.206589  | -0.89582| 3.09E-05 | 0.000141 |
| RCSD1        | 0.582065| 1.514584  | 1.379669| 4.83E-37 | 3.34E-35 |
| SLC7A3       | 1.35963 | 0.581726  | -1.2248 | 0.00054  | 0.001732 |
| Gene      | conMean | treatMean | logFC  | pValue    | FDR       |
|-----------|---------|-----------|--------|-----------|-----------|
| IL16      | 0.452248| 1.06892   | 1.240967| 1.35E-31  | 6.53E-30  |
| ALX4      | 0.353704| 0.137601  | -1.36205| 0.004689  | 0.011247  |
| HIF3A     | 5.530299| 3.315234  | -0.73825| 0.000233  | 0.000831  |
| DNAH2     | 0.660038| 0.407011  | -0.69748| 1.00E-07  | 8.46E-07  |
| LAMA1     | 1.358738| 0.619032  | -1.13418| 2.73E-06  | 1.64E-05  |
| SIGLEC9   | 0.680734| 2.019204  | 1.568623| 2.61E-43  | 3.45E-41  |
| SOX6      | 0.880907| 0.476521  | -0.88645| 2.70E-08  | 2.54E-07  |
| VAMP5     | 10.42143| 22.06401  | 1.082141| 2.55E-33  | 1.38E-31  |
| MAP7D2    | 1.821274| 1.066083  | -0.77263| 0.000364  | 0.00123   |
| GAPT      | 0.454634| 1.317193  | 1.534689| 4.85E-26  | 1.69E-24  |
| COL9A3    | 4.703674| 0.979341  | -2.2639 | 9.40E-11  | 1.28E-09  |
| WDR17     | 0.205013| 0.113574  | -0.85208| 0.000394  | 0.001318  |
| TMEM198   | 2.938995| 1.373762  | -1.09719| 5.89E-10  | 7.36E-09  |
| BEX5      | 5.386479| 3.192778  | -0.75453| 0.001473  | 0.00415   |
| MT1M      | 3.512709| 7.271085  | 1.049587| 9.78E-10  | 1.18E-08  |
| LGALS9    | 13.91321| 21.6759   | 0.639637| 4.76E-16  | 1.03E-14  |
| FBXO2     | 15.06363| 9.047366  | -0.7355 | 3.04E-05  | 0.000139  |
| ATP2B3    | 0.222813| 0.117316  | -0.92543| 9.45E-09  | 9.71E-08  |
| GPR17     | 0.732773| 0.31122   | -1.23543| 7.17E-07  | 5.03E-06  |
| MAN1A1    | 4.065609| 8.529588  | 1.069005| 3.84E-20  | 9.94E-19  |
| C17orf50  | 0.296691| 0.153539  | -0.95035| 2.87E-10  | 3.72E-09  |
| FAM183A   | 9.314171| 3.561137  | -1.38709| 6.11E-05  | 0.000257  |
| PCSK1N    | 47.8831 | 22.38596  | -1.09692| 0.000396  | 0.001326  |
| MZB1      | 1.539285| 5.847403  | 1.925535| 2.12E-19  | 5.33E-18  |
| MRLN      | 0.151612| 0.066652  | -1.18567| 0.000583  | 0.001852  |
| UMODL1    | 0.300506| 0.106352  | -1.49855| 0.001661  | 0.004572  |
| HTR7      | 0.062442| 0.169071  | 1.43705 | 5.47E-25  | 1.83E-23  |
| PLPPR1    | 0.213373| 0.079678  | -1.42112| 4.59E-07  | 3.34E-06  |
| COLGALT2  | 0.46285 | 0.23312   | -0.98947| 0.008018  | 0.017791  |
| PIEZO1    | 4.433271| 6.722725  | 0.600675| 8.86E-07  | 6.06E-06  |
| COX6B2    | 0.284706| 0.185253  | -0.61998| 0.026592  | 0.049176  |
| ZNF732    | 0.893353| 0.586058  | -0.60819| 8.69E-05  | 0.000351  |
| CD3G      | 0.250587| 0.974761  | 1.959738| 3.16E-41  | 3.15E-39  |
| GPX2      | 0.468502| 0.188213  | -1.31569| 0.001487  | 0.00415   |
| LGALS12   | 0.098461| 0.240868  | 1.290615| 5.49E-17  | 1.26E-15  |
| FGFRL1    | 68.61344| 44.02942  | -0.64002| 2.49E-06  | 1.52E-05  |
| VSTM2B    | 1.432759| 0.550247  | -1.38064| 2.89E-11  | 4.18E-10  |
| RXFP4     | 0.287248| 0.176197  | -0.70511| 9.91E-05  | 0.000393  |
| C20orf96  | 19.59944| 12.84068  | -0.61009| 7.99E-12  | 1.24E-10  |
| CYP2C8    | 0.454134| 0.254668  | -0.8345 | 1.45E-05  | 7.28E-05  |
| ENTPD2    | 10.05878| 6.19906   | -0.69833| 0.000511  | 0.001649  |
| MMP11     | 24.36499| 46.61125  | 0.935869| 1.50E-06  | 9.66E-06  |
| LPAR6     | 2.57344 | 4.606319  | 0.839916| 6.18E-21  | 1.67E-19  |
| EFCAB12   | 0.830543| 0.406578  | -1.03052| 1.18E-08  | 1.19E-07  |
| ACSL5     | 7.946194| 12.16986  | 0.614976| 2.42E-11  | 3.53E-10  |
| ELL2      | 1.204576| 2.327146  | 0.950037| 1.57E-22  | 4.63E-21  |
| Gene       | conMean  | treatMean | logFC   | pValue     | FDR        |
|------------|----------|-----------|---------|------------|------------|
| C2orf50    | 1.302122 | 0.709914  | -0.87515| 0.004118   | 0.010034   |
| ITIH2      | 1.578296 | 0.180852  | -3.12548| 3.66E-06   | 2.14E-05   |
| AMHR2      | 0.656424 | 0.299427  | -1.13242| 1.37E-06   | 8.93E-06   |
| CCDC27     | 0.282839 | 0.169199  | -0.74126| 2.90E-08   | 2.70E-07   |
| GLI2       | 2.332248 | 1.538991  | -0.59974| 3.69E-05   | 0.000165   |
| DNAAF1     | 0.74243  | 0.370671  | -1.00212| 0.000867   | 0.002612   |
| APOE       | 116.1115 | 228.0668  | 0.973945| 2.01E-23   | 6.16E-22   |
| HBEGF      | 3.039455 | 5.271825  | 0.79449 | 1.50E-10   | 2.00E-09   |
| SERPINB4   | 0.091205 | 0.264429  | 1.535694| 0.017668   | 0.034881   |
| POU2F3     | 3.008788 | 4.854865  | 0.690249| 9.64E-06   | 5.04E-05   |
| SPATA4     | 0.192141 | 0.093408  | -1.04054| 9.98E-05   | 0.000395   |
| TLR7       | 0.490007 | 1.574848  | 1.684337| 3.18E-37   | 2.23E-35   |
| LRRC38     | 0.172236 | 0.09409   | -0.87227| 0.021522   | 0.041137   |
| FPR1       | 1.182879 | 4.004763  | 1.759415| 2.89E-34   | 1.69E-32   |
| PCDHB6     | 1.766297 | 0.70348   | -1.32815| 4.19E-07   | 3.07E-06   |
| PIGR       | 5.068102 | 10.57636  | 1.061326| 9.66E-08   | 8.17E-07   |
| CD300A     | 1.519012 | 4.05291   | 1.415825| 9.60E-42   | 1.01E-39   |
| ZFP42      | 1.315304 | 0.647017  | -1.02352| 0.012284   | 0.025684   |
| BLOC1S5-TXND5 | 0.163024 | 0.102348  | -0.6716 | 0.001664   | 0.004577   |
| LEFTY1     | 1.781789 | 0.372784  | -2.25691| 5.53E-06   | 3.09E-05   |
| GJB7       | 0.434338 | 0.214348  | -1.01886| 2.06E-05   | 9.85E-05   |
| KIF1A      | 13.20721 | 7.082728  | -0.89895| 3.30E-08   | 3.04E-07   |
| ZNF84      | 3.295015 | 2.168536  | -0.60356| 2.95E-11   | 4.26E-10   |
| ZNF229     | 2.175954 | 1.360867  | -0.67712| 9.14E-05   | 0.000366   |
| TCERG1L    | 0.220289 | 0.061721  | -1.83557| 2.45E-06   | 1.49E-05   |
| ZNF334     | 2.211599 | 1.349107  | -0.71309| 1.15E-08   | 1.16E-07   |
| FXYD1      | 2.87535  | 1.059731  | -1.44004| 3.70E-09   | 4.13E-08   |
| COX6A2     | 0.736881 | 0.421769  | -0.80498| 0.000113   | 0.000441   |
| ITGA11     | 2.180706 | 4.748424  | 1.122654| 1.97E-11   | 2.89E-10   |
| S1PR4      | 0.450366 | 1.447652  | 1.684544| 1.15E-44   | 1.81E-42   |
| CEACAM4    | 0.053695 | 0.209358  | 1.963115| 1.21E-31   | 5.85E-30   |
| ACO18630.2 | 0.149932 | 0.100237  | -0.58089| 5.90E-05   | 0.000249   |
| CSF3R      | 1.546139 | 4.042845  | 1.3867  | 2.13E-27   | 8.09E-26   |
| PKIA       | 1.914755 | 1.042844  | -0.87664| 0.002217   | 0.005883   |
| ZNF709     | 0.320432 | 0.193817  | -0.72532| 1.13E-07   | 9.44E-07   |
| TMEM150B   | 0.425977 | 1.222563  | 1.521061| 3.25E-37   | 2.27E-35   |
| GNG3       | 0.744632 | 0.38495   | -0.95186| 4.25E-07   | 3.11E-06   |
| EMLIN3     | 1.020856 | 0.260909  | -1.96816| 2.07E-07   | 1.64E-06   |
| IL1RN      | 4.406616 | 7.513215  | 0.769759| 6.22E-13   | 1.08E-11   |
| HLA-DQB1   | 17.83326 | 48.01605  | 1.428946| 1.58E-26   | 5.68E-25   |
| GPR135     | 0.791917 | 0.474717  | -0.73828| 1.42E-08   | 1.40E-07   |
| PLA2G4F    | 0.27809  | 0.145299  | -0.93653| 5.02E-05   | 0.000216   |
| KCP        | 1.407652 | 0.667375  | -1.07672| 4.00E-08   | 3.62E-07   |
| MEI1       | 0.313324 | 0.572679  | 0.870072| 8.16E-22   | 2.30E-20   |
| Gene   | conMean | treatMean | logFC   | pValue    | FDR     |
|--------|---------|-----------|---------|-----------|---------|
| ARHGAP15 | 0.200611 | 0.601756  | 1.58478 | 4.51E-50  | 2.36E-47|
| SPACA3  | 0.13979  | 0.062029  | -1.17224| 0.000738  | 0.002271|
| CD300E  | 0.233285 | 0.659917  | 1.500189| 1.56E-22  | 4.60E-21|
| S100A2  | 17.0465  | 27.26087  | 0.677356| 0.01053   | 0.022483|
| MPP1    | 2.114561 | 3.750685  | 0.826796| 1.64E-30  | 7.42E-29|
| SPEF1   | 4.057649 | 2.104304  | -0.9473 | 2.61E-07  | 2.01E-06|
| CPNE6   | 0.193584 | 0.053107  | -1.86599| 0.002254  | 0.005969|
| IRAK3   | 0.446642 | 0.79793   | 0.837144| 2.78E-13  | 4.97E-12|
| PIK3CG  | 0.276878 | 0.814641  | 1.556916| 1.94E-33  | 1.07E-31|
| EPST11  | 4.421985 | 8.292955  | 0.907192| 3.66E-19  | 9.09E-18|
| GZMA    | 1.488547 | 6.584629  | 2.145198| 1.98E-45  | 3.69E-43|
| SLC19A3 | 1.01881  | 1.852299  | 0.862431| 5.53E-07  | 3.96E-06|
| GPR162  | 3.445648 | 2.278255  | -0.59685| 0.000551  | 0.001764|
| DAB2    | 4.939872 | 7.195457  | 0.711594| 6.22E-19  | 1.53E-17|
| PLAU    | 13.19132 | 31.22352  | 1.243044| 4.08E-20  | 1.05E-18|
| TRPM2   | 2.221079 | 3.600611  | 0.696981| 1.55E-15  | 3.27E-14|
| GPR50   | 0.211473 | 0.116444  | -0.86084| 8.78E-05  | 0.000354|
| GZMM    | 0.298653 | 1.168268  | 1.967831| 2.92E-44  | 4.40E-42|
| TMEM190 | 3.747497 | 1.454133  | -1.36577| 9.36E-08  | 7.96E-07|
| IL18BP  | 2.494965 | 4.665357  | 0.902968| 9.86E-27  | 3.59E-25|
| SFTP     | 0.493671 | 0.776434  | 0.653313| 0.000249  | 0.000883|
| LLRC15  | 2.131778 | 4.626276  | 1.117794| 1.86E-09  | 2.18E-08|
| THBS4   | 3.462392 | 1.795161  | -0.94766| 1.64E-05  | 8.08E-05|
| MAPK4   | 0.257126 | 0.095804  | -1.42431| 7.04E-08  | 6.14E-07|
| FYB2    | 0.959826 | 0.500858  | -0.93837| 0.012192  | 0.025519|
| KCNIP1  | 1.763025 | 0.724236  | -1.28352| 1.49E-05  | 7.42E-05|
| HS3ST2  | 0.327687 | 0.549124  | 0.744812| 0.003507  | 0.008751|
| HRH2    | 0.399128 | 0.684557  | 0.778318| 5.26E-12  | 8.34E-11|
| UROC1   | 0.152089 | 0.088283  | -0.7847 | 0.012838  | 0.026704|
| IL21R   | 0.152858 | 0.812758  | 2.410631| 1.35E-44  | 2.10E-42|
| MYOC    | 1.234654 | 0.202233  | -2.61002| 0.003682  | 0.009124|
| DIRC1   | 0.043542 | 0.165333  | 1.924903| 2.79E-10  | 3.62E-09|
| COL16A1 | 3.288954 | 5.019485  | 0.60991 | 4.01E-07  | 2.96E-06|
| HLA-DPB1 | 42.93522 | 121.3246  | 1.498638| 5.08E-39  | 4.05E-37|
| APOBEC3H| 0.381366 | 0.954832  | 1.32407 | 8.80E-33  | 4.54E-31|
| TNFAIP8L2 | 1.586251 | 4.893287  | 1.625183| 6.24E-51  | 4.21E-48|
| GJA8    | 0.54428  | 0.312412  | -0.8099 | 0.014909  | 0.03023|
| SLCO6A1 | 0.135846 | 0.070908  | -0.93795| 2.25E-05  | 0.000106|
| TMC8    | 1.371722 | 3.061207  | 1.158113| 5.31E-34  | 3.01E-32|
| NANOS3  | 1.650652 | 1.093967  | -0.59347| 5.70E-06  | 3.17E-05|
| SLAMF1  | 0.095368 | 0.422334  | 2.146285| 6.28E-43  | 7.80E-41|
| WSCD2   | 0.566273 | 0.195142  | -1.53697| 0.023937  | 0.044983|
| PIK3R6  | 0.393646 | 0.708724  | 0.848327| 6.43E-25  | 2.14E-23|
| CD300C  | 0.53143  | 1.66538   | 1.647898| 3.55E-42  | 3.96E-40|
| PLPPR3  | 0.997695 | 0.481779  | -1.05023| 0.019414  | 0.03778|
| HLA-DMA | 31.19355 | 67.76423  | 1.119276| 7.82E-27  | 2.86E-25|
**Gene** | **conMean** | **treatMean** | **logFC** | **pValue** | **FDR**
--- | --- | --- | --- | --- | ---
SMPDL3A | 1.384374 | 2.431805 | 0.812794 | 1.18E-22 | 3.51E-21
CERS1 | 0.495387 | 0.293285 | -0.75626 | 4.45E-11 | 6.30E-10
CD28 | 0.234303 | 0.432996 | 0.885978 | 1.32E-16 | 2.96E-15
SMIM17 | 0.319494 | 0.207688 | -0.62137 | 0.001035 | 0.003045
EV12A | 1.642562 | 4.974829 | 1.598699 | 9.94E-45 | 1.60E-42
LILRA2 | 0.194734 | 0.527004 | 1.436307 | 2.02E-30 | 9.08E-29
TREML1 | 0.195132 | 0.410285 | 1.072193 | 4.27E-16 | 9.35E-15
COL6A2 | 74.658866 | 113.8706 | 0.69091 | 5.88E-06 | 3.26E-05
MLXIPL | 6.698269 | 3.46654 | -0.95029 | 4.38E-07 | 3.19E-06
PLXNC1 | 1.369012 | 2.293795 | 0.744601 | 2.18E-21 | 6.00E-20
PSMB9 | 12.98289 | 29.90935 | 1.203986 | 6.28E-24 | 1.98E-22
SERPINF1 | 21.72716 | 38.97876 | 0.843188 | 2.33E-15 | 4.88E-14
VNN1 | 1.18896 | 1.946314 | 0.724325 | 4.74E-17 | 1.09E-15
PLCB1 | 1.791609 | 1.162368 | -0.62419 | 1.31E-07 | 1.08E-06
C11orf97 | 1.061483 | 0.31343 | -1.75986 | 0.001251 | 0.003578
ZNF723 | 0.179692 | 0.114901 | -0.64513 | 0.001139 | 0.003296
USH1G | 0.316801 | 0.184054 | -0.78345 | 0.008391 | 0.018501
CX3CR1 | 2.208005 | 4.781927 | 1.114848 | 8.42E-12 | 1.30E-10
DISP3 | 0.631887 | 0.116875 | -2.43471 | 1.99E-13 | 3.65E-12
GBX1 | 0.170967 | 0.086005 | -0.99122 | 3.69E-05 | 0.000165
ETV7 | 2.160683 | 4.474514 | 1.050244 | 5.08E-19 | 1.26E-17
CAMK2N2 | 2.7355 | 1.642014 | -0.73634 | 0.009711 | 0.020965
CDHR2 | 0.175243 | 0.112546 | -0.63884 | 0.003025 | 0.007709
CCL7 | 0.654502 | 1.773396 | 1.438046 | 2.09E-12 | 3.43E-11
CXCL17 | 42.96809 | 77.63137 | 0.853374 | 6.48E-07 | 4.58E-06
AOAH | 1.108362 | 3.007294 | 1.440037 | 1.92E-39 | 1.60E-37
ACSM5 | 0.102517 | 0.158044 | 0.624466 | 7.52E-11 | 1.04E-09
MLKL | 0.73335 | 1.477064 | 1.010158 | 4.62E-31 | 2.17E-29
MRV1 | 1.275424 | 2.3114 | 0.857789 | 4.26E-12 | 6.82E-11
SLC6A11 | 1.032054 | 0.631363 | -0.70898 | 0.002176 | 0.005785
TIGIT | 0.128152 | 0.519911 | 2.02041 | 1.95E-39 | 1.61E-37
PFN3 | 0.243039 | 0.124027 | -0.97054 | 0.008268 | 0.01827
MAFB | 15.05119 | 22.59864 | 0.586359 | 4.95E-12 | 7.91E-11
IFI30 | 0.448586 | 0.918402 | 1.037343 | 7.72E-28 | 3.00E-26
HYDIN | 0.322751 | 0.157423 | -1.03577 | 9.61E-11 | 1.31E-09
IGSF1 | 0.815366 | 0.463002 | -0.81643 | 0.000122 | 0.000472
BATF | 1.558997 | 3.417429 | 1.132294 | 1.16E-29 | 4.99E-28
CD4 | 7.665064 | 19.79099 | 1.368474 | 1.28E-43 | 1.76E-41
APBB1IP | 1.460185 | 4.860831 | 1.735051 | 6.88E-47 | 1.87E-44
RNF213 | 7.344764 | 11.61809 | 0.661585 | 7.44E-12 | 1.16E-10
HLA-DQA2 | 7.343987 | 23.50991 | 1.678634 | 1.04E-16 | 2.36E-15
ADRB1 | 0.172834 | 0.308848 | 0.83751 | 8.35E-09 | 8.74E-08
TSPAN8 | 2.74012 | 1.658193 | -0.72463 | 3.92E-06 | 2.27E-05
SLC35F1 | 0.343551 | 0.142503 | -1.26953 | 0.001113 | 0.003233
IFIT2 | 8.006765 | 12.09502 | 0.595122 | 1.84E-08 | 1.79E-07
| Gene     | conMean | treatMean | logFC  | pValue     | FDR       |
|----------|---------|-----------|--------|------------|-----------|
| SFRP2   | 27.69741 | 59.30107  | 1.098307 | 5.13E-07   | 3.69E-06  |
| COL6A6  | 0.281908  | 0.43955   | 0.6408  | 8.15E-08   | 6.99E-07  |
| TEX14   | 0.171036  | 0.105861  | -0.69213 | 0.00072    | 0.002223  |
| CCN4    | 1.546727  | 3.271406  | 1.080693 | 4.51E-13   | 7.91E-12  |
| LRRC18  | 0.206894  | 0.09803   | -1.0776 | 0.001952   | 0.005258  |
| FLNC    | 4.620406  | 2.793497  | -0.72595 | 0.013792   | 0.028337  |
| SLC46A2 | 0.142832  | 0.219046  | 0.616918 | 5.45E-09   | 6.85E-09  |
| SOBP    | 1.840426  | 1.064666  | -0.78964 | 2.96E-05   | 0.000136  |
| CARD6   | 1.717942  | 2.902543  | 0.756636 | 9.51E-15   | 1.91E-13  |
| CDHR3   | 1.056634  | 0.365971  | -1.52968 | 3.54E-08   | 3.24E-07  |
| PTPRT   | 0.950419  | 0.330823  | -1.5225 | 7.27E-08   | 6.32E-07  |
| UNC5A   | 5.537409  | 9.680852  | 0.805923 | 4.72E-05   | 0.000204  |
| BNC1    | 0.583866  | 1.310156  | 1.166029 | 6.21E-06   | 3.42E-05  |
| PIK3CD  | 2.926883  | 4.471412  | 0.611363 | 4.55E-12   | 7.27E-11  |
| TMEM229B| 0.626829  | 1.127126  | 0.846506 | 2.38E-18   | 5.77E-17  |
| RAB7B   | 1.240774  | 2.234098  | 0.848452 | 5.88E-15   | 1.20E-13  |
| CNGA4   | 0.406678  | 0.188469  | -1.10956 | 0.000595   | 0.001885  |
| CHGB    | 1.308117  | 0.146454  | -3.15897 | 0.006897   | 0.015638  |
| SOHLH2  | 0.159057  | 0.094875  | -0.74543 | 0.000607   | 0.00192   |
| CAFP300 | 3.103357  | 1.904067  | -0.70475 | 2.00E-05   | 9.57E-05  |
| SIGLEC10| 0.806142  | 2.73027   | 1.759938 | 4.55E-41   | 4.39E-39  |
| F13A1   | 4.640529  | 8.438679  | 0.862728 | 1.59E-11   | 2.37E-10  |
| KCNJ12  | 1.741825  | 1.012892  | -0.78212 | 8.09E-07   | 5.61E-06  |
| LGR5    | 14.64064  | 5.194224  | -1.495  | 1.08E-10   | 1.46E-09  |
| CCL23   | 0.088301  | 0.276263  | 1.645546 | 2.32E-23   | 7.07E-22  |
| SERPINE1| 13.6753   | 32.45592  | 1.246909 | 2.94E-08   | 2.73E-07  |
| TPPP3   | 18.18788  | 9.236045  | -0.97763 | 9.56E-09   | 9.79E-08  |
| RHBDL3  | 0.353782  | 0.150346  | -1.23457 | 0.018263   | 0.026886  |
| IKZF3   | 0.478026  | 1.033029  | 1.11172  | 2.49E-22   | 7.27E-21  |
| CD244   | 0.069359  | 0.287223  | 2.050018 | 2.57E-43   | 3.44E-41  |
| ASXL3   | 0.211421  | 0.072753  | -1.53903 | 1.34E-06   | 8.76E-06  |
| SH2D1A  | 0.156811  | 0.675442  | 2.106803 | 1.37E-41   | 1.39E-39  |
| TUBB4A  | 8.846317  | 4.738672  | -0.90059 | 3.48E-05   | 0.000157  |
| PARVG   | 1.296086  | 2.030121  | 0.647404 | 2.35E-15   | 4.91E-14  |
| IRF8    | 0.989213  | 2.567885  | 1.376227 | 3.88E-35   | 2.40E-33  |
| C5AR1   | 3.646301  | 8.05188  | 1.142892 | 6.28E-24   | 1.98E-22  |
| SAMD11  | 6.929574  | 3.349801  | -1.04869 | 1.96E-05   | 9.43E-05  |
| C2CD4B  | 3.279262  | 5.789843  | 0.820153 | 0.001999   | 0.000726  |
| FOXI3   | 2.731226  | 1.706055  | -0.67888 | 0.026752   | 0.049407  |
| FNDC1   | 3.799424  | 8.000925  | 1.074386 | 4.74E-08   | 4.24E-07  |
| NTF3    | 2.806419  | 1.728921  | -0.69886 | 0.002471   | 0.006473  |
| ABLIM3  | 0.392009  | 0.608232  | 0.633736 | 2.02E-09   | 2.35E-08  |
| FSTL5   | 0.150177  | 0.087132  | -0.78539 | 0.003054   | 0.007774  |
| PAPPA2  | 0.43927   | 0.034059  | -3.68902 | 0.002533   | 0.006614  |
| SPN     | 0.406049  | 1.0117    | 1.317055 | 1.46E-41   | 1.48E-39  |
| ZNF469  | 1.38461   | 2.473722  | 0.837203 | 4.80E-07   | 3.47E-06  |
| Gene         | conMean | treatMean | logFC | pValue   | FDR     |
|--------------|---------|-----------|-------|----------|---------|
| DRC7         | 0.703658| 0.358761  | -0.97185 | 5.15E-05 | 0.002211 |
| IL10         | 0.773218| 1.471695  | 0.928531 | 1.16E-15 | 2.48E-14 |
| PTC2         | 1.261127| 0.735302  | -0.77831 | 2.26E-06 | 1.39E-05 |
| CDK5R2       | 0.464243| 0.195885  | -1.24487 | 0.018003 | 0.035433 |
| ISM1         | 3.071503| 4.778409  | 0.637586 | 2.29E-05 | 0.000108 |
| CFAP46       | 0.489628| 0.267553  | -0.87186 | 1.72E-05 | 8.43E-05 |
| DIO2         | 0.454124| 0.888132  | 0.967688 | 6.52E-09 | 6.96E-08 |
| OR2T8        | 0.260102| 0.110809  | -1.23101 | 0.004988 | 0.011856 |
| CSTA         | 2.769034| 4.888989  | 0.820153 | 7.23E-13 | 1.24E-11 |
| ADAMTS12     | 1.483253| 2.549831  | 0.781637 | 1.12E-05 | 5.73E-05 |
| XCL2         | 0.598932| 2.659799  | 2.150853 | 4.28E-40 | 3.72E-38 |
| LRGUK        | 0.643409| 0.421496  | -0.61022 | 5.43E-06 | 3.04E-05 |
| PTCRA        | 0.062307| 0.175282  | 1.4922   | 2.25E-25 | 7.76E-24 |
| MAATS1       | 1.686282| 0.99515   | -0.76086 | 3.93E-09 | 4.38E-08 |
| OLFML2B      | 7.591406| 11.70109  | 0.622404 | 3.28E-13 | 5.82E-12 |
| TRIM22       | 5.828108| 11.65409  | 0.999737 | 1.43E-23 | 4.41E-22 |
| MYO1G        | 0.531531| 1.247155  | 1.230415 | 2.24E-36 | 1.53E-34 |
| ADAM8        | 4.462303| 9.165149  | 1.03837  | 3.56E-22 | 1.03E-20 |
| MMP7         | 74.71379| 120.7807  | 0.692944 | 0.001228 | 0.003522 |
| ZDHHC11B     | 0.771894| 0.438011  | -0.81744 | 1.00E-10 | 1.36E-09 |
| ZNF208       | 0.894056| 0.44549   | -1.00497 | 9.15E-06 | 4.82E-05 |
| RBM20        | 0.197575| 0.127157  | -0.63579 | 8.83E-05 | 0.000355 |
| CLEC4E       | 0.386161| 1.688235  | 2.12824  | 2.46E-39 | 2.01E-37 |
| SALL1        | 1.851026| 0.472356  | -1.97038 | 0.000435 | 0.001435 |
| CFAP206      | 0.220377| 0.141458  | -0.63959 | 0.002855 | 0.007344 |
| ZCCHC18      | 0.304425| 0.168327  | -0.85482 | 5.55E-07 | 3.98E-06 |
| ZKSCAN7      | 1.652597| 1.094552  | -0.59439 | 6.60E-11 | 9.19E-10 |
| ARNT2        | 6.217314| 3.700542  | -0.74855 | 1.64E-08 | 1.61E-07 |
| KIAA1549     | 2.33583 | 1.246078  | -0.90654 | 6.14E-13 | 1.06E-11 |
| ADAM11       | 0.630205| 0.380813  | -0.72674 | 3.24E-06 | 1.92E-05 |
| HLA-DRB1     | 182.9028| 458.2115  | 1.324937 | 1.21E-31 | 5.87E-30 |
| CTHRC1       | 25.48923| 46.9318   | 1.11386  | 1.43E-08 | 1.32E-07 |
| MEX3B        | 1.45957 | 0.850006  | -0.78    | 0.000597 | 0.001891 |
| GAB3         | 0.295233| 0.768029  | 1.37931  | 3.19E-39 | 2.59E-37 |
| KCNAB2       | 2.15122 | 3.424982  | 0.670942 | 2.36E-20 | 6.22E-19 |
| PTPRC        | 1.024871| 3.971295  | 1.954167 | 6.84E-54 | 1.61E-50 |
| SIGLEC7      | 0.585734| 1.628619  | 1.475332 | 3.88E-35 | 2.40E-33 |
| SULF1        | 9.234977| 22.9895   | 1.315795 | 5.15E-15 | 1.05E-13 |
| KLHL41       | 0.355639| 0.134008  | -1.40809 | 1.43E-08 | 1.42E-07 |
| MEFV         | 0.079125| 0.166086  | 1.069729 | 3.94E-24 | 1.26E-22 |
| ARMC4        | 0.641451| 0.296387  | -1.11386 | 8.80E-09 | 9.17E-08 |
| TNFRSF1B     | 4.791608| 10.65009  | 1.152284 | 2.11E-30 | 9.45E-29 |
| CD40LG       | 0.103284| 0.438454  | 2.085813 | 8.91E-35 | 5.47E-33 |
| PDGFRA       | 2.104513| 3.147616  | 0.580773 | 1.69E-05 | 8.31E-05 |
| ANTXR2       | 1.161513| 1.839129  | 0.663017 | 4.82E-11 | 6.82E-10 |
| Gene    | conMean | treatMean | logFC  | pValue     | FDR      |
|---------|---------|-----------|--------|------------|----------|
| LYNXI1  | 5.32431 | 8.929081  | 0.745917 | 0.006975   | 0.015784 |
| EREG    | 0.088818 | 0.176471  | 0.990505 | 1.99E-06   | 1.25E-05 |
| IGFL2   | 0.455664 | 1.910213  | 2.067692 | 6.32E-18   | 1.51E-16 |
| ZNF738  | 8.080041 | 4.853339  | -0.73538 | 5.42E-10   | 6.82E-09 |
| ANO2    | 0.878363 | 0.474561  | -0.888222 | 4.47E-08   | 4.02E-07 |
| PRLH    | 0.459676 | 0.178826  | -1.36207 | 0.013895   | 0.028522 |
| MGAT5B  | 1.142317 | 0.481279  | -1.24702 | 2.18E-05   | 0.000103 |
| LRCOL1  | 0.344672 | 0.180949  | -0.92964 | 0.000268   | 0.000944 |
| ZNF781  | 0.272188 | 0.172162  | -0.660842 | 0.009711   | 0.020965 |
| ZBTB16  | 0.363209 | 0.642503  | 0.822904 | 2.61E-07   | 2.01E-06 |
| NNX6-1  | 3.426209 | 1.107222  | -1.62967 | 1.02E-05   | 5.31E-05 |
| DNMT3A  | 7.273665 | 4.784516  | -0.60431 | 5.51E-09   | 5.96E-08 |
| UBXN10  | 4.772642 | 3.158235  | -0.59567 | 0.00087    | 0.00262  |
| IFI35   | 13.43451 | 23.23118  | 0.790118 | 6.51E-17   | 1.49E-15 |
| SLT1    | 0.372579 | 0.087753  | -2.08603 | 0.000146   | 0.000554 |
| GIMAP4  | 3.910678 | 11.02292  | 1.495016 | 1.79E-48   | 6.86E-46 |
| CLEC5A  | 0.981894 | 2.642719  | 1.428384 | 1.02E-27   | 3.90E-26 |
| CCL5    | 6.963152 | 32.07291  | 2.035432 | 6.85E-48   | 2.31E-45 |
| ATP10A  | 1.23659  | 1.856396  | 0.586138 | 9.93E-09   | 1.01E-07 |
| CLEC4M  | 0.265051 | 0.101055  | -1.39113 | 0.000366   | 0.001237 |
| GRAP2   | 0.074542 | 0.27682   | 1.892823 | 4.01E-41   | 3.95E-39 |
| IQCN    | 4.336352 | 2.657537  | -0.70639 | 2.16E-06   | 1.34E-05 |
| CH3L2   | 0.887055 | 2.018714  | 1.186341 | 7.85E-15   | 1.58E-13 |
| PAPSS2  | 2.368631 | 3.98969   | 0.752223 | 2.50E-12   | 4.07E-11 |
| STK33   | 1.29193  | 0.764268  | -0.75738 | 9.40E-12   | 1.44E-10 |
| CABCOCO1| 1.522353 | 0.56914   | -1.41945 | 5.70E-09   | 6.15E-08 |
| ICAM3   | 0.129591 | 0.448721  | 1.791855 | 2.09E-39   | 1.73E-37 |
| ZC3H12D | 0.137202 | 0.316885  | 1.207651 | 5.20E-30   | 2.28E-28 |
| MMP25   | 0.409823 | 0.646223  | 0.657032 | 1.93E-10   | 2.54E-09 |
| DGKK    | 0.345153 | 0.166586  | -1.05097 | 0.006019   | 0.013922 |
| NGEF    | 5.252223 | 3.40201   | -0.62654 | 0.001077   | 0.003145 |
| CYP4F22 | 0.034966 | 0.248386  | 2.828547 | 1.12E-26   | 4.04E-25 |
| CXCL14  | 12.34666 | 19.24505  | 0.640367 | 1.39E-06   | 9.05E-06 |
| CHRND   | 0.279671 | 0.057985  | -2.26997 | 5.03E-11   | 7.09E-10 |
| CHRNG   | 0.346254 | 0.096638  | -1.84116 | 1.03E-05   | 5.36E-05 |
| IFT81   | 2.771738 | 1.719924  | -0.68845 | 2.82E-14   | 5.52E-13 |
| MS4A7   | 1.972777 | 5.150601  | 1.384513 | 1.17E-35   | 7.51E-34 |
| CFAP221 | 0.426932 | 0.194454  | -1.13458 | 2.76E-07   | 2.11E-06 |
| GLIPR1  | 1.442132 | 3.046852  | 1.079116 | 6.36E-33   | 3.31E-31 |
| FXYD4   | 3.166774 | 1.864185  | -0.76447 | 4.13E-05   | 0.000182 |
| GPNMB   | 14.95005 | 30.41151  | 1.024467 | 1.00E-21   | 2.82E-20 |
| TOX2    | 2.905902 | 1.896344  | -0.61577 | 0.002456   | 0.006437 |
| SLCO1B3 | 0.128888 | 0.27652   | 1.10127  | 0.013584   | 0.027988 |
| FBP2    | 0.143057 | 0.079089  | -0.85503 | 0.001484   | 0.004146 |
| ARHGAP31| 1.1228   | 2.017225  | 0.845271 | 1.95E-18   | 4.74E-17 |
| TNFAIP6 | 1.944008 | 3.746982  | 0.946695 | 3.50E-15   | 7.22E-14 |
| Gene         | conMean | treatMean | logFC    | pValue     | FDR      |
|-------------|---------|-----------|----------|------------|----------|
| GNGT2       | 0.459305| 0.985089  | 1.100802 | 7.65E-34   | 4.32E-32 |
| RBPI       | 2.326806| 0.15599   | -3.89882 | 4.60E-05   | 0.0002   |
| TOX3        | 0.912494| 0.201012  | -2.18253 | 6.16E-06   | 3.40E-05 |
| PTF1A       | 1.283284| 0.106002  | -3.59768 | 0.0002     | 0.00073  |
| TNFRSF4     | 1.768859| 3.303072  | 0.900989 | 4.53E-21   | 1.23E-19 |
| KIF5C       | 2.546394| 1.700709  | -0.58232 | 3.10E-06   | 1.84E-05 |
| HLA-DRB5    | 53.94572| 137.4763  | 1.349602 | 1.14E-19   | 2.89E-18 |
| CFAP52      | 0.717225| 0.36184   | -0.98707 | 8.24E-06   | 4.40E-05 |
| ZSCAN23     | 0.272815| 0.18047   | -0.59617 | 5.34E-05   | 0.000228 |
| LYN         | 5.877813| 9.516139  | 0.695097 | 3.94E-22   | 1.14E-20 |
| GFPT2       | 1.53821 | 2.627329  | 0.772344 | 2.45E-08   | 2.33E-07 |
| SGK2        | 0.821678| 0.462769  | -0.82828 | 3.51E-05   | 0.000158 |
| VGLL3       | 0.375551| 0.83381   | 1.15071  | 3.28E-10   | 4.23E-09 |
| WNK2        | 4.390131| 2.265023  | -0.95474 | 1.59E-12   | 2.66E-11 |
| SLCSA5      | 0.45214 | 0.690029  | 0.609887 | 0.011319   | 0.023947 |
| STK10       | 2.062999| 3.351254  | 0.699958 | 2.59E-20   | 6.82E-19 |
| FAM241A     | 0.323076| 0.581197  | 0.847152 | 3.17E-20   | 8.26E-19 |
| CALML5      | 5.797864| 19.0672   | 1.7175   | 2.45E-06   | 1.50E-05 |
| GLRA2       | 0.260623| 0.150865  | -0.78871 | 0.000216   | 0.000778 |
| PLCH1       | 1.062302| 0.547541  | -0.95616 | 9.65E-07   | 6.54E-06 |
| VAV1        | 1.825827| 3.524929  | 0.949044 | 3.25E-25   | 1.11E-23 |
| NOTUM       | 18.3608 | 2.270911  | -3.01529 | 0.007274   | 0.016375 |
| LTB         | 5.228298| 13.26674  | 1.3434   | 5.24E-24   | 1.67E-22 |
| USP44       | 0.53874 | 0.303637  | -0.82724 | 7.86E-05   | 0.00032 |
| RXRG        | 3.453229| 1.009868  | -1.77378 | 4.62E-07   | 3.35E-06 |
| SBK2        | 1.963521| 0.789617  | -1.31422 | 0.001227   | 0.003522 |
| BHLHE22     | 0.102968| 0.299046  | 1.538177 | 2.77E-20   | 7.28E-19 |
| FGFR3       | 6.160079| 2.814401  | -1.13012 | 1.20E-05   | 6.11E-05 |
| IL12RB1     | 0.318999| 1.055399  | 1.726167 | 8.23E-46   | 1.74E-43 |
| RCR2        | 11.82706| 4.294972  | -1.46137 | 7.20E-16   | 1.56E-14 |
| C11orf96    | 6.189591| 9.479366  | 0.614946 | 0.000316   | 0.001088 |
| PIM2        | 10.30983| 16.27496  | 0.658633 | 3.01E-11   | 4.33E-10 |
| OLFM2       | 16.08627| 8.9164   | -0.8513  | 0.000624   | 0.001962 |
| TTC29       | 0.304718| 0.115586  | -1.39851 | 0.001293   | 0.003683 |
| LRRTM4      | 0.255777| 0.141947  | -0.84954 | 0.000272   | 0.000956 |
| KREMEN2     | 5.854187| 3.656978  | -0.67882 | 8.26E-05   | 0.000335 |
| RIN3        | 3.056166| 4.598266  | 0.589367 | 1.45E-15   | 3.06E-14 |
| GJC2        | 3.772878| 1.859396  | -1.02083 | 8.88E-06   | 4.69E-05 |
| AC013470.2  | 0.214528| 0.12981   | -0.72476 | 3.68E-05   | 0.000164 |
| RASL11A     | 6.088576| 9.431237  | 0.631342 | 7.49E-06   | 4.05E-05 |
| RNASE2      | 0.974485| 3.080499  | 1.660453 | 2.01E-32   | 1.02E-30 |
| FCGR3A      | 7.738628| 25.983    | 1.747418 | 3.49E-41   | 3.46E-39 |
| LY96        | 4.300129| 11.66202  | 1.439365 | 1.09E-41   | 1.13E-39 |
| CXCL12      | 7.909977| 13.86351  | 0.809547 | 2.25E-09   | 2.60E-08 |
| SAA1        | 18.20831| 29.73771  | 0.707696 | 2.87E-11   | 4.16E-10 |

**Supplementary Material**
| Gene    | conMean   | treatMean  | logFC  | pValue   | FDR      |
|---------|-----------|------------|--------|----------|----------|
| FGF8    | 0.239804  | 0.030582   | -2.97109 | 4.58E-07 | 3.33E-06 |
| ALOX5AP | 7.121158  | 25.42028   | 1.835796 | 2.13E-40 | 1.91E-38 |
| VWA5B1  | 0.145181  | 0.064056   | -1.18045 | 7.87E-06 | 4.23E-05 |
| PCSK2   | 1.125122  | 0.580248   | -0.95534 | 0.000247 | 0.000875 |
| FANK1   | 1.731263  | 1.149766   | -0.59048 | 2.05E-06 | 1.28E-05 |
| NPIPB6  | 0.213075  | 0.135164   | -0.65665 | 3.71E-06 | 2.16E-05 |
| SCG5    | 11.06614  | 5.614406   | -0.97895 | 1.75E-05 | 8.55E-05 |
| TAS2R31 | 0.210458  | 0.138804   | -0.60048 | 7.60E-05 | 0.000311 |
| ROR1    | 3.634994  | 2.318087   | -0.64902 | 5.69E-05 | 0.000241 |
| FGF17   | 5.024938  | 0.211707   | -4.56896 | 8.45E-17 | 1.92E-15 |
| LRRC73  | 2.523321  | 1.462025   | -0.78736 | 6.09E-06 | 3.36E-05 |
| PRSS3   | 0.741761  | 0.261635   | -1.5034   | 0.009085 | 0.002916 |
| ICA1L   | 0.963259  | 0.60001    | -0.68294 | 3.83E-12 | 6.15E-11 |
| P4HA3   | 0.412387  | 0.684338   | 0.730814  | 4.79E-08 | 4.28E-07 |
| SR5F12  | 1.282398  | 0.780005   | -0.71729 | 1.17E-06 | 7.74E-06 |
| C10orf82| 1.079425  | 0.392287   | -1.46028 | 1.26E-08 | 1.26E-07 |
| PRSS56  | 0.202104  | 0.043173   | -2.2269   | 6.17E-10 | 7.68E-09 |
| DPEP2   | 0.285953  | 0.620251   | 1.117073  | 6.48E-28 | 2.54E-26 |
| EFS     | 7.388144  | 4.779816   | -0.62826 | 0.002502 | 0.006542 |
| MTMR7   | 0.523020  | 0.348575   | -0.5854  | 2.14E-07 | 1.69E-06 |
| DNA12   | 0.466144  | 0.171137   | -1.44562 | 3.46E-07 | 2.59E-06 |
| SLC22A23| 3.382242  | 2.196191   | -0.62298 | 0.000399 | 0.001334 |
| LRRC52  | 0.29357   | 0.108453   | -1.43664 | 1.11E-05 | 5.72E-05 |
| TTC21A  | 1.271322  | 0.822661   | -0.62796 | 1.98E-06 | 1.24E-05 |
| HAPLN2  | 0.259223  | 0.147790   | -0.81056 | 8.28E-06 | 4.42E-05 |
| SORCS1  | 0.686576  | 0.191878   | -1.83923 | 0.001014 | 0.002993 |
| CHRNA6  | 0.107448  | 0.239903   | 1.158818 | 7.85E-11 | 1.08E-09 |
| DUSP15  | 2.003493  | 0.978523   | -1.03384 | 5.95E-12 | 9.40E-11 |
| STUM    | 0.54064   | 0.257788   | -1.06848 | 6.17E-06 | 3.40E-05 |
| CD69    | 0.847784  | 2.545512   | 1.586187 | 5.18E-32 | 2.56E-30 |
| HLA-DRA | 379.567   | 972.445    | 1.357262 | 2.44E-34 | 1.43E-32 |
| MMP2    | 39.04674  | 72.63186   | 0.8954  | 7.74E-08 | 6.67E-07 |
| PCLO    | 0.372051  | 0.216005   | -0.78443 | 4.73E-07 | 3.43E-06 |
| CCL8    | 2.103253  | 6.32162    | 1.587672 | 3.44E-24 | 1.11E-22 |
| LAX1    | 0.150451  | 0.532477   | 1.823424 | 3.88E-23 | 1.17E-21 |
| HMGCCL1 | 0.25193   | 0.118253   | -1.09114 | 0.002708 | 0.007017 |
| LG14    | 0.582225  | 0.364377   | -0.67614 | 0.023882 | 0.04897 |
| FGR2B   | 0.691333  | 2.50346    | 1.85647 | 4.57E-46 | 1.06E-43 |
| MATN1   | 0.257154  | 0.102563   | -1.32612 | 0.007005 | 0.015843 |
| TMC5    | 1.426761  | 2.210259   | 0.631472 | 0.006284 | 0.01442 |
| SELP    | 0.274279  | 0.635862   | 1.213073 | 1.37E-14 | 2.74E-13 |
| GPR150  | 0.075324  | 0.135369   | 0.845705 | 6.23E-12 | 9.79E-11 |
| LRRC25  | 1.988031  | 5.379183   | 1.436047 | 8.02E-43 | 9.71E-41 |
| C2      | 8.722981  | 13.87485   | 0.669797 | 1.04E-12 | 1.77E-11 |
| SLC26A7 | 1.39652   | 0.517817   | -1.43132 | 0.000131 | 0.000502 |
| CRISPLD2| 3.025676  | 6.391022   | 1.078789 | 2.61E-07 | 2.01E-06 |
| Gene          | conMean | treatMean | logFC  | pValue       | FDR       |
|--------------|---------|-----------|--------|--------------|-----------|
| MMP12        | 1.233586| 4.50656   | 1.869168| 2.84E-09     | 3.22E-08  |
| CORIN        | 0.127525| 0.228667  | 0.842467| 2.32E-08     | 2.21E-07  |
| FFAR1        | 0.235955| 0.121334  | -0.95953| 0.001128     | 0.003267  |
| FER1L5       | 0.388501| 0.253074  | -0.61836| 7.01E-06     | 3.82E-05  |
| SBK1         | 14.33306| 7.487428  | -0.9368 | 1.19E-10     | 1.60E-09  |
| SPRY2        | 13.83312| 8.639748  | -0.67907| 0.000618     | 0.001946  |
| GGT5         | 1.882601| 3.304828  | 0.811848| 2.06E-16     | 4.59E-15  |
| PGAP4        | 4.718304| 2.981447  | -0.66226| 8.21E-06     | 4.39E-05  |
| CD52         | 8.352482| 26.84674  | 1.68447 | 6.41E-38     | 4.73E-36  |
| ACKR4        | 0.353052| 0.624958  | 0.823879| 2.18E-10     | 2.85E-09  |
| CD5          | 0.380962| 1.401205  | 1.87895 | 3.79E-42     | 4.19E-40  |
| HLA-DQB2     | 2.800215| 8.670692  | 1.630609| 3.78E-26     | 1.33E-24  |
| GATA4        | 2.190734| 1.445408  | -0.59994| 0.00102      | 0.003007  |
| KCNK13       | 0.685986| 1.032947  | 0.590515| 5.77E-13     | 1.00E-11  |
| CCL2         | 15.07327| 33.4705   | 1.150898| 3.96E-29     | 1.64E-27  |
| GIMAP1       | 0.380129| 0.945854  | 1.31513 | 6.34E-39     | 4.96E-37  |
| COL1A1       | 349.27  | 655.4572  | 0.908159| 2.06E-07     | 1.63E-06  |
| POPDC3       | 1.007263| 0.4386    | -1.19946| 0.000741     | 0.00228   |
| KCNK3        | 1.377395| 0.787649  | -0.80632| 0.001305     | 0.022064  |
| CD226        | 0.063538| 0.155749  | 1.293531| 1.35E-33     | 7.54E-32  |
| DNAJC5B      | 0.090435| 0.238881  | 1.401338| 5.68E-23     | 1.71E-21  |
| SCGB1D4      | 3.023566| 0.443836  | -2.76815| 2.80E-05     | 0.000129  |
| PTGER2       | 2.713438| 4.34896   | 0.680548| 6.35E-11     | 8.88E-10  |
| CARD17       | 0.176461| 0.421988  | 1.257854| 5.02E-14     | 9.66E-13  |
| LTBP4        | 34.05228| 15.80585  | -1.10729| 4.24E-08     | 3.82E-07  |
| PIANP        | 3.311108| 1.52255   | -1.12082| 7.96E-09     | 8.37E-08  |
| GPM2         | 9.112581| 18.74832  | 1.04083 | 7.21E-31     | 3.35E-29  |
| AP006333.1   | 0.534457| 0.151065  | -1.8229 | 7.82E-08     | 6.72E-07  |
| ZMYND15      | 1.931628| 2.915922  | 0.594135| 5.69E-10     | 7.12E-09  |
| KIRREL2      | 1.899265| 0.576848  | -1.71918| 9.00E-05     | 0.000361  |
| CPA1         | 2.674531| 0.209301  | -3.67564| 1.28E-06     | 8.44E-06  |
| SP5          | 6.674868| 2.092069  | -1.67381| 2.76E-08     | 2.59E-07  |
| THBS2        | 10.71588| 27.526    | 1.361044| 6.52E-14     | 1.24E-12  |
| BLNK         | 1.433724| 2.150089  | 0.584629| 6.11E-14     | 1.17E-12  |
| NLRC4        | 0.349739| 0.650906  | 0.896169| 1.13E-28     | 4.55E-27  |
| GPRIN3       | 0.309159| 0.690481  | 1.159251| 5.56E-36     | 3.63E-34  |
| PSD2         | 0.50536 | 0.310416  | -0.70311| 0.000303     | 0.00105   |
| STAC3        | 1.157459| 1.747988  | 0.594734| 6.83E-16     | 1.48E-14  |
| EMX1         | 0.273093| 0.075075  | -1.86299| 0.003226     | 0.008146  |
| TMEM273      | 0.40699 | 0.96838   | 1.250579| 4.47E-34     | 2.57E-32  |
| LILRA1       | 0.147276| 0.389464  | 1.402966| 3.92E-29     | 1.63E-27  |
| LMNTD1       | 0.143201| 0.05719   | -1.32421| 0.0073       | 0.016428  |
| SLC31A2      | 0.219545| 0.441546  | 1.008051| 3.60E-23     | 1.09E-21  |
| ZNF648       | 0.152144| 0.088635  | -0.77949| 2.65E-08     | 2.50E-07  |
| KIR2DL4      | 0.091063| 0.413271  | 2.182153| 9.30E-28     | 3.58E-26  |
| Gene          | conMean   | treatMean  | logFC   | pValue    | FDR      |
|--------------|-----------|------------|---------|-----------|----------|
| TMEM106A     | 1.598731  | 2.548906   | 0.672951| 5.04E-19  | 1.25E-17 |
| ACP3         | 2.854034  | 5.973588   | 1.065595| 1.47E-05  | 7.36E-05 |
| SNCB         | 0.769788  | 0.276827   | -1.47548| 1.43E-05  | 7.17E-05 |
| RAB38        | 6.384533  | 3.743931   | -0.77003| 1.17E-06  | 7.74E-06 |
| CTXN1        | 165.437   | 110.2715   | -0.58522| 0.000277  | 9.90E-09 |
| CBY2         | 0.403422  | 0.249985   | -0.69045| 2.71E-05  | 0.000125 |
| CCR7         | 0.37621   | 1.198443   | 1.67155 | 7.78E-33  | 4.02E-31 |
| PCP4         | 24.17012  | 11.64313   | -1.05375| 7.85E-09  | 8.26E-08 |
| CD163        | 3.057507  | 9.26502    | 1.599438| 2.07E-35  | 1.30E-33 |
| RASAL3       | 0.617284  | 1.943567   | 1.6547  | 2.37E-46  | 6.00E-44 |
| ACKR1        | 1.363489  | 2.590563   | 0.925962| 1.80E-09  | 2.11E-08 |
| COL5A2       | 13.09151  | 24.48835   | 0.903464| 2.60E-09  | 2.97E-08 |
| NRTN         | 8.03519   | 4.947394   | -0.69966| 6.04E-05  | 6.00E-05 |
| PSTPIP2      | 1.972991  | 3.693371   | 0.904554| 2.59E-16  | 5.73E-15 |
| NAP1L2       | 0.694212  | 0.450887   | -0.62261| 0.00139   | 0.00391  |
| NPHP1        | 1.197079  | 0.788905   | -0.60159| 3.85E-11  | 5.49E-10 |
| CATSPER1     | 0.184146  | 0.327699   | 0.831522| 7.16E-30  | 3.12E-28 |
| STARD8       | 0.725796  | 1.130135   | 0.638588| 7.80E-20  | 1.99E-18 |
| THBD         | 1.912667  | 3.770982   | 0.979355| 1.58E-12  | 2.64E-11 |
| ODF3B        | 7.101246  | 10.91282   | 0.61988 | 6.62E-15  | 1.35E-13 |
| FCPRA        | 0.052939  | 0.182207   | 1.78318 | 4.50E-24  | 1.44E-22 |
| HNF1A        | 0.231743  | 0.015302   | -3.92073| 7.00E-05  | 6.00E-05 |
| HOXD1        | 5.426097  | 8.187004   | 0.593421| 0.001571  | 0.004354 |
| NR2F6        | 117.2769  | 77.77677   | -0.59251| 1.46E-09  | 1.73E-08 |
| COL4A6       | 0.525557  | 0.247159   | -1.08841| 4.44E-06  | 2.54E-05 |
| KRT6A        | 6.847011  | 11.97181   | 0.806096| 7.32E-05  | 0.00301  |
| SLC25A18     | 0.344876  | 0.185185   | -0.89712| 0.001025  | 0.003018 |
| ZNF703       | 33.6623   | 20.29998   | -0.72966| 1.10E-05  | 5.65E-05 |
| PPEF1        | 0.127166  | 0.248684   | 0.967603| 6.95E-07  | 4.88E-06 |
| CLLU1-AS1    | 0.048928  | 0.167572   | 1.776043| 4.16E-05  | 0.000183 |
| GFRA3        | 3.154565  | 0.638464   | -2.20612| 0.001431  | 0.004013 |
| HNF1B        | 1.087631  | 0.451918   | -1.26706| 6.23E-07  | 4.41E-06 |
| PCDHGA1      | 0.333259  | 0.204236   | -0.70641| 4.81E-05  | 0.000208 |
| CBLN4        | 0.131765  | 0.221588   | 0.749908| 9.27E-09  | 9.56E-08 |
| LINGO3       | 0.152045  | 0.233783   | 0.620671| 8.37E-13  | 1.43E-11 |
| MICAL1       | 2.070833  | 3.142216   | 0.601571| 1.84E-13  | 3.39E-12 |
| LRP4         | 3.073211  | 0.93653    | -1.71435| 3.60E-07  | 2.68E-06 |
| LTA          | 0.191733  | 0.706836   | 1.882279| 6.32E-44  | 9.13E-42 |
| PCDHB2       | 4.09569   | 2.660036   | -0.62266| 0.000542  | 0.001737 |
| CD1E         | 0.107876  | 0.876452   | 3.022305| 4.06E-30  | 1.79E-28 |
| LRFN1        | 5.027346  | 3.241029   | -0.63334| 9.64E-06  | 5.04E-05 |
| RNF224       | 1.156173  | 0.580571   | -0.99381| 8.01E-06  | 4.30E-05 |
| LKAAE1R1     | 2.30046   | 0.825104   | -1.47927| 1.02E-11  | 1.56E-10 |
| SCGB1D1      | 26.7109   | 5.211664   | -2.35761| 0.014622  | 0.029802 |
| TMEM72       | 0.502192  | 0.070035   | -2.8421 | 4.55E-10  | 5.78E-09 |
| VWC2         | 0.190728  | 0.066169   | -1.52729| 9.52E-07  | 6.46E-06 |
| Gene         | conMean  | treatMean | logFC   | pValue     | FDR       |
|-------------|----------|-----------|---------|------------|-----------|
| LHPLF2      | 3.130922 | 5.949562  | 0.926196| 8.90E-33   | 4.57E-31  |
| CCL4        | 2.623926 | 7.895822  | 1.589363| 4.17E-41   | 4.07E-39  |
| KCNIP3      | 2.497694 | 1.48808   | -0.74714| 9.09E-09   | 9.41E-08  |
| TNF         | 3.51355  | 6.558114  | 0.900351| 3.55E-10   | 4.56E-09  |
| ANKRD33     | 0.267589 | 0.071805  | -1.89786| 5.13E-05   | 0.00022   |
| SLC26A9     | 0.915453 | 1.480075  | 0.693112| 7.53E-05   | 0.000308  |
| KRT31       | 0.210234 | 0.034727  | -2.59789| 0.007135   | 0.016101  |
| CAVIN4      | 0.565149 | 0.333641  | -0.76033| 6.52E-09   | 6.96E-08  |
| SPHK1       | 1.515187 | 3.0245    | 0.9972  | 5.17E-17   | 1.19E-15  |
| CYP8B1      | 0.109427 | 0.177061  | 0.694284| 0.00012    | 0.000464  |
| DOCK8       | 0.69758  | 1.658114  | 1.249112| 8.40E-31   | 3.89E-29  |
| CFAP99      | 0.17755  | 0.118769  | -0.58173| 0.004106   | 0.010018  |
| CADM4       | 13.50766 | 8.919421  | -0.59876| 1.49E-05   | 7.43E-05  |
| CD6         | 0.742294 | 1.276148  | 0.781734| 1.24E-20   | 3.32E-19  |
| PODXL       | 43.53409 | 29.06244  | -0.58299| 2.22E-05   | 0.000105  |
| CXCL10      | 28.47221 | 98.65058  | 1.792773| 1.22E-28   | 4.89E-27  |
| MTTP        | 0.164397 | 0.066699  | -1.30145| 3.40E-07   | 2.55E-06  |
| CD1B        | 0.03309  | 0.253548  | 2.937785| 2.93E-24   | 9.44E-23  |
| NLRC5       | 1.376828 | 2.565141  | 0.89769 | 7.10E-17   | 1.62E-15  |
| EFHB        | 0.619253 | 0.298347  | -1.05354| 1.13E-06   | 7.54E-06  |
| OTUD7A      | 0.156943 | 0.098647  | -0.69689| 0.003571   | 0.008883  |
| ECEL1       | 6.184414 | 1.711738  | -1.85317| 8.79E-05   | 0.000354  |
| KCNIP4      | 1.02835  | 0.568651  | -0.85471| 3.93E-07   | 2.91E-06  |
| ECT2L       | 0.12336  | 0.077824  | -0.66459| 0.000198   | 0.000725  |
| ADAM33      | 2.479394 | 1.482305  | -0.74215| 0.011169   | 0.023654  |
| CHSY3       | 0.410891 | 0.769818  | 0.905763| 8.27E-08   | 7.09E-07  |
| SLC38A3     | 1.920178 | 1.077617  | -0.8334 | 1.20E-05   | 6.11E-05  |
| ADAMTS4     | 0.799435 | 1.28621   | 0.686075| 3.48E-08   | 3.19E-07  |
| TRPV2       | 1.375962 | 3.080719  | 1.162827| 1.27E-38   | 9.75E-37  |
| CCDC114     | 2.628995 | 1.617862  | -0.70042| 5.53E-05   | 0.000235  |
| FGR3B       | 0.111653 | 0.454821  | 2.026278| 3.00E-15   | 6.21E-14  |
| DDX25       | 0.439351 | 0.121577  | -1.8535 | 1.74E-11   | 2.57E-10  |
| S100A9      | 98.33578 | 173.9878  | 0.823198| 2.10E-16   | 4.66E-15  |
| LACC1       | 0.891328 | 1.421368  | 0.673252| 2.76E-17   | 6.39E-16  |
| P2RY14      | 0.164634 | 0.299131  | 0.861513| 1.29E-20   | 3.43E-19  |
| BTBD17      | 1.008918 | 0.059433  | -4.0854 | 4.54E-08   | 4.08E-07  |
| TRAT1       | 0.090361 | 0.465619  | 2.365371| 8.66E-42   | 9.23E-40  |
| INMT        | 0.534062 | 0.850168  | 0.670741| 2.65E-06   | 1.60E-05  |
| POU2AF1     | 0.527898 | 0.888698  | 0.751435| 0.000226   | 0.000811  |
| TTC9        | 3.997421 | 6.162218  | 0.62438 | 7.69E-06   | 4.14E-05  |
| CD79A       | 2.020095 | 6.621579  | 1.712752| 1.78E-15   | 3.74E-14  |
| MACROH2A2   | 30.33885 | 19.92649  | -0.60648| 8.95E-09   | 9.28E-08  |
| ECM2        | 1.044341 | 1.792612  | 0.779471| 1.34E-06   | 8.75E-06  |
| ALPK2       | 0.198374 | 0.311253  | 0.649864| 1.22E-08   | 1.23E-07  |
| CDH2        | 20.62138 | 11.1847   | -0.88261| 3.37E-07   | 2.53E-06  |
| Gene       | conMean | treatMean | logFC   | pValue       | FDR   |
|------------|---------|-----------|---------|--------------|-------|
| SLC11A1    | 1.192407| 2.331601  | 0.967444| 1.30E-20     | 3.45E-19|
| IL10RA     | 1.203264| 3.962055  | 1.719296| 2.29E-43     | 3.12E-41|
| WNT2B      | 0.849125| 0.445556  | -0.93037| 3.78E-06     | 2.20E-05|
| SLC15A3    | 6.959623| 12.20552  | 0.810453| 1.20E-17     | 2.84E-16|
| EFNA3      | 6.792371| 4.246122  | -0.67777| 1.50E-06     | 9.63E-06|
| LRRN4CL    | 1.835241| 2.967301  | 0.693182| 1.18E-06     | 7.80E-06|
| P2RY6      | 2.021077| 3.771577  | 0.900044| 2.83E-22     | 8.25E-21|
| PTPN5      | 0.227629| 0.111929  | -1.02409| 8.24E-06     | 4.40E-05|
| KLRD1      | 0.078295| 0.168413  | 1.105012| 6.52E-21     | 1.75E-19|
| DERL3      | 4.429797| 7.354144  | 0.731317| 4.23E-09     | 4.70E-08|
| SLC35G6    | 0.142091| 0.088043  | -0.69054| 0.003782     | 0.009327|
| CCL19      | 0.460156| 2.838962  | 2.625168| 1.42E-26     | 5.09E-25|
| TIGD3      | 0.876645| 0.242334  | -1.855  | 0.000402     | 0.001341|
| CCDC40     | 1.899747| 0.977405  | -0.95878| 8.30E-10     | 1.02E-08|
| ASTN1      | 1.601887| 0.50647   | -1.66122| 8.28E-07     | 5.72E-06|
| C10orf99   | 2.902599| 10.12031  | 1.801836| 0.025184     | 0.04701|
| NSG1       | 18.15058| 11.0012   | -0.72236| 6.87E-08     | 5.99E-07|
| SCG3       | 1.024408| 0.072187  | -3.82691| 0.008158     | 0.01807|
| IL27       | 0.072506| 0.190509  | 1.393697| 1.98E-23     | 6.06E-22|
| PPM1H      | 4.924819| 3.203208  | -0.62055| 1.36E-06     | 8.88E-06|
| PKIB       | 0.998017| 1.947519  | 0.964501| 6.05E-22     | 1.72E-20|
| VCAN       | 4.726162| 9.456048  | 1.000568| 2.02E-10     | 2.66E-09|
| APOBR      | 0.83848 | 2.213523  | 1.400497| 5.13E-34     | 2.93E-32|
| TFF1       | 2.05634 | 0.168682  | -3.6077 | 3.18E-05     | 0.000145|
| FOLR2      | 5.446931| 10.98388  | 1.011872| 6.97E-20     | 1.78E-18|
| APOL6      | 4.806399| 10.14201  | 1.077316| 7.60E-24     | 2.38E-22|
| CACNG8     | 0.128522| 0.080606  | -0.67306| 0.00112      | 0.003249|
| FGF19      | 2.019781| 0.353643  | -2.51383| 1.02E-15     | 2.18E-14|
| ZBBX       | 0.804709| 0.310353  | -1.37456| 8.64E-07     | 5.93E-06|
| HPSE       | 2.223227| 4.257248  | 0.937266| 2.11E-19     | 5.29E-18|
| SSC2D      | 2.00459 | 3.091967  | 0.625218| 1.97E-06     | 1.23E-05|
| SQOR       | 4.412259| 7.973501  | 0.853696| 1.42E-22     | 4.20E-21|

Table S3. The results of genomic instability-related differentially expressed genes (DEGs).
| Gene      | conMean | treatMean | logFC  | pValue       | FDR     |
|-----------|---------|-----------|--------|--------------|---------|
| GABRR2    | 0.10977 | 0.192329  | 0.809092 | 0.000935     | 0.042313 |
| FBXL22    | 0.718556 | 1.134047  | 0.658308 | 0.00068      | 0.038474 |
| CNTN1     | 0.993437 | 1.889137  | 0.927226 | 0.000702     | 0.039194 |
| FAM155A   | 0.155882 | 0.289977  | 0.895487 | 0.000297     | 0.03038  |
| ALDH3B1   | 10.80585 | 7.051223  | -0.61587 | 0.000242     | 0.027887 |
| BASP1     | 10.3636  | 20.29371  | 0.969508 | 5.92E-06     | 0.020383 |
| ITGA8     | 0.194544 | 0.342038  | 0.81406  | 0.000106     | 0.025939 |
| B3GALT1   | 0.305479 | 0.777849  | 1.348415 | 0.000302     | 0.030653 |
| NR5A2     | 0.187769 | 0.368382  | 0.972246 | 2.79E-05     | 0.021617 |
| HEPH      | 1.014766 | 1.803658  | 0.829778 | 0.000168     | 0.025939 |
| HIC1      | 1.151464 | 1.895696  | 0.719259 | 0.000156     | 0.025939 |
| IGSF23    | 0.732768 | 1.79737   | 1.294458 | 0.000669     | 0.038474 |
| HOXC8     | 0.642026 | 0.987821  | 0.621618 | 0.000598     | 0.036407 |
| ABCA9     | 0.140587 | 0.286594  | 1.027543 | 6.14E-05     | 0.024699 |
| ADAMDEC1  | 1.14333  | 2.915914  | 1.350706 | 0.00141      | 0.049201 |
| DLX6      | 0.632645 | 1.126751  | 0.943566 | 2.06E-05     | 0.021617 |
| PTPRO     | 0.3804   | 0.598842  | 0.654657 | 0.000346     | 0.032985 |
| HOPX      | 1.855224 | 3.392268  | 0.870657 | 6.31E-05     | 0.024699 |
| TMEM200A  | 0.683953 | 1.062299  | 0.63522  | 4.59E-05     | 0.021948 |
| LHFP6     | 5.262816 | 7.909948  | 0.587833 | 0.000226     | 0.027887 |
| TSHR      | 0.299511 | 0.520257  | 0.796615 | 0.000691     | 0.038752 |
| AOC3      | 1.05138  | 2.566121  | 1.287305 | 0.000215     | 0.027887 |
| COPZ2     | 3.856309 | 5.765573  | 0.580243 | 0.000824     | 0.040625 |
| RGS4      | 1.605362 | 2.850719  | 0.828427 | 0.000396     | 0.033898 |
| LMOD1     | 1.959397 | 3.454712  | 0.818156 | 0.001464     | 0.049442 |
| MS4A1     | 0.096875 | 0.276769  | 1.514482 | 0.001058     | 0.045062 |
| THSD1     | 0.427892 | 0.701923  | 0.714067 | 2.29E-05     | 0.021617 |
| PABPC5    | 0.151924 | 0.247648  | 0.704936 | 0.000761     | 0.039194 |
| COLCA2    | 3.295163 | 1.492438  | -1.14268 | 4.50E-05     | 0.021948 |
| PTGDR     | 0.083365 | 0.127715  | 0.615405 | 0.00068      | 0.038474 |
| DNMT3B    | 2.302009 | 3.500641  | 0.604726 | 0.000714     | 0.039194 |
| PLAAT3    | 16.30328 | 10.33384  | -0.65779 | 0.000452     | 0.035186 |
| APOBEC3A  | 0.453104 | 0.794246  | 0.809744 | 0.000569     | 0.035702 |
| KRTAP5-1  | 0.284923 | 0.485633  | 0.769294 | 0.000317     | 0.031381 |
| MEIS3     | 1.015547 | 1.590484  | 0.647208 | 0.00018      | 0.025939 |
| CCR4      | 0.148563 | 0.256241  | 0.786427 | 0.00092      | 0.042313 |
| NEXN      | 1.291451 | 2.273901  | 0.816177 | 3.51E-05     | 0.021617 |
| PLN       | 0.40556  | 1.117003  | 1.461646 | 0.000516     | 0.035186 |
| CHRD      | 0.402683 | 1.067982  | 1.40717  | 4.68E-05     | 0.021948 |
| GRAMD2A   | 5.353905 | 2.851307  | -0.90897 | 0.000864     | 0.04179  |
| ZNF804A   | 0.082811 | 0.128859  | 0.637891 | 0.00034      | 0.032929 |
| PRDM8     | 0.180753 | 0.292854  | 0.696161 | 0.000508     | 0.035186 |
| EBF1      | 0.736895 | 1.108774  | 0.589434 | 0.00037      | 0.033898 |
| CCDC150   | 0.254527 | 0.381241  | 0.582888 | 0.000638     | 0.03758  |
| ABCA10    | 0.068147 | 0.131455  | 0.947851 | 5.34E-05     | 0.024146 |
| Gene        | conMean | treatMean | logFC | pValue   | FDR    |
|------------|---------|-----------|-------|----------|--------|
| SRPX2      | 3.045338| 4.914691  | 0.690498| 0.000278 | 0.029828|
| NUGGC      | 0.181753| 0.323501  | 0.83179 | 0.000146 | 0.025939|
| RSPO3      | 4.00966 | 8.140341  | 1.021609| 0.000598 | 0.036407|
| MCTP1      | 0.185913| 0.318117  | 0.774932| 0.000174 | 0.025939|
| PIWIL1     | 0.347224| 0.180708  | -0.9422 | 0.001101 | 0.045366|
| LILRA5     | 0.415453| 0.637904  | 0.618654| 0.000508 | 0.035186|
| BVES       | 0.500843| 0.91978   | 0.876931| 0.000106 | 0.045062|
| SOC52      | 0.424843| 0.647862  | 0.608757| 0.000499 | 0.035186|
| AP1S2      | 4.979498| 7.577374  | 0.605698| 0.000165 | 0.025939|
| TCEAL7     | 0.962932| 1.768394  | 0.876934| 0.000177 | 0.025939|
| RASGRF2    | 0.39825 | 0.723309  | 0.860938| 1.61E-05 | 0.021617|
| TLR4       | 0.962682| 1.566563  | 0.702471| 0.000607 | 0.036825|
| PTGIR      | 0.609934| 0.933324  | 0.613725| 0.000749 | 0.039194|
| IRF4       | 0.241893| 0.563712  | 1.22059 | 0.000467 | 0.035186|
| MN1        | 1.063668| 2.009895  | 0.918073| 0.001442 | 0.049442|
| P2RY8      | 0.351589| 0.59853   | 0.767533| 0.001336 | 0.048155|
| GASK1B     | 2.460857| 4.033687  | 0.712938| 9.64E-05 | 0.025939|
| TM6SF1     | 0.452484| 0.678328  | 0.584115| 0.000154 | 0.025939|
| DDX43      | 0.198547| 0.359772  | 0.857606| 0.000227 | 0.027887|
| GRIP2      | 0.087939| 0.136852  | 0.638039| 0.000297 | 0.03038|
| FMN1       | 0.626164| 0.39468   | -0.66586| 0.000579 | 0.035933|
| C5AR2      | 0.116009| 0.191419  | 0.722495| 0.00043  | 0.035186|
| PLA2G4C    | 0.319072| 0.533613  | 0.741909| 6.44E-06 | 0.020383|
| KRT18      | 339.6823| 220.3003  | -0.62471| 0.000222 | 0.027887|
| DLX5       | 1.709954| 3.407078  | 0.994578| 0.001257 | 0.047277|
| KMO        | 0.176186| 0.26654   | 0.597253| 0.000154 | 0.025939|
| PECAM1     | 5.009312| 7.510537  | 0.584304| 8.48E-05 | 0.025939|
| DCN        | 16.67818| 32.87781  | 0.979153| 0.000162 | 0.025939|
| SMTN       | 3.724159| 5.603823  | 0.589497| 3.45E-05 | 0.021617|
| LILRB1     | 0.900975| 1.403718  | 0.639694| 0.000851 | 0.041291|
| CLEC7A     | 1.469858| 2.206266  | 0.585931| 0.001464 | 0.049442|
| DACT1      | 1.079059| 1.784007  | 0.725348| 0.000238 | 0.027887|
| PRDM1      | 1.492242| 2.29517   | 0.621119| 2.79E-05 | 0.021617|
| TPSAB1     | 1.197822| 2.805579  | 1.227885| 0.001509 | 0.049806|
| ZEB2       | 0.642159| 1.064216  | 0.72879 | 8.64E-05 | 0.025939|
| CNRP1      | 1.232433| 2.00358   | 0.701071| 9.30E-05 | 0.025939|
| ADCY8      | 1.977819| 0.446162  | -2.14827| 0.000557 | 0.035632|
| CALHM5     | 0.264562| 0.395891  | 0.581498| 0.000136 | 0.025939|
| COMP       | 8.370188| 19.54503  | 1.22347 | 0.000215 | 0.027887|
| ADAMTS2    | 2.699479| 5.042421  | 0.901436| 0.000761 | 0.039194|
| CXorf21    | 0.583227| 0.896805  | 0.620737| 0.000452 | 0.035186|
| GAS2L2     | 1.113716| 0.336468  | -1.72684| 0.001336 | 0.048155|
| C2orf66    | 0.165719| 0.400985  | 1.274805| 0.001366 | 0.048334|
| PRDM6      | 0.143541| 0.284753  | 0.988246| 0.001027 | 0.044882|
| PDCD1LG2   | 0.767828| 1.234667  | 0.685268| 0.001464 | 0.049442|
| ISLR       | 37.82174| 66.78339  | 0.820273| 0.001464 | 0.049442|
| Gene          | conMean   | treatMean  | logFC      | pValue     | FDR       |
|--------------|-----------|------------|------------|------------|-----------|
| LIN7B        | 0.921647  | 1.381543   | 0.583994   | 3.58E-05   | 0.021617  |
| SLAMF7       | 1.003057  | 1.943562   | 0.9543     | 0.00151    | 0.049806  |
| CELF4        | 0.856801  | 1.468579   | 0.77739    | 0.000283   | 0.029828  |
| TBX4         | 0.214657  | 0.093738   | -1.19533   | 0.001442   | 0.049442  |
| HMGC51       | 5.844693  | 9.453881   | 0.693779   | 0.000389   | 0.033898  |
| KLF2         | 7.938779  | 14.19716   | 0.838613   | 0.001182   | 0.04649   |
| CCL11        | 2.325847  | 4.560231   | 0.971351   | 0.000177   | 0.025939  |
| UCN2         | 0.128902  | 0.194894   | 0.596419   | 0.001396   | 0.048854  |
| GATA2        | 1.414965  | 3.528868   | 1.318439   | 0.000551   | 0.035433  |
| FCAR         | 0.118583  | 0.231763   | 0.966749   | 0.000162   | 0.025939  |
| SMOC2        | 5.065162  | 10.1645    | 1.004859   | 5.54E-05   | 0.024207  |
| FAT4         | 0.240694  | 0.387195   | 0.685857   | 0.000491   | 0.035186  |
| INHBA        | 2.505063  | 4.399989   | 0.812653   | 0.001027   | 0.044882  |
| RUNX1T1      | 0.284083  | 0.506174   | 0.833321   | 0.001276   | 0.047277  |
| FILIP1L      | 4.255818  | 6.884143   | 0.693841   | 0.000445   | 0.035186  |
| S1PR1        | 2.339318  | 3.614838   | 0.627843   | 7.88E-05   | 0.025613  |
| LPAR4        | 0.152594  | 0.277695   | 0.863804   | 0.000164   | 0.025939  |
| SGCD         | 0.741476  | 1.252697   | 0.756565   | 0.000516   | 0.035186  |
| RAMP3        | 1.725748  | 2.599243   | 0.59087    | 0.000377   | 0.033898  |
| AC005020.2   | 0.144039  | 0.080511   | -0.8392    | 0.000565   | 0.035702  |
| ACSM5        | 0.088057  | 0.167412   | 0.926893   | 0.001487   | 0.049442  |
| MRVII        | 1.174131  | 2.39214    | 1.026708   | 0.000113   | 0.025939  |
| SYNP2        | 1.007912  | 1.802913   | 0.83896    | 0.000508   | 0.035186  |
| CCN4         | 1.584092  | 3.327142   | 1.070627   | 0.000824   | 0.040625  |
| IGFBP5       | 56.18184  | 90.81863   | 0.692885   | 0.001077   | 0.045313  |
| ADAMTS5      | 0.86766   | 1.301873   | 0.585387   | 0.00106    | 0.045062  |
| FNDC1        | 3.837628  | 8.265516   | 1.10689    | 0.000935   | 0.042313  |
| IL10         | 0.808762  | 1.371465   | 0.761931   | 0.001163   | 0.046062  |
| CDK5R2       | 0.172358  | 0.499301   | 1.534503   | 0.000949   | 0.042678  |
| TKT1         | 2.495043  | 4.119322   | 0.723342   | 0.001392   | 0.048854  |
| PDGFRA       | 1.919995  | 3.370462   | 0.811844   | 0.000824   | 0.040625  |
| ANTXR2       | 1.101384  | 1.747057   | 0.665609   | 0.000151   | 0.025939  |
| CDH18        | 0.459361  | 0.930383   | 1.018198   | 0.00127    | 0.047277  |
| GLIPR1       | 1.709011  | 2.555567   | 0.580482   | 3.01E-05   | 0.021617  |
| C11orf96     | 5.730507  | 10.80138   | 0.914481   | 0.000508   | 0.035186  |
| SEMA3C       | 5.413156  | 8.723142   | 0.688378   | 0.000669   | 0.038474  |
| LAX1         | 0.175836  | 0.380951   | 1.115376   | 0.00177    | 0.025939  |
| LEP          | 0.04492   | 0.214927   | 2.258411   | 0.000187   | 0.026267  |
| B3GALNT1     | 7.639634  | 11.88289   | 0.637311   | 0.000136   | 0.025939  |
| OR51E1       | 0.145885  | 0.218265   | 0.581248   | 0.001464   | 0.049442  |
| CHSY3        | 0.377194  | 0.7149     | 0.922435   | 0.001219   | 0.046785  |
| ADAMTS4      | 0.811358  | 1.470083   | 0.857488   | 0.001378   | 0.048489  |
| P2RY14       | 0.163678  | 0.247332   | 0.595588   | 0.000438   | 0.035186  |
| ECM2         | 1.030611  | 1.641632   | 0.671631   | 0.000569   | 0.035702  |
| CCL19        | 1.200432  | 2.343964   | 0.965397   | 0.000533   | 0.035186  |
| Gene  | conMean  | treatMean | logFC   | pValue    | FDR      |
|-------|----------|-----------|---------|-----------|----------|
| VCAN  | 5.329961 | 9.191833 | 0.786227| 0.000483  | 0.035186 |
| KRT86 | 3.650036 | 1.475129 | -1.30707| 0.000935  | 0.042313 |

**Table S4.** Enriched gene sets.

| Gene sets | Description                                                                 | ES   | NES   | pvalue | FDR  |
|-----------|------------------------------------------------------------------------------|------|-------|--------|------|
| KEGG      | KEGG_NODLIKE_RECEPTOR_SIGNALING_PATHWAY                                      | 0.766| 2.482 | 0.000  | 0.000|
| KEGG      | KEGG_TOLLLIKE_RECEPTOR_SIGNALING_PATHWAY                                     | 0.758| 2.456 | 0.000  | 0.000|
| KEGG      | KEGG_CYTOSOLIC_DNA_SENSING_PATHWAY                                          | 0.761| 2.451 | 0.000  | 0.000|
| KEGG      | KEGG_CHEMOKINE_SIGNALING_PATHWAY                                            | 0.668| 2.396 | 0.000  | 0.000|
| KEGG      | KEGG_NATURAL_KILLER_CELL_MEDIA_TENDED_CYTOTOXICITY                           | 0.719| 2.393 | 0.000  | 0.000|
| KEGG      | KEGG_ANTIGEN_PROCESSING_AND_PRESENTATION                                    | 0.816| 2.385 | 0.000  | 0.000|
| KEGG      | KEGG_CYTOKINE_CYTOKINE_RECEPTOR_INTERACTION                                 | 0.661| 2.376 | 0.000  | 0.000|
| KEGG      | KEGG_RIGLIKE_RECEPTOR_SIGNALING_PATHWAY                                      | 0.703| 2.358 | 0.000  | 0.000|
| KEGG      | KEGG_LEISHMANIA_INFECTION                                                   | 0.830| 2.348 | 0.000  | 0.000|
| KEGG      | KEGG_AUTOIMMUNE_THYROID_DISEASE                                             | 0.840| 2.292 | 0.000  | 0.000|
| KEGG      | KEGG_INTESTINAL_IMMUNE_NETWORK_FOR_IGA_PRODUCTION                           | 0.868| 2.289 | 0.000  | 0.000|
| KEGG      | KEGG_LYSOSOME                                                               | 0.658| 2.285 | 0.000  | 0.000|
| KEGG      | KEGG_CELL_ADHESION_MOLECULES_CAMS                                           | 0.698| 2.285 | 0.000  | 0.000|
| KEGG      | KEGG_BCELL_RECEPTOR_SIGNALING_PATHWAY                                       | 0.683| 2.281 | 0.000  | 0.000|
| KEGG      | KEGG_HEMATOPOIETIC_CELL_LINEAGE                                            | 0.728| 2.276 | 0.000  | 0.000|
| KEGG      | KEGG_VIRAL_MYOCARDITIS                                                      | 0.719| 2.260 | 0.000  | 0.000|
| KEGG      | KEGG_PRIMARY_IMMUNODEFICIENCY                                               | 0.867| 2.235 | 0.000  | 0.000|
| KEGG      | KEGG_TCELL_RECEPTOR_SIGNALING_PATHWAY                                       | 0.676| 2.233 | 0.000  | 0.000|
| KEGG      | KEGG_PROTEASOME                                                             | 0.810| 2.202 | 0.000  | 0.000|
| KEGG      | KEGG_TYPE1_DIABETES_MELLITUS                                                | 0.868| 2.197 | 0.000  | 0.000|
| KEGG      | KEGG_EPITHELIAL_CELL_SIGNALING_IN_HELICOBACTER_PYLORI_INFECTION             | 0.615| 2.148 | 0.000  | 0.000|
| KEGG      | KEGG_JAK_STAT_SIGNALING_PATHWAY                                             | 0.579| 2.120 | 0.000  | 0.000|
| KEGG      | KEGG_ALLOGRAFT_REJECTION                                                    | 0.918| 2.076 | 0.000  | 0.001|
| Gene sets | Description                                      | ES    | NES   | pvalue  | FDR    |
|-----------|--------------------------------------------------|-------|-------|---------|--------|
| KEGG      | KEGG_ASTHMA                                      | 0.833 | 2.069 | 0.000   | 0.001  |
| KEGG      | KEGG_APOPTOSIS                                   | 0.582 | 2.064 | 0.000   | 0.001  |
| KEGG      | KEGG_AMINO_SUGAR_AND_NUCLEOTIDE_DE_SUGAR_METABOLISM | 0.642 | 2.054 | 0.000   | 0.001  |
| KEGG      | KEGG_GRAFT_VERSUS_HOST_DISEASE                   | 0.890 | 2.048 | 0.000   | 0.001  |
| KEGG      | KEGG_FC_GAMMA_R_MEDIATED_PHAGOCYTOSIS            | 0.567 | 1.997 | 0.002   | 0.002  |
| KEGG      | KEGG_CELL_CYCLE                                 | 0.592 | 1.966 | 0.000   | 0.003  |
| KEGG      | KEGG_PRION_DISEASES                              | 0.593 | 1.915 | 0.000   | 0.007  |
| KEGG      | KEGG_CYSTEINE_AND_METHIONINE_METABOLISM          | 0.571 | 1.889 | 0.000   | 0.010  |
| KEGG      | KEGG_LEUKOCYTE_TRANSENDOTHELIAL_MIGRATION        | 0.526 | 1.887 | 0.004   | 0.010  |
| KEGG      | KEGG_SYSTEMIC_LUPUS_ERYTHEMATOSUS               | 0.607 | 1.872 | 0.004   | 0.011  |
| KEGG      | KEGG_PANCREATIC_CANCER                           | 0.530 | 1.837 | 0.004   | 0.017  |
| KEGG      | KEGG_ENDOCYTOSIS                                 | 0.475 | 1.825 | 0.004   | 0.019  |
| KEGG      | KEGG_NICOTINATE_AND_NICOTINAMIDE_DE_METABOLISM  | 0.577 | 1.799 | 0.004   | 0.023  |
| KEGG      | KEGG_FC_EPSILON_RI_SIGNALING_PATHWAY             | 0.491 | 1.797 | 0.008   | 0.023  |
| KEGG      | KEGG_SNARE_INTERACTIONS_IN_VESICULAR_TRANSPORT  | 0.535 | 1.784 | 0.011   | 0.025  |
| KEGG      | KEGG_ACUTE_MYELOID_LEUKEMIA                      | 0.526 | 1.780 | 0.008   | 0.026  |
| KEGG      | KEGG_PYRIMIDINE_METABOLISM                       | 0.472 | 1.770 | 0.010   | 0.028  |
| KEGG      | KEGG_P53_SIGNALING_PATHWAY                       | 0.482 | 1.767 | 0.010   | 0.028  |
| KEGG      | KEGG_PATHOGENIC_ESCHERICHIA_COLI_INFECTION      | 0.511 | 1.761 | 0.012   | 0.029  |
| KEGG      | KEGG_VIBRIO_CHOLERAE_INFECTION                   | 0.490 | 1.744 | 0.008   | 0.033  |
| KEGG      | KEGG_OOCYTE_MEIOSIS                              | 0.474 | 1.743 | 0.012   | 0.033  |
| KEGG      | KEGG_UBIQUITIN_MEDIATED_PROTEOLYSIS              | 0.453 | 1.691 | 0.015   | 0.048  |
| HALLMARK  | HALLMARK_INTERFERON_GAMMA_RESPONSE              | 0.885 | 2.456 | 0.000   | 0.000  |
| HALLMARK  | HALLMARK_IL6_JAK_STAT3_SIGNALING                 | 0.821 | 2.447 | 0.000   | 0.000  |
| HALLMARK  | HALLMARK_COMPLEMENT                              | 0.685 | 2.417 | 0.000   | 0.000  |
| HALLMARK  | HALLMARK_ALLOGRAFT_REJECTION                     | 0.823 | 2.409 | 0.000   | 0.000  |
| HALLMARK  | HALLMARK_INFLAMMATORY_RESPONSE                   | 0.771 | 2.388 | 0.000   | 0.000  |
| HALLMARK  | HALLMARK_UV_RESPONSE_UP                          | 0.588 | 2.309 | 0.000   | 0.000  |
| HALLMARK  | HALLMARK_TNFA_SIGNALING_VIA_NF giant virus       | 0.734 | 2.299 | 0.000   | 0.000  |
| HALLMARK  | HALLMARK_MTORC1_SIGNALING                        | 0.659 | 2.292 | 0.000   | 0.000  |
| HALLMARK  | HALLMARK_IL2_STAT5_SIGNALING                     | 0.617 | 2.288 | 0.000   | 0.000  |
| Gene sets                  | Description                                      | ES    | NES   | pvalue  | FDR   |
|---------------------------|--------------------------------------------------|-------|-------|---------|-------|
| HALLMARK                 | HALLMARK_INTERFERON_ALPHA_RESPONSE               | 0.919 | 2.269 | 0.000   | 0.000 |
| HALLMARK                 | HALLMARK_APOPTOSIS                              | 0.591 | 2.244 | 0.000   | 0.000 |
| HALLMARK                 | HALLMARK_PI3K_AKT_MTOR_SIGNaling                | 0.588 | 2.144 | 0.000   | 0.000 |
| HALLMARK                 | HALLMARK_UNFOLDED_PROTEIN_RESPONSE              | 0.557 | 2.075 | 0.002   | 0.001 |
| HALLMARK                 | HALLMARK_KRAS_SIGNALING_UP                      | 0.539 | 1.953 | 0.000   | 0.004 |
| HALLMARK                 | HALLMARK_E2F_TARGETS                            | 0.680 | 1.940 | 0.006   | 0.004 |
| HALLMARK                 | HALLMARK_G2M_CHECKPOINT                         | 0.633 | 1.934 | 0.006   | 0.004 |
| HALLMARK                 | HALLMARK_REACTIVE_OXYGEN_SPECIES_PATHWAY         | 0.577 | 1.869 | 0.004   | 0.009 |
| HALLMARK                 | HALLMARK_P53_PATHWAY                            | 0.442 | 1.818 | 0.002   | 0.015 |
| HALLMARK                 | HALLMARK_GLYCOLYSIS                             | 0.463 | 1.797 | 0.004   | 0.017 |
| HALLMARK                 | HALLMARK_ANDROGEN_RESPONSE                      | 0.484 | 1.751 | 0.011   | 0.025 |
| HALLMARK                 | HALLMARK_XENOBIOBITIC_METABOLISM                 | 0.431 | 1.745 | 0.006   | 0.024 |
| HALLMARK                 | HALLMARK_FATTY_ACID_METABOLISM                  | 0.467 | 1.711 | 0.010   | 0.031 |
| HALLMARK                 | HALLMARK_PROTEIN_SECRETION                      | 0.505 | 1.705 | 0.025   | 0.031 |
| HALLMARK                 | HALLMARK_CHOLESTEROL_HOMEOSTASIS                | 0.488 | 1.705 | 0.026   | 0.030 |
| HALLMARK                 | HALLMARK_HYPOXIA                                | 0.453 | 1.703 | 0.021   | 0.029 |
| HALLMARK                 | HALLMARK_DNA_REPAIR                             | 0.455 | 1.659 | 0.028   | 0.037 |

Table S5. Differentially mutated genes between high- and low-APOBEC3A expression groups.
| Hugo Symbol | High.APOBEC3A | Low.APOBEC3A | P.value | OR    | CI.up | CI.low |
|-------------|---------------|---------------|---------|-------|-------|-------|
| PPFIA1      | 0             | 5             | 0.028   | 0.000 | 1.051 | 0.000 |
| TMPRSS2     | 0             | 5             | 0.028   | 0.000 | 1.051 | 0.000 |
| ZNF101      | 0             | 5             | 0.028   | 0.000 | 1.051 | 0.000 |
| CDH5        | 6             | 0             | 0.030   | Inf   | Inf   | 1.175 |
| CERCAM      | 6             | 0             | 0.030   | Inf   | Inf   | 1.175 |
| COL11A1     | 6             | 0             | 0.030   | Inf   | Inf   | 1.175 |
| COL14A1     | 6             | 0             | 0.030   | Inf   | Inf   | 1.175 |
| COL5A1      | 6             | 0             | 0.030   | Inf   | Inf   | 1.175 |
| IRF8        | 6             | 0             | 0.030   | Inf   | Inf   | 1.175 |
| ITIH1       | 6             | 0             | 0.030   | Inf   | Inf   | 1.175 |
| LRP4        | 6             | 0             | 0.030   | Inf   | Inf   | 1.175 |
| MC5R        | 6             | 0             | 0.030   | Inf   | Inf   | 1.175 |
| NRXN1       | 6             | 0             | 0.030   | Inf   | Inf   | 1.175 |
| PCDHB5      | 6             | 0             | 0.030   | Inf   | Inf   | 1.175 |
| PPP1R15A    | 6             | 0             | 0.030   | Inf   | Inf   | 1.175 |
| SLC9A4      | 6             | 0             | 0.030   | Inf   | Inf   | 1.175 |
| SVIL        | 10            | 2             | 0.034   | 5.175 | 49.516| 1.072 |
| KANK1       | 1             | 7             | 0.035   | 0.134 | 1.067 | 0.003 |
| NUMA1       | 1             | 7             | 0.035   | 0.134 | 1.067 | 0.003 |
| DMD         | 8             | 1             | 0.036   | 8.205 | 368.488| 1.074 |

### 1.2 Supplementary Figures

**Supplementary Figure 1.** Correlation analysis of intersected DEGs with survival and clinicopathological characteristics of ovarian cancer (OC) patients. (A–C) Distribution of gene expression in stage, by Kruskal–Wallis rank sum test. (D–F) Distribution of three kinds of scores in T...
classification (p = 0.5, 0.84, 0.55 for ImmuneScore, StromalScore, and ESTIMATEScore, respectively, by Kruskal–Wallis rank sum test). (G–I) Distribution of scores in M classification (p = 0.015, 0.014, 0.004 for ImmuneScore, StromalScore, and ESTIMATEScore separately by Wilcoxon rank sum test). (J–L) Distribution of scores in N classification. Similar to the preceding, p = 0.56, 0.27, 0.40, respectively, with Wilcoxon rank sum test.