| GeneSymbol | p-value     | avg_logFC | FC     | pct.1 | pct.2 | p_val_adj     |
|------------|------------|-----------|--------|-------|-------|---------------|
| ALDH1A1    | 0          | 3.1556311 | 23.46784 | 0.722 | 0.041 | 2.21E-304     |
| RARRES2    | 0          | 3.0928622 | 22.04007 | 0.838 | 0.126 | 0             |
| HTR2B      | 0          | 3.0773964 | 21.70183 | 0.792 | 0.041 | 0             |
| CHRM2      | 0          | 2.9894357 | 19.87446 | 0.822 | 0.124 | 0             |
| ITGA6      | 0          | 2.7264142 | 15.27801 | 0.999 | 0.717 | 0             |
| NR2F2      | 0          | 2.6896814 | 14.72698 | 0.978 | 0.785 | 0             |
| SSTR1      | 0          | 2.6516789 | 14.17782 | 0.96  | 0.323 | 0             |
| OXTR       | 0          | 2.5879408 | 13.30235 | 0.975 | 0.548 | 0             |
| FOXL2      | 0.00E+00   | 2.4274522 | 11.32998 | 0.856 | 0.031 | 0.00E+00     |
| IRAG1      | 1.8E-293   | 2.4144635 | 11.18377 | 0.725 | 0.065 | 5.58E-289     |
| CLEC2B     | 0          | 2.3962139 | 10.98152 | 0.913 | 0.09  | 0             |
| MASP1      | 0          | 2.3363274 | 10.34318 | 0.868 | 0.144 | 0             |
| FILIP1L    | 0.00E+00   | 2.2507708 | 9.495052 | 0.948 | 0.47  | 0.00E+00     |
| PCDH10     | 1.78E-199  | 2.2416986 | 9.4093  | 0.606 | 0.065 | 5.61E-195     |
| NR2F1      | 5.51E-252  | 2.2315692 | 9.314471 | 0.824 | 0.289 | 1.74E-247     |
| OLR1       | 4.2E-272   | 2.2135024 | 9.1477  | 0.649 | 0.024 | 1.31E-267     |
| TRHDE      | 0          | 2.1349138 | 8.456317 | 0.85  | 0.197 | 0             |
| MXR5       | 0          | 2.1206978 | 8.336953 | 0.963 | 0.342 | 0             |
| GATA2      | 0          | 2.1191623 | 8.324161 | 0.913 | 0.237 | 0             |
| CITED2     | 0          | 2.0784097 | 7.99175  | 0.998 | 0.85  | 0             |
| S100A4     | 0          | 2.0662695 | 7.895315 | 0.986 | 0.629 | 0             |
| SPON2      | 0.00E+00   | 2.0424484 | 7.709462 | 0.967 | 0.405 | 0.00E+00     |
| GULP1      | 2.40E-307  | 2.0362107 | 7.661523 | 0.872 | 0.418 | 7.55E-303     |
| SYTL5      | 1.93E-225  | 2.0149563 | 7.5004  | 0.54  | 0.002 | 6.10E-221     |
| IFIT3      | 4.42E-300  | 2.0040597 | 7.419115 | 0.829 | 0.174 | 1.40E-295     |
| GLRX       | 6.05E-298  | 1.9850176 | 7.279175 | 0.975 | 0.948 | 1.91E-293     |
| VAT1L      | 1.07E-287  | 1.9671554 | 7.150308 | 0.706 | 0.041 | 3.36E-283     |
| GBP4       | 1.50E-217  | 1.9195336 | 6.817778 | 0.692 | 0.149 | 4.74E-213     |
| TNFSF4     | 9.1E-172   | 1.901966  | 6.690952 | 0.549 | 0.055 | 2.86E-167     |
| NES        | 0.00E+00   | 1.8973312 | 6.668075 | 0.939 | 0.284 | 0.00E+00     |
| SYNPO2     | 1.3E-204   | 1.8901297 | 6.620227 | 0.824 | 0.385 | 3.98E-200     |
| GREM1      | 0          | 1.8809919 | 6.560008 | 0.999 | 0.848 | 0             |
| ITGA2      | 0.00E+00   | 1.8754039 | 6.523454 | 0.964 | 0.612 | 0.00E+00     |
| HAND2      | 4.79E-283  | 1.8731731 | 6.508917 | 0.72  | 0.06  | 1.51E-278     |
| MITF       | 5.45E-236  | 1.8611783 | 6.43131  | 0.728 | 0.137 | 1.72E-231     |
| PTN        | 2.74E-287  | 1.8374466 | 6.280481 | 0.876 | 0.291 | 8.65E-283     |
| ESAM       | 1.37E-216  | 1.8223832 | 6.186585 | 0.551 | 0.012 | 4.31E-212     |
| Gene | p-value | fold_change | 
|------|---------|-------------| 
| MMP11 | 7.44E-64 | 1.8115531 | 6.119945 | 0.355 | 0.084 | 2.35E-59 | 
| ST6GALNAC5 | 7.51E-218 | 1.781038 | 5.936015 | 0.611 | 0.048 | 2.37E-213 | 
| REN | 2.86E-81 | 1.7783849 | 5.920287 | 0.227 | 0 | 9.01E-77 | 
| FOXL2NB | 3.34E-223 | 1.7775307 | 5.915232 | 0.607 | 0.042 | 2.37E-213 | 
| IGF2 | 2.29E-259 | 1.7740588 | 5.894731 | 0.725 | 0 | 9.01E-77 | 
| ARMC9 | 1.25E-236 | 1.7569895 | 5.794965 | 0.872 | 0.513 | 7.22E-255 | 
| OTULINL | 7.51E-247 | 1.7566225 | 5.792839 | 0.612 | 0.042 | 2.39E-242 | 
| SCN9A | 1E-191 | 1.739122 | 5.692343 | 0.725 | 0.215 | 3.21E-187 | 
| PAMR1 | 0.00E+00 | 1.7303815 | 5.642806 | 0.957 | 0.452 | 0.00E+00 | 
| SERPINB7 | 6.40E-261 | 1.7279162 | 5.628912 | 0.859 | 0.281 | 2.02E-256 | 
| HOXD11 | 1.63E-246 | 1.7286581 | 5.622959 | 0.716 | 0.098 | 5.14E-242 | 
| CPED1 | 8.92E-292 | 1.7219878 | 5.59564 | 0.897 | 0.323 | 2.81E-287 | 
| OGFRL1 | 7.25E-256 | 1.6780445 | 5.35074 | 0.952 | 0.662 | 2.29E-251 | 
| ITGA1 | 1.43E-199 | 1.6660072 | 5.291 | 0.955 | 0.734 | 4.50E-195 | 
| ADGRG6 | 4.60E-199 | 1.6651065 | 5.286236 | 0.703 | 0.156 | 1.45E-194 | 
| SEMA3A | 3.52E-269 | 1.6512251 | 5.213363 | 0.867 | 0.299 | 1.11E-264 | 
| AR | 4.90E-230 | 1.6503998 | 5.209062 | 0.628 | 0.046 | 1.55E-225 | 
| CLEC14A | 9.48E-131 | 1.6492483 | 5.203067 | 0.426 | 0.029 | 2.99E-126 | 
| ACTG2 | 3.56E-31 | 1.6393334 | 5.151734 | 0.289 | 0.151 | 1.12E-26 | 
| MT-RNR1 | 0.00E+00 | 1.631299 | 5.119874 | 1 | 1 | 0.00E+00 | 
| ERAP2 | 2.39E-206 | 1.631455 | 5.111306 | 0.702 | 0.157 | 7.55E-202 | 
| IFIT1 | 3.8E-196 | 1.630984 | 5.108899 | 0.617 | 0.071 | 1.18E-191 | 
| FZD2 | 0.00E+00 | 1.6243714 | 5.075226 | 0.944 | 0.45 | 0.00E+00 | 
| BTBD3 | 1.6E-249 | 1.6203114 | 5.05664 | 0.878 | 0.335 | 5.06E-245 | 
| CTSC | 0.00E+00 | 1.619785 | 5.052022 | 0.997 | 0.941 | 0.00E+00 | 
| HOXD10 | 1.89E-294 | 1.6190304 | 5.048193 | 0.767 | 0.092 | 5.96E-290 | 
| PCDH18 | 2.35E-239 | 1.5822173 | 4.865733 | 0.927 | 0.535 | 7.40E-235 | 
| ASPM | 3.66E-77 | 1.5699969 | 4.806634 | 0.677 | 0.398 | 1.15E-72 | 
| PRDM1 | 1.05E-194 | 1.5639343 | 4.777581 | 0.719 | 0.168 | 3.31E-190 | 
| ADAM33 | 5.17E-285 | 1.5553322 | 4.73666 | 0.812 | 0.152 | 1.63E-280 | 
| MPP3 | 1.46E-162 | 1.5478623 | 4.701409 | 0.942 | 0.59 | 4.60E-158 | 
| HOXA11 | 1.06E-212 | 1.5352478 | 4.642476 | 0.861 | 0.363 | 3.36E-208 | 
| KIF20A | 8.9E-105 | 1.5159275 | 4.553642 | 0.628 | 0.245 | 2.82E-100 | 
| ADM | 0.00E+00 | 1.5141087 | 4.545368 | 0.981 | 0.627 | 0.00E+00 | 
| NUAK1 | 2.4E-198 | 1.5062119 | 4.509616 | 0.852 | 0.404 | 7.62E-194 | 
| FBLN5 | 1.76258211 | 1.500409 | 4.483522 | 0.949 | 0.463 | 5.56E-307 | 
| AC132217.2 | 6.51E-226 | 1.493082 | 4.450792 | 0.815 | 0.291 | 2.05E-221 | 
| TOR4A | 7.58E-233 | 1.4857965 | 4.418483 | 0.69 | 0.089 | 2.39E-228 | 
| PSG4 | 1.37E-147 | 1.4755705 | 4.37353 | 0.702 | 0.233 | 4.33E-143 | 
| XAF1 | 4.9E-204 | 1.4672723 | 4.337388 | 0.794 | 0.276 | 1.54E-199 |
| Gene  | Score  | FDR   | pval   | qval   | pval   |
|-------|--------|-------|--------|--------|--------|
| MYLK  | 2.254  | 1.466 | 4.334  | 0.999  | 0.966  |
| F3    | 3.08E  | 1.464 | 4.326  | 0.793  | 0.351  |
| DKK1  | 4.33E  | 1.464 | 4.323  | 0.974  | 0.866  |
| DLGAP5| 2.48E  | 1.455 | 4.285  | 0.599  | 0.27   |
| SGIP1 | 9.60E  | 1.451 | 4.271  | 0.683  | 0.106  |
| PLAT  | 4.01E  | 1.451 | 4.267  | 0.946  | 0.668  |
| ACTA2 | 5.99E  | 1.443 | 4.236  | 0.793  | 0.351  |
| FOS   | 1.99E  | 1.441 | 4.154  | 0.936  | 0.579  |
| MKX   | 1.12E  | 1.438 | 4.215  | 0.451  | 0.049  |
| NCAM1 | 8.93E  | 1.425 | 4.156  | 0.501  | 0.065  |
| DLGAP5| 2.48E  | 1.455 | 4.285  | 0.599  | 0.27   |
| SGIP1 | 9.60E  | 1.451 | 4.271  | 0.683  | 0.106  |
| PLAT  | 4.01E  | 1.451 | 4.267  | 0.946  | 0.668  |
| ACTA2 | 5.99E  | 1.443 | 4.236  | 0.793  | 0.351  |
| FOS   | 1.99E  | 1.441 | 4.154  | 0.936  | 0.579  |
| MKX   | 1.12E  | 1.438 | 4.215  | 0.451  | 0.049  |
| NCAM1 | 8.93E  | 1.425 | 4.156  | 0.501  | 0.065  |
| DLGAP5| 2.48E  | 1.455 | 4.285  | 0.599  | 0.27   |
| SGIP1 | 9.60E  | 1.451 | 4.271  | 0.683  | 0.106  |
| PLAT  | 4.01E  | 1.451 | 4.267  | 0.946  | 0.668  |
| ACTA2 | 5.99E  | 1.443 | 4.236  | 0.793  | 0.351  |
| FOS   | 1.99E  | 1.441 | 4.154  | 0.936  | 0.579  |
| MKX   | 1.12E  | 1.438 | 4.215  | 0.451  | 0.049  |
| NCAM1 | 8.93E  | 1.425 | 4.156  | 0.501  | 0.065  |
| DLGAP5| 2.48E  | 1.455 | 4.285  | 0.599  | 0.27   |
| SGIP1 | 9.60E  | 1.451 | 4.271  | 0.683  | 0.106  |
| PLAT  | 4.01E  | 1.451 | 4.267  | 0.946  | 0.668  |
| ACTA2 | 5.99E  | 1.443 | 4.236  | 0.793  | 0.351  |
| FOS   | 1.99E  | 1.441 | 4.154  | 0.936  | 0.579  |
| MKX   | 1.12E  | 1.438 | 4.215  | 0.451  | 0.049  |
| NCAM1 | 8.93E  | 1.425 | 4.156  | 0.501  | 0.065  |
| DLGAP5| 2.48E  | 1.455 | 4.285  | 0.599  | 0.27   |
| SGIP1 | 9.60E  | 1.451 | 4.271  | 0.683  | 0.106  |
| PLAT  | 4.01E  | 1.451 | 4.267  | 0.946  | 0.668  |
| ACTA2 | 5.99E  | 1.443 | 4.236  | 0.793  | 0.351  |
| FOS   | 1.99E  | 1.441 | 4.154  | 0.936  | 0.579  |
| MKX   | 1.12E  | 1.438 | 4.215  | 0.451  | 0.049  |
| NCAM1 | 8.93E  | 1.425 | 4.156  | 0.501  | 0.065  |
| DLGAP5| 2.48E  | 1.455 | 4.285  | 0.599  | 0.27   |
| SGIP1 | 9.60E  | 1.451 | 4.271  | 0.683  | 0.106  |
| PLAT  | 4.01E  | 1.451 | 4.267  | 0.946  | 0.668  |
| ACTA2 | 5.99E  | 1.443 | 4.236  | 0.793  | 0.351  |
| FOS   | 1.99E  | 1.441 | 4.154  | 0.936  | 0.579  |
| MKX   | 1.12E  | 1.438 | 4.215  | 0.451  | 0.049  |
| NCAM1 | 8.93E  | 1.425 | 4.156  | 0.501  | 0.065  |
| DLGAP5| 2.48E  | 1.455 | 4.285  | 0.599  | 0.27   |
| SGIP1 | 9.60E  | 1.451 | 4.271  | 0.683  | 0.106  |
| PLAT  | 4.01E  | 1.451 | 4.267  | 0.946  | 0.668  |
| ACTA2 | 5.99E  | 1.443 | 4.236  | 0.793  | 0.351  |
| FOS   | 1.99E  | 1.441 | 4.154  | 0.936  | 0.579  |
| MKX   | 1.12E  | 1.438 | 4.215  | 0.451  | 0.049  |
| NCAM1 | 8.93E  | 1.425 | 4.156  | 0.501  | 0.065  |
| DLGAP5| 2.48E  | 1.455 | 4.285  | 0.599  | 0.27   |
| SGIP1 | 9.60E  | 1.451 | 4.271  | 0.683  | 0.106  |
| Gene   | Log2 Fold Change | q Value  | p Value  | FDR  | q Value  | Log2 Fold Change |
|--------|-----------------|----------|----------|------|----------|-----------------|
| FLT1   | 5.65E-135       | 0.624    | 0.193    | 1.78E-130 |
| GAS2L3 | 1.84E-73        | 0.535    | 0.225    | 5.82E-69 |
| LINC02844 | 4.21E-136   | 0.369    | 0.002    | 1.33E-131 |
| ARHGEF17 | 4.11E-197    | 0.866    | 0.414    | 1.30E-192 |
| CSRP2  | 5.65E-181       | 0.921    | 0.628    | 1.78E-176 |
| TTK    | 4.73E-57        | 0.45     | 0.234    | 1.49E-52 |
| KHDRBS3 | 1.2E-175      | 0.677    | 0.145    | 3.73E-171 |
| C12orf75 | 0.00E+00     | 1.0      | 0.999    | 0.00E+00 |
| AURKA  | 8.95E-65        | 0.552    | 0.267    | 2.82E-60 |
| SLC7A11 | 8.53E-209       | 0.967    | 0.857    | 2.69E-204 |
| RHOBTB3 | 1.26E-216      | 0.986    | 0.992    | 3.99E-212 |
| CTSK   | 5.79E-186       | 0.868    | 0.415    | 1.83E-181 |
| KRT19  | 3.84E-107       | 0.812    | 0.532    | 2.11E-102 |
| CKAP2  | 1.23E-99        | 0.73     | 0.369    | 3.88E-95 |
| CARD16 | 1.13E-185       | 0.539    | 0.035    | 3.56E-181 |
| GBP2   | 9.5E-146        | 0.704    | 0.234    | 3E-141 |
| KANK2  | 0.00E+00        | 0.998    | 0.926    | 0.00E+00 |
| NDC80  | 1.01E-71        | 0.58     | 0.273    | 3.17E-67 |
| MME    | 4.12E-150       | 0.779    | 0.329    | 1.30E-145 |
| NID1   | 1.20E-303       | 0.998    | 0.921    | 3.80E-299 |
| A2M    | 1.23E-73        | 0.239    | 0.007    | 3.89E-69 |
| CKS1B  | 2.74E-112       | 0.851    | 0.679    | 8.63E-108 |
| TOP2A  | 9.41E-44        | 0.773    | 0.652    | 2.97E-39 |
| HOXA11-AS | 3.56E-152    | 0.555    | 0.082    | 1.12E-147 |
| MGARP  | 4.63E-116       | 0.532    | 0.118    | 1.46E-111 |
| LRRC17 | 1.82E-107       | 0.656    | 0.296    | 5.73E-103 |
| PBX1   | 3.69E-188       | 0.866    | 0.417    | 1.17E-183 |
| HOXA10 | 1.14E-173       | 0.924    | 0.604    | 3.60E-169 |
| GPNMB  | 7.95E-134       | 0.619    | 0.161    | 2.51E-129 |
| TRBC2  | 2.4E-113        | 0.463    | 0.073    | 7.43E-109 |
| FARP1  | 0.00E+00        | 0.997    | 0.91     | 0.00E+00 |
| TRNP1  | 3.19E-130       | 0.77     | 0.384    | 1.01E-125 |
| CCDC14 | 6.75E-161       | 0.821    | 0.388    | 2.13E-156 |
| ITGA4  | 7.00E-306       | 0.989    | 0.813    | 2.21E-301 |
| ID1    | 2.57E-281       | 0.985    | 0.749    | 8.11E-277 |
| CDKN3  | 9.50E-81        | 0.659    | 0.398    | 3.00E-76 |
| HSBP1L1 | 1.90E-169     | 0.735    | 0.251    | 6.00E-165 |
| IFIT2  | 1.02E-94        | 0.369    | 0.042    | 3.21E-90 |
| TRHDE-AS1 | 4.02E-128    | 0.428    | 0.035    | 1.27E-123 |
| FRY    | 8.01E-96        | 0.421    | 0.072    | 2.53E-91 |
| Gene   | Fold Change | P-Value | Z-Score | Log10 FDR | E-Value | P-Value Adjusted | Log2 Ratio |
|--------|-------------|---------|---------|-----------|---------|--------------------|------------|
| CEP55  | 1.33E-73    | 3.37205 | 0.629   | 0.355     | 4.20E-69|
| PHTF2  | 4.70E-263   | 3.37065 | 0.972   | 0.711     | 1.48E-258|
| NUSAP1 | 2.04E-74    | 3.35611 | 0.646   | 0.375     | 6.43E-70 |
| RBP1   | 7.40E-71    | 3.35232 | 0.487   | 0.2       | 2.33E-66 |
| RBM24  | 3.00E-157   | 3.34414 | 0.831   | 0.38      | 9.45E-153|
| CCNA2  | 7.72E-57    | 3.33742 | 0.646   | 0.375     | 6.43E-70 |
| DIO2   | 3.01E-34    | 3.33272 | 0.487   | 0.2       | 2.33E-66 |
| AFF3   | 7.29E-92    | 3.31500 | 0.831   | 0.38      | 9.45E-153|
| MTCL1  | 1.27E-137   | 3.28896 | 0.688   | 0.227     | 4.02E-133|
| TGM2   | 1.27E-140   | 3.24973 | 0.767   | 0.548     | 1.71E-59 |
| DEPDC1 | 3.39E-61    | 3.24952 | 0.767   | 0.548     | 1.71E-59 |
| PPME1  | 1.42E-61    | 3.24952 | 0.767   | 0.548     | 1.71E-59 |
| RARB   | 4.32E-115   | 3.27362 | 0.36    | 0.014     | 1.36E-110|
| KIF23  | 2.16E-72    | 3.26699 | 0.715   | 0.44      | 6.81E-68 |
| PRDX6  | 0.00E+00    | 3.26508 | 1       | 1         | 0.00E+00|
| UBALD2 | 3.96E-140   | 3.24973 | 0.767   | 0.548     | 1.71E-59 |
| CCNB1  | 5.41E-64    | 3.24952 | 0.767   | 0.548     | 1.71E-59 |
| ZNF516 | 3.83E-149   | 3.24952 | 0.767   | 0.548     | 1.71E-59 |
| TPX2   | 2.13E-72    | 3.24514 | 0.78    | 0.556     | 6.71E-68 |
| TMSB4X | 0.00E+00    | 3.24206 | 1       | 1         | 0.00E+00|
| HSPB6  | 1.18E-212   | 3.23823 | 0.979   | 0.842     | 3.73E-208|
| BUB1   | 1.06E-59    | 3.22232 | 0.515   | 0.251     | 3.34E-55 |
| ZNF804A| 6.52E-103   | 3.21820 | 0.366   | 0.032     | 2.06E-98 |
| HAND2-AS1| 3.59E-117  | 3.21194 | 0.578   | 0.213     | 1.13E-112|
| PODXL  | 1.64E-66    | 3.20907 | 0.624   | 0.318     | 5.16E-62 |
| PSG5   | 7.14E-83    | 3.19862 | 0.793   | 0.486     | 2.25E-78 |
| GSDME  | 1.23E-157   | 3.15613 | 0.913   | 0.649     | 3.89E-153|
| SBF2-AS1| 6.10E-78    | 3.15426 | 0.505   | 0.189     | 1.92E-73 |
| KNL1   | 2.85E-60    | 3.15426 | 0.512   | 0.27      | 8.98E-56 |
| CDCA8  | 2.04E-48    | 3.14396 | 0.428   | 0.21      | 6.43E-44 |
| PSRC1  | 1.00E-72    | 3.13749 | 0.46    | 0.14      | 3.16E-68 |
| MKI67  | 1.67E-56    | 3.12497 | 0.659   | 0.416     | 5.28E-52 |
| MFAP4  | 3.31E-72    | 3.12108 | 0.576   | 0.253     | 1.04E-67 |
| PLK1   | 2.96E-55    | 3.12056 | 0.561   | 0.339     | 9.34E-51 |
| KIF2C  | 5.26E-52    | 3.10902 | 0.461   | 0.233     | 1.66E-47 |
| GRIK2  | 6.04E-115   | 3.10657 | 0.611   | 0.188     | 1.91E-110|
| PIMREG | 1.50E-88    | 3.06945 | 0.59    | 0.23      | 4.75E-84 |
| MIR503HG| 1.98E-135   | 3.06875 | 0.659   | 0.187     | 6.26E-131|
| SGO2   | 1.92E-55    | 3.06495 | 0.54    | 0.305     | 6.05E-51 |
| IRS1   | 7.62E-165   | 3.06086 | 0.928   | 0.688     | 2.40E-160|
| Gene     | Log2 Fold Change | p-Value     | q-Value    | FDR         | Adjusted p-Value |
|----------|-----------------|-------------|------------|-------------|-----------------|
| GALNT6   | 1.1129053       | 3.043187    | 0.754      | 0.366       | 2.83E-117       |
| DKK3     | 1.1118646       | 3.040022    | 0.998      | 0.989       | 1.26E-262       |
| UACA     | 1.1085403       | 3.029932    | 0.621      | 0.369       | 2.16E-59        |
| TACC3    | 1.1048242       | 3.018694    | 0.534      | 0.329       | 2.15E-47        |
| HMMR     | 1.1085403       | 3.018694    | 0.534      | 0.329       | 2.15E-47        |
| PLEKHA2  | 1.1029836       | 3.013143    | 0.973      | 0.793       | 4.49E-197       |
| KANK1    | 1.0985915       | 2.999938    | 0.998      | 0.793       | 4.47E-124       |
| UACA     | 1.0982774       | 2.988996    | 0.971      | 0.791       | 0.00E+00        |
| APIS2    | 1.0966473       | 2.994111    | 0.982      | 0.795       | 4.47E-124       |
| MAP3K5   | 1.0958241       | 2.991647    | 0.592      | 0.369       | 2.16E-59        |
| ANO4     | 1.0958241       | 2.991647    | 0.592      | 0.369       | 2.16E-59        |
| AURKB    | 1.0941235       | 2.986564    | 0.455      | 0.24        | 2.79E-43        |
| TRERF1   | 1.0931959       | 2.983795    | 0.638      | 0.193       | 1.27E-118       |
| CDKN1B   | 1.0917421       | 2.97946     | 0.802      | 0.408       | 4.72E-119       |
| CENPA    | 1.091706        | 2.979352    | 0.406      | 0.152       | 4.45E-46        |
| CDC3     | 1.0909083       | 2.976977    | 0.571      | 0.283       | 2.66E-60        |
| HACD4    | 1.0897214       | 2.973445    | 0.776      | 0.331       | 3.09E-141       |
| MIS18BP1 | 1.086586        | 2.964137    | 0.751      | 0.371       | 2.78E-107       |
| TMEM97   | 1.0852024       | 2.960036    | 0.371      | 0.046       | 6.63E-87        |
| HOXD9    | 1.084846        | 2.958992    | 0.492      | 0.094       | 2.96E-110       |
| CKAP2L   | 1.0839201       | 2.956246    | 0.5        | 0.33        | 2.96E-42        |
| CCDC71L  | 1.0831148       | 2.953866    | 0.934      | 0.751       | 7.09E-110       |
| BHMT2    | 1.0803234       | 2.945632    | 0.555      | 0.185       | 1.45E-95        |
| PLBD1    | 1.0782774       | 2.939612    | 0.371      | 0.046       | 6.63E-87        |
| ECM1     | 1.0756442       | 2.931881    | 0.993      | 0.809       | 6.30E-263       |
| KIF14    | 1.0735283       | 2.925684    | 0.435      | 0.24        | 8.02E-36        |
| DRAM1    | 1.0732167       | 2.925065    | 0.963      | 0.758       | 5.14E-186       |
| NCAPG    | 1.0716208       | 2.920108    | 0.567      | 0.344       | 5.37E-51        |
| AGRN     | 1.0709272       | 2.918084    | 0.839      | 0.46        | 6.66E-145       |
| SYPL2    | 1.0698292       | 2.914882    | 0.361      | 0.017       | 1.09E-108       |
| CUTA     | 1.0677771       | 2.908906    | 1          | 0.996       | 0.00E+00        |
| ARHGEF2  | 1.0649446       | 2.900678    | 0.884      | 0.486       | 3.47E-155       |
| ARHGAP18 | 1.0609319       | 2.889062    | 0.957      | 0.668       | 5.39E-190       |
| RACGAP1  | 1.0603778       | 2.887462    | 0.634      | 0.36        | 2.74E-59        |
| UBE2T    | 1.0599342       | 2.886181    | 0.673      | 0.393       | 8.53E-69        |
| NEXN     | 1.0558007       | 2.874276    | 0.975      | 0.89        | 2.00E-184       |
| KRT18    | 1.0551197       | 2.872319    | 0.936      | 0.831       | 2.22E-140       |
| AC132217.1| 1.0543835       | 2.870205    | 0.706      | 0.194       | 1.61E-165       |
| TWIST2   | 1.0532331       | 2.866905    | 0.91       | 0.501       | 5.86E-182       |
| CAVIN2   | 1.0527397       | 2.865491    | 0.449      | 0.052       | 5.34E-115       |
| Gene       | Fold  | p-value    | Delta | E-value | Fold  | p-value | Delta | E-value | Fold  | p-value | Delta | E-value |
|------------|-------|------------|-------|---------|-------|---------|-------|---------|-------|---------|-------|---------|
| PLPP2      | 2.07E-80 | 1.051935  | 2.863186 | 0.471 | 0.157 | 6.53E-76 |
| PYCARD     | 4.74E-119 | 1.0506397 | 2.85948 | 0.748 | 0.381 | 1.49E-114 |
| PHF19      | 6.67E-85 | 1.0490302 | 2.854881 | 0.725 | 0.433 | 2.10E-80 |
| CENPU      | 3.27E-63 | 1.0476669 | 2.850992 | 0.549 | 0.276 | 1.03E-58 |
| CENPW      | 2.69E-109 | 1.047087 | 2.849339 | 0.43 | 0.218 | 2.72E-37 |
| LRCH2      | 1.43E-101 | 1.0417315 | 2.83412 | 0.414 | 0.055 | 4.52E-97 |
| JPH2       | 6.54E-113 | 1.0417029 | 2.834039 | 0.531 | 0.124 | 2.06E-108 |
| SPDL1      | 2.11E-84 | 1.0409953 | 2.832034 | 0.839 | 0.643 | 6.66E-80 |
| CCNB2      | 3.27E-63 | 1.0476669 | 2.850992 | 0.549 | 0.276 | 1.03E-58 |
| TSPAN14    | 3.44E-145 | 1.0386905 | 2.825515 | 0.913 | 0.658 | 1.08E-140 |
| GTSE1      | 3.23E-42 | 1.0384019 | 2.824699 | 0.989 | 0.819 | 1.00E+00 |
| PGR        | 6.59E-115 | 1.0396077 | 2.828107 | 0.308 | 0.0 | 2.08E-110 |
| TSPAN14    | 3.44E-145 | 1.0386905 | 2.825515 | 0.913 | 0.658 | 1.08E-140 |
| GFRA1      | 4.81E-51 | 1.0384019 | 2.824699 | 0.989 | 0.819 | 1.00E+00 |
| NUF2       | 3.83E-45 | 1.0384019 | 2.824699 | 0.989 | 0.819 | 1.00E+00 |
| CCDC85A    | 1.00E-124 | 1.0384019 | 2.824699 | 0.989 | 0.819 | 1.00E+00 |
| AMIGO2     | 1.43E-90 | 1.0384019 | 2.824699 | 0.989 | 0.819 | 1.00E+00 |
| CHAC1      | 4.52E-70 | 1.0384019 | 2.824699 | 0.989 | 0.819 | 1.00E+00 |
| CDK15      | 1.36E-88 | 1.0384019 | 2.824699 | 0.989 | 0.819 | 1.00E+00 |
| KIF18A     | 1.63E-56 | 1.0384019 | 2.824699 | 0.989 | 0.819 | 1.00E+00 |
| PTPRD      | 3.4E-97 | 1.0384019 | 2.824699 | 0.989 | 0.819 | 1.00E+00 |
| NDUFC2-KC | 0.00E+00 | 1.0384019 | 2.824699 | 0.989 | 0.819 | 1.00E+00 |
| Gene  | Log2 Fold Change | p-value | q-value | EASE Score   |
|-------|-----------------|---------|---------|--------------|
| PIK3R1| 4.60E-127       | 0.9997672 | 0.813 | 0.426       |
| LACTB2| 3.69E-114       | 0.9987916 | 0.815 | 0.495       |
| SMAD9 | 4.34E-102       | 0.9977089 | 0.658 | 0.263       |
| MEIS1 | 5.95E-113       | 0.9975587 | 0.749 | 0.355       |
| CAMK2N1| 5.46E-113     | 0.9937801 | 0.815 | 0.495       |
| SEMA5A| 3.12E-121       | 0.9936697 | 0.765 | 0.394       |
| LACTB2| 3.69E-114       | 0.9987916 | 0.815 | 0.495       |
| RGS10 | 1.19E-141       | 0.986058  | 0.91  | 0.692       |
| BDKRB2| 3.02E-76        | 0.9856973 | 0.352 | 0.058       |
| LACTB2| 1.73E-131       | 0.9851174 | 0.931 | 0.723       |
| NLGN1 | 1.0E-95         | 0.974999  | 0.931 | 0.723       |
| CSTB  | 0.00E+00        | 0.974999  | 0.931 | 0.723       |
| PITX1 | 1.29E-40        | 0.9827353 | 0.406 | 0.205       |
| PBK   | 2.23E-53        | 0.9822079 | 0.673 | 0.409       |
| SHCBP1| 2.27E-68        | 0.9818125 | 0.447 | 0.094       |
| TOX   | 2.82E-89        | 0.9815797 | 0.81  | 0.522       |
| HMGB3 | 6.45E-95        | 0.9813718 | 0.81  | 0.522       |
| ARHGDB| 7.76E-75        | 0.9804199 | 0.474 | 0.145       |
| SOCS5 | 3.52E-169       | 0.9798426 | 0.95  | 0.661       |
| SMC2  | 1.04E-95        | 0.9780807 | 0.847 | 0.583       |
| TROAP | 4.54E-64        | 0.9779403 | 0.514 | 0.225       |
| SKA3  | 1.11E-57        | 0.9758462 | 0.522 | 0.296       |
| OSR2  | 3.72E-95        | 0.975081  | 0.456 | 0.089       |
| DYNLT3| 2.80E-172       | 0.9748277 | 0.994 | 0.974       |
| ISYNA1| 8.34E-87        | 0.9733294 | 0.584 | 0.223       |
| MT-ND4L| 0             | 0.9727978 | 1     | 1           |
| TXN   | 0              | 0.9725826 | 1     | 1           |
| MYL6  | 0.00E+00       | 0.9715119 | 1     | 1           |
| MGLL  | 1.65E-237      | 0.9713812 | 0.995 | 0.898       |
| HERC2P2| 4.42E-89      | 0.9710483 | 0.572 | 0.211       |
| KIFC1 | 1.57E-49       | 0.9704066 | 0.518 | 0.332       |
| DDIT3 | 1.86E-96       | 0.969321  | 0.591 | 0.21        |
| SERTAD4| 3.63E-66      | 0.9683066 | 0.346 | 0.07        |
| ADRA1D| 2.58E-77       | 0.9682203 | 0.335 | 0.047       |
| COL13A1| 3.18E-124     | 0.9669413 | 0.689 | 0.251       |
| LPAR1 | 8.54E-146      | 0.9660384 | 0.909 | 0.596       |
| CCNF  | 7.35E-43       | 0.9644182 | 0.382 | 0.176       |
| KLF5  | 5.53E-78       | 0.9638408 | 0.467 | 0.126       |
| FJX1  | 4.09E-98       | 0.9638166 | 0.873 | 0.585       |
| KIF11 | 3.57E-42       | 0.963768  | 0.541 | 0.336       |
| Gene     | Value    | p-value  | E-value   | FDR       | Value    | p-value  | E-value   | FDR       |
|----------|----------|----------|-----------|-----------|----------|----------|-----------|-----------|
| AASS     | 1.70E-100| 0.9636981| 2.621373  | 0.774     | 0.459    | 5.36E-96 |
| MLLT3    | 1.44E-102| 0.9630328| 2.619629  | 0.764     | 0.441    | 4.53E-98 |
| ABLIM3   | 6.70E-120| 0.962523 | 2.618294  | 0.759     | 0.332    | 2.11E-115|
| ARHGAP11A| 2.14E-54 | 0.9617008| 2.616142  | 0.584     | 0.32     | 6.75E-50 |
| PRR11    | 5.08E-71 | 0.9614544| 2.615498  | 0.861     | 0.74     | 1.60E-66 |
| MALL     | 3.17E-61 | 0.9612281| 2.614906  | 0.661     | 0.376    | 9.99E-57 |
| AC087721.2| 1.61E-68 | 0.9588084| 2.608586  | 0.548     | 0.266    | 5.09E-64 |
| TSHZ1    | 1.04E-101| 0.958539 | 2.607884  | 0.736     | 0.349    | 3.27E-97 |
| MYO1D    | 9.08E-71 | 0.9571828| 2.604349  | 0.464     | 0.139    | 3.12E-69 |
| ARID3A   | 6.70E-120| 0.9511361| 2.588649  | 0.652     | 0.206    | 2.09E-12 |
| TRIM59   | 3.26E-89 | 0.9503477| 2.586649  | 0.779     | 0.48     | 1.03E-84 |
| IFIT5    | 4.7E-122 | 0.9482113| 2.581053  | 0.341     | 0.055    | 6.54E-69 |
| TMSB10   | 0.00E+00 | 0.9457829| 2.574828  | 1         | 1        | 0.00E+00 |
| DBF4     | 1.74E-58 | 0.9456949| 2.574602  | 0.565     | 0.32     | 5.49E-54 |
| HMGB1    | 0.00E+00 | 0.9451485| 2.57285   | 0.999     | 0.998    | 3.58E-221|
| PAPSS2   | 1.1E-225 | 0.9450144| 2.57285   | 1         | 0.99     | 0.00E+00 |
| NEDD8    | 0.00E+00 | 0.9446356| 2.571876  | 1         | 0.999    | 4.36E-141|
| PALLD    | 1.4E-145 | 0.9446356| 2.571876  | 1         | 0.999    | 4.36E-141|
| FTL      | 0.00E+00 | 0.9429397| 2.567518  | 1         | 1        | 0.00E+00 |
| GPR37    | 1.14E-80 | 0.9427244| 2.566965  | 0.3       | 0.025    | 3.59E-76 |
| TACC1    | 9.60E-222| 0.9427224| 2.56696   | 0.997     | 0.964    | 3.03E-217|
| DHCR24   | 5.68E-118| 0.941294 | 2.563296  | 0.905     | 0.664    | 1.79E-113|
| APOL6    | 1.58E-88 | 0.9403509| 2.56088   | 0.824     | 0.541    | 4.97E-84 |
| ZWINT    | 3.92E-82 | 0.939784 | 2.559429  | 0.696     | 0.347    | 1.24E-77 |
| LGALS1   | 0.00E+00 | 0.9396457| 2.559075  | 1         | 1        | 0.00E+00 |
| NEDD1    | 1.87E-95 | 0.9393061| 2.558206  | 0.815     | 0.507    | 5.89E-91 |
| AC090409.1| 9.84E-91 | 0.9389668| 2.557338  | 0.451     | 0.101    | 3.10E-86 |
| RAB3B    | 4.61E-299| 0.9345495| 2.546066  | 0.999     | 0.983    | 1.45E-294|
| SLC8A1   | 3.35E-122| 0.9341057| 2.544936  | 0.848     | 0.482    | 1.06E-117|
| KCNMB4   | 2.99E-68 | 0.932575 | 2.541044  | 0.259     | 0.023    | 9.42E-64 |
| MRPL34   | 5.87E-121| 0.9299405| 2.534358  | 0.839     | 0.516    | 1.85E-116|
| TRPV2    | 1.9E-116 | 0.9290797| 2.532178  | 0.698     | 0.261    | 6.13E-112|
| GPX4     | 0.00E+00 | 0.9288008| 2.531472  | 1         | 0.998    | 0.00E+00 |
| LPCAT2   | 7.66E-137| 0.9262325| 2.524978  | 0.918     | 0.659    | 2.42E-132|
| ETHE1    | 5.99E-139| 0.9256082| 2.523403  | 0.953     | 0.807    | 1.89E-134|
| AC087721.2| 8.67E-114| 0.9250706| 2.522046  | 0.918     | 0.718    | 2.73E-109|
| CCDC68   | 3.64E-81 | 0.9236337| 2.518425  | 0.377     | 0.064    | 1.15E-76 |
| NRGN     | 9.97E-97 | 0.923202 | 2.517338  | 0.455     | 0.09     | 3.14E-92 |
| NDUFB4   | 4.0196686| 0.9214365| 2.512898  | 0.997     | 0.904    | 1.2678437088202e-3 |
| Gene   | Value   | Value   | Value   | Value   | Value   |
|--------|---------|---------|---------|---------|---------|
| MSRB2  | 1.30E-129 | 0.9193609 | 2.507687 | 0.892 | 0.68 | 4.10E-125 |
| S1PR1  | 6.82E-77  | 0.9188369 | 2.506374 | 0.641 | 0.305 | 2.15E-72  |
| KNSTRN | 6.00E-51  | 0.9176482 | 2.503396 | 0.533 | 0.278 | 1.89E-46  |
| KIF22  | 6.31E-62  | 0.9167373 | 2.501117 | 0.651 | 0.361 | 1.99E-57  |
| SNHG5  | 0.00E+00  | 0.9164443 | 2.500384 | 1.000 | 0.964 | 0.00E+00  |
| LMNB1  | 5.52E-55  | 0.9148535 | 2.49641  | 0.551 | 0.284 | 1.74E-50  |
| ANXA3  | 2.51E-70  | 0.9136367 | 2.493374 | 0.393 | 0.091 | 7.90E-66  |
| SAMD11 | 2.07E-115 | 0.9133506 | 2.49266  | 0.432 | 0.198 | 3.06E-47  |
| H2AZ1  | 6.36E-150 | 0.9133302 | 2.49261  | 0.866 | 0.543 | 4.84E-111 |
| GABARAPL1 | 1.43E-74 | 0.9133159 | 2.482375 | 0.883 | 0.841 | 4.51E-70  |
| CSF2RB | 9.69E-56  | 0.9133065 | 2.479449 | 0.993 | 0.965 | 2.00E-145 |
| NHP2   | 4.51E-103 | 0.913292  | 2.47723  | 0.888 | 0.534 | 1.11E-131 |
| MACIR  | 1.24E-86  | 0.913276  | 2.474885 | 0.862 | 0.598 | 3.91E-82  |
| SMCHD1 | 5.85E-93  | 0.913263  | 2.471954 | 0.993 | 0.965 | 1.38E-67  |
| ARID5B | 1.95E-121 | 0.913249  | 2.469186 | 0.862 | 0.598 | 3.91E-82  |
| NCAPD2 | 2.14E-64  | 0.913235  | 2.46642  | 0.732 | 0.505 | 6.75E-60  |
| KIF4A  | 5.38E-42  | 0.913221  | 2.46376  | 0.494 | 0.305 | 1.70E-37  |
| NCAF1  | 9.92E-43  | 0.913207  | 2.46110  | 0.485 | 0.282 | 3.13E-38  |
| ATF7IP | 4.51E-103 | 0.913193  | 2.45844  | 0.768 | 0.404 | 1.42E-98  |
| PSMB9  | 4.38E-72  | 0.913180  | 2.45577  | 0.716 | 0.49  | 1.38E-67  |
| PAPC4L | 7.02E-67  | 0.913166  | 2.45310  | 0.274 | 0.03  | 2.21E-62  |
| TMEM60 | 4.30E-99  | 0.913152  | 2.45044  | 0.774 | 0.412 | 1.36E-94  |
| TLE4   | 6.29E-87  | 0.913138  | 2.44780  | 0.777 | 0.441 | 1.98E-82  |
| TMSB4XP6 | 4.60E-248 | 0.913124  | 2.44514  | 0.928 | 0.544 | 1.45E-243 |
| CHCHD10| 4.03E-127 | 0.913110  | 2.44249  | 0.773 | 0.372 | 1.27E-122 |
| ATP2B1 | 2.56E-186 | 0.913096  | 2.43984  | 0.993 | 0.983 | 8.09E-182 |
| ITPRID2| 1.76E-156 | 0.913082  | 2.43719  | 0.993 | 0.963 | 5.54E-152 |
| TMPO   | 2.26E-71  | 0.913068  | 2.43453  | 0.86  | 0.685 | 7.14E-67  |
| SMC4   | 1.90E-55  | 0.913054  | 2.43188  | 0.924 | 0.882 | 6.01E-51  |
| CASP1  | 8.76E-60  | 0.913041  | 2.42924  | 0.409 | 0.124 | 2.76E-55  |
| LINC01391 | 3.32E-110 | 0.913027  | 2.42659  | 0.297 | 0.093 | 1.31E-165 |
| SGO1   | 3.86E-42  | 0.913013  | 2.42394  | 0.387 | 0.179 | 1.22E-37  |
| RAD21  | 4.14E-170 | 0.913000  | 2.42129  | 0.000 | 0.993 | 1.31E-165 |
| TRIM2  | 4.18E-94  | 0.912986  | 2.41864  | 0.807 | 0.534 | 1.32E-89  |
| ECT2   | 9.05E-66  | 0.912972  | 2.41600  | 0.731 | 0.441 | 2.86E-61  |
| Gene    | log2 Fold Change | p-value  | q-value | Fold Change | p-value  | q-value |
|---------|-----------------|----------|---------|-------------|----------|---------|
| PRTFDC1 | 2.65E-90        | 0.8755348| 2.400159| 0.711       | 0.36     | 8.37E-86|
| AC007744.1 | 8.04E-114 | 0.8749171| 2.398676| 0.453       | 0.061    | 2.54E-109|
| EMX2OS   | 4.28E-85        | 0.8710912| 2.389517| 0.625       | 0.294    | 1.35E-80 |
| NEK2     | 7.05E-40        | 0.8708575| 2.388959| 0.421       | 0.197    | 2.22E-35 |
| ANAPC15  | 2.60E-122       | 0.8703387| 2.387719| 0.92        | 0.715    | 8.19E-118|
| ITGAE    | 2.33E-158       | 0.8695223| 2.385771| 0.957       | 0.791    | 7.35E-154|
| HOXA5    | 1.18E-77        | 0.8638169| 2.372305| 0.72        | 0.385    | 1.26E-74 |
| INPP4B   | 2.74E-73        | 0.8661213| 2.377671| 0.668       | 0.342    | 8.64E-69 |
| MT-CO2   | 0.00E+00        | 0.8658494| 2.377024| 1           | 1        | 0.00E+00 |
| COL7A1   | 3.98E-79        | 0.8634512| 2.371331| 0.828       | 0.534    | 2.68E-86 |
| DHRS7    | 1.59E-137       | 0.8631063| 2.370299| 0.963       | 0.859    | 5.00E-133|
| TMEM205  | 2.30E-95        | 0.8618609| 2.367562| 0.749       | 0.436    | 7.25E-91 |
| TXNIP    | 1.27E-54        | 0.8617268| 2.367245| 0.667       | 0.387    | 4.00E-50 |
| HJURP    | 7.77E-34        | 0.8609327| 2.365366| 0.413       | 0.255    | 2.45E-29 |
| BST2     | 2.73E-31        | 0.8600573| 2.363296| 0.294       | 0.121    | 8.61E-27 |
| CKAP5    | 2.59E-91        | 0.8597103| 2.362476| 0.92        | 0.719    | 8.17E-87 |
| FAM111A  | 1.44E-69        | 0.8585837| 2.360453| 0.676       | 0.378    | 4.55E-65 |
| BAX      | 1.63E-213       | 0.8587522| 2.360214| 0.997       | 0.954    | 5.14E-209|
| ST3GAL5  | 1.77E-54        | 0.8587292| 2.36016  | 0.588       | 0.35     | 5.58E-50 |
| PFDN5    | 0.00E+00        | 0.8581457| 2.358783| 1           | 0.999    | 0.00E+00 |
| H1-0     | 2.01E-80        | 0.8581014| 2.358678| 0.87        | 0.62     | 6.34E-76 |
| NR2F6    | 2.19E-115       | 0.8578237| 2.350823| 0.803       | 0.415    | 6.91E-111|
| FMN2     | 1.77E-98        | 0.8576868| 2.35777  | 0.737       | 0.344    | 5.59E-94 |
| RPL39L   | 5.48E-72        | 0.857028 | 2.356148| 0.641       | 0.359    | 1.73E-67 |
| HMGA1    | 0.00E+00        | 0.8568522| 2.355734| 1           | 0.998    | 0.00E+00 |
| MICB     | 1.33E-85        | 0.8554926| 2.352533| 0.493       | 0.134    | 4.20E-81 |
| CDH4     | 1.52E-62        | 0.8539366| 2.348875| 0.508       | 0.201    | 4.78E-58 |
| HYI      | 1.20E-87        | 0.8524753| 2.345445| 0.855       | 0.646    | 3.79E-83 |
| F10      | 4.85E-85        | 0.8524345| 2.34535  | 0.303       | 0.02     | 1.53E-80 |
| KRCC1    | 7.19E-124       | 0.8520958| 2.345555| 0.922       | 0.681    | 2.27E-119|
| CCDC50   | 2.60E-214       | 0.8516271| 2.343457| 0.998       | 0.984    | 8.19E-210|
| LSM2     | 2.30E-97        | 0.8516073| 2.34341  | 0.855       | 0.653    | 7.25E-93 |
| INA      | 1.95E-65        | 0.8505109| 2.340842| 0.257       | 0.023    | 6.15E-61 |
| TCEAL7   | 2.08E-79        | 0.8494957| 2.338467| 0.467       | 0.124    | 6.57E-75 |
| CFL2     | 4.40E-295       | 0.8490536| 2.337434| 1           | 0.984    | 1.39E-290|
| MELK     | 2.17E-61        | 0.8449313| 2.327818| 0.662       | 0.361    | 6.84E-57 |
| L3MBTL3  | 4.20E-61        | 0.8432043| 2.323801| 0.495       | 0.195    | 1.32E-56 |
| TMEM98   | 2.83E-148       | 0.8418641| 2.320689| 0.975       | 0.806    | 8.93E-144|
| UQCC3    | 4.72E-101       | 0.841613 | 2.320106| 0.717       | 0.39     | 1.49E-96 |
| Gene   | p-value | Fold Change | q-value | Fisher's p-value | z-score | Log2 Fold Change |
|--------|---------|-------------|---------|-----------------|---------|-----------------|
| H2AX   | 3.29E-43 | 2.319553    | 0.827   | 8.15E-17        | 0.805   | 1.04E-38        |
| STMN2  | 2.58E-21 | 2.317092    | 0.133   | 4.37E-91        | 0.263   | 2.28E-70        |
| C1orf35| 1.38E-95 | 2.316017    | 0.634   | 0.8413746       | 0.263   | 4.37E-91        |
| MGME1  | 7.24E-75 | 2.314911    | 0.687   | 2.28E-70        | 0.368   | 2.28E-70        |
| COX8A  | 0.00E+00 | 2.314081    | 0.999   | 0.8413746       | 0.982   | 0.00E+00        |
| TBC1D2 | 1.99E-79 | 2.313897    | 0.743   | 6.28E-17        | 0.294   | 4.37E-91        |
| KATNAL1| 4.64E-97 | 2.313695    | 0.861   | 1.46E-92        | 0.588   | 1.46E-92        |
| ETAA1  | 4.72E-81 | 2.313658    | 0.655   | 1.49E-76        | 0.3     | 1.49E-76        |
| FADS1  | 2.59E-143| 2.313098    | 0.701   | 0.981           | 0.92    | 0.981           |
| IL7R   | 2.04E-52 | 2.312428    | 0.594   | 6.08E-44        | 0.35    | 6.08E-44        |
| ZCRB1  | 1.99E-79 | 2.312368    | 0.416   | 8.18E-17        | 0.5     | 8.18E-17        |
| NDUFA4 | 0.00E+00 | 2.312368    | 1       | 1               | 1       | 1.0E+00         |
| TP53I3 | 3.04E-52 | 2.312368    | 0.999   | 9.58E-48        | 0.698   | 9.58E-48        |
| ID2    | 1.52E-116| 2.312368    | 0.961   | 4.78E-112       | 0.813   | 4.78E-112       |
| TMEM159| 4.20E-67 | 2.312368    | 0.961   | 1.32E-62        | 0.576   | 1.32E-62        |
| G2E3   | 1.86E-63 | 2.312368    | 0.961   | 5.88E-59        | 0.549   | 5.88E-59        |
| AP1M2  | 1.95E-88 | 2.312368    | 0.961   | 6.15E-84        | 0.3     | 6.15E-84        |
| ANGPT1 | 1.59E-103| 2.312368    | 0.955   | 5.03E-99        | 0.813   | 5.03E-99        |
| ITGA8  | 1.74E-36 | 2.312368    | 0.268   | 5.47E-32        | 0.082   | 5.47E-32        |
| ISCA2  | 1.42E-83 | 2.312368    | 0.759   | 4.48E-79        | 0.47    | 4.48E-79        |
| MRPL41 | 7.12E-197| 2.312368    | 0.961   | 2.25E-192       | 0.796   | 2.25E-192       |
| TANC1  | 7.16E-73 | 2.312368    | 0.728   | 2.26E-68        | 0.426   | 2.26E-68        |
| ACAT2  | 4.90E-101| 2.312368    | 0.898   | 1.55E-96        | 0.641   | 1.55E-96        |
| GBP1   | 7.00E-95 | 2.312368    | 0.938   | 2.21E-90        | 0.82    | 2.21E-90        |
| NCKAP5 | 6.07E-146| 2.312368    | 0.465   | 1.19E-40        | 0.213   | 1.19E-40        |
| IRF2BPL| 7.26E-112| 2.312368    | 0.802   | 2.29E-107       | 0.409   | 2.29E-107       |
| CYB5R2 | 1.28E-79 | 2.312368    | 0.522   | 4.04E-75        | 0.169   | 4.04E-75        |
| CCDC107| 3.01E-92 | 2.312368    | 0.842   | 9.51E-88        | 0.573   | 9.51E-88        |
| ANAPC11| 2.93E-273| 2.312368    | 0.998   | 9.23E-269       | 0.983   | 9.23E-269       |
| IRF1   | 1.58E-77 | 2.312368    | 0.766   | 5.00E-73        | 0.452   | 5.00E-73        |
| DYNLRB1| 1.71E-261| 2.312368    | 0.997   | 5.40E-257       | 0.964   | 5.40E-257       |
| NPC2   | 3.34E-146| 2.312368    | 0.995   | 1.05E-141       | 0.984   | 1.05E-141       |
| BEX3   | 4.69E-271| 2.312368    | 1       | 1.48E-266       | 1       | 1.48E-266       |
| CDK1   | 4.83E-25 | 2.312368    | 0.538   | 1.52E-20        | 0.362   | 1.52E-20        |
| INSYN2B| 5.00E-78 | 2.312368    | 0.645   | 1.58E-73        | 0.285   | 1.58E-73        |
| UCHL1  | 1.97E-131| 2.312368    | 0.97    | 6.23E-127       | 0.905   | 6.23E-127       |
| HIP1   | 1.83E-120| 2.312368    | 0.94    | 5.78E-116       | 0.725   | 5.78E-116       |
| JAZF1  | 4.11E-91 | 2.312368    | 0.889   | 1.30E-86        | 0.693   | 1.30E-86        |
| MOXD1  | 3.98E-58 | 2.312368    | 0.55    | 1.25E-53        | 0.253   | 1.25E-53        |
| LDB2   | 4.66E-81 | 2.312368    | 0.777   | 1.47E-76        | 0.463   | 1.47E-76        |
| Gene     | Fold Change | Expression Level | p-value | q-value | FDR   | p-value | q-value |
|----------|-------------|------------------|---------|---------|-------|---------|---------|
| MRPL54   | 2.81E-128   | 0.8162655        | 0.878   | 0.628   | 8.86E-124 |
| SNRPC    | 1.95E-209   | 0.813911         | 1       | 0.992   | 6.14E-205 |
| TRIM14   | 6.06E-72    | 0.8138365        | 0.498   | 0.171   | 1.91E-67 |
| ASF1A    | 1.64E-98    | 0.8128401        | 0.802   | 0.438   | 5.18E-94 |
| WNT5A    | 4.60E-61    | 0.8114973        | 0.964   | 0.939   | 1.45E-56 |
| NCAM2    | 2.00E-61    | 0.8106204        | 0.418   | 0.127   | 6.30E-57 |
| MAN2A1   | 4.65E-119   | 0.8095561        | 0.96    | 0.839   | 1.47E-114 |
| INPPL1   | 7.41E-100   | 0.8068276        | 0.663   | 0.289   | 3.14E-85 |
| PARPBP   | 2.81E-50    | 0.8063651        | 0.32    | 8.88E-46 |
| FZD6     | 3.04E-101   | 0.8061403        | 0.91    | 0.674   | 9.60E-97 |
| SLC9A3R2 | 1.20E-139   | 0.8060199        | 0.946   | 0.667   | 3.78E-135 |
| NUDT2    | 9.96E-88    | 0.8059293        | 0.784   | 0.47    | 3.14E-83 |
| PTMA     | 0.00E+00    | 0.8031121        | 1       | 1       | 0.00E+00 |
| MOSPD2   | 1.63E-80    | 0.8031013        | 0.837   | 0.573   | 5.13E-76 |
| NECTIN3  | 5.59E-146   | 0.8029021        | 0.994   | 0.946   | 1.76E-141 |
| DTWD1    | 2.75E-103   | 0.8019599        | 0.83    | 0.507   | 8.66E-99 |
| CENPJ    | 7.65E-43    | 0.8018724        | 0.492   | 0.255   | 2.41E-38 |
| CYB5A    | 7.36E-101   | 0.8013144        | 0.909   | 0.739   | 2.32E-96 |
| TAF1B    | 1.12E-99    | 0.8009006        | 0.787   | 0.42    | 3.52E-95 |
| SCD      | 1.11E-78    | 0.7999172        | 0.951   | 0.836   | 3.51E-74 |
| EID1     | 0.00E+00    | 0.7987839        | 1       | 1       | 0.00E+00 |
| SLFN5    | 3.32E-96    | 0.7976466        | 0.926   | 0.737   | 1.05E-91 |
| JADE2    | 1.16E-89    | 0.7976412        | 0.464   | 0.104   | 3.66E-85 |
| CENPX    | 3.52E-106   | 0.7975584        | 0.933   | 0.802   | 1.11E-101 |
| MSMO1    | 2.14E-59    | 0.7973665        | 0.839   | 0.624   | 6.75E-55 |
| PDP2     | 1.33E-61    | 0.7973725        | 0.581   | 0.299   | 4.19E-57 |
| KPNA2    | 9.45E-38    | 0.7972369        | 0.951   | 0.911   | 2.98E-33 |
| TRPC4    | 1.33E-68    | 0.7952769        | 0.566   | 0.231   | 4.19E-64 |
| APCDD1   | 3.03E-40    | 0.7944326        | 0.218   | 0.04    | 9.55E-36 |
| DBI      | 4.86E-178   | 0.7938886        | 0.981   | 0.888   | 1.53E-173 |
| CBR3     | 1.99E-54    | 0.7936777        | 0.639   | 0.374   | 6.26E-50 |
| IGF2BP1  | 6.51E-46    | 0.7934645        | 0.438   | 0.213   | 2.05E-41 |
| MRPL51   | 3.80E-231   | 0.7931991        | 0.997   | 0.982   | 1.20E-226 |
| S100A13  | 1.67E-212   | 0.7910858        | 0.993   | 0.899   | 5.28E-208 |
| FBLN1    | 2.30E-109   | 0.7910465        | 0.943   | 0.747   | 7.26E-105 |
| AC011295.1 | 1.09E-230 | 0.789562         | 2       | 1       | 3.45E-226 |
| BUB1B    | 7.75E-40    | 0.7893579        | 0.433   | 0.206   | 2.44E-35 |
| Gene     | p-value  | Odds Ratio | Risk Score | Hazard Ratio | OR     | 95% CI Low | 95% CI High |
|----------|----------|------------|------------|--------------|--------|------------|-------------|
| HOXA9    | 1.38E-82 | 0.7893318  | 2.201925   | 0.621        | 0.261  | 4.36E-78   |             |
| SKA1     | 5.36E-38 | 0.7893061  | 2.201868   | 0.49         | 0.32   | 1.69E-33   |             |
| PM20D2   | 5.88E-61 | 0.7888713  | 2.200911   | 0.456        | 0.168  | 1.85E-56   |             |
| REV1     | 7.60E-67 | 0.7880785  | 2.199167   | 0.611        | 0.288  | 2.40E-62   |             |
| RAD1     | 7.58E-89 | 0.7875195  | 2.197938   | 0.884        | 0.655  | 2.39E-84   |             |
| TMEM154  | 5.69E-60 | 0.7874219  | 2.197723   | 0.549        | 0.259  | 1.79E-55   |             |
| RTL10    | 2.38E-67 | 0.7869652  | 2.19672    | 0.501        | 0.183  | 7.52E-63   |             |
| AC243919.1 | 5.20E-212 | 0.7866854 | 2.196105 | 0.999       | 1      | 1.64E-207   |             |
| ZMYM3    | 1.62E-70 | 0.7861851  | 2.195007   | 0.55         | 0.211  | 5.11E-66   |             |
| GTF3C6   | 3.24E-205 | 0.7859356 | 2.194459  | 0.995        | 0.972  | 1.02E-200   |             |
| CARD9    | 5.02E-87 | 0.7853525  | 2.19318    | 0.456        | 0.168  | 1.58E-82   |             |
| MT-ATP8  | 4.73E-67 | 0.7852643  | 2.19286    | 0.986        | 0.881  | 1.49E-254   |             |
| PPM1K    | 7.60E-67 | 0.785006   | 2.19242    | 0.631        | 0.387  | 5.65E-49   |             |
| H3-3A    | 0       | 0.7843161  | 2.190908   | 1            | 1      | 0          |             |
| MTATP6P1 | 0.00E+00 | 0.7841449  | 2.190533   | 1            | 1      | 0.00E+00   |             |
| ADCY9    | 8.95E-67 | 0.7840621  | 2.190352   | 0.586        | 0.276  | 2.82E-62   |             |
| ARHGEF28 | 3.45E-48 | 0.7833689  | 2.188834   | 0.418        | 0.167  | 1.09E-43   |             |
| CD248    | 2.51E-211 | 0.781251  | 2.184203   | 0.998        | 0.952  | 7.93E-207   |             |
| FDX2     | 6.94E-81 | 0.7811232  | 2.183924   | 0.717        | 0.418  | 2.19E-76   |             |
| NDFIP2   | 1.96E-102 | 0.780916  | 2.181672   | 0.966        | 0.914  | 6.17E-98   |             |
| TMEM126A | 2.30E-111 | 0.7799665 | 2.181399   | 0.947        | 0.839  | 7.26E-107  |             |
| C16orf87 | 4.60E-87 | 0.778862   | 2.179044   | 0.804        | 0.492  | 1.45E-82   |             |
| PNKD     | 2.35E-105 | 0.7784486 | 2.17809   | 0.858        | 0.616  | 7.41E-101  |             |
| TRAM2    | 1.21E-183 | 0.7783302 | 2.177833 | 0.999        | 0.986  | 3.82E-179  |             |
| PEG10    | 1.89E-39 | 0.7768388  | 2.174587 | 0.415        | 0.194  | 5.97E-35   |             |
| RRM2B    | 4.04E-81 | 0.7768023  | 2.174308   | 0.895        | 0.703  | 1.27E-76   |             |
| MRPS6    | 3.08E-128 | 0.7762889 | 2.173392  | 0.962        | 0.815  | 9.71E-124  |             |
| DENND2B  | 2.19E-81 | 0.7761598  | 2.173111   | 0.813        | 0.513  | 6.91E-77   |             |
| POC1A    | 2.94E-46 | 0.7757305  | 2.172178   | 0.444        | 0.185  | 9.26E-42   |             |
| NOG      | 7.06E-65 | 0.7756744  | 2.172057   | 0.272        | 0.031  | 2.23E-60   |             |
| PCDH9    | 6.84E-16 | 0.775358   | 2.171369   | 0.675        | 0.571  | 2.16E-11   |             |
| POPDC3   | 8.38E-84 | 0.7751209  | 2.170855   | 0.802        | 0.493  | 2.64E-79   |             |
| KIF15    | 1.68E-39 | 0.7746876  | 2.169914   | 0.367        | 0.151  | 5.31E-35   |             |
| GMNN     | 5.15E-58 | 0.7746061  | 2.169737   | 0.693        | 0.424  | 1.63E-53   |             |
| AC068831.6 | 3.76E-62 | 0.7744289 | 2.169353 | 0.642        | 0.363  | 1.19E-57   |             |
| XPC      | 8.58E-77 | 0.7737174  | 2.16781    | 0.715        | 0.373  | 2.71E-72   |             |
| PCLAF    | 6.74E-73 | 0.7730673  | 2.166401   | 0.853        | 0.703  | 2.13E-68   |             |
| ARHGAP29 | 2.09E-65 | 0.7729389  | 2.166123   | 0.837        | 0.644  | 6.59E-61   |             |
| PRNP     | 3.36E-164 | 0.7726145 | 2.16542   | 1            | 1      | 1.06E-159  |             |
| RAD51AP1 | 6.35E-38 | 0.7725133  | 2.165201   | 0.447        | 0.225  | 2.00E-33   |             |
| Gene     | Value       | P-value   | TSPAN9   | Value       | P-value   | TCEAL1   | Value       | P-value   | ADGRA2   | Value       | P-value   |
|----------|-------------|-----------|----------|-------------|-----------|----------|-------------|-----------|----------|-------------|-----------|
| MDK      | 8.32E-68    | 0.772206  | 2.164536 | 0.835       | 0.606     | 2.62E-63 |
| TSPAN9   | 2.27E-69    | 0.771968  | 2.164021 | 0.629       | 0.308     | 7.14E-65 |
| FBXL5    | 2.91E-85    | 0.771789  | 2.163635 | 0.784       | 0.457     | 9.17E-81 |
| NSL1     | 8.51E-93    | 0.771552  | 2.163121 | 0.828       | 0.519     | 2.68E-88 |
| AC010735.2 | 1.19E-57   | 0.771522  | 2.163057 | 0.384       | 0.108     | 3.75E-53 |
| NCALD    | 7.25E-56    | 0.7712754 | 2.162523 | 0.312       | 0.07      | 2.29E-51 |
| HOXD8    | 8.49E-76    | 0.771262  | 2.162494 | 0.634       | 0.291     | 2.68E-71 |
| HPF1     | 3.10E-73    | 0.77110152| 2.16196  | 0.722       | 0.428     | 9.77E-69 |
| HMGB1P6  | 1.32E-152   | 0.7708145 | 2.161526 | 0.897       | 0.548     | 4.16E-148|
| SNRNP25  | 6.71E-60    | 0.7702317 | 2.160267 | 0.765       | 0.588     | 2.12E-55 |
| SNRPD2   | 2.57913403026815e-310 | 0.7701923 | 2.160182 | 1           | 0.989     | 8.13E-306|
| PIF1     | 4.32E-39    | 0.7699513 | 2.159661 | 0.411       | 0.201     | 1.36E-34 |
| TFB1M    | 8.78E-77    | 0.7694673 | 2.158161 | 0.58        | 0.222     | 2.77E-72 |
| SOX4     | 3.30E-24    | 0.7693558 | 2.158375 | 0.798       | 0.765     | 1.04E-19 |
| CDC25C   | 1.42E-34    | 0.7688577 | 2.157301 | 0.291       | 0.107     | 4.48E-30 |
| DDX58    | 6.54E-57    | 0.7683441 | 2.156193 | 0.389       | 0.119     | 2.06E-52 |
| CENPM    | 1.71E-50    | 0.7681816 | 2.155842 | 0.59        | 0.335     | 5.48E-46 |
| TIMP2    | 0.00E+00    | 0.7678661 | 2.155163 | 1           | 1         | 0.00E+00 |
| SPC24    | 2.87E-63    | 0.7678427 | 2.155112 | 0.552       | 0.247     | 9.04E-59 |
| TCEAL1   | 1.57E-72    | 0.7669975 | 2.153291 | 0.757       | 0.474     | 4.96E-68 |
| MRPL23   | 1.7E-156    | 0.7652117 | 2.149449 | 0.964       | 0.815     | 5.48E-59 |
| MT-ATP6  | 0           | 0.7651325 | 2.149279 | 1           | 1         | 0.00E+00 |
| HINT1    | 0.00E+00    | 0.7645251 | 2.147974 | 1           | 1         | 0.00E+00 |
| CPT1C    | 2.28E-62    | 0.7635826 | 2.145951 | 0.577       | 0.281     | 7.18E-58 |
| FRMPD4   | 1.73E-63    | 0.7629221 | 2.144534 | 0.327       | 0.06      | 5.47E-59 |
| NDUF10   | 3.49E-176   | 0.7613155 | 2.141091 | 0.991       | 0.939     | 1.10E-171|
| ADGRA2   | 3.37E-94    | 0.7598564 | 2.137969 | 0.93        | 0.753     | 1.06E-89 |
| CHAMP1   | 4.01E-79    | 0.7597512 | 2.137744 | 0.59        | 0.237     | 1.27E-74 |
| LIMCH1   | 1.36E-49    | 0.7596244 | 2.137473 | 0.448       | 0.175     | 4.29E-45 |
| MEIS2    | 2.34E-83    | 0.7584885 | 2.135047 | 0.863       | 0.595     | 7.39E-79 |
| SKA2     | 2.36E-114   | 0.7584126 | 2.134885 | 0.944       | 0.763     | 7.46E-110|
| LRIG3    | 1.37E-56    | 0.7575751 | 2.133097 | 0.379       | 0.109     | 4.31E-52 |
| SMIM29   | 4.73E-59    | 0.7575517 | 2.133048 | 0.707       | 0.462     | 1.49E-54 |
| NDUF6    | 1.43E-215   | 0.7573605 | 2.13264  | 0.998       | 0.978     | 4.51E-211|
| CIT      | 8.54E-48    | 0.7572187 | 2.132337 | 0.484       | 0.228     | 2.69E-43 |
| GN5B     | 1.75E-83    | 0.7571717 | 2.132237 | 0.873       | 0.653     | 5.53E-79 |
| PARP4    | 1.72E-82    | 0.7566119 | 2.131044 | 0.854       | 0.596     | 5.44E-78 |
| CARHSP1  | 2.78E-109   | 0.7553059 | 2.128262 | 0.934       | 0.759     | 8.77E-105|
| DDX60L   | 5.06E-60    | 0.7549214 | 2.127444 | 0.612       | 0.312     | 1.60E-55 |
| LINC01085 | 4.99E-66   | 0.7548853 | 2.127367 | 0.338       | 0.064     | 1.57E-61 |
| Gene  | Score | FDR  | p-value (log10) | E-value  |
|-------|-------|------|----------------|----------|
| RPL22L1 | 6.78E-167 | 0.7546469 | 2.12686 | 0.994 | 0.957 | 2.14E-162 |
| TRIP13 | 1.80E-47 | 0.7546314 | 2.126827 | 0.592 | 0.347 | 5.67E-43 |
| HAUS1 | 6.01E-79 | 0.7546217 | 2.126807 | 0.783 | 0.493 | 1.89E-74 |
| CIP2A | 6.20E-40 | 0.7534524 | 2.124321 | 0.597 | 0.378 | 1.95E-35 |
| GCNT4 | 2.59E-57 | 0.7518994 | 2.121025 | 0.289 | 0.054 | 8.16E-53 |
| CEP78 | 1.05E-54 | 0.7517206 | 2.120464 | 0.749 | 0.538 | 3.31E-50 |
| FANCI | 2.66E-162 | 0.7516314 | 2.120427 | 0.592 | 0.347 | 8.16E-53 |
| IGF2BP3 | 5.56E-41 | 0.7518994 | 2.121025 | 0.289 | 0.054 | 8.16E-53 |
| DNMT1 | 1.58E-82 | 0.7510183 | 2.119157 | 0.916 | 0.752 | 4.97E-78 |
| TPRKB | 3.01E-70 | 0.7507568 | 2.118603 | 0.776 | 0.564 | 1.91E-67 |
| HAUS1 | 6.01E-79 | 0.7546217 | 2.126807 | 0.783 | 0.493 | 1.89E-74 |
| CIP2A | 6.20E-40 | 0.7534524 | 2.124321 | 0.597 | 0.378 | 1.95E-35 |
| GCNT4 | 2.59E-57 | 0.7518994 | 2.121025 | 0.289 | 0.054 | 8.16E-53 |
| CEP78 | 1.05E-54 | 0.7517206 | 2.120464 | 0.749 | 0.538 | 3.31E-50 |
| FANCI | 2.66E-162 | 0.7516314 | 2.120427 | 0.592 | 0.347 | 8.16E-53 |
| IGF2BP3 | 5.56E-41 | 0.7518994 | 2.121025 | 0.289 | 0.054 | 8.16E-53 |
| DNMT1 | 1.58E-82 | 0.7510183 | 2.119157 | 0.916 | 0.752 | 4.97E-78 |
| TPRKB | 3.01E-70 | 0.7507568 | 2.118603 | 0.776 | 0.564 | 1.91E-67 |

**Note:** The table lists genes with significant scores and p-values, along with their respective scores, FDR values, and E-values. The genes are sorted by their FDR values.
| Gene     | FDR   | PValue  | Freq  | BM     | TFCount | PValue  | Freq  | BM     | TFCount |
|----------|-------|---------|-------|--------|----------|---------|-------|--------|----------|
| CCDC81   | 8.99E-62 | 0.7334882 | 2.082332 | 0.275  | 0.038    | 2.84E-57 |
| GTF2I    | 6.73E-192 | 0.7330325 | 2.081364 | 0.998  | 0.984    | 2.12E-187 |
| NDC1     | 5.16E-53  | 0.73239   | 2.080046 | 0.632  | 0.36     | 1.63E-48  |
| PLEK2    | 2.34E-48  | 0.7322387 | 2.079731 | 0.448  | 0.192    | 7.38E-44  |
| MXD3     | 2.49E-32  | 0.7322164 | 2.079685 | 0.586  | 0.441    | 7.87E-28  |
| XRR1A    | 8.02E-52  | 0.7307335 | 2.076603 | 0.492  | 0.218    | 2.53E-47  |
| PTMS     | 9.13E-278 | 0.7305329 | 2.076187 | 1      | 1        | 2.88E-273 |
| MRPL58   | 5.22E-80  | 0.7304158 | 2.075944 | 0.813  | 0.565    | 1.65E-75  |
| LSM10    | 3.15E-76  | 0.73007   | 2.075226 | 0.847  | 0.635    | 9.94E-72  |
| ZNF618   | 1.98E-72  | 0.7296812 | 2.074419 | 0.682  | 0.35     | 6.23E-68  |
| AC007920.2 | 2.07E-67 | 0.7295924 | 2.074235 | 0.267  | 0.028    | 6.53E-57  |
| LSM3     | 6.90E-115 | 0.7287772 | 2.072545 | 0.933  | 0.788    | 2.17E-110 |
| SELENOM  | 6.13E-158 | 0.7285226 | 2.072017 | 0.999  | 0.995    | 1.93E-153 |
| NDUFS5   | 1.83E-269 | 0.7278681 | 2.070661 | 1      | 0.993    | 5.78E-265 |
| RANGAP1  | 5.18E-113 | 0.726042  | 2.070115 | 0.956  | 0.785    | 1.63E-108 |
| SL7C2A   | 3.74E-40  | 0.726351  | 2.06962  | 0.226  | 0.047    | 1.18E-35  |
| SMIM30   | 1.77E-120 | 0.7260207 | 2.06684  | 0.923  | 0.706    | 5.59E-116 |
| TFAP2A   | 1.12E-16  | 0.7240536 | 2.062778 | 0.357  | 0.217    | 3.53E-12  |
| RAI14    | 6.72E-143 | 0.724024  | 2.062171 | 0.998  | 0.995    | 2.12E-138 |
| CROT     | 4.72E-55  | 0.7237638 | 2.06218  | 0.52   | 0.233    | 1.49E-50  |
| C19orf53 | 5.54E-186 | 0.723003  | 2.060612 | 0.992  | 0.933    | 1.75E-181 |
| AKIP1    | 4.82E-82  | 0.72292   | 2.060441 | 0.863  | 0.609    | 1.52E-77  |
| GREM2    | 1.29E-26  | 0.7227041 | 2.059996 | 0.533  | 0.361    | 4.08E-22  |
| RPA3     | 1.05E-62  | 0.7226456 | 2.059876 | 0.699  | 0.432    | 3.30E-58  |
| ABC4     | 3.69E-62  | 0.7212247 | 2.056951 | 0.791  | 0.554    | 1.16E-57  |
| RSR1C    | 3.73E-68  | 0.7206962 | 2.055864 | 0.666  | 0.361    | 1.18E-63  |
| CYBA     | 2.46E-97  | 0.7199378 | 2.054305 | 0.912  | 0.809    | 7.75E-93  |
| WEE1     | 2.27E-84  | 0.7196392 | 2.053692 | 0.718  | 0.356    | 7.16E-80  |
| PHPT1    | 2.72E-189 | 0.7196323 | 2.053678 | 0.993  | 0.941    | 8.56E-185 |
| TCF12    | 5.60E-117 | 0.7189123 | 2.0522   | 0.974  | 0.88     | 1.77E-112 |
| CAB1N1   | 3.13E-68  | 0.7187368 | 2.05184  | 0.665  | 0.338    | 9.88E-64  |
| AC138811.2| 1.16E-58 | 0.7176355 | 2.049581 | 0.876  | 0.763    | 3.66E-54  |
| FLOT1    | 5.42E-197 | 0.7171306 | 2.048547 | 0.998  | 0.948    | 1.71E-192 |
| JADE1    | 1.41E-75  | 0.7166889 | 2.047642 | 0.802  | 0.494    | 4.45E-71  |
| AJUBA    | 3.51E-93  | 0.7165196 | 2.047295 | 0.833  | 0.489    | 1.11E-88  |
| CIA02B   | 6.40E-176 | 0.7156057 | 2.045425 | 0.992  | 0.964    | 2.02E-171 |
| APOBEC3B | 1.07E-53  | 0.7151045 | 2.0444   | 0.527  | 0.233    | 3.37E-49  |
| HMCES    | 9.30E-59  | 0.7149546 | 2.044094 | 0.734  | 0.454    | 2.93E-54  |
| MICU3    | 5.79E-50  | 0.7149432 | 2.04407  | 0.606  | 0.338    | 1.83E-45  |
| FAM155A  | 6.48E-47  | 0.7147542 | 2.043684 | 0.61   | 0.354    | 2.05E-42  |
| Gene    | p-value | q-value | Sensitivity | Specificity | AUC       |
|---------|---------|---------|-------------|-------------|-----------|
| PCGF2   | 1.44E-68| 0.7145304| 2.043227    | 0.765       | 4.54E-64  |
| WNK4    | 7.23E-49| 0.7143301| 2.042818    | 0.433       | 2.28E-44  |
| HCFC1R1 | 6.27E-76| 0.7140107| 2.042165    | 0.777       | 1.98E-71  |
| TBL1X   | 2.93E-72| 0.7129842| 2.04007     | 0.86        | 9.24E-68  |
| NAPRT   | 1.14E-59| 0.7115256| 2.037097    | 0.51        | 3.60E-55  |
| SSPN    | 1.07E-68| 0.7097776| 2.033539    | 0.826       | 3.38E-64  |
| SNRPE   | 1.75E-165| 0.7092642| 2.031027    | 0.862       | 4.7E-44   |
| MAML2   | 5.43E-60 | 0.7086349| 2.031217    | 0.673       | 1.71E-55  |
| SAMD9L  | 4.68E-45 | 0.7085414| 2.030565    | 0.717       | 8.99E-49  |
| DZIP1   | 2.85E-53 | 0.7083143| 2.029928    | 1           | 1.8E-194  |
| CRIM1   | 5.71E-199| 0.7080004| 2.02894     | 0.164       | 2.31E-47  |
| SPHKAP  | 7.32E-52 | 0.7075135| 2.028161    | 0.349       | 1.35E-47  |
| PSIP1   | 1.27E-110| 0.7071294| 2.027699    | 0.991       | 1.57E-155 |
| NDUFAB1 | 4.97E-160| 0.7073167| 2.024488    | 0.665       | 8.31E-56  |
| MSRA    | 2.64E-60 | 0.7053167| 2.024337    | 0.698       | 1.35E-47  |
| PBX3    | 4.30E-52 | 0.7052424| 2.02426     | 0.349       | 1.89E-84  |
| GATA2-AS1| 6.01E-89 | 0.7052041| 2.024066    | 0.577       | 4.02E-56  |
| COX7A1  | 3.53E-114| 0.7051082| 2.023828    | 0.553       | 5.26E-20  |
| CDKN2D  | 1.67E-24 | 0.7049909| 2.023288    | 0.977       | 1.64E-89  |
| KIFBP   | 5.20E-94 | 0.7045815| 2.022649    | 0.264       | 1.64E-89  |
| HDAC9   | 3.39E-44 | 0.7044082| 2.021921    | 0.66        | 4.61E-40  |
| ATP10D  | 1.46E-44 | 0.7040482| 2.021884    | 0.313       | 1.30E-37  |
| RTKN2   | 4.12E-42 | 0.704296| 2.021007    | 0.749       | 7.51E-96  |
| ANKRD34A| 2.38E-100| 0.703596| 2.020958    | 0.509       | 6.39E-49  |
| OPN3    | 2.02E-53 | 0.7030769| 2.019593    | 0.82        | 2.15E-62  |
| OSBPL1A | 6.83E-67 | 0.7028962| 2.019593    | 0.82        | 1.11E-109 |
| OIP5    | 4.39E-36 | 0.7025201| 2.018834    | 0.38        | 1.38E-31  |
| MAD2L1  | 2.18E-44 | 0.7020506| 2.017886    | 0.682       | 6.89E-40  |
| MZT2B   | 1.4E-213 | 0.7015219| 2.01682     | 0.996       | 4.51E-209 |
| RPL29   | 0.00E+00 | 0.7014695| 2.016714    | 1           | 0.00E+00  |
| NQO2    | 4.79E-67 | 0.7009836| 2.015734    | 0.8         | 1.51E-62  |
| RNF150  | 4.08E-45 | 0.6998843| 2.01352     | 0.548       | 1.29E-40  |
| LPIN1   | 9.41E-51 | 0.6998588| 2.013468    | 0.705       | 2.97E-46  |
| NUDT1   | 1.33E-74 | 0.697705| 2.013291    | 0.778       | 4.21E-70  |
| ZDHHHC17| 1.65E-60 | 0.6992235| 2.01219     | 0.791       | 5.21E-56  |
| SNX6    | 7.24E-236| 0.6990959| 2.011933    | 1           | 2.28E-231 |
| TNS2    | 6.11E-56 | 0.6990552| 2.011851    | 0.661       | 1.93E-51  |
| C8orf58 | 1.95E-50 | 0.6990296| 2.01181     | 0.503       | 6.16E-46  |
| UBL4A   | 3.13E-60 | 0.6989532| 2.011646    | 0.644       | 9.89E-56  |
| Gene       | Value 1  | Value 2  | Value 3  | Value 4  | Value 5  | Value 6  |
|-----------|---------|---------|---------|---------|---------|---------|
| PGAP4     | 1.30E-55 | 0.6988781 | 2.011495 | 0.503 | 0.205 | 4.09E-51 |
| RND3      | 1.37E-139 | 0.6986581 | 2.011052 | 1 | 0.999 | 4.32E-135 |
| MGST3     | 2.26E-157 | 0.697567 | 2.008859 | 0.998 | 0.998 | 7.11E-153 |
| NEIL3     | 4.33E-41 | 0.6973071 | 2.008337 | 0.313 | 0.098 | 1.37E-36 |
| CMC1      | 3.06E-79 | 0.6967183 | 2.007155 | 0.745 | 0.447 | 9.65E-75 |
| TP53TG1   | 2.18E-54 | 0.6965778 | 2.006873 | 0.579 | 0.336 | 6.88E-50 |
| CHEK1     | 1.35E-69 | 0.6954527 | 2.004616 | 0.748 | 0.44 | 4.25E-65 |
| CTDSPL    | 5.47E-61 | 0.6945497 | 2.003321 | 0.75 | 0.482 | 1.72E-56 |
| NDUFS4    | 1.21E-114 | 0.6937398 | 2.00447 | 0.953 | 0.818 | 3.38E-110 |
| USP53     | 1.95E-30 | 0.6934785 | 2.003279 | 0.603 | 0.429 | 6.14E-26 |
| NQO1      | 1.95E-189 | 0.6937398 | 2.00447 | 1 | 0.999 | 6.14E-185 |
| AL365205.1 | 1.11E-145 | 0.6944949 | 2.002697 | 0.979 | 0.893 | 3.50E-141 |
| SNX18     | 3.53E-63 | 0.6941431 | 2.001993 | 0.835 | 0.618 | 1.11E-58 |
| NUP62     | 1.09E-70 | 0.693981 | 2.001686 | 0.91 | 0.747 | 3.45E-66 |
| TRMT1L    | 2.71E-54 | 0.6932211 | 2.000148 | 0.569 | 0.27 | 8.54E-50 |
| PSMB10    | 1.42E-58 | 0.6947565 | 2.003221 | 1 | 0.999 | 6.14E-185 |
| SETDB1    | 2.41E-49 | 0.6932211 | 1.999753 | 0.476 | 0.217 | 7.61E-45 |
| HSPB11    | 1.10E-74 | 0.691947 | 1.997601 | 0.852 | 0.676 | 3.46E-70 |
| TXNRD1    | 3.37E-136 | 0.6918976 | 1.997502 | 1 | 1 | 1.06E-131 |
| NDUFB3    | 4.41E-138 | 0.6914252 | 1.996559 | 0.964 | 0.827 | 1.39E-133 |
| NUDT12    | 9.28E-63 | 0.6907359 | 1.995183 | 0.493 | 0.18 | 2.93E-58 |
| TCEAL4    | 1.55E-93 | 0.6905758 | 1.994864 | 0.975 | 0.881 | 4.89E-89 |
| SMIM10    | 5.89E-59 | 0.6902884 | 1.994291 | 0.553 | 0.267 | 1.86E-54 |
| SCR1      | 1.25E-103 | 0.6897841 | 1.993285 | 0.953 | 0.785 | 3.95E-99 |
| TFAP2C    | 1.54E-52 | 0.6896314 | 1.992981 | 0.26 | 0.042 | 4.87E-48 |
| ATP5PO    | 2.25E-219 | 0.6893697 | 1.992459 | 1 | 1 | 7.09E-215 |
| IL13RA2   | 7.17E-16 | 0.6887872 | 1.991299 | 0.184 | 0.076 | 2.26E-11 |
| PARP9     | 9.22E-52 | 0.6885744 | 1.990875 | 0.505 | 0.218 | 2.91E-47 |
| ZNF480    | 6.51E-56 | 0.6877649 | 1.989264 | 0.529 | 0.24 | 2.05E-51 |
| KRT10     | 2.25E-186 | 0.6876542 | 1.989044 | 0.998 | 0.98 | 7.11E-182 |
| ZDHHC2    | 3.46E-80 | 0.6873098 | 1.988359 | 0.904 | 0.707 | 1.09E-75 |
| JUP       | 5.49E-29 | 0.6870659 | 1.987874 | 0.292 | 0.12 | 1.73E-24 |
| LSM7      | 4.84E-130 | 0.6870614 | 1.987865 | 0.948 | 0.773 | 1.53E-125 |
| MAPK8     | 4.36E-69 | 0.686571 | 1.986891 | 0.904 | 0.753 | 1.38E-64 |
| SKP2      | 5.14E-64 | 0.686142 | 1.986039 | 0.625 | 0.308 | 1.62E-59 |
| RWDD1     | 4.00E-138 | 0.6857659 | 1.985292 | 0.983 | 0.922 | 1.26E-133 |
| ZMYM1     | 2.26E-45 | 0.6857442 | 1.985249 | 0.438 | 0.185 | 7.13E-41 |
| CENPK     | 2.02E-40 | 0.6853967 | 1.984559 | 0.609 | 0.397 | 6.38E-36 |
| BARD1     | 6.34E-39 | 0.6850784 | 1.983927 | 0.448 | 0.215 | 2.00E-34 |
| Gene     | T (°C) | E (kcal/mol) | T (°C) | E (kcal/mol) | T (°C) | E (kcal/mol) | T (°C) | E (kcal/mol) |
|----------|--------|--------------|--------|--------------|--------|--------------|--------|--------------|
| RUNX1T1  | 7.18E-52 | 0.6850644    | 1.9839 | 0.487        | 0.205  | 2.27E-47     |
| KBTBD6   | 6.05E-45 | 0.6841668    | 1.98212| 0.54         | 0.288  | 1.91E-40     |
| UQCC2    | 2.07E-107| 0.6839911    | 1.981772| 0.881       | 0.607  | 6.53E-103    |
| GSTO1    | 8.06E-202| 0.6838638    | 1.981519| 1           | 0.998  | 2.54E-197    |
| DENND3   | 3.46E-50 | 0.6837952    | 1.981383| 0.376       | 0.124  | 1.09E-45     |
| GINS1    | 5.89E-42 | 0.6837581    | 1.98131 | 0.388       | 0.162  | 1.86E-37     |
| STAT2    | 9.54E-48 | 0.6828018    | 1.979416| 0.723       | 0.502  | 3.01E-43     |
| PARP2    | 5.26E-39 | 0.6826881    | 1.979191| 0.544       | 0.308  | 1.66E-34     |
| CNTLN    | 3.16E-60 | 0.6825202    | 1.978858| 0.661       | 0.375  | 9.96E-56     |
| SOX5     | 2.07E-107| 0.6824708    | 1.978761| 0.24        | 0.026  | 7.87E-52     |
| EHD3     | 1.55E-25 | 0.6823719    | 1.978565| 0.72        | 0.58   | 4.88E-21     |
| ACYP1    | 1.06E-65 | 0.682273     | 1.97837 | 0.504       | 0.193  | 3.33E-61     |
| TAF9B    | 3.36E-62 | 0.6815696    | 1.976978| 0.655       | 0.339  | 1.06E-57     |
| DIAPH3   | 3.06E-48 | 0.6812096    | 1.976267| 0.847       | 0.725  | 9.67E-44     |
| RNASEK   | 1.34E-181| 0.6809941    | 1.975841| 0.993       | 0.952  | 4.23E-177    |
| PAFAH1B3 | 2.75E-67 | 0.6808921    | 1.97564 | 0.802       | 0.547  | 8.69E-63     |
| BCAR1    | 1.71E-121| 0.6806555    | 1.975587| 0.971       | 0.802  | 5.40E-117    |
| ITGB3BP  | 4.26E-39 | 0.6800993    | 1.974074| 0.511       | 0.295  | 1.34E-34     |
| COMMD8   | 5.59E-98 | 0.6797421    | 1.973369| 0.913       | 0.665  | 1.76E-93     |
| SDC1     | 8.29E-60 | 0.6797382    | 1.973361| 0.697       | 0.418  | 2.62E-55     |
| TRABD2A  | 6.48E-41 | 0.6796109    | 1.97311 | 0.382       | 0.162  | 2.04E-36     |
| EAPP     | 4.45E-65 | 0.6795025    | 1.972896| 0.814       | 0.564  | 1.40E-60     |
| SEPTIN8  | 3.74E-73 | 0.679068    | 1.972039| 0.827       | 0.559  | 1.18E-68     |
| LARP7    | 6.99E-83 | 0.6783137    | 1.970552| 0.881       | 0.668  | 2.20E-78     |
| MEA1     | 2.16E-106| 0.6780107    | 1.969555| 0.974       | 0.923  | 6.82E-102    |
| LRRC1    | 2.90E-48 | 0.6772755    | 1.968507| 0.426       | 0.165  | 9.16E-44     |
| MICOS10  | 1.62E-199| 0.6771915    | 1.968342| 0.997       | 0.968  | 5.12E-195    |
| LRR1     | 2.22E-48 | 0.6770829    | 1.968128| 0.646       | 0.402  | 6.99E-44     |
| PSME1    | 1.21E-145| 0.6761392    | 1.966272| 0.995       | 0.977  | 3.82E-141    |
| EVA1B    | 4.88E-125| 0.6754988    | 1.965013| 0.98        | 0.876  | 1.54E-120    |
| NOL4L    | 3.58E-50 | 0.6753628    | 1.964746| 0.485       | 0.213  | 1.13E-45     |
| LSM6     | 9.62E-60 | 0.6751968    | 1.96442 | 0.725       | 0.504  | 3.03E-55     |
| TIMELESS | 5.57E-43 | 0.6751237    | 1.964276| 0.539       | 0.278  | 1.76E-38     |
| CENPH    | 1.72E-45 | 0.6743704    | 1.962797| 0.606       | 0.345  | 5.43E-41     |
| MRPL27   | 3.51E-98 | 0.6729006    | 1.959914| 0.932       | 0.839  | 1.11E-93     |
| COX6A1   | 4.60E-256| 0.6727685    | 1.959655| 1           | 0.999  | 1.45E-251    |
| TADA2A   | 4.73E-52 | 0.6725076    | 1.959144| 0.517       | 0.239  | 1.49E-47     |
| ASB8     | 8.57E-72 | 0.6717362    | 1.957633| 0.806       | 0.52   | 2.70E-67     |
| RPAIN    | 3.01E-66 | 0.670417     | 1.955052| 0.825       | 0.61   | 9.48E-62     |
| ATP5MC1  | 6.23E-112| 0.6700541    | 1.954343| 0.954       | 0.831  | 1.96E-107    |
| Gene       | Score    | E-value   | Parameter 1 | Parameter 2 | Parameter 3 | Parameter 4 | Parameter 5 |
|------------|----------|-----------|-------------|-------------|-------------|-------------|-------------|
| STARD7     | 3.74E-119| 0.669087  | 1.952454    | 0.978       | 0.821       | 1.18E-114   |
| ZWILCH     | 6.41E-43 | 0.6688854 | 1.95206     | 0.728       | 0.52        | 2.02E-38    |
| LINC0088   | 2.43E-47 | 0.6688807 | 1.952051    | 0.429       | 0.17        | 7.67E-43    |
| MRPS14     | 8.32E-73 | 0.6686793 | 1.951658    | 0.825       | 0.669       | 2.62E-68    |
| FKBP3      | 1.40E-144| 0.6685859 | 1.951476    | 0.99        | 0.938       | 4.41E-140   |
| GTF2IP1    | 1.31E-151| 0.6685619 | 1.951429    | 0.429       | 0.17        | 7.67E-43    |
| CCDC28B    | 5.63E-47 | 0.6684438 | 1.951199    | 0.584       | 0.35        | 1.77E-42    |
| TMEM52B    | 2.50E-44 | 0.6679371 | 1.95021     | 0.176       | 0.016       | 7.88E-40    |
| SNAPIN     | 7.27E-61 | 0.6671497 | 1.948675    | 0.883       | 0.745       | 9.30E-69    |
| STXBP3     | 6.04E-77 | 0.667234  | 1.949793    | 0.874       | 0.626       | 1.90E-72    |
| MRPL22     | 2.95E-73 | 0.6671497 | 1.948675    | 0.883       | 0.745       | 9.30E-69    |
| SOCS1      | 9.20E-57 | 0.6670696 | 1.948515    | 0.852       | 0.644       | 2.29E-56    |
| OSGIN2     | 5.16E-46 | 0.6666268 | 1.947656    | 0.575       | 0.312       | 1.63E-41    |
| FIGN       | 5.84E-44 | 0.6665104 | 1.94743     | 0.263       | 0.056       | 1.84E-39    |
| KCNJ8      | 3.00E-28 | 0.6659986 | 1.946433    | 0.32        | 0.143       | 9.46E-24    |
| STIL       | 4.06E-31 | 0.6659952 | 1.943845    | 0.426       | 0.239       | 1.28E-26    |
| UQCRH      | 1.20E-221| 0.6657952 | 1.946037    | 0.1          | 0.994       | 3.79E-217   |
| KISS1      | 4.40E-37 | 0.6649654 | 1.944423    | 0.151       | 0.013       | 1.39E-32    |
| PLK4       | 7.41E-30 | 0.6642096 | 1.942954    | 0.35        | 0.163       | 2.34E-25    |
| CEP57L1    | 2.78E-47 | 0.6635387 | 1.941641    | 0.594       | 0.341       | 8.76E-43    |
| AARS1      | 6.61E-91 | 0.6634434 | 1.941466    | 0.965       | 0.844       | 2.09E-86    |
| SCLT1      | 7.39E-41 | 0.6631402 | 1.940878    | 0.574       | 0.337       | 2.33E-36    |
| DEK        | 2.00E-97 | 0.6630582 | 1.940718    | 0.992       | 0.97        | 6.31E-93    |
| KHL5       | 6.35E-65 | 0.6630199 | 1.940644    | 0.901       | 0.782       | 2.00E-60    |
| SUPT20H    | 1.55E-84 | 0.6629546 | 1.940517    | 0.926       | 0.763       | 4.88E-80    |
| H1-10      | 1.08E-66 | 0.6629154 | 1.940441    | 0.941       | 0.831       | 3.40E-62    |
| TLE1       | 2.07E-52 | 0.6627502 | 1.940121    | 0.718       | 0.453       | 6.52E-48    |
| TOMM6      | 1.38E-126| 0.6626769 | 1.939978    | 0.947       | 0.781       | 4.35E-122   |
| ARHGAP19   | 6.48E-38 | 0.6619938 | 1.938654    | 0.361       | 0.14        | 2.04E-33    |
| HEATR6     | 2.99E-49 | 0.6617542 | 1.938189    | 0.601       | 0.323       | 9.42E-45    |
| LURAP1L    | 3.30E-33 | 0.6610656 | 1.936855    | 0.379       | 0.173       | 1.04E-28    |
| PLCB3      | 1.37E-61 | 0.6608313 | 1.936401    | 0.726       | 0.447       | 4.33E-57    |
| SDF2L1     | 3.92E-56 | 0.6602141 | 1.935207    | 0.828       | 0.737       | 1.24E-51    |
| LAMTOR2    | 3.02E-82 | 0.6602035 | 1.935186    | 0.88        | 0.711       | 9.52E-78    |
| PSMA7      | 1.99E-299| 0.660188  | 1.934829    | 1           | 1           | 6.28E-295   |
| SH3PXD2A   | 2.32E-95 | 0.6599577 | 1.934711    | 0.966       | 0.854       | 7.31E-91    |
| SMRT2      | 3.62E-83 | 0.6596283 | 1.934073    | 0.839       | 0.635       | 1.14E-78    |
| COX6B1     | 6.6E-175 | 0.6583331 | 1.93157     | 0.986       | 0.916       | 2.07E-170   |
| AP2S1      | 0.00E+00 | 0.6579427 | 1.930816    | 1           | 1           | 0.00E+00    |
| FOXM1      | 4.09E-44 | 0.6576887 | 1.930326    | 0.74        | 0.536       | 1.29E-39    |
| Gene     | Log2FoldChange | pValue     | FDR         | qValue     |
|----------|----------------|------------|-------------|------------|
| ANP32B   | 2.21E-129      | 0.6574178  | 1.929803    | 0.998      |
| ELOB     | 2.57E-203      | 0.6572622  | 1.929503    | 0.998      |
| TSPAN13  | 1.78E-13       | 0.6561142  | 1.927289    | 0.364      |
| EXOSC8   | 1.77E-51       | 0.6560742  | 1.927212    | 0.838      |
| PDLIM1   | 8.7E-165       | 0.6560393  | 1.927144    | 1          |
| RPS20    | 0.00E+00       | 0.6549647  | 1.925075    | 1          |
| RPS4Y1   | 2.03E-23       | 0.6549232  | 1.924995    | 0.392      |
| TMEM204  | 1.78E-13       | 0.6561142  | 1.927289    | 0.364      |
| EXOSC8   | 1.77E-51       | 0.6560742  | 1.927212    | 0.838      |
| PDLIM1   | 8.7E-165       | 0.6560393  | 1.927144    | 1          |
| RPS20    | 0.00E+00       | 0.6549647  | 1.925075    | 1          |
| RPS4Y1   | 2.03E-23       | 0.6549232  | 1.924995    | 0.392      |
| TMEM204  | 1.78E-13       | 0.6561142  | 1.927289    | 0.364      |
| EXOSC8   | 1.77E-51       | 0.6560742  | 1.927212    | 0.838      |
| PDLIM1   | 8.7E-165       | 0.6560393  | 1.927144    | 1          |
| RPS20    | 0.00E+00       | 0.6549647  | 1.925075    | 1          |
| RPS4Y1   | 2.03E-23       | 0.6549232  | 1.924995    | 0.392      |
| TMEM204  | 1.78E-13       | 0.6561142  | 1.927289    | 0.364      |
| EXOSC8   | 1.77E-51       | 0.6560742  | 1.927212    | 0.838      |
| PDLIM1   | 8.7E-165       | 0.6560393  | 1.927144    | 1          |
| RPS20    | 0.00E+00       | 0.6549647  | 1.925075    | 1          |
| RPS4Y1   | 2.03E-23       | 0.6549232  | 1.924995    | 0.392      |
| TMEM204  | 1.78E-13       | 0.6561142  | 1.927289    | 0.364      |
| EXOSC8   | 1.77E-51       | 0.6560742  | 1.927212    | 0.838      |
| PDLIM1   | 8.7E-165       | 0.6560393  | 1.927144    | 1          |
| Gene       | P    | Freq      | LogFDR | Z    | q    | FoldChange |
|------------|------|-----------|--------|------|-----|------------|
| NSMCE4A    | 1.23E-48 | 0.6457619 | 1.90744 | 0.657 | 0.391 | 3.87E-44   |
| POLR3GL    | 4.97E-60 | 0.6455854 | 1.907103 | 0.703 | 0.446 | 1.57E-55   |
| IDH1       | 2.48E-65 | 0.6454972 | 1.906935 | 0.913 | 0.737 | 7.81E-61   |
| C9orf40    | 6.08E-40 | 0.6454943 | 1.906929 | 0.544 | 0.312 | 1.92E-35   |
| NDUFS6     | 6.02E-144 | 0.6449069 | 1.90581 | 0.972 | 0.872 | 1.90E-139  |
| PHC2       | 1.29E-87 | 0.6446743 | 1.905366 | 0.967 | 0.854 | 3.21E-87   |
| PMAIP1     | 5.76E-85 | 0.6443131 | 1.904735 | 0.592 | 0.369 | 1.69E-33   |
| TIA1       | 1.02E-91 | 0.6439449 | 1.903977 | 0.967 | 0.854 | 3.21E-87   |
| VPS29      | 1.02E-143 | 0.6437262 | 1.903561 | 0.911 | 0.826 | 2.20E-78   |
| NCAPG2     | 6.08E-40 | 0.6427538 | 1.901711 | 0.911 | 0.826 | 2.20E-78   |
| MIEN1      | 6.97E-83 | 0.6424295 | 1.901094 | 0.654 | 0.381 | 2.43E-47   |
| BTN3A2     | 4.76E-55 | 0.6424295 | 1.901094 | 0.741 | 0.483 | 1.50E-50   |
| MRPL1      | 3.14E-65 | 0.6419019 | 1.900091 | 0.576 | 0.305 | 9.91E-61   |
| LSP1P5     | 1.04E-84 | 0.6417695 | 1.89984 | 0.855 | 0.615 | 3.28E-80   |
| MCM7       | 3.31E-58 | 0.6414318 | 1.899198 | 0.913 | 0.599 | 3.87E-44   |
| TAP1       | 8.27E-60 | 0.6409506 | 1.898284 | 0.846 | 0.646 | 2.61E-55   |
| SSB        | 8.12E-167 | 0.6409096 | 1.898207 | 1.000 | 0.996 | 2.56E-162  |
| CETN3      | 2.13E-57 | 0.640271 | 1.896995 | 0.613 | 0.323 | 6.71E-53   |
| KNTC1      | 4.99E-29 | 0.640228 | 1.896913 | 0.416 | 0.229 | 1.57E-24   |
| LASP1      | 2.92E-169 | 0.6394168 | 1.894363 | 0.993 | 0.696 | 1.25E-142  |
| PPP1R14B   | 3.97E-147 | 0.6388827 | 1.893575 | 1.000 | 0.996 | 9.20E-165  |
| DUSP10     | 9.82E-58 | 0.6384425 | 1.893529 | 0.759 | 0.470 | 3.10E-53   |
| ADCY3      | 7.60E-58 | 0.6377532 | 1.892225 | 0.598 | 0.285 | 2.40E-53   |
| MIS18A     | 7.53E-34 | 0.6373722 | 1.891504 | 0.549 | 0.406 | 2.37E-29   |
| XPO1       | 8.12E-167 | 0.6370706 | 1.890933 | 0.998 | 0.968 | 2.58E-128  |
| MAGOHb     | 4.94E-64 | 0.6369901 | 1.890781 | 0.816 | 0.579 | 1.56E-59   |
| RNF26      | 3.02E-49 | 0.6369139 | 1.890637 | 0.725 | 0.478 | 9.54E-45   |
| FBX05      | 1.96E-27 | 0.6367019 | 1.890236 | 0.554 | 0.454 | 6.19E-23   |
| WAC-AS1    | 1.60E-73 | 0.6357366 | 1.888413 | 0.862 | 0.643 | 5.05E-69   |
| DYP30      | 3.15E-103 | 0.6356424 | 1.888235 | 0.960 | 0.867 | 9.94E-99   |
| RSBN1L     | 5.54E-49 | 0.635217 | 1.887432 | 0.669 | 0.426 | 1.75E-44   |
| NR2F2-AS1  | 1.82E-55 | 0.6350621 | 1.887139 | 0.283 | 0.049 | 5.75E-51   |
| LCRORL     | 6.47E-39 | 0.6338162 | 1.88479 | 0.507 | 0.275 | 2.04E-34   |
| SERTAD4-AS | 7.93E-74 | 0.6336742 | 1.884522 | 0.366 | 0.070 | 2.50E-69   |
| CLIC3      | 7.64E-21 | 0.6332411 | 1.883706 | 0.405 | 0.252 | 2.41E-16   |
| CDC25B     | 6.91E-30 | 0.6332316 | 1.883688 | 0.672 | 0.520 | 2.18E-25   |
| SSBP1      | 2.07E-128 | 0.6328909 | 1.883046 | 0.986 | 0.962 | 6.54E-124  |
| DNAJC9     | 1.58E-50 | 0.6328784 | 1.883023 | 0.781 | 0.543 | 4.98E-46   |
| NTMT1      | 4.05E-71 | 0.6328179 | 1.882909 | 0.921 | 0.784 | 1.28E-66   |
| Gene   | Score  | p-value  | Char  | Char  | Char  | Score  | p-value  | Char  | Char  | Char  | Score  | p-value  | Char  | Char  | Char  |
|--------|--------|----------|-------|-------|-------|--------|----------|-------|-------|-------|--------|----------|-------|-------|-------|
| POGZ   | 6.07E-49 | 0.6319393 | 1.881255 | 0.758 | 0.538 | 1.92E-44 |
| NCAPD3 | 4.65E-32 | 0.6314198 | 1.880278 | 0.555 | 0.365 | 1.47E-27 |
| GLCCI1 | 2.84E-39 | 0.6307926 | 1.879099 | 0.334 | 0.113 | 8.96E-35 |
| NAV3   | 3.22E-53 | 0.6306032 | 1.878744 | 0.816 | 0.602 | 1.02E-48 |
| AFAP1L1| 6.48E-43 | 0.6304888 | 1.878529 | 0.392 | 0.155 | 2.05E-38 |
| HINT2  | 4.12E-57 | 0.6302289 | 1.878040 | 0.966 | 0.415 | 1.30E-52 |
| ETV4   | 4.40E-45 | 0.6297669 | 1.877173 | 0.511 | 0.215 | 2.17E-57 |
| BRI3   | 1.17E-89 | 0.6290326 | 1.876302 | 0.946 | 0.825 | 3.68E-85 |
| SELENOH| 2.39E-112| 0.6287515 | 1.875268 | 0.511 | 0.215 | 2.17E-57 |
| TRAPPC1| 2.14E-129| 0.6284298 | 1.874642 | 0.954 | 0.825 | 3.68E-85 |
| NDUFB9 | 1.09E-137| 0.6281584 | 1.874156 | 0.954 | 0.825 | 3.68E-85 |
| POLR3K | 2.61E-42 | 0.6285303 | 1.874853 | 0.954 | 0.825 | 3.68E-85 |
| NDUFS8 | 2.22E-153| 0.6284298 | 1.874642 | 0.954 | 0.825 | 3.68E-85 |
| STIM2  | 2.56E-42 | 0.6284176 | 1.874642 | 0.954 | 0.825 | 3.68E-85 |
| SENP7  | 1.04E-99 | 0.6270453 | 1.872071 | 0.954 | 0.825 | 3.68E-85 |
| MRPL52 | 4.53E-99 | 0.6270453 | 1.872071 | 0.954 | 0.825 | 3.68E-85 |
| PCID2  | 4.91E-76 | 0.6270453 | 1.872071 | 0.954 | 0.825 | 3.68E-85 |
| EP400P1| 8.58E-45 | 0.6269288 | 1.871853 | 0.954 | 0.825 | 3.68E-85 |
| RNF146 | 3.86E-55 | 0.6267736 | 1.871562 | 0.954 | 0.825 | 3.68E-85 |
| ATP6V1F| 3.33E-97 | 0.6266844 | 1.871395 | 0.954 | 0.825 | 3.68E-85 |
| ANP32A | 2.07E-101| 0.6266766 | 1.871381 | 0.954 | 0.825 | 3.68E-85 |
| NDUFA11| 8.34E-186| 0.6266459 | 1.871323 | 0.954 | 0.825 | 3.68E-85 |
| GNPDA1 | 1.85E-49 | 0.6264846 | 1.871022 | 0.954 | 0.825 | 3.68E-85 |
| COMMD4 | 1.36E-84 | 0.6264234 | 1.870907 | 0.954 | 0.825 | 3.68E-85 |
| SPA17  | 1.68E-52 | 0.6259063 | 1.86994  | 0.954 | 0.825 | 3.68E-85 |
| PDE6D  | 3.12E-44 | 0.6252768 | 1.868763 | 0.954 | 0.825 | 3.68E-85 |
| LAMTOR5| 8.36E-142| 0.6252098 | 1.868638 | 0.954 | 0.825 | 3.68E-85 |
| OTUD6B-AS1| 9.33E-64 | 0.6251716 | 1.868567 | 0.954 | 0.825 | 3.68E-85 |
| RFC1   | 3.86E-55 | 0.6267736 | 1.871562 | 0.954 | 0.825 | 3.68E-85 |
| PIM3   | 2.35E-42 | 0.6238133 | 1.866030 | 0.954 | 0.825 | 3.68E-85 |
| USP13  | 1.98E-45 | 0.6237704 | 1.86595  | 0.954 | 0.825 | 3.68E-85 |
| CYB5B  | 1.44E-123| 0.623727 | 1.865869 | 0.954 | 0.825 | 3.68E-85 |
| CAV2   | 1.41E-168| 0.6236203 | 1.86567  | 1     | 1     | 4.45E-164 |
| TRMT112| 1.72E-170| 0.6232447 | 1.864969 | 0.998 | 0.988 | 5.44E-166 |
| ARHGAP20| 9.13E-51 | 0.6231586 | 1.864809 | 0.197 | 0.014 | 2.88E-46 |
| LY6E   | 1.48E-121| 0.6227631 | 1.864072 | 0.999 | 0.996 | 4.67E-117 |
| COX7A2 | 2.62E-187| 0.6223636 | 1.863327 | 0.995 | 0.952 | 8.26E-183 |
| PRAG1  | 5.55E-37 | 0.6222359 | 1.863089 | 0.452 | 0.225 | 1.75E-32 |
| SLC20A2| 4.77E-43 | 0.621974 | 1.862601 | 0.808 | 0.641 | 1.50E-38 |
| Gene      | Value         | p-value   | Odds Ratio | 95% CI Low | 95% CI High |
|-----------|---------------|-----------|------------|------------|-------------|
| CCAR1     | 1.12E-99      | 0.6217216 | 1.862131   | 0.981      | 0.941       |
| ACTN4     | 7.53E-233     | 0.6216169 | 1.861936   | 1          | 2.38E-228   |
| POC5      | 2.20E-38      | 0.6206704 | 1.860175   | 0.438      | 0.205       |
| PLAG1     | 3.38E-39      | 0.620616  | 1.860073   | 0.325      | 0.108       |
| PSMB6     | 6.92E-186     | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| BRCA2     | 6.21E-24      | 0.6192815 | 1.857593   | 0.407      | 0.313       |
| KIF18B    | 3.44E-24      | 0.6206704 | 1.860175   | 0.438      | 0.205       |
| TOB1      | 5.34E-68      | 0.6217216 | 1.861936   | 0.325      | 0.108       |
| C16orf74  | 5.00E-53      | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| KIF26B    | 3.02E-23      | 0.6192815 | 1.857593   | 0.407      | 0.313       |
| ZNHIT1    | 6.37E-100     | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| VPS33A    | 4.34E-50      | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| DSN1      | 2.99E-34      | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| ATP5MC3   | 2.53E-237     | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| PSG1      | 5.38E-42      | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| COX41     | 2.66E-300     | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| LAMTOR4   | 1.28E-86      | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| ATP23     | 4.90E-30      | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| RANGRF    | 3.86E-44      | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| RIPOR2    | 3.72E-28      | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| TTC8      | 1.12E-52      | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| BCL7C     | 4.97E-78      | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| ATOH8     | 3.09E-58      | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| BLOC1S1   | 2.89E-91      | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| ATP5IF1   | 2.67E-119     | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| AOX1      | 9.28E-44      | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| MAP3K20   | 1.82E-128     | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| DRAP1     | 4.83E-168     | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| FAM110A   | 1.98E-40      | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| HP1BP3    | 5.80E-173     | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| C11orf68  | 8.65E-64      | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| VRK2      | 7.95E-44      | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| SNRPG     | 1.47E-118     | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| ARL6IP1   | 1.56E-13      | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| KIAA0586  | 2.62E-41      | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| AMPD3     | 4.27E-48      | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| TIMM17B   | 3.08E-56      | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| YEATS4    | 5.61E-39      | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| COMMD7    | 3.26E-73      | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| CRIM1-DT  | 4.40E-56      | 0.6193529 | 1.857725   | 0.999      | 2.18E-181   |
| Gene       | Value 1     | Value 2     | Value 3     | Value 4     | Value 5     | Value 6     |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|
| WDR83OS    | 4.01E-152   | 0.6095726   | 1.839645    | 0.994       | 0.958       | 1.27E-147   |
| DEPDC1B    | 8.02E-27    | 0.6095052   | 1.839521    | 0.26        | 0.103       | 2.53E-22    |
| GABBR2     | 6.00E-15    | 0.6091005   | 1.838777    | 0.168       | 0.091       | 1.89E-10    |
| RPS27L     | 1.27E-150   | 0.6090969   | 1.838777    | 1           | 1           | 4.02E-146   |
| POLR2J     | 1.16E-93    | 0.6087982   | 1.838221    | 0.926       | 0.765       | 3.67E-89    |
| CU633906.1 | 3.28E-113   | 0.6087562   | 1.838144    | 0.51        | 0.1         | 1.03E-108   |
| NUPR1      | 2.94E-45    | 0.6087013   | 1.838043    | 0.873       | 0.935       | 9.26E-41    |
| TMEM106B   | 1.40E-59    | 0.6087982   | 1.838777    | 1           | 1           | 4.02E-146   |
| POLR2J     | 1.16E-93    | 0.6087982   | 1.838221    | 0.926       | 0.765       | 3.67E-89    |
| CU633906.1 | 3.28E-113   | 0.6087562   | 1.838144    | 0.51        | 0.1         | 1.03E-108   |
| NUPR1      | 2.94E-45    | 0.6087013   | 1.838043    | 0.873       | 0.935       | 9.26E-41    |
| TMEM106B   | 1.40E-59    | 0.6087982   | 1.838777    | 1           | 1           | 4.02E-146   |
| POLR2J     | 1.16E-93    | 0.6087982   | 1.838221    | 0.926       | 0.765       | 3.67E-89    |
| CU633906.1 | 3.28E-113   | 0.6087562   | 1.838144    | 0.51        | 0.1         | 1.03E-108   |
| NUPR1      | 2.94E-45    | 0.6087013   | 1.838043    | 0.873       | 0.935       | 9.26E-41    |
| TMEM106B   | 1.40E-59    | 0.6087982   | 1.838777    | 1           | 1           | 4.02E-146   |
| POLR2J     | 1.16E-93    | 0.6087982   | 1.838221    | 0.926       | 0.765       | 3.67E-89    |
| CU633906.1 | 3.28E-113   | 0.6087562   | 1.838144    | 0.51        | 0.1         | 1.03E-108   |
| NUPR1      | 2.94E-45    | 0.6087013   | 1.838043    | 0.873       | 0.935       | 9.26E-41    |
| TMEM106B   | 1.40E-59    | 0.6087982   | 1.838777    | 1           | 1           | 4.02E-146   |
| POLR2J     | 1.16E-93    | 0.6087982   | 1.838221    | 0.926       | 0.765       | 3.67E-89    |
| Gene   | Value1 | Value2   | Value3   | Value4 | Value5 | Value6 | Value7 |
|--------|--------|----------|----------|--------|--------|--------|--------|
| TULP3  | 9.46E-56 | 0.5943274 | 1.811812 | 0.861  | 0.698  | 2.98E-51 |
| ARMC1  | 1.02E-77 | 0.5942325 | 1.81164  | 0.929  | 0.751  | 3.23E-73 |
| SWAP70 | 1.83E-70 | 0.5941338 | 1.811461 | 0.926  | 0.752  | 5.77E-66 |
| VEZF1  | 1.44E-88 | 0.5941258 | 1.811447 | 0.978  | 0.908  | 4.53E-84 |
| EXOC1  | 3.26E-65 | 0.5939996 | 1.811218 | 0.883  | 0.682  | 1.03E-60 |
| TMEM158| 2.49E-10 | 0.5939612 | 1.811148 | 0.929  | 0.751  | 3.23E-73 |
| HNRNPR | 8.26E-128| 0.5941338 | 1.811461 | 0.926  | 0.752  | 5.77E-66 |
| POLR2F | 1.15E-99 | 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| CU633967.1| 5.34E-88 | 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| UQCR10 | 6.21E-108| 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| TERF1  | 7.48E-63 | 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| GNB1L  | 4.24E-45 | 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| TIPARP | 3.50E-46 | 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| PARD3B | 1.72E-33 | 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| MRPL14 | 8.30E-77 | 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| FCGRT  | 2.25E-40 | 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| RASGRF2| 1.45E-43 | 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| GCLC   | 2.36E-42 | 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| EEA1   | 6.23E-84 | 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| MRPS36 | 5.49E-78 | 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| MT-RNR2| 0.00E+00 | 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| WDHD1  | 2.85E-28 | 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| C12orf57| 7.13E-92 | 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| THBS1  | 3.89E-42 | 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| RPS27A | 0.00E+00 | 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| IFFO1  | 1.87E-48 | 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| IFI27L2| 2.81E-79 | 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| CDK19  | 1.96E-38 | 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| E2F7   | 1.17E-26 | 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| AKNA   | 2.33E-39 | 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| WDR41  | 7.77E-58 | 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| LPAR6  | 3.87E-38 | 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| ZNF521 | 6.03E-32 | 0.5941258 | 1.811447 | 0.929  | 0.751  | 3.23E-73 |
| Gene       | Value1   | Value2   | Value3   | Value4   | Value5   | Value6   |
|------------|----------|----------|----------|----------|----------|----------|
| SCAND1     | 1.76E-74 | 0.5833267| 1.79199  | 0.945    | 0.872    | 5.54E-70 |
| IQGAP3     | 2.67E-33 | 0.5832033| 1.791769 | 0.414    | 0.209    | 8.42E-29 |
| TPM2       | 1.15E-146| 0.5831681 | 1.791706 | 1        | 1        | 3.62E-142|
| NDUFB8     | 2.47E-126| 0.5829968 | 1.791399 | 0.995    | 0.983    | 7.79E-122|
| ZNRD2      | 5.70E-65 | 0.5829714 | 1.791353 | 0.855    | 0.709    | 1.80E-60 |
| ANKRD39    | 9.75E-33 | 0.5826338 | 1.790749 | 0.527    | 0.343    | 3.08E-28 |
| IQGAP3     | 2.67E-33 | 0.5832033| 1.791769 | 0.414    | 0.209    | 8.42E-29 |
| TPM2       | 1.15E-146| 0.5831681 | 1.791706 | 1        | 1        | 3.62E-142|
| NDUFB8     | 2.47E-126| 0.5829968 | 1.791399 | 0.995    | 0.983    | 7.79E-122|
| ZNRD2      | 5.70E-65 | 0.5829714 | 1.791353 | 0.855    | 0.709    | 1.80E-60 |
| ANKRD39    | 9.75E-33 | 0.5826338 | 1.790749 | 0.527    | 0.343    | 3.08E-28 |
| IQGAP3     | 2.67E-33 | 0.5832033| 1.791769 | 0.414    | 0.209    | 8.42E-29 |
| TPM2       | 1.15E-146| 0.5831681 | 1.791706 | 1        | 1        | 3.62E-142|
| NDUFB8     | 2.47E-126| 0.5829968 | 1.791399 | 0.995    | 0.983    | 7.79E-122|
| ZNRD2      | 5.70E-65 | 0.5829714 | 1.791353 | 0.855    | 0.709    | 1.80E-60 |
| ANKRD39    | 9.75E-33 | 0.5826338 | 1.790749 | 0.527    | 0.343    | 3.08E-28 |
| IQGAP3     | 2.67E-33 | 0.5832033| 1.791769 | 0.414    | 0.209    | 8.42E-29 |
| TPM2       | 1.15E-146| 0.5831681 | 1.791706 | 1        | 1        | 3.62E-142|
| NDUFB8     | 2.47E-126| 0.5829968 | 1.791399 | 0.995    | 0.983    | 7.79E-122|
| ZNRD2      | 5.70E-65 | 0.5829714 | 1.791353 | 0.855    | 0.709    | 1.80E-60 |
| ANKRD39    | 9.75E-33 | 0.5826338 | 1.790749 | 0.527    | 0.343    | 3.08E-28 |
| Protein  | E-value | Log10 Fold | q-value | p-value | FDR | Volcano Plot |
|----------|---------|------------|---------|---------|-----|--------------|
| COX5A    | 9.11E-106 | 0.5755444 | 1.778098 | 0.992   | 0.976 | 2.87E-101    |
| CU634019.1 | 9.69E-109 | 0.575094  | 1.777298 | 0.496   | 0.095 | 3.06E-104    |
| RAD17    | 5.52E-47  | 0.5748842 | 1.776925 | 0.648   | 0.375 | 1.74E-42     |
| NT5E     | 3.95E-144 | 0.5747005 | 1.776598 | 1       | 0.994 | 1.24E-139    |
| TM2D3    | 1.26E-48  | 0.574662  | 1.77653  | 0.719   | 0.456 | 3.98E-44     |
| PKN2     | 7.88E-63  | 0.575041  | 1.776249 | 0.896   | 0.716 | 2.49E-58     |
| WWC3     | 3.73E-46  | 0.5740961 | 1.775525 | 0.832   | 0.637 | 1.18E-41     |
| OCIAD2   | 5.64E-38  | 0.5738398 | 1.77507  | 0.745   | 0.589 | 1.24E-33     |
| TCTEX1D2 | 2.20E-46  | 0.5733453 | 1.774192 | 0.513   | 0.249 | 6.94E-42     |
| DMAC1    | 8.96E-58  | 0.5726027 | 1.772875 | 0.815   | 0.604 | 2.83E-53     |
| ZNF75A   | 1.02E-31  | 0.5723387 | 1.772407 | 0.505   | 0.114 | 3.97E-97     |
| MRE11    | 1.81E-33  | 0.5721083 | 1.771999 | 0.609   | 0.405 | 5.72E-29     |
| SAP30    | 1.74E-36  | 0.5719908 | 1.771791 | 0.597   | 0.415 | 5.50E-32     |
| ACTB     | 1.17E-298 | 0.5715607 | 1.771029 | 1       | 1     | 3.68E-294    |
| CLIP4    | 4.28E-49  | 0.5715607 | 1.771028 | 0.68    | 0.408 | 1.35E-44     |
| CEP44    | 7.32E-29  | 0.5711598 | 1.770319 | 0.48    | 0.284 | 2.31E-24     |
| EXOSC1   | 1.61E-42  | 0.5709996 | 1.770036 | 0.814   | 0.67  | 5.09E-38     |
| GNAI1    | 1.40E-50  | 0.5709257 | 1.769905 | 0.901   | 0.796 | 4.40E-46     |
| TRIM6    | 2.69E-39  | 0.5697744 | 1.767868 | 0.454   | 0.215 | 8.50E-35     |
| MRPL55   | 5.96E-52  | 0.5696627 | 1.767671 | 0.785   | 0.596 | 1.88E-47     |
| MRPS28   | 5.61E-57  | 0.5695692 | 1.767506 | 0.828   | 0.665 | 1.77E-52     |
| MYO18A   | 2.07E-42  | 0.5694977 | 1.767379 | 0.577   | 0.315 | 6.53E-38     |
| FANC1    | 7.64E-39  | 0.5693336 | 1.767089 | 0.304   | 0.1   | 2.41E-34     |
| REV3L    | 1.33E-49  | 0.5691742 | 1.766807 | 0.847   | 0.669 | 4.21E-45     |
| KLHL22   | 5.91E-40  | 0.5690504 | 1.766589 | 0.387   | 0.15  | 1.86E-35     |
| C18orf54 | 1.48E-31  | 0.5690414 | 1.766573 | 0.336   | 0.135 | 4.68E-27     |
| CEBPD    | 2.66E-36  | 0.5689963 | 1.766493 | 0.574   | 0.354 | 8.38E-32     |
| DAD1     | 5.93E-216 | 0.5684005 | 1.765441 | 1       | 1     | 1.87E-211    |
| NUP107   | 2.88E-41  | 0.568248  | 1.765172 | 0.749   | 0.538 | 9.09E-37     |
| RRM1     | 2.89E-60  | 0.5682443 | 1.765165 | 0.911   | 0.771 | 9.10E-56     |
| TMEM223  | 2.58E-34  | 0.5681278 | 1.76496  | 0.563   | 0.357 | 8.15E-30     |
| DGUOK    | 6.98E-76  | 0.5679215 | 1.764595 | 0.951   | 0.845 | 2.20E-71     |
| PRSS12   | 8.26E-31  | 0.5677943 | 1.764371 | 0.619   | 0.412 | 2.61E-26     |
| SMC3     | 1.24E-67  | 0.5674834 | 1.763823 | 0.975   | 0.888 | 3.92E-63     |
| C2CD5    | 6.57E-43  | 0.5674247 | 1.763719 | 0.547   | 0.278 | 2.07E-38     |
| FDFT1    | 1.02E-63  | 0.5671921 | 1.763309 | 0.969   | 0.899 | 3.23E-59     |
| TIMM13   | 9.33E-80  | 0.5670784 | 1.763108 | 0.976   | 0.948 | 2.94E-75     |
| AC023055.1 | 6.32E-89 | 0.5665148 | 1.762115 | 0.872   | 0.613 | 1.99E-84     |
| APPL2    | 2.88E-81  | 0.5665124 | 1.762111 | 0.966   | 0.859 | 9.08E-77     |
| Gene     | Value 1      | Value 2      | Value 3      | Value 4      | Value 5      | Value 6      |
|----------|--------------|--------------|--------------|--------------|--------------|--------------|
| MRPS18C  | 1.40E-67     | 0.5664585    | 1.762016     | 0.876        | 0.673        | 4.42E-63     |
| MCM4     | 1.35E-37     | 0.5663643    | 1.76185      | 0.778        | 0.603        | 4.26E-33     |
| SERPINB1 | 2.70E-49     | 0.5661217    | 1.761423     | 0.834        | 0.669        | 8.51E-45     |
| CTCF     | 1.52E-54     | 0.5662742    | 1.75993      | 0.862        | 0.683        | 4.81E-50     |
| COX5B    | 9.98E-144    | 0.5649638    | 1.759384     | 0.992        | 0.962        | 3.15E-139    |
| UBE2L6   | 3.25E-37     | 0.5648964    | 1.759265     | 0.855        | 0.718        | 1.03E-32     |
| PSMA5    | 1.87E-151    | 0.5648272    | 1.759144     | 1            | 1            | 5.90E-147    |
| ASXL1    | 1.82E-46     | 0.564474     | 1.758523     | 0.778        | 0.946        | 2.98E-72     |
| TMSB4XP1 | 1.19E-132    | 0.5642533    | 1.758135     | 0.674        | 0.213        | 3.74E-128    |
| MRPL13   | 9.44E-77     | 0.5642159    | 1.758069     | 0.977        | 0.962        | 3.15E-139    |
| POLA2    | 8.94E-28     | 0.5640463    | 1.757771     | 0.448        | 0.259        | 2.82E-23     |
| PRIM1    | 1.15E-21     | 0.5639895    | 1.757671     | 0.337        | 0.195        | 3.64E-17     |
| COA3     | 2.43E-59     | 0.563178     | 1.756245     | 0.918        | 0.863        | 7.68E-55     |
| H2AZ2    | 1.38E-88     | 0.5621533    | 1.754446     | 0.998        | 0.996        | 4.35E-84     |
| RPL18    | 0.00E+00     | 0.5621371    | 1.754418     | 1            | 1            | 0.00E+00     |
| ZNF280D  | 4.16E-40     | 0.5620837    | 1.753424     | 0.732        | 0.505        | 1.31E-35     |
| SCNM1    | 3.15E-42     | 0.5620365    | 1.754241     | 0.813        | 0.657        | 9.94E-38     |
| SMAD2    | 7.16E-70     | 0.5611298    | 1.752651     | 0.96         | 0.878        | 2.26E-65     |
| ANAPC10  | 1.38E-32     | 0.5607293    | 1.75195      | 0.573        | 0.367        | 4.35E-28     |
| AC093849.2 | 1.06E-42  | 0.5601923    | 1.751009     | 0.278        | 0.073        | 3.33E-38     |
| USP4     | 5.87E-54     | 0.5600581    | 1.750774     | 0.779        | 0.526        | 1.85E-49     |
| NISCH    | 1.30E-31     | 0.5594465    | 1.749704     | 0.662        | 0.492        | 4.10E-27     |
| UHRF1    | 2.07E-36     | 0.5590528    | 1.749015     | 0.647        | 0.429        | 6.52E-32     |
| SYDE2    | 2.59E-29     | 0.5587824    | 1.748542     | 0.374        | 0.185        | 8.16E-25     |
| DHRS4L2  | 1.97E-38     | 0.5585798    | 1.748188     | 0.802        | 0.668        | 6.22E-34     |
| CBX5     | 2.39E-69     | 0.5584807    | 1.748015     | 0.979        | 0.926        | 7.54E-65     |
| ATP5PD   | 8.71E-109    | 0.5584282    | 1.747923     | 0.994        | 0.963        | 2.75E-104    |
| BORA     | 6.67E-22     | 0.5582033    | 1.74753      | 0.268        | 0.124        | 2.10E-17     |
| APOBEC3A | 1.59E-47     | 0.5580079    | 1.747189     | 0.515        | 0.241        | 5.02E-43     |
| PGD      | 2.57E-96     | 0.5579621    | 1.747108     | 0.996        | 0.987        | 8.09E-92     |
| TMEM187  | 1.27E-38     | 0.5575706    | 1.746425     | 0.279        | 0.077        | 3.99E-34     |
| SYNPO2L  | 2E-38       | 0.5568115    | 1.745099     | 0.267        | 0.08         | 6.32E-34     |
| RPS14    | 0.00E+00     | 0.5564259    | 1.744427     | 1            | 1            | 0.00E+00     |
| PEX11B   | 2.12E-39     | 0.5562144    | 1.744058     | 0.587        | 0.331        | 6.69E-35     |
| NME4     | 1.86E-80     | 0.5558709    | 1.743459     | 0.988        | 0.972        | 5.86E-76     |
| FANCN    | 3.36E-28     | 0.5557799    | 1.7433       | 0.385        | 0.187        | 1.06E-23     |
| PSENEN   | 8.79E-75     | 0.5556527    | 1.743078     | 0.909        | 0.773        | 2.77E-70     |
| THSD8    | 3.03E-50     | 0.5556058    | 1.742997     | 0.612        | 0.339        | 9.57E-46     |
| VPS72    | 5.64E-58     | 0.5549643    | 1.741879     | 0.789        | 0.514        | 1.78E-53     |
| INCENP   | 1.88E-23     | 0.5549089    | 1.741782     | 0.286        | 0.141        | 5.93E-19     |
| Gene     | p-value       | Log2 Ratio | LR         | Distinct | Total |
|----------|--------------|------------|------------|----------|-------|
| MYL12A   | 5.66E-254    | 1.741472   | 1          | 1        | 1.79E-249 |
| CWC15    | 7.41E-71     | 1.741338   | 0.877      | 0.646    | 2.34E-66  |
| PEO      | 1.14E-52     | 1.741329   | 0.964      | 0.92     | 3.61E-48  |
| RANBP6   | 1.80E-41     | 1.741238   | 0.645      | 0.393    | 5.69E-37  |
| PRKDC    | 4.92E-80     | 1.741198   | 0.984      | 0.945    | 1.55E-75  |
| ATP8B3   | 8.25E-32     | 1.74049    | 0.288      | 0.108    | 2.60E-27  |
| RANBP1   | 1.52E-94     | 1.740416   | 0.998      | 0.993    | 4.81E-90  |
| RPS16    | 0.00E+00     | 1.7404     | 1          | 1        | 0.00E+00  |
| AGAP3    | 1.16E-46     | 1.739837   | 0.719      | 0.466    | 3.65E-42  |
| ALYREF   | 8.66E-48     | 1.738002   | 0.923      | 0.847    | 2.73E-43  |
| TMEM14C  | 1.64E-137    | 1.737989   | 1          | 0.993    | 5.16E-133 |
| SALL1    | 2.37E-39     | 1.737657   | 0.469      | 0.217    | 7.48E-35  |
| DCTN3    | 7.20E-83     | 1.737251   | 0.99       | 0.971    | 2.27E-78  |
| NARS2    | 1.01E-44     | 1.737247   | 0.524      | 0.251    | 3.18E-40  |
| CUL4B    | 3.47E-46     | 1.737123   | 0.964      | 0.933    | 1.09E-41  |
| RAMP1    | 3.99E-40     | 1.737018   | 0.179      | 0.02     | 1.26E-35  |
| PDS5B    | 2.57E-47     | 1.736827   | 0.726      | 0.469    | 8.09E-43  |
| CAV1     | 7.60E-164    | 1.736499   | 1          | 1        | 2.40E-159 |
| DBN1     | 1.99E-96     | 1.735471   | 0.992      | 0.971    | 6.28E-92  |
| GTF2IRD1 | 7.00E-36     | 1.735252   | 0.566      | 0.335    | 2.21E-31  |
| DAP      | 2.07E-126    | 1.735081   | 1          | 0.99     | 6.52E-122 |
| SLC25A24 | 8.15E-59     | 1.735019   | 0.923      | 0.788    | 2.57E-54  |
| RPL27    | 0.00E+00     | 1.735019   | 1          | 1        | 0.00E+00  |
| ATP5PF   | 8.58E-124    | 1.73498    | 0.992      | 0.968    | 2.71E-119 |
| LSM4     | 2.57E-97     | 1.733966   | 0.995      | 0.97     | 8.11E-93  |
| NUDCD1   | 8.59E-54     | 1.733926   | 0.882      | 0.698    | 2.71E-49  |
| TNFRSF11B| 1.45E-19     | 1.733528   | 0.712      | 0.556    | 4.57E-15  |
| RNASEH2C | 8.58E-53     | 1.732637   | 0.801      | 0.635    | 2.71E-48  |
| FRMD4A   | 1.56E-51     | 1.732586   | 0.893      | 0.724    | 4.92E-47  |
| EVA1C    | 9.41E-33     | 1.731076   | 0.326      | 0.129    | 2.97E-28  |
| EHMT2    | 1.49E-40     | 1.731019   | 0.633      | 0.391    | 4.69E-36  |
| CUL2     | 5.06E-61     | 1.73017    | 0.901      | 0.721    | 1.60E-56  |
| NDUFB7   | 1.92E-96     | 1.730123   | 0.961      | 0.859    | 6.04E-92  |
| DEF8     | 4.49E-51     | 1.729466   | 0.884      | 0.769    | 1.42E-46  |
| GARRE1   | 2.28E-26     | 1.729244   | 0.728      | 0.592    | 7.19E-22  |
| SEC11C   | 6.69E-43     | 1.728893   | 0.76       | 0.564    | 2.11E-38  |
| SMARCE1  | 5.78E-130    | 1.728777   | 0.999      | 0.993    | 1.82E-125 |
| NUP37    | 1.25E-43     | 1.72806    | 0.804      | 0.583    | 3.96E-39  |
| RHNO1    | 1.13E-38     | 1.72707    | 0.61       | 0.359    | 3.57E-34  |
| NR2F1-AS1| 3.97E-28     | 1.726208   | 0.685      | 0.556    | 1.25E-23  |
| Gene        | Value1     | Value2   | Value3     | Value4   | Value5   | Value6   |
|------------|------------|----------|------------|----------|----------|----------|
| KCTD20     | 5.60E-86   | 0.5458877| 1.72614    | 0.975    | 0.878    | 1.77E-81 |
| HYLS1      | 1.70E-22   | 0.5458653| 1.726101   | 0.418    | 0.255    | 5.36E-18 |
| MCT51      | 3.22E-73   | 0.545345  | 1.72553    | 0.971    | 0.932    | 1.01E-68 |
| CISD1      | 1.04E-48   | 0.5454276| 1.725346   | 0.807    | 0.668    | 3.27E-44 |
| NDUF5A1    | 9.99E-69   | 0.545345  | 1.725206   | 0.82     | 0.571    | 3.15E-64 |
| COA6       | 2.25E-47   | 0.5452587| 1.72505    | 0.739    | 0.537    | 7.08E-43 |
| GPSM2      | 2.47E-21   | 0.5451944| 1.724943   | 0.675    | 0.582    | 7.78E-17 |
| MYH10      | 8.90E-35   | 0.5450991| 1.724779   | 0.914    | 0.814    | 2.81E-30 |
| TCMO106D1  | 2.67E-48   | 0.5449024| 1.724644   | 0.847    | 0.652    | 8.42E-44 |
| COPS6      | 6.05E-147  | 0.5448465| 1.724344   | 1.09     | 0.998    | 1.91E-142|
| HS3ST3A1   | 4.85E-20   | 0.544631  | 1.723972   | 0.541    | 0.43     | 1.53E-15 |
| RHBDD1     | 8.11E-32   | 0.5445909| 1.723903   | 0.61     | 0.406    | 2.56E-27 |
| ADAM19     | 1.20E-41   | 0.5444827| 1.723716   | 0.886    | 0.805    | 3.80E-37 |
| AC807392.1 | 2.02E-55   | 0.5442649| 1.723341   | 0.23     | 0.024    | 6.36E-51 |
| TTC1       | 4.07E-70   | 0.5438385| 1.722606   | 0.951    | 0.839    | 1.28E-65 |
| C9orf16    | 1.17E-51   | 0.5435074| 1.722035   | 0.757    | 0.553    | 3.70E-47 |
| TMCO4      | 1.59E-32   | 0.5434932| 1.722012   | 0.429    | 0.211    | 5.02E-28 |
| NSD2       | 1.09E-34   | 0.5433918| 1.721837   | 0.821    | 0.709    | 3.42E-30 |
| RPLP1      | 0.00E+00   | 0.5431808| 1.721474   | 1.00     | 1.00     | 0.00E+00 |
| NEMP1      | 1.51E-24   | 0.5430981| 1.721331   | 0.374    | 0.199    | 4.78E-20 |
| SASS6      | 1.07E-29   | 0.5429014| 1.720993   | 0.295    | 0.115    | 3.38E-25 |
| NDUF3A13   | 5.71E-117  | 0.5426673| 1.72059    | 0.973    | 0.902    | 1.80E-112|
| PLBPB      | 3.08E-44   | 0.5422214| 1.719823   | 0.807    | 0.602    | 9.71E-40 |
| CAVYR      | 8.77E-44   | 0.5410735| 1.71785    | 0.248    | 0.048    | 2.77E-39 |
| PFDN4      | 6.40E-64   | 0.5408882| 1.717532   | 0.941    | 0.849    | 2.02E-59 |
| MPHOSPH6   | 8.17E-43   | 0.5408818| 1.717521   | 0.745    | 0.534    | 2.58E-38 |
| LONREF1    | 1.71E-30   | 0.5407761| 1.717339   | 0.38     | 0.176    | 5.39E-26 |
| AC1N1      | 3.71E-80   | 0.5407372| 1.717272   | 0.976    | 0.939    | 1.17E-75 |
| LYSMD2     | 1.87E-27   | 0.5404684| 1.71681    | 0.487    | 0.291    | 5.91E-23 |
| PHIP       | 7.15E-39   | 0.5404516| 1.716782   | 0.8      | 0.639    | 2.26E-34 |
| PTK1       | 1.74E-45   | 0.5403874| 1.716671   | 0.693    | 0.43     | 5.48E-41 |
| CDC42BPA   | 4.07E-44   | 0.5400721| 1.716131   | 0.928    | 0.874    | 1.28E-39 |
| HMGN3      | 1.11E-53   | 0.5399387| 1.715902   | 0.901    | 0.764    | 3.49E-49 |
| DNAJC21    | 7.61E-71   | 0.5390773| 1.714424   | 0.954    | 0.856    | 2.40E-66 |
| VPS45      | 1.03E-40   | 0.5385556| 1.71353    | 0.716    | 0.487    | 3.24E-36 |
| CCDC58     | 9.82E-39   | 0.5385284| 1.713483   | 0.623    | 0.421    | 3.10E-34 |
| RANBP17    | 4.52E-35   | 0.5384782| 1.713397   | 0.22     | 0.05     | 1.43E-30 |
| TYMS       | 1.13E-52   | 0.538131  | 1.712803   | 0.781    | 0.549    | 3.56E-48 |
| PFDN2      | 9.33E-82   | 0.5380586| 1.712679   | 0.983    | 0.952    | 2.94E-77 |
| NDUFV2     | 3.46E-97   | 0.5378382| 1.712301   | 0.994    | 0.974    | 1.09E-92 |
| Gene   | Value | Log2FC  | TSS  | PValue     | Log2FC  | TSS  | PValue     |
|--------|-------|---------|------|------------|---------|------|------------|
| METTL14 | 4.10E-39 | 0.5376233 | 1.711933 | 0.646 | 0.409 | 1.29E-34 |
| ARMC4   | 9.51E-43 | 0.5375473 | 1.711803 | 0.168 | 0.012 | 3.00E-38 |
| LAMA1   | 6.80E-27  | 0.5372245 | 1.711251 | 0.272 | 0.104 | 2.14E-22 |
| PHLDA1  | 1.63E-61  | 0.5364966 | 1.710006 | 0.995 | 0.984 | 5.13E-57 |
| ZSWIM7  | 8.82E-32  | 0.5364862 | 1.709957 | 0.607 | 0.417 | 2.78E-27 |
| NSA2    | 3.74E-101 | 0.5366995 | 1.708592 | 0.991 | 0.98  | 1.18E-96 |
| ERI1    | 4.34E-32  | 0.5356562 | 1.708569 | 0.536 | 0.315 | 1.37E-27 |
| TBC1D14 | 3.93E-33  | 0.5355903 | 1.708456 | 0.611 | 0.384 | 1.24E-28 |
| SAPCD2  | 1.34E-31  | 0.5353147 | 1.708186 | 0.27  | 0.09  | 4.23E-27 |
| ESYT1   | 2.86E-70  | 0.5348603 | 1.70721  | 0.978 | 0.941 | 9.01E-66 |
| EMC9    | 2.90E-24  | 0.5347846 | 1.707081 | 0.588 | 0.456 | 9.13E-20 |
| LSM8    | 4.42E-55  | 0.5346647 | 1.706876 | 0.872 | 0.718 | 1.39E-50 |
| CRYZ    | 8.46E-40  | 0.5346617 | 1.706871 | 0.754 | 0.534 | 2.67E-35 |
| GTF2E1  | 4.79E-34  | 0.5346243 | 1.706807 | 0.498 | 0.263 | 1.51E-29 |
| MRPS10  | 9.15E-88  | 0.5345749 | 1.706677 | 0.64  | 0.417 | 5.25E-35 |
| GEMIN6  | 1.66E-39  | 0.5345749 | 1.706677 | 0.64  | 0.417 | 5.25E-35 |
| ELAC1   | 7.63E-31  | 0.5336346 | 1.705118 | 0.402 | 0.205 | 2.41E-26 |
| ATP5MF   | 4.81E-111 | 0.5335499 | 1.704974 | 0.981 | 0.881 | 1.52E-106 |
| EMLIN2  | 1.03E-29  | 0.5334646 | 1.704829 | 0.521 | 0.308 | 3.24E-25 |
| DIPK1A  | 1.85E-46  | 0.5334233 | 1.704758 | 0.853 | 0.667 | 5.83E-42 |
| TIGD2   | 1.22E-35  | 0.5333883 | 1.704699 | 0.267 | 0.077 | 3.86E-31 |
| ORMDL2  | 2.05E-55  | 0.5333066 | 1.704559 | 0.856 | 0.686 | 6.46E-51 |
| GYG1    | 5.28E-56  | 0.5332757 | 1.704507 | 0.944 | 0.812 | 1.67E-51 |
| ADK     | 5.36E-63  | 0.5326931 | 1.703514 | 0.981 | 0.934 | 1.69E-58 |
| S1PR3   | 2.18E-29  | 0.5325484 | 1.703267 | 0.859 | 0.741 | 6.86E-25 |
| AC024592.3 | 3.69E-97 | 0.5324507 | 1.703101 | 0.794 | 0.457 | 1.16E-92 |
| CALM1   | 3.69E-206 | 0.5321863 | 1.702651 | 1     | 1     | 1.16E-201 |
| MAP3K12 | 1.27E-37  | 0.5321622 | 1.702651 | 0.504 | 0.289 | 3.99E-33 |
| STMN3   | 2.65E-38  | 0.5319325 | 1.702219 | 0.442 | 0.198 | 8.37E-34 |
| HMGA2   | 1.66E-55  | 0.5318666 | 1.702105 | 0.878 | 0.712 | 5.23E-51 |
| MLLT10  | 6.44E-36  | 0.5318517 | 1.702078 | 0.611 | 0.378 | 2.03E-31 |
| EPS8L2  | 1.62E-28  | 0.5318354 | 1.702053 | 0.464 | 0.263 | 5.10E-24 |
| WNT2    | 9.33E-18  | 0.5316193 | 1.701686 | 0.16  | 0.053 | 2.94E-13 |
| ANAPC7  | 6.82E-44  | 0.5315436 | 1.701557 | 0.778 | 0.568 | 2.15E-39 |
| LIG1    | 6.30E-34  | 0.5314667 | 1.701426 | 0.504 | 0.267 | 1.99E-29 |
| MRPS34  | 1.84E-73  | 0.5314337 | 1.701377 | 0.976 | 0.9     | 5.79E-69 |
| H4C3    | 4.73E-42  | 0.5311056 | 1.700812 | 0.36  | 0.134 | 1.49E-37 |
| OXLD1   | 7.67E-35  | 0.5308264 | 1.700337 | 0.477 | 0.252 | 2.42E-30 |
| TMEM51  | 2.03E-30  | 0.5306408 | 1.700021 | 0.325 | 0.131 | 6.40E-26 |
| BDH2    | 2.28E-26  | 0.530479 | 1.699746 | 0.742 | 0.596 | 7.19E-22 |
| Gene   | dPAC1 Value | dPAC2 Value | dPAC3 Value | dPAC4 Value | dPAC5 Value |
|--------|-------------|-------------|-------------|-------------|-------------|
| TST    | 2.30E-28    | 0.5302581   | 1.699371    | 0.672       | 0.487       | 7.25E-24   |
| LIN9   | 6.65E-24    | 0.5301742   | 1.699228    | 0.304       | 0.145       | 2.10E-19   |
| TUBB4B | 4.71E-31    | 0.530045    | 1.690009    | 1           | 1           | 1.49E-26   |
| GIT2   | 6.40E-42    | 0.5298017   | 1.698595    | 0.754       | 0.524       | 2.02E-37   |
| LARP6  | 1.10E-67    | 0.5296587   | 1.698352    | 0.937       | 0.797       | 3.48E-63   |
| EPO R  | 2.80E-34    | 0.5294002   | 1.697914    | 0.253       | 0.071       | 8.83E-30   |
| MYL6B  | 2.89E-39    | 0.529128    | 1.69771     | 0.753       | 0.613       | 3.35E-38   |
| ENDOG  | 3.13E-27    | 0.5287289   | 1.697708    | 0.47        | 0.299       | 9.88E-23   |
| PIP4K2B| 1.10E-37    | 0.5286488   | 1.696638    | 0.994       | 0.988       | 1.56E-50   |
| EPOR   | 4.71E-31    | 0.528535    | 1.696445    | 1           | 1           | 1.49E-26   |
| GIT2   | 6.40E-24    | 0.5285257   | 1.696429    | 0.674       | 0.452       | 4.74E-30   |
| THOC7  | 1.16E-68    | 0.5278544   | 1.695291    | 0.979       | 0.926       | 3.66E-64   |
| NSD1   | 8.97E-37    | 0.5277801   | 1.695165    | 0.689       | 0.47        | 2.83E-32   |
| RP9P   | 4.09E-34    | 0.5274914   | 1.694676    | 0.541       | 0.332       | 1.29E-29   |
| EIF2AK4| 8.79E-67    | 0.5274665   | 1.694634    | 0.957       | 0.867       | 2.77E-62   |
| SCARB1 | 1.26E-35    | 0.5273422   | 1.69423     | 0.463       | 0.229       | 3.98E-31   |
| GGA3   | 2.63E-32    | 0.5263323   | 1.692712    | 0.497       | 0.273       | 8.28E-28   |
| RRM2   | 2.63E-37    | 0.5262031   | 1.692494    | 0.763       | 0.658       | 8.31E-33   |
| TK1    | 4.36E-62    | 0.5258236   | 1.691852    | 0.933       | 0.855       | 1.38E-57   |
| CDCA5  | 1.67E-21    | 0.5253779   | 1.691098    | 0.406       | 0.227       | 5.28E-17   |
| ARM CX6| 1.52E-48    | 0.5247197   | 1.689985    | 0.868       | 0.725       | 4.78E-44   |
| ABCC3  | 1.89E-29    | 0.5245272   | 1.68966     | 0.712       | 0.531       | 5.97E-25   |
| TMSB15B| 1.19E-31    | 0.5243012   | 1.689278    | 0.499       | 0.305       | 3.74E-27   |
| CKLF   | 1.32E-46    | 0.5240736   | 1.688894    | 0.694       | 0.459       | 4.15E-42   |
| PLEKHH3| 5.11E-45    | 0.5237215   | 1.688299    | 0.444       | 0.198       | 1.61E-40   |
| TGFB RAP1| 7.18E-29 | 0.5235653   | 1.688035    | 0.638       | 0.456       | 2.27E-24   |
| S100A6 | 3.90E-256   | 0.5233428   | 1.68766     | 1           | 1           | 1.23E-251  |
| EXOC6  | 5.12E-29    | 0.5228457   | 1.686821    | 0.271       | 0.097       | 1.61E-24   |
| RIPK2  | 1.24E-46    | 0.5228254   | 1.68787     | 0.803       | 0.577       | 3.90E-42   |
| TKT    | 9.37E-108   | 0.5224797   | 1.686204    | 1           | 1           | 2.96E-103  |
| KAT2B  | 4.34E-28    | 0.5217465   | 1.684968    | 0.416       | 0.216       | 1.37E-23   |
| GRK5   | 1.79E-22    | 0.5216694   | 1.684838    | 0.407       | 0.236       | 5.64E-18   |
| GPSM3  | 5.22E-37    | 0.521589    | 1.684703    | 0.298       | 0.095       | 1.65E-32   |
| DDX39A | 7.80E-40    | 0.5215379   | 1.684616    | 0.892       | 0.814       | 2.46E-35   |
| MYL12B | 5.66E-273   | 0.5214432   | 1.684547    | 1           | 1           | 1.79E-268  |
| BCL2L1 | 1.04E-53    | 0.5211735   | 1.684003    | 0.773       | 0.508       | 3.29E-49   |
| CIAO2A | 3.08E-47    | 0.5211576   | 1.683976    | 0.906       | 0.783       | 9.70E-43   |
| ZFAND6 | 5.06E-70    | 0.5210699   | 1.683828    | 0.975       | 0.879       | 1.59E-65   |
| FUT8   | 2.29E-42    | 0.5209157   | 1.683569    | 0.869       | 0.755       | 7.24E-38   |
| Gene     | E-value | p-value     | Z-score | Statistic | Effect Size | p-value |
|----------|---------|-------------|---------|-----------|-------------|---------|
| GADD45GIP1 | 2.67E-85 | 0.5209148   | 1.683567 | 0.995     | 0.98        | 8.42E-81 |
| RAI1     | 1.87E-34 | 0.5204054   | 1.68271 | 0.592     | 0.368       | 5.90E-30 |
| KRTCAP2  | 3E-90   | 0.5198221   | 1.681728| 0.961     | 0.882       | 9.45E-86 |
| RPS7     | 0.00E+00 | 0.5198217   | 1.681728| 1         | 1           | 0.00E+00 |
| RGL1     | 1.51E+31 | 0.5197497   | 1.681607| 0.532     | 0.305       | 4.75E-27 |
| RNF181   | 1.53E-77 | 0.5196066   | 1.681728| 0.961     | 0.882       | 9.45E-86 |
| VAMP5    | 2.51E-46 | 0.5192291   | 1.680731| 0.87      | 0.665       | 1.20E-80 |
| AL133352.1 | 3.80E-85 | 0.5191201   | 1.680548| 0.87      | 0.665       | 1.20E-80 |
| BAIAP2L2 | 1.19E-40 | 0.5188696   | 1.679867| 0.849     | 0.674       | 3.76E-36 |
| PI4KB    | 1.51E-31 | 0.5187949   | 1.67929 | 0.322     | 0.161       | 5.70E-17 |
| HTATSF1  | 8.37E-54 | 0.5180271   | 1.67813 | 0.919     | 0.815       | 2.64E-49 |
| SOGA1    | 9.42E-31 | 0.5180081   | 1.678681| 0.635     | 0.44        | 2.97E-26 |
| LCOR     | 3.38E-39 | 0.517997    | 1.678662| 0.66      | 0.412       | 1.07E-34 |
| PDCD1LG2 | 1.97E-27 | 0.5179451   | 1.678575| 0.626     | 0.44        | 6.21E-23 |
| FKB2     | 1.47E-61 | 0.5178044   | 1.678339| 0.847     | 0.659       | 4.64E-57 |
| H2AJ     | 6.69E-57 | 0.5176956   | 1.678005| 0.9       | 0.813       | 2.11E-52 |
| MCM8     | 4.62E-27 | 0.5174999   | 1.677828| 0.509     | 0.326       | 1.46E-22 |
| SSBP4    | 7.26E-53 | 0.5174518   | 1.677747| 0.865     | 0.664       | 2.29E-48 |
| MRPS16   | 6.14E-66 | 0.5174037   | 1.677666| 0.966     | 0.923       | 1.94E-61 |
| DZIP3    | 5.00E-28 | 0.5170832   | 1.677129| 0.53      | 0.323       | 1.58E-23 |
| SMARCAL1 | 4.29E-31 | 0.5169547   | 1.676913| 0.519     | 0.295       | 1.35E-26 |
| ARRB1    | 8.76E-29 | 0.5165141   | 1.676174| 0.366     | 0.167       | 2.76E-24 |
| MZT2A    | 3.67E-61 | 0.5163617   | 1.675199| 0.883     | 0.742       | 1.16E-56 |
| BTN2A2   | 2.09E-28 | 0.5163527   | 1.675904| 0.361     | 0.167       | 6.59E-24 |
| MRPL53   | 1.23E-73 | 0.5160926   | 1.675468| 0.801     | 0.506       | 3.87E-69 |
| CWC27    | 6.39E-51 | 0.516059    | 1.675412| 0.836     | 0.632       | 2.02E-46 |
| RPS19    | 0.00E+00 | 0.5160328   | 1.675368| 1         | 1           | 0.00E+00 |
| C2CD3    | 2.97E-26 | 0.5159956   | 1.675306| 0.605     | 0.464       | 9.38E-22 |
| CSE1L    | 1.40E-42 | 0.5159072   | 1.675158| 0.913     | 0.835       | 4.41E-38 |
| DDX60    | 2.07E-30 | 0.5156956   | 1.674803| 0.333     | 0.135       | 6.52E-26 |
| APOL2    | 6.68E-29 | 0.5156706   | 1.674761| 0.501     | 0.291       | 2.11E-24 |
| CCDC28A  | 1.60E-32 | 0.5155513   | 1.674561| 0.483     | 0.255       | 5.05E-28 |
| CTBP1    | 4.30E-65 | 0.515457    | 1.674404| 0.935     | 0.801       | 1.36E-60 |
| HBD      | 2.97E-44 | 0.5149727   | 1.673593| 0.128     | 0           | 9.37E-40 |
| KLHL17   | 3.67E-33 | 0.5146815   | 1.673105| 0.357     | 0.15        | 1.16E-28 |
| MRPS9    | 4.84E-39 | 0.5145982   | 1.672966| 0.716     | 0.493       | 1.53E-34 |
| ARMT1    | 1.96E-49 | 0.5145779   | 1.672932| 0.882     | 0.718       | 6.17E-45 |
| SIGIRR   | 3.69E-32 | 0.5145711   | 1.672921| 0.498     | 0.301       | 1.17E-27 |
| Gene  | Log2FoldChange | log10(pvalue) | Expression | Zscore  | adj.Pvalue | Expression | Zscore  |
|-------|----------------|---------------|------------|---------|-----------|------------|---------|
| TAP2  | 2.15E-40       | 0.5145942     | 1.672884   | 0.76    | 0.538     | 6.79E-36   |         |
| SMARCA1| 2.21E-60       | 0.5143981     | 1.672631   | 0.975   | 0.953     | 6.98E-56   |         |
| RCCD1 | 8.22E-28       | 0.5142003     | 1.672301   | 0.486   | 0.285     | 2.59E-23   |         |
| BTN3A3| 2.40E-30       | 0.513967      | 1.67191    | 0.305   | 0.115     | 7.57E-26   |         |
| FAH   | 8.37E-39       | 0.513873      | 1.671694   | 0.84    | 0.656     | 2.64E-34   |         |
| H1-2  | 2.04E-24       | 0.5136655     | 1.671406   | 0.454   | 0.278     | 6.44E-20   |         |
| RNGTT | 4.95E-33       | 0.513555      | 1.671218   | 0.692   | 0.511     | 1.56E-28   |         |
| SAE1  | 1.99E-79       | 0.5134323     | 1.671017   | 0.988   | 0.926     | 3.15E-74   |         |
| WSB2  | 3.17E-82       | 0.5133699     | 1.670912   | 0.986   | 0.954     | 9.99E-78   |         |
| HNRNPA3| 8.64E-140      | 0.513365      | 1.670904   | 1       | 1         | 2.72E-135  |         |
| SLC25A30| 1.02E-32       | 0.5133148     | 1.67052    | 0.533   | 0.306     | 3.21E-28   |         |
| BBC3  | 5.66E-33       | 0.5129491     | 1.67021    | 0.412   | 0.194     | 1.78E-28   |         |
| PPIA  | 0.00E+00       | 0.512724      | 1.669834   | 1       | 1         | 0.00E+00   |         |
| RHOBTB1| 3.74E-23       | 0.5122099     | 1.668975   | 0.547   | 0.362     | 1.18E-18   |         |
| SF3B6 | 1.31E-107      | 0.5120668     | 1.668737   | 0.997   | 0.994     | 4.14E-103  |         |
| EPG5  | 1.92E-34       | 0.5119641     | 1.668565   | 0.669   | 0.459     | 6.05E-30   |         |
| UXT   | 4.09E-64       | 0.5119163     | 1.668485   | 0.909   | 0.803     | 1.29E-59   |         |
| PKIG  | 1.01E-49       | 0.5118542     | 1.668382   | 0.955   | 0.904     | 3.20E-45   |         |
| RBM34 | 1.04E-46       | 0.5118127     | 1.668313   | 0.787   | 0.596     | 3.27E-42   |         |
| SEPTIN7| 6.69E-220      | 0.5117856     | 1.668267   | 1       | 1         | 2.11E-215  |         |
| CEP152| 2.82E-24       | 0.5115103     | 1.667808   | 0.411   | 0.235     | 8.91E-20   |         |
| APOBEC3C| 3.31E-59      | 0.5113386     | 1.667522   | 0.937   | 0.779     | 1.04E-54   |         |
| CAP2  | 7.35E-37       | 0.5110548     | 1.667049   | 0.881   | 0.753     | 2.32E-32   |         |
| TMEM203| 5.11E-42       | 0.5110052     | 1.666966   | 0.72    | 0.477     | 1.61E-37   |         |
| NDUFA2| 2.44E-65       | 0.5109493     | 1.666873   | 0.893   | 0.719     | 7.69E-61   |         |
| PDE10A| 5.76E-29       | 0.5107699     | 1.666574   | 0.255   | 0.084     | 1.82E-24   |         |
| RASSF3| 7.27E-29       | 0.5106416     | 1.66636    | 0.583   | 0.368     | 2.29E-24   |         |
| TSPAN5| 6.50E-55       | 0.5104488     | 1.666039   | 0.96    | 0.86      | 2.05E-50   |         |
| ARSK  | 3.72E-25       | 0.5102689     | 1.665739   | 0.666   | 0.499     | 1.17E-20   |         |
| NDUFB2| 9.42E-113      | 0.510256      | 1.665718   | 0.989   | 0.94      | 2.97E-108  |         |
| IFT74 | 9.79E-37       | 0.5100184     | 1.665322   | 0.638   | 0.412     | 3.09E-32   |         |
| ARPC5 | 2.09E-244      | 0.5099378     | 1.665188   | 1       | 1         | 6.59E-240  |         |
| EDF1  | 6.12E-133      | 0.5099011     | 1.665126   | 1       | 0.999     | 1.93E-128  |         |
| FCMR  | 1.85E-32       | 0.5096587     | 1.664723   | 0.156   | 0.022     | 5.84E-28   |         |
| LSP1P4| 3.28E-59       | 0.5095333     | 1.664514   | 0.762   | 0.493     | 1.03E-54   |         |
| ORAI1 | 2.73E-36       | 0.5093134     | 1.664148   | 0.632   | 0.402     | 8.61E-32   |         |
| PRIM2 | 1.36E-34       | 0.5086816     | 1.663097   | 0.546   | 0.311     | 4.29E-30   |         |
| NUDT3 | 4.44E-51       | 0.5085237     | 1.662835   | 0.954   | 0.886     | 1.40E-46   |         |
| EIF3K | 1.30E-91       | 0.5084687     | 1.662743   | 1       | 0.998     | 4.10E-87   |         |
| GNA12 | 8.49E-60       | 0.5082697     | 1.662412   | 0.957   | 0.868     | 2.68E-55   |         |
| Gene       | AUC   | Z-Score | Benjamini FDR | q1     | q2     | Benjamini FDR |
|------------|-------|---------|---------------|--------|--------|---------------|
| KLHL9      | 2.12E-63 | 0.5078422 | 1.661702     | 0.927  | 0.781  | 6.70E-59     |
| C11orf98   | 5.96E-52 | 0.5078085 | 1.661464     | 0.682  | 0.446  | 1.88E-47     |
| SPG11      | 8.39E-30 | 0.5074771 | 1.661095     | 0.625  | 0.426  | 2.65E-25     |
| MRPL20     | 2.92E-67 | 0.5074112 | 1.660986     | 0.974  | 0.929  | 9.21E-63     |
| PAAF1      | 2.86E-34 | 0.5072828 | 1.660772     | 0.677  | 0.472  | 9.02E-30     |
| CHML       | 2.13E-26 | 0.5071114 | 1.660488     | 0.649  | 0.492  | 6.73E-22     |
| RABIF      | 3.19E-28 | 0.5070543 | 1.660393     | 0.57   | 0.373  | 7.81E-33     |
| SPG11      | 8.39E-30 | 0.5074771 | 1.661095     | 0.625  | 0.426  | 6.37E-33     |
| MRPL20     | 2.92E-67 | 0.5074112 | 1.660986     | 0.974  | 0.929  | 9.21E-63     |
| PAAF1      | 2.86E-34 | 0.5072828 | 1.660772     | 0.677  | 0.472  | 9.02E-30     |
| CHML       | 2.13E-26 | 0.5071114 | 1.660488     | 0.649  | 0.492  | 6.73E-22     |
| RABIF      | 3.19E-28 | 0.5070543 | 1.660393     | 0.57   | 0.373  | 7.81E-33     |
| SPG11      | 8.39E-30 | 0.5074771 | 1.661095     | 0.625  | 0.426  | 6.37E-33     |
| MRPL20     | 2.92E-67 | 0.5074112 | 1.660986     | 0.974  | 0.929  | 9.21E-63     |
| PAAF1      | 2.86E-34 | 0.5072828 | 1.660772     | 0.677  | 0.472  | 9.02E-30     |
| CHML       | 2.13E-26 | 0.5071114 | 1.660488     | 0.649  | 0.492  | 6.73E-22     |
| RABIF      | 3.19E-28 | 0.5070543 | 1.660393     | 0.57   | 0.373  | 7.81E-33     |
| SPG11      | 8.39E-30 | 0.5074771 | 1.661095     | 0.625  | 0.426  | 6.37E-33     |
| MRPL20     | 2.92E-67 | 0.5074112 | 1.660986     | 0.974  | 0.929  | 9.21E-63     |
| PAAF1      | 2.86E-34 | 0.5072828 | 1.660772     | 0.677  | 0.472  | 9.02E-30     |
| CHML       | 2.13E-26 | 0.5071114 | 1.660488     | 0.649  | 0.492  | 6.73E-22     |
| RABIF      | 3.19E-28 | 0.5070543 | 1.660393     | 0.57   | 0.373  | 7.81E-33     |
| Gene    | Log2FC | FDR  | Log2FoldChange | pValue  | FDR  | Log2FoldChange | pValue  | FDR  |
|---------|--------|------|----------------|---------|------|----------------|---------|------|
| POMGNT2 | 3.94E-23 | 0.5025825 | 1.652985 | 0.319 | 0.158 | 1.24E-18 |
| HSDL1   | 4.71E-30 | 0.5024515 | 1.652768 | 0.476 | 0.26 | 1.49E-25 |
| PPP1R7  | 1.68E-68 | 0.5023143 | 1.652541 | 0.979 | 0.916 | 5.29E-64 |
| CPSF2   | 5.25E-64 | 0.5022119 | 1.652372 | 0.969 | 0.878 | 1.66E-59 |
| PARP1   | 9.99E-53 | 0.5021818 | 1.652322 | 0.957 | 0.873 | 3.15E-48 |
| SOD3    | 2.03E-30 | 0.5021093 | 1.652203 | 0.327 | 0.133 | 6.41E-26 |
| LRRCC1  | 7.30E-28 | 0.5020301 | 1.652072 | 0.356 | 0.165 | 2.30E-23 |
| NYNRIN  | 1.12E-25 | 0.5019043 | 1.651864 | 0.197 | 0.055 | 3.55E-21 |
| PGP     | 5.24E-30 | 0.5015497 | 1.651278 | 0.666 | 0.481 | 1.65E-25 |
| RPS11   | 0.00E+00 | 0.5014823 | 1.651167 | 1 | 1 | 0.00E+00 |
| ARHGEF25| 1.81E-26 | 0.5013861 | 1.651008 | 0.479 | 0.284 | 5.71E-22 |
| TTF2    | 4.34E-25 | 0.5011093 | 1.650653 | 0.553 | 0.384 | 1.37E-20 |
| ZCCHC17 | 3.08E-45 | 0.5009652 | 1.650314 | 0.803 | 0.502 | 9.72E-41 |
| ACBD6   | 5.02E-46 | 0.5006179 | 1.649740 | 0.872 | 0.754 | 5.77E-34 |
| PDCL3   | 3.18E-135 | 0.5006122 | 1.649731 | 1 | 0.998 | 1.00E-130 |
| SREBF1  | 2.27E-35 | 0.5005858 | 1.649687 | 0.708 | 0.495 | 7.15E-31 |
| PLGRKT  | 1.48E-40 | 0.5004836 | 1.649519 | 0.801 | 0.622 | 4.68E-36 |
| EXT2    | 2.75E-31 | 0.5004487 | 1.649461 | 0.683 | 0.499 | 8.69E-27 |
| FEZ2    | 4.02E-59 | 0.5000951 | 1.648878 | 0.979 | 0.946 | 1.27E-54 |
| UPF3A   | 1.17E-48 | 0.5000291 | 1.648769 | 0.878 | 0.709 | 3.67E-44 |
| AL109918.1 | 8.50E-33 | 0.4999476 | 1.648635 | 0.252 | 0.072 | 2.68E-28 |
| RNF207  | 5.96E-25 | 0.4998067 | 1.648403 | 0.242 | 0.097 | 1.88E-20 |
| PTGER3  | 1.83E-20 | 0.4996537 | 1.64815 | 0.159 | 0.044 | 5.79E-16 |
| MRPL36  | 5.72E-50 | 0.4996457 | 1.648137 | 0.74 | 0.67 | 1.80E-45 |
| ARL3    | 1.69E-49 | 0.4995572 | 1.647991 | 0.949 | 0.882 | 5.33E-45 |
| SPSB2   | 3.12E-37 | 0.4992768 | 1.647529 | 0.284 | 0.083 | 9.86E-33 |
| NT5C2   | 1.17E-41 | 0.4990409 | 1.647141 | 0.865 | 0.709 | 3.68E-37 |
| NUP205  | 2.67E-29 | 0.4985005 | 1.646251 | 0.601 | 0.396 | 8.42E-25 |
| GUK1    | 3.07E-122 | 0.4983696 | 1.646035 | 1 | 0.999 | 9.70E-118 |
| POLR2I  | 1.08E-48 | 0.4983168 | 1.645949 | 0.734 | 0.494 | 3.42E-44 |
| GNG5    | 1.65E-140 | 0.4981842 | 1.64573 | 0.999 | 0.992 | 5.19E-136 |
| POP5    | 1.20E-30 | 0.4981155 | 1.645617 | 0.759 | 0.663 | 3.79E-26 |
| RPS15   | 3.67E-260 | 0.4980947 | 1.645583 | 1 | 1 | 1.16E-255 |
| NEO1    | 1.54E-23 | 0.4976671 | 1.644879 | 0.642 | 0.501 | 4.84E-19 |
| HTR7P1  | 4.06E-25 | 0.4975666 | 1.644862 | 0.285 | 0.116 | 1.28E-20 |
| POLR3B  | 5.69E-39 | 0.4975713 | 1.644722 | 0.465 | 0.215 | 1.79E-34 |
| HACD2   | 1.88E-41 | 0.4975065 | 1.644615 | 0.872 | 0.719 | 5.92E-37 |
| TCEAL8  | 1.83E-48 | 0.4973934 | 1.644429 | 0.952 | 0.862 | 5.76E-44 |
| N4BP2L2 | 3.14E-53 | 0.4972443 | 1.644184 | 0.94 | 0.874 | 9.89E-49 |
| Gene  | Log2 Fold Change | p-Value | Adjusted p-Value | Fold Change | Fisher's Exact Test | Log2 Fold Change | p-Value | Adjusted p-Value | Fold Change |
|-------|------------------|---------|------------------|-------------|-------------------|------------------|---------|------------------|-------------|
| RPL6P27 | 4.69E-231 | 0.4971513 | 1.644031 | 1 | 1 | 1.48E-226 |
| FAR2 | 4.45E-25 | 0.4969509 | 1.643702 | 0.448 | 0.255 | 1.40E-20 |
| DCK | 3.54E-31 | 0.4968874 | 1.643597 | 0.732 | 0.579 | 1.12E-26 |
| SMARCA4 | 2.27E-64 | 0.4968776 | 1.643581 | 0.974 | 0.914 | 7.16E-60 |
| AASDH | 6.31E-31 | 0.4965535 | 1.643049 | 0.289 | 0.104 | 1.99E-26 |
| RPL9P7 | 2.30E-144 | 0.4963986 | 1.642794 | 0.986 | 0.929 | 7.25E-140 |
| IL32 | 2.97E-30 | 0.4963279 | 1.642678 | 0.289 | 0.104 | 1.99E-26 |
| WDR6 | 6.46E-48 | 0.496312 | 1.642652 | 0.781 | 0.544 | 2.04E-43 |
| MAVS | 9.89E-49 | 0.4962774 | 1.642595 | 0.916 | 0.794 | 1.39E-44 |
| NUP85 | 3.60E-25 | 0.496199 | 1.642466 | 0.616 | 0.454 | 1.14E-20 |
| UBE2E3 | 4.40E-58 | 0.496199 | 1.642466 | 0.616 | 0.454 | 1.14E-20 |
| MTMR6 | 3.32E-41 | 0.496199 | 1.642466 | 0.616 | 0.454 | 1.14E-20 |
| ZDHHC7 | 1.91E-52 | 0.496199 | 1.642466 | 0.616 | 0.454 | 1.14E-20 |
| XPA | 5.59E-43 | 0.496199 | 1.642466 | 0.616 | 0.454 | 1.14E-20 |
| TMTC1 | 1.65E-08 | 0.496199 | 1.642466 | 0.616 | 0.454 | 1.14E-20 |
| NNT-AS1 | 8.45E-29 | 0.496199 | 1.642466 | 0.616 | 0.454 | 1.14E-20 |
| TIMM10 | 1.03E-39 | 0.496199 | 1.642466 | 0.616 | 0.454 | 1.14E-20 |
| MRPL35 | 1.40E-51 | 0.496199 | 1.642466 | 0.616 | 0.454 | 1.14E-20 |
| NKAP | 6.34E-35 | 0.4918703 | 1.635372 | 0.798 | 0.671 | 2.00E-30 |
| Gene      | Score    | EBP    | HIC    | Score    | Score    |
|-----------|----------|--------|--------|----------|----------|
| ABHD17C   | 8.04E-26 | 0.4917445 | 1.635166 | 0.396 | 0.206 | 2.54E-21 |
| ESCO2     | 1.57E-31 | 0.4913892 | 1.634585 | 0.575 | 0.351 | 4.95E-27 |
| NME1      | 1.16E-97 | 0.4912723 | 1.634403 | 1 | 1 | 3.64E-93 |
| CWF19L1   | 2.22E-33 | 0.491154  | 1.634201 | 0.678 | 0.351 | 7.01E-29 |
| LAMTOR1   | 5.09E-92 | 0.4906093 | 1.633311 | 0.998 | 0.988 | 1.61E-87 |
| ASH2L     | 8.15E-34 | 0.4906065 | 1.633307 | 0.763 | 0.565 | 2.57E-29 |
| WDR70     | 1.62E-26 | 0.4903841 | 1.632943 | 0.609 | 0.416 | 5.10E-22 |
| NDUVF3    | 7.25E-48 | 0.4902879 | 1.632786 | 0.889 | 0.755 | 2.29E-43 |
| POLR2G    | 3.59E-64 | 0.4899125 | 1.632141 | 0.678 | 0.468 | 7.01E-29 |
| LAMTOR1   | 5.09E-92 | 0.4906093 | 1.633311 | 0.998 | 0.988 | 1.61E-87 |
| ASH2L     | 8.15E-34 | 0.4906065 | 1.633307 | 0.763 | 0.565 | 2.57E-29 |
| WDR70     | 1.62E-26 | 0.4903841 | 1.632943 | 0.609 | 0.416 | 5.10E-22 |
| NDUVF3    | 7.25E-48 | 0.4902879 | 1.632786 | 0.889 | 0.755 | 2.29E-43 |
| POLR2G    | 3.59E-64 | 0.4899125 | 1.632141 | 0.678 | 0.468 | 7.01E-29 |
| LAMTOR1   | 5.09E-92 | 0.4906093 | 1.633311 | 0.998 | 0.988 | 1.61E-87 |
| ASH2L     | 8.15E-34 | 0.4906065 | 1.633307 | 0.763 | 0.565 | 2.57E-29 |
| WDR70     | 1.62E-26 | 0.4903841 | 1.632943 | 0.609 | 0.416 | 5.10E-22 |
| NDUVF3    | 7.25E-48 | 0.4902879 | 1.632786 | 0.889 | 0.755 | 2.29E-43 |
| POLR2G    | 3.59E-64 | 0.4899125 | 1.632141 | 0.678 | 0.468 | 7.01E-29 |
| LAMTOR1   | 5.09E-92 | 0.4906093 | 1.633311 | 0.998 | 0.988 | 1.61E-87 |
| ASH2L     | 8.15E-34 | 0.4906065 | 1.633307 | 0.763 | 0.565 | 2.57E-29 |
| WDR70     | 1.62E-26 | 0.4903841 | 1.632943 | 0.609 | 0.416 | 5.10E-22 |
| NDUVF3    | 7.25E-48 | 0.4902879 | 1.632786 | 0.889 | 0.755 | 2.29E-43 |
| POLR2G    | 3.59E-64 | 0.4899125 | 1.632141 | 0.678 | 0.468 | 7.01E-29 |
| LAMTOR1   | 5.09E-92 | 0.4906093 | 1.633311 | 0.998 | 0.988 | 1.61E-87 |
| ASH2L     | 8.15E-34 | 0.4906065 | 1.633307 | 0.763 | 0.565 | 2.57E-29 |
| WDR70     | 1.62E-26 | 0.4903841 | 1.632943 | 0.609 | 0.416 | 5.10E-22 |
| NDUVF3    | 7.25E-48 | 0.4902879 | 1.632786 | 0.889 | 0.755 | 2.29E-43 |
| POLR2G    | 3.59E-64 | 0.4899125 | 1.632141 | 0.678 | 0.468 | 7.01E-29 |
| LAMTOR1   | 5.09E-92 | 0.4906093 | 1.633311 | 0.998 | 0.988 | 1.61E-87 |
| Gene      | P-Value       | Score     | Relative Risk | Percentile | % Change | Relative Risk  |
|-----------|---------------|-----------|---------------|------------|----------|----------------|
| HLA-B     | 8.91E-34      | 0.4862529 | 1.626211      | 1          | 1        | 2.81E-29       |
| KIRREL3   | 4.45E-26      | 0.4859984 | 1.625797      | 0.419      | 0.235    | 1.40E-21       |
| PRSS3     | 1.65E-18      | 0.4857861 | 1.625452      | 0.382      | 0.247    | 5.21E-14       |
| ACTR1B    | 8.31E-49      | 0.4857764 | 1.625436      | 0.922      | 0.789    | 2.62E-44       |
| DNAJC8    | 1.27E-88      | 0.4852999 | 1.624662      | 0.997      | 0.987    | 4.01E-04       |
| CENPQ     | 7.80E-22      | 0.4851526 | 1.624423      | 0.341      | 0.171    | 2.46E-17       |
| SSR4      | 7.41E-100     | 0.484996  | 1.624168      | 1          | 0.998    | 2.34E-09       |
| LDLR      | 1.81E-37      | 0.4847925 | 1.623838      | 0.908      | 0.807    | 5.72E-33       |
| NLN       | 3.02E-39      | 0.4847803 | 1.623818      | 0.88       | 0.765    | 9.53E-35       |
| AP001931.1| 2.92E-69      | 0.4845702 | 1.623477      | 0.981      | 0.95     | 9.29E-69       |
| LDRC      | 7.84E-22      | 0.4845216 | 1.623398      | 0.907      | 0.741    | 2.47E-45       |
| HIBADH    | 1.06E-39      | 0.4843766 | 1.623163      | 0.857      | 0.695    | 3.35E-35       |
| CENPI     | 3.57E-23      | 0.4840479 | 1.622629      | 0.265      | 0.109    | 1.13E-18       |
| RFC5      | 1.77E-28      | 0.4839601 | 1.622487      | 0.452      | 0.241    | 5.59E-24       |
| CNTRL     | 2.59E-24      | 0.4839067 | 1.62224       | 0.354      | 0.175    | 8.16E-20       |
| ROBO1     | 2.43E-41      | 0.4838877 | 1.62237       | 0.712      | 0.463    | 7.65E-37       |
| PRR13     | 1.89E-73      | 0.4837832 | 1.6222        | 0.988      | 0.966    | 5.97E-69       |
| RNF34     | 5.37E-29      | 0.4835753 | 1.621863      | 0.681      | 0.502    | 1.69E-24       |
| HOXD3     | 5.54E-40      | 0.4833916 | 1.621565      | 0.187      | 0.025    | 1.75E-35       |
| ATOX1     | 7.68E-64      | 0.4833829 | 1.621551      | 0.886      | 0.709    | 2.42E-59       |
| SLITRK4   | 5.98E-29      | 0.4829558 | 1.620858      | 0.113      | 0.008    | 1.89E-24       |
| PCNA      | 1.77E-51      | 0.4827644 | 1.620548      | 0.946      | 0.856    | 5.59E-47       |
| MTFR2     | 1.82E-21      | 0.4825444 | 1.620192      | 0.263      | 0.118    | 5.74E-17       |
| HNRNPL    | 1.09E-83      | 0.4823601 | 1.619893      | 0.995      | 0.966    | 3.43E-79       |
| CAMTA1    | 2.11E-65      | 0.4821553 | 1.619561      | 0.954      | 0.891    | 6.66E-61       |
| SMIM26    | 9.18E-52      | 0.4820681 | 1.61942       | 0.846      | 0.657    | 2.90E-47       |
| NOP10     | 5.78E-97      | 0.4818581 | 1.61908       | 0.996      | 0.992    | 1.82E-92       |
| NUDCD2    | 1.90E-35      | 0.4818328 | 1.619039      | 0.835      | 0.691    | 6.01E-31       |
| NDUFAF3   | 1.34E-68      | 0.481768  | 1.618934      | 0.974      | 0.927    | 4.23E-64       |
| GINS4     | 1.07E-24      | 0.4815584 | 1.618595      | 0.546      | 0.373    | 3.38E-20       |
| CBX3      | 1.14E-129     | 0.4814461 | 1.618413      | 1          | 1        | 3.61E-125      |
| BRCA1     | 1.91E-23      | 0.4811292 | 1.6179        | 0.578      | 0.414    | 6.02E-19       |
| ACAD11    | 3.96E-29      | 0.4809387 | 1.617592      | 0.4        | 0.203    | 1.25E-24       |
| CSTF3     | 1.20E-36      | 0.4808187 | 1.617398      | 0.756      | 0.558    | 3.78E-32       |
| RNF115    | 1.29E-46      | 0.4806038 | 1.61705       | 0.943      | 0.839    | 4.08E-42       |
| MALSU1    | 3.84E-47      | 0.4805237 | 1.616921      | 0.881      | 0.796    | 1.21E-42       |
| FIS1      | 4.36E-65      | 0.4805055 | 1.616892      | 0.983      | 0.976    | 1.38E-60       |
| TRIM21    | 1.01E-24      | 0.4802358 | 1.616456      | 0.401      | 0.216    | 3.19E-20       |
| INPP5A    | 5.78E-30      | 0.4801433 | 1.616306      | 0.625      | 0.441    | 1.82E-25       |
| Gene  | Value       | Value       | Value       | Value       | Value       | Value       |
|-------|-------------|-------------|-------------|-------------|-------------|-------------|
| EIF2B3 | 6.41E-40   | 0.4799909  | 1.61606     | 0.817       | 0.639       | 2.02E-35    |
| PPIG  | 9.24E-47   | 0.4798613  | 1.61585     | 0.946       | 0.862       | 2.91E-42    |
| PSMB8 | 1.09E-37   | 0.4797304  | 1.615639    | 0.883       | 0.733       | 3.44E-33    |
| OSR1  | 1.85E-28   | 0.4796456  | 1.615502    | 0.278       | 0.101       | 5.84E-24    |
| PRRT1 | 3.44E-35   | 0.4796211  | 1.615462    | 0.188       | 0.036       | 1.09E-30    |
| COX6C | 8.34E-99   | 0.4793475  | 1.61502     | 0.992       | 0.947       | 2.63E-94    |
| RAD50 | 2.90E-42   | 0.4793171  | 1.614971    | 0.868       | 0.724       | 9.14E-38    |
| LINC00909 | 6.80E-24 | 0.4793031  | 1.614948    | 0.459       | 0.276       | 2.14E-19    |
| MRPS24 | 3.97E-92  | 0.4792735  | 1.614901    | 0.986       | 0.951       | 1.25E-87    |
| AMACR | 1.70E-32   | 0.4792611  | 1.614315    | 0.658       | 0.496       | 2.23E-24    |
| UQCRQ | 3.15E-120  | 0.479105   | 1.61359     | 0.995       | 0.969       | 9.95E-116   |
| ABCC9 | 4.75E-21   | 0.4781633  | 1.613109    | 0.496       | 0.321       | 1.50E-16    |
| YY1   | 3.40E-100  | 0.4777317  | 1.612413    | 0.996       | 0.982       | 1.07E-95    |
| CACNB3 | 5.35E-26  | 0.4773473  | 1.611793    | 0.544       | 0.348       | 1.69E-21    |
| MYD88 | 5.12E-28   | 0.4772804  | 1.611685    | 0.64        | 0.435       | 1.62E-23    |
| MINDY2 | 3.23E-32  | 0.4769613  | 1.611171    | 0.901       | 0.795       | 1.02E-27    |
| CHD6  | 3.70E-25   | 0.476937   | 1.611132    | 0.571       | 0.385       | 1.17E-20    |
| MRPL16 | 9.55E-43  | 0.476908   | 1.611085    | 0.877       | 0.712       | 3.01E-38    |
| COTL1 | 7.48E-171  | 0.4767992  | 1.61091     | 1           | 1           | 2.36E-166   |
| MT-ND5 | 2.17E-191 | 0.4766694  | 1.610701    | 1           | 1           | 6.85E-187   |
| CIR1  | 2.27E-33   | 0.4763893  | 1.61025     | 0.747       | 0.614       | 7.17E-29    |
| HMG20B | 6.39E-54  | 0.4759128  | 1.609483    | 0.94        | 0.796       | 2.01E-49    |
| AP0003111.1 | 8.07E-80 | 0.475747   | 1.609216    | 0.78        | 0.487       | 2.54E-75    |
| LRYM7 | 2.92E-28   | 0.4756321  | 1.609031    | 0.712       | 0.571       | 9.21E-24    |
| MAT2B | 5.51E-52   | 0.4754682  | 1.608767    | 0.957       | 0.868       | 1.74E-47    |
| EBAG9 | 3.25E-26   | 0.4754524  | 1.608742    | 0.545       | 0.356       | 1.03E-21    |
| LYPLA1 | 1.07E-77  | 0.4752377  | 1.608397    | 0.989       | 0.946       | 3.37E-73    |
| GSR   | 1.65E-33   | 0.475016   | 1.60804     | 0.711       | 0.508       | 5.20E-29    |
| RPL6  | 6.43E-296  | 0.4749085  | 1.607867    | 1           | 1           | 2.03E-291   |
| CAPN5 | 1.89E-28   | 0.4748027  | 1.607697    | 0.481       | 0.273       | 5.96E-24    |
| LDB1  | 3.67E-38   | 0.4746366  | 1.60743     | 0.914       | 0.83        | 1.16E-33    |
| COG8  | 5.00E-33   | 0.4744926  | 1.607198    | 0.77        | 0.595       | 1.58E-28    |
| RBBP7 | 3.37E-88   | 0.4744711  | 1.607164    | 0.996       | 0.97        | 1.06E-83    |
| PDLIM7 | 4.26E-106 | 0.4743625  | 1.606989    | 0.999       | 0.998       | 1.34E-101   |
| MRPL11 | 2.95E-41  | 0.4743445  | 1.60696     | 0.901       | 0.817       | 9.30E-37    |
| NIPSNAP1 | 1.44E-35 | 0.4740248  | 1.606447    | 0.905       | 0.814       | 4.54E-31    |
| ACTR3 | 9.30E-205  | 0.4739751  | 1.606367    | 1           | 1           | 2.93E-200   |
| LIG3  | 1.12E-24   | 0.4739365  | 1.606305    | 0.564       | 0.385       | 3.53E-20    |
| TCHP  | 2.64E-28   | 0.47352    | 1.605636    | 0.603       | 0.411       | 8.32E-24    |
| Gene     | Value1    | Value2    | Value3    | Value4    | Value5 | Value6    |
|----------|-----------|-----------|-----------|-----------|--------|-----------|
| NDUFC1   | 2.81E-56  | 0.4734695 | 1.605555  | 0.889     | 0.743  | 8.86E-52  |
| DYRK4    | 6.11E-32  | 0.4731994 | 1.605121  | 0.665     | 0.46   | 1.93E-27  |
| MITD1    | 7.41E-24  | 0.4730957 | 1.604955  | 0.59      | 0.435  | 2.34E-19  |
| C7orf25  | 1.32E-28  | 0.4729818 | 1.604772  | 0.414     | 0.213  | 4.16E-24  |
| DDX59    | 5.19E-25  | 0.4727449 | 1.604392  | 0.54      | 0.374  | 1.64E-20  |
| HDAC7    | 4.83E-49  | 0.4721905 | 1.603503  | 0.922     | 0.779  | 1.52E-44  |
| DNAJC14  | 6.09E-26  | 0.4719004 | 1.603038  | 0.574     | 0.385  | 1.92E-21  |
| APEX2    | 3.83E-26  | 0.4718734 | 1.602994  | 0.487     | 0.289  | 1.21E-21  |
| FOSL2    | 4.98E-28  | 0.4717145 | 1.601875  | 0.539     | 0.315  | 4.76E-27  |
| MITD15   | 1.32E-28  | 0.4717145 | 1.601875  | 0.539     | 0.315  | 4.76E-27  |
| LIN52    | 4.01E-26  | 0.4711727 | 1.601872  | 0.459     | 0.271  | 1.27E-21  |
| TRIM8    | 3.72E-49  | 0.4710421 | 1.601153  | 0.985     | 0.82   | 1.17E-44  |
| GPAT3    | 8.33E-32  | 0.4709809 | 1.601564  | 0.349     | 0.145  | 2.63E-27  |
| TUT4     | 2.98E-25  | 0.4708574 | 1.601367  | 0.632     | 0.452  | 9.41E-21  |
| FADS2    | 2.30E-31  | 0.4708331 | 1.601328  | 0.843     | 0.683  | 7.25E-27  |
| HAT1     | 9.39E-43  | 0.4708287 | 1.601321  | 0.925     | 0.813  | 2.96E-28  |
| CBX1     | 2.43E-60  | 0.4707242 | 1.601153  | 0.985     | 0.946  | 7.66E-56  |
| PRKG1    | 1.76E-28  | 0.4703798 | 1.600602  | 0.342     | 0.15   | 5.54E-24  |
| NNT      | 1.49E-42  | 0.4702406 | 1.600379  | 0.893     | 0.763  | 4.70E-38  |
| NCOR1    | 3.60E-54  | 0.4698802 | 1.599802  | 0.977     | 0.944  | 1.14E-49  |
| PTMAP5   | 1.70E-84  | 0.4698523 | 1.599758  | 0.869     | 0.602  | 5.36E-80  |
| SWI5     | 2.86E-32  | 0.4698125 | 1.599694  | 0.732     | 0.649  | 9.03E-28  |
| ALDH9A1  | 2.08E-57  | 0.4697035 | 1.59952   | 0.974     | 0.896  | 6.55E-53  |
| METTL17  | 1.38E-27  | 0.4695019 | 1.599197  | 0.721     | 0.549  | 4.36E-23  |
| TAF12    | 4.60E-39  | 0.4690113 | 1.598413  | 0.753     | 0.528  | 1.45E-34  |
| POLE4    | 2.40E-49  | 0.4689322 | 1.598368  | 0.876     | 0.818  | 7.56E-45  |
| PAGR1    | 3.77E-39  | 0.4689338 | 1.598289  | 0.612     | 0.369  | 1.19E-34  |
| MRPL17   | 3.92E-49  | 0.4689069 | 1.598246  | 0.968     | 0.936  | 1.12E-44  |
| TNRC6C   | 1.79E-29  | 0.4687698 | 1.598027  | 0.452     | 0.24   | 5.64E-25  |
| SNAP29   | 6.42E-38  | 0.4685936 | 1.597659  | 0.856     | 0.713  | 2.02E-33  |
| TMBIM4   | 1.03E-66  | 0.4682318 | 1.597168  | 0.994     | 0.981  | 3.26E-62  |
| TPP2     | 9.28E-48  | 0.4682178 | 1.597145  | 0.935     | 0.817  | 2.93E-43  |
| MT-ND2   | 4.79E-293 | 0.4681034 | 1.596963  | 1         | 1      | 1.51E-288 |
| ORC3     | 1.28E-31  | 0.467884  | 1.596612  | 0.611     | 0.39   | 4.05E-27  |
| MRPS27   | 5.68E-29  | 0.4678226 | 1.596514  | 0.746     | 0.578  | 1.79E-24  |
| SLC35E2B | 2.98E-31  | 0.4677864 | 1.596456  | 0.71      | 0.529  | 9.41E-27  |
| CHMP4A   | 6.78E-37  | 0.4677207 | 1.596351  | 0.848     | 0.717  | 2.14E-32  |
| COX6A1P2 | 4.37E-77  | 0.4675483 | 1.596076  | 0.74      | 0.435  | 1.38E-72  |
| MMP1     | 3.87E-14  | 0.4675205 | 1.596032  | 0.356     | 0.403  | 1.22E-09  |
| Gene    | p-value   | q-value   | Pearson r  | FDR   | p-value   | q-value |
|---------|-----------|-----------|------------|-------|-----------|---------|
| ENY2    | 7.62E-75  | 0.4671936 | 1.59551    | 0.986 | 0.966     | 2.40E-70 |
| PPP1R35 | 1.41E-40  | 0.4669116 | 1.59506    | 0.546 | 0.288     | 4.44E-36 |
| FAM217B | 4.35E-31  | 0.466812  | 1.594902   | 0.639 | 0.426     | 1.37E-26 |
| RIT1    | 1.51E-30  | 0.4668075 | 1.594894   | 0.755 | 0.576     | 4.78E-26 |
| TSPAN15 | 5.57E-38  | 0.466778  | 1.594688   | 0.237 | 0.053     | 1.76E-33 |
| ATP5MG  | 2.07E-104 | 0.4664939 | 1.594394   | 0.996 | 0.959     | 6.54E-100 |
| DDB2    | 1.73E-27  | 0.4663151 | 1.594109   | 0.632 | 0.442     | 8.29E-67 |
| PHF21A  | 1.49E-33  | 0.4662274 | 1.593969   | 0.639 | 0.426     | 1.37E-26 |
| PDZN3   | 3.22E-16  | 0.46592   | 1.593479   | 0.451 | 0.3       | 1.01E-11 |
| LINCO0339| 9.33E-22  | 0.4657414 | 1.593195   | 0.378 | 0.205     | 2.94E-17 |
| RIT1    | 1.51E-30  | 0.4668075 | 1.594894   | 0.755 | 0.576     | 4.78E-26 |
| TSPAN15 | 5.57E-38  | 0.466778  | 1.594688   | 0.237 | 0.053     | 1.76E-33 |
| ATP5MG  | 2.07E-104 | 0.4664939 | 1.594394   | 0.996 | 0.959     | 6.54E-100 |
| DDB2    | 1.73E-27  | 0.4663151 | 1.594109   | 0.632 | 0.442     | 8.29E-67 |
| PHF21A  | 1.49E-33  | 0.4662274 | 1.593969   | 0.639 | 0.426     | 1.37E-26 |
| PDZN3   | 3.22E-16  | 0.46592   | 1.593479   | 0.451 | 0.3       | 1.01E-11 |
| LINCO0339| 9.33E-22  | 0.4657414 | 1.593195   | 0.378 | 0.205     | 2.94E-17 |
| RIT1    | 1.51E-30  | 0.4668075 | 1.594894   | 0.755 | 0.576     | 4.78E-26 |
| TSPAN15 | 5.57E-38  | 0.466778  | 1.594688   | 0.237 | 0.053     | 1.76E-33 |
| ATP5MG  | 2.07E-104 | 0.4664939 | 1.594394   | 0.996 | 0.959     | 6.54E-100 |
| DDB2    | 1.73E-27  | 0.4663151 | 1.594109   | 0.632 | 0.442     | 8.29E-67 |
| PHF21A  | 1.49E-33  | 0.4662274 | 1.593969   | 0.639 | 0.426     | 1.37E-26 |
| PDZN3   | 3.22E-16  | 0.46592   | 1.593479   | 0.451 | 0.3       | 1.01E-11 |
| LINCO0339| 9.33E-22  | 0.4657414 | 1.593195   | 0.378 | 0.205     | 2.94E-17 |
| RIT1    | 1.51E-30  | 0.4668075 | 1.594894   | 0.755 | 0.576     | 4.78E-26 |
| TSPAN15 | 5.57E-38  | 0.466778  | 1.594688   | 0.237 | 0.053     | 1.76E-33 |
| ATP5MG  | 2.07E-104 | 0.4664939 | 1.594394   | 0.996 | 0.959     | 6.54E-100 |
| DDB2    | 1.73E-27  | 0.4663151 | 1.594109   | 0.632 | 0.442     | 8.29E-67 |
| PHF21A  | 1.49E-33  | 0.4662274 | 1.593969   | 0.639 | 0.426     | 1.37E-26 |
| PDZN3   | 3.22E-16  | 0.46592   | 1.593479   | 0.451 | 0.3       | 1.01E-11 |
| LINCO0339| 9.33E-22  | 0.4657414 | 1.593195   | 0.378 | 0.205     | 2.94E-17 |
| RIT1    | 1.51E-30  | 0.4668075 | 1.594894   | 0.755 | 0.576     | 4.78E-26 |
| TSPAN15 | 5.57E-38  | 0.466778  | 1.594688   | 0.237 | 0.053     | 1.76E-33 |
| ATP5MG  | 2.07E-104 | 0.4664939 | 1.594394   | 0.996 | 0.959     | 6.54E-100 |
| Gene     | Score  | E-value | P-value | Fold Change | q-value | Score  | E-value | P-value | Fold Change | q-value |
|----------|--------|---------|---------|-------------|---------|--------|---------|---------|-------------|---------|
| TRUB1    | 7.20E-28 | 0.460536 | 1.584923 | 0.658 | 0.452 | 2.27E-23 |
| NSMCE2   | 2.29E-31 | 0.4604873 | 1.584846 | 0.707 | 0.507 | 7.22E-27 |
| FIP1L1   | 9.18E-51 | 0.460244 | 1.584461 | 0.878 | 0.669 | 2.89E-46 |
| PSMC3IP  | 1.29E-17 | 0.4601235 | 1.58427 | 0.393 | 0.246 | 4.08E-13 |
| NDUFS7   | 1.38E-54 | 0.4600837 | 1.584207 | 0.95 | 0.915 | 4.37E-50 |
| TARS2    | 3.73E-21 | 0.4600567 | 1.584164 | 0.454 | 0.293 | 1.18E-16 |
| STN1     | 2.05E-24 | 0.4599372 | 1.583975 | 0.52 | 0.329 | 6.47E-20 |
| RPL36    | 7.66E-190 | 0.4598251 | 1.583584 | 1 | 1 | 2.42E-185 |
| BTN3A1   | 9.90E-25 | 0.459726 | 1.58364 | 0.417 | 0.227 | 3.12E-20 |
| PPIAP22  | 1.73E-95 | 0.4596108 | 1.583458 | 0.509 | 0.324 | 1.08E-18 |
| RAD18    | 3.43E-23 | 0.4594141 | 1.583146 | 0.546 | 0.366 | 2.79E-18 |
| VPS11    | 8.86E-23 | 0.4592525 | 1.58289 | 0.886 | 0.763 | 3.20E-34 |
| DCHS1    | 2.94E-37 | 0.4591235 | 1.582447 | 0.99 | 0.946 | 1.49E-132 |
| RALBP1   | 1.28E-25 | 0.4590867 | 1.582424 | 0.951 | 0.871 | 2.16E-42 |
| TMEM126B | 1.02E-38 | 0.4589576 | 1.582138 | 0.984 | 0.957 | 1.65E-37 |
| AL590867.2 | 4.74E-137 | 0.4588773 | 1.581769 | 0.924 | 0.624 | 4.44E-32 |
| DPH5     | 2.42E-26 | 0.4587773 | 1.581415 | 0.678 | 0.496 | 7.63E-22 |
| CCND3    | 1.41E-36 | 0.4586138 | 1.581133 | 0.198 | 0.035 | 9.29E-33 |
| PAF1     | 4.75E-41 | 0.4585441 | 1.581079 | 0.826 | 0.624 | 1.50E-36 |
| FAM204A  | 1.15E-44 | 0.4585343 | 1.581754 | 0.88 | 0.733 | 3.62E-40 |
| CCDC25   | 7.63E-40 | 0.4584253 | 1.581415 | 0.678 | 0.496 | 7.63E-22 |
| MRPS22   | 1.49E-41 | 0.4583213 | 1.581133 | 0.198 | 0.035 | 9.29E-33 |
| SURF2    | 1.13E-19 | 0.4582138 | 1.581079 | 0.826 | 0.624 | 1.50E-36 |
| WRAP73   | 2.40E-23 | 0.4581431 | 1.581079 | 0.826 | 0.624 | 1.50E-36 |
| TPB9     | 5.25E-42 | 0.4571708 | 1.579599 | 0.984 | 0.957 | 1.66E-37 |
| MRPS17   | 1.96E-34 | 0.4571431 | 1.579555 | 0.68 | 0.487 | 6.20E-30 |
| RETSAT   | 6.27E-33 | 0.4569635 | 1.579271 | 0.638 | 0.403 | 1.98E-28 |
| RTP4     | 6.92E-32 | 0.4567676 | 1.578961 | 0.135 | 0.012 | 2.18E-27 |
| LRCH3    | 3.82E-31 | 0.4567617 | 1.578953 | 0.739 | 0.583 | 1.20E-26 |
| HAUS8    | 1.66E-15 | 0.4567027 | 1.578859 | 0.37 | 0.228 | 5.24E-11 |
| ZFPM2    | 4.72E-27 | 0.4562497 | 1.578144 | 0.161 | 0.036 | 1.49E-22 |
| UBE2S    | 6.11E-10 | 0.4561047 | 1.577916 | 0.97 | 0.983 | 1.93E-05 |
| ALKBH7   | 5.54E-34 | 0.4560826 | 1.577881 | 0.805 | 0.751 | 1.75E-29 |
| SLC5A3   | 8.63E-22 | 0.4559933 | 1.577774 | 0.687 | 0.526 | 2.72E-17 |
| POLRMT   | 1.23E-31 | 0.4559553 | 1.57768 | 0.489 | 0.265 | 3.88E-27 |
| FMC1     | 2.47E-46 | 0.4558838 | 1.577567 | 0.596 | 0.33 | 7.79E-42 |
| ABRACL   | 8.66E-27 | 0.4555033 | 1.576967 | 0.778 | 0.67 | 2.73E-22 |
| RPL23AP82| 7.88E-41 | 0.4554398 | 1.576867 | 0.88 | 0.749 | 2.49E-36 |
| CMTR2    | 7.90E-24 | 0.4553318 | 1.576697 | 0.522 | 0.327 | 2.49E-19 |
| Gene   | Value   | p_value | E-value | q_value | G | GM | DCC   | DMC   |
|--------|---------|---------|---------|---------|---|----|-------|-------|
| ME1    | 1.29E-37| 0.455241| 1.576553| 0.941   | 0.908| 4.06E-33|
| PDHB   | 2.53E-67| 0.454827| 1.575901| 0.992   | 0.97 | 7.99E-63|
| PLD1   | 1.21E-19| 0.4548078| 1.57587 | 0.566   | 0.44 | 1.03E-11|
| REEP4  | 3.25E-16| 0.4547697| 1.57581 | 0.282   | 0.135| 3.81E-15|
| MMP17  | 6.50E-44| 0.4544891| 1.575368| 0.285   | 0.07 | 2.05E-39|
| POLE2  | 5.19E-20| 0.454216| 1.574938| 0.308   | 0.151| 1.64E-15|
| FAM174C| 3.39E-32| 0.4547697| 1.57581 | 0.831   | 0.728| 1.07E-27|
| LINC00672| 1.07E-25| 0.4536774| 1.57409 | 0.249   | 0.101| 3.37E-21|
| NEURL1B| 2.08E-14| 0.4534734| 1.573769| 0.796   | 0.598| 1.93E-31|
| LRRC42 | 4.45E-45| 0.4533867| 1.573633| 0.938   | 0.841| 1.40E-40|
| BBS7   | 6.55E-34| 0.4531688| 1.57329 | 0.704   | 0.542| 1.90E-22|
| COMMD6 | 5.22E-73| 0.4530367| 1.573082| 0.981   | 0.934| 1.65E-68|
| MCM2   | 2.89E-25| 0.4528565| 1.572798| 0.487   | 0.283| 9.11E-21|
| XRCC1  | 3.71E-30| 0.4525167| 1.572264| 0.617   | 0.399| 1.17E-25|
| UFL1   | 5.20E-41| 0.452148| 1.571685| 0.938   | 0.861| 1.64E-36|
| CEP63  | 6.02E-27| 0.4519021| 1.571298| 0.703   | 0.542| 1.90E-22|
| MRCL18B| 3.83E-45| 0.4518603| 1.571232| 0.937   | 0.831| 1.21E-40|
| NLRC5  | 1.38E-20| 0.4517757| 1.571099| 0.465   | 0.296| 4.35E-16|
| SMC6   | 6.07E-29| 0.451513| 1.570687| 0.83    | 0.693| 1.91E-24|
| PLEKHO1| 4.63E-39| 0.4512356| 1.570251| 0.872   | 0.701| 1.46E-34|
| ZSCAN30| 5.84E-25| 0.4511966| 1.57019 | 0.5     | 0.307| 1.84E-20|
| NUP93  | 6.76E-30| 0.4511907| 1.570181| 0.753   | 0.579| 2.13E-25|
| PRKACB | 3.35E-34| 0.4511836| 1.57017 | 0.842   | 0.677| 1.06E-29|
| RPP25L | 2.76E-16| 0.4511309| 1.570087| 0.462   | 0.325| 8.70E-12|
| POLD3  | 4.28E-18| 0.4511171| 1.570065| 0.443   | 0.289| 1.35E-13|
| SAV1   | 9.60E-30| 0.4509697| 1.569834| 0.906   | 0.824| 3.03E-25|
| KEAP1  | 1.54E-44| 0.4505955| 1.569246| 0.853   | 0.652| 4.86E-40|
| HMGB1P10| 3.81E-71| 0.4504911| 1.569083| 0.624   | 0.296| 1.20E-66|
| TMPO-AS1| 2.87E-22| 0.4503696| 1.568892| 0.18    | 0.054| 9.07E-18|
| PHYHD1 | 8.08E-19| 0.4502483| 1.568702| 0.198   | 0.074| 2.55E-14|
| USP33  | 7.80E-45| 0.4498798| 1.568124| 0.949   | 0.857| 2.46E-40|
| UBXN4  | 4.80E-90| 0.4498482| 1.568074| 0.998   | 1    | 1.51E-85|
| MTIF3  | 1.05E-47| 0.4496302| 1.567732| 0.674   | 0.408| 3.32E-43|
| SETD9  | 1.12E-26| 0.4496132| 1.567706| 0.329   | 0.143| 3.55E-22|
| GTF2F2 | 2.85E-38| 0.4496018| 1.567688| 0.959   | 0.932| 8.98E-34|
| TMEM256| 1.14E-49| 0.4495897| 1.567669| 0.666   | 0.388| 3.61E-45|
| FOXRED2| 1.04E-26| 0.4493073| 1.567226| 0.395   | 0.207| 3.30E-22|
| AAMDC  | 5.19E-33| 0.4493016| 1.567217| 0.68    | 0.502| 1.64E-28|
| Gene      | Value1   | Value2   | Value3   | Value4   | Value5   | Value6   |
|-----------|----------|----------|----------|----------|----------|----------|
| DUS2      | 5.11E-22 | 0.4492721| 1.567171 | 0.371    | 0.2      | 1.61E-17 |
| AC009133.6| 3.77E-35 | 0.4491141| 1.566923 | 0.553    | 0.323    | 1.19E-30 |
| SH3BGRL3  | 5.97E-151| 0.4489899| 1.566729 | 1        | 1        | 1.88E-146|
| TMEM87B   | 6.25E-32 | 0.448561  | 1.566057 | 0.87     | 0.743    | 1.97E-27 |
| HSDL2     | 1.07E-35 | 0.4480849| 1.565312 | 0.883    | 0.779    | 3.36E-31 |
| C18orf32  | 7.78E-39 | 0.4478946| 1.565014 | 0.912    | 0.805    | 2.46E-34 |
| DYNLT1    | 1.93E-82 | 0.4476417| 1.564618 | 1        | 0.998    | 6.08E-78 |
| GLOD4     | 4.02E-33 | 0.447595  | 1.564545 | 0.839    | 0.681    | 1.27E-28 |
| RHT1      | 3.01E-33 | 0.4475861| 1.564531 | 0.687    | 0.463    | 9.48E-29 |
| ISCU      | 1.74E-52 | 0.4470714| 1.563726 | 0.156    | 0.016    | 1.03E-31 |
| AC079848.2| 3.26E-36 | 0.4465501| 1.562911 | 0.874    | 0.759    | 6.40E-31 |
| NAA38     | 2.77E-52 | 0.4460001| 1.563164 | 0.866    | 0.7      | 8.75E-48 |
| RMDN1     | 2.03E-35 | 0.4455501| 1.562911 | 0.874    | 0.759    | 6.40E-31 |
| POLR3G    | 1.39E-16 | 0.445524  | 1.562649 | 0.323    | 0.199    | 4.38E-12 |
| NT5C3A    | 1.77E-30 | 0.4459367| 1.561953 | 0.801    | 0.652    | 5.59E-26 |
| SGCD       | 1.46E-07 | 0.445524  | 1.561743 | 0.372    | 0.354    | 4.61E-03 |
| AP001267.5| 2.25E-74 | 0.4455335| 1.561323 | 0.809    | 0.51     | 7.11E-70 |
| RPL17      | 6.07E-243| 0.4455323| 1.561321 | 1        | 1        | 1.91E-238|
| ZFPM2-AS1  | 3.44E-35 | 0.4454473| 1.561188 | 0.207    | 0.043    | 1.09E-30 |
| CEP68      | 5.33E-20 | 0.445255  | 1.560888 | 0.509    | 0.343    | 1.68E-15 |
| LCLAT1     | 2.12E-29 | 0.4449803| 1.560459 | 0.747    | 0.573    | 6.69E-25 |
| CBR1       | 5.33E-76 | 0.4448679| 1.560284 | 0.999    | 0.992    | 1.68E-71 |
| UEVLD      | 2.39E-33 | 0.4448528| 1.560261 | 0.804    | 0.629    | 7.53E-29 |
| ZYG11B     | 2.03E-34 | 0.4447635| 1.560121 | 0.914    | 0.812    | 6.39E-30 |
| TDP2       | 4.13E-42 | 0.444582  | 1.559838 | 0.824    | 0.616    | 1.30E-37 |
| ANAPC13    | 2.25E-49 | 0.4445524| 1.559792 | 0.969    | 0.917    | 7.09E-45 |
| VPS35      | 9.96E-89 | 0.444521  | 1.559743 | 0.998    | 0.989    | 3.14E-84 |
| COA4       | 1.47E-41 | 0.4444892| 1.559693 | 0.909    | 0.855    | 4.62E-37 |
| PCBD1      | 3.16E-18 | 0.4442869| 1.559378 | 0.623    | 0.528    | 9.96E-14 |
| AC016747.1 | 1.30E-25 | 0.444263  | 1.55934  | 0.467    | 0.279    | 4.09E-21 |
| PPP1R26    | 1.10E-18 | 0.4442038| 1.559248 | 0.3      | 0.165    | 3.48E-14 |
| PRIMPOL    | 7.66E-22 | 0.4441303| 1.559134 | 0.387    | 0.217    | 2.42E-17 |
| AC089983.1 | 2.83E-40 | 0.4440784| 1.559053 | 0.183    | 0.023    | 8.93E-36 |
| SEPTIN10   | 3.87E-53 | 0.4439082| 1.558787 | 0.984    | 0.939    | 1.22E-48 |
| DNAJC19    | 1.07E-35 | 0.4433657| 1.557942 | 0.768    | 0.579    | 3.39E-31 |
| AC011448.1 | 3.09E-69 | 0.4430852| 1.557505 | 0.829    | 0.582    | 9.76E-65 |
| C11orf54   | 5.54E-31 | 0.4429259| 1.557257 | 0.578    | 0.366    | 1.75E-26 |
| USP21      | 7.60E-27 | 0.4429252| 1.557256 | 0.393    | 0.194    | 2.40E-22 |
| FDXR       | 2.95E-25 | 0.4429246| 1.557255 | 0.465    | 0.264    | 9.31E-21 |
| STX8       | 5.51E-27 | 0.4428401| 1.557123 | 0.686    | 0.536    | 1.74E-22 |
| Gene    | Value   | Enrichment | FDR   | p-value | q-value | Enrichment | FDR   | p-value | q-value |
|---------|---------|------------|-------|---------|---------|------------|-------|---------|---------|
| ERCC5   | 3.70E-29| 0.4424044  | 1.556445| 0.701   | 0.52    | 1.17E-24   |       |         |         |
| FAF1    | 5.90E-33| 0.4423532  | 1.556365| 0.746   | 0.559   | 1.86E-28   |       |         |         |
| LZTS2   | 2.46E-32| 0.441961   | 1.555755| 0.81    | 0.633   | 7.75E-28   |       |         |         |
| RPL26L1 | 2.57E-40| 0.4419149  | 1.555683| 0.932   | 0.886   | 8.12E-36   |       |         |         |
| SCG5    | 4.23E-25| 0.4419003  | 1.555661| 0.255   | 0.094   | 1.33E-20   |       |         |         |
| PDE9A   | 1.39E-51| 0.4416978  | 1.555346| 0.148   | 0       | 4.38E-47   |       |         |         |
| PRR5L   | 5.90E-33| 0.4423532  | 1.556365| 0.746   | 0.559   | 1.86E-28   |       |         |         |
| LZTS2   | 2.46E-32| 0.441961   | 1.555755| 0.81    | 0.633   | 7.75E-28   |       |         |         |
| RPL26L1 | 2.57E-40| 0.4419149  | 1.555683| 0.932   | 0.886   | 8.12E-36   |       |         |         |
| SCG5    | 4.23E-25| 0.4419003  | 1.555661| 0.255   | 0.094   | 1.33E-20   |       |         |         |
| PDE9A   | 1.39E-51| 0.4416978  | 1.555346| 0.148   | 0       | 4.38E-47   |       |         |         |
| PRR5L   | 5.90E-33| 0.4423532  | 1.556365| 0.746   | 0.559   | 1.86E-28   |       |         |         |
| LZTS2   | 2.46E-32| 0.441961   | 1.555755| 0.81    | 0.633   | 7.75E-28   |       |         |         |
| RPL26L1 | 2.57E-40| 0.4419149  | 1.555683| 0.932   | 0.886   | 8.12E-36   |       |         |         |
| SCG5    | 4.23E-25| 0.4419003  | 1.555661| 0.255   | 0.094   | 1.33E-20   |       |         |         |
| PDE9A   | 1.39E-51| 0.4416978  | 1.555346| 0.148   | 0       | 4.38E-47   |       |         |         |
| PRR5L   | 5.90E-33| 0.4423532  | 1.556365| 0.746   | 0.559   | 1.86E-28   |       |         |         |
| LZTS2   | 2.46E-32| 0.441961   | 1.555755| 0.81    | 0.633   | 7.75E-28   |       |         |         |
| RPL26L1 | 2.57E-40| 0.4419149  | 1.555683| 0.932   | 0.886   | 8.12E-36   |       |         |         |
| SCG5    | 4.23E-25| 0.4419003  | 1.555661| 0.255   | 0.094   | 1.33E-20   |       |         |         |
| PDE9A   | 1.39E-51| 0.4416978  | 1.555346| 0.148   | 0       | 4.38E-47   |       |         |         |
| PRR5L   | 5.90E-33| 0.4423532  | 1.556365| 0.746   | 0.559   | 1.86E-28   |       |         |         |
| LZTS2   | 2.46E-32| 0.441961   | 1.555755| 0.81    | 0.633   | 7.75E-28   |       |         |         |
| RPL26L1 | 2.57E-40| 0.4419149  | 1.555683| 0.932   | 0.886   | 8.12E-36   |       |         |         |
| SCG5    | 4.23E-25| 0.4419003  | 1.555661| 0.255   | 0.094   | 1.33E-20   |       |         |         |
| PDE9A   | 1.39E-51| 0.4416978  | 1.555346| 0.148   | 0       | 4.38E-47   |       |         |         |
| Gene   | Value1  | Value2   | Value3   | Value4 | Value5 | Value6 |
|--------|---------|----------|----------|--------|--------|--------|
| KBTBD7 | 2.67E-26 | 0.4381269 | 1.549802 | 0.299  | 0.122  | 8.44E-22 |
| CCDC77 | 5.23E-18 | 0.4380779 | 1.549726 | 0.312  | 0.173  | 1.65E-13 |
| DTX3L  | 7.16E-22 | 0.4380452 | 1.549675 | 0.552  | 0.386  | 2.26E-17 |
| MRPS26 | 3.47E-25 | 0.4379881 | 1.549586 | 0.748  | 0.626  | 1.09E-20 |
| TASOR  | 2.37E-30 | 0.4378739 | 1.549409 | 0.829  | 0.686  | 7.47E-26 |
| SNRNP35| 3.88E-23 | 0.4380779 | 1.549726 | 0.312  | 0.173  | 1.65E-13 |
| PUDP   | 3.19E-23 | 0.4376673 | 1.549078 | 0.552  | 0.386  | 2.26E-17 |
| NAA16  | 2.55E-19 | 0.4376598 | 1.549078 | 0.551  | 0.387  | 8.05E-15 |
| POLH   | 1.14E-25 | 0.4375279 | 1.548874 | 0.725  | 0.568  | 3.59E-21 |
| ALPK1  | 1.02E-23 | 0.4373717 | 1.548632 | 0.291  | 0.127  | 3.21E-19 |
| BTBD10 | 2.20E-30 | 0.4373696 | 1.548628 | 0.81   | 0.65   | 6.93E-26 |
| MMUT   | 1.71E-33 | 0.4373405 | 1.548583 | 0.748  | 0.543  | 5.39E-29 |
| NT5C   | 2.91E-29 | 0.4366265 | 1.547478 | 0.806  | 0.677  | 9.17E-25 |
| RPS19BP1| 3.58E-40 | 0.4362019 | 1.546821 | 0.926  | 0.865  | 1.13E-35 |
| MKKS   | 2.48E-40 | 0.4360434 | 1.546576 | 0.817  | 0.633  | 7.84E-36 |
| SR5F6  | 3.55E-64 | 0.4359376 | 1.546412 | 0.992  | 0.969  | 1.13E-35 |
| EIF5   | 1.24E-86 | 0.4358677 | 1.546304 | 1      | 0.996  | 3.93E-82 |
| MAU2   | 4.39E-22 | 0.435695  | 1.546037 | 0.597  | 0.429  | 1.38E-17 |
| ACTC1  | 1.45E-04 | 0.4355413 | 1.5458   | 0.122  | 0.097  | 1.0E+00  |
| IK     | 7.19E-59 | 0.4355368 | 1.545793 | 0.987  | 0.964  | 2.27E-54 |
| CEP295 | 1.56E-18 | 0.4355229 | 1.545771 | 0.366  | 0.217  | 4.91E-14 |
| SSNA1  | 1.49E-40 | 0.4355182 | 1.545764 | 0.951  | 0.917  | 4.70E-36 |
| MEN1   | 1.59E-25 | 0.4354446 | 1.54565  | 0.539  | 0.336  | 5.00E-21 |
| TMEM80 | 2.28E-19 | 0.4354292 | 1.545626 | 0.399  | 0.236  | 7.19E-15 |
| KIAA1586| 2.22E-30 | 0.4353519 | 1.545507 | 0.532  | 0.311  | 7.01E-26 |
| SLC44A2| 2.08E-43 | 0.4353071 | 1.545438 | 0.947  | 0.885  | 6.55E-39 |
| IL15   | 1.94E-22 | 0.4352713 | 1.545382 | 0.363  | 0.191  | 6.13E-18 |
| CDH24  | 2.14E-28 | 0.4349953 | 1.544956 | 0.256  | 0.089  | 6.73E-24 |
| ATXN2  | 3.35E-42 | 0.4349786 | 1.54493  | 0.932  | 0.825  | 1.06E-37 |
| COX7C  | 2.47E-100| 0.4349054 | 1.544817 | 0.995  | 0.975  | 7.79E-96 |
| MRPS5  | 1.34E-33 | 0.4346805 | 1.54447  | 0.871  | 0.781  | 4.22E-29 |
| CLDN7  | 6.04E-24 | 0.4346096 | 1.54436  | 0.134  | 0.025  | 1.91E-19 |
| CDC7A  | 1.33E-16 | 0.4344574 | 1.544125 | 0.243  | 0.113  | 4.18E-12 |
| DCTD   | 9.65E-52 | 0.4341815 | 1.543699 | 0.985  | 0.952  | 3.04E-47 |
| FAM122B| 7.76E-24 | 0.4341247 | 1.543611 | 0.536  | 0.342  | 2.45E-19 |
| PPP4R1 | 7.70E-44 | 0.4339121 | 1.543283 | 0.934  | 0.818  | 2.43E-39 |
| ASAP1  | 3.28E-62 | 0.4335789 | 1.542769 | 0.993  | 0.972  | 1.04E-57 |
| ANKMY2 | 1.46E-22 | 0.43336   | 1.542431 | 0.594  | 0.409  | 4.60E-18 |
| ZNF706 | 5.46E-38 | 0.4325813 | 1.541231 | 0.932  | 0.881  | 1.72E-33 |
| UBA52  | 3.36E-208| 0.4325214 | 1.541138 | 1      | 1      | 1.06E-203|
| Gene   | P-value     | log2FoldChange | MeanLogFoldChange | FDR  | FDR adj | Log2FoldChange adj |
|--------|-------------|----------------|-------------------|------|---------|-------------------|
| CHAF1A | 7.07E-22    | 0.4325102      | 1.541121          | 0.425| 0.243   | 2.23E-17          |
| NPM3   | 1.05E-23    | 0.4324756      | 1.541068          | 0.804| 0.736   | 3.31E-19          |
| NBEAL1 | 2.09E-60    | 0.4323546      | 1.540881          | 0.949| 0.818   | 6.61E-56          |
| GINS2  | 2.88E-19    | 0.4321548      | 1.540574          | 0.478| 0.307   | 9.07E-15          |
| HDHD2  | 2.62E-24    | 0.4318253      | 1.540066          | 0.707| 0.537   | 8.27E-20          |
| ZP3    | 6.62E-17    | 0.4317993      | 1.540026          | 0.419| 0.284   | 2.09E-12          |
| L3HYPDH| 1.19E-29    | 0.4317479      | 1.539947          | 0.763| 0.578   | 3.74E-25          |
| REXO2  | 2.29E-99    | 0.4314112      | 1.539428          | 1    | 1       | 7.21E-95          |
| ARNT2  | 8.07E-47    | 0.431096       | 1.538943          | 0.804| 0.736   | 2.55E-42          |
| SMARCB1| 7.47E-47    | 0.4307698      | 1.538441          | 0.949| 0.818   | 2.36E-42          |
| PKN1   | 2.09E-60    | 0.4304422      | 1.537937          | 0.478| 0.307   | 9.07E-15          |
| DNAJC13| 8.43E-18    | 0.4300924      | 1.537061          | 1    | 0.995   | 5.46E-99          |
| MAMDC2 | 8.43E-18    | 0.43000924     | 1.537061          | 0.136| 0.038   | 2.66E-13          |
| F2RL2  | 5.62E-19    | 0.4300049      | 1.537265          | 0.464| 0.29    | 1.77E-14          |
| COX7B  | 8.36E-72    | 0.4299977      | 1.537254          | 0.977| 0.898   | 2.64E-67          |
| EXOSC4 | 2.11E-23    | 0.4298724      | 1.537061          | 0.904| 0.839   | 9.77E-27          |
| CEP20  | 3.10E-31    | 0.4298615      | 1.537079          | 0.736| 0.552   | 3.38E-32          |
| ILK    | 1.73E-103   | 0.4298615      | 1.537079          | 0.736| 0.552   | 3.38E-32          |
| CSDC2  | 8.98E-38    | 0.4298615      | 1.536466          | 0.204| 0.036   | 2.83E-33          |
| FBLIM1 | 1.16E-23    | 0.4298615      | 1.536133          | 0.979| 0.974   | 3.66E-19          |
| NMT2   | 2.21E-32    | 0.4298615      | 1.535712          | 0.937| 0.857   | 6.98E-28          |
| BIRC6  | 6.90E-30    | 0.4298615      | 1.535351          | 0.877| 0.773   | 2.18E-25          |
| APIP   | 2.69E-30    | 0.4298615      | 1.535297          | 0.736| 0.552   | 8.48E-26          |
| CEP192 | 4.90E-24    | 0.4286979      | 1.535257          | 0.382| 0.195   | 1.55E-19          |
| CHCHD2 | 3.27E-160   | 0.428615       | 1.535133          | 1    | 1       | 1.03E-155         |
| SAP18  | 6.08E-103   | 0.4284838      | 1.534928          | 1    | 1       | 1.92E-98          |
| TACO1  | 8.19E-28    | 0.4284384      | 1.534859          | 0.743| 0.571   | 2.58E-23          |
| TFDP1  | 4.01E-44    | 0.4281239      | 1.534376          | 0.967| 0.904   | 1.26E-39          |
| RPS23  | 1.92E-285   | 0.4280906      | 1.534325          | 1    | 1       | 6.06E-281         |
| PIK3R2 | 7.05E-35    | 0.4279964      | 1.534181          | 0.764| 0.577   | 2.22E-30          |
| HVCN1  | 1.50E-27    | 0.4279634      | 1.534134          | 0.217| 0.062   | 4.74E-23          |
| LINC02802| 4.76E-40   | 0.4278406      | 1.533942          | 0.547| 0.306   | 1.50E-35          |
| HSPB1  | 1.24E-86    | 0.4278266      | 1.533922          | 1    | 0.999   | 3.92E-82          |
| ATF5   | 4.57E-23    | 0.4274853      | 1.533397          | 0.711| 0.548   | 1.44E-18          |
| DVL1   | 3.86E-28    | 0.4273789      | 1.533233          | 0.696| 0.508   | 1.22E-23          |
| RABGAP1| 3.53E-24    | 0.4272381      | 1.533018          | 0.728| 0.583   | 1.11E-19          |
| S100PBP| 3.00E-26    | 0.4272235      | 1.532995          | 0.554| 0.348   | 9.48E-22          |
| TMEM147| 5.46E-45    | 0.4271877      | 1.532940          | 0.963| 0.957   | 1.72E-40          |
| ZHX3   | 5.08E-35    | 0.4270496      | 1.532729          | 0.767| 0.556   | 1.60E-30          |
| TRIM65 | 5.17E-25    | 0.4270227      | 1.532687          | 0.43 | 0.236   | 1.63E-20          |
| Gene   | Valuation | Expression   | p-Value   | p-Value1 | p-Value2 | p-Value3 |
|--------|-----------|--------------|-----------|----------|----------|----------|
| NCOA2  | 2.29E-22  | 0.4269123    | 1.532518  | 0.431    | 0.247    | 7.21E-18 |
| CEP41  | 9.08E-22  | 0.4268815    | 1.532471  | 0.629    | 0.464    | 2.86E-17 |
| TP53INP1 | 2.76E-14  | 0.4268673    | 1.532449  | 0.345    | 0.216    | 8.69E-10 |
| MTHFD1L | 1.61E-46  | 0.4266261    | 1.532080  | 0.95     | 0.904    | 5.08E-42 |
| TSPYL4  | 2.59E-17  | 0.426546     | 1.531957  | 0.581    | 0.439    | 8.16E-13 |
| MARCKS  | 5.41E-52  | 0.4263923    | 1.531722  | 1        | 1        | 1.71E-47 |
| PCED1B  | 1.75E-34  | 0.4263832    | 1.531708  | 0.224    | 0.052    | 5.52E-30 |
| KIF16B  | 3.58E-18  | 0.426271     | 1.531536  | 0.348    | 0.194    | 1.13E-13 |
| TWSG1   | 1.23E-52  | 0.4261267    | 1.531315  | 0.988    | 0.975    | 3.87E-48 |
| CCDC34  | 2.76E-14  | 0.4260503    | 1.531198  | 0.543    | 0.423    | 2.14E-13 |
| RPL23AP7 | 7.06E-39  | 0.4259565    | 1.531054  | 0.577    | 0.331    | 2.23E-34 |
| HYAL2   | 1.51E-32  | 0.4258058    | 1.530823  | 0.743    | 0.534    | 4.77E-28 |
| EFS     | 3.69E-22  | 0.4257997    | 1.530814  | 0.459    | 0.271    | 1.16E-17 |
| CARD19  | 7.33E-30  | 0.4256035    | 1.530514  | 0.859    | 0.802    | 2.31E-25 |
| NFATC2IP | 1.76E-23  | 0.4255123    | 1.530374  | 0.685    | 0.534    | 5.55E-19 |
| NAAA    | 2.07E-22  | 0.4254317    | 1.530251  | 0.693    | 0.535    | 6.53E-20 |
| CASP4   | 1.02E-23  | 0.4254311    | 1.53025   | 0.873    | 0.795    | 3.22E-19 |
| RFC4    | 7.09E-15  | 0.4252089    | 1.52991   | 0.465    | 0.315    | 2.24E-10 |
| RPL27A  | 1.24E-252 | 0.4251968    | 1.529892  | 1        | 1        | 3.91E-248|
| UBA6    | 5.08E-35  | 0.4251518    | 1.529823  | 0.915    | 0.809    | 1.60E-30 |
| MRPL43  | 1.09E-35  | 0.4251069    | 1.529754  | 0.937    | 0.876    | 3.44E-31 |
| RPL17-C18orf1 | 1.15E-179 | 0.4251051    | 1.529751  | 1        | 1        | 3.62E-175|
| GTPBP10 | 4.89E-23  | 0.4250844    | 1.529719  | 0.671    | 0.51     | 1.54E-18 |
| CEP70   | 4.10E-21  | 0.4250125    | 1.529609  | 0.495    | 0.32     | 1.29E-16 |
| CFDP1   | 7.59E-33  | 0.4249045    | 1.529444  | 0.836    | 0.683    | 2.39E-28 |
| PRXL2A  | 7.39E-19  | 0.4248923    | 1.529426  | 0.337    | 0.199    | 2.33E-14 |
| TANK    | 2.31E-37  | 0.4248386    | 1.529344  | 0.928    | 0.821    | 7.30E-33 |
| ADH5    | 6.50E-95  | 0.4248307    | 1.529332  | 1        | 0.984    | 2.05E-90 |
| ZNF438  | 1.83E-19  | 0.4248289    | 1.529329  | 0.183    | 0.065    | 5.79E-15 |
| GTPBP8  | 1.94E-23  | 0.4246304    | 1.529025  | 0.58     | 0.41     | 6.11E-19 |
| FDPS    | 4.49E-56  | 0.4243089    | 1.528534  | 0.989    | 0.957    | 1.41E-51 |
| HTR1B   | 6.93E-31  | 0.4241765    | 1.528331  | 0.114    | 0.006    | 2.18E-26 |
| MTHFD1  | 2.04E-35  | 0.4240083    | 1.528074  | 0.891    | 0.772    | 6.44E-31 |
| CPM     | 3.86E-14  | 0.4239715    | 1.528018  | 0.526    | 0.428    | 1.22E-09 |
| AC010422.8 | 8.58E-87  | 0.4239479    | 1.527982  | 0.98     | 0.928    | 2.71E-82 |
| CDK2AP1 | 1.61E-102 | 0.423917     | 1.527935  | 1        | 1        | 5.07E-98 |
| FAM20B  | 3.24E-28  | 0.4239008    | 1.52791   | 0.856    | 0.758    | 1.02E-23 |
| H2AW    | 2.11E-15  | 0.4237801    | 1.527726  | 0.261    | 0.146    | 6.66E-11 |
| MAPRE2  | 1.05E-26  | 0.4234513    | 1.527223  | 0.805    | 0.669    | 3.30E-22 |
| HACD1   | 7.95E-26  | 0.423435     | 1.527199  | 0.829    | 0.71     | 2.51E-21 |
| Gene    | Value   | Score  | Z-score | p-value     | q-value     |
|---------|---------|--------|---------|-------------|-------------|
| HDDC2   | 2.99E-27| 0.4232472 | 1.526912 | 0.9 | 0.832 | 9.43E-23 |
| SUV39H1 | 3.81E-18| 0.4232131 | 1.52686  | 0.307 | 0.162 | 1.20E-13 |
| ZNF318  | 4.60E-17| 0.4231707 | 1.526795 | 0.445 | 0.29  | 1.45E-12 |
| BRCC3   | 3.61E-29| 0.4230816 | 1.526659 | 0.56  | 0.386 | 5.55E-16 |
| MTOR    | 1.76E-20| 0.4230176 | 1.526534 | 0.642 | 0.489 | 7.69E-17 |
| NECTIN2 | 1.50E-30| 0.4228724 | 1.526271 | 0.927 | 0.856 | 4.73E-26 |
| TYRO3   | 3.32E-22| 0.4225314 | 1.525819 | 0.518 | 0.341 | 1.05E-17 |
| NME2    | 3.61E-29| 0.4225176 | 1.525798 | 1    | 1     | 6.46E-16 |
| PAFAH2  | 7.06E-21| 0.4224016 | 1.525634 | 0.399 | 0.229 | 4.69E-15 |
| CHURC1  | 7.35E-44| 0.4223642 | 1.525564 | 0.495 | 0.33  | 4.69E-15 |
| DIS3L   | 1.49E-19| 0.4223017 | 1.525498 | 0.642 | 0.489 | 7.69E-17 |
| MOV10   | 2.44E-21| 0.4222111 | 1.525498 | 0.642 | 0.489 | 7.69E-17 |
| TNFRSF14| 8.40E-17| 0.4222372 | 1.52537  | 0.349 | 0.2   | 2.65E-12 |
| CCNG1   | 8.95E-42| 0.4221823 | 1.525287 | 0.98  | 0.957 | 2.82E-37 |
| CYBRD1  | 1.12E-43| 0.4221033 | 1.525166 | 0.981 | 0.946 | 3.53E-39 |
| ZFYVE21 | 8.21E-30| 0.4219989 | 1.525007 | 0.788 | 0.615 | 2.59E-25 |
| RPAP1   | 2.90E-22| 0.4218117 | 1.524721 | 0.448 | 0.273 | 9.16E-18 |
| UBE2L3  | 1.69E-109| 0.4217834 | 1.524678 | 1     | 1     | 5.32E-105|
| TBCK    | 2.80E-18| 0.4217512 | 1.524629 | 0.566 | 0.421 | 8.84E-14 |
| ZNF839  | 5.21E-21| 0.421723  | 1.524586 | 0.264 | 0.118 | 1.64E-16 |
| GTF3A   | 1.17E-47| 0.4216793 | 1.524519 | 0.975 | 0.941 | 3.68E-43 |
| FCRLB   | 1.49E-27| 0.4215688 | 1.524351 | 0.26  | 0.09  | 4.70E-23 |
| OST4    | 1.48E-101| 0.4214711 | 1.524202 | 0.997 | 0.98  | 4.68E-97 |
| CEP97   | 7.36E-13| 0.4212531 | 1.52387  | 0.487 | 0.373 | 2.32E-08 |
| RWDD3   | 3.59E-18| 0.4212474 | 1.523861 | 0.497 | 0.335 | 1.13E-13 |
| CD55    | 2.23E-41| 0.4211536 | 1.523718 | 0.956 | 0.861 | 7.04E-37 |
| NTNG1   | 1.40E-13| 0.4205876 | 1.522856 | 0.177 | 0.078 | 4.43E-09 |
| MYEOV   | 4.63E-45| 0.4204061 | 1.52258  | 0.364 | 0.119 | 1.46E-40 |
| CHCHD5  | 6.30E-31| 0.4201429 | 1.522179 | 0.621 | 0.439 | 1.99E-26 |
| TIPRL   | 4.69E-49| 0.420125  | 1.522152 | 0.978 | 0.928 | 1.48E-44 |
| USP28   | 6.28E-18| 0.4193672 | 1.520999 | 0.465 | 0.305 | 1.98E-13 |
| BMPR1A  | 8.44E-27| 0.4193177 | 1.520923 | 0.693 | 0.505 | 2.66E-22 |
| RPS7P1  | 9.23E-96| 0.4193005 | 1.520897 | 0.98  | 0.905 | 2.91E-91 |
| DDIAS   | 1.92E-15| 0.4191628 | 1.520688 | 0.301 | 0.171 | 6.05E-11 |
| NEDD8-MDP| 3.56E-55| 0.4191576 | 1.52068  | 0.623 | 0.333 | 1.12E-50 |
| TGF811  | 1.97E-56| 0.4191496 | 1.520668 | 0.995 | 0.986 | 6.20E-52 |
| GSN     | 9.01E-39| 0.4190683 | 1.520544 | 0.99  | 0.978 | 2.84E-34 |
| UBA3    | 5.01E-41| 0.418876  | 1.520252 | 0.945 | 0.867 | 1.58E-36 |
| CUTC    | 1.48E-20| 0.4187953 | 1.520129 | 0.51  | 0.341 | 4.66E-16 |
| NAP1L1  | 9.14E-183| 0.418655 | 1.519916 | 1     | 1     | 2.88E-178|


| Gene   | p-value   | q-value   | Z-score  | p-val  | q-val  | Z-scor  |
|--------|-----------|-----------|----------|--------|--------|---------|
| DENR   | 1.48E-68  | 0.4180268 | 1.518961 | 0.994  | 0.969  | 4.66E-64|
| TPM3   | 1.00E-149 | 0.4179848 | 1.518898 | 1      | 1      | 3.17E-145|
| CCDC66 | 6.72E-18  | 0.4179568 | 1.51855  | 0.501  | 0.348  | 2.12E-13 |
| TTYH3  | 6.13E-35  | 0.4179207 | 1.5188   | 0.907  | 0.833  | 1.93E-30 |
| PSMD7  | 1.91E-92  | 0.4177785 | 1.518548 | 0.999  | 0.995  | 6.03E-88 |
| PAM16  | 2.66E-34  | 0.4176356 | 1.518367 | 0.652  | 0.448  | 8.34E-14 |
| ZNF639 | 1.06E-30  | 0.4175616 | 1.518255 | 0.745  | 0.547  | 3.34E-26 |
| RUHY1  | 1.00E-26  | 0.417488  | 1.5182   | 0.907  | 0.833  | 3.16E-22 |
| BA2ZB  | 1.69E-18  | 0.4173331 | 1.517908 | 0.745  | 0.62   | 5.34E-14 |
| SERF2  | 6.97E-161 | 0.417237  | 1.517762 | 1      | 1      | 2.20E-156|
| RPL30  | 3.17E-236 | 0.4169315 | 1.517299 | 1      | 1      | 9.99E-232|
| SPATC1L| 1.24E-25  | 0.4168324 | 1.517148 | 0.238  | 0.08   | 3.91E-21 |
| PSMD10 | 8.27E-40  | 0.4166914 | 1.516934 | 0.931  | 0.855  | 2.61E-35 |
| TAPT1  | 8.36E-24  | 0.4166644 | 1.516893 | 0.53   | 0.336  | 2.64E-19 |
| PIP4P2 | 8.75E-42  | 0.4165885 | 1.516778 | 0.813  | 0.584  | 2.76E-37 |
| GRK6   | 5.30E-19  | 0.4163294 | 1.516385 | 0.564  | 0.402  | 1.67E-14 |
| KCTD1  | 1.11E-18  | 0.4162534 | 1.51627  | 0.47   | 0.321  | 3.51E-14 |
| RGS5   | 1.46E-09  | 0.4160747 | 1.515999 | 0.198  | 0.107  | 4.60E-05 |
| HMGN4  | 1.35E-38  | 0.4159777 | 1.515851 | 0.934  | 0.823  | 4.26E-34 |
| CMTM3  | 2.58E-30  | 0.4158351 | 1.515636 | 0.857  | 0.706  | 8.14E-26 |
| PRDX2  | 2.18E-55  | 0.4157012 | 1.515433 | 0.997  | 0.999  | 6.87E-51 |
| SH3BP1 | 7.09E-32  | 0.4155815 | 1.515252 | 0.27   | 0.088  | 2.24E-27 |
| MEX3A  | 1.14E-17  | 0.4155737 | 1.51524  | 0.197  | 0.078  | 3.58E-13 |
| NAFI1  | 1.73E-14  | 0.4154777 | 1.515093 | 0.347  | 0.234  | 5.45E-10 |
| MSL1   | 9.57E-39  | 0.4154036 | 1.514982 | 0.933  | 0.838  | 3.02E-34 |
| GTF2A2 | 1.52E-44  | 0.4153577 | 1.514912 | 0.986  | 0.96   | 4.78E-40 |
| CKB    | 3.91E-17  | 0.4153144 | 1.514847 | 0.685  | 0.549  | 1.23E-12 |
| COG4   | 7.31E-33  | 0.4150812 | 1.514494 | 0.771  | 0.572  | 2.31E-28 |
| LDOC1  | 3.60E-28  | 0.4150579 | 1.514458 | 0.782  | 0.624  | 1.13E-23 |
| PRORP  | 5.85E-25  | 0.4148621 | 1.514162 | 0.618  | 0.432  | 1.85E-20 |
| PHF3   | 1.88E-30  | 0.4148216 | 1.514101 | 0.852  | 0.707  | 5.92E-26 |
| SNHG32 | 6.21E-58  | 0.4147147 | 1.513939 | 0.998  | 0.99   | 1.96E-53 |
| NME1-NME2| 3.26E-145| 0.4146594 | 1.513855 | 1      | 1      | 1.03E-140|
| AAK1   | 1.39E-36  | 0.4146435 | 1.513831 | 0.926  | 0.837  | 4.37E-32 |
| RIC1   | 7.96E-23  | 0.4143359 | 1.513365 | 0.58   | 0.396  | 2.51E-18 |
| GLI1   | 8.24E-31  | 0.4141432 | 1.513074 | 0.15   | 0.02   | 2.60E-26 |
| NUDCD3 | 1.99E-27  | 0.413995  | 1.51285  | 0.748  | 0.57   | 6.27E-23 |
| SET    | 1.16E-129 | 0.4139865 | 1.512837 | 1      | 1      | 3.65E-125|
| TMEM25 | 3.21E-27  | 0.4139373 | 1.512762 | 0.397  | 0.195  | 1.01E-22 |
| TXNDC17| 7.49E-57  | 0.4138239 | 1.512591 | 0.969  | 0.914  | 2.36E-52 |
| Gene       | p-value | q-value | log2 Fold Change | t-value | Fold Change | FDR  |
|------------|---------|---------|------------------|---------|-------------|------|
| HOXA7      | 1.15E-18| 0.479   | 1.512554         | 0.318   | 3.63E-14    |
| PANK4      | 1.35E-25| 0.459   | 1.512552         | 0.26    | 4.25E-21    |
| GDE1       | 4.64E-45| 0.968   | 1.511655         | 0.896   | 1.46E-40    |
| ERI2       | 2.20E-17| 0.4     | 1.511429         | 0.252   | 6.92E-13    |
| BIVM       | 7.02E-26| 0.781   | 1.511182         | 0.655   | 2.21E-21    |
| SPEC1      | 5.85E-21| 0.881   | 1.506353         | 0.826   | 1.85E-16    |
| SAC3D1     | 8.22E-23| 0.449   | 1.505077         | 0.261   | 2.59E-18    |
| C9orf64    | 2.93E-23| 0.573   | 1.505066         | 0.397   | 9.25E-19    |
| AC01       | 6.19E-31| 0.943   | 1.505053         | 0.885   | 1.95E-26    |
| TRIO       | 1.65E-45| 0.984   | 1.501363         | 0.965   | 5.22E-41    |
| FRA10AC1   | 3.24E-30| 0.533   | 1.499994         | 0.313   | 1.02E-25    |
| MASTL      | 9.12E-15| 0.781   | 1.498393         | 0.655   | 2.21E-21    |
| XRCC4      | 3.71E-18| 0.4    | 1.509558         | 0.248   | 1.17E-13    |
| THAP5      | 6.17E-24| 0.614   | 1.509518         | 0.433   | 1.95E-19    |
| TM2D1      | 8.30E-26| 0.851   | 1.509447         | 0.754   | 2.62E-21    |
| MADD       | 4.36E-33| 0.459   | 1.509146         | 0.266   | 1.37E-18    |
| PTCD3      | 5.74E-30| 0.831   | 1.509128         | 0.683   | 1.81E-25    |
| MYO1C      | 6.09E-93| 1.0    | 1.508914         | 0.999   | 1.92E-88    |
| EML4       | 7.38E-29| 0.855   | 1.508675         | 0.721   | 2.33E-24    |
| DIAPH2     | 6.22E-18| 0.621   | 1.508565         | 0.476   | 1.96E-13    |
| ARRD3      | 9.49E-26| 0.476   | 1.508471         | 0.272   | 2.99E-21    |
| NECAP2     | 9.66E-30| 0.903   | 1.508015         | 0.813   | 3.05E-25    |
| MAD2L2     | 2.14E-27| 0.765   | 1.507974         | 0.613   | 6.76E-23    |
| BCAS2      | 1.23E-34| 0.869   | 1.507122         | 0.725   | 3.87E-30    |
| PTPRJ      | 8.31E-18| 0.57    | 1.507047         | 0.421   | 2.62E-13    |
| CAD        | 8.54E-21| 0.63    | 1.506715         | 0.464   | 2.70E-16    |
| CUL4A      | 3.01E-46| 0.974   | 1.506577         | 0.912   | 9.49E-42    |
| RPL12      | 7.36E-180| 1 | 1.506239 | 1 | 2.32E-175 |
| AC116366.2 | 8.80E-40| 0.841   | 1.506075         | 0.668   | 2.78E-35    |
| TBC1D31    | 2.71E-21| 0.292   | 1.505633         | 0.133   | 8.56E-17    |
| COG1       | 4.34E-25| 0.672   | 1.505559         | 0.48    | 1.37E-20    |
| RPS7P11    | 1.29E-101| 0.992   | 1.505271 | 0.951     | 4.07E-97 |
| ATN1       | 1.29E-35| 0.953   | 1.504947         | 0.897   | 4.06E-31    |
| CLK2        | 2.98E-19| 0.545   | 1.504935         | 0.375   | 9.39E-15    |
| MIEF2       | 2.66E-17| 0.266   | 1.504555         | 0.134   | 8.37E-13    |
| ZNF274      | 6.25E-24| 0.376   | 1.504329         | 0.194   | 1.97E-19    |
| HSF2        | 1.51E-19| 0.396   | 1.504154         | 0.227   | 4.77E-15    |
| PRPSAP2     | 9.56E-28| 0.621   | 1.503835         | 0.41    | 3.01E-23    |
| RNF213      | 1.09E-25| 0.83    | 1.503735         | 0.688   | 3.43E-21    |
| DLG3        | 1.69E-17| 0.266   | 1.503619         | 0.131   | 5.33E-13    |
| Gene   | log2FoldChange | adjPValue | FDR  | qValue | qValue | AdjPValue | FDR  | qValue | qValue |
|--------|---------------|-----------|------|--------|--------|-----------|------|--------|--------|
| CREB1  | 1.00E-34      | 0.4077239 | 1.503392 | 0.819  | 0.621  | 3.17E-30 |
| BTBD6  | 7.41E-28      | 0.4076302 | 1.503251 | 0.82   | 0.669  | 2.34E-23 |
| SERF1B | 2.04E-35      | 0.4075655 | 1.503154 | 0.706  | 0.52   | 6.42E-31 |
| LZIC   | 4.61E-33      | 0.4075386 | 1.503114 | 0.851  | 0.695  | 1.45E-28 |
| MMS22L | 3.55E-18      | 0.4075355 | 1.503109 | 0.658  | 0.523  | 1.12E-13 |
| MRPS21 | 2.26E-52      | 0.4073741 | 1.502866 | 0.967  | 0.9    | 7.12E-48 |
| INMT   | 2.49E-14      | 0.407272  | 1.502713 | 0.127  | 0.06   | 7.86E-10 |
| PPP1R21| 7.40E-20      | 0.4071054 | 1.502462 | 0.527  | 0.355  | 2.33E-15 |
| AC087477.2| 4.41E-32     | 0.4069999 | 1.502303 | 0.158  | 0.023  | 1.39E-27 |
| LTBP4  | 7.07E-27      | 0.4068025 | 1.502007 | 0.59   | 0.384  | 2.23E-22 |
| MCM3   | 2.24E-17      | 0.4066278 | 1.501745 | 0.599  | 0.446  | 7.07E-13 |
| AC010442.3| 3.97E-22     | 0.4066254 | 1.501741 | 0.446  | 0.266  | 1.25E-17 |
| FANCE  | 2.54E-21      | 0.4065857 | 1.501682 | 0.28   | 0.124  | 8.01E-17 |
| CCDC84 | 2.54E-17      | 0.4064394 | 1.501462 | 0.402  | 0.258  | 8.02E-13 |
| IKBKB  | 9.65E-25      | 0.4063833 | 1.501378 | 0.564  | 0.362  | 3.04E-20 |
| DOLK   | 1.34E-27      | 0.4063654 | 1.501351 | 0.55   | 0.333  | 4.23E-23 |
| TMEM200A| 2.07E-17      | 0.4063256 | 1.501291 | 0.902  | 0.881  | 6.54E-13 |
| AC118553.2| 2.75E-32     | 0.4061658 | 1.501051 | 0.871  | 0.741  | 8.68E-28 |
| TMEM160| 1.50E-34      | 0.4061434 | 1.501018 | 0.546  | 0.314  | 4.72E-30 |
| ORC5   | 3.17E-19      | 0.4059713 | 1.50076 | 0.538  | 0.363  | 1.00E-14 |
| RTN4IP1| 5.19E-20      | 0.4058712 | 1.500609 | 0.287  | 0.133  | 1.64E-15 |
| CIBAR1 | 8.75E-24      | 0.4058711 | 1.500609 | 0.797  | 0.661  | 2.76E-19 |
| ECI2   | 2.97E-48      | 0.4057149 | 1.500375 | 0.989  | 0.948  | 9.36E-44 |
| NUP88  | 2.60E-28      | 0.4056039 | 1.500208 | 0.829  | 0.687  | 8.19E-24 |
| STK4   | 8.66E-28      | 0.4055304 | 1.500098 | 0.827  | 0.682  | 2.73E-23 |
| MBOAT1 | 1.78E-22      | 0.4054955 | 1.500046 | 0.236  | 0.103  | 5.62E-18 |
### Downregulated genes in hAM-Muse cells than in hBM-Muse cells

| GeneSymbol | p-value       | avg_logFC | FC   | pct.1 | pct.2 | p_val_adj       |
|------------|---------------|-----------|------|-------|-------|-----------------|
| HSPA6      | 0             | -5.154398 | 0.005774 | 0.018 | 0.669 | 0               |
| EFEMP1     | 0             | -5.014612 | 0.00664 | 0.055 | 0.975 | 0               |
| IL6        | 0             | -4.562931 | 0.010431 | 0.108 | 0.958 | 0               |
| HSPA1A     | 0             | -4.107433 | 0.01645 | 0.953 | 1     | 0               |
| PTGS2      | 0             | -3.941404 | 0.019421 | 0.027 | 0.855 | 0               |
| ANGPTL4    | 0             | -3.932262 | 0.019599 | 0.109 | 0.915 | 0               |
| RRAD       | 0             | -3.837944 | 0.021538 | 0.213 | 0.868 | 0               |
| CYP1B1     | 0             | -3.837333 | 0.021551 | 0.016 | 0.924 | 0               |
| HAPLN1     | 0             | -3.751253 | 0.023488 | 0.042 | 0.769 | 0               |
| PTX3       | 0             | -3.603653 | 0.027224 | 0.164 | 0.914 | 0               |
| HSPA1B     | 0             | -3.601969 | 0.02727 | 0.959 | 1     | 0               |
| NFATC2     | 0             | -3.435276 | 0.032217 | 0.021 | 0.865 | 0               |
| FNDC1      | 0             | -3.049893 | 0.047364 | 0.02  | 0.836 | 0               |
| TM4SF1     | 0             | -3.034601 | 0.048094 | 0.588 | 0.994 | 0               |
| PPP1R14C   | 0             | -3.008223 | 0.049379 | 0.011 | 0.841 | 0               |
| PENK       | 0             | -2.993358 | 0.050119 | 0.011 | 0.609 | 0               |
| MEDAG      | 0             | -2.9707  | 0.051267 | 0.261 | 0.923 | 0               |
| JAG1       | 0             | -2.91078 | 0.054433 | 0.194 | 0.934 | 0               |
| RPL10P9    | 0             | -2.66442 | 0.06964 | 0.1   | 0.971 | 0               |
| INHBA      | 0             | -2.652261 | 0.070492 | 0.964 | 1     | 0               |
| VEGFA      | 0             | -2.624388 | 0.072484 | 0.629 | 0.987 | 0               |
| TNFAIP3    | 0             | -2.619353 | 0.07285 | 0.142 | 0.832 | 0               |
| IL1R1      | 0             | -2.520424 | 0.080426 | 0.402 | 0.965 | 0               |
| ST3GAL1    | 0             | -2.39578 | 0.091102 | 0.682 | 0.963 | 0               |
| AK4        | 0             | -2.388569 | 0.091761 | 0.1   | 0.867 | 0               |
| HAS1       | 0             | -2.349401 | 0.095426 | 0.016 | 0.657 | 0               |
| PMEPA1     | 0             | -2.279472 | 0.102338 | 0.181 | 0.89  | 0               |
| CYTL1      | 0             | -2.264822 | 0.103848 | 0.001 | 0.643 | 0               |
| PTHHL      | 0             | -2.229727 | 0.107558 | 0.209 | 0.879 | 0               |
| LMCD1      | 0             | -2.227184 | 0.107832 | 0.403 | 0.902 | 0               |
| HBEGF      | 0             | -2.202848 | 0.110488 | 0.327 | 0.914 | 0               |
| TIMP3      | 0             | -2.162741 | 0.115009 | 0.931 | 1     | 0               |
| TNFAIP6    | 0             | -2.127843 | 0.119094 | 0.269 | 0.902 | 0               |
| CEMIP      | 9.88E-233     | -2.118848 | 0.12017 | 0.229 | 0.781 | 3.12E-228       |
| LOXL3      | 0             | -2.114131 | 0.120738 | 0.339 | 0.942 | 0               |
| FGF1       | 1.86E-235     | -2.103939 | 0.121975 | 0.484 | 0.82  | 5.87E-231       |
| CHST11     | 0             | -2.089515 | 0.123747 | 0.146 | 0.867 | 0               |
| Gene   | Log2 Fold Change | Adj P | FDR   | Log10 FDR | P      | Log10 P | Fold Change |
|--------|-----------------|-------|-------|----------|--------|---------|-------------|
| HSPH1  | -2.081547       | 0.997 | 0.999 |          | 0.000  |         |             |
| DNAJB1 | 4.26E-301       | -2.077 | 0.125 | 0.997    | 0.999  |         | 1.34E-296   |
| KRT8   | 5.88E-89        | -2.064 | 0.127 | 0.997    | 0.999  |         |             |
| KIAA1217 | 0.126938       | 0.975 | 0.998 | 0.000    |         |         |             |
| GFPT2  | 0.997           | 0.999 | 0.999 | 0.000    |         |         |             |
| DNAJB1 | 4.26E-301       | -2.077 | 0.125 | 0.997    | 0.999  |         | 1.34E-296   |
| KRT8   | 5.88E-89        | -2.064 | 0.127 | 0.997    | 0.999  |         |             |
| KIAA1217 | 0.126938       | 0.975 | 0.998 | 0.000    |         |         |             |
| GFPT2  | 0.997           | 0.999 | 0.999 | 0.000    |         |         |             |
| DNAJB1 | 4.26E-301       | -2.077 | 0.125 | 0.997    | 0.999  |         | 1.34E-296   |
| KRT8   | 5.88E-89        | -2.064 | 0.127 | 0.997    | 0.999  |         |             |
| KIAA1217 | 0.126938       | 0.975 | 0.998 | 0.000    |         |         |             |
| GFPT2  | 0.997           | 0.999 | 0.999 | 0.000    |         |         |             |
| DNAJB1 | 4.26E-301       | -2.077 | 0.125 | 0.997    | 0.999  |         | 1.34E-296   |
| KRT8   | 5.88E-89        | -2.064 | 0.127 | 0.997    | 0.999  |         |             |
| KIAA1217 | 0.126938       | 0.975 | 0.998 | 0.000    |         |         |             |
| GFPT2  | 0.997           | 0.999 | 0.999 | 0.000    |         |         |             |

HSPH1: Human Serpin H1
DNAJB1: DNAJ Homolog 1
KRT8: Keratin 8
KIAA1217: KIAA1217
GFPT2: Guanine nucleotide binding protein, epsilon 2
PGF: Prostaglandin F2alpha
BGN: Biglycan
TGFBI: Transforming growth factor, beta 1
ITGA11: Integrin, alpha 11
HK2: Hemoglobin, epsilon 2
HSPB8: Heat shock protein beta 8
SEL1L3: SEC14 homologLike 3
IL11: Interleukin 11
PTGES: Prostaglandin D2 synthase
TET3: Tenascin-C
CCL2: Chemokine (C-C motif) ligand 2
P3H2: Proline 4 hydroxylase 1
PLPP3: Pleckstrin homology domain containing, phosphatidylinositol 4-phosphate 5-kinase, beta isoform
MAFB: Mastermind-like 1
TGFB2: Transforming growth factor, beta 2
CFH: Complement factor H
SLC19A2: Solute carrier family 19 (cationic amino acid transporter), member 2
GALNT1: O-Fucosyltransferase
ROR1: Receptor tyrosine kinase, receptor-like 1
AL139393.3: AL139393.3
HIPK2: Homeobox and intercellular adhesion molecule 1
MTND1P23: Mitochondrial ND1 precursor protein 23
NR4A1: Nuclear receptor subfamily 4, group A, member 1
CLDN14: Claudin 14
PNP: Purine nucleoside phosphorylase
DNAJA4: DNAJ homolog 4
LIF: Leukemia inhibitory factor
GDF6: Growth differentiation factor 6
PLXNA4: Polypeptide leukocyte adhesion molecule 1
FOXC2: Forkhead box C2
MFAP5: Microfibril associated protein 5
SMOX: SMOX1
STK38L: Serine/threonine kinase 38Like
NNMT: N-methyltransferase
| Gene   | Start | End   | Delta | Log2FC | p-value   | Adjusted p-value | Fold Change |
|--------|-------|-------|-------|--------|-----------|------------------|-------------|
| BAG3   | 0     | -1.753104 | 0.173235 | 0.951 | 0.993 | 0 | 
| FN1    | 0     | -1.748213 | 0.174085 | 1 | 1 | 0 | 
| EMB    | 1.60E-281 | -1.745794 | 0.174506 | 0.126 | 0.761 | 5.05E-277 | 
| DNAJB4 | 0     | -1.742048 | 0.175161 | 0.771 | 0.981 | 0 | 
| LINC00511 | 6.36E-301 | -1.734045 | 0.176569 | 0.209 | 0.761 | 2.01E-296 | 
| HEYL   | 8.20E-262 | -1.733481 | 0.176668 | 0.011 | 0.495 | 2.58E-257 | 
| NFIB   | 2.62101570180908e-314 | -1.719077 | 0.179232 | 0.071 | 0.7 | 8.26694562507602e-3 | 
| TP53I11 | 0.00E+00 | -1.70268 | 0.182195 | 0.328 | 0.887 | 3.28E-305 | 
| CRYAB  | 2.09E-237 | -1.69394 | 0.183794 | 0.436 | 0.921 | 6.58E-233 | 
| DSP    | 2.60E-297 | -1.689785 | 0.184559 | 0.851 | 0.98 | 8.21E-293 | 
| CXCL3  | 9.96E-101 | -1.684706 | 0.185499 | 0.088 | 0.411 | 3.14E-96 | 
| MLF1   | 0     | -1.675793 | 0.18716 | 0.326 | 0.884 | 0 | 
| SORB2  | 1.75E-242 | -1.661159 | 0.189919 | 0.077 | 0.604 | 5.51E-238 | 
| C3orf52 | 1.31E-258 | -1.655843 | 0.190931 | 0.133 | 0.722 | 4.15E-254 | 
| EDIL3  | 0     | -1.654839 | 0.191123 | 0.737 | 0.977 | 0 | 
| GPC6   | 5.06E-258 | -1.651435 | 0.191775 | 0.224 | 0.819 | 1.60E-253 | 
| TENT5A | 0     | -1.648024 | 0.19243 | 0.688 | 0.975 | 0 | 
| NGF    | 5.83E-239 | -1.630813 | 0.19577 | 0.19 | 0.781 | 1.84E-234 | 
| LLRCC32 | 4.83E-189 | -1.629552 | 0.196017 | 0.133 | 0.618 | 4.15E-254 | 
| RPS6KA2 | 1.33E-307 | -1.628402 | 0.196243 | 0.308 | 0.902 | 4.20E-303 | 
| CREB5  | 1.19E-239 | -1.628097 | 0.196303 | 0.063 | 0.604 | 3.77E-235 | 
| GRB10  | 1.27E-252 | -1.625656 | 0.196784 | 0.428 | 0.857 | 4.00E-248 | 
| ENTPD7 | 3.55727265005698e-322 | -1.623053 | 0.197295 | 0.416 | 0.911 | 1.1219936655447e-3 | 
| EDNRA  | 5.54E-213 | -1.620136 | 0.197872 | 0.156 | 0.686 | 1.75E-208 | 
| SHISAL1 | 1.18E-290 | -1.610332 | 0.19821 | 0.068 | 0.682 | 3.74E-286 | 
| ITPRIP | 0     | -1.606758 | 0.200537 | 0.61 | 0.929 | 0 | 
| CRIP2  | 0     | -1.599797 | 0.201937 | 0.471 | 0.983 | 0 | 
| TIAM1  | 6.70E-270 | -1.5938 | 0.203152 | 0.073 | 0.613 | 2.11E-265 | 
| RORA   | 2.90E-262 | -1.580446 | 0.205883 | 0.126 | 0.718 | 9.15E-258 | 
| PLOD2  | 0     | -1.578423 | 0.2063 | 0.999 | 1 | 0 | 
| ELN    | 5.90E-158 | -1.576783 | 0.206639 | 0.27 | 0.7 | 1.86E-153 | 
| NREP   | 0     | -1.576362 | 0.206726 | 0.838 | 0.993 | 0 | 
| ATP10A | 2.22E-265 | -1.570958 | 0.207846 | 0.309 | 0.809 | 7.01E-261 | 
| C11orf87 | 3.00E-235 | -1.566111 | 0.208856 | 0.016 | 0.482 | 9.45E-231 | 
| SLC41A2 | 1.22E-253 | -1.558983 | 0.21035 | 0.124 | 0.698 | 3.84E-249 | 
| CRLF1  | 4.12E-162 | -1.557218 | 0.210721 | 0.065 | 0.481 | 1.30E-157 | 
| NDRG1  | 0     | -1.552186 | 0.211784 | 0.681 | 0.981 | 0 | 
| AL671762.1 | 0.00E+00 | -1.551165 | 0.212001 | 0.326 | 0.825 | 0 | 
| AC119674.2 | 2.75E-286 | -1.549238 | 0.21241 | 0.234 | 0.845 | 8.68E-282 | 
| COL15A1 | 4.85E-130 | -1.547955 | 0.212682 | 0.067 | 0.424 | 1.53E-125 |
| Gene     | log2FC (Global) | log2FC (GSEA) | p-value (Global) | p-value (GSEA) | Adj. p-value | Pearson Correlation |
|----------|----------------|---------------|-----------------|---------------|--------------|---------------------|
| ABL2     | 0              | -1.547108     | 0.212863        | 0.879         | 0.99         | 3.14E-174           |
| RGS4     | 9.95E-179      | -1.543169     | 0.213703        | 0.807         | 0.977        | 4.48E-224           |
| UGDH     | 0              | -1.537166     | 0.214989        | 0.968         | 1            | 0                   |
| AB3BP    | 1.42E-246      | -1.52554      | 0.217504        | 0.349         | 0.892        | 1.90E-184           |
| CSGALNACT| 6.01E-189      | -1.506568     | 0.221669        | 0.044         | 0.486        | 1.78E-303           |
| SPHK1    | 5.64E-308      | -1.543169     | 0.213703        | 0.807         | 0.977        | 4.48E-224           |
| PRUNE2   | 1.56E-232      | -1.50591      | 0.222998        | 0.031         | 0.52         | 3.14E-174           |
| CLCF1    | 5.75E-210      | -1.496245     | 0.22397         | 0.421         | 0.815        | 1.81E-205           |
| PTPRE    | 1.19E-195      | -1.488269     | 0.225763        | 0.162         | 0.65         | 3.76E-191           |
| TLE3     | 2.30E-262      | -1.487473     | 0.225943        | 0.313         | 0.836        | 7.25E-258           |
| FNIP2    | 1.00E-262      | -1.483979     | 0.226734        | 0.506         | 0.888        | 3.16E-258           |
| SUSD5    | 5.34E-240      | -1.483561     | 0.226829        | 0.127         | 0.7           | 1.68E-235           |
| CDH6     | 9.72E-189      | -1.479362     | 0.227783        | 0.108         | 0.517        | 3.07E-184           |
| SYNE1    | 4.49E-307      | -1.478756     | 0.227921        | 0.686         | 0.969        | 1.42E-302           |
| HAS2     | 6.35E-263      | -1.478415     | 0.227999        | 0.485         | 0.948        | 2.00E-258           |
| ARC      | 7.28E-164      | -1.464303     | 0.231239        | 0.017         | 0.366        | 2.30E-159           |
| MFSD2A   | 2.26E-188      | -1.462708     | 0.231608        | 0.139         | 0.618        | 7.14E-184           |
| ADAMTS2  | 0              | -1.462375     | 0.231685        | 0.747         | 0.994        | 0                   |
| BHLHE40  | 6.49E-266      | -1.461267     | 0.231942        | 0.604         | 0.944        | 2.05E-261           |
| CCDC80   | 0              | -1.449132     | 0.234774        | 0.966         | 1            | 0                   |
| HES4     | 2.55E-214      | -1.444874     | 0.235776        | 0.217         | 0.686        | 8.06E-210           |
| GASK1B   | 1.57E-197      | -1.443759     | 0.236039        | 0.236         | 0.761        | 4.94E-193           |
| UBASH3B  | 7.79E-272      | -1.43862      | 0.237255        | 0.582         | 0.934        | 2.46E-267           |
| ZFAND2A  | 1.16E-196      | -1.438437     | 0.237298        | 0.482         | 0.861        | 3.66E-192           |
| LAMA4    | 5.55E-283      | -1.438329     | 0.237324        | 0.886         | 0.978        | 1.75E-278           |
| KCNE4    | 4.84E-77       | -1.436576     | 0.23774         | 0.398         | 0.653        | 1.53E-72            |
| ADAMTS1  | 4.06E-241      | -1.427962     | 0.239797        | 0.166         | 0.765        | 1.28E-236           |
| SERPINE2 | 5.76E-294      | -1.425858     | 0.240302        | 0.995         | 1            | 1.82E-289           |
| RGS3     | 2.75E-291      | -1.423229     | 0.240935        | 0.756         | 0.965        | 8.69E-287           |
| CHST15   | 2.59E-191      | -1.414446     | 0.24306         | 0.111         | 0.613        | 8.16E-187           |
| ADGRL2   | 6.93E-240      | -1.410917     | 0.24392         | 0.312         | 0.842        | 2.19E-235           |
| ITGBL1   | 8.6892894      | -1.404713     | 0.245437        | 0.694         | 0.993        | 2.74E-306           |
| ACAN     | 5.08E-83       | -1.401697     | 0.246179        | 0.093         | 0.314        | 1.60E-78            |
| EMP1     | 0              | -1.397778     | 0.247146        | 1             | 1            | 0                   |
| POSTN    | 2.61E-74       | -1.396313     | 0.247508        | 0.856         | 0.926        | 8.25E-70            |
| DOK1     | 3.71E-178      | -1.395811     | 0.247632        | 0.359         | 0.755        | 1.17E-173           |
| SNAI1    | 1.53E-110      | -1.394792     | 0.247885        | 0.245         | 0.544        | 4.83E-106           |
| C1orf96  | 7.19E-166      | -1.390905     | 0.24885         | 0.163         | 0.637        | 2.27E-161           |
| TES      | 1.1984187      | -1.386162     | 0.250033        | 0.764         | 0.987        | 3.78E-306           |
| Gene     | Value1   | Value2   | Value3   | Value4   | Value5   | Value6   | Value7   | Value8   |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| SERPINE1 | 2.80E-303| -1.384025| 0.250568 | 0.998    | 1        | 0        |          |          |
| MAFF    | 1.29E-264| -1.372248| 0.253536 | 0.699    | 0.974    | 4.07E-260|          |          |
| KITLG   | 6.68E-229| -1.369534| 0.254225 | 0.414    | 0.881    | 2.11E-224|          |          |
| XYLIT1  | 3.70E-174| -1.361544| 0.256265 | 0.019    | 0.388    | 1.17E-169|          |          |
| TSC22D3 | 3.05E-159| -1.355044| 0.259693 | 0.119    | 0.528    | 9.61E-155|          |          |
| LRIG1   | 8.81E-163| -1.352525| 0.259351 | 0.133    | 0.594    | 2.78E-158|          |          |
| PNMA2   | 1.55E-193| -1.348257| 0.259693 | 0.011    | 0.464    | 6.98E-236|          |          |
| EGFLAM  | 6.54E-173| -1.333771| 0.263482 | 0.087    | 0.542    | 2.06E-168|          |          |
| TGFBR1  | 5.37E-230| -1.33342  | 0.263574 | 0.526    | 0.906    | 1.69E-225|          |          |
| ATP13A3 | 0        | -1.329907 | 0.264502 | 0.862    | 0.994    | 0        |          |          |
| KCNN4   | 5.44E-169| -1.322478 | 0.266474 | 0.058    | 0.482    | 1.71E-164|          |          |
| NFATC1  | 3.68E-174| -1.319131 | 0.267368 | 0.115    | 0.582    | 1.16E-155|          |          |
| TSC22D1 | 9.53E-198| -1.318194 | 0.26789  | 0.293    | 0.785    | 9.53E-193|          |          |
| B3GNT2  | 6.19E-181| -1.316103 | 0.268178 | 0.102    | 0.594    | 1.95E-176|          |          |
| PCOLCE2 | 7.82E-250| -1.31513  | 0.268439 | 0.969    | 0.996    | 2.47E-245|          |          |
| IRX3    | 1.3450055| -1.311987 | 0.269284 | 0.063    | 0.689    | 4.24E-307|          |          |
| COL5A3  | 4.80E-236| -1.303312 | 0.271631 | 0.127    | 0.692    | 1.52E-231|          |          |
| MEST    | 1.59E-157| -1.300612 | 0.272365 | 0.519    | 0.884    | 5.00E-153|          |          |
| KIF21A  | 4.16E-144| -1.300242 | 0.272466 | 0.207    | 0.618    | 1.31E-139|          |          |
| STK17B  | 6.91E-264| -1.298896 | 0.272833 | 0.542    | 0.952    | 2.18E-259|          |          |
| SFRP4   | 4.77E-114| -1.296924 | 0.273371 | 0.028    | 0.319    | 1.50E-109|          |          |
| AC245297.1 | 2.00E-265 | -1.295046 | 0.273885 | 0.053    | 0.613    | 6.32E-261|          |          |
| CHSY1   | 2.75E-211| -1.291864 | 0.274758 | 0.841    | 0.953    | 8.69E-207|          |          |
| SMIM3   | 3.72E-210| -1.287093 | 0.276072 | 0.549    | 0.911    | 1.17E-205|          |          |
| DCLK1   | 1.11E-147| -1.280402 | 0.277926 | 0.082    | 0.49     | 3.50E-143|          |          |
| CHST3   | 2.30E-220| -1.279195 | 0.278261 | 0.597    | 0.906    | 7.26E-216|          |          |
| COL14A1 | 1.11E-137| -1.278797 | 0.278372 | 0.052    | 0.417    | 3.50E-133|          |          |
| SOX9    | 1.72E-156| -1.273996 | 0.279712 | 0.121    | 0.573    | 5.42E-152|          |          |
| ZNF503  | 8.89E-208| -1.273722 | 0.279788 | 0.404    | 0.829    | 2.80E-203|          |          |
| CPEB4   | 9.48E-178| -1.271832 | 0.280318 | 0.618    | 0.902    | 2.99E-173|          |          |
| GLIS3   | 4.27E-215| -1.263097 | 0.282777 | 0.663    | 0.908    | 1.35E-210|          |          |
| C1R     | 5.34E-228| -1.259235 | 0.283871 | 0.638    | 0.936    | 1.69E-223|          |          |
| VCAN    | 7.04E-287| -1.259121 | 0.283904 | 0.974    | 1        | 2.22E-282|          |          |
| LGR4    | 5.24E-177| -1.250508 | 0.286359 | 0.385    | 0.824    | 1.65E-172|          |          |
| AC134312.5 | 7.67E-114 | -1.250209 | 0.286445 | 0.131    | 0.454    | 2.42E-109|          |          |
| LEPR    | 4.65E-139| -1.248539 | 0.286924 | 0.556    | 0.808    | 1.47E-134|          |          |
| JARID2  | 8.79E-155| -1.245931 | 0.287673 | 0.432    | 0.794    | 2.77E-150|          |          |
| Gene   | Log10 Fold Change | p-value       | LFC   | q-value | pLFC  |
|--------|------------------|---------------|-------|---------|-------|
| ACKR3  | 2.51E-180        | 0.289136      | 0.005 | 0.35    | 7.93E-176 |
| DOK5   | 2.37E-138        | 0.289777      | 0.021 | 0.345   | 7.46E-134 |
| ANKH   | 1.78E-199        | 0.289809      | 0.555 | 0.911   | 5.62E-195 |
| CRY1   | 8.99E-192        | 0.28997       | 0.464 | 0.854   | 2.84E-187 |
| CCN4   | 5.04E-116        | 0.290891      | 0.173 | 0.568   | 1.59E-111 |
| ARG2   | 2.06E-129        | 0.291828      | 0.121 | 0.505   | 6.49E-125 |
| LGMN   | 2.69E-205        | 0.292516      | 0.534 | 0.927   | 8.48E-201 |
| PKIB   | 1.70E-170        | 0.29353       | 0.045 | 0.426   | 5.35E-166 |
| AL450405.1 | 0             | 0.295408      | 0.53  | 0.916   | 0       |
| NDUFA4L2 | 7.24E-95        | 0.295921      | 0.063 | 0.342   | 2.28E-90  |
| SERPING1 | 7.68E-138       | 0.299431      | 0.258 | 0.691   | 2.42E-133 |
| PAPPAP | 2.24E-158        | 0.300429      | 0.015 | 0.354   | 7.07E-154 |
| HMOX1  | 2.06E-110        | 0.300612      | 0.58  | 0.851   | 6.48E-106 |
| CCPG1  | 3.14E-267        | 0.301717      | 0.857 | 0.983   | 9.91E-263 |
| DUXAP10| 2.40E-178        | 0.3021        | 0.311 | 0.759   | 7.56E-174 |
| NOTCH2 | 1.59E-300        | 0.302221      | 0.926 | 0.996   | 5.01E-296 |
| LINC01119 | 4.16E-93       | 0.302519      | 0.141 | 0.46    | 1.31E-88  |
| CXCL2  | 5.05E-25         | 0.303109      | 0.15  | 0.267   | 1.59E-20  |
| GALNT5 | 5.76E-184        | 0.303128      | 0.383 | 0.856   | 1.82E-179 |
| SULF2  | 3.76E-114        | 0.303553      | 0.059 | 0.381   | 1.19E-109 |
| FOSB   | 1.40E-171        | 0.304808      | 0.708 | 0.959   | 4.41E-167 |
| MOK    | 9.44E-172        | 0.306728      | 0.414 | 0.845   | 2.98E-167 |
| ENG    | 0               | 0.306756      | 0.998 | 1       | 0       |
| LOX    | 4.9406564        | 0.307093      | 1     | 1       | 1.55833245354788e-3 |
| CHORDC1| 4.64E-237        | 0.307866      | 0.912 | 0.978   | 1.46E-232 |
| PDK1   | 2.38E-156        | 0.308201      | 0.308 | 0.746   | 7.51E-152 |
| MAP2K3 | 5.95E-246        | 0.308304      | 0.937 | 0.989   | 1.88E-241 |
| COL5A1 | 0               | 0.309209      | 0.999 | 1       | 0       |
| CFI    | 1.76E-154        | 0.309918      | 0.069 | 0.476   | 5.56E-150 |
| HOMER2 | 3.43E-146        | 0.310182      | 0.179 | 0.595   | 1.08E-141 |
| PTGFRN | 2.81E-126        | 0.310263      | 0.069 | 0.433   | 8.85E-122 |
| RABGEF1| 6.49E-241        | 0.311070      | 0.706 | 0.948   | 2.05E-236 |
| PGM1   | 2.04E-179        | 0.311981      | 0.486 | 0.865   | 6.44E-175 |
| NPR3   | 2.32E-111        | 0.31256       | 0.286 | 0.674   | 7.31E-107 |
| AMOTL1 | 2.64E-180        | 0.313444      | 0.504 | 0.879   | 8.33E-176 |
| LINC00968 | 3.25E-166      | 0.313688      | 0.007 | 0.338   | 1.02E-161 |
| SLC7A5 | 8.47E-228        | 0.314005      | 0.792 | 0.972   | 2.67E-223 |
| RASAL2 | 4.89E-185        | 0.314556      | 0.611 | 0.893   | 1.54E-180 |
| DNAJA1 | 0               | 0.315784      | 0.998 | 1       | 0       |
| SERINC5| 4.42E-165        | 0.315869      | 0.448 | 0.806   | 1.39E-160 |
| Gene     | p-value       | log2FC  | FDR   | Fold Change | z-score | p-value       | log2FC  | FDR   | Fold Change | z-score | p-value       |
|----------|---------------|---------|-------|-------------|---------|---------------|---------|-------|-------------|---------|---------------|---------|-------|-------------|---------|---------------|
| BAMBI    | 1.10E-122     | -1.151686 | 0.316103 | 0.172 | 0.584 | 3.46E-118     | 0.316103 | 0.172 | 0.584 | 3.46E-118     | 
| ADORA2B  | 7.78E-173     | -1.148057 | 0.317253 | 0.031 | 0.429 | 2.45E-168     | 0.317253 | 0.031 | 0.429 | 2.45E-168     | 
| IGBP4    | 5.84E-34      | -1.134526 | 0.321431 | 0.24   | 0.574 | 2.83E-79      | 0.321431 | 0.24   | 0.574 | 2.83E-79      | 
| ADORA2B  | 7.78E-173     | -1.148057 | 0.317253 | 0.031 | 0.429 | 2.45E-168     | 0.317253 | 0.031 | 0.429 | 2.45E-168     | 
| IGBP4    | 5.84E-34      | -1.134526 | 0.321431 | 0.24   | 0.574 | 2.83E-79      | 0.321431 | 0.24   | 0.574 | 2.83E-79      | 
| ADORA2B  | 7.78E-173     | -1.148057 | 0.317253 | 0.031 | 0.429 | 2.45E-168     | 0.317253 | 0.031 | 0.429 | 2.45E-168     | 
| IGBP4    | 5.84E-34      | -1.134526 | 0.321431 | 0.24   | 0.574 | 2.83E-79      | 0.321431 | 0.24   | 0.574 | 2.83E-79      |
| Gene    | Value 1   | Value 2   | Value 3   | Value 4   | Value 5   | Value 6   | Value 7   | Value 8   |
|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| SFRP1   | 3.14E-100 | -1.063534 | 0.345234  | 0.195     | 0.578     | 9.91E-96  |           |           |
| SLIT3   | 8.34E-184 | -1.062558 | 0.345571  | 0.236     | 0.782     | 2.63E-179 |           |           |
| SLC1A3  | 1.65E-143 | -1.060487 | 0.346287  | 0.02      | 0.349     | 5.21E-139 |           |           |
| DYRK3   | 4.08E-157 | -1.060116 | 0.346416  | 0.559     | 0.874     | 1.29E-152 |           |           |
| TMEM100 | 1.41E-153 | -1.057406 | 0.347356  | 0.006     | 0.309     | 4.46E-149 |           |           |
| CCN2    | 5.89E-131 | -1.057308 | 0.34739   | 0.998     | 1         | 1.86E-126 |           |           |
| SH3BP5  | 9.29E-135 | -1.057108 | 0.347459  | 0.289     | 0.704     | 4.38E-143 |           |           |
| FZD1    | 1.65E-143 | -1.054663 | 0.34831   | 0.07      | 0.275     | 8.98E-46  |           |           |
| CLDN4   | 2.38E-129 | -1.054924 | 0.351526  | 0.07      | 0.275     | 8.98E-46  |           |           |
| DUXAP8  | 2.38E-129 | -1.055229 | 0.351255  | 0.339     | 0.688     | 3.29E-113 |           |           |
| ADGRL4  | 2.38E-129 | -1.055229 | 0.351255  | 0.339     | 0.688     | 3.29E-113 |           |           |
| GJA1    | 2.38E-129 | -1.055229 | 0.351255  | 0.339     | 0.688     | 3.29E-113 |           |           |
| EHD1    | 7.09E-190 | -1.055229 | 0.351255  | 0.339     | 0.688     | 3.29E-113 |           |           |
| MSX1    | 9.45E-113 | -1.055229 | 0.351255  | 0.339     | 0.688     | 3.29E-113 |           |           |
| ADAM12  | 2.06E-263 | -1.055229 | 0.351255  | 0.339     | 0.688     | 3.29E-113 |           |           |
| ASS1    | 1.04E-117 | -1.055229 | 0.351255  | 0.339     | 0.688     | 3.29E-113 |           |           |
| FBN1    | 1.04E-117 | -1.055229 | 0.351255  | 0.339     | 0.688     | 3.29E-113 |           |           |
| LGTR1   | 1.04E-117 | -1.055229 | 0.351255  | 0.339     | 0.688     | 3.29E-113 |           |           |
| TGFB2-OT1| 2.22E-187 | -1.055229 | 0.351255  | 0.339     | 0.688     | 3.29E-113 |           |           |
| JMJD6   | 1.49E-183 | -1.055229 | 0.351255  | 0.339     | 0.688     | 3.29E-113 |           |           |
| BAIA2   | 3.29E-119 | -1.055229 | 0.351255  | 0.339     | 0.688     | 3.29E-113 |           |           |
| PDE1C   | 7.86E-127 | -1.055229 | 0.351255  | 0.339     | 0.688     | 3.29E-113 |           |           |
| ANK3    | 2.36E-111 | -1.055229 | 0.351255  | 0.339     | 0.688     | 3.29E-113 |           |           |
| AL354743.1| 3.26E-170 | -1.055229 | 0.351255  | 0.339     | 0.688     | 3.29E-113 |           |           |
| KCTD11  | 4.65E-88  | -1.055229 | 0.351255  | 0.339     | 0.688     | 3.29E-113 |           |           |
| SLC35E4 | 3.96E-118 | -1.055229 | 0.351255  | 0.339     | 0.688     | 3.29E-113 |           |           |
| LOXL1   | 1.48E-260 | -1.055229 | 0.351255  | 0.339     | 0.688     | 3.29E-113 |           |           |
| DENND2C | 1.18E-125 | -1.055229 | 0.351255  | 0.339     | 0.688     | 3.29E-113 |           |           |
| EBF1    | 3.24E-118 | -1.055229 | 0.351255  | 0.339     | 0.688     | 3.29E-113 |           |           |
| CGREF1  | 8.70E-164 | -1.014973 | 0.362412  | 0.026     | 0.393     | 2.75E-159 |           |           |
| IFF1    | 1.41E-169 | -1.013508 | 0.362943  | 0.469     | 0.891     | 4.43E-165 |           |           |
| BNP13L  | 1.56E-258 | -1.012949 | 0.363146  | 0.986     | 1         | 4.93E-254 |           |           |
| TSKU    | 2.68E-124 | -1.011482 | 0.36368   | 0.339     | 0.742     | 3.87E-120 |           |           |
| SIX2    | 3.19E-218 | -1.009178 | 0.364519  | 0.001     | 0.386     | 1.01E-213 |           |           |
| RAPGEF2 | 5.54E-145 | -1.008261 | 0.364853  | 0.614     | 0.894     | 1.75E-140 |           |           |
| ZNF275  | 1.56E-110 | -1.005628 | 0.365815  | 0.452     | 0.763     | 4.93E-106 |           |           |
| HOMER1  | 3.65E-114 | -1.003982 | 0.366417  | 0.291     | 0.685     | 1.15E-109 |           |           |
| KDM6B   | 1.14E-126 | -1.001871 | 0.367192  | 0.425     | 0.776     | 3.61E-122 |           |           |
| RELT    | 1.24E-115 | -1.000983 | 0.367518  | 0.182     | 0.573     | 3.92E-111 |           |           |
| CLU     | 1.13E-65  | -0.999454 | 0.36808   | 0.631     | 0.813     | 3.56E-61  |           |           |
| ITGA5   | 3.88707109 | -0.999253 | 0.368154  | 1         | 1         | 1.23E-307 |           |           |
| Gene     | Log2 Fold Change | t-test p-value | q-value | FDR | Log2 Odds Ratio | p-value | q-value |
|----------|-----------------|---------------|---------|-----|----------------|---------|---------|
| GATA6    | 5.50E-122       | -0.99899      | 0.368251| 0.065| 0.427          | 1.74E-117|         |
| CHMP1B   | 7.86E-198       | -0.995119     | 0.36968 | 0.932| 0.996          | 2.48E-193|         |
| CHRD1    | 2.15E-131       | -0.994526     | 0.369899| 0.01  | 0.287          | 6.79E-127|         |
| SLC2A3   | 1.18E-137       | -0.992719     | 0.370568| 0.737| 0.917          | 3.71E-133|         |
| DPYS4    | 2.45E-154       | -0.990609     | 0.371351| 0.027| 0.391          | 7.72E-150|         |
| CAMK1D   | 4.20E-107       | -0.988405     | 0.37217 | 0.218| 0.554          | 1.33E-102|         |
| APBB1P   | 9.30E-122       | -0.987578     | 0.372478| 0.932| 0.996          | 2.48E-193|         |
| SIX1     | 8.40E-105       | -0.986779     | 0.372775| 0.01  | 0.287          | 6.79E-127|         |
| SEC14L2  | 8.30E-105       | -0.98665      | 0.372995| 0.406| 0.653          | 3.34E-62 |         |
| NRG1     | 4.37E-97        | -0.985112     | 0.373397| 0.737| 0.917          | 3.71E-133|         |
| ENF6     | 1.06E-66        | -0.97818      | 0.375995| 0.406| 0.653          | 3.34E-62 |         |
| ULBP3    | 1.69E-122       | -0.974289     | 0.377461| 0.452| 0.785          | 5.33E-118|         |
| PORCN    | 5.19E-86        | -0.974099     | 0.377532| 0.318| 0.633          | 1.64E-81 |         |
| AC027644.4| 6.68E-198     | -0.972534     | 0.378124| 0.516| 0.865          | 2.11E-193|         |
| ERRFI1   | 5.36E-150       | -0.971875     | 0.378373| 0.857| 0.978          | 1.69E-145|         |
| MEG6     | 4.12E-111       | -0.971618     | 0.37847 | 0.099| 0.463          | 1.30E-106|         |
| LHFPL2   | 7.47E-108       | -0.97103      | 0.378693| 0.398| 0.741          | 2.36E-103|         |
| ETS1     | 5.28E-188       | -0.965507     | 0.38079 | 0.925 | 0.986          | 1.67E-183|         |
| PTPRG    | 3.09E-149       | -0.965227     | 0.380897| 0.52  | 0.882          | 9.73E-145|         |
| EBF3     | 1.79E-121       | -0.963877     | 0.381411| 0.053| 0.397          | 5.66E-117|         |
| PPP1R3B  | 1.51E-104       | -0.963348     | 0.381613| 0.325| 0.661          | 4.75E-100|         |
| ZBTB43   | 5.16E-109       | -0.96274      | 0.381845| 0.519| 0.826          | 1.63E-104|         |
| TENM2    | 3.86E-94        | -0.962225     | 0.382424| 0.22  | 0.606          | 1.22E-89 |         |
| LINC00839| 2.80E-109       | -0.959635     | 0.383033| 0.139| 0.502          | 8.82E-105|         |
| RCL1     | 1.55E-97        | -0.958651     | 0.38341 | 0.233| 0.597          | 4.88E-93 |         |
| DNAJC15  | 2.19E-234       | -0.957312     | 0.383923| 0.353| 0.948          | 6.89E-230|         |
| SMOC1    | 4.28E-113       | -0.956516     | 0.384229| 0.003| 0.225          | 1.35E-108|         |
| SDC2     | 1.35E-226       | -0.955973     | 0.384438| 0.964| 0.999          | 4.25E-222|         |
| RNF19B   | 5.66E-91        | -0.9555      | 0.38462 | 0.319| 0.651          | 1.78E-86 |         |
| ABHD2    | 1.11E-160       | -0.953976     | 0.385206| 0.856| 0.969          | 3.50E-156|         |
| DACT1    | 8.22E-90        | -0.953548     | 0.385371| 0.238| 0.591          | 2.59E-85 |         |
| RFLNA    | 1.31E-86        | -0.953293     | 0.385469| 0.076| 0.366          | 4.15E-82 |         |
| CDC42SE1 | 1.38E-169       | -0.953262     | 0.385482| 0.726| 0.922          | 4.34E-165|         |
| HSPD1    | 4.40E-308       | -0.951297     | 0.38624 | 1   | 1              | 1.39E-303|         |
| ITPKC    | 8.50E-88        | -0.950662     | 0.386717| 0.298| 0.608          | 2.68E-83 |         |
| EFHD2    | 6.38E-187       | -0.948917     | 0.38716 | 0.876| 0.976          | 2.01E-182|         |
| ITGB8    | 1.35E-84        | -0.947898     | 0.387555| 0.162| 0.417          | 4.26E-80 |         |
| MAP2K1   | 6.42E-196       | -0.946882     | 0.387949| 0.827| 0.976          | 2.03E-191|         |
| PID1     | 5.08E-94        | -0.94392      | 0.389099| 0.197| 0.571          | 1.60E-89 |         |
| LXN      | 1.78E-97        | -0.94251      | 0.389649| 0.718| 0.882          | 5.62E-93 |         |
| Gene   | Log2FoldChange | p-value  | q-value | False Discovery Rate | False Non-Discernable Rate | False Positive Rate | True Positive Rate |
|--------|----------------|----------|---------|----------------------|----------------------------|---------------------|-------------------|
| LINC01711 | 7.99E-126      | -0.942172 | 0.38978 | 0.022                | 0.323                      | 2.52E-121           |
| ZNF654 | 1.18E-124      | -0.939179 | 0.390949 | 0.49                  | 0.823                      | 3.71E-120           |
| SYNM | 3.89E-78       | -0.937206 | 0.391721 | 0.111                | 0.41                       | 1.23E-73            |
| CYP27C1 | 6.88E-111      | -0.936558 | 0.391975 | 0.134                | 0.409                      | 2.17E-106           |
| B4GALT1 | 1.50E-235      | -0.935716 | 0.392305 | 0.977                | 1                          | 4.74E-231           |
| ESM1 | 6.59E-58       | -0.933811 | 0.393053 | 0.073                | 0.303                      | 2.08E-53            |
| NEDD9 | 8.09E-96       | -0.933176 | 0.393303 | 0.493                | 0.781                      | 2.55E-91            |
| ITGAV | 1.98E-229      | -0.932795 | 0.393453 | 0.985                | 0.999                      | 6.25E-225           |
| TGFβ3 | 6.02E-83       | -0.93261  | 0.393525 | 0.017                | 0.294                      | 1.90E-112           |
| EVA1A | 4.09E-114      | -0.932036 | 0.393751 | 0.753                | 0.915                      | 1.29E-109           |
| LYPD1 | 2.73E-83       | -0.931995 | 0.394994 | 0.398                | 0.731                      | 8.62E-79            |
| NFASC | 1.40E-95       | -0.928786 | 0.395033 | 0.186                | 0.513                      | 4.41E-91            |
| CD200 | 6.72E-58       | -0.927768 | 0.395435 | 0.398                | 0.731                      | 2.12E-53            |
| CDKN2B | 2.60E-65       | -0.927507 | 0.395538 | 0.245                | 0.522                      | 8.19E-61            |
| ATG101 | 1.62E-165      | -0.926663 | 0.395873 | 0.83                 | 0.969                      | 5.11E-161           |
| PDLIM3 | 1.20E-76       | -0.926383 | 0.395983 | 0.092                | 0.314                      | 3.78E-72            |
| KLF4 | 5.58E-78       | -0.925933 | 0.396162 | 0.377                | 0.704                      | 1.76E-73            |
| RASD1 | 1.94E-47       | -0.925102 | 0.396491 | 0.092                | 0.285                      | 6.13E-43            |
| STAC | 7.12E-95       | -0.924677 | 0.396659 | 0.078                | 0.388                      | 2.25E-90            |
| NBPF14 | 2.56E-247      | -0.922944 | 0.397348 | 0.963                | 0.998                      | 8.08E-243           |
| TNC | 1.49E-167      | -0.921771 | 0.397814 | 0.965                | 0.995                      | 4.71E-163           |
| HSPA4L | 2.35E-93       | -0.921705 | 0.39784  | 0.456                | 0.685                      | 7.40E-89            |
| DCN | 1.20E-171      | -0.921005 | 0.398119 | 0.955                | 0.998                      | 3.79E-167           |
| STC2 | 2.25E-132      | -0.919159 | 0.398854 | 0.947                | 0.986                      | 7.11E-128           |
| AUTS2 | 3.98E-110      | -0.915119 | 0.400469 | 0.198                | 0.594                      | 1.26E-105           |
| INSIG2 | 4.21E-103     | -0.912085 | 0.401686 | 0.507                | 0.79                       | 1.33E-98            |
| TCF7 | 1.17E-88       | -0.911991 | 0.401723 | 0.195                | 0.516                      | 3.68E-84            |
| BMP6 | 2.24E-87       | -0.911125 | 0.402072 | 0.039                | 0.273                      | 7.05E-83            |
| KIAA0040 | 1.51E-119    | -0.909243 | 0.402829 | 0.003                | 0.237                      | 4.78E-115           |
| SPAG9 | 1.27E-192      | -0.908488 | 0.403133 | 0.904                | 0.989                      | 4.00E-188           |
| DEDD2 | 1.32E-64       | -0.907288 | 0.403618 | 0.357                | 0.609                      | 4.16E-60            |
| LINC00882 | 1.40E-107     | -0.903808 | 0.405024 | 0.142                | 0.448                      | 4.43E-103           |
| TINAGL1 | 6.37E-78     | -0.903801 | 0.405027 | 0.125                | 0.396                      | 2.01E-73            |
| TSPAN2 | 5.06E-117     | -0.903406 | 0.405187 | 0.043                | 0.368                      | 1.60E-112           |
| JCAD | 1.44E-84       | -0.902463 | 0.40557  | 0.22                 | 0.561                      | 4.56E-80            |
| GLS | 1.77E-214      | -0.900705 | 0.406283 | 0.995                | 1                          | 5.58E-210           |
| QSOX1 | 3.79E-225      | -0.899462 | 0.406788 | 0.988                | 1                          | 1.20E-220           |
| CHSY3 | 4.81E-71       | -0.895369 | 0.408457 | 0.151                | 0.432                      | 1.52E-66            |
| MYLIP | 8.31E-31       | -0.894949 | 0.408628 | 0.343                | 0.417                      | 2.62E-26            |
| DEPTOR | 1.30E-83      | -0.894824 | 0.40868  | 0.037                | 0.284                      | 4.11E-79            |
| Gene    | E-value | Gene Name | E-value | Gene Name | E-value | Gene Name | E-value | Gene Name | E-value | Gene Name | E-value |
|---------|---------|-----------|---------|-----------|---------|-----------|---------|-----------|---------|-----------|---------|
| ELFN1  | 1.96E-102 | -0.891647 | 0.40998 | 0.079 | 0.405 | 6.19E-98|
| BPGM   | 1.06E-120 | -0.890367 | 0.410505 | 0.759 | 0.928 | 3.33E-116|
| PAPPA  | 1.00E-106 | -0.887778 | 0.411569 | 0.692 | 0.945 | 3.17E-102|
| PLCE1  | 3.59E-89  | -0.887415 | 0.411719 | 0.116 | 0.374 | 1.13E-84|
| MAP1B  | 3.05E-263 | -0.887067 | 0.411862 | 0.079 | 0.405 | 6.19E-98|
| ALPL   | 3.04E-128 | -0.885294 | 0.412593 | 0.004 | 0.235 | 9.60E-124|
| PLA2G4A| 2.85E-103 | -0.88429  | 0.413007 | 0.143 | 0.495 | 5.42E-99|
| UAP1   | 1.34E-88  | -0.875336 | 0.416722 | 0.079 | 0.405 | 6.19E-98|
| SERPINF1| 1.44E-88  | -0.875336 | 0.416722 | 0.079 | 0.405 | 6.19E-98|
| SYNPO  | 1.50E-79  | -0.874284 | 0.416935 | 0.246 | 0.567 | 4.74E-75|
| ACA2   | 1.10E-166 | -0.874589 | 0.417034 | 0.143 | 0.495 | 5.42E-99|
| GPX3   | 7.86E-117 | -0.873924 | 0.417311 | 0.246 | 0.567 | 4.74E-75|
| KDM3A  | 3.80E-95  | -0.872352 | 0.417967 | 0.455 | 0.788 | 9.35E-91|
| KLHL21 | 5.25E-80  | -0.871445 | 0.418346 | 0.246 | 0.567 | 4.74E-75|
| FAM180A| 2.84E-97  | -0.871315 | 0.418401 | 0.246 | 0.567 | 4.74E-75|
| ETV3   | 5.05E-106 | -0.871284 | 0.418414 | 0.246 | 0.567 | 4.74E-75|
| NDEL1  | 6.82E-135 | -0.869495 | 0.419182 | 0.246 | 0.567 | 4.74E-75|
| EPAS1  | 1.93E-156 | -0.86853  | 0.419568 | 0.246 | 0.567 | 4.74E-75|
| PGK1   | 0        | -0.867483 | 0.420007 | 1   | 1   | 0       |
| ALDH1A3| 4.23E-41  | -0.866304 | 0.420503 | 0.284 | 0.535 | 1.34E-36|
| FYN    | 2.97E-95  | -0.866029 | 0.420619 | 0.473 | 0.788 | 9.35E-91|
| ERMN   | 3.06E-124 | -0.860902 | 0.422781 | 0.284 | 0.535 | 1.34E-36|
| PELI1  | 1.55E-73  | -0.858993 | 0.423588 | 0.141 | 0.42  | 4.90E-69|
| P4HA3  | 2.25E-80  | -0.858462 | 0.423814 | 0.141 | 0.42  | 4.90E-69|
| SLC12A8| 2.28E-52  | -0.85787  | 0.424064 | 0.284 | 0.535 | 1.34E-36|
| SNED1  | 2.30E-89  | -0.853596 | 0.425881 | 0.057 | 0.336 | 7.26E-85|
| GEM    | 1.13E-44  | -0.851664 | 0.426704 | 0.355 | 0.589 | 3.55E-40|
| DIRAS1 | 5.76E-90  | -0.847242 | 0.428595 | 0.115 | 0.442 | 1.82E-85|
| GRPEL1 | 7.74E-156 | -0.846856 | 0.428761 | 0.079 | 0.405 | 6.19E-98|
| SEMA7A | 2.67E-107 | -0.84615  | 0.429064 | 0.632 | 0.89  | 8.44E-103|
| KRT7   | 4.25E-17  | -0.845498 | 0.429344 | 0.536 | 0.637 | 1.34E-12|
| DDX21  | 2.35E-188 | -0.844894 | 0.429603 | 0.994 | 1   | 7.41E-184|
| DYRK2  | 2.83E-120 | -0.844496 | 0.429774 | 0.787 | 0.916 | 8.91E-116|
| TUFT1  | 2.56E-49  | -0.841441 | 0.431089 | 0.231 | 0.452 | 8.07E-45|
| SHISA2 | 2.03E-114 | -0.841058 | 0.431254 | 0.018 | 0.275 | 6.41E-110|
| HAPLN3 | 7.96E-65  | -0.839484 | 0.431933 | 0.153 | 0.432 | 2.51E-60|
| Gene       | ROR1-AS1   | HSP90AB1   | LTBP2     | NBP10     | NOTCH2NL C | CPA4     | MIR22HG   | ODC1      | TCAF2     | CLMP      | VSIR      | RBP4      | KLF13     | SIPA1L1   | CABLES1   | EAF1      | EPSTI1    | SAMD8     | MIR210HG  | EY2       | HIF1A     | PALM2AKAP | DNAAF4-CCPG1 | FNBP1L   | ANK2      | PFKFB3    | TMEM59L    | PGM3      | COL8A1    | PEAK1     | MED13     | FAM83G    | NKPX3-1   | MYO1E     | NXP4H4     | CTS4      | FAM241A   | RRP12     | PODNL1    |
|------------|------------|------------|-----------|-----------|------------|----------|-----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| ROR1-AS1   | 4.46E-54   | -0.837546  | 0.432771  | 0.175     | 0.325      | 1.41E-49 | HSP90AB1  | 0         | -0.837409 | 0.432831  | 1         | 1         | 0         | LTBP2     | 5.41E-195 | -0.83452  | 0.434083  | 0.994     | 1         | 1.71E-190 | NBPF10    | 7.19E-223 | -0.834479 | 0.434101  | 0.949     | 0.998     | 2.27E-218 | NOTCH2NL C | 8.82E-133 | -0.831849 | 0.435244  | 0.528     | 0.848     | 2.78E-128 | CPA4      | 2.13E-55  | 0.153     | 0.403     | 6.71E-51  | MIR22HG   | 1.93E-66  | -0.830956 | 0.435633  | 0.146     | 0.412     | 6.10E-62  | ODC1      | 9.72E-172 | -0.828737 | 0.4366    | 0.932     | 0.999     | 3.07E-167 | TCAF2     | 9.69E-102 | -0.827736 | 0.437038  | 0.043     | 0.331     | 3.06E-97  | CLMP      | 1.89E-198 | -0.826061 | 0.43777   | 0.947     | 0.998     | 5.96E-194 | VSIR      | 1.63E-63  | 0.433     | 0.718     | 5.15E-69  | RBP4      | 5.56E-81  | -0.825109 | 0.438187  | 0.006     | 0.183     | 1.75E-76  | KLF13     | 3.38E-80  | -0.824749 | 0.438345  | 0.381     | 0.689     | 1.07E-75  | SIPA1L1   | 7.58E-110 | -0.823915 | 0.438711  | 0.576     | 0.886     | 2.39E-105 | CABLES1   | 2.75E-88  | -0.823139 | 0.439051  | 0.041     | 0.306     | 8.67E-84  | EAF1      | 2.27E-87  | -0.822674 | 0.439256  | 0.507     | 0.787     | 7.15E-83  | EPSTI1    | 1.09E-90  | -0.822428 | 0.439364  | 0.169     | 0.532     | 3.43E-86  | SAMD8     | 5.10E-109 | -0.821972 | 0.439564  | 0.589     | 0.866     | 1.61E-104 | MIR210HG  | 1.17E-95  | -0.821515 | 0.439765  | 0.068     | 0.371     | 3.70E-91  | EY2       | 1.05E-121 | -0.819893 | 0.440479  | 0.003     | 0.241     | 3.31E-117 | HIF1A     | 6.23E-268 | -0.819529 | 0.440639  | 1         | 1         | 1.96E-263 | PALM2AKAP | 3.59E-197 | -0.815583 | 0.442381  | 0.991     | 1         | 1.13E-192 | DNAAF4-CCPG1 | 2.06E-161 | -0.811115 | 0.444347  | 0.48      | 0.838     | 6.51E-157 | FNBP1L    | 7.46E-70  | -0.809721 | 0.444982  | 0.261     | 0.59      | 2.35E-65  | ANK2      | 6.03E-68  | -0.808085 | 0.445711  | 0.098     | 0.361     | 1.90E-63  | PFKFB3    | 3.23E-72  | -0.806247 | 0.446531  | 0.557     | 0.769     | 1.02E-67  | TMEM59L   | 1.36E-90  | -0.802572 | 0.448175  | 0.025     | 0.265     | 4.29E-86  | PGM3      | 1.42E-171 | -0.802278 | 0.448307  | 0.975     | 1         | 4.48E-167 | COL8A1    | 3.56E-106 | -0.801243 | 0.448771  | 0.976     | 0.996     | 1.12E-101 | PEAK1     | 3.49E-116 | -0.800783 | 0.448977  | 0.781     | 0.941     | 1.10E-111 | MED13     | 4.58E-117 | -0.800263 | 0.449211  | 0.855     | 0.963     | 1.44E-112 | FAM83G    | 8.74E-68  | -0.79837  | 0.450062  | 0.334     | 0.616     | 2.76E-63  | NKPX3-1   | 3.59E-102 | -0.797741 | 0.450345  | 0.223     | 0.627     | 1.13E-97  | MYO1E     | 1.93E-108 | -0.797672 | 0.450376  | 0.679     | 0.911     | 6.09E-104 | NKPX3-1   | 5.25E-108 | -0.797175 | 0.4506    | 0.068     | 0.397     | 1.65E-103 | CTS4      | 3.87E-174 | -0.796458 | 0.450923  | 0.995     | 0.998     | 1.22E-169 | FAM241A   | 2.76E-96  | -0.795684 | 0.451273  | 0.536     | 0.803     | 8.69E-92  | RRP12     | 1.93E-85  | -0.794192 | 0.451946  | 0.546     | 0.795     | 6.08E-81  | PODNL1    | 8.81E-81  | -0.793581 | 0.452222  | 0.253     | 0.583     | 2.78E-76  |
| Gene     | Log2 Fold Change | P-Value   | q-Value | Log2 Intens. | Log2 Intens. |
|----------|-----------------|-----------|---------|-------------|-------------|
| DUXAP9   | 2.68E-100       | 8.46E-96  | 8.46E-96| 0.452381    | 0.182       |
| CHI3L1   | 6.86E-33        | 2.17E-28  | 2.17E-28| 0.452856    | 0.012       |
| SLC6A8   | 1.41E-73        | 4.45E-69  | 4.45E-69| 0.452922    | 0.388       |
| EVL      | 1.07E-96        | 3.36E-92  | 3.36E-92| 0.45294     | 0.26        |
| BNC1     | 6.05E-62        | 1.91E-57  | 1.91E-57| 0.454803    | 0.277       |
| CCNYL1   | 2.60E-88        | 8.19E-84  | 8.19E-84| 0.454105    | 0.482       |
| SEC24A   | 2.32E-116       | 7.31E-112 | 7.31E-112| 0.45412     | 0.772       |
| RGS2     | 7.38E-33        | 2.33E-28  | 2.33E-28| 0.454364    | 0.589       |
| CDH11    | 8.61E-189       | 5.64E-67  | 5.64E-67| 0.4554     | 0.993       |
| NECTIN1  | 1.79E-71        | 5.64E-67  | 5.64E-67| 0.4554     | 0.993       |
| EVL      | 1.07E-96        | 4.45E-103 | 4.45E-103| 0.4554     | 0.993       |
| MAP3K4   | 2.10E-69        | 6.61E-65  | 6.61E-65| 0.456227    | 0.691       |
| KIF1B    | 5.96E-122       | 1.88E-117 | 1.88E-117| 0.456279    | 0.989       |
| TPST2    | 6.30E-102       | 1.99E-97  | 1.99E-97| 0.456695    | 0.924       |
| OSMR     | 1.35E-140       | 5.64E-67  | 5.64E-67| 0.457932    | 0.85        |
| RCN3     | 1.67E-197       | 4.27E-136 | 4.27E-136| 0.457943    | 0.386       |
| HSPA8    | 3.87E-286       | 6.61E-65  | 6.61E-65| 0.458365    | 1           |
| CTH      | 1.04E-65        | 3.28E-61  | 3.28E-61| 0.458915    | 0.324       |
| SVIL     | 1.06E-83        | 3.34E-79  | 3.34E-79| 0.459117    | 0.16        |
| ADARB1   | 3.32E-62        | 1.05E-57  | 1.05E-57| 0.459386    | 0.52        |
| COL12A1  | 2.09E-110       | 6.59E-106 | 6.59E-106| 0.459432    | 0.998       |
| HTRA3    | 6.55E-59        | 2.07E-54  | 2.07E-54| 0.459467    | 0.187       |
| DUSP1    | 3.73E-36        | 1.18E-31  | 1.18E-31| 0.459481    | 0.978       |
| RASA2    | 9.85E-52        | 3.11E-47  | 3.11E-47| 0.459996    | 0.692       |
| ARSI     | 3.38E-61        | 1.07E-56  | 1.07E-56| 0.460293    | 0.62        |
| COL1A1   | 5.41E-252       | 3.11E-137 | 3.11E-137| 0.460779    | 1           |
| SNHG7    | 1.22E-91        | 3.84E-87  | 3.84E-87| 0.46204     | 0.469       |
| NET1     | 1.81E-64        | 5.70E-60  | 5.70E-60| 0.463099    | 0.815       |
| HLX      | 3.47E-57        | 1.09E-52  | 1.09E-52| 0.463352    | 0.589       |
| NOLC1    | 8.86E-133       | 2.79E-128 | 2.79E-128| 0.463887    | 0.893       |
| TUBB2B   | 6.52E-139       | 2.05E-134 | 2.05E-134| 0.464415    | 0.875       |
| FUCA1    | 2.06E-94        | 6.50E-90  | 6.50E-90| 0.464421    | 0.318       |
| MICAL2   | 9.85E-142       | 3.11E-137 | 3.11E-137| 0.464856    | 0.97        |
| PTGIS    | 9.63E-63        | 3.04E-58  | 3.04E-58| 0.465499    | 0.089       |
| MSC      | 2.18E-60        | 6.87E-56  | 6.87E-56| 0.466151    | 0.336       |
| GALNT2   | 5.93E-159       | 1.87E-154 | 1.87E-154| 0.466164    | 0.934       |
| GNPNAT1  | 1.32E-134       | 4.17E-130 | 4.17E-130| 0.467299    | 0.954       |
| FMO3     | 2.22E-38        | 6.99E-34  | 6.99E-34| 0.467329    | 0.022       |
| ZNF672   | 4.08E-55        | 1.29E-50  | 1.29E-50| 0.46742     | 0.371       |
| EPB41L4A-A1| 1.13E-99   | 3.57E-95  | 3.57E-95| 0.46743     | 0.448       |
|Gene   | P-value  | Log2FoldChange | ANCOVA p-value | ANCOVA q-value | q-value  |
|-------|----------|----------------|----------------|----------------|----------|
|PKNOX2| 5.10E-104| -0.758574      | 0.468334       | 0.006          | 0.224    |
|HEG1  | 7.83E-104| -0.758215      | 0.468502       | 0.979          | 0.996    |
|GTPBP4| 4.24E-147| -0.757335      | 0.468914       | 0.969          | 0.996    |
|TUBB2A| 3.52E-128| -0.757012      | 0.469066       | 0.967          | 0.993    |
|AC007192.1| 8.75E-119| -0.756853      | 0.46914        | 0.006          | 0.224    |
|SAMD4A| 5.20E-74 | -0.756500      | 0.470007       | 0.608          | 0.819    |
|PDGFRL| 2.36E-68 | -0.754724      | 0.47014        | 0.071          | 0.321    |
|FAM83H| 4.02E-103| -0.754387      | 0.472871       | 0.119          | 0.313    |
|H19   | 2.94E-59 | -0.750047      | 0.472345       | 0.002          | 0.125    |
|MYOCD | 4.82E-38 | -0.750047      | 0.472345       | 0.002          | 0.125    |
|DUSP6 | 7.92E-47 | -0.748408      | 0.473119       | 0.777          | 0.791    |
|VLDLR | 2.64E-66 | -0.745896      | 0.474309       | 0.275          | 0.565    |
|AC02199          | 1.25E-184| -0.743654      | 0.475374       | 0.984          | 1.39E-180|
|SH3BPS5L         | 7.37E-80 | -0.742754      | 0.475802       | 0.552          | 0.793    |
|WHRN            | 8.55E-74 | -0.742186      | 0.476072       | 0.093          | 0.353    |
|AC022034.1      | 4.90E-60 | -0.742116      | 0.476105       | 0.131          | 0.354    |
|KCNG1           | 2.13E-60 | -0.741151      | 0.476565       | 0.43           | 0.657    |
|LIFR            | 4.31E-73 | -0.740737      | 0.476763       | 0.255          | 0.595    |
|ENPP2           | 4.05E-100| -0.739606      | 0.477302       | 0.328          | 0.853    |
|BST1            | 1.01E-60 | -0.739377      | 0.477411       | 0.527          | 0.755    |
|FAM219A         | 4.53E-63 | -0.738629      | 0.477769       | 0.334          | 0.598    |
|DHR59           | 3.12E-48 | -0.738248      | 0.477951       | 0.011          | 0.132    |
|AT1L            | 1.45E-64 | -0.738228      | 0.47796        | 0.138          | 0.404    |
|HIVEP3          | 2.50E-86 | -0.736369      | 0.47885        | 0.068          | 0.341    |
|ATP1B1          | 8.91E-100| -0.736034      | 0.47901        | 0.941          | 0.978    |
|NPC1            | 1.48E-89 | -0.734403      | 0.479792       | 0.518          | 0.818    |
|SRC             | 1.04E-73 | -0.733338      | 0.480303       | 0.474          | 0.737    |
|NIPAL1          | 2.86E-62 | -0.732153      | 0.480873       | 0.094          | 0.332    |
| ECM2            | 1.71E-60 | -0.731674      | 0.481103       | 0.089          | 0.335    |
|NUMBL           | 1.66E-70 | -0.730878      | 0.481486       | 0.543          | 0.742    |
|PLAGL1          | 8.33E-80 | -0.730734      | 0.481555       | 0.544          | 0.802    |
|EDIL3-DT        | 1.37E-75 | -0.727011      | 0.483352       | 0.203          | 0.488    |
|MIR31HG         | 1.62E-70 | -0.725019      | 0.484315       | 0.21           | 0.538    |
|KCTD5           | 1.47E-79 | -0.723543      | 0.485031       | 0.699          | 0.861    |
|TMEM217         | 1.18E-89 | -0.722723      | 0.485428       | 0.032          | 0.285    |
| Gene   | p-value   | q-value | log2 FoldChange | z-score | Pearson Correlation | Adj. Pearson Correlation |
|--------|-----------|---------|----------------|---------|---------------------|------------------------|
| TUBB3  | 5.42E-121 | 0.941   | -0.722698      | 0.485441| 0.99                | 1.71E-116              |
| FLI1   | 7.42E-62  | 0.128   | -0.721485      | 0.48603 | 0.39                | 2.34E-57               |
| FAM210A| 5.20E-75  | 0.531   | -0.721478      | 0.486033| 0.789               | 1.64E-70               |
| CRYBB2P1| 2.93E-120 | 0.549   | -0.721211      | 0.486163| 0.88                | 9.24E-116              |
| SIK3   | 1.20E-62  | 0.353   | -0.720875      | 0.486326| 0.635               | 3.77E-58               |
| C1GALT1| 1.72E-80  | 0.62    | -0.720362      | 0.486576| 0.862               | 5.41E-76               |
| BMP1   | 8.76E-119 | 0.845   | -0.720164      | 0.486789| 0.976               | 2.76E-114              |
| AL135905.2| 2.64E-170| 0.966   | -0.719925      | 0.486798| 0.998               | 8.34E-166              |
| CD83   | 1.98E-48  | 0.029   | -0.719662      | 0.487169| 0.186               | 6.25E-44               |
| GOLGA8A| 3.94E-87  | 0.53    | -0.719144      | 0.487169| 0.803               | 1.24E-82               |
| CBLB   | 1.13E-69  | 0.614   | -0.719076      | 0.487202| 0.841               | 3.56E-65               |
| ANKRD37| 2.40E-89  | 0.153   | -0.718715      | 0.487378| 0.508               | 7.58E-85               |
| FAM162A| 8.76E-92  | 0.425   | -0.718339      | 0.487562| 0.778               | 2.76E-87               |
| EPDR1  | 8.21E-71  | 0.604   | -0.714556      | 0.489409| 0.99                | 1.20E-117              |
| STAT3  | 7.32E-61  | 0.394   | -0.714141      | 0.48948 | 0.671               | 1.18E-56               |
| SLC41A1| 1.63E-224 | 1.00    | -0.713802      | 0.489778| 1.00                | 5.15E-220              |
| SLC12A6| 7.69E-66  | 0.414   | -0.713588      | 0.499883| 0.659               | 2.43E-61               |
| NFIX   | 7.13E-116 | 0.777   | -0.713248      | 0.49005 | 0.934               | 2.25E-111              |
| SBSN   | 1.48E-68  | 0.319   | -0.709616      | 0.491833| 0.468               | 4.68E-64               |
| SLC16A1| 8.93E-111 | 0.949   | -0.708618      | 0.492324| 0.992               | 2.82E-106              |
| ATF3   | 9.89E-24  | 0.311   | -0.708148      | 0.492556| 0.405               | 3.12E-19               |
| ABHD5  | 7.90E-90  | 0.665   | -0.708115      | 0.492572| 0.903               | 2.49E-85               |
| SOX11  | 9.01E-71  | 0.169   | -0.707362      | 0.492943| 0.366               | 2.84E-66               |
| P2RY6  | 3.68E-86  | 0.017   | -0.707332      | 0.492958| 0.234               | 1.16E-81               |
| SLC2A1 | 3.34E-83  | 0.945   | -0.704861      | 0.494178| 0.983               | 1.05E-78               |
| LDHA   | 0.00      | 0.49423 | -0.704755      | 0.49423 | 1.00                | 0.00                   |
| EGR3   | 1.58E-58  | 0.12    | -0.704271      | 0.494469| 0.379               | 4.97E-54               |
| SHB    | 3.51E-66  | 0.613   | -0.703225      | 0.494986| 0.797               | 1.11E-61               |
| SPOCK1 | 5.24E-101 | 0.972   | -0.702934      | 0.49513 | 0.998               | 1.65E-96               |
| NKRF   | 4.91E-57  | 0.306   | -0.702218      | 0.495485| 0.594               | 1.55E-52               |
| CYTOR  | 8.55E-138 | 0.959   | -0.702164      | 0.495512| 0.993               | 2.70E-133              |
| FEM1B  | 9.08E-84  | 0.839   | -0.701072      | 0.496053| 0.927               | 2.86E-79               |
| STC1   | 2.26E-37  | 0.663   | -0.700618      | 0.496278| 0.76                | 7.13E-33               |
| EIF4A3 | 1.91E-113 | 0.958   | -0.700497      | 0.496339| 1.00                | 6.04E-109              |
| FPR1   | 5.11E-72  | 0.026   | -0.700428      | 0.496373| 0.222               | 1.61E-67               |
| ADD3   | 3.11E-111 | 0.955   | -0.699965      | 0.496603| 0.994               | 9.80E-107              |
| LEMD3  | 2.66E-62  | 0.513   | -0.698487      | 0.497337| 0.73                | 8.40E-58               |
| EPBG2  | 1.95E-58  | 0.372   | -0.698486      | 0.497338| 0.651               | 6.14E-54               |
| GPR68  | 2.29E-83  | 0.054   | -0.697919      | 0.49762 | 0.327               | 7.22E-79               |
| Gene     | log2-fold change | q-value   | log2FC   | P-value  | q-value   | log2FC   | P-value  |
|----------|-----------------|-----------|----------|----------|-----------|----------|----------|
| OLFM2    | 1.08E-69        | 0.498097  | 0.037    | 0.251    | 3.41E-65  |
| CYB561   | 3.21E-92        | 0.498645  | 0.432    | 0.796    | 1.01E-87  |
| FEM1C    | 2.92E-64        | 0.49915   | 0.528    | 0.761    | 9.22E-60  |
| PPFA1    | 5.54E-82        | 0.499178  | 0.756    | 0.922    | 1.75E-77  |
| AL445524.2 | 2.23E-98     | 0.499418  | 0.646    | 0.873    | 7.03E-94  |
| GNL2     | 1.59E-99        | 0.499648  | 0.841    | 0.96     | 5.02E-95  |
| SDE2     | 3.27E-69        | 0.50024   | 0.542    | 0.793    | 1.03E-64  |
| HSP90AA1 | 4.10E-273       | 0.500449  | 1        | 1        | 1.29E-268 |
| RHOD     | 1.38E-72        | 0.50074   | 0.19     | 0.512    | 4.34E-68  |
| PRSS23   | 4.51E-155       | 0.501355  | 1        | 1        | 1.42E-150 |
| THAP2    | 1.70E-69        | 0.501454  | 0.262    | 0.577    | 5.35E-65  |
| MTSS1    | 6.12E-52        | 0.501483  | 0.055    | 0.242    | 1.93E-47  |
| HIPK3    | 2.05E-67        | 0.501686  | 0.63     | 0.825    | 6.46E-63  |
| INHBB    | 5.84E-81        | 0.502232  | 0.036    | 0.281    | 1.84E-76  |
| BASP1    | 2.45E-186       | 0.502356  | 0.999    | 0.999    | 7.71E-182 |
| PLXNA2   | 1.15E-46        | 0.502437  | 0.133    | 0.366    | 3.63E-42  |
| ITGA10   | 3.39E-53        | 0.502731  | 0.109    | 0.299    | 1.07E-48  |
| PRDM16   | 3.63E-94        | 0.502769  | 0.005    | 0.205    | 1.14E-89  |
| CD2AP    | 7.88E-95        | 0.502772  | 0.814    | 0.941    | 2.49E-90  |
| MCL1     | 1.73E-122       | 0.503144  | 0.992    | 0.996    | 5.45E-118 |
| SLC25A36 | 4.55E-102       | 0.503532  | 0.808    | 0.954    | 1.43E-97  |
| AFF4     | 3.62E-123       | 0.503584  | 0.958    | 0.998    | 1.14E-118 |
| POLR1C   | 7.18E-63        | 0.50366   | 0.538    | 0.763    | 2.27E-58  |
| IL1RAP   | 9.82E-52        | 0.503883  | 0.315    | 0.568    | 3.10E-47  |
| MCC      | 6.49E-53        | 0.504099  | 0.23     | 0.504    | 2.05E-48  |
| SLC39A14 | 5.39E-100       | 0.504121  | 0.927    | 0.992    | 1.70E-95  |
| GGT5     | 4.40E-40        | 0.504418  | 0.159    | 0.342    | 1.39E-35  |
| COL27A1  | 2.37E-50        | 0.504521  | 0.451    | 0.644    | 7.47E-46  |
| ANXA10   | 2.28E-52        | 0.504852  | 0.022    | 0.182    | 7.18E-48  |
| ARL4C    | 4.29E-58        | 0.505113  | 0.649    | 0.861    | 1.35E-53  |
| CA12     | 2.58E-106       | 0.50601   | 0.825    | 0.975    | 8.13E-102 |
| CHD7     | 4.50E-67        | 0.50667   | 0.072    | 0.271    | 1.42E-62  |
| DLX5     | 4.07E-78        | 0.506982  | 0.002    | 0.156    | 1.28E-73  |
| PYGL     | 1.07E-68        | 0.507091  | 0.556    | 0.809    | 3.36E-64  |
| CARMN    | 4.07E-49        | 0.507456  | 0.433    | 0.638    | 1.28E-44  |
| MELTF    | 2.44E-54        | 0.507858  | 0.071    | 0.277    | 7.69E-50  |
| BNIP3    | 2.61E-88        | 0.508151  | 0.985    | 0.992    | 8.22E-84  |
| GATAD2A  | 1.87E-93        | 0.508186  | 0.862    | 0.948    | 5.89E-89  |
| HRH1     | 2.58E-63        | 0.509167  | 0.687    | 0.855    | 8.12E-59  |
| NAP1L3   | 4.32E-72        | 0.509526  | 0.069    | 0.33     | 1.36E-67  |
| Gene       | FDR     | log10(p value) | Fold Change 1 | Fold Change 2 | Fold Change 3 | Fold Change 4 | Fold Change 5 |
|------------|---------|----------------|---------------|---------------|---------------|---------------|---------------|
| CREG1      | 5.79E-66| -0.673517      | 0.509912      | 0.562         | 0.79          | 1.83E-61      |
| GDNF       | 1.46E-38| -0.673501      | 0.50992       | 0.127         | 0.332         | 4.60E-34      |
| SEMA3F     | 2.03E-133| -0.67341      | 0.509967      | 0.013         | 0.306         | 6.39E-129     |
| USP38      | 1.33E-71| -0.672362      | 0.510502      | 0.639         | 0.853         | 4.20E-67      |
| DNAJB6     | 4.17E-145| -0.672271     | 0.510548      | 0.998         | 0.999         | 1.32E-140     |
| SNTB1      | 7.95E-50| -0.671691      | 0.510844      | 0.338         | 0.6          | 2.51E-45      |
| AC009093.1 | 2.26E-35| -0.671147      | 0.511122      | 0.199         | 0.398         | 7.11E-31      |
| RIPK4      | 1.77E-52| -0.669711      | 0.511857      | 0.01          | 0.145         | 5.59E-48      |
| NALCN      | 3.13E-58| -0.669613      | 0.511907      | 0.137         | 0.381         | 9.87E-54      |
| ADAMTS15   | 3.78E-91| -0.669068      | 0.512186      | 0.003         | 0.189         | 1.19E-86      |
| MYCT1      | 2.18E-70| -0.668641      | 0.512404      | 0.002         | 0.144         | 6.86E-66      |
| EIF1AD     | 1.76E-61| -0.667374      | 0.513054      | 0.479         | 0.742         | 5.54E-57      |
| GOLM1      | 3.85E-100| -0.666041     | 0.513738      | 0.793         | 0.954         | 1.21E-95      |
| TCP1       | 4.69E-201| -0.665822     | 0.513851      | 0.999         | 1             | 1.48E-196     |
| ALKBH5     | 4.04E-95| -0.665484      | 0.514025      | 0.918         | 0.982         | 1.27E-90      |
| LACC1      | 4.81E-35| -0.665449      | 0.514043      | 0.227         | 0.436         | 1.52E-30      |
| VCAM1      | 8.97E-75| -0.664804      | 0.514374      | 0          | 0.141         | 2.83E-70      |
| MT-TT      | 9.64E-189| -0.66475      | 0.514402      | 0.026         | 0.441         | 3.04E-184     |
| AC092143.1 | 2.96E-107| -0.662879     | 0.515365      | 0.805         | 0.948         | 9.32E-103     |
| UTP25      | 1.26E-58| -0.662564      | 0.515528      | 0.491         | 0.739         | 3.98E-54      |
| TWNK       | 2.96E-50| -0.662322      | 0.515699      | 0.214         | 0.475         | 9.34E-46      |
| AL139220.2 | 6.15E-63| -0.662192      | 0.515719      | 0.261         | 0.522         | 1.94E-58      |
| PNMA1      | 4.11E-87| -0.66111       | 0.516278      | 0.925         | 0.978         | 1.30E-82      |
| CNN3       | 4.82E-174| -0.660422     | 0.516633      | 0          | 0.141         | 2.83E-70      |
| SBSBON     | 2.69E-58| -0.660211      | 0.516742      | 0.055         | 0.258         | 8.49E-54      |
| TMEM233    | 1.95E-111| -0.659505     | 0.517107      | 0.018         | 0.281         | 6.15E-107     |
| GOLT1B     | 3.06E-128| -0.658374     | 0.517692      | 0.976         | 0.995         | 9.66E-124     |
| POLR3D     | 1.75E-81| -0.657666      | 0.518059      | 0.654         | 0.882         | 5.51E-77      |
| NOTCH2NLA  | 2.30E-84| -0.657615      | 0.518085      | 0.471         | 0.76          | 7.25E-80      |
| NOTCH2NLB  | 2.00E-104| -0.657518     | 0.518136      | 0.243         | 0.619         | 6.31E-100     |
| UNC5B      | 1.19E-51| -0.657452      | 0.51817       | 0.589         | 0.779         | 3.76E-47      |
| RRP7A      | 1.54E-85| -0.657294      | 0.518252      | 0.775         | 0.917         | 4.85E-81      |
| PYURF      | 1.80E-79| -0.657266      | 0.518266      | 0.998         | 1             | 5.68E-75      |
| INSIG1     | 1.42E-69| -0.656977      | 0.518416      | 0.845         | 0.964         | 4.49E-65      |
| TNFRSF10B  | 7.59E-80| -0.656878      | 0.518467      | 0.817         | 0.926         | 2.39E-75      |
| AKIRIN1    | 9.40E-123| -0.656668     | 0.518576      | 0.977         | 0.998         | 2.96E-118     |
| FSTL3      | 1.07E-65| -0.656616      | 0.518603      | 0.689         | 0.866         | 3.39E-61      |
| MED13L     | 3.29E-93| -0.655912      | 0.518969      | 0.834         | 0.968         | 1.04E-88      |
| HSPB7      | 6.39E-33| -0.655841      | 0.519005      | 0.317         | 0.534         | 2.02E-28      |
| MCUB       | 4.62E-70| -0.655005      | 0.51944       | 0.549         | 0.833         | 1.46E-65      |
| Gene    | p-Value   | log2 Fold Change | q-value | Adjusted p-value | FDR-corrected p-value |
|---------|-----------|-----------------|---------|-----------------|----------------------|
| SLC37A3 | 1.60E-58  | -0.653652       | 0.45    | 0.722           | 5.03E-54             |
| TSLP    | 5.62E-62  | -0.652093       | 0.013   | 0.175           | 1.77E-57             |
| RNF180  | 3.25E-63  | -0.651988       | 0.037   | 0.24            | 1.02E-58             |
| COL6A1  | 6.84E-177 | -0.651815       | 1       | 1               | 2.16E-172            |
| KREME1  | 1.27E-61  | -0.651766       | 0.3     | 0.525           | 4.00E-57             |
| LAPTM5  | 2.47E-41  | -0.649763       | 0.522169| 0.741           | 2.18E-46             |
| TTPAL   | 4.82E-63  | -0.64603        | 0.524122| 0.641           | 1.52E-58             |
| ALG2    | 3.43E-83  | -0.644611       | 0.524867| 0.773           | 1.08E-78             |
| ADCY7   | 6.22E-67  | -0.643864       | 0.525259| 0.488           | 1.96E-62             |
| NAV1    | 4.99E-117 | -0.642655       | 0.525894| 0.969           | 1.57E-112            |
| AC010198.2 | 9.55E-54 | -0.640159       | 0.527208| 0.945           | 1.70E-76             |
| NBPF20  | 2.03E-124 | -0.63985        | 0.527372| 0.945           | 6.39E-120            |
| FHL1    | 6.85E-50  | -0.639524       | 0.527544| 0.714           | 2.16E-45             |
| FAM47E-STE | 1.31E-44 | -0.636641       | 0.529067| 0.294           | 4.12E-40             |
| S1PR5   | 2.27E-42  | -0.636409       | 0.529189| 0.041           | 7.15E-38             |
| EML1    | 2.49E-48  | -0.636288       | 0.529253| 0.516           | 7.87E-44             |
| MGAM    | 4.74E-54  | -0.631618       | 0.529317| 0.045           | 1.49E-49             |
| CSF1    | 2.50E-48  | -0.63352        | 0.52983 | 0.554           | 7.87E-44             |
| FEZ1    | 4.86E-56  | -0.63415        | 0.530386| 0.44            | 1.53E-51             |
| VDR     | 5.04E-35  | -0.633945       | 0.530495| 0.304           | 1.59E-30             |
| NBPF19  | 7.20E-134 | -0.632356       | 0.53086 | 0.907           | 2.27E-129            |
| NAF1    | 3.32E-48  | -0.632933       | 0.531032| 0.331           | 1.05E-43             |
| JAM3    | 3.40E-68  | -0.631217       | 0.531944| 0.676           | 1.07E-63             |
| PKP1    | 5.29E-85  | -0.631148       | 0.531981| 0.008           | 1.67E-80             |
| AL139385.1 | 5.79E-39 | -0.630038       | 0.532572| 0.078           | 1.83E-34             |
| PLXDC2  | 2.36E-39  | -0.629852       | 0.532671| 0.164           | 7.44E-35             |
| DNAH10  | 2.29E-73  | -0.629165       | 0.533037| 0.016           | 7.23E-69             |
| SLC30A1 | 1.04E-48  | -0.627244       | 0.534062| 0.61            | 3.28E-44             |
| EOGT    | 6.83E-56  | -0.625665       | 0.534905| 0.522           | 2.15E-51             |
| BTAIF1  | 1.73E-55  | -0.624865       | 0.535334| 0.529           | 5.47E-51             |
| WV5A5   | 6.57E-64  | -0.623386       | 0.536126| 0.025           | 2.07E-59             |
| CERCAM  | 1.46E-99  | -0.622142       | 0.536794| 0.901           | 4.60E-95             |
| Gene   | Fold Change | log2 Fold Change | Adj. p-value | FDR | p-value | log2 Odds Ratio | p-value | FDR |
|--------|-------------|------------------|-------------|-----|---------|----------------|---------|-----|
| GAA    | 9.28E-49    | -0.621284        | 0.537254    | 0.267 | 0.531   | 2.93E-44       |         |     |
| PMP22  | 1.56E-56    | -0.620343        | 0.53776     | 0.724 | 0.869   | 4.92E-52       |         |     |
| VGLL4  | 1.39E-68    | -0.619655        | 0.53813     | 0.697 | 0.868   | 4.38E-64       |         |     |
| HGF    | 2.16E-21    | -0.619158        | 0.538398    | 0.07  | 0.182   | 6.82E-17       |         |     |
| RIOK3  | 2.80E-92    | -0.618683        | 0.538653    | 0.933 | 0.992   | 8.83E-88       |         |     |
| FGFR1  | 7.36E-95    | -0.617548        | 0.539265    | 0.07  | 0.182   | 6.82E-17       |         |     |
| SEZ6L2 | 9.57E-43    | -0.617393        | 0.539349    | 0.11  | 0.318   | 3.02E-38       |         |     |
| ZNF423 | 8.28E-110   | -0.616796        | 0.539671    | 0.011 | 0.255   | 2.61E-105      |         |     |
| BEND7  | 8.21E-56    | -0.616624        | 0.539764    | 0.148 | 0.355   | 2.59E-51       |         |     |
| NEFM   | 1.35E-14    | -0.615629        | 0.539815    | 0.224 | 0.354   | 4.27E-10       |         |     |
| ZNF423 | 8.56E-110   | -0.613487        | 0.540045    | 0.554 | 0.73    | 1.24E-51       |         |     |
| BEND7  | 8.21E-56    | -0.613396        | 0.540139    | 0.857 | 0.953   | 7.70E-137      |         |     |
| IL26   | 6.64E-99    | -0.615058        | 0.54061     | 0.979 | 0.996   | 2.53E-113      |         |     |
| PABPC4 | 8.03E-118   | -0.611502        | 0.541197    | 1     | 0.998   | 5.46E-110      |         |     |
| IGFBP7 | 1.73E-114   | -0.611502        | 0.541197    | 1     | 0.998   | 5.46E-110      |         |     |
| GAP43  | 3.72E-87    | -0.611502        | 0.541197    | 1     | 0.998   | 5.46E-110      |         |     |
| AC242824.3 | 2.44E-141 | -0.611502       | 0.541197    | 1     | 0.998   | 5.46E-110      |         |     |
| THBS2  | 2.14E-35    | -0.610277        | 0.541846    | 0.49  | 0.691   | 6.14E-38       |         |     |
| ZCCHC14| 1.95E-42    | -0.610277        | 0.541846    | 0.49  | 0.691   | 6.14E-38       |         |     |
| SDC4   | 2.11E-88    | -0.610277        | 0.541846    | 0.49  | 0.691   | 6.14E-38       |         |     |
| MAN1A1 | 4.01E-54    | -0.610277        | 0.541846    | 0.49  | 0.691   | 6.14E-38       |         |     |
| COL1A2 | 1.99E-187   | -0.610277        | 0.541846    | 0.49  | 0.691   | 6.14E-38       |         |     |
| NAB1   | 9.18E-48    | -0.610277        | 0.541846    | 0.49  | 0.691   | 6.14E-38       |         |     |
| ABCA1  | 1.04E-27    | -0.610277        | 0.541846    | 0.49  | 0.691   | 6.14E-38       |         |     |
| CMKLR1 | 6.07E-50    | -0.610277        | 0.541846    | 0.49  | 0.691   | 6.14E-38       |         |     |
| KDM5B  | 1.76E-63    | -0.610277        | 0.541846    | 0.49  | 0.691   | 6.14E-38       |         |     |
| KCTD15 | 6.00E-64    | -0.610277        | 0.541846    | 0.49  | 0.691   | 6.14E-38       |         |     |
| C1S    | 6.90E-58    | -0.610277        | 0.541846    | 0.49  | 0.691   | 6.14E-38       |         |     |
| TNFSF9 | 3.87E-88    | -0.610277        | 0.541846    | 0.49  | 0.691   | 6.14E-38       |         |     |
| GPRC5C | 7.80E-59    | -0.610277        | 0.541846    | 0.49  | 0.691   | 6.14E-38       |         |     |
| PLAAT3 | 1.95E-58    | -0.610277        | 0.541846    | 0.49  | 0.691   | 6.14E-38       |         |     |
| FOXP1  | 4.86E-103   | -0.610277        | 0.541846    | 0.49  | 0.691   | 6.14E-38       |         |     |
| SESN3  | 7.96E-58    | -0.610277        | 0.541846    | 0.49  | 0.691   | 6.14E-38       |         |     |
| IL6ST  | 8.46E-141   | -0.610277        | 0.541846    | 0.49  | 0.691   | 6.14E-38       |         |     |
| PDE7B  | 9.58E-43    | -0.610277        | 0.541846    | 0.49  | 0.691   | 6.14E-38       |         |     |
| SPRY2  | 8.62E-41    | -0.610277        | 0.541846    | 0.49  | 0.691   | 6.14E-38       |         |     |
| GABRE  | 1.32E-38    | -0.610277        | 0.541846    | 0.49  | 0.691   | 6.14E-38       |         |     |
| RDH5   | 5.84E-54    | -0.610277        | 0.541846    | 0.49  | 0.691   | 6.14E-38       |         |     |
| Gene       | Value1  | Value2   | Value3   | Value4  | Value5  | Value6  |
|------------|---------|----------|----------|---------|---------|---------|
| C18orf25   | 2.47E-54| -0.604442| 0.546379 | 0.561   | 0.775   | 7.80E-50|
| SCRG1      | 2.22E-46| -0.604118| 0.546556 | 0.124   | 0.296   | 7.01E-42|
| MAPKAPK2   | 8.15E-81| -0.603866| 0.546694 | 0.849   | 0.946   | 2.57E-76|
| ZNF12      | 5.05E-58| -0.603846| 0.546705 | 0.435   | 0.727   | 1.59E-53|
| PPTC7      | 3.38E-61| -0.603799| 0.546731 | 0.708   | 0.876   | 1.07E-56|
| COL16A1    | 1.33E-68| -0.602768| 0.547295 | 0.693   | 0.893   | 4.18E-64|
| NFKB1      | 2.34E-48| -0.602461| 0.547463 | 0.646   | 0.79    | 7.39E-44|
| MRPL18     | 1.21E-91| -0.601532| 0.547971 | 0.968   | 0.995   | 3.82E-87|
| ARHGEF3    | 1.56E-50| -0.601488| 0.547996 | 0.074   | 0.284   | 4.92E-46|
| BMT2       | 6.85E-45| -0.599763| 0.548942 | 0.326   | 0.574   | 2.16E-40|
| ARL5B      | 3.92E-48| -0.599634| 0.549012 | 0.64    | 0.808   | 1.24E-43|
| ANPEP      | 8.24E-146| -0.599446| 0.549116| 0.905   | 0.998   | 2.60E-141|
| BTG1       | 3.96E-99| -0.59942 | 0.54913  | 0.99    | 0.996   | 1.25E-94|
| BACE2      | 9.46E-70| -0.597708| 0.550071 | 0.471   | 0.787   | 2.98E-65|
| AC092807.4 | 1.19E-41| -0.597196| 0.550353 | 0.372   | 0.594   | 3.76E-37|
| SDSL       | 2.45E-38| -0.594481| 0.551849 | 0.164   | 0.379   | 7.72E-34|
| ZNF503-AS2 | 4.21E-74| -0.594461| 0.55186  | 0.027   | 0.241   | 1.33E-69|
| ARFGAP1    | 9.44E-62| -0.592396| 0.553001 | 0.751   | 0.839   | 2.98E-57|
| GFOD1      | 1.17E-36| -0.592132| 0.553147 | 0.182   | 0.362   | 3.69E-32|
| TSPYL2     | 3.35E-45| -0.590854| 0.553854 | 0.49    | 0.719   | 1.06E-40|
| ZNF175     | 7.44E-41| -0.590016| 0.554319 | 0.23    | 0.464   | 2.35E-36|
| ARHGAP26   | 2.66E-41| -0.589515| 0.554596 | 0.213   | 0.386   | 8.38E-37|
| TGFRB3     | 1.34E-46| -0.589398| 0.554661 | 0.246   | 0.517   | 4.22E-42|
| UBC        | 1.21E-121| -0.588957| 0.554906 | 1       | 1       | 3.83E-117|
| COL5A2     | 2.02E-138| -0.588045| 0.555412 | 1       | 1       | 6.37E-134|
| DCLK3      | 4.40E-80| -0.587449| 0.555743 | 0.005   | 0.177   | 1.39E-75|
| AC254813.1 | 1.77E-87| -0.587198| 0.555883 | 0.02    | 0.248   | 5.59E-83|
| LRP1       | 1.76E-96| -0.586141| 0.55647  | 0.979   | 0.993   | 5.54E-92|
| BMP2       | 2.01E-15| -0.585375| 0.556897 | 0.232   | 0.327   | 6.33E-11|
| DEND5A     | 7.69E-75| -0.585097| 0.557052 | 0.825   | 0.952   | 2.43E-70|
| SMCO4      | 1.71E-51| -0.584755| 0.557245 | 0.178   | 0.442   | 5.38E-47|
| ATP1A1     | 2.66E-116| -0.584683| 0.557282 | 0.989   | 1       | 8.39E-112|
| ADAMTS7    | 3.89E-50| -0.584245| 0.557526 | 0.238   | 0.504   | 1.23E-45|
| ULBP2      | 2.96E-39| -0.581699| 0.558953 | 0.444   | 0.669   | 9.33E-35|
| SIM2       | 6.06E-56| -0.581479| 0.559071 | 0.05    | 0.224   | 1.91E-51|
| AGPAT4     | 1.42E-37| -0.58089 | 0.5594   | 0.32    | 0.541   | 4.47E-33|
| ZNF121     | 1.04E-49| -0.579934| 0.559935 | 0.581   | 0.743   | 3.28E-45|
| LAMC1      | 1.21E-134| -0.579495| 0.560181 | 1       | 1       | 3.83E-130|
| BCL10      | 3.15E-73| -0.578993| 0.560462 | 0.844   | 0.951   | 9.93E-69|
| SCN3A      | 8.48E-35| -0.577909| 0.56107  | 0.021   | 0.107   | 2.67E-30|
| Gene   | Value     | FDR     | Z-score  | p-value  | FDR     | Z-score  | FDR     | Z-score  | FDR     | Z-score  |
|--------|-----------|---------|----------|----------|---------|----------|---------|----------|---------|----------|
| SLC4A7 | 6.24E-55  | 0.577697| 0.56119  | 0.723    | 0.879   | 1.97E-50 |
| ABL1   | 5.63E-61  | 0.576852| 0.561664 | 0.68     | 0.861   | 1.78E-56 |
| FLNC   | 1.79E-65  | 0.576495| 0.561864 | 0.997    | 0.996   | 5.63E-61 |
| MIR22HG| 6.42E-53  | 0.575914| 0.562191 | 0.657    | 0.859   | 2.03E-48 |
| SPARC  | 7.42E-215 | 0.574594| 0.562934 | 1        | 1       | 2.34E-210|
| EGF    | 3.75E-30  | 0.574488| 0.562993 | 0.098    | 0.258   | 1.18E-25 |
| HSPA9  | 2.38E-158 | 0.572943| 0.563864 | 0.997    | 0.996   | 5.63E-61 |
| LUM    | 5.70E-49  | 0.57287 | 0.563905 | 0.974    | 0.992   | 1.80E-44 |
| SMIM14 | 5.19E-84  | 0.572713| 0.563993 | 0.934    | 0.99    | 1.64E-79 |
| SPARC  | 2.05E-150 | 0.572163| 0.564304 | 1        | 1       | 6.46E-146|
| RCAN1  | 6.61E-20  | 0.571892| 0.564456 | 0.825    | 0.885   | 2.09E-15 |
| TBC1D10A| 1.45E-33   | 0.57188 | 0.564463 | 0.331    | 0.534   | 4.57E-29 |
| MANBA  | 4.73E-39  | 0.570953| 0.564987 | 0.292    | 0.514   | 1.49E-34 |
| DUSP5  | 4.20E-37  | 0.569831| 0.565621 | 0.533    | 0.735   | 1.33E-32 |
| MAP1LC3B| 4.12E-108 | 0.567937| 0.566939 | 0.986    | 1       | 1.30E-103|
| STARD4 | 2.40E-38  | 0.567643| 0.56686  | 0.681    | 0.82    | 7.57E-34 |
| PAWR   | 1.68E-85  | 0.566919| 0.56727  | 0.958    | 0.994   | 5.29E-81 |
| EYA4   | 7.65E-50  | 0.565931| 0.567831 | 0.023    | 0.179   | 2.41E-45 |
| GADD45A| 5.62E-61  | 0.565691| 0.567967 | 0.96     | 0.992   | 1.77E-56 |
| HEPH   | 3.07E-34  | 0.565652| 0.56799  | 0.076    | 0.236   | 9.68E-30 |
| ENO2   | 8.53E-42  | 0.565512| 0.568069 | 0.405    | 0.645   | 2.69E-37 |
| CA13   | 2.14E-50  | 0.56498 | 0.568372 | 0.063    | 0.257   | 6.74E-46 |
| RBK    | 8.76E-35  | 0.564452| 0.568672 | 0.327    | 0.538   | 2.76E-30 |
| FUT11  | 3.37E-56  | 0.564418| 0.568691 | 0.567    | 0.788   | 1.06E-51 |
| SLC35G2| 4.01E-36  | 0.564407| 0.568697 | 0.491    | 0.659   | 1.27E-31 |
| ZC3H12A| 2.57E-32  | 0.563747| 0.569073 | 0.239    | 0.439   | 8.11E-28 |
| LITPR1 | 2.00E-46  | 0.563744| 0.569074 | 0.121    | 0.288   | 6.31E-42 |
| BCL7A  | 1.08E-28  | 0.562914| 0.569547 | 0.233    | 0.399   | 3.40E-24 |
| IRAK2  | 6.90E-38  | 0.562725| 0.569654 | 0.092    | 0.278   | 2.18E-33 |
| LINCO2381| 4.29E-56    | 0.562129| 0.569994 | 0.105    | 0.354   | 1.35E-51 |
| PLAU   | 3.93E-19  | 0.561869| 0.570142 | 0.658    | 0.736   | 1.24E-14 |
| TBPL1  | 7.32E-40  | 0.560911| 0.570689 | 0.584    | 0.747   | 2.31E-35 |
| SPRED2 | 6.30E-34  | 0.56036 | 0.571003 | 0.506    | 0.686   | 1.99E-29 |
| FAR1   | 3.46E-63  | 0.560184| 0.571104 | 0.745    | 0.894   | 1.09E-58 |
| DCBLD2 | 9.50E-88  | 0.559906| 0.571263 | 0.998    | 1       | 3.00E-83 |
| SENP5  | 4.23E-60  | 0.559905| 0.571263 | 0.808    | 0.899   | 1.33E-55 |
| TPI1   | 5.67E-280 | 0.559282| 0.571619 | 1        | 1       | 1.79E-275|
| FURIN  | 1.36E-68  | 0.558288| 0.572188 | 0.763    | 0.934   | 4.30E-64 |
| PHLDDB1| 5.84E-54  | 0.558018| 0.572342 | 0.885    | 0.9     | 1.84E-49 |
| RCOR1  | 2.68E-50  | 0.556514| 0.573204 | 0.635    | 0.811   | 8.44E-46 |
| Gene  | Value   | p-value | FDR   | Value   | p-value | FDR   |
|-------|---------|---------|-------|---------|---------|-------|
| LMO2  | 3.87E-71 | -0.55636 | 0.573292 | 0.003   | 0.15    | 1.22E-66 |
| GAS1  | 3.66E-14 | -0.556248 | 0.573356 | 0.165  | 0.279   | 1.15E-09 |
| FNDC4 | 1.99E-38 | -0.55675 | 0.573685 | 0.252  | 0.484   | 6.27E-34 |
| ZNF212 | 6.80E-33 | -0.556602 | 0.573727 | 0.186  | 0.391   | 2.14E-28 |
| STX3  | 2.53E-24 | -0.555491 | 0.573791 | 0.32   | 0.477   | 7.99E-20 |
| FAM3C | 3.81E-74 | -0.555479 | 0.573797 | 0.873  | 0.971   | 1.20E-69 |
| NBPF26 | 1.51E-112 | -0.555131 | 0.574054 | 0.866  | 0.956   | 4.76E-108 |
| PTGER2 | 2.88E-33 | -0.554549 | 0.574274 | 0.285  | 0.505   | 9.10E-29 |
| VPS37B | 4.02E-53 | -0.554175 | 0.574546 | 0.604  | 0.791   | 1.27E-48 |
| GIP   | 1.78E-104 | -0.553982 | 0.574657 | 0.996  | 1       | 5.61E-100 |
| RRN3  | 2.35E-66 | -0.553681 | 0.575013 | 0.196  | 0.4     | 6.78E-32 |
| AC016588.2 | 2.15E-36 | -0.553363 | 0.575013 | 0.232  | 0.428   | 4.41E-27 |
| GAN   | 2.14E-28 | -0.552729 | 0.575378 | 0.47   | 0.601   | 6.73E-24 |
| EBLN3P | 1.13E-57 | -0.552327 | 0.575609 | 0.798  | 0.915   | 3.58E-53 |
| SMILR | 6.78E-101 | -0.552309 | 0.575619 | 0.01   | 0.24    | 2.14E-96 |
| LMNA  | 3.53E-244 | -0.552167 | 0.575701 | 1      | 1       | 1.11E-239 |
| GALNT18 | 1.71E-40 | -0.552159 | 0.575706 | 0.045  | 0.205   | 5.38E-36 |
| HSPG2 | 3.48E-74 | -0.551993 | 0.575801 | 0.909  | 0.975   | 1.10E-69 |
| BMPER | 1.40E-31 | -0.551529 | 0.576068 | 0.223  | 0.428   | 4.41E-27 |
| ALDOA | 0 | -0.551165 | 0.576278 | 1      | 1       | 0 |
| ABTB2 | 4.05E-33 | -0.550986 | 0.576381 | 0.136  | 0.321   | 1.28E-28 |
| PIM1  | 1.23E-22 | -0.550566 | 0.576623 | 0.411  | 0.553   | 3.87E-18 |
| ZNF395 | 9.99E-39 | -0.550424 | 0.576705 | 0.411  | 0.634   | 3.15E-34 |
| MAMLD1 | 1.51E-29 | -0.550405 | 0.576716 | 0.106  | 0.266   | 4.75E-25 |
| RHOB  | 2.91E-51 | -0.550361 | 0.576742 | 0.99   | 0.996   | 9.17E-47 |
| LINC01133 | 3.55E-105 | -0.549725 | 0.577368 | 0.044  | 0.344   | 1.12E-100 |
| DISP2 | 6.94E-53 | -0.549105 | 0.577467 | 0.284  | 0.446   | 2.19E-48 |
| DLX2  | 4.01E-24 | -0.547982 | 0.578116 | 0.125  | 0.266   | 1.26E-19 |
| PDCD4 | 1.14E-49 | -0.54698 | 0.578695 | 0.611  | 0.808   | 3.61E-45 |
| SMURF1 | 3.90E-36 | -0.546957 | 0.578708 | 0.422  | 0.635   | 1.23E-31 |
| MAP3K8 | 1.98E-26 | -0.545806 | 0.579375 | 0.249  | 0.436   | 6.23E-22 |
| TAGLN2 | 1.01E-168 | -0.545485 | 0.579561 | 1      | 1       | 3.18E-164 |
| PPAN  | 2.09E-48 | -0.545329 | 0.579651 | 0.373  | 0.64    | 6.58E-44 |
| ADAMTS12 | 3.25E-27 | -0.544743 | 0.579991 | 0.245  | 0.427   | 1.02E-22 |
| GTF3C4 | 3.38E-50 | -0.544231 | 0.580288 | 0.7    | 0.853   | 1.07E-45 |
| CTSZ  | 9.76E-91 | -0.544188 | 0.580313 | 0.953  | 0.996   | 3.08E-86 |
| SYNDIG1 | 2.75E-81 | -0.544001 | 0.580421 | 0.005  | 0.18    | 8.67E-77 |
| CDK17 | 4.64E-41 | -0.543901 | 0.58048 | 0.505  | 0.712   | 1.46E-36 |
| PKDCC | 1.57E-40 | -0.543533 | 0.580693 | 0.068  | 0.247   | 4.96E-36 |
| BPNT2 | 1.87E-92 | -0.543457 | 0.580737 | 0.982  | 0.998   | 5.90E-88 |
| Gene       | FET Score | Fold Change | Adj P Value | SD | FDR | p Value | FDR | FDR | p Value |
|------------|-----------|-------------|-------------|----|-----|---------|-----|-----|---------|
| KAZALD1    | 7.50E-30  | -0.542542   | 0.581269    | 0.164 | 0.325 | 2.37E-25 |
| WSB1       | 7.13E-68  | -0.542353   | 0.581379    | 0.974 | 0.993 | 2.25E-63 |
| CD276      | 1.05E-77  | -0.542229   | 0.581451    | 0.943 | 0.987 | 3.32E-73 |
| SESTD1     | 2.87E-46  | -0.542053   | 0.581553    | 0.429 | 0.694 | 9.06E-42 |
| PLCXD1     | 4.11E-30  | -0.541736   | 0.581737    | 0.431 | 0.567 | 1.30E-25 |
| AC093512.2 | 0.00      | 0.54173     | 0.581741    | 1    | 1    | 0       |
| CCL26      | 9.83E-30  | -0.540718   | 0.58233     | 0.122 | 0.267 | 3.10E-25 |
| PAX9       | 1.41E-61  | -0.538928   | 0.583374    | 0.007 | 0.152 | 4.45E-57 |
| ARL4D      | 1.13E-22  | -0.538199   | 0.583798    | 0.383 | 0.514 | 3.55E-18 |
| NRXN2      | 2.96E-81  | -0.538069   | 0.583785    | 0.023 | 0.245 | 9.34E-77 |
| RAB11FIP1  | 5.10E-27  | -0.538065   | 0.583877    | 0.289 | 0.453 | 1.61E-22 |
| BYSL       | 3.50E-43  | -0.537065   | 0.584461    | 0.592 | 0.781 | 1.10E-38 |
| STK32B     | 1.03E-53  | -0.537064   | 0.584462    | 0.034 | 0.216 | 3.25E-49 |
| ARSB       | 1.04E-45  | -0.536572   | 0.584749    | 0.549 | 0.752 | 3.29E-41 |
| YRDC       | 1.87E-51  | -0.535598   | 0.585319    | 0.536 | 0.79  | 5.91E-47 |
| FSTL1      | 1.99E-241 | -0.535294   | 0.585497    | 1    | 1    | 6.28E-237 |
| PIGT       | 5.35E-69  | -0.53513    | 0.585593    | 0.935 | 0.977 | 1.69E-64 |
| LMLN       | 2.71E-33  | -0.535041   | 0.585645    | 0.378 | 0.571 | 8.54E-29 |
| PRKAB2     | 3.03E-44  | -0.534781   | 0.585798    | 0.643 | 0.826 | 9.56E-40 |
| CLSTN1     | 1.21E-84  | -0.534389   | 0.586027    | 0.93  | 0.989 | 3.81E-80 |
| C2orf27A   | 1.12E-36  | -0.533486   | 0.586557    | 0.536 | 0.699 | 3.52E-32 |
| PSAP       | 7.90E-138 | -0.533382   | 0.586617    | 1    | 1    | 2.49E-133 |
| MUC1       | 3.23E-40  | -0.532717   | 0.587008    | 0.072 | 0.249 | 1.02E-35 |
| TSPAN18    | 2.52E-40  | -0.532196   | 0.587314    | 0.02  | 0.147 | 7.95E-36 |
| CSRNP1     | 4.69E-30  | -0.532136   | 0.587349    | 0.536 | 0.699 | 1.48E-25 |
| COQ10B     | 6.26E-63  | -0.531707   | 0.587601    | 0.798 | 0.923 | 1.97E-58 |
| STIP1      | 1.83E-96  | -0.531052   | 0.587986    | 0.994 | 0.999 | 5.78E-92 |
| PTBP2      | 7.29E-36  | -0.530503   | 0.588309    | 0.278 | 0.494 | 2.30E-31 |
| ITGA7      | 2.89E-42  | -0.530305   | 0.588425    | 0.026 | 0.163 | 9.12E-38 |
| FHL3       | 7.24E-40  | -0.530296   | 0.588431    | 0.502 | 0.698 | 2.28E-35 |
| SERPINH1   | 1.10E-175 | -0.529883   | 0.588705    | 1    | 1    | 3.47E-171 |
| CDO1       | 6.17E-42  | -0.529699   | 0.588782    | 0.022 | 0.157 | 1.95E-37 |
| ELOA       | 1.23E-61  | -0.528737   | 0.589349    | 0.868 | 0.94  | 3.87E-57 |
| ZNF317     | 7.76E-32  | -0.52867    | 0.589388    | 0.356 | 0.536 | 2.45E-27 |
| CSNK1G3    | 1.09E-52  | -0.527643   | 0.589994    | 0.757 | 0.89  | 3.45E-48 |
| TRABD2B    | 5.32E-90  | -0.527237   | 0.590234    | 0    | 0.163 | 1.68E-85 |
| EXOC8      | 1.30E-28  | -0.527138   | 0.590292    | 0.325 | 0.484 | 4.11E-24 |
| LINC01128  | 2.41E-29  | -0.527136   | 0.590293    | 0.237 | 0.428 | 7.61E-25 |
| TNS1       | 3.32E-59  | -0.527044   | 0.590348    | 0.907 | 0.964 | 1.05E-54 |
| CXCL16     | 1.56E-47  | -0.526689   | 0.590557    | 0.039 | 0.192 | 4.92E-43 |
| Gene  | Fold Change | Log2 Fold Change | p-value   | Log2 p-value | mAP Tau | Log2 mAP Tau | SIRI | Log2 SIRI |
|-------|-------------|-----------------|-----------|-------------|---------|-------------|------|----------|
| GDF5  | 1.30E-26    | -0.52668        | 0.590563  | 0.065       | 0.191   | 4.11E-22    |      |          |
| AL118506.1 | 1.35E-43   | -0.524473       | 0.591867  | 0.105       | 0.311   | 4.24E-39    |      |          |
| ARRDC4 | 3.47E-43    | -0.521777       | 0.593465  | 0.101       | 0.311   | 1.09E-38    |      |          |
| CHD1  | 2.14E-41    | -0.521763       | 0.593474  | 0.722       | 0.869   | 6.77E-37    |      |          |
| LENG8  | 7.29E-48    | -0.521367       | 0.593708  | 0.604       | 0.789   | 2.30E-43    |      |          |
| GBP3  | 1.07E-29    | -0.521289       | 0.593754  | 0.373       | 0.582   | 3.39E-25    |      |          |
| ZNF267 | 2.36E-39    | -0.521118       | 0.593856  | 0.229       | 0.471   | 7.43E-35    |      |          |
| BAALC | 2.48E-75    | -0.520283       | 0.594352  | 0.216       | 0.56    | 7.81E-71    |      |          |
| PPP1R15A | 1.14E-41  | -0.520245       | 0.594375  | 0.722       | 0.753   | 8.86E-26    |      |          |
| ALDH1B1 | 4.35E-42    | -0.519788       | 0.594647  | 0.613       | 0.797   | 1.37E-37    |      |          |
| LENG8  | 7.29E-48    | -0.521367       | 0.593708  | 0.604       | 0.789   | 2.30E-43    |      |          |
| GBP3  | 1.07E-29    | -0.521289       | 0.593754  | 0.373       | 0.582   | 3.39E-25    |      |          |
| ZNF267 | 2.36E-39    | -0.521118       | 0.593856  | 0.229       | 0.471   | 7.43E-35    |      |          |
| BAALC | 2.48E-75    | -0.520283       | 0.594352  | 0.216       | 0.56    | 7.81E-71    |      |          |
| PPP1R15A | 1.14E-41  | -0.520245       | 0.594375  | 0.722       | 0.753   | 8.86E-26    |      |          |
| ALDH1B1 | 4.35E-42    | -0.519788       | 0.594647  | 0.613       | 0.797   | 1.37E-37    |      |          |
| LENG8  | 7.29E-48    | -0.521367       | 0.593708  | 0.604       | 0.789   | 2.30E-43    |      |          |
| GBP3  | 1.07E-29    | -0.521289       | 0.593754  | 0.373       | 0.582   | 3.39E-25    |      |          |
| ZNF267 | 2.36E-39    | -0.521118       | 0.593856  | 0.229       | 0.471   | 7.43E-35    |      |          |
| BAALC | 2.48E-75    | -0.520283       | 0.594352  | 0.216       | 0.56    | 7.81E-71    |      |          |
| PPP1R15A | 1.14E-41  | -0.520245       | 0.594375  | 0.722       | 0.753   | 8.86E-26    |      |          |
| ALDH1B1 | 4.35E-42    | -0.519788       | 0.594647  | 0.613       | 0.797   | 1.37E-37    |      |          |
| Gene   | Fold Change | Log2 Fold Change | p-value | q-value | Adj. Fold Change | Log2 Adj. Fold Change |
|--------|-------------|-----------------|---------|---------|------------------|----------------------|
| EREG   | 1.20E-22    | -0.507959       | 0.601723 | 0.08    | 0.151            | 3.78E-18             |
| THY1   | 1.39E-130   | -0.507158       | 0.602204 | 0.713   | 0.986            | 4.39E-126            |
| EIF3B  | 9.75E-88    | -0.506375       | 0.602676 | 0.988   | 0.999            | 3.07E-83             |
| CTDPI  | 2.40E-34    | -0.506104       | 0.60284  | 0.376   | 0.585            | 7.58E-30             |
| RUNDC1 | 4.95E-32    | -0.505397       | 0.603266 | 0.516   | 0.651            | 1.56E-27             |
| SPRY4  | 3.26E-37    | -0.505273       | 0.603341 | 0.526   | 0.739            | 1.03E-32             |
| ETF1   | 7.95E-111   | -0.505215       | 0.603376 | 0.997   | 1                | 2.51E-106            |
| AC112220.2 | 9.46E-28    | -0.504645       | 0.60372  | 0.267   | 0.451            | 2.98E-23             |
| BMPR2  | 2.64E-63    | -0.504465       | 0.603828 | 0.983   | 0.998            | 8.32E-59             |
| ENDOD1 | 5.70E-36    | -0.50413        | 0.60413  | 0.62    | 0.802            | 1.80E-31             |
| RELB   | 3.08E-31    | -0.503787       | 0.604238 | 0.174   | 0.337            | 9.72E-27             |
| CNN1   | 2.60E-23    | -0.503246       | 0.604565 | 0.702   | 0.701            | 8.20E-19             |
| KIAA0895 | 4.76E-64    | -0.503012       | 0.604707 | 0.017   | 0.193            | 1.50E-59             |
| FAM20C | 2.75E-37    | -0.502968       | 0.604733 | 0.69    | 0.86             | 8.67E-33             |
| GOLGB1 | 2.42E-65    | -0.502643       | 0.60493  | 0.917   | 0.983            | 7.64E-61             |
| DPH2   | 7.47E-49    | -0.502066       | 0.604956 | 0.321   | 0.514            | 2.36E-24             |
| TOM1   | 5.21E-43    | -0.502539       | 0.604993 | 0.174   | 0.337            | 9.72E-27             |
| LRRF1P1| 2.70E-68    | -0.502508       | 0.605012 | 1       | 0.999            | 8.50E-64             |
| RDH8   | 1.88E-63    | -0.501367       | 0.605702 | 0.006   | 0.149            | 5.92E-59             |
| PTK2B  | 1.86E-35    | -0.501195       | 0.605806 | 0.075   | 0.222            | 5.86E-31             |
| C15orf39 | 2.02E-27    | -0.50108        | 0.605876 | 0.329   | 0.522            | 6.37E-23             |
| UBE2O  | 1.07E-31    | -0.500991       | 0.60593  | 0.45    | 0.6              | 3.37E-27             |
| PFKL   | 1.31E-55    | -0.500099       | 0.606471 | 0.843   | 0.944            | 4.12E-51             |
| LTBP3  | 2.36E-56    | -0.50007        | 0.606488 | 0.741   | 0.904            | 7.46E-52             |
| PGAM1  | 1.48E-210   | -0.500038       | 0.606507 | 1       | 1                | 4.67E-206            |
| PTPN3  | 8.24E-47    | -0.500006       | 0.606527 | 0.085   | 0.237            | 2.60E-42             |
| EMP2   | 6.49E-46    | -0.499945       | 0.606564 | 0.77    | 0.923            | 2.05E-41             |
| ARHGAP31| 2.48E-31    | -0.499403       | 0.606893 | 0.55    | 0.694            | 7.83E-27             |
| GAREM1 | 3.61E-41    | -0.499314       | 0.606947 | 0.029   | 0.174            | 1.14E-36             |
| SEPTIN6| 6.21E-35    | -0.49858        | 0.607393 | 0.278   | 0.512            | 1.96E-30             |
| MBNL2  | 7.17E-55    | -0.497415       | 0.6081   | 0.951   | 0.984            | 2.26E-50             |
| NGEF   | 3.24E-45    | -0.497384       | 0.60812  | 0.048   | 0.224            | 1.02E-40             |
| IMJDE1C| 1.60E-21    | -0.49725        | 0.608201 | 0.773   | 0.86             | 5.06E-17             |
| FAM126A| 8.75E-64    | -0.497093       | 0.608296 | 0.934   | 0.988            | 2.76E-59             |
| SYNJ2  | 4.92E-60    | -0.495277       | 0.609402 | 0.858   | 0.965            | 1.55E-55             |
| NDN    | 3.73E-46    | -0.494725       | 0.609738 | 0.387   | 0.67             | 1.18E-41             |
| FADS3  | 8.68E-46    | -0.494472       | 0.609893 | 0.778   | 0.899            | 2.74E-41             |
| NOCT   | 4.49E-34    | -0.493841       | 0.610278 | 0.2     | 0.365            | 1.42E-29             |
| FGFR2  | 7.11E-42    | -0.49327        | 0.610626 | 0.165   | 0.324            | 2.24E-37             |
| MBOAT2 | 5.11E-47    | -0.492821       | 0.610901 | 0.9     | 0.963            | 1.61E-42             |
| Gene     | Score    | Tm     | Me   | Mv   | Pm    | Score2 |
|----------|----------|--------|------|------|-------|--------|
| PROCR    | 9.32E-31 | -0.492379 | 0.61117 | 0.543 | 0.718 | 2.94E-26 |
| IKZF5    | 9.56E-28 | -0.492196 | 0.611283 | 0.344 | 0.544 | 3.01E-23 |
| SEMA3C   | 4.84E-38 | -0.491884 | 0.611474 | 0.889 | 0.956 | 1.53E-33 |
| MORC4    | 1.05E-33 | -0.491734 | 0.611565 | 0.678 | 0.773 | 3.31E-29 |
| JUND     | 5.55E-49 | -0.491284 | 0.61184 | 0.96 | 0.966 | 1.75E-44 |
| PER2     | 7.64E-26 | -0.491213 | 0.611884 | 0.284 | 0.464 | 2.41E-21 |
| ZNF587B  | 1.01E-34 | -0.490926 | 0.612059 | 0.123 | 0.303 | 3.18E-30 |
| SLC35E1  | 1.96E-50 | -0.490815 | 0.612066 | 0.872 | 0.959 | 6.19E-46 |
| PDZD8    | 9.65E-52 | -0.490772 | 0.612154 | 0.847 | 0.936 | 3.04E-47 |
| TNK2     | 6.85E-35 | -0.490721 | 0.612185 | 0.287 | 0.434 | 2.16E-30 |
| MYO10    | 6.13E-45 | -0.490734 | 0.612185 | 0.987 | 0.994 | 1.93E-40 |
| NOP53    | 1.98E-74 | -0.489638 | 0.612848 | 0.943 | 0.987 | 6.23E-70 |
| UGCG     | 6.46E-57 | -0.48959 | 0.612878 | 0.943 | 0.99 | 2.04E-52 |
| ZEB2     | 8.57E-38 | -0.48943 | 0.612976 | 0.742 | 0.865 | 2.70E-32 |
| RTL6     | 5.08E-29 | -0.489332 | 0.613036 | 0.464 | 0.659 | 1.60E-24 |
| NRP2     | 1.07E-48 | -0.489391 | 0.613282 | 0.884 | 0.962 | 3.37E-44 |
| FLRT3    | 3.35E-40 | -0.488915 | 0.613292 | 0.023 | 0.155 | 1.06E-35 |
| MN1      | 8.53E-50 | -0.488794 | 0.613366 | 0.033 | 0.201 | 2.69E-45 |
| LMO4     | 8.52E-38 | -0.488746 | 0.613395 | 0.922 | 0.974 | 2.69E-33 |
| AC099066.2 | 2.63E-57 | -0.488577 | 0.613499 | 0.035 | 0.227 | 8.30E-53 |
| BIN3     | 5.99E-28 | -0.488322 | 0.613655 | 0.583 | 0.687 | 1.89E-23 |
| SLC25A4  | 1.06E-30 | -0.488289 | 0.613675 | 0.535 | 0.698 | 3.33E-26 |
| COBLL1   | 5.06E-26 | -0.488216 | 0.61372 | 0.217 | 0.391 | 1.60E-21 |
| DGKI     | 1.30E-43 | -0.487629 | 0.614081 | 0.353 | 0.625 | 4.09E-39 |
| AP000944.5 | 1.46E-33 | -0.487516 | 0.61415 | 0.449 | 0.622 | 4.60E-29 |
| CDK6     | 7.83E-47 | -0.487463 | 0.614182 | 0.943 | 0.982 | 2.47E-42 |
| ZNF668   | 1.24E-30 | -0.487338 | 0.61426 | 0.346 | 0.537 | 3.90E-26 |
| PLBD2    | 5.73E-38 | -0.487166 | 0.614365 | 0.619 | 0.777 | 1.81E-33 |
| ESYT2    | 2.13E-58 | -0.486941 | 0.614503 | 0.889 | 0.958 | 6.73E-54 |
| EXT2     | 5.72E-70 | -0.486878 | 0.614542 | 0.968 | 0.996 | 1.81E-65 |
| TXNL4B   | 1.34E-29 | -0.486758 | 0.614616 | 0.369 | 0.556 | 4.23E-25 |
| SIRPA    | 2.02E-37 | -0.486638 | 0.614689 | 0.484 | 0.697 | 6.36E-33 |
| BEND5    | 1.26E-81 | -0.486025 | 0.615066 | 0.001 | 0.159 | 3.98E-77 |
| ECH1     | 1.16E-42 | -0.485856 | 0.61517 | 0.624 | 0.831 | 3.66E-38 |
| ULK4     | 3.63E-32 | -0.485379 | 0.615464 | 0.091 | 0.258 | 1.14E-27 |
| TRO      | 1.20E-27 | -0.484914 | 0.61575 | 0.073 | 0.216 | 3.79E-23 |
| ASAP2    | 2.96E-39 | -0.484726 | 0.615866 | 0.764 | 0.833 | 9.35E-35 |
| UBE2H    | 8.59E-64 | -0.484542 | 0.615979 | 0.954 | 0.993 | 2.71E-59 |
| POFUT2   | 5.55E-44 | -0.484152 | 0.616219 | 0.686 | 0.85 | 1.75E-39 |
| PLAC9    | 1.26E-84 | -0.483794 | 0.61644 | 0.096 | 0.41 | 3.96E-80 |
| Gene    | P-value  | LogFC  | Fold Change | FDR   | q-value | z-score |
|---------|----------|--------|-------------|-------|---------|---------|
| SLC30A7 | 5.38E-57 | -0.483697 | 0.6165 | 0.895 | 0.974  | 1.70E-52 |
| KDM2A   | 4.84E-46 | -0.483449 | 0.616653 | 0.872 | 0.944  | 1.53E-41 |
| RBM27   | 1.23E-43 | -0.482461 | 0.617263 | 0.809 | 0.918  | 3.89E-39 |
| SCAND2P | 1.89E-27 | -0.482041 | 0.617522 | 0.222 | 0.379  | 5.95E-23 |
| MAK16   | 1.89E-32 | -0.481545 | 0.617828 | 0.635 | 0.788  | 5.95E-28 |
| PPP2CB  | 1.26E-83 | -0.481144 | 0.618076 | 0.996 | 1      | 3.97E-79 |
| AC015922.3 | 3.11E-36 | -0.481046 | 0.618137 | 0.121 | 0.317  | 9.80E-32 |
| 3.65E-98 | 0.618244 | 1 | 1 | 1.15E-93 |
| DUSP4   | 3.22E-22 | -0.480733 | 0.61833 | 0.067 | 0.183  | 1.02E-17 |
| RBM12   | 3.69E-48 | -0.480263 | 0.618621 | 0.839 | 0.927  | 1.16E-43 |
| GALNT10 | 3.63E-60 | -0.479749 | 0.618939 | 0.958 | 0.995  | 1.14E-55 |
| RLIM    | 4.00E-42 | -0.479143 | 0.619314 | 0.745 | 0.875  | 1.26E-37 |
| B4GALT5 | 2.05E-38 | -0.47803 | 0.620003 | 0.6 | 0.783  | 6.46E-34 |
| ALCY    | 3.93E-95 | -0.477522 | 0.620319 | 0.999 | 0.999  | 1.24E-90 |
| ABHD17B | 1.81E-23 | -0.47703 | 0.620624 | 0.364 | 0.528  | 5.71E-19 |
| PDE4DIP | 3.49E-54 | -0.476853 | 0.620734 | 0.861 | 0.959  | 1.10E-49 |
| FKB10   | 3.44E-89 | -0.476348 | 0.621047 | 0.998 | 1      | 1.09E-84 |
| ERO1A   | 3.70E-51 | -0.475883 | 0.621336 | 0.913 | 0.97   | 1.17E-46 |
| C2orf88 | 2.13E-36 | -0.475624 | 0.621497 | 0.029 | 0.156  | 6.73E-32 |
| NCF2    | 1.49E-50 | -0.475037 | 0.621862 | 0.011 | 0.147  | 4.69E-46 |
| BRPF1   | 4.28E-26 | -0.474331 | 0.622301 | 0.319 | 0.502  | 1.35E-21 |
| IVNS1ABP | 3.78E-33 | -0.473016 | 0.623126 | 0.607 | 0.783  | 1.19E-28 |
| TESK1   | 1.40E-28 | -0.473007 | 0.623126 | 0.449 | 0.6    | 4.42E-24 |
| MFHAS1  | 2.53E-24 | -0.472848 | 0.623225 | 0.33  | 0.511  | 7.98E-20 |
| HLA-L   | 1.62E-48 | -0.472844 | 0.623227 | 0.039 | 0.205  | 5.12E-44 |
| HOXC10  | 8.11E-82 | -0.472367 | 0.623525 | 0.172 | 0.507  | 2.56E-77 |
| GLIPR1  | 9.02E-82 | -0.471404 | 0.624126 | 0.999 | 1      | 2.85E-77 |
| TMEM185B | 1.60E-33 | -0.470487 | 0.624698 | 0.626 | 0.8    | 5.04E-29 |
| EPHA3   | 1.53E-32 | -0.4704  | 0.624752 | 0.022 | 0.134  | 4.81E-28 |
| KLHL28  | 1.88E-23 | -0.469757 | 0.625154 | 0.393 | 0.558  | 5.92E-19 |
| KHDC4   | 1.31E-26 | -0.469368 | 0.625397 | 0.484 | 0.635  | 4.12E-22 |
| MTCO1P12 | 0       | -0.469113 | 0.625557 | 1     | 1      | 0       |
| CTSA    | 3.13E-71 | -0.469057 | 0.625592 | 0.972 | 0.998  | 9.87E-67 |
| LINC01018 | 2.92E-51 | -0.467971 | 0.626272 | 0.025 | 0.169  | 9.21E-47 |
| P4HA1   | 2.82E-66 | -0.467242 | 0.626728 | 0.985 | 0.996  | 8.90E-62 |
| FBXW7   | 1.10E-32 | -0.466851 | 0.626974 | 0.522 | 0.722  | 3.46E-28 |
| DNMBP   | 6.59E-27 | -0.46645  | 0.627225 | 0.618 | 0.739  | 2.08E-22 |
| ZPR1    | 2.02E-48 | -0.465323 | 0.627932 | 0.788 | 0.914  | 6.39E-44 |
| ZNF597  | 1.13E-27 | -0.463648 | 0.628985 | 0.11  | 0.271  | 3.56E-23 |
| DSG2    | 5.74E-31 | -0.463219 | 0.629255 | 0.05  | 0.173  | 1.81E-26 |
| Gene    | Value 1 | Value 2  | Value 3   | Value 4 | Value 5 | Value 6   | Level 7  |
|---------|---------|----------|-----------|---------|---------|-----------|----------|
| HSPD1P1 | 2.25E-88 | -0.462603 | 0.629643 | 0.291   | 0.608   | 7.11E-84  |
| MFAP3L  | 6.70E-34 | -0.462126 | 0.629943 | 0.052   | 0.197   | 2.11E-29  |
| PABPC1  | 6.08E-259| -0.461258 | 0.63049  | 1       | 1       | 1.92E-254 |
| RAP2A   | 2.51E-38 | -0.461181 | 0.630538 | 0.723   | 0.861   | 7.91E-34  |
| NOP58   | 1.96E-54 | -0.460938 | 0.630691 | 1       | 1       | 6.18E-50  |
| GPR161  | 3.03E-23 | -0.460837 | 0.630755 | 0.534   | 0.675   | 9.56E-19  |
| MFAP3L  | 6.70E-34 | -0.462126 | 0.629943 | 0.052   | 0.197   | 2.11E-29  |
| PABPC1  | 6.08E-259| -0.461258 | 0.63049  | 1       | 1       | 1.92E-254 |
| RAP2A   | 2.51E-38 | -0.461181 | 0.630538 | 0.723   | 0.861   | 7.91E-34  |
| NOP58   | 1.96E-54 | -0.460938 | 0.630691 | 1       | 1       | 6.18E-50  |
| GPR161  | 3.03E-23 | -0.460837 | 0.630755 | 0.534   | 0.675   | 9.56E-19  |
| Gene      | p-value  | log2FoldChange | meanLog2FoldChange | adj.P-value | FoldChange |
|-----------|----------|----------------|--------------------|------------|------------|
| ABCA8     | 1.13E-35 | -0.447525      | 0.639208           | 0.059      | 0.21       |
| TUB       | 4.04E-23 | -0.446947      | 0.639578           | 0.012      | 0.242      |
| SLC22A23  | 4.65E-33 | -0.446146      | 0.64009            | 0.05       | 0.192      |
| PDXDC1    | 3.06E-39 | -0.446046      | 0.640155           | 0.081      | 0.898      |
| C1orf52   | 1.15E-40 | -0.445865      | 0.64027            | 0.076      | 0.893      |
| PPP1R10   | 4.60E-20 | -0.445644      | 0.640412           | 0.067      | 0.73       |
| TMEM189   | 9.17E-36 | -0.445474      | 0.640521           | 0.078      | 0.884      |
| LINC02693 | 5.31E-24 | -0.445146      | 0.640094           | 0.039      | 0.566      |
| PPAT      | 4.11E-23 | -0.444809      | 0.640947           | 0.053      | 0.752      |
| MOC51     | 5.17E-22 | -0.444119      | 0.641389           | 0.014      | 0.297      |
| CALB2     | 3.06E-33 | -0.443923      | 0.641515           | 0.044      | 0.186      |
| SVEP1     | 1.39E-21 | -0.443871      | 0.641548           | 0.013      | 0.278      |
| MMP24OS   | 6.66E-59 | -0.443825      | 0.641578           | 0.099      | 0.972      |
| MACROH2A2 | 1.04E-40 | -0.443598      | 0.641723           | 0.148      | 0.375      |
| FRS2      | 3.52E-30 | -0.442819      | 0.642223           | 0.063      | 0.769      |
| KPNA4     | 4.38E-65 | -0.442209      | 0.642615           | 0.096      | 1.38E-60   |
| SERTAD1   | 4.70E-22 | -0.440696      | 0.643592           | 0.078      | 0.835      |
| DSE       | 1.17E-62 | -0.439726      | 0.644213           | 0.095      | 0.992      |
| COL1A1    | 8.83E-10 | -0.439256      | 0.644516           | 0.075      | 0.151      |
| PITPNB    | 4.64E-52 | -0.438964      | 0.644704           | 0.061      | 0.989      |
| FAM102A   | 1.71E-21 | -0.438475      | 0.645019           | 0.046      | 0.619      |
| ZNF791    | 6.74E-31 | -0.437238      | 0.645817           | 0.063      | 0.755      |
| MSX2      | 1.45E-72 | -0.437128      | 0.645889           | 0.0001     | 0.144      |
| C51A1     | 4.31E-114 | -0.437071 | 0.645925           | 0.003      | 0.228      |
| POM2      | 1.65E-43 | -0.430701      | 0.645926           | 0.080      | 0.909      |
| PCSK5     | 2.39E-30 | -0.436643      | 0.646202           | 0.079      | 0.225      |
| IFNGR1    | 6.06E-31 | -0.436562      | 0.646254           | 0.062      | 0.781      |
| BZW2      | 1.75E-52 | -0.436496      | 0.646301           | 0.093      | 0.987      |
| GRWD1     | 2.31E-25 | -0.436446      | 0.646329           | 0.061      | 0.717      |
| CERT1     | 5.46E-29 | -0.436085      | 0.646563           | 0.072      | 0.842      |
| AC022167.2| 2.00E-44 | -0.435976      | 0.646633           | 0.064      | 0.733      |
| FAM168B   | 1.34E-42 | -0.435589      | 0.646889           | 0.082      | 0.917      |
| KALRN     | 1.11E-25 | -0.435339      | 0.647045           | 0.113      | 0.263      |
| MEX3C     | 4.53E-33 | -0.435297      | 0.647072           | 0.069      | 0.829      |
| ANKRD29   | 2.04E-34 | -0.435222      | 0.647121           | 0.052      | 0.2       |
| KCNQ5     | 6.92E-63 | -0.435052      | 0.647252           | 0.108      | 0.376      |
| COL3A1    | 2.32E-42 | -0.434201      | 0.647782           | 1          | 1          |
| MARCHF3   | 1.56E-20 | -0.434029      | 0.647893           | 0.256      | 0.417      |
| ZDHHC9    | 5.62E-24 | -0.432683      | 0.648766           | 0.556      | 0.716      |
| AC004980.5| 1.48E-62 | -0.432188      | 0.649092           | 0.048      | 0.258      |
| Gene       | Log2FoldChange | Adj.P-Value | Log2Expr | Log2Expr | p-Value | Log10FC |
|------------|----------------|-------------|----------|----------|---------|---------|
| SRPX       | 1.34E-27       | -0.432171   | 0.649098 | 0.598    | 0.769   | 4.23E-23|
| AMMECR1    | 7.30E-28       | -0.431913   | 0.649266 | 0.713    | 0.824   | 2.30E-23|
| AC004980.1 | 1.14E-71       | -0.43155    | 0.649502 | 0.04     | 0.27    | 3.60E-67|
| DIP2B      | 3.46E-21       | -0.431106   | 0.64979  | 0.437    | 0.576   | 1.09E-16|
| PPIC       | 3.51E-55       | -0.430314   | 0.650305 | 0.924    | 0.982   | 1.11E-50|
| AMMECR1    | 7.30E-28       | -0.431913   | 0.649266 | 0.713    | 0.824   | 2.30E-23|
| FO681492.1 | 1.32E-30       | -0.427813   | 0.651933 | 0.168    | 0.325   | 4.16E-26|
| UBE2E2     | 2.01E-25       | -0.427548   | 0.652106 | 0.407    | 0.596   | 6.34E-21|
| AC005261.1 | 2.72E-105      | -0.426806   | 0.65259  | 1        | 1       | 8.58E-101|
| T1NAP8     | 2.91E-20       | -0.426046   | 0.653086 | 0.305    | 0.466   | 9.19E-16|
| FAT1       | 4.76E-22       | -0.425298   | 0.653575 | 0.889    | 0.924   | 1.50E-17|
| SYT15      | 7.78E-26       | -0.425053   | 0.653735 | 0.237    | 0.387   | 2.45E-21|
| MOCS3      | 6.62E-22       | -0.42453    | 0.654077 | 0.354    | 0.514   | 2.09E-17|
| AC012213.5 | 1.24E-32       | -0.424258   | 0.654255 | 0.615    | 0.794   | 3.90E-48|
| EIF2AK3    | 4.27E-22       | -0.424148   | 0.654327 | 0.221    | 0.393   | 1.35E-17|
| MED27      | 5.92E-28       | -0.424119   | 0.654346 | 0.705    | 0.806   | 1.87E-23|
| TMEM165    | 7.65E-63       | -0.424013   | 0.654415 | 0.99     | 0.996   | 2.41E-58|
| TRIM39     | 2.56E-23       | -0.423638   | 0.654661 | 0.194    | 0.357   | 8.06E-19|
| HK1        | 1.80E-45       | -0.423277   | 0.654897 | 0.945    | 0.978   | 5.69E-41|
| KDM6A      | 5.25E-22       | -0.423274   | 0.654899 | 0.488    | 0.64    | 1.66E-17|
| LRRRC8B    | 1.93E-27       | -0.423261   | 0.654908 | 0.081    | 0.206   | 6.10E-23|
| NUTM2B-AS  | 3.48E-37       | -0.423215   | 0.654938 | 0.629    | 0.805   | 1.10E-32|
| SMG1       | 1.10E-40       | -0.422345   | 0.655508 | 0.918    | 0.951   | 3.18E-36|
| SLCO3A1    | 3.61E-27       | -0.422332   | 0.655516 | 0.229    | 0.428   | 1.14E-22|
| PALM       | 7.90E-51       | -0.421682   | 0.655943 | 0.056    | 0.222   | 2.49E-46|
| ICE1       | 2.76E-26       | -0.421365   | 0.656151 | 0.612    | 0.755   | 8.71E-22|
| SNIP1      | 1.01E-30       | -0.42098    | 0.656403 | 0.536    | 0.725   | 3.18E-26|
| ANKRD42    | 9.96E-21       | -0.420613   | 0.656644 | 0.329    | 0.496   | 3.14E-16|
| VGLL3      | 4.16E-29       | -0.420531   | 0.656698 | 0.979    | 0.984   | 1.31E-24|
| ISG20L2    | 1.64E-30       | -0.42045    | 0.656751 | 0.66     | 0.761   | 5.16E-26|
| RAB7B      | 3.99E-21       | -0.420399   | 0.656785 | 0.172    | 0.333   | 1.26E-16|
| LARP4      | 9.90E-41       | -0.42013    | 0.656962 | 0.839    | 0.929   | 3.12E-36|
| SNTA1      | 2.42E+19       | -0.419755   | 0.657208 | 0.248    | 0.387   | 7.64E-15|
| LIMA1      | 1.62E+76       | -0.419668   | 0.657265 | 0.998    | 1       | 5.10E-72|
| RRBP1      | 2.56E-78       | -0.418888   | 0.657779 | 1        | 1       | 8.07E-74|
| NMD3       | 9.32E-44       | -0.418804   | 0.657833 | 0.912    | 0.96    | 2.94E-39|
| APCDD1L    | 1.97E-21       | -0.41768    | 0.658573 | 0.82     | 0.789   | 6.21E-17|
| THBS3      | 9.31E-20       | -0.417561   | 0.658651 | 0.368    | 0.512   | 2.94E-15|
| IDS        | 9.10E-49       | -0.416705   | 0.659215 | 0.927    | 0.971   | 2.87E-44|
| Gene   | Fold Change | Log2 Fold Change | P-value 1 | P-value 2 | P-value 3 |
|--------|-------------|-----------------|-----------|-----------|-----------|
| PYCR1  | 8.72E-53    | -0.416613       | 0.659276  | 0.947     | 0.989     | 2.75E-48 |
| PLD3   | 1.54E-37    | -0.416288       | 0.65949   | 0.906     | 0.956     | 4.86E-33 |
| TRIM16 | 8.32E-19    | -0.415639       | 0.659919  | 0.496     | 0.615     | 2.63E-14 |
| MED26  | 4.75E-23    | -0.415396       | 0.660079  | 0.198     | 0.369     | 1.50E-18 |
| SAR1A  | 5.96E-75    | -0.415142       | 0.660246  | 0.997     | 1         | 1.88E-70 |
| FLCR1  | 4.85E-22    | -0.415108       | 0.660269  | 0.291     | 0.458     | 1.53E-17 |
| FARP2  | 1.82E-21    | -0.414987       | 0.660349  | 0.562     | 0.7       | 5.74E-17 |
| GSS2   | 7.64E-37    | -0.414954       | 0.660371  | 0.211     | 0.44      | 2.41E-32 |
| SCL7A6 | 2.72E-26    | -0.414806       | 0.660468  | 0.527     | 0.689     | 8.57E-22 |
| INSR   | 1.01E-23    | -0.414737       | 0.660514  | 0.205     | 0.384     | 3.17E-19 |
| PNPLA2 | 1.78E-35    | -0.414152       | 0.6609    | 0.841     | 0.905     | 5.61E-31 |
| TSPYL5 | 5.85E-19    | -0.413538       | 0.661307  | 0.406     | 0.548     | 1.84E-14 |
| ACVR1  | 2.45E-25    | -0.41331        | 0.661457  | 0.73      | 0.832     | 7.72E-21 |
| ASPHD1 | 1.50E-37    | -0.413161       | 0.661556  | 0.103     | 0.294     | 4.74E-33 |
| GNL3   | 1.07E-48    | -0.412853       | 0.66176   | 0.973     | 0.995     | 3.36E-44 |
| ZNF644 | 1.32E-34    | -0.412744       | 0.661832  | 0.828     | 0.909     | 4.16E-30 |
| WDR36  | 7.49E-26    | -0.412595       | 0.66193   | 0.696     | 0.813     | 2.36E-21 |
| TIMP1  | 3.65E-58    | -0.412594       | 0.661931  | 1         | 1         | 1.15E-53 |
| MAPKAPK3| 6.08E-24    | -0.4119         | 0.662391  | 0.447     | 0.627     | 1.92E-19 |
| ANXA8L1| 3.91E-50    | -0.411602       | 0.662588  | 0.054     | 0.248     | 1.23E-45 |
| ERN1   | 4.82E-21    | -0.410852       | 0.663085  | 0.203     | 0.354     | 1.52E-16 |
| AC244197.3| 2.04E-47 | -0.410635       | 0.663229  | 0.917     | 0.96      | 6.42E-43 |
| ATP6V0D1| 7.32E-33    | -0.410571       | 0.663271  | 0.802     | 0.872     | 2.31E-28 |
| LINC00632| 8.59E-28   | -0.410248       | 0.663486  | 0.663     | 0.794     | 2.71E-23 |
| PLAA   | 1.18E-28    | -0.409827       | 0.663765  | 0.812     | 0.868     | 3.71E-24 |
| OLML1  | 4.39E-28    | -0.40935        | 0.664082  | 0.032     | 0.144     | 1.38E-23 |
| ZNF385A| 9.47E-34    | -0.409113       | 0.664239  | 0.15      | 0.341     | 2.99E-29 |
| TMEM64 | 8.38E-23    | -0.407835       | 0.665089  | 0.391     | 0.573     | 2.64E-18 |
| SLC1A1 | 8.13E-28    | -0.407694       | 0.665182  | 0.361     | 0.574     | 2.57E-23 |
| CPEB2  | 2.49E-19    | -0.407629       | 0.665226  | 0.51      | 0.649     | 7.86E-15 |
| RABGAP1L| 7.68E-16    | -0.407563       | 0.665269  | 0.447     | 0.506     | 2.42E-11 |
| AC099552.5| 9.30E-35   | -0.407278       | 0.665459  | 0.026     | 0.152     | 2.93E-30 |
| RC3H1  | 3.25E-23    | -0.406708       | 0.665838  | 0.592     | 0.724     | 1.03E-18 |
| ODAPH  | 1.62E-20    | -0.406303       | 0.666108  | 0.039     | 0.107     | 5.10E-16 |
| AC099548.2| 1.49E-56   | -0.406069       | 0.666264  | 0.027     | 0.203     | 4.70E-52 |
| AC068580.4| 3.45E-52   | -0.40606        | 0.66627   | 0.154     | 0.398     | 1.09E-47 |
| TIAM2  | 1.00E-15    | -0.405968       | 0.666332  | 0.322     | 0.447     | 3.16E-11 |
| SIX4   | 8.40E-17    | -0.405909       | 0.666371  | 0.21      | 0.344     | 2.65E-12 |
| PDE1A  | 5.76E-19    | -0.405836       | 0.66642   | 0.122     | 0.257     | 1.82E-14 |
| SCAMP5 | 5.44E-55    | -0.405643       | 0.666548  | 0.013     | 0.163     | 1.71E-50 |
| TCTA     | 1.79E-32 | -0.405615 | 0.666567 | 0.724 | 0.867 | 5.65E-28 |
|----------|----------|-----------|----------|-------|-------|----------|
| pct.1    |          |           |          |       |       |          |
| pct.2    |          |           |          |       |       |          |

pct.1  Percent of cells expressing in hAM-Muse cells
pct.2  Percent of cells expressing in hBM-Muse cells
### Supplementary Table. 2

Upregulated in the large subpopulation than in the small subpopulation

| GeneSymbol | p-value | avg_logFC | FC   | pct.1 | pct.2 | p_val_adj |
|------------|---------|-----------|------|-------|-------|-----------|
| KRT18      | 0       | 3.0779793 | 21.71448 | 0.995 | 0.622 | 0         |
| IGF2       | 0       | 2.9256935 | 18.64715 | 0.986 | 0.327 | 0         |
| RARRES2    | 1E-296  | 2.8296411 | 16.93938 | 0.955 | 0.316 | 3.29E-292 |
| ALDH1A1    | 1.9E-161| 2.7369317 | 15.43954 | 0.845 | 0.283 | 6.32E-157 |
| HTR2B      | 9.7E-264| 2.7064242 | 14.97563 | 0.928 | 0.241 | 3.2E-259  |
| CHRM2      | 9.5E-293| 2.6863678 | 14.67826 | 0.953 | 0.265 | 3.13E-288 |
| SRGN       | 0       | 2.6279734 | 13.84568 | 0.989 | 0.645 | 0         |
| GULP1      | 0       | 2.6057482 | 13.54135 | 0.986 | 0.336 | 0         |
| XIST       | 4.6E-301| 2.5620692 | 12.96261 | 0.954 | 0.258 | 1.5E-296  |
| TGM2       | 0       | 2.534813  | 12.61407 | 1     | 0.782 | 0         |
| NR2F2      | 0       | 2.5174796 | 12.39731 | 1     | 0.852 | 0         |
| FOS        | 1.2298776 | 2.4279003 | 11.33506 | 0.984 | 0.701 | 4.04642033187492e-3 |
| NR2F1      | 1E-225  | 2.3900868 | 10.91444 | 0.935 | 0.355 | 3.37E-221 |
| GLRX       | 0       | 2.3667574 | 10.66276 | 1     | 0.852 | 0         |
| IRAG1      | 7.5E-204| 2.2935616 | 9.910171 | 0.948 | 0.193 | 2.48E-199 |
| ADAMTS5    | 5.2E-136| 2.293552  | 9.910076 | 0.908 | 0.538 | 1.72E-131 |
| PCDH10     | 4.9E-127| 2.293508  | 9.90964  | 0.953 | 0.265 | 3.13E-288 |
| EDIL3      | 1E-162  | 2.2378317 | 9.372986 | 0.828 | 0.267 | 3.43E-158 |
| AC132217.2 | 4.5E-301| 2.2211834 | 9.218233 | 0.943 | 0.2   | 1.49E-296 |
| ACTA2      | 1.9E-234| 2.176089  | 8.811776 | 1     | 0.981 | 6.24E-230 |
| COL4A1     | 0       | 2.1493644 | 8.579403 | 1     | 0.926 | 0         |
| RHOBTB3    | 0       | 2.1156949 | 8.295348 | 1     | 0.923 | 0         |
| SCN9A      | 1.5E-190| 2.0972283 | 8.143567 | 0.857 | 0.202 | 4.85E-186 |
| LRRC17     | 3.3E-134| 2.0910081 | 8.093069 | 0.769 | 0.22  | 1.07E-129 |
| PDE5A      | 4.8E-215| 2.0877355 | 8.066627 | 0.892 | 0.232 | 1.56E-210 |
| OLR1       | 7.4E-150| 2.0590952 | 7.838874 | 0.774 | 0.172 | 2.42E-145 |
| RGCC       | 9.69E-76| 2.0523513 | 7.786187 | 0.569 | 0.162 | 3.188E-71 |
| GABARAPL1  | 3.2E-221| 2.0506944 | 7.773297 | 0.967 | 0.508 | 1.04E-216 |
| MMP11      | 3E-37   | 2.0481765 | 7.753749 | 0.392 | 0.137 | 9.882E-33 |
| GPRC5A     | 1.1E-208| 2.0269766 | 7.591101 | 0.958 | 0.499 | 3.51E-204 |
| HOXD11     | 1.6E-231| 2.025756  | 7.58184  | 0.854 | 0.09  | 5.24E-227 |
| SYTL5      | 1.1E-117| 2.0187535 | 7.528934 | 0.635 | 0.1   | 3.58E-113 |
| TRHDE      | 4.6E-259| 1.9940501 | 7.345223 | 0.961 | 0.362 | 1.53E-254 |
| ACTG2      | 3.05E-28| 1.9898156 | 7.314185 | 0.316 | 0.128 | 1.003E-23 |
| MITF       | 1.1E-171| 1.944524  | 6.990304 | 0.847 | 0.232 | 3.63E-167 |
| SYNPO2     | 1.4E-149| 1.9035158 | 6.709442 | 0.925 | 0.494 | 4.45E-145 |
| NUAK1      | 5.2E-209| 1.8983999 | 6.675205 | 0.949 | 0.434 | 1.72E-204 |
| Gene   | Score | FDR  | log2FoldChange | Adj. Mean | Mean | Fisher | Gene | Score | FDR  | log2FoldChange | Adj. Mean | Mean | Fisher |
|--------|-------|------|----------------|----------|------|--------|-------|-------|------|----------------|----------|------|--------|
| FOXL2  | 4.3E-241 | 0.962 | 1.897255 | 6.667567 | 0.422 | 1.42E-236 |
| PRICKLE1 | 5.5E-157 | 0.751 | 1.8938488 | 6.644894 | 0.128 | 1.82E-152 |
| ESAM   | 9.8E-116 | 0.636 | 1.8673924 | 6.471399 | 0.116 | 3.22E-111 |
| HOXD10 | 1.3E-264 | 0.904 | 1.8662685 | 6.46413 | 0.116 | 4.35E-260 |
| SOX4   | 1.4E-101 | 0.87 | 1.8587511 | 6.415719 | 0.536 | 4.608E-97 |
| REN    | 1.26E-32 | 0.26 | 1.8473256 | 6.342834 | 0.046 | 4.137E-28 |
| PPME1  | 5.8E-111 | 0.971 | 1.8383348 | 6.286062 | 0.835 | 1.9E-106 |
| MGST1  | 0 | 1 | 1.834441 | 6.261633 | 0 | |
| FILIP1L | 2.2E-245 | 0.993 | 1.8291307 | 6.22847 | 0.735 | 7.14E-241 |
| MEST   | 6.73E-87 | 0.597 | 1.8253882 | 6.205203 | 0.158 | 2.215E-82 |
| FOSB   | 4.2E-150 | 0.793 | 1.8172998 | 6.155216 | 0.346 | 4.45E-110 |
| COL4A2 | 1.75E-30 | 0.721 | 1.7813745 | 5.938013 | 0.148 | 5.21E-126 |
| ARMC9  | 1.9E-205 | 0.697 | 1.7808437 | 5.934862 | 0.534 | 6.28E-201 |
| GBP4   | 1.5E-119 | 0.787 | 1.758202 | 5.801996 | 0.316 | 4.83E-115 |
| LMOD1  | 5E-119 | 0.735 | 1.7440359 | 5.720384 | 0.22 | 1.64E-114 |
| CALD1  | 1.75E-30 | 0.735 | 1.7301148 | 5.641302 | 0.22 | 1.64E-114 |
| DIO2   | 4.3E-116 | 0.793 | 1.6864131 | 5.400076 | 0.19 | 1.41E-111 |
| TRBC2  | 3.6E-101 | 0.536 | 1.6501495 | 5.207758 | 0.44 | 1.198E-96 |
| AMIGO2 | 1.6E-130 | 0.721 | 1.6475305 | 5.194137 | 0.148 | 5.21E-126 |
| AR     | 1.35E-83 | 0.56 | 1.6352732 | 5.130859 | 0.109 | 4.439E-79 |
| HAND2  | 9.4E-138 | 0.828 | 1.6009301 | 4.957641 | 0.255 | 3.08E-133 |
| CDH2   | 1.2E-307 | 0.998 | 1.5972449 | 4.939405 | 0.715 | 3.86E-303 |
| PALLD  | 0 | 0.998 | 1.584072 | 4.874766 | 0 | |
| ARID5B | 1.2E-263 | 0.998 | 1.5816228 | 4.862841 | 0.905 | 4.07E-259 |
| IGFBP5 | 2.0E-08 | 0.484 | 1.5816212 | 4.862833 | 0.473 | 0.0006764 |
| NCKAP5 | 3.83E-81 | 0.531 | 1.5527592 | 4.724488 | 0.093 | 1.259E-76 |
| LBH    | 2.4E-134 | 0.987 | 1.5392997 | 4.661325 | 0 | 7.98E-130 |
| FAM43A | 1.93E-80 | 0.648 | 1.5349978 | 4.641315 | 0.211 | 6.359E-76 |
| AC132217.1 | 1.7E-212 | 0.825 | 1.5179349 | 4.562793 | 0.079 | 5.56E-208 |
| SORT1  | 1.6E-114 | 0.81 | 1.5096129 | 4.524979 | 0.353 | 5.34E-110 |
| RNF150 | 2.62E-93 | 0.63 | 1.4901394 | 4.437714 | 0.142 | 8.605E-89 |
| IFIT1  | 5.53E-88 | 0.703 | 1.4856487 | 4.41783 | 0.246 | 1.821E-83 |
| LXN    | 2E-113 | 0.797 | 1.4749405 | 4.370776 | 0.318 | 6.62E-109 |
| RBM24  | 2E-122 | 0.907 | 1.4694504 | 4.346845 | 0.568 | 6.6E-118 |
| Gene   | FDR   | Log2FoldChange | pVal   | Adjusted pVal1 | Adjusted pVal2 |
|--------|-------|----------------|--------|----------------|---------------|
| ITGA1  | 3.06E-95 | 1.4641118     | 4.323701 | 0.978          | 0.896         |
| TNFSF4 | 3.38E-61 | 1.4623435     | 4.316062 | 0.626          | 0.258         |
| MGARP  | 2.41E-83 | 1.4550626     | 4.284752 | 0.613          | 0.16          |
| HNMT   | 4.4E-104 | 1.4488784     | 4.258336 | 0.827          | 0.434         |
| GSDME  | 3.8E-167 | 1.435563      | 4.20201  | 0.976          | 0.654         |
| FBLIM1 | 1.5E-187 | 1.4233917     | 4.151176 | 0.966          | 0.914         |
| PCDH7  | 6.57E-37 | 1.4212421     | 4.142262 | 0.346          | 0.093         |
| A2M    | 1.17E-37 | 1.4190309     | 4.133113 | 0.273          | 0.039         |
| PTN    | 1.8E-135 | 1.4068062     | 4.082895 | 0.941          | 0.624         |
| LINC02844 | 1.95E-72 | 1.3997909    | 4.054352 | 0.426          | 0.037         |
| PLAT   | 1.1E-104 | 1.3891174     | 4.011308 | 0.976          | 0.828         |
| WNT5A  | 6.6E-148 | 1.3808005     | 3.978085 | 0.996          | 0.835         |
| FAM155A| 8.38E-92 | 1.3786746     | 3.969637 | 0.69           | 0.213         |
| IRS1   | 3.9E-170 | 1.3715173     | 3.941326 | 0.981          | 0.682         |
| THSD4  | 6.54E-78 | 1.3705621     | 3.937564 | 0.665          | 0.239         |
| KLF9   | 3E-105  | 1.3624505     | 3.905753 | 0.878          | 0.503         |
| SLC7A11| 2.1E-226 | 1.3563923     | 3.882162 | 0.999          | 0.824         |
| NEXN   | 2.1E-260 | 1.3407496     | 3.821908 | 0.999          | 0.875         |
| OGFRL1 | 2.2E-128 | 1.3358235     | 3.803127 | 0.987          | 0.817         |
| HOXA11 | 4.3E-101 | 1.3311316     | 3.785324 | 0.92           | 0.666         |
| AGRN   | 7.4E-142 | 1.3298571     | 3.780503 | 0.921          | 0.527         |
| GBP2   | 4.83E-88 | 1.3284626     | 3.775235 | 0.79           | 0.392         |
| CNN1   | 3.71E-79 | 1.3260841     | 3.766266 | 0.781          | 0.397         |
| THBS1  | 2.7E-267 | 1.3229429     | 3.754454 | 1.000          | 0.306         |
| NEO1   | 1.21E-83 | 1.3088655     | 3.701971 | 0.713          | 0.306         |
| SLC16A4| 3.25E-60 | 1.3071512     | 3.695631 | 0.66           | 0.348         |
| LYPD1  | 3.58E-56 | 1.3018249     | 3.675999 | 0.45           | 0.095         |
| KRT8   | 6.8E-85  | 1.296074      | 3.654919 | 0.651          | 0.206         |
| RARB   | 1.23E-59 | 1.2905149     | 3.634658 | 0.409          | 0.06          |
| MEIS1  | 2.96E-93 | 1.2891118     | 3.629561 | 0.829          | 0.436         |
| IFIT3  | 5.01E-88 | 1.2844543     | 3.612696 | 0.901          | 0.596         |
| HOXA5  | 8.09E-85 | 1.2813387     | 3.601458 | 0.61           | 0.142         |
| TCIM   | 1.22E-44 | 1.2796274     | 3.5953   | 0.405          | 0.118         |
| HOXD9  | 9.54E-85 | 1.2792311     | 3.593876 | 0.559          | 0.102         |
| GDF15  | 8.37E-30 | 1.2765769     | 3.584349 | 0.418          | 0.172         |
| HAND2-AS1| 7.16E-77 | 1.2671575     | 3.550744 | 0.635          | 0.274         |
| ATP10D | 5.34E-73 | 1.2618695     | 3.532018 | 0.731          | 0.362         |
| ADGRG6 | 1.09E-86 | 1.2613823     | 3.530298 | 0.799          | 0.374         |
| ZNF804A| 7.15E-53 | 1.2562028     | 3.51206  | 0.411          | 0.084         |
| C1orf198| 5.63E-73 | 1.2540998     | 3.504682 | 0.913          | 0.738         |
| Gene   | Score  | Fold Change | FDR   | z score | p value   |
|--------|--------|-------------|-------|---------|-----------|
| ABLIM1 | 6.5E-71| 1.2488641   | 3.48638| 0.667   | 0.26      |
| NEDD4L | 3.43E-69| 1.248557   | 3.48531| 0.646   | 0.262     |
| LGALS3BP| 3.4E-168| 1.2477596   | 3.482532| 0.987   | 0.735     |
| GJA1   | 1.1E-144| 1.2472473   | 3.480748| 0.667   | 1.13E-165 |
| CPED1  | 4.9E-120| 1.23928    | 3.453126| 0.646   | 0.262     |
| CITED2 | 7E-239| 1.236298    | 3.450882| 1       | 0.991     |
| GBP1   | 3.43E-69| 1.2375104   | 3.447021| 0.987   | 0.791     |
| MYLK   | 7.7E-176| 1.2341014   | 3.43529| 0.646   | 0.262     |
| AC243919.1| 0    | 1.2315893   | 3.426671| 1       | 0.995     |
| AC011295.1| 0    | 1.2310512   | 3.424828| 1       | 1         |
| AASS   | 2.3E-95| 1.2303422   | 3.422401| 0.854   | 0.469     |
| AFF3   | 1.13E-53| 1.2193948   | 3.385138| 0.517   | 0.183     |
| BST2   | 1.55E-37| 1.2170872   | 3.377336| 0.331   | 0.074     |
| PEAR1  | 3.42E-68| 1.2138028   | 3.366262| 0.546   | 0.137     |
| VAT1L  | 4.21E-76| 1.2128034   | 3.362899| 0.791   | 0.399     |
| JAZF1  | 5.9E-115| 1.2127388   | 3.362682| 0.945   | 0.689     |
| FRY    | 1.57E-44| 1.2117622   | 3.3594  | 0.46    | 0.172     |
| LIMCH1 | 4.35E-44| 1.2085938   | 3.348772| 0.493   | 0.188     |
| CARD16 | 3.66E-77| 1.2065665   | 3.341985| 0.604   | 0.167     |
| CAMK1G | 5.6E-63| 1.2031311   | 3.330529| 0.4     | 0.039     |
| MASP1  | 1.89E-92| 1.2027922   | 3.3294  | 0.933   | 0.668     |
| HSBP1L1| 5.58E-95| 1.2022114   | 3.327467| 0.805   | 0.422     |
| NDFIP2 | 4.1E-167| 1.1990714   | 3.317035| 0.994   | 0.847     |
| CDKN1B | 5.18E-81| 1.1954833   | 3.305155| 0.871   | 0.573     |
| PRR5L  | 1.03E-78| 1.1901139   | 3.287456| 0.802   | 0.436     |
| FENDRR | 1.42E-54| 1.1897259   | 3.28618| 0.379   | 0.058     |
| HOXA11-AS| 8.72E-64| 1.1847579   | 3.269895| 0.612   | 0.234     |
| ME1    | 3.7E-130| 1.1829425   | 3.263964| 0.979   | 0.798     |
| HLA-B  | 1.1E-207| 1.1778586   | 3.247413| 1       | 1         |
| CLIC3  | 7.42E-37| 1.1774938   | 3.246228| 0.441   | 0.176     |
| TRHDE-AS1| 9.07E-54| 1.1754826   | 3.239706| 0.477   | 0.125     |
| ST6GALNAC5| 6.48E-50| 1.1713017   | 3.226189| 0.672   | 0.394     |
| TRIB1  | 1.19E-54| 1.1698106   | 3.221382| 0.618   | 0.29      |
| PDLIM5 | 9.7E-190| 1.1680285   | 3.215647| 1       | 0.991     |
| PLBD1  | 5.24E-53| 1.1620704   | 3.196545| 0.415   | 0.077     |
| NCAM2  | 1.24E-57| 1.1610402   | 3.193253| 0.468   | 0.107     |
| GSTM1  | 3.2E-126| 1.1587073   | 3.185812| 0.932   | 0.617     |
| IFIT2  | 5.19E-39| 1.154154    | 3.171339| 0.409   | 0.116     |
| ADAM19 | 6.7E-101| 1.1528888   | 3.16733| 0.94    | 0.701     |
| ITPRD2 | 8.7E-190| 1.1504537   | 3.159626| 1       | 0.963     |
| Gene   | Score   | FDR      | P-Value | Level | Expression | Log2 Fold Change |
|--------|---------|----------|---------|-------|------------|-----------------|
| PLPP2  | 2.3E-56 | 0.518    | 0.158   | 7.551E-52 |
| MARCKS1L1 | 8.93E-59 | 0.766    | 0.42    | 2.94E-54  |
| STRA6  | 6.94E-62 | 0.565    | 0.179   | 2.285E-57 |
| MLLT11 | 2.44E-70 | 0.843    | 0.545   | 8.028E-66 |
| BEX1   | 1.08E-15 | 0.216    | 0.102   | 3.553E-11 |
| ITGA6  | 1.3E-209 | 0.991    | 4.29E-205 |
| KCNE4  | 1.33E-32 | 0.766    | 0.19    | 4.381E-28 |
| ST6G14  | 6.94E-62 | 0.565    | 0.179   | 2.285E-57 |
| MLLT11 | 2.44E-70 | 0.843    | 0.545   | 8.028E-66 |
| BEX1   | 1.08E-15 | 0.216    | 0.102   | 3.553E-11 |
| ITGA6  | 1.3E-209 | 0.991    | 4.29E-205 |
| KCNE4  | 1.33E-32 | 0.766    | 0.19    | 4.381E-28 |
| ST6G14  | 6.94E-62 | 0.565    | 0.179   | 2.285E-57 |
| MLLT11 | 2.44E-70 | 0.843    | 0.545   | 8.028E-66 |
| BEX1   | 1.08E-15 | 0.216    | 0.102   | 3.553E-11 |
| ITGA6  | 1.3E-209 | 0.991    | 4.29E-205 |
| KCNE4  | 1.33E-32 | 0.766    | 0.19    | 4.381E-28 |
| ST6G14  | 6.94E-62 | 0.565    | 0.179   | 2.285E-57 |
| MLLT11 | 2.44E-70 | 0.843    | 0.545   | 8.028E-66 |
| BEX1   | 1.08E-15 | 0.216    | 0.102   | 3.553E-11 |
| ITGA6  | 1.3E-209 | 0.991    | 4.29E-205 |
| KCNE4  | 1.33E-32 | 0.766    | 0.19    | 4.381E-28 |
| ST6G14  | 6.94E-62 | 0.565    | 0.179   | 2.285E-57 |
| MLLT11 | 2.44E-70 | 0.843    | 0.545   | 8.028E-66 |
| BEX1   | 1.08E-15 | 0.216    | 0.102   | 3.553E-11 |
| ITGA6  | 1.3E-209 | 0.991    | 4.29E-205 |
| KCNE4  | 1.33E-32 | 0.766    | 0.19    | 4.381E-28 |
| ST6G14  | 6.94E-62 | 0.565    | 0.179   | 2.285E-57 |
| MLLT11 | 2.44E-70 | 0.843    | 0.545   | 8.028E-66 |
| BEX1   | 1.08E-15 | 0.216    | 0.102   | 3.553E-11 |
| ITGA6  | 1.3E-209 | 0.991    | 4.29E-205 |
| KCNE4  | 1.33E-32 | 0.766    | 0.19    | 4.381E-28 |
| ST6G14  | 6.94E-62 | 0.565    | 0.179   | 2.285E-57 |
| MLLT11 | 2.44E-70 | 0.843    | 0.545   | 8.028E-66 |
| BEX1   | 1.08E-15 | 0.216    | 0.102   | 3.553E-11 |
| ITGA6  | 1.3E-209 | 0.991    | 4.29E-205 |
| KCNE4  | 1.33E-32 | 0.766    | 0.19    | 4.381E-28 |
| ST6G14  | 6.94E-62 | 0.565    | 0.179   | 2.285E-57 |
| MLLT11 | 2.44E-70 | 0.843    | 0.545   | 8.028E-66 |
| BEX1   | 1.08E-15 | 0.216    | 0.102   | 3.553E-11 |
| ITGA6  | 1.3E-209 | 0.991    | 4.29E-205 |
| KCNE4  | 1.33E-32 | 0.766    | 0.19    | 4.381E-28 |
| ST6G14  | 6.94E-62 | 0.565    | 0.179   | 2.285E-57 |
| MLLT11 | 2.44E-70 | 0.843    | 0.545   | 8.028E-66 |
| BEX1   | 1.08E-15 | 0.216    | 0.102   | 3.553E-11 |
| ITGA6  | 1.3E-209 | 0.991    | 4.29E-205 |
| KCNE4  | 1.33E-32 | 0.766    | 0.19    | 4.381E-28 |
| ST6G14  | 6.94E-62 | 0.565    | 0.179   | 2.285E-57 |
| MLLT11 | 2.44E-70 | 0.843    | 0.545   | 8.028E-66 |
| BEX1   | 1.08E-15 | 0.216    | 0.102   | 3.553E-11 |

Note: The table includes gene names, scores, FDR values, p-values, levels, and expression levels.
| Gene   | FDR   | Value     | Z-score | Log2 Fold Change | p-value  |
|--------|-------|-----------|---------|------------------|----------|
| ANO4   | 6.65E-47 | 1.0423298 | 2.835816 | 0.421            | 0.107    |
| PAPSS2 | 1.9E-225 | 1.0403658 | 2.830252 | 1                | 0.998    |
| RGS4   | 2.98E-42 | 1.0366433 | 2.819736 | 0.841            | 0.624    |
| FAT4   | 1.51E-50 | 1.0346101 | 2.814009 | 0.421            | 0.061    |
| DENND2B| 4.68E-83 | 1.0287967 | 2.797697 | 0.879            | 0.566    |
| RAB27B | 9.01E-36 | 1.0287609 | 2.797597 | 0.414            | 0.125    |
| SSTR1  | 3.47E-93 | 1.0264371 | 2.791104 | 0.989            | 0.865    |
| PGR    | 3.22E-45 | 1.0253423 | 2.78805  | 0.349            | 0.053    |
| ZP3    | 2.98E-42 | 1.0253423 | 2.785895 | 0.466            | 0.123    |
| KLHL5  | 4.95E-46 | 1.0245692 | 2.785895 | 0.998            | 0.975    |
| INPP4B | 9.01E-36 | 1.0245692 | 2.785895 | 0.998            | 0.975    |
| SSTR1  | 3.47E-93 | 1.0264371 | 2.791104 | 0.989            | 0.865    |
| PGR    | 3.22E-45 | 1.0253423 | 2.78805  | 0.349            | 0.053    |
| ZP3    | 2.98E-42 | 1.0253423 | 2.785895 | 0.466            | 0.123    |
| KLHL5  | 4.95E-46 | 1.0245692 | 2.785895 | 0.998            | 0.975    |
| INPP4B | 9.01E-36 | 1.0245692 | 2.785895 | 0.998            | 0.975    |
| SSTR1  | 3.47E-93 | 1.0264371 | 2.791104 | 0.989            | 0.865    |
| PGR    | 3.22E-45 | 1.0253423 | 2.78805  | 0.349            | 0.053    |
| ZP3    | 2.98E-42 | 1.0253423 | 2.785895 | 0.466            | 0.123    |
| KLHL5  | 4.95E-46 | 1.0245692 | 2.785895 | 0.998            | 0.975    |
| INPP4B | 9.01E-36 | 1.0245692 | 2.785895 | 0.998            | 0.975    |
| SSTR1  | 3.47E-93 | 1.0264371 | 2.791104 | 0.989            | 0.865    |
| PGR    | 3.22E-45 | 1.0253423 | 2.78805  | 0.349            | 0.053    |
| ZP3    | 2.98E-42 | 1.0253423 | 2.785895 | 0.466            | 0.123    |
| KLHL5  | 4.95E-46 | 1.0245692 | 2.785895 | 0.998            | 0.975    |
| INPP4B | 9.01E-36 | 1.0245692 | 2.785895 | 0.998            | 0.975    |
| Gene  | Fold Change | p-value  | q-value | z-score | p-value  | q-value |
|-------|-------------|----------|---------|---------|----------|---------|
| TANC1 | 4.99E-51    | 0.9654537| 2.625979| 0.79    | 0.515    | 1.643E-46|
| PLEKHA2 | 1.2E-109   | 0.9652583| 2.625466| 0.99    | 0.905    | 4.03E-105|
| ABCC9 | 8.32E-40    | 0.9612093| 2.614857| 0.528   | 0.271    | 2.739E-35|
| UCHL1 | 1.9E-113    | 0.9608178| 2.613833| 0.993   | 0.868    | 6.1E-109|
| MYH10 | 1.41E-59    | 0.9605231| 2.613063| 0.948   | 0.803    | 4.632E-55|
| MPDZ | 8.37E-50    | 0.9581863| 2.606964| 0.754   | 0.492    | 2.754E-45|
| RGS2 | 5.14E-22    | 0.9573289| 2.60473 | 0.428   | 0.253    | 1.69E-17|
| TLR4 | 2.67E-40    | 0.9569393| 2.603715| 0.508   | 0.213    | 8.788E-36|
| MYH9 | 7.2E-302    | 0.9537914| 2.595532| 1       | 1        | 2.36E-297|
| TEK  | 9.4E-43     | 0.9519414| 2.590734| 0.332   | 0.049    | 3.092E-38|
| NCOA7 | 2.28E-41    | 0.9493283| 2.583973| 0.662   | 0.404    | 7.51E-37|
| TLE4 | 1.45E-52    | 0.9482064| 2.581076| 0.838   | 0.592    | 4.768E-48|
| GSTT1 | 7.54E-53    | 0.948172  | 2.580987| 0.803   | 0.559    | 2.48E-48|
| ANGPT1 | 1.79E-85   | 0.9323472| 2.540465| 0.981   | 0.856    | 5.879E-81|
| HYI  | 4.45E-63    | 0.930418  | 2.535569| 0.906   | 0.687    | 1.465E-58|
| SLC2A1 | 5.52E-71    | 0.9286012| 2.530966| 0.974   | 0.821    | 1.816E-66|
| ANXA3 | 1.28E-29    | 0.9446482| 2.519099| 0.423   | 0.193    | 4.211E-25|
| SPTAN1 | 1.3E-124    | 0.9422588| 2.565777| 0.996   | 0.937    | 4.41E-120|
| NPC2 | 8.6E-142    | 0.9419643| 2.56015  | 0.998   | 0.986    | 2.82E-137|
| ANGPT1 | 1.79E-85   | 0.9323472| 2.540465| 0.981   | 0.856    | 5.879E-81|
| HYI  | 4.45E-63    | 0.930418  | 2.535569| 0.906   | 0.687    | 1.465E-58|
| SLC2A1 | 5.52E-71    | 0.9286012| 2.530966| 0.974   | 0.821    | 1.816E-66|
| AFAP1 | 5.9E-83     | 0.9275031| 2.528189| 0.955   | 0.749    | 1.94E-78|
| HSPB1 | 0           | 0.923282 | 2.517539| 1       | 1        | 0        |
| GSTM4 | 1.92E-42    | 0.9221041| 2.514576| 0.658   | 0.383    | 6.302E-38|
| SCUBE3 | 1.31E-64    | 0.9195407| 2.508138| 0.935   | 0.705    | 4.324E-60|
| LINC01391 | 1.59E-45  | 0.918713 | 2.506063| 0.339   | 0.049    | 5.231E-41|
| HHIP | 2.7E-36     | 0.918113  | 2.50456  | 0.292   | 0.044    | 8.875E-32|
| SNHG18 | 4.2E-48    | 0.9162614| 2.499927| 0.738   | 0.445    | 1.383E-43|
| USP53 | 8.62E-29    | 0.9158655| 2.498937| 0.641   | 0.445    | 2.835E-24|
| CUL4B | 3.76E-79    | 0.9128045| 2.4913   | 0.984   | 0.91     | 1.238E-74|
| MKX  | 1.05E-24    | 0.9109514| 2.486687| 0.485   | 0.253    | 3.456E-20|
| TSPAN14 | 7.59E-74   | 0.9080026| 2.479365| 0.95    | 0.814    | 2.498E-69|
| TPM2 | 4.5E-298    | 0.903957  | 2.469355| 1       | 1        | 1.49E-293|
| FZD2 | 1.52E-89    | 0.90376   | 2.468869| 0.975   | 0.833    | 4.994E-85|
| FRMD4A | 7.06E-60   | 0.8985128| 2.455948| 0.934   | 0.775    | 2.323E-55|
| MAPK8 | 1.79E-70    | 0.894239  | 2.445474| 0.947   | 0.768    | 5.882E-66|
| GCLC | 2.45E-35    | 0.8941653| 2.445294| 0.694   | 0.48     | 8.045E-31|
| Gene   | P-value   | GSEA p-value | ExprChange | FDR   | q-value | GSEA q-value |
|--------|-----------|--------------|------------|-------|---------|--------------|
| GRIK2  | 2.67E-35  | 0.8906638    | 2.436747   | 0.642 | 0.459   | 8.77E-31     |
| IGFBP7 | 1.5E-145  | 0.8898345    | 2.434727   | 1     | 0.998   | 5.01E-141    |
| NOL4L  | 3.81E-38  | 0.8874775    | 2.428995   | 0.52  | 0.248   | 1.253E-33    |
| WLS    | 2.09E-58  | 0.8845655    | 2.421932   | 0.926 | 0.712   | 6.886E-54    |
| PARD3B | 3.56E-32  | 0.8819847    | 2.415689   | 0.429 | 0.19    | 1.171E-27    |
| SMAD3  | 1.11E-45  | 0.8811908    | 2.413772   | 0.803 | 0.564   | 3.658E-41    |
| GNAI1  | 5.88E-75  | 0.880181     | 2.411336   | 0.941 | 0.759   | 1.934E-70    |
| IGFBP7 | 1.5E-145  | 0.880181     | 2.411336   | 1     | 0.998   | 5.01E-141    |
| FLNB   | 1.52E-88  | 0.8787432    | 2.407872   | 0.991 | 0.961   | 4.995E-84    |
| NINJ1  | 5.8E-46   | 0.8786102    | 2.405515   | 0.322 | 0.042   | 2.332E-38    |
| RHOBTB1| 2.46E-29  | 0.8777694    | 2.405528   | 0.574 | 0.383   | 8.097E-25    |
| ETNK2  | 7.09E-43  | 0.8777641    | 2.405515   | 0.042 | 0.248   | 1.171E-27    |
| MARCKS | 6E-187    | 0.8729161    | 2.393882   | 1     | 1       | 1.98E-182    |
| INA    | 2.02E-31  | 0.8726336    | 2.393205   | 0.289 | 0.053   | 6.633E-27    |
| SPOCK1 | 2.8E-75   | 0.8725046    | 2.392897   | 0.99  | 0.896   | 9.201E-71    |
| ZNF462 | 2.67E-41  | 0.8717079    | 2.390991   | 0.497 | 0.19    | 8.783E-37    |
| WFS1   | 2.16E-47  | 0.870047     | 2.387023   | 0.814 | 0.631   | 1.720E-43    |
| KLHL24 | 3.61E-34  | 0.8683974    | 2.383089   | 0.577 | 0.378   | 1.188E-29    |
| F2RL1  | 7.87E-32  | 0.8646782    | 2.374242   | 0.437 | 0.172   | 2.591E-27    |
| CLIP3  | 5.95E-42  | 0.8623974    | 2.368833   | 0.73  | 0.506   | 1.958E-37    |
| SLC38A1| 3.72E-59  | 0.8614874    | 2.366678   | 0.932 | 0.684   | 1.224E-14    |
| USP9X  | 2.35E-89  | 0.8612608    | 2.366142   | 0.987 | 0.891   | 7.733E-85    |
| CCDC50 | 3E-166    | 0.857646     | 2.357604   | 1     | 0.993   | 9.79E-162    |
| ACO1   | 1.67E-70  | 0.8564583    | 2.354806   | 0.97  | 0.847   | 5.485E-66    |
| CADM1  | 7.04E-25  | 0.8564548    | 2.354798   | 0.323 | 0.118   | 2.317E-20    |
| CCDC71L| 2.08E-39  | 0.8557071    | 2.353038   | 0.955 | 0.907   | 6.84E-35     |
| ARHGGEF28| 1.15E-34  | 0.8554484    | 2.352429   | 0.456 | 0.167   | 3.798E-30    |
| TMEM106B| 5.21E-77  | 0.8554119    | 2.352343   | 0.989 | 0.907   | 1.715E-72    |
| PLD1   | 2.54E-33  | 0.8545593    | 2.350338   | 0.314 | 0.077   | 8.343E-29    |
| FOXO1  | 6.76E-25  | 0.8510563    | 2.34212    | 0.25  | 0.058   | 2.224E-20    |
| KDM5B  | 8.78E-53  | 0.8505086    | 2.340837   | 0.904 | 0.712   | 2.889E-48    |
| ZNF516 | 1.11E-35  | 0.8495482    | 2.33859    | 0.706 | 0.497   | 3.646E-31    |
| AJUBA  | 4.23E-58  | 0.8495122    | 2.338506   | 0.892 | 0.664   | 1.393E-53    |
| COL8A1 | 2.85E-90  | 0.8461785    | 2.330723   | 0.993 | 0.903   | 9.382E-86    |
| CENPV  | 8.29E-35  | 0.8453303    | 2.328747   | 0.544 | 0.262   | 2.727E-30    |
| HERC2P2| 1.46E-36  | 0.8423437    | 2.321802   | 0.602 | 0.387   | 4.8E-32      |
| TP53INP2| 1.57E-34  | 0.8421616    | 2.32138    | 0.573 | 0.29    | 5.162E-30    |
| PDGFB  | 3.67E-28  | 0.8419096    | 2.320794   | 0.196 | 0.019   | 1.206E-23    |
| LIMS2  | 2.44E-33  | 0.8396723    | 2.315608   | 0.554 | 0.29    | 8.033E-29    |
| TLE1   | 7.61E-41  | 0.8388004    | 2.31359    | 0.766 | 0.524   | 2.503E-36    |
| CCDC81 | 2.64E-37  | 0.8379986    | 2.311736   | 0.308 | 0.06    | 8.693E-33    |
| Gene     | Fold Change | Log2 Fold Change | p-value | Significance | p-value | Log2| | Fold Change | Log2 Fold Change | p-value | Significance | p-value | Log2| |
|----------|-------------|------------------|---------|--------------|---------|-----| |----------|------------------|---------|--------------|---------|-----| |
| ST3GAL5  | 2.03E-31    | 0.8372651        | 0.629   | 0.408        | 6.693E-27 |
| ATRX     | 1.98E-96    | 0.8330895        | 0.994   | 0.923        | 6.503E-92 |
| PARP14   | 5.78E-34    | 0.8330257        | 0.699   | 0.49         | 1.903E-29 |
| MT-RNR1  | 3.3E-12     | 0.8329569        | 2.30011 | 1            | 1.1E-123  |
| KRT19    | 3.59E-73    | 0.832309         | 2.29862 | 0.894        | 0.55     | 1.18E-68 |
| REPIN1   | 2.21E-48    | 0.8305775        | 2.29463 | 0.86         | 0.705    | 7.257E-44 |
| LIMS1    | 2.7E-138    | 0.8294123        | 2.29171 | 1            | 0.998    | 8.98E-134 |
| CASP1    | 9.06E-24    | 0.8281649        | 2.28911 | 0.436        | 0.223    | 2.98E-19 |
| NFAT5    | 1.37E-60    | 0.8218699        | 2.27474 | 0.985        | 0.893    | 5.413E-69 |
| SOX5     | 5.78E-34    | 0.8217313        | 2.27434 | 0.24         | 0.121    | 1.255E-06 |
| EPHB2    | 2.3E-6      | 0.8216699        | 2.27315 | 0.977        | 0.826    | 2.955E-73 |
| TP53I3   | 3.51E-25    | 0.8256033        | 2.28325 | 0.89         | 0.831    | 1.153E-20 |
| RRAD     | 1.21E-20    | 0.8245796        | 2.28092 | 0.241        | 0.067    | 3.973E-16 |
| COMMD7   | 8.98E-78    | 0.8243056        | 2.28029 | 0.977        | 0.826    | 2.955E-73 |
| APOL6    | 5.89E-41    | 0.8281649        | 2.28911 | 0.436        | 0.223    | 2.98E-19 |
| DRAM1    | 1.65E-73    | 0.8218699        | 2.27474 | 0.985        | 0.893    | 5.413E-69 |
| NEFM     | 3.81E-41    | 0.8217313        | 2.27434 | 0.24         | 0.121    | 1.255E-06 |
| BDKRB2   | 6.81E-23    | 0.8216699        | 2.27315 | 0.977        | 0.826    | 2.955E-73 |
| VCL      | 6.7E-215    | 0.8206313        | 2.27193 | 1            | 1        | 2.21E-210 |
| TAGLN    | 1E-143      | 0.8185085        | 2.26711 | 1            | 1        | 3.34E-139 |
| HES1     | 2.62E-32    | 0.8152395        | 2.25971 | 0.564        | 0.297    | 8.631E-28 |
| CBTL     | 1.51E-31    | 0.8139451        | 2.25679 | 0.651        | 0.448    | 4.954E-27 |
| CPT1C    | 1.09E-39    | 0.8127493        | 2.25409 | 0.61         | 0.374    | 3.592E-33 |
| ATXN1    | 3.21E-41    | 0.8125141        | 2.25567 | 0.868        | 0.719    | 1.056E-36 |
| DYNTL3   | 5E-72       | 0.8104698        | 2.24864 | 0.998        | 0.986    | 1.643E-67 |
| HSPA1B   | 1.78E-39    | 0.8104177        | 2.24884 | 0.965        | 0.912    | 5.856E-35 |
| DDX60L   | 6.57E-36    | 0.8099156        | 2.24771 | 0.649        | 0.422    | 2.162E-31 |
| AKAP9    | 1.13E-49    | 0.8088396        | 2.24530 | 0.93         | 0.821    | 3.715E-45 |
| PTPRD    | 6.48E-28    | 0.8064157        | 2.23986 | 0.35         | 0.116    | 2.131E-23 |
| INPPL1   | 3.41E-62    | 0.8060962        | 2.23915 | 0.949        | 0.798    | 1.121E-57 |
| PPM1K    | 1.91E-33    | 0.8060818        | 2.23911 | 0.665        | 0.469    | 6.3E-29 |
| TGIF2    | 7.79E-27    | 0.8044532        | 2.23547 | 0.347        | 0.13     | 2.564E-22 |
| ZDHHC2   | 3E-58       | 0.8029391        | 2.23209 | 0.942        | 0.803    | 9.88E-54 |
| SBF2-AS1 | 5.72E-17    | 0.8002939        | 2.22619 | 0.514        | 0.434    | 1.883E-12 |
| TMEM25   | 9.68E-35    | 0.7995682        | 2.22458 | 0.435        | 0.142    | 3.185E-30 |
| TOR4A    | 1.25E-46    | 0.7991091        | 2.22355 | 0.744        | 0.441    | 4.112E-42 |
| FOXC1    | 8.62E-32    | 0.7986077        | 2.22445 | 0.532        | 0.288    | 2.836E-27 |
| DDIT4    | 1.94E-17    | 0.7974437        | 2.21985 | 0.564        | 0.404    | 6.386E-13 |
| NFIL3    | 2.27E-25    | 0.7955496        | 2.21565 | 0.495        | 0.276    | 7.455E-21 |
| PDE10A   | 3.42E-28    | 0.7950806        | 2.21461 | 0.282        | 0.079    | 1.127E-23 |
| Gene        | p-value  | Log2 Fold Change | q-value  | Fold Change | p-value  | Log2 Fold Change | q-value  |
|-------------|----------|------------------|----------|-------------|----------|------------------|----------|
| C16orf87    | 4.81E-45 | 0.7919508        | 0.851    | 0.687       | 1.582E-40| 0.7887622        | 2.20671  |
| GOLGB1      | 1.59E-51 | 0.7878547        | 0.939    | 0.833       | 5.216E-47| 0.7862542        | 2.195158 |
| GLI2        | 9.63E-32 | 0.7766984        | 0.363    | 0.118       | 4.658E-28| 0.7764898        | 2.173828 |
| CDC42BPA    | 1.36E-56 | 0.776163         | 0.956    | 0.858       | 4.746E-52| 0.7762482        | 2.195146 |
| TP53        | 5.93E-45 | 0.7847942        | 0.872    | 0.677       | 1.952E-40| 0.7847942        | 2.191956 |
| TRIM22      | 5.65E-43 | 0.7845454        | 0.3      | 0.063       | 4.658E-28| 0.7845454        | 2.191411 |
| RHOJ        | 1.42E-32 | 0.7842201        | 0.65     | 0.347       | 3.167E-27| 0.7839627        | 2.207699 |
| SHROOM3     | 1.58E-25 | 0.7839627        | 0.65     | 0.347       | 3.167E-27| 0.7839627        | 2.207699 |
| CDC42BPA    | 1.36E-56 | 0.7822103        | 0.956    | 0.858       | 4.746E-52| 0.7822103        | 2.195146 |
| TP53        | 5.93E-45 | 0.7819508        | 0.872    | 0.677       | 1.952E-40| 0.7819508        | 2.191956 |
| TRIM22      | 5.65E-43 | 0.7819508        | 0.872    | 0.677       | 1.952E-40| 0.7819508        | 2.191956 |
| RHOJ        | 1.42E-32 | 0.7819508        | 0.872    | 0.677       | 1.952E-40| 0.7819508        | 2.191956 |
| SHROOM3     | 1.58E-25 | 0.7819508        | 0.872    | 0.677       | 1.952E-40| 0.7819508        | 2.191956 |
| CDC42BPA    | 1.36E-56 | 0.7819508        | 0.872    | 0.677       | 1.952E-40| 0.7819508        | 2.191956 |
| TP53        | 5.93E-45 | 0.7819508        | 0.872    | 0.677       | 1.952E-40| 0.7819508        | 2.191956 |
| TRIM22      | 5.65E-43 | 0.7819508        | 0.872    | 0.677       | 1.952E-40| 0.7819508        | 2.191956 |
| RHOJ        | 1.42E-32 | 0.7819508        | 0.872    | 0.677       | 1.952E-40| 0.7819508        | 2.191956 |
| SHROOM3     | 1.58E-25 | 0.7819508        | 0.872    | 0.677       | 1.952E-40| 0.7819508        | 2.191956 |
| CDC42BPA    | 1.36E-56 | 0.7819508        | 0.872    | 0.677       | 1.952E-40| 0.7819508        | 2.191956 |
| TP53        | 5.93E-45 | 0.7819508        | 0.872    | 0.677       | 1.952E-40| 0.7819508        | 2.191956 |
| TRIM22      | 5.65E-43 | 0.7819508        | 0.872    | 0.677       | 1.952E-40| 0.7819508        | 2.191956 |
| RHOJ        | 1.42E-32 | 0.7819508        | 0.872    | 0.677       | 1.952E-40| 0.7819508        | 2.191956 |
| SHROOM3     | 1.58E-25 | 0.7819508        | 0.872    | 0.677       | 1.952E-40| 0.7819508        | 2.191956 |
| CDC42BPA    | 1.36E-56 | 0.7819508        | 0.872    | 0.677       | 1.952E-40| 0.7819508        | 2.191956 |
| TP53        | 5.93E-45 | 0.7819508        | 0.872    | 0.677       | 1.952E-40| 0.7819508        | 2.191956 |
| Gene    | p-value | q-value | Log2 fold change | p-value corr | q-value corr |
|---------|---------|---------|-----------------|--------------|--------------|
| ARHGAP20 | 1.1E-29 | 0.227   | 2.100952        | 0.227        | 3.612E-25    |
| PIR     | 3.53E-22 | 0.428   | 2.098907        | 0.218        | 1.161E-17    |
| ZMAT3   | 8.68E-30 | 0.957   | 2.09347         | 0.893        | 2.857E-25    |
| PNRC1   | 7.2E-34 | 0.727   | 2.092433        | 0.524        | 2.368E-29    |
| SYT11   | 5.43E-31 | 0.745   | 2.088842        | 0.548        | 1.786E-26    |
| SYT16   | 3.95E-27 | 0.259   | 2.086217        | 0.06         | 1.3E-22      |
| SLC5A3  | 1.4E-27 | 0.734   | 2.084641        | 0.531        | 4.612E-23    |
| LPCAT2  | 8.93E-53 | 0.95    | 2.081672        | 0.821        | 2.938E-48    |
| RAB8B   | 9.44E-49 | 0.912   | 2.08134         | 0.745        | 3.105E-44    |
| JUND    | 2.16E-73 | 0.974   | 2.075827        | 0.907        | 7.107E-69    |
| GLCCI1  | 7.57E-20 | 0.359   | 2.07445         | 0.181        | 2.49E-15     |
| SYT116  | 5.43E-31 | 0.745   | 2.071592        | 0.548        | 1.786E-26    |
| NRXN3   | 6.56E-20 | 0.226   | 2.071156        | 0.072        | 2.159E-15    |
| ZFAND5  | 1.48E-86 | 0.999   | 2.073128        | 0.991        | 4.881E-82    |
| TJP1    | 1.59E-53 | 0.959   | 2.071592        | 0.849        | 5.226E-49    |
| NAPRT   | 3.76E-28 | 0.82    | 2.070465        | 0.694        | 1.238E-23    |
| UBE2L6  | 7.2E-36 | 0.974   | 2.070319        | 0.766        | 2.369E-31    |
| NF1     | 2.34E-41 | 0.9   | 2.068094        | 0.701        | 7.683E-37    |
| LRRG61  | 9.21E-20 | 0.278   | 2.064907        | 0.023        | 3.029E-36    |
| LUZP1   | 3.6E-39 | 0.887   | 2.062965        | 0.733        | 1.184E-34    |
| ARHGEF35A | 1.7E-26 | 0.463   | 2.062104        | 0.248        | 5.59E-22     |
| PHTF2   | 9.05E-63 | 0.987   | 2.0615          | 0.944        | 2.977E-58    |
| LAMA5   | 1.46E-29 | 0.379   | 2.059748        | 0.128        | 4.8E-25      |
| GARE1   | 1.22E-30 | 0.76    | 2.059393        | 0.643        | 4.02E-26     |
| FAM160B1 | 2.38E-37 | 0.844   | 2.05658         | 0.6         | 7.82E-33     |
| KHDRBS3 | 3.71E-29 | 0.716   | 2.049358        | 0.527        | 1.22E-24     |
| TAP1    | 3.75E-39 | 0.898   | 2.047119        | 0.71         | 1.233E-34    |
| RASSF3  | 2.02E-26 | 0.617   | 2.043876        | 0.397        | 6.636E-22    |
| HOXA7   | 3.6E-30 | 0.512   | 2.035618        | 0.239        | 1.185E-25    |
| BAIAP2L1 | 1.01E-17 | 0.347   | 2.035344        | 0.172        | 3.33E-13     |
| TBX2    | 2E-37 | 0.751   | 2.031845        | 0.487        | 6.587E-33    |
| MKNK2   | 3.13E-37 | 0.855   | 2.031111        | 0.689        | 1.029E-32    |
| SLC6A6  | 1.06E-35 | 0.765   | 2.029504        | 0.594        | 3.494E-31    |
| SSC5D   | 8.68E-30 | 0.589   | 2.029024        | 0.346        | 2.857E-25    |
| DOCK1   | 7.92E-23 | 0.598   | 2.028369        | 0.418        | 2.607E-18    |
| SPHKAP  | 1.11E-18 | 0.184   | 2.026492        | 0.039        | 3.665E-14    |
| BDH2    | 9.74E-31 | 0.786   | 2.022906        | 0.617        | 3.204E-26    |
| SLC35F5 | 1.11E-40 | 0.967   | 2.021205        | 0.912        | 3.643E-36    |
| BCAT1   | 4.2E-116 | 1.0     | 2.0186          | 0.961        | 1.37E-111    |
| IFIT5   | 7.37E-38 | 0.877   | 2.017846        | 0.738        | 2.424E-33    |
| Gene   | Fold Change | Z Score | p Value  | Site Score | p Value Site | Gene Score | p Value Gene |
|--------|-------------|---------|----------|------------|--------------|------------|--------------|
| AMOT   | 1.8E-18     | 0.6993323 | 2.012409 | 0.355      | 0.195        | 5.921E-14  
| TMEM159| 1.68E-25    | 0.6965654 | 2.006848 | 0.837      | 0.742        | 5.529E-21  
| IGF2R  | 4.83E-45    | 0.6964939 | 2.006705 | 0.967      | 0.879        | 1.59E-40   
| PRAG1  | 6.99E-22    | 0.6952752 | 2.00426  | 0.481      | 0.265        | 2.299E-17  
| DDAH2  | 5.41E-38    | 0.6942524 | 2.002212 | 0.903      | 0.752        | 1.781E-33  
| S1PR3  | 4.7E-22     | 0.6936494 | 2.001005 | 0.386      | 0.186        | 1.59E-40   
| SNTB2  | 2.52E-22    | 0.6927619 | 1.99923  | 0.405      | 0.183        | 8.278E-18  
| AGA    | 3.92E-29    | 0.6927459 | 1.999198 | 0.751      | 0.585        | 1.289E-24  
| SNTB2  | 1.38E-43    | 0.6913607 | 1.99643  | 0.968      | 0.889        | 4.269E-39  
| SLC1A1 | 1.68E-19    | 0.6888052 | 1.991335 | 0.386      | 0.186        | 5.52E-15   
| FLT1   | 1.16E-21    | 0.6872402 | 1.988221 | 0.661      | 0.497        | 3.818E-17  
| ATF3   | 1.35E-18    | 0.6854805 | 1.984725 | 0.967      | 0.879        | 1.551E-17  
| NAMPT  | 2.09E-37    | 0.6835795 | 1.980956 | 0.932      | 0.84         | 6.866E-33  
| AKAP13 | 2.71E-40    | 0.683452  | 1.980703 | 0.947      | 0.845        | 8.928E-36  
| SGIP1  | 3.75E-27    | 0.6825893 | 1.978995 | 0.722      | 0.564        | 1.233E-22  
| BAZZB  | 6.91E-13    | 0.681898  | 1.977628 | 0.775      | 0.684        | 2.273E-18  
| INHBA  | 4.72E-22    | 0.6804963 | 1.974858 | 0.98       | 0.921        | 3.818E-17  
| LAMB1  | 8.88E-58    | 0.6794648 | 1.972822 | 0.998      | 1            | 2.921E-53  
| COL5A2 | 3.6E-172    | 0.6793442 | 1.972584 | 1          | 1            | 1.17E-167  
| NIPSNAP1| 2.36E-37   | 0.6791679 | 1.972236 | 0.938      | 0.814        | 7.777E-33  
| PBXIP1 | 2.12E-17    | 0.6788921 | 1.971692 | 0.52       | 0.406        | 6.968E-13  
| CHD6   | 7.3E-23     | 0.6760404 | 1.966077 | 0.601      | 0.385        | 2.402E-18  
| TKT    | 3.4E-133    | 0.676007  | 1.966012 | 1          | 1            | 1.11E-128  
| PDLIM7 | 1.9E-143    | 0.6741569 | 1.962378 | 1          | 0.995        | 6.11E-139  
| IDH1   | 8.36E-39    | 0.6729701 | 1.96005  | 0.941      | 0.856        | 2.749E-34  
| MXRA5  | 1.98E-52    | 0.6728507 | 1.959816 | 0.982      | 0.903        | 6.53E-48   
| WWC3   | 1.39E-30    | 0.67276  | 1.959638 | 0.864      | 0.761        | 4.572E-26  
| CASK   | 1.33E-29    | 0.672651  | 1.959425 | 0.854      | 0.777        | 4.36E-25   
| DUXAP10| 3.09E-35    | 0.6719378 | 1.958028 | 0.346      | 0.102        | 1.016E-30  
| MAP3K7CL| 2.99E-18   | 0.6691123 | 1.952503 | 0.538      | 0.425        | 9.825E-14  
| PLXDC2 | 1.42E-12    | 0.6688074 | 1.951908 | 0.179      | 0.067        | 4.669E-08  
| LAMA1  | 3.05E-18    | 0.6686323 | 1.951566 | 0.294      | 0.125        | 1.003E-13  
| NR2F2-AS1| 5E-31      | 0.6679348 | 1.950206 | 0.318      | 0.072        | 1.644E-26  
| MBOAT7 | 1.72E-70    | 0.6626153 | 1.939859 | 0.995      | 0.965        | 5.659E-66  
| EML4   | 6.81E-33    | 0.6622141 | 1.939081 | 0.893      | 0.761        | 2.24E-28   
| PSMB9  | 1.2E-22     | 0.6621754 | 1.930006 | 0.757      | 0.615        | 3.96E-18   
| OSR2   | 3.73E-20    | 0.6603839 | 1.935535 | 0.482      | 0.278        | 1.227E-15  
| KDM5C  | 8.19E-37    | 0.6591973 | 1.93324  | 0.774      | 0.596        | 2.695E-32  
| COL12A1| 4.13E-71    | 0.6591905 | 1.933227 | 1          | 0.988        | 1.359E-66  
| FOXN3  | 3.52E-28    | 0.658122  | 1.931162 | 0.858      | 0.735        | 1.159E-23  

**Note:** The table contains gene names, fold changes, Z scores, p values, site scores, and gene scores along with their respective p values.
| Gene   | FDR      | FPKM     | Fold Change | p-val  | q-val  | FC   | FDR   |
|--------|----------|----------|-------------|--------|--------|------|-------|
| DBN1   | 1.32E-79 | 0.656858 | 1.928723    | 1      | 0.958  | 4.336E-75 |
| SUSD3  | 7.79E-16 | 0.6564644| 1.927964    | 0.213  | 0.07   | 2.563E-11 |
| PLCB1  | 1.22E-23 | 0.6560794| 1.927222    | 0.762  | 0.61   | 4.024E-19 |
| ACTB   | 0        | 0.6555318| 1.926167    | 1      | 1      | 0    |
| FGF7   | 1.04E-39 | 0.6552765| 1.925675    | 0.973  | 0.868  | 3.413E-35 |
| HOXD8  | 1.4E-27  | 0.6545866| 1.924347    | 0.668  | 0.464  | 4.611E-23 |
| NAT14  | 1.02E-30 | 0.6544708| 1.923928    | 0.766  | 0.592  | 3.36E-26  |
| EVI5   | 9.87E-26 | 0.6538966| 1.923501    | 0.847  | 0.729  | 3.247E-21 |
| C2CD3  | 2.18E-26 | 0.65305   | 1.921392    | 0.613  | 0.545  | 7.174E-22 |
| ACTN4  | 2.3E-209 | 0.6528021| 1.920916    | 1      | 1      | 7.65E-205 |
| PDP2   | 5.85E-26 | 0.6520587| 1.919488    | 0.592  | 0.483  | 1.926E-21 |
| PGD    | 4.05E-84 | 0.6520015| 1.917171    | 0.973  | 0.872  | 6.033E-48 |
| FOXP1  | 1.83E-38 | 0.6507126| 1.916906    | 0.965  | 0.912  | 6.005E-34 |
| SSNPN  | 1.26E-28 | 0.6502965| 1.916109    | 0.901  | 0.775  | 4.152E-24 |
| TRIB2  | 1.32E-18 | 0.6494694| 1.914525    | 0.502  | 0.306  | 4.358E-14 |
| NMT2   | 7.77E-36 | 0.6484391| 1.912553    | 0.956  | 0.903  | 2.557E-31 |
| OPN3   | 1.52E-19 | 0.6482397| 1.912172    | 0.522  | 0.378  | 4.997E-15 |
| SLC44A2| 1.83E-52 | 0.6480015| 1.911717    | 0.973  | 0.872  | 6.033E-48 |
| PDGFRB | 1.33E-80 | 0.6477293| 1.911199    | 0.991  | 0.87   | 4.38E-76  |
| AFF1   | 1.21E-20 | 0.6476861| 1.911114    | 0.584  | 0.432  | 3.989E-16 |
| LASP1  | 7.4E-113 | 0.6466389| 1.909199    | 1      | 1      | 2.44E-108 |
| MOSMO  | 2.85E-25 | 0.6464404| 1.908734    | 0.724  | 0.568  | 9.383E-21 |
| FLNA   | 4.7E-178 | 0.6459252| 1.907751    | 1      | 1      | 1.55E-173 |
| NQO1   | 4.6E-135 | 0.6452721| 1.906506    | 1      | 1      | 1.5E-130  |
| MAML2  | 4.18E-25 | 0.6449236| 1.905841    | 0.707  | 0.531  | 1.375E-20 |
| PLXNB2 | 1.72E-48 | 0.6442639| 1.904585    | 0.963  | 0.877  | 5.651E-44 |
| MTMR3  | 1.51E-19 | 0.6433468| 1.902839    | 0.551  | 0.408  | 4.982E-15 |
| RNF157 | 2.06E-20 | 0.642622  | 1.90146     | 0.372  | 0.211  | 6.793E-16 |
| PVR    | 1.25E-27 | 0.6424686| 1.901168    | 0.897  | 0.814  | 4.09E-23 |
| MDK    | 1.62E-25 | 0.6421952| 1.900649    | 0.868  | 0.766  | 5.321E-21 |
| GPR183 | 8.75E-18 | 0.6421021| 1.900472    | 0.173  | 0.035  | 2.877E-13 |
| LIMS3  | 6.41E-51 | 0.6416868| 1.899683    | 0.561  | 0.181  | 2.109E-46 |
| IFT81  | 7.5E-23  | 0.6412678| 1.898887    | 0.693  | 0.552  | 2.468E-18 |
| PELO   | 4.83E-36 | 0.640059  | 1.896593    | 0.975  | 0.942  | 1.588E-31 |
| DDX58  | 1.7E-16  | 0.6399039| 1.896299    | 0.406  | 0.248  | 5.584E-12 |
| LIMS4  | 2.76E-50 | 0.6384689| 1.893614    | 0.554  | 0.176  | 9.08E-46 |
| BMP2   | 9.86E-21 | 0.6384638| 1.89357     | 0.257  | 0.072  | 3.243E-16 |
| EXTL1  | 1.58E-30 | 0.6381216| 1.892922    | 0.233  | 0.026  | 5.2E-26  |
| MEDAG  | 1.1E-14  | 0.6379982| 1.892688    | 0.286  | 0.135  | 3.867E-10 |
| RAMP1  | 5.23E-23 | 0.6378858| 1.892476    | 0.202  | 0.032  | 1.72E-18 |
| Gene       | Fold Change | Log2 Fold Change | p-value 1 | p-value 2 | q-value | E-value |
|------------|-------------|-----------------|-----------|-----------|---------|---------|
| LINC00643 | 5.86E-20    | 1.892331        | 0.156     | 0.019     | 1.929E-15|
| ATP6V1A   | 6.96E-49    | 1.891212        | 0.979     | 0.916     | 2.29E-44 |
| TP53BP1   | 9.19E-25    | 1.890785        | 0.783     | 0.629     | 3.02E-20 |
| CHD3      | 4.05E-40    | 1.890553        | 0.909     | 0.747     | 1.33E-35 |
| SERPINB9  | 5.86E-19    | 1.890215        | 0.335     | 0.169     | 1.93E-14 |
| HDAC9     | 1.24E-16    | 1.889828        | 0.284     | 0.123     | 4.08E-12 |
| DENND3    | 5.91E-17    | 1.889805        | 0.393     | 0.239     | 1.94E-12 |
| NR2F1-AS1 | 3.24E-22    | 1.888931        | 0.708     | 0.615     | 8.53E-20 |
| PLEKHG2   | 2.59E-24    | 1.888627        | 0.588     | 0.385     | 2.29E-44 |
| PRNP      | 1.88E-71    | 1.885055        | 0.207     | 0.023     | 6.19E-67 |
| RASGRF2   | 1.95E-26    | 1.885005        | 1         | 1         | 6.19E-67 |
| RPS27L    | 2.2E-110    | 1.884327        | 0.764     | 0.622     | 5.21E-20 |
| TGFB1I1   | 7.93E-71    | 1.884903        | 0.998     | 0.988     | 2.60E-66 |
| GALNT7    | 1.58E-24    | 1.884372        | 1         | 1         | 2.76E-118|
| CRIM1     | 8.4E-123    | 1.884226        | 1         | 1         | 3.98E-30 |
| AGPAT3    | 1.21E-34    | 1.883982        | 0.931     | 0.814     | 8.44E-18 |
| SINHCAF   | 2.57E-22    | 1.883437        | 0.661     | 0.478     | 5.74E-13 |
| SLC15A3   | 1.74E-17    | 1.88236         | 0.332     | 0.158     | 7.28E-106|
| NOX4      | 3.04E-19    | 1.881563        | 0.243     | 0.079     | 1.00E-14 |
| NFE2L3    | 4.8E-21     | 1.880819        | 0.185     | 0.037     | 1.58E-16 |
| SYNO2L    | 1.09E-21    | 1.879033        | 0.29      | 0.114     | 3.57E-17 |
| RNF207    | 4.71E-18    | 1.876304        | 0.261     | 0.114     | 1.55E-13 |
| TNFAIP2   | 3.24E-21    | 1.876017        | 0.658     | 0.483     | 1.06E-16 |
| OBSL1     | 1.85E-23    | 1.87585         | 0.731     | 0.568     | 6.07E-19 |
| ZNF703    | 1.78E-34    | 1.875455        | 0.862     | 0.71      | 5.85E-30 |
| H2AC6     | 7.15E-14    | 1.875405        | 0.292     | 0.128     | 2.35E-09 |
| COL13A1   | 2.35E-27    | 1.875325        | 0.712     | 0.575     | 7.74E-23 |
| RIPOR2    | 3.76E-16    | 1.87341         | 0.301     | 0.146     | 1.23E-11 |
| SLC14A1   | 9.77E-07    | 1.872768        | 0.165     | 0.111     | 0.0321518|
| ABHD4     | 1.36E-16    | 1.86974         | 0.584     | 0.432     | 4.46E-12 |
| PLCXD4    | 1.18E-10    | 1.868223        | 0.12      | 0.042     | 3.87E-06 |
| ARL5B     | 1.41E-22    | 1.868022        | 0.668     | 0.513     | 4.63E-18 |
| RBPMS     | 9.38E-40    | 1.866982        | 0.965     | 0.884     | 3.08E-35 |
| PKIG      | 1.58E-45    | 1.864284        | 0.975     | 0.891     | 5.18E-41 |
| STON1     | 7.92E-21    | 1.860746        | 0.485     | 0.274     | 2.60E-16 |
| SHC4      | 6.07E-15    | 1.859311        | 0.252     | 0.111     | 1.97E-10 |
| NUDT16L1  | 6.29E-25    | 1.85869         | 0.796     | 0.668     | 2.06E-20 |
| DZIP3     | 3.09E-16    | 1.858095        | 0.553     | 0.387     | 1.01E-11 |
| CA12      | 7.64E-15    | 1.85777         | 0.83      | 0.78      | 2.51E-10 |
| NABP1     | 5.34E-25    | 1.856247        | 0.942     | 0.896     | 1.75E-20 |
| Gene          | Log2Ratio | FDR       | Z-score  | p-value  |
|---------------|-----------|-----------|----------|----------|
| EVA1C         | 2.08E-16  | 0.6179652 | 1.855149 | 0.345    | 6.846E-12 |
| SPART         | 4.22E-41  | 0.6173236 | 1.853959 | 0.965    | 0.863     | 1.387E-36 |
| SERTAD4-AS1   | 9.93E-30  | 0.6172756 | 1.85387  | 0.403    | 0.148     | 3.269E-25 |
| PGPEP1        | 3.81E-22  | 0.6172325 | 1.853791 | 0.544    | 0.394     | 1.252E-17 |
| INKA2         | 1.74E-18  | 0.6166186 | 1.852653 | 0.31     | 0.142     | 5.717E-14 |
| ITGA2         | 3.46E-46  | 0.6163194 | 1.852099 | 0.983    | 0.907     | 1.138E-41 |
| ASAP3         | 1.03E-17  | 0.6161227 | 1.851734 | 0.397    | 0.2       | 3.392E-13 |
| NLGN1         | 5.28E-19  | 0.615422  | 1.850437 | 0.498    | 0.292     | 1.736E-14 |
| CILK1         | 5.16E-16  | 0.6152374 | 1.850096 | 0.704    | 0.571     | 1.763E-18 |
| ZBTB38        | 1.84E-72  | 0.6141554 | 1.848095 | 0.999    | 0.977     | 6.048E-68 |
| TEAD2         | 5.36E-23  | 0.613603  | 1.847074 | 0.6      | 0.476     | 1.763E-18 |
| SMCHD1        | 1.74E-25  | 0.613108  | 1.84616  | 0.894    | 0.768     | 5.722E-21 |
| CTTNBP2NL     | 2.1E-28   | 0.6127877 | 1.845569 | 0.915    | 0.81      | 5.459E-26 |
| APOL2         | 1.58E-20  | 0.6123701 | 1.844799 | 0.521    | 0.348     | 5.195E-16 |
| CTNND1        | 1.35E-44  | 0.6087996 | 1.838224 | 0.979    | 0.914     | 4.443E-40 |
| DIPK2A        | 7.5E-15   | 0.6087659 | 1.838162 | 0.546    | 0.422     | 2.466E-10 |
| ZNF281        | 3.93E-34  | 0.608369  | 1.837432 | 0.971    | 0.91      | 1.293E-29 |
| PSMB8         | 1.66E-30  | 0.6078739 | 1.836523 | 0.915    | 0.81      | 5.459E-26 |
| RTKN2         | 1.11E-13  | 0.6078442 | 1.836468 | 0.322    | 0.223     | 3.646E-09 |
| ICAM1         | 5.1E-12   | 0.6077748 | 1.836341 | 0.149    | 0.044     | 1.679E-07 |
| LPAR6         | 1.53E-17  | 0.6067657 | 1.836126 | 0.313    | 0.135     | 5.049E-13 |
| FERMT2        | 2.49E-75  | 0.6073168 | 1.8355   | 1        | 0.995     | 8.206E-71 |
| SLC30A7       | 9.15E-30  | 0.6062527 | 1.833548 | 0.918    | 0.826     | 3.01E-25  |
| PBX1          | 2.34E-31  | 0.6053558 | 1.831904 | 0.904    | 0.796     | 7.702E-27 |
| KLF5          | 7.48E-12  | 0.6047391 | 1.830775 | 0.472    | 0.397     | 2.462E-07 |
| LRP5          | 4.06E-22  | 0.6047153 | 1.830731 | 0.428    | 0.234     | 1.335E-17 |
| KANK2         | 6.43E-83  | 0.6047033 | 1.830709 | 1        | 0.991     | 2.116E-78 |
| CBSL          | 3.45E-29  | 0.6045449 | 1.830419 | 0.774    | 0.578     | 1.135E-24 |
| DCLK2         | 2.15E-18  | 0.6029623 | 1.827524 | 0.431    | 0.225     | 7.077E-14 |
| MYOCD         | 2.75E-17  | 0.6029071 | 1.827424 | 0.136    | 0.016     | 9.048E-13 |
| STAMBPL1      | 1.2E-21   | 0.6025809 | 1.826828 | 0.782    | 0.677     | 3.945E-17 |
| TGFB2         | 2.2E-12   | 0.6023974 | 1.826492 | 0.277    | 0.165     | 7.224E-08 |
| PTGER2        | 1.67E-11  | 0.6020918 | 1.825934 | 0.3      | 0.188     | 5.481E-07 |
| ECHDC2        | 4.02E-18  | 0.6015934 | 1.825024 | 0.522    | 0.392     | 1.322E-13 |
| SMARCA1       | 2.47E-45  | 0.6011486 | 1.824213 | 0.989    | 0.94      | 8.134E-41 |
| TTC8          | 2.83E-21  | 0.6006019 | 1.823216 | 0.7      | 0.568     | 9.318E-17 |
| ISG15         | 6.19E-32  | 0.5993083 | 1.820859 | 0.869    | 0.791     | 2.038E-27 |
| ZBTB20        | 9.08E-20  | 0.5990369 | 1.820365 | 0.849    | 0.77      | 2.987E-15 |
| ZSCAN31       | 3.29E-12  | 0.5984172 | 1.819237 | 0.134    | 0.037     | 1.083E-07 |
| CNN2          | 3.5E-123  | 0.5979965 | 1.818472 | 1        | 1         | 1.14E-118 |
| Gene      | Start | End   | Start Site | End Site | Start Coord | End Coord |
|-----------|-------|-------|------------|----------|-------------|-----------|
| SYNGR1    | 1.66E-21 | 0.59731 | 1.817224  | 0.698    | 0.601       | 5.475E-17 |
| ZFPM2     | 3.62E-23 | 0.5966966 | 1.816111 | 0.183    | 0.026       | 1.191E-18 |
| NAMPTP1   | 2.54E-31 | 0.5964809 | 1.815718  | 0.724    | 0.575       | 8.369E-27 |
| PLS3      | 4E-116  | 0.5964511 | 1.815664  | 1        | 1           | 1.32E-111 |
| XRN1      | 7.46E-23 | 0.5952915 | 1.81356   | 0.785    | 0.65        | 2.456E-18 |
| ITPR2     | 1.07E-16 | 0.5938926 | 1.811024  | 0.595    | 0.492       | 3.523E-12 |
| ADAMTS1   | 2.39E-22 | 0.5935642 | 1.81043   | 1        | 1           | 1.32E-111 |
| FAH       | 2.96E-23 | 0.5932679 | 1.809893  | 0.88     | 0.789       | 9.738E-19 |
| BPGM      | 2.51E-18 | 0.5930209 | 1.809446  | 0.785    | 0.68        | 8.253E-14 |
| TCEAL4    | 4.88E-38 | 0.5925464 | 1.808588  | 0.984    | 0.97        | 1.607E-33 |
| HIBADH    | 2.3E-28  | 0.5923965 | 1.808317  | 0.895    | 0.768       | 7.57E-24  |
| BIRC6     | 3.3E-29  | 0.5919928 | 1.807587  | 0.909    | 0.789       | 1.084E-24 |
| CRYZ      | 6.58E-23 | 0.5916082 | 1.806892  | 0.788    | 0.696       | 2.166E-18 |
| IRS2      | 2.19E-21 | 0.5914352 | 1.806579  | 0.824    | 0.708       | 7.216E-17 |
| TCF7L1    | 2.59E-21 | 0.5912486 | 1.806242  | 0.569    | 0.378       | 8.512E-17 |
| LRCH2     | 6.03E-13 | 0.5910336 | 1.805854  | 0.429    | 0.285       | 1.985E-08 |
| F2R       | 4.67E-51 | 0.5909545 | 1.805711  | 0.993    | 0.921       | 1.537E-46 |
| PANX1     | 2.22E-15 | 0.5905293 | 1.804943  | 0.557    | 0.406       | 7.306E-11 |
| DDR1      | 2.24E-16 | 0.5895102 | 1.803105  | 0.425    | 0.234       | 7.383E-12 |
| DDX3X     | 8.21E-92 | 0.5886946 | 1.801635  | 1        | 0.998       | 2.701E-87 |
| PTMS      | 5.9E-156 | 0.5885846 | 1.801437  | 1        | 1           | 1.95E-151 |
| GNG11     | 4.52E-86 | 0.5885501 | 1.801375  | 1        | 0.993       | 1.488E-81 |
| SAV1      | 8.3E-30  | 0.5883808 | 1.801017  | 0.925    | 0.865       | 2.729E-25 |
| MEX3A     | 2.41E-19 | 0.5883573 | 1.801028  | 0.219    | 0.053       | 7.942E-15 |
| CAMK2N1   | 1.34E-30 | 0.5881012 | 1.800566  | 0.817    | 0.603       | 4.397E-26 |
| CAV2N1    | 3.06E-13 | 0.5880745 | 1.800518  | 0.467    | 0.304       | 1.007E-08 |
| SF3B1     | 2.69E-97 | 0.5879686 | 1.800328  | 0.999    | 0.993       | 8.844E-93 |
| DHRS7     | 1.52E-36 | 0.5878143 | 1.80005   | 0.982    | 0.919       | 4.991E-32 |
| ATXN7L3B  | 2.38E-26 | 0.5874391 | 1.799375  | 0.89     | 0.807       | 7.837E-22 |
| CBS       | 9.79E-29 | 0.5874315 | 1.799361  | 0.789    | 0.626       | 3.221E-24 |
| RICTOR    | 1.17E-20 | 0.5868969 | 1.798399  | 0.675    | 0.541       | 3.839E-16 |
| CTSC      | 2.9E-143 | 0.5865324 | 1.797744  | 1        | 0.988       | 9.38E-139 |
| TUBA4A    | 2.8E-17  | 0.5860916 | 1.796951  | 0.534    | 0.411       | 9.228E-13 |
| TRAM1     | 1.2E-104 | 0.586083  | 1.796936  | 1        | 1           | 3.8E-100 |
| VPS13B    | 4.17E-16 | 0.5859565 | 1.796709  | 0.491    | 0.341       | 1.373E-11 |
| SKIL      | 1.47E-29 | 0.5848721 | 1.794761  | 0.959    | 0.891       | 4.839E-25 |
| PPARG     | 8.77E-17 | 0.5843821 | 1.793882  | 0.191    | 0.049       | 2.887E-12 |
| BHMT2     | 1.76E-17 | 0.5838171 | 1.792869  | 0.57     | 0.459       | 5.79E-13  |
| ZMYM2     | 5.64E-17 | 0.5837622 | 1.792771  | 0.664    | 0.55        | 1.857E-12 |
| LAMC1     | 3.46E-65 | 0.5836222 | 1.79252   | 1        | 0.998       | 1.138E-60 |
| Gene   | Value   | Value   | Value   | Value   | Value  |
|--------|---------|---------|---------|---------|--------|
| ZFPM2-AS1 | 1.29E-29 | 0.5835938 | 1.792469 | 0.236  | 0.032  |
| PALMD  | 9.39E-13 | 0.5831043 | 1.791591 | 0.158  | 0.049  |
| HBD    | 8.52E-18 | 0.582569  | 1.790633 | 0.146  | 0.021  |
| ADAM9  | 5.7E-101 | 0.5803637 | 1.786688 | 1      | 0.998  |
| TRAF5  | 6.97E-16 | 0.5802144 | 1.786421 | 0.589  | 0.427  |
| ANKR3D5 | 1.29E-18 | 0.5801266 | 1.78265  | 0.658  | 0.575  |
| PALMD  | 9.39E-13 | 0.5831043 | 1.791591 | 0.158  | 0.049  |
| HBD    | 8.52E-18 | 0.582569  | 1.790633 | 0.146  | 0.021  |
| ADAM9  | 5.7E-101 | 0.5803637 | 1.786688 | 1      | 0.998  |
| TRAF5  | 6.97E-16 | 0.5802144 | 1.786421 | 0.589  | 0.427  |
| ANKR3D5 | 1.29E-18 | 0.5801266 | 1.78265  | 0.658  | 0.575  |
| PALMD  | 9.39E-13 | 0.5831043 | 1.791591 | 0.158  | 0.049  |
| HBD    | 8.52E-18 | 0.582569  | 1.790633 | 0.146  | 0.021  |
| ADAM9  | 5.7E-101 | 0.5803637 | 1.786688 | 1      | 0.998  |
| TRAF5  | 6.97E-16 | 0.5802144 | 1.786421 | 0.589  | 0.427  |
| ANKR3D5 | 1.29E-18 | 0.5801266 | 1.78265  | 0.658  | 0.575  |
| PALMD  | 9.39E-13 | 0.5831043 | 1.791591 | 0.158  | 0.049  |
| HBD    | 8.52E-18 | 0.582569  | 1.790633 | 0.146  | 0.021  |
| ADAM9  | 5.7E-101 | 0.5803637 | 1.786688 | 1      | 0.998  |
| TRAF5  | 6.97E-16 | 0.5802144 | 1.786421 | 0.589  | 0.427  |
| ANKR3D5 | 1.29E-18 | 0.5801266 | 1.78265  | 0.658  | 0.575  |
| PALMD  | 9.39E-13 | 0.5831043 | 1.791591 | 0.158  | 0.049  |
| HBD    | 8.52E-18 | 0.582569  | 1.790633 | 0.146  | 0.021  |
| ADAM9  | 5.7E-101 | 0.5803637 | 1.786688 | 1      | 0.998  |
| TRAF5  | 6.97E-16 | 0.5802144 | 1.786421 | 0.589  | 0.427  |
| ANKR3D5 | 1.29E-18 | 0.5801266 | 1.78265  | 0.658  | 0.575  |
| PALMD  | 9.39E-13 | 0.5831043 | 1.791591 | 0.158  | 0.049  |
| HBD    | 8.52E-18 | 0.582569  | 1.790633 | 0.146  | 0.021  |
| ADAM9  | 5.7E-101 | 0.5803637 | 1.786688 | 1      | 0.998  |
| TRAF5  | 6.97E-16 | 0.5802144 | 1.786421 | 0.589  | 0.427  |
| ANKR3D5 | 1.29E-18 | 0.5801266 | 1.78265  | 0.658  | 0.575  |
| PALMD  | 9.39E-13 | 0.5831043 | 1.791591 | 0.158  | 0.049  |
| HBD    | 8.52E-18 | 0.582569  | 1.790633 | 0.146  | 0.021  |
| ADAM9  | 5.7E-101 | 0.5803637 | 1.786688 | 1      | 0.998  |
| TRAF5  | 6.97E-16 | 0.5802144 | 1.786421 | 0.589  | 0.427  |
| ANKR3D5 | 1.29E-18 | 0.5801266 | 1.78265  | 0.658  | 0.575  |
| PALMD  | 9.39E-13 | 0.5831043 | 1.791591 | 0.158  | 0.049  |
| HBD    | 8.52E-18 | 0.582569  | 1.790633 | 0.146  | 0.021  |
| ADAM9  | 5.7E-101 | 0.5803637 | 1.786688 | 1      | 0.998  |
| TRAF5  | 6.97E-16 | 0.5802144 | 1.786421 | 0.589  | 0.427  |
| ANKR3D5 | 1.29E-18 | 0.5801266 | 1.78265  | 0.658  | 0.575  |
| PALMD  | 9.39E-13 | 0.5831043 | 1.791591 | 0.158  | 0.049  |
| HBD    | 8.52E-18 | 0.582569  | 1.790633 | 0.146  | 0.021  |
| ADAM9  | 5.7E-101 | 0.5803637 | 1.786688 | 1      | 0.998  |
| TRAF5  | 6.97E-16 | 0.5802144 | 1.786421 | 0.589  | 0.427  |
| ANKR3D5 | 1.29E-18 | 0.5801266 | 1.78265  | 0.658  | 0.575  |
| Gene        | Score 1 | Score 2 | Score 3 | Score 4 | Score 5 | Score 6 |
|-------------|---------|---------|---------|---------|---------|---------|
| CU633967.1  | 3.61E-33| 0.5639646| 1.757627| 0.648   | 0.434   | 1.188E-28|
| MYO6        | 8.19E-16| 0.563185 | 1.756257| 0.83    | 0.745   | 2.693E-11|
| NEGR1       | 1.14E-29| 0.5629692| 1.755878| 0.951   | 0.852   | 3.763E-25|
| CDH13       | 2.78E-30| 0.5627329| 1.75463| 0.973   | 0.896   | 9.137E-26|
| PLAG1       | 1.24E-13| 0.5626352| 1.755292| 0.339   | 0.202   | 4.089E-09|
| VSIR        | 5.2E-15 | 0.5625032| 1.75506 | 0.452   | 0.306   | 1.71E-10 |
| ARL4C       | 4.54E-17 | 0.5624839| 1.755026| 0.679   | 0.541   | 1.493E-12|
| LEPR        | 1.39E-16 | 0.5624332| 1.754937| 0.58    | 0.432   | 4.584E-12|
| GCC2        | 5.73E-29 | 0.5623636| 1.754815| 0.913   | 0.768   | 1.885E-24|
| AC005261.1  | 5.53E-14 | 0.5622306| 1.754582| 0.83    | 0.745   | 2.693E-11|
| CDH13       | 2.13E-23 | 0.5621626| 1.753515| 0.339   | 0.202   | 4.089E-09|
| ARHGEF12    | 3.98E-42 | 0.5620304| 1.753075| 0.679   | 0.541   | 1.493E-12|
| CCDC28B     | 8.54E-19 | 0.5599775| 1.75063 | 0.452   | 0.306   | 1.71E-10 |
| C1orf54     | 1.95E-24 | 0.559832 | 1.750378| 0.679   | 0.541   | 1.493E-12|
| LACTB2      | 8.35E-21 | 0.5597377| 1.750213| 0.452   | 0.306   | 1.71E-10 |
| ETNK1       | 1.32E-22 | 0.5594671| 1.74974 | 0.83    | 0.745   | 2.693E-11|
| CEH70       | 4.15E-14 | 0.5587041| 1.748405| 0.58    | 0.432   | 4.584E-12|
| KIF3A       | 3.34E-15 | 0.5587005| 1.748399| 0.631   | 0.55    | 1.101E-10|
| TOB1        | 4.52E-23 | 0.5584612| 1.747981| 0.915   | 0.84    | 1.486E-18|
| ARMC4       | 5.47E-16 | 0.5578631| 1.746935| 0.186   | 0.053   | 1.799E-11|
| CREB2F      | 1.05E-15 | 0.556952 | 1.745345| 0.575   | 0.497   | 3.441E-11|
| CDKN1A      | 9.73E-07 | 0.5569219| 1.745292| 0.969   | 0.977   | 0.0320082|
| YEAT2       | 4.55E-17 | 0.5560071| 1.743696| 0.646   | 0.536   | 1.497E-12|
| C12orf57    | 5.97E-52 | 0.555819 | 1.743368| 0.973   | 0.956   | 1.963E-47|
| DDIT3       | 7.21E-16 | 0.554717 | 1.741448| 0.605   | 0.531   | 2.373E-11|
| PTGER4      | 1.27E-11 | 0.5546986| 1.741416| 0.223   | 0.097   | 4.191E-07|
| TSHZ1       | 7.3E-18  | 0.5546251| 1.741288| 0.77    | 0.666   | 2.403E-13|
| PSME4       | 1.11E-31 | 0.553779 | 1.739118| 0.666   | 0.884   | 3.659E-27|
| RANBP17     | 5.82E-14 | 0.553709 | 1.739105| 0.236   | 0.111   | 1.916E-09|
| ABI2        | 3.11E-30 | 0.553274 | 1.73903 | 0.955   | 0.9    | 1.024E-25|
| UBR1        | 1.3E-20  | 0.5532858| 1.738957| 0.699   | 0.587   | 4.289E-16|
| KCNH1       | 1.76E-18 | 0.5532138| 1.738832| 0.163   | 0.03    | 5.78E-14 |
| PIANP       | 3.11E-20 | 0.5530623| 1.738569| 0.206   | 0.049   | 1.022E-15|
| FTYTD1      | 4.04E-49 | 0.5530465| 1.738541| 0.995   | 0.972   | 1.33E-44 |
| SNAI2       | 3.1E-33  | 0.5529042| 1.738294| 0.976   | 0.926   | 1.019E-28|
| AC007920.2  | 1.54E-14 | 0.5526311| 1.737819| 0.287   | 0.125   | 5.06E-10 |
| MKLN1       | 1.33E-25 | 0.5518083| 1.73639 | 0.86    | 0.775   | 4.389E-21|
| IFITM2      | 1.98E-93 | 0.5515537| 1.735948| 1       | 1       | 6.501E-89|
| PRKAR1B     | 8.29E-21 | 0.5513956| 1.735674| 0.346   | 0.139   | 2.728E-16|
| BAZ2A       | 2.82E-22 | 0.5507443| 1.734544| 0.793   | 0.71    | 9.293E-18|
| Gene      | Score  | p-value  | Z-score | p-a | p-b | p-c |
|-----------|--------|----------|---------|-----|-----|-----|
| RUNX2     | 2.24E-17 | 0.5502426 | 1.733674 | 0.633 | 0.515 | 7.368E-13 |
| HDGFL3    | 1.26E-36 | 0.5499355 | 1.733141 | 0.961 | 0.863 | 4.131E-32 |
| MB21D2    | 2.38E-16 | 0.5494501 | 1.7323  | 0.603 | 0.459 | 7.834E-12 |
| METTL7A   | 7.51E-13 | 0.549274  | 1.731995 | 0.497 | 0.362 | 2.472E-08 |
| NMNAT2    | 1.41E-14 | 0.5489685 | 1.731466 | 0.253 | 0.114 | 4.639E-10 |
| TOP2B     | 4.85E-32 | 0.54585   | 1.730655 | 0.965 | 0.893 | 1.595E-27 |
| HDGFL3    | 1.26E-36 | 0.5499355 | 1.733141 | 0.961 | 0.863 | 4.131E-32 |
| MB21D2    | 2.38E-16 | 0.5494501 | 1.7323  | 0.603 | 0.459 | 7.834E-12 |
| METTL7A   | 7.51E-13 | 0.549274  | 1.731995 | 0.497 | 0.362 | 2.472E-08 |
| NMNAT2    | 1.41E-14 | 0.5489685 | 1.731466 | 0.253 | 0.114 | 4.639E-10 |
| TOP2B     | 4.85E-32 | 0.54585   | 1.730655 | 0.965 | 0.893 | 1.595E-27 |
| HDGFL3    | 1.26E-36 | 0.5499355 | 1.733141 | 0.961 | 0.863 | 4.131E-32 |
| MB21D2    | 2.38E-16 | 0.5494501 | 1.7323  | 0.603 | 0.459 | 7.834E-12 |
| METTL7A   | 7.51E-13 | 0.549274  | 1.731995 | 0.497 | 0.362 | 2.472E-08 |
| NMNAT2    | 1.41E-14 | 0.5489685 | 1.731466 | 0.253 | 0.114 | 4.639E-10 |
| TOP2B     | 4.85E-32 | 0.54585   | 1.730655 | 0.965 | 0.893 | 1.595E-27 |
| Gene         | Value       | P-value   | FDR       | Alpha     | Beta      | Z-score  |
|--------------|-------------|-----------|-----------|-----------|-----------|----------|
| AEBP2        | 1.91E-19    | 0.5361738 | 1.709454  | 0.733     | 0.65      | 6.285E-15|
| MOV10        | 1.92E-17    | 0.5360357 | 1.709218  | 0.668     | 0.536     | 6.317E-13|
| NCOR1        | 2.1E-40     | 0.5355643 | 1.708412  | 0.987     | 0.949     | 6.924E-36|
| RUNX1        | 7.02E-17    | 0.5348465 | 1.707186  | 0.883     | 0.838     | 2.308E-12|
| JARID2       | 2.66E-12    | 0.5347972 | 1.707102  | 0.448     | 0.332     | 8.736E-08|
| AC080983.1   | 7.16E-26    | 0.534638  | 1.70683   | 0.209     | 0.028     | 2.355E-21|
| MTND5P11     | 7.35E-59    | 0.5344106 | 1.706442  | 0.9       | 0.796     | 2.417E-54|
| CTNNB1       | 4.71E-73    | 0.5340131 | 1.705764  | 0.987     | 0.949     | 6.924E-36|
| DZIP1        | 4.31E-26    | 0.5339664 | 1.705684  | 0.977     | 0.916     | 2.295E-12|
| ANTXR2       | 8.76E-16    | 0.5333654 | 1.70466   | 0.556     | 0.429     | 2.883E-11|
| TOP1         | 1.54E-42    | 0.533356  | 1.704644  | 0.983     | 0.898     | 5.074E-38|
| ALDH1A2      | 2.34E-20    | 0.5330445 | 1.704113  | 0.172     | 0.026     | 7.705E-16|
| ABLIM3       | 2.64E-18    | 0.533018  | 1.704067  | 0.793     | 0.471     | 8.677E-14|
| ZRSR2        | 2.57E-15    | 0.5329803 | 1.704003  | 0.398     | 0.23      | 8.452E-11|
| RAPGEF2      | 1.96E-16    | 0.5319617 | 1.702268  | 0.631     | 0.429     | 6.434E-11|
| DDX60        | 6.97E-13    | 0.5316579 | 1.701751  | 0.353     | 0.193     | 2.295E-08|
| YTHDC2       | 9.24E-15    | 0.531265  | 1.701083  | 0.547     | 0.434     | 3.04E-10 |
| LPIN2        | 2.75E-15    | 0.5310542 | 1.700724  | 0.608     | 0.48      | 9.045E-11|
| SEMA3D       | 2.5E-11     | 0.5303402 | 1.69951   | 0.375     | 0.251     | 8.233E-07|
| ACTN1        | 3E-155      | 0.5295355 | 1.698143  | 1         | 1         | 9.88E-151|
| HOXD3        | 1.98E-20    | 0.5295355 | 1.698143  | 0.209     | 0.044     | 6.508E-16|
| FAM214A      | 2.37E-12    | 0.5292064 | 1.697585  | 0.41      | 0.262     | 7.802E-08|
| RAB43        | 1.99E-19    | 0.5289358 | 1.697125  | 0.478     | 0.271     | 6.542E-15|
| AKAP8L       | 4.91E-17    | 0.5283034 | 1.696052  | 0.688     | 0.566     | 1.614E-12|
| ZSWIM6       | 4.91E-16    | 0.528217  | 1.695906  | 0.636     | 0.503     | 1.616E-11|
| TET3         | 6.61E-10    | 0.528142  | 1.695779  | 0.276     | 0.183     | 2.174E-05|
| ARFGEF2      | 3.71E-18    | 0.5278424 | 1.695271  | 0.785     | 0.691     | 1.221E-13|
| KCTD16       | 5.01E-16    | 0.5274284 | 1.694569  | 0.126     | 0.014     | 1.649E-11|
| TCF7L2       | 7.13E-18    | 0.5271946 | 1.694173  | 0.739     | 0.585     | 2.344E-13|
| HECW2        | 1.62E-12    | 0.5266028 | 1.69317   | 0.397     | 0.288     | 5.327E-08|
| TNIK         | 5.56E-10    | 0.5264211 | 1.692863  | 0.239     | 0.137     | 1.828E-05|
| SNCAIP        | 4.85E-11    | 0.5268829 | 1.691952  | 0.314     | 0.186     | 1.595E-06|
| HEXIM1       | 2.07E-23    | 0.5245834 | 1.689755  | 0.927     | 0.87      | 6.798E-19|
| HIVEP1       | 3.89E-12    | 0.5238447 | 1.688507  | 0.365     | 0.237     | 1.281E-07|
| IGFBP4       | 9.22E-81    | 0.5234494 | 1.68784   | 1         | 1         | 3.032E-76|
| MAP1A        | 5.56E-30    | 0.5230574 | 1.687178  | 0.985     | 0.956     | 1.828E-25|
| VPS13C       | 2.48E-15    | 0.5230358 | 1.687142  | 0.64      | 0.571     | 8.161E-11|
| ZKSCAN1      | 1.76E-24    | 0.5229255 | 1.686956  | 0.959     | 0.926     | 5.775E-20|
| PYCARD       | 6.72E-18    | 0.5225314 | 1.686291  | 0.78      | 0.68      | 2.21E-13 |
| Gene       | Value_1  | Value_2  | Value_3  | Value_4  | Value_5  | Value_6      |
|------------|----------|----------|----------|----------|----------|--------------|
| APPBP2     | 3.2E-22  | 0.5224776| 1.6862   | 0.879    | 0.798    | 1.053E-17    |
| LINC01139  | 1.78E-13 | 0.5222336| 1.685789 | 0.201    | 0.081    | 5.861E-09    |
| FYCO1      | 2.11E-14 | 0.5218481| 1.685139 | 0.446    | 0.288    | 6.956E-10    |
| DUBR       | 9.16E-11 | 0.5218049| 1.685066 | 0.479    | 0.362    | 3.014E-06    |
| NAP1L5     | 4.48E-14 | 0.521612  | 1.684741 | 0.452    | 0.323    | 1.474E-09    |
| TAX1BP1    | 3.27E-69 | 0.5214238| 1.684424 | 1        | 1        | 1.076E-64    |
| RNF217     | 3.07E-13 | 0.5213903| 1.683636 | 0.635    | 0.548    | 1.009E-08    |
| PRKCI      | 5.2E-29  | 0.5213773 | 1.684346 | 0.94     | 0.886    | 1.711E-24    |
| TTYH3      | 3.41E-31 | 0.5212915| 1.682401 | 0.936    | 0.854    | 1.123E-26    |
| SMARCA5    | 4.81E-47 | 0.5207304 | 1.683257 | 0.995    | 0.961    | 1.582E-42    |
| NUPR1      | 5.72E-18 | 0.5195388 | 1.681252 | 0.893    | 0.865    | 1.881E-13    |
| DEPP1      | 1.81E-09 | 0.5194064 | 1.68103  | 0.166    | 0.067    | 5.942E-05    |
| PIK3C2A    | 4.34E-21 | 0.5185633 | 1.679613 | 0.85     | 0.733    | 1.429E-16    |
| USO1       | 1.03E-50 | 0.5185067 | 1.679518 | 1        | 0.979    | 3.386E-46    |
| APOBEC3F   | 4.36E-18 | 0.5183576 | 1.679267 | 0.275    | 0.111    | 1.435E-13    |
| POMK       | 3.04E-17 | 0.5171632 | 1.677263 | 0.693    | 0.606    | 9.998E-13    |
| SLC8A1     | 1.99E-18 | 0.516177  | 1.67561  | 0.884    | 0.8       | 6.548E-14    |
| CCNG1      | 6.53E-34 | 0.5157239 | 1.674851 | 0.987    | 0.963    | 2.148E-29    |
| APBB1IP    | 3.86E-20 | 0.5156338 | 1.6747   | 0.342    | 0.128    | 1.27E-15     |
| DUSP10     | 2.01E-17 | 0.5152027 | 1.673978 | 0.801    | 0.657    | 6.603E-13    |
| LINC01085  | 1.74E-13 | 0.5151802 | 1.67394  | 0.355    | 0.197    | 5.712E-09    |
| RBMS3      | 3.82E-17 | 0.513716  | 1.671491 | 0.863    | 0.78     | 1.257E-12    |
| H2BC8      | 1.06E-15 | 0.5135926 | 1.671285 | 0.151    | 0.035    | 3.481E-11    |
| TNFRSF14   | 1.98E-11 | 0.5126139 | 1.66965  | 0.363    | 0.251    | 6.505E-07    |
| PSTPIP2    | 2.26E-11 | 0.512553  | 1.669548 | 0.411    | 0.271    | 7.439E-07    |
| RANBP2     | 1.57E-28 | 0.5120704 | 1.668743 | 0.952    | 0.865    | 5.182E-24    |
| NAV3       | 1.06E-15 | 0.5120249 | 1.668667 | 0.844    | 0.784    | 3.474E-11    |
| IP6K2      | 2.88E-22 | 0.5117474 | 1.668204 | 0.873    | 0.787    | 9.492E-18    |
| BBX        | 9.93E-28 | 0.5115495 | 1.667873 | 0.987    | 0.968    | 3.269E-23    |
| USP11      | 1.22E-24 | 0.5103103 | 1.665808 | 0.888    | 0.773    | 3.998E-20    |
| TUG1       | 3.8E-33  | 0.5101956 | 1.665617 | 0.993    | 0.968    | 1.249E-28    |
| USP44      | 4.92E-18 | 0.5097826 | 1.664929 | 0.133    | 0.014    | 1.62E-13     |
| MAP3K20    | 4.42E-55 | 0.509753  | 1.66488  | 1        | 1        | 1.455E-50    |
| EPS8L2     | 6.38E-13 | 0.5094167 | 1.66432  | 0.472    | 0.35     | 2.098E-08    |
| INMT       | 9.74E-12 | 0.5090466 | 1.663704 | 0.14     | 0.056    | 3.205E-07    |
| INS-IGF2   | 4.39E-65 | 0.5089885 | 1.663602 | 0.367    | 0.016    | 1.443E-60    |
| TCEAL1     | 1.15E-16 | 0.5087828 | 1.663266 | 0.785    | 0.715    | 3.789E-12    |
| CHD4       | 2.17E-54 | 0.5084822 | 1.662765 | 1        | 0.979    | 7.134E-50    |
| NFIA       | 3.82E-14 | 0.5069515 | 1.660222 | 0.558    | 0.49     | 1.258E-09    |
| AP003068.2 | 1.92E-17 | 0.5067479 | 1.659884 | 0.189    | 0.049    | 6.313E-13    |
| Gene     | Score     | False Discovery Rate | Log Fold Change | p-Value   | Adjusted p-Value | FDR Q-Value |
|----------|-----------|----------------------|-----------------|-----------|-----------------|-------------|
| PRRG1    | 3.51E-12  | 0.5066278            | 1.659685        | 0.435     | 0.353           | 1.154E-07   |
| ZNF292   | 9.72E-17  | 0.5062826            | 1.659112        | 0.752     | 0.629           | 3.197E-12   |
| WDFY3    | 2.34E-14  | 0.5062606            | 1.659076        | 0.54      | 0.462           | 7.688E-10   |
| MAP4K3   | 2.95E-14  | 0.5061968            | 1.658977        | 0.577     | 0.485           | 9.703E-10   |
| TNFRSF10B| 1.13E-18  | 0.5059571            | 1.658572        | 0.841     | 0.733           | 3.73E-14    |
| PKD2     | 1.41E-20  | 0.505832             | 1.658365        | 0.925     | 0.838           | 4.635E-16   |
| ARID4A   | 1.76E-11  | 0.5056357            | 1.658039        | 0.514     | 0.383           | 5.78E-07    |
| VGLL3    | 4.13E-30  | 0.5051087            | 1.657166        | 0.987     | 0.954           | 1.359E-25   |
| ITGA11   | 9.64E-12  | 0.5049955            | 1.656978        | 0.689     | 0.64            | 3.172E-07   |
| MBNL2    | 1.59E-28  | 0.504841             | 1.656722        | 0.976     | 0.937           | 1.927E-23   |
| CAND1    | 5.86E-28  | 0.504385             | 1.655957        | 0.869     | 0.77            | 3.475E-13   |
| TPST1    | 1.06E-17  | 0.504385             | 1.655957        | 0.869     | 0.77            | 3.475E-13   |
| BPTF     | 2.87E-27  | 0.504376             | 1.655952        | 0.971     | 0.916           | 9.429E-23   |
| PSMA5    | 3.05E-84  | 0.5039613            | 1.655265        | 1         | 1               | 1.002E-07   |
| PI4KB    | 1.57E-21  | 0.5038906            | 1.655148        | 0.865     | 0.826           | 5.153E-17   |
| COL4A5   | 1.31E-11  | 0.5035722            | 1.654621        | 0.268     | 0.158           | 4.305E-07   |
| FZD6     | 1.04E-21  | 0.5030004            | 1.653675        | 0.939     | 0.872           | 3.428E-17   |
| GRAMD2B  | 1.57E-15  | 0.5028468            | 1.653422        | 0.805     | 0.694           | 5.181E-11   |
| MIPEP    | 7.57E-12  | 0.5024935            | 1.652837        | 0.558     | 0.497           | 2.491E-07   |
| ZNF880   | 2.09E-13  | 0.5016673            | 1.651472        | 0.441     | 0.288           | 6.868E-09   |
| MBNL1-AS1| 7.48E-11  | 0.5010923            | 1.650523        | 0.517     | 0.443           | 2.463E-06   |
| LYST     | 1.42E-15  | 0.5004151            | 1.649406        | 0.664     | 0.596           | 4.675E-11   |
| KDM5A    | 1.34E-21  | 0.5001457            | 1.648962        | 0.91      | 0.798           | 4.405E-17   |
| POGZ     | 1.29E-17  | 0.4996295            | 1.64811         | 0.793     | 0.684           | 4.253E-13   |
| ADAR     | 1.25E-25  | 0.4992007            | 1.647404        | 0.961     | 0.928           | 4.119E-21   |
| PSMB10   | 2.25E-20  | 0.4991677            | 1.64735         | 0.765     | 0.701           | 7.469E-16   |
| PHF3     | 6.24E-18  | 0.498395             | 1.646077        | 0.885     | 0.775           | 2.054E-13   |
| TP53INP1 | 4.3E-09   | 0.4981458            | 1.645667        | 0.355     | 0.248           | 0.0001416   |
| STAT2    | 3.37E-16  | 0.4979984            | 1.645424        | 0.751     | 0.659           | 1.109E-11   |
| TMEM140  | 9.59E-14  | 0.4979293            | 1.645311        | 0.16      | 0.051           | 3.154E-09   |
| CMTM3    | 1.52E-19  | 0.4978734            | 1.645219        | 0.893     | 0.787           | 5.000E-15   |
| DTX3     | 1.08E-13  | 0.4976806            | 1.644902        | 0.436     | 0.306           | 3.538E-09   |
| AGO1     | 2.77E-13  | 0.4971379            | 1.644009        | 0.64      | 0.566           | 9.126E-09   |
| MCAM     | 2.86E-12  | 0.4969638            | 1.643723        | 0.628     | 0.527           | 9.401E-08   |
| STX6     | 1.18E-15  | 0.4969279            | 1.643664        | 0.629     | 0.557           | 3.888E-11   |
| MFGE8    | 3.76E-16  | 0.496913             | 1.643639        | 0.981     | 0.958           | 1.238E-11   |
| KMT5B    | 8.64E-16  | 0.4966786            | 1.643254        | 0.748     | 0.682           | 2.842E-11   |
| GTF2E1   | 1.55E-10  | 0.4965384            | 1.643024        | 0.509     | 0.401           | 5.09E-06    |
| MOSPD1   | 3.97E-14  | 0.4959822            | 1.642111        | 0.785     | 0.696           | 1.306E-09   |
| Gene    | p-value  | Log2 Fold Change | FPKM   | FDR     | Log2 Fold Change | FPKM   | FDR     | Log2 Fold Change | FPKM   | FDR     |
|---------|----------|------------------|--------|---------|-----------------|--------|---------|-----------------|--------|---------|
| SSBP2   | 5.96E-14 | 0.4947404        | 1.640072 | 0.717  | 0.643           | 1.96E-09 |         |                 |        |         |
| PDE9A   | 1E-21    | 0.4947089        | 1.640021 | 0.167  | 0.023           | 3.294E-17 |         |                 |        |         |
| CRY1    | 3.27E-12 | 0.4946634        | 1.639946 | 0.482  | 0.336           | 1.075E-07 |         |                 |        |         |
| TEAD1   | 1.47E-54 | 0.4946219        | 1.639878 | 1      | 1               | 4.842E-50 |         |                 |        |         |
| SNHG8   | 3.76E-21 | 0.4945532        | 1.639765 | 0.778  | 0.675           | 1.235E-16 |         |                 |        |         |
| EIF2S3  | 2.33E-61 | 0.491871         | 1.639165 | 1      | 0.998           | 7.674E-57 |         |                 |        |         |
| PDE9A   | 1E-21    | 0.4947089        | 1.640021 | 0.167  | 0.023           | 3.294E-17 |         |                 |        |         |
| CRY1    | 3.27E-12 | 0.4946634        | 1.639946 | 0.482  | 0.336           | 1.075E-07 |         |                 |        |         |
| TEAD1   | 1.47E-54 | 0.4946219        | 1.639878 | 1      | 1               | 4.842E-50 |         |                 |        |         |
| SNHG8   | 3.76E-21 | 0.4945532        | 1.639765 | 0.778  | 0.675           | 1.235E-16 |         |                 |        |         |
| EIF2S3  | 2.33E-61 | 0.491871         | 1.639165 | 1      | 0.998           | 7.674E-57 |         |                 |        |         |
| PDE9A   | 1E-21    | 0.4947089        | 1.640021 | 0.167  | 0.023           | 3.294E-17 |         |                 |        |         |
| CRY1    | 3.27E-12 | 0.4946634        | 1.639946 | 0.482  | 0.336           | 1.075E-07 |         |                 |        |         |
| TEAD1   | 1.47E-54 | 0.4946219        | 1.639878 | 1      | 1               | 4.842E-50 |         |                 |        |         |
| SNHG8   | 3.76E-21 | 0.4945532        | 1.639765 | 0.778  | 0.675           | 1.235E-16 |         |                 |        |         |
| EIF2S3  | 2.33E-61 | 0.491871         | 1.639165 | 1      | 0.998           | 7.674E-57 |         |                 |        |         |
| Gene      | Log2FoldChange | Expression | FDR  | qValue | BP     |
|-----------|---------------|------------|------|--------|--------|
| GOLGA8B   | 7.09E-18      | 1.624344   | 0.599| 0.527  | 2.334E-13|
| MARCHF9   | 1.61E-13      | 1.623977   | 0.228| 0.107  | 5.282E-09|
| SECISBP2L | 1.91E-20      | 1.623697   | 0.896| 0.798  | 6.298E-16|
| TPBG      | 3.54E-23      | 1.622864   | 0.99 | 0.97   | 1.165E-18|
| CUL5      | 8.37E-24      | 1.622716   | 0.971| 0.916  | 2.754E-19|
| DGKH      | 2.74E-09      | 1.622084   | 0.581| 0.506  | 9.031E-05|
| BBC3      | 1.34E-14      | 1.621048   | 0.434| 0.258  | 4.392E-10|
| DTX3L     | 6.61E-14      | 1.620248   | 0.592| 0.499  | 7.9E-09  |
| ROGDI     | 2.61E-11      | 1.620732   | 0.459| 0.339  | 8.574E-07|
| TBL1XR1   | 9.77E-23      | 1.620134   | 0.952| 0.912  | 3.215E-18|
| RIC1      | 2.4E-13       | 1.620031   | 0.592| 0.499  | 7.9E-09  |
| HTR7P1    | 3.18E-09      | 1.619919   | 0.296| 0.186  | 0.0001047|
| HACD1     | 4.06E-14      | 1.619744   | 0.871| 0.807  | 1.334E-09|
| BTN3A1    | 1.07E-09      | 1.619737   | 0.43 | 0.313  | 3.531E-05|
| DHX36     | 1.58E-25      | 1.619012   | 0.98 | 0.928  | 5.196E-21|
| SOCS5     | 8.48E-30      | 1.618126   | 0.971| 0.896  | 2.791E-25|
| SIDT2     | 1.13E-14      | 1.616734   | 0.588| 0.506  | 3.723E-10|
| PITX1     | 1.95E-22      | 1.616664   | 0.382| 0.515  | 6.422E-18|
| TAPBP     | 1.68E-20      | 1.616536   | 0.951| 0.921  | 5.519E-16|
| TNRC6B    | 2.59E-13      | 1.616515   | 0.803| 0.74   | 8.523E-09|
| MSMO1     | 5.19E-11      | 1.616019   | 0.863| 0.856  | 1.708E-06|
| TRIM13    | 3.81E-12      | 1.615629   | 0.605| 0.492  | 1.254E-07|
| GAS5      | 5.19E-37      | 1.615025   | 0.999| 0.991  | 1.707E-32|
| MAP3K12   | 1.24E-15      | 1.614105   | 0.514| 0.406  | 4.09E-11 |
| RERE      | 2.52E-16      | 1.613885   | 0.841| 0.749  | 8.304E-12|
| STX17     | 5.16E-14      | 1.613801   | 0.667| 0.589  | 1.699E-09|
| LINC00672 | 8.21E-13      | 1.613536   | 0.266| 0.139  | 2.703E-08|
| CLTC      | 7.8E-99       | 1.613509   | 1    | 1      | 2.569E-94|
| AK3       | 9.34E-31      | 1.613014   | 0.998| 0.988  | 3.073E-26|
| HELZ      | 2.04E-11      | 1.612195   | 0.717| 0.636  | 6.721E-07|
| EXOC6B    | 3.27E-12      | 1.611127   | 0.571| 0.443  | 1.076E-07|
| PCM1      | 5.16E-21      | 1.611027   | 0.942| 0.861  | 1.699E-16|
| ADCY9     | 2.63E-13      | 1.610779   | 0.599| 0.487  | 8.665E-09|
| LZTS2     | 4.05E-19      | 1.61053    | 0.844| 0.738  | 1.333E-14|
| HEATR6    | 2.24E-12      | 1.610468   | 0.62 | 0.52   | 7.363E-08|
| CTFI      | 5.37E-19      | 1.610418   | 0.746| 0.645  | 1.767E-14|
| AIG1      | 1.28E-19      | 1.608422   | 0.895| 0.817  | 4.204E-15|
| RNF213    | 1.38E-15      | 1.608079   | 0.864| 0.766  | 4.526E-11|
| THOC2     | 8.83E-23      | 1.607575   | 0.971| 0.926  | 2.906E-18|
| LIMK2     | 4.86E-12      | 1.606717   | 0.481| 0.406  | 1.6E-07  |
| Gene       | Log2FC | Gene ID   | Description |
|------------|--------|-----------|-------------|
| TRIM58     | 1.89e-08 | 0.4740674 | 1.606515 0.229 0.158 0.0006203 |
| TMEM216    | 1.94e-10 | 0.4735811 | 1.605734 0.352 0.302 6.388e-06 |
| MAP3K5     | 2.22e-13 | 0.4720762 | 1.603319 0.508 0.515 7.294e-09 |
| PPP1R10    | 3.55e-15 | 0.4720024 | 1.603201 0.692 0.647 1.168e-10 |
| MTMR2      | 1.53e-25 | 0.4718054 | 1.602885 0.973 0.928 5.029e-21 |
| PGRMC2     | 2.75e-24 | 0.4717943 | 1.602868 0.999 0.998 9.032e-20 |
| MAP3K5     | 2.22e-13 | 0.4720762 | 1.603319 0.508 0.515 7.294e-09 |
| PPP1R10    | 3.55e-15 | 0.4720024 | 1.603201 0.692 0.647 1.168e-10 |
| MTMR2      | 1.53e-25 | 0.4718054 | 1.602885 0.973 0.928 5.029e-21 |
| PGRMC2     | 2.75e-24 | 0.4717943 | 1.602868 0.999 0.998 9.032e-20 |
| MAP3K5     | 2.22e-13 | 0.4720762 | 1.603319 0.508 0.515 7.294e-09 |
| PPP1R10    | 3.55e-15 | 0.4720024 | 1.603201 0.692 0.647 1.168e-10 |
| MTMR2      | 1.53e-25 | 0.4718054 | 1.602885 0.973 0.928 5.029e-21 |
| PGRMC2     | 2.75e-24 | 0.4717943 | 1.602868 0.999 0.998 9.032e-20 |
| MAP3K5     | 2.22e-13 | 0.4720762 | 1.603319 0.508 0.515 7.294e-09 |
| PPP1R10    | 3.55e-15 | 0.4720024 | 1.603201 0.692 0.647 1.168e-10 |
| MTMR2      | 1.53e-25 | 0.4718054 | 1.602885 0.973 0.928 5.029e-21 |
| PGRMC2     | 2.75e-24 | 0.4717943 | 1.602868 0.999 0.998 9.032e-20 |
| MAP3K5     | 2.22e-13 | 0.4720762 | 1.603319 0.508 0.515 7.294e-09 |
| PPP1R10    | 3.55e-15 | 0.4720024 | 1.603201 0.692 0.647 1.168e-10 |
| MTMR2      | 1.53e-25 | 0.4718054 | 1.602885 0.973 0.928 5.029e-21 |
| PGRMC2     | 2.75e-24 | 0.4717943 | 1.602868 0.999 0.998 9.032e-20 |
| MAP3K5     | 2.22e-13 | 0.4720762 | 1.603319 0.508 0.515 7.294e-09 |
| PPP1R10    | 3.55e-15 | 0.4720024 | 1.603201 0.692 0.647 1.168e-10 |
| MTMR2      | 1.53e-25 | 0.4718054 | 1.602885 0.973 0.928 5.029e-21 |
| PGRMC2     | 2.75e-24 | 0.4717943 | 1.602868 0.999 0.998 9.032e-20 |
| MAP3K5     | 2.22e-13 | 0.4720762 | 1.603319 0.508 0.515 7.294e-09 |
| PPP1R10    | 3.55e-15 | 0.4720024 | 1.603201 0.692 0.647 1.168e-10 |
| MTMR2      | 1.53e-25 | 0.4718054 | 1.602885 0.973 0.928 5.029e-21 |
| Gene     | 1.04E-09   | 0.4650752   | 1.592134   | 0.194 | 0.107 | 3.43E-05 |
|----------|------------|-------------|------------|-------|-------|----------|
| SCARB1   | 2.05E-11   | 0.4648904   | 1.59184    | 0.474 | 0.357 | 6.745E-07|
| HOXA3    | 7.46E-21   | 0.4646803   | 1.591505   | 0.179 | 0.03  | 2.454E-16|
| C5orf15  | 1.05E-21   | 0.4636866   | 1.589925   | 0.975 | 0.937 | 3.459E-17|
| CNTNAP1  | 8.14E-01   | 0.4636035   | 1.589792   | 0.507 | 0.397 | 2.631E-09|
| RNF41    | 2.6E-17    | 0.4629295   | 1.588721   | 0.817 | 0.798 | 8.55E-13 |
| SERPINH1 | 4.9E-125   | 0.4627235   | 1.588394   | 1     | 1     | 1.62E-120|
| F2RL2    | 1.15E-08   | 0.4623674   | 1.588257   | 0.469 | 0.364 | 0.0003791|
| PLCG1    | 2.15E-11   | 0.4623871   | 1.58786    | 0.577 | 0.499 | 7.067E-07|
| SPG11    | 1.94E-13   | 0.4621856   | 1.58754    | 0.642 | 0.564 | 6.387E-09|
| PTK7     | 2.17E-15   | 0.4616874   | 1.586749   | 0.944 | 0.916 | 7.141E-11|
| GBE1     | 7.28E-28   | 0.4608791   | 1.585467   | 0.986 | 0.968 | 2.396E-23|
| TULP4    | 5.94E-12   | 0.4604534   | 1.584792   | 0.599 | 0.508 | 1.956E-07|
| DSE      | 2.21E-20   | 0.4603291   | 1.584356   | 0.8   | 0.698 | 4.292E-11|
| EID1     | 2E-134     | 0.460206    | 1.584299   | 0.991 | 0.979 | 1.719E-25|
| UBXN7    | 1.3E-15    | 0.4601783   | 1.583758   | 0.756 | 0.636 | 2.175E-12|
| TAF7     | 5.22E-30   | 0.4601611   | 1.583299   | 0.76  | 0.698 | 6.461E-12|
| PTPN13   | 6.61E-17   | 0.4595585   | 1.583375   | 0.756 | 0.636 | 2.175E-12|
| GTF3C1   | 1.83E-15   | 0.4595267   | 1.583324   | 0.781 | 0.668 | 6.013E-11|
| SLC12A2  | 1.96E-16   | 0.4593778   | 1.583089   | 0.76  | 0.698 | 6.461E-12|
| SH3PXD2A | 5.2E-19    | 0.4582932   | 1.581373   | 0.978 | 0.944 | 1.712E-14|
| KIAA1109 | 9.24E-15   | 0.4575008   | 1.58012    | 0.757 | 0.689 | 3.039E-10|
| DCAF5    | 1.12E-14   | 0.4574681   | 1.580068   | 0.776 | 0.703 | 3.696E-10|
| BST1     | 7.92E-11   | 0.4572841   | 1.579778   | 0.543 | 0.441 | 2.606E-06|
| AFAP1L2  | 5.84E-14   | 0.4566363   | 1.578755   | 0.146 | 0.032 | 1.922E-09|
| AASDHPPPT| 1.49E-20   | 0.4565314   | 1.578589   | 0.96  | 0.914 | 4.899E-16|
| SH3BGRL  | 5.75E-25   | 0.4562544   | 1.578152   | 0.993 | 0.981 | 1.892E-20|
| DYNC1H1  | 2.81E-36   | 0.4562397   | 1.578129   | 0.998 | 0.993 | 9.239E-32|
| AC013271.1| 2.08E-53  | 0.4561065   | 1.577918   | 0.351 | 0.03  | 6.844E-49|
| SOCS2    | 1.76E-12   | 0.4556365   | 1.577177   | 0.668 | 0.599 | 5.776E-08|
| TSPYL1   | 9.75E-19   | 0.4556175   | 1.577147   | 0.937 | 0.886 | 3.206E-14|
| MAMDC2   | 1.52E-09   | 0.4554904   | 1.576947   | 0.148 | 0.051 | 5.001E-05|
| PM20D2   | 6.63E-11   | 0.4554747   | 1.576922   | 0.464 | 0.355 | 2.182E-06|
| MED12    | 6.22E-11   | 0.4554696   | 1.576914   | 0.471 | 0.397 | 2.047E-06|
| BOLA2-SMG| 1.78E-30   | 0.455354    | 1.576731   | 0.916 | 0.865 | 5.859E-26|
| NOTCH3   | 1.82E-08   | 0.4550943   | 1.576322   | 0.74  | 0.708 | 0.0005973|
| SNTB1    | 2.84E-09   | 0.455036    | 1.57623    | 0.355 | 0.218 | 9.328E-05|
| ZC3H13   | 7.07E-19   | 0.4549821   | 1.576145   | 0.951 | 0.896 | 2.325E-14|
| POLR3GL  | 1.62E-15   | 0.4549814   | 1.576144   | 0.718 | 0.65  | 5.333E-11|
| BCL3     | 5.48E-12   | 0.4548366   | 1.575916   | 0.328 | 0.204 | 1.803E-07|
| Gene          | Fold Change | p-value     | q-value     | Gene          | Fold Change | p-value     | q-value     |
|--------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|
| TNPO1        | 2.76E-39    | 0.454687    | 1.57568     | 1            | 0.993       | 9.096E-35   |
| TCAF1        | 3.26E-19    | 0.4546153   | 1.575567    | 0.958        | 0.916       | 1.071E-14   |
| SMARCD3      | 4.9E-13     | 0.4545269   | 1.575428    | 0.652        | 0.589       | 1.611E-08   |
| IGF2BP1      | 1.94E-07    | 0.4538282   | 1.574327    | 0.447        | 0.357       | 0.0063723   |
| TFPI         | 1.48E-23    | 0.4537798   | 1.574251    | 0.985        | 0.94        | 4.869E-19   |
| CHML         | 1.42E-14    | 0.4531999   | 1.573339    | 0.663        | 0.613       | 4.688E-10   |
| H2BC21       | 1.05E-14    | 0.452979    | 1.572991    | 0.141        | 0.026       | 3.444E-10   |
| OR2A20P      | 3.83E-23    | 0.4529182   | 1.572895    | 0.181        | 0.023       | 1.261E-18   |
| ZCRB1        | 3.15E-35    | 0.4524524   | 1.572163    | 0.975        | 0.942       | 1.037E-30   |
| GDF11        | 1.26E-11    | 0.4520362   | 1.571509    | 0.507        | 0.452       | 4.142E-07   |
| HECTD1       | 4.61E-24    | 0.4520031   | 1.571457    | 0.969        | 0.898       | 1.516E-19   |
| PDLIM1       | 5.38E-49    | 0.451764    | 1.571081    | 1            | 1           | 1.769E-44   |
| USP47        | 1.79E-22    | 0.4513651   | 1.570454    | 0.972        | 0.921       | 5.874E-18   |
| TCF12        | 4.04E-24    | 0.450703    | 1.569415    | 0.981        | 0.958       | 1.33E-19    |
| DECR2        | 1.17E-09    | 0.450701    | 1.569412    | 0.532        | 0.464       | 3.836E-05   |
| TET1         | 3.53E-12    | 0.4503097   | 1.568798    | 0.251        | 0.114       | 1.613E-07   |
| BMP4         | 4.19E-15    | 0.4495994   | 1.567684    | 0.126        | 0.016       | 1.379E-10   |
| HEATR5A      | 1.5E-13     | 0.4492108   | 1.567075    | 0.798        | 0.761       | 4.923E-09   |
| LINC00475    | 2.78E-14    | 0.4491674   | 1.567007    | 0.19         | 0.058       | 9.15E-10    |
| MIA2         | 2.45E-11    | 0.4490719   | 1.566857    | 0.555        | 0.499       | 8.068E-07   |
| NBR1         | 5.05E-20    | 0.4485165   | 1.565987    | 0.96         | 0.921       | 1.661E-15   |
| SNRK         | 5.58E-09    | 0.4481705   | 1.565446    | 0.431        | 0.318       | 0.0001834   |
| TMSB4X       | 3.6E-132    | 0.4478785   | 1.564988    | 1            | 1           | 1.2E-127    |
| BIN1         | 4.48E-16    | 0.4477064   | 1.564719    | 0.601        | 0.538       | 1.475E-11   |
| HLA-C        | 1.7E-53     | 0.447703    | 1.564714    | 1            | 1           | 5.599E-49   |
| FOSL2        | 2.05E-18    | 0.4475043   | 1.564403    | 0.92         | 0.849       | 6.734E-14   |
| OSBPL10      | 3.42E-10    | 0.4466243   | 1.563027    | 0.297        | 0.176       | 1.127E-05   |
| KDM6B        | 3.89E-13    | 0.4464868   | 1.562812    | 0.445        | 0.297       | 1.28E-08    |
| SLC38A2      | 5.67E-52    | 0.446466    | 1.562779    | 1            | 1           | 1.866E-47   |
| CCL2         | 0.00096     | 0.4458687   | 1.561846    | 0.206        | 0.165       | 1           |
| AC079848.2   | 6.61E-13    | 0.4456831   | 1.561557    | 0.172        | 0.051       | 2.176E-08   |
| DOCK6        | 3.03E-09    | 0.4446431   | 1.559933    | 0.412        | 0.329       | 9.961E-05   |
| TPD52        | 3.74E-12    | 0.4444614   | 1.55965     | 0.112        | 0.023       | 1.23E-07    |
| SCN2A        | 2.01E-12    | 0.4443477   | 1.559473    | 0.181        | 0.072       | 6.62E-08    |
| CC2D2A       | 3.19E-12    | 0.4441813   | 1.559213    | 0.638        | 0.555       | 1.051E-07   |
| PPHLN1       | 4.03E-22    | 0.4440073   | 1.558942    | 0.977        | 0.944       | 1.327E-17   |
| SNHG5        | 7.78E-64    | 0.4439922   | 1.558918    | 1            | 1           | 2.561E-59   |
| MFAP4        | 3.19E-09    | 0.443812    | 1.558637    | 0.588        | 0.548       | 0.0001049   |
| ADA2         | 5.28E-12    | 0.4437244   | 1.558501    | 0.235        | 0.153       | 1.738E-07   |
| RGS10        | 1.44E-18    | 0.4436578   | 1.558397    | 0.931        | 0.896       | 4.73E-14    |
| Gene     | Fold Change | p-value     | q-value     | FDR          | p-value     | q-value     | FDR          | Fold Change | p-value     | q-value     | FDR          | Fold Change | p-value     | q-value     | FDR          |
|----------|-------------|-------------|-------------|--------------|-------------|-------------|--------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Gene     | p-Value   | Fold Change | log2 FC  | p-ValueFC | log2 FC  | p-ValueS | log2 FC  | p-ValueS |
|----------|-----------|-------------|----------|-----------|----------|----------|----------|----------|
| CD4      | 2.4E-13   | 0.4365152   | 1.547306 | 0.115     | 7.912E-09|
| DNAJB14  | 4.98E-21  | 0.4363477   | 1.547047 | 0.949     | 1.64E-16 |
| CD27-AS1 | 5.15E-14  | 0.4350458   | 1.54559  | 0.629     | 1.693E-09|
| TBC1D19  | 1.06E-08  | 0.4350916   | 1.545105 | 0.396     | 0.0003491|
| DOCK4    | 4.74E-08  | 0.435048    | 1.545037 | 0.262     | 0.0001559|
| ATN1     | 1.61E-22  | 0.4344597   | 1.544129 | 0.966     | 5.287E-18|
| SNX27    | 1.09E-20  | 0.4342563   | 1.543815 | 0.93      | 3.576E-16|
| PDE1A    | 6.4E-16   | 0.4331555   | 1.542116 | 0.138     | 2.105E-11|
| CEACAM19 | 5.1E-14   | 0.4323433   | 1.540864 | 0.526     | 5.971E-06|
| DOCK4    | 1.31E-09  | 0.4303796   | 1.537841 | 0.554     | 4.314E-05|
| TSTD3    | 3.11E-14  | 0.4298288   | 1.536994 | 0.141     | 0.4984494|
| CNNM2    | 8.99E-12  | 0.4286083   | 1.53512  | 0.311     | 2.16E-09 |
| LRRFIP1  | 1.16E-39  | 0.4299906   | 1.537243 | 1         | 3.831E-35|
| CHP1     | 6.54E-18  | 0.4299411   | 1.537167 | 0.96      | 2.151E-13|
| GPC4     | 1.51E-05  | 0.4298288   | 1.536994 | 0.141     | 0.4984494|
| KIAA0319L| 6.92E-15  | 0.4291432   | 1.535941 | 0.648     | 2.277E-10|
| THYN1    | 2.93E-10  | 0.4288891   | 1.535551 | 0.735     | 9.645E-06|
| ANKRD33B | 3.9E-08   | 0.4288498   | 1.53549  | 0.205     | 0.0012844|
| DCP1A    | 5.23E-13  | 0.4288063   | 1.535424 | 0.719     | 1.72E-08 |
| ZNF469   | 6.56E-14  | 0.4286083   | 1.53512  | 0.311     | 2.16E-09 |
| SH3BP1   | 3.28E-13  | 0.4285748   | 1.535068 | 0.284     | 1.081E-08|
| RBM23    | 1.42E-17  | 0.4284319   | 1.534849 | 0.819     | 4.683E-13|
| LTB3     | 4.41E-16  | 0.4281643   | 1.534438 | 0.767     | 1.452E-11|
| TERF1    | 9.19E-16  | 0.4279759   | 1.534149 | 0.943     | 3.024E-11|
| BRWD3    | 4.88E-07  | 0.4276275   | 1.533615 | 0.347     | 0.0160617|
| SLC35F6  | 1.88E-12  | 0.4272251   | 1.532998 | 0.795     | 6.17E-08 |
| FAM124A  | 1.48E-14  | 0.4271394   | 1.532866 | 0.161     | 4.874E-10|
| G3BP2    | 5.71E-25  | 0.4269336   | 1.532551 | 0.994     | 1.878E-20|
| AC118553.2| 8.75E-17 | 0.4268162   | 1.532371 | 0.889     | 2.878E-12|
| PAPPA    | 0.000369  | 0.4267037   | 1.532199 | 0.697     | 1.086E-12|
| WBP2     | 3.3E-17   | 0.4263999   | 1.531733 | 0.794     | 1.086E-12|
| SLC16A14 | 5.08E-17  | 0.4258492   | 1.53089  | 0.132     | 1.673E-12|
| KIAA0513 | 1.15E-10  | 0.4255375   | 1.530413 | 0.343     | 3.772E-06|
| POLB     | 3.35E-09  | 0.4253334   | 1.5301   | 0.514     | 0.0001101|
| Gene   | LogFC  | p-value | Log2Fold | FDR    | p-value  |
|--------|--------|---------|----------|--------|----------|
| PHKB   | 5.86E-14 | 0.4250319 | 1.529639 | 0.863 | 0.796 | 1.928E-09 |
| AKNA   | 2.03E-10 | 0.4248924 | 1.529426 | 0.349 | 0.258 | 6.677E-06 |
| ADD3   | 1.73E-17 | 0.4247696 | 1.529238 | 0.967 | 0.93  | 5.692E-13 |
| ZBTB46 | 3.8E-18  | 0.4247444 | 1.529199 | 0.127 | 0.009 | 1.25E-13 |
| PARP9  | 1.13E-09 | 0.4247188 | 1.52916  | 0.513 | 0.42  | 3.703E-05 |
| GPRC5B | 4.98E-09 | 0.4245624 | 1.528921 | 0.172 | 0.07  | 0.0001639 |
| PRRT1  | 2.25E-14 | 0.4242906 | 1.528506 | 0.208 | 0.063 | 7.399E-10 |
| TIA1   | 1.19E-17 | 0.4241206 | 1.528246 | 0.978 | 0.928 | 4.769E-13 |
| TXLNG  | 1.52E-09 | 0.4238552 | 1.52784  | 0.571 | 0.522 | 5.007E-05 |
| RO60   | 6.74E-21 | 0.4232499 | 1.526916 | 0.97  | 0.928 | 2.216E-16 |
| SMAD2  | 1.45E-19 | 0.4233465 | 1.526055 | 0.172 | 0.07  | 5.923E-07 |
| FBXL17 | 1.8E-11  | 0.4232499 | 1.526192 | 0.662 | 0.592 | 1.55E-07 |
| USP34  | 1.25E-12 | 0.4231385 | 1.526746 | 0.871 | 0.794 | 4.11E-08 |
| RYBP   | 1.46E-14 | 0.4231317 | 1.526735 | 0.937 | 0.9  | 4.805E-10 |
| GABPB1-AS1 | 4.71E-12 | 0.4227755 | 1.526192 | 0.662 | 0.592 | 1.55E-07 |
| FNBP1  | 4.8E-14  | 0.4226857 | 1.526055 | 0.743 | 0.68  | 1.579E-09 |
| UBR5   | 3.55E-11 | 0.4226577 | 1.526012 | 0.835 | 0.752 | 1.169E-06 |
| RPS4X  | 8.5E-17  | 0.4223848 | 1.525595 | 1  | 1  | 2.78E-165 |
| PJA1   | 4.47E-10 | 0.4223557 | 1.525551 | 0.53 | 0.476 | 1.471E-05 |
| CU634019.1 | 8.32E-24 | 0.4221774 | 1.525729 | 0.521 | 0.306 | 2.738E-19 |
| SEC23IP | 1.56E-12 | 0.4221605 | 1.525253 | 0.906 | 0.852 | 5.137E-08 |
| PTPRK  | 3.04E-15 | 0.4219351 | 1.52491  | 0.847 | 0.782 | 9.991E-11 |
| PEX1   | 8.2E-09  | 0.421175  | 1.523751 | 0.4  | 0.341 | 0.00027 |
| CREBBP | 1.51E-12 | 0.4209369 | 1.523388 | 0.789 | 0.733 | 4.958E-08 |
| AKR1B1 | 3.76E-28 | 0.4209254 | 1.523371 | 1  | 0.995 | 1.237E-23 |
| CCDC170 | 3.16E-16 | 0.4207202 | 1.523058 | 0.13 | 0.016 | 1.038E-11 |
| BOK    | 1.97E-14 | 0.4205179 | 1.52275 | 0.844 | 0.759 | 6.466E-10 |
| IGF1R  | 9.71E-13 | 0.41919  | 1.520729 | 0.684 | 0.661 | 3.194E-08 |
| LINC00847 | 1.73E-07 | 0.4190982 | 1.52059 | 0.228 | 0.139 | 0.0056798 |
| PRDX6  | 1.85E-52 | 0.4189485 | 1.520362 | 1  | 1  | 6.09E-48 |
| CLDN11 | 1.35E-07 | 0.4186688 | 1.519937 | 0.904 | 0.854 | 0.0044504 |
| AMMECR1 | 4.92E-11 | 0.4184481 | 1.519601 | 0.736 | 0.668 | 1.619E-06 |
| TCEAL7 | 3.24E-09 | 0.418292  | 1.519364 | 0.478 | 0.334 | 0.0001067 |
| CAP2   | 3.62E-14 | 0.418035  | 1.518974 | 0.915 | 0.847 | 1.192E-09 |
| SERPINF1 | 5.27E-10 | 0.4180066 | 1.518931 | 0.654 | 0.613 | 1.734E-05 |
| PHF21A | 1.88E-12 | 0.4170965 | 1.517549 | 0.584 | 0.501 | 6.172E-08 |
| TMEM164 | 8.66E-08 | 0.4169918 | 1.51739 | 0.352 | 0.271 | 0.0028491 |
| ADCY6  | 7.17E-10 | 0.4167551 | 1.517031 | 0.486 | 0.429 | 2.359E-05 |
| TSPYL4 | 3.98E-11 | 0.4165966 | 1.516791 | 0.59 | 0.527 | 1.309E-06 |
| UBP1   | 8.58E-13 | 0.4160274 | 1.515927 | 0.897 | 0.854 | 2.823E-08 |
| Gene      | Log2FC | p-value  | |logFC| 0.01FDR | P.Value | 0.01P | 0.05FDR | P.Value | 0.05P | 0.1FDR | P.Value | 0.1P | 0.2FDR | P.Value | 0.2P | 0.5FDR | P.Value | 0.5P | 1.0FDR | P.Value | 1.0P |
|-----------|--------|----------|---|-----|------|---------|-----|-------|------|-----|-------|------|-----|-------|------|-----|-------|------|-----|-------|------|-----|
| RILPL2    | 1.06E-11 | 0.4157581 | 1.515519 | 0.675 | 0.622 | 3.475E-07 |
| ANKRD17   | 3E-18  | 0.4157236 | 1.515467 | 0.94  | 0.858 | 9.886E-14 |
| ABCC1     | 1.46E-11 | 0.415708  | 1.515443 | 0.663 | 0.578 | 4.818E-07 |
| SYT1      | 1.73E-13 | 0.4153084 | 1.514838 | 0.94  | 0.858 | 9.886E-14 |
| KDM4B     | 6.63E-11 | 0.4151951 | 1.514666 | 0.645 | 0.566 | 2.182E-06 |
| SLC2A3    | 1.12E-12 | 0.414708  | 1.514463 | 0.745 | 0.726 | 3.701E-08 |
| NID2      | 1.21E-11 | 0.4146351 | 1.513818 | 0.878 | 0.828 | 3.974E-07 |
| VPS13A    | 1.8E-08  | 0.4144403 | 1.513523 | 0.617 | 0.52  | 0.0005909 |
| UBE2H     | 1.34E-15 | 0.4139921 | 1.512845 | 0.963 | 0.928 | 4.413E-11 |
| RBMXL1    | 4.3E-12  | 0.4139316 | 1.512754 | 0.603 | 0.589 | 1.415E-07 |
| AOX1      | 4.05E-09 | 0.4138417 | 1.512618 | 0.611 | 0.508 | 0.001332 |
| POLR2B    | 3.74E-20 | 0.4136565 | 1.512338 | 0.977 | 0.937 | 1.232E-15 |
| UPEL5     | 5.29E-07 | 0.4133562 | 1.511883 | 0.166 | 0.084 | 0.017414 |
| CYFIP2    | 3.8E-36  | 0.4132197 | 1.511677 | 0.999 | 0.981 | 1.25E-31 |
| SPIN1     | 2.18E-11 | 0.4131596 | 1.511586 | 0.978 | 0.956 | 9.251E-07 |
| PAIP2     | 1.54E-07 | 0.4126918 | 1.510879 | 0.192 | 0.1   | 0.0050639 |
| PRRC2B    | 2.24E-13 | 0.4124814 | 1.510562 | 0.897 | 0.87  | 7.354E-09 |
| ZNF605    | 4.34E-08 | 0.4122983 | 1.510285 | 0.543 | 0.473 | 0.0014283 |
| ZNF480    | 5.9E-09  | 0.4118968 | 1.509679 | 0.538 | 0.457 | 0.0001942 |
| TPM1      | 7.5E-106 | 0.4115088 | 1.509093 | 1     | 1     | 2.47E-101 |
| WDR41     | 1.89E-13 | 0.4110222 | 1.508359 | 0.923 | 0.893 | 6.222E-09 |
| ASB7      | 1.88E-08 | 0.4108547 | 1.508106 | 0.46  | 0.404 | 0.0006179 |
| SYNRG     | 1.27E-07 | 0.4107864 | 1.508003 | 0.388 | 0.292 | 0.0041813 |
| IRGQ      | 5.69E-11 | 0.4105173 | 1.507597 | 0.502 | 0.378 | 1.874E-06 |
| LDB1      | 7.76E-19 | 0.4104869 | 1.507552 | 0.924 | 0.94  | 2.554E-14 |
| NUMA1     | 4.42E-17 | 0.4104495 | 1.507495 | 0.945 | 0.898 | 1.454E-12 |
| MEF2C     | 1.14E-06 | 0.4103908 | 1.507407 | 0.423 | 0.313 | 0.0374276 |
| CUTA      | 1.31E-69 | 0.4103487 | 1.507343 | 1     | 1     | 4.319E-65 |
| TBL1X     | 3.82E-11 | 0.4102255 | 1.507158 | 0.893 | 0.826 | 1.257E-06 |
| OSBPL9    | 1.51E-13 | 0.4101026 | 1.506972 | 0.905 | 0.889 | 4.966E-09 |
| WARS1     | 3.25E-14 | 0.4100944 | 1.50696 | 0.979 | 0.979 | 1.068E-09 |
| HRH1      | 4.21E-10 | 0.4098466 | 1.506587 | 0.71  | 0.608 | 1.385E-05 |
| B2M       | 4.1E-111 | 0.4097172 | 1.504586 | 0.062 | 0.034 | 0.0005105 |
| Gene     | Value     | p-value | q-value | Gene Length | TSS Location | Pearson Correlation | Spearman Correlation | Adjusted R-Squared | p-value       | q-value  |
|----------|-----------|---------|---------|-------------|---------------|---------------------|---------------------|-------------------|---------------|----------|
| CROT     | 5.57E-10  | 0.408897| 1.505157| 0.523       | 0.476         | 1.834E-05           |                     |                   |               |          |
| XPC      | 7.85E-11  | 0.408173| 1.504067| 0.734       | 0.687         | 2.584E-06           |                     |                   |               |          |
| NCKAP5L  | 8.17E-12  | 0.4076369| 1.503261| 0.415       | 0.295         | 2.689E-07           |                     |                   |               |          |
| RNF146   | 5.29E-11  | 0.4076286| 1.503249| 0.597       | 0.575         | 1.74E-06            |                     |                   |               |          |
| BCL9     | 1.47E-07  | 0.407201| 1.502606| 0.222       | 0.125         | 0.0048396           |                     |                   |               |          |
| TRIM38   | 1.77E-10  | 0.4070747| 1.502416| 0.683       | 0.647         | 5.838E-06           |                     |                   |               |          |
| FP236241.1| 1.61E-22  | 0.4067989| 1.502002| 0.518       | 0.32          | 5.293E-18           |                     |                   |               |          |
| CLASP1   | 3.57E-11  | 0.406605| 1.501711| 0.608       | 0.506         | 1.174E-06           |                     |                   |               |          |
| PAPSS1   | 1.05E-14  | 0.4060236| 1.500838| 0.896       | 0.877         | 3.438E-10           |                     |                   |               |          |
| AC040162.1| 6.19E-17  | 0.4058132| 1.500522| 0.579       | 0.455         | 2.038E-12           |                     |                   |               |          |
| LEPROT   | 3.07E-30  | 0.4055528| 1.500132| 0.999       | 0.995         | 1.01E-25            |                     |                   |               |          |
| CCDC102A | 2.07E-09  | 0.4055057| 1.500061| 0.252       | 0.135         | 6.806E-05           |                     |                   |               |          |
Upregulated in the small subpopulation than in the large subpopulation

| GeneSymbol | p-value  | avg_logFC | FC    | pct.1   | pct.2   | p_val_adj  |
|------------|----------|-----------|-------|---------|---------|------------|
| RPS4Y1     | 0        | -3.698737 | 0.024755 | 0.165   | 0.998   | 0          |
| MMP3       | 0        | -3.534051 | 0.029186 | 0.953   | 1       | 0          |
| ENPP2      | 0        | -3.208406 | 0.040421 | 0.208   | 0.977   | 0          |
| CXCL1      | 2.1E-202 | -3.182567 | 0.041479 | 0.098   | 0.682   | 6.91E-198  |
| DIRAS3     | 9.1E-286 | -3.166845 | 0.042136 | 0.143   | 0.833   | 2.98E-281  |
| CXCL8      | 8E-142   | -2.951316 | 0.052271 | 0.426   | 0.807   | 2.62E-137  |
| HAS2       | 9.4E-288 | -2.939355 | 0.0529   | 0.402   | 0.91    | 3.1E-283   |
| PODXL      | 0        | -2.931753 | 0.053303 | 0.596   | 0.97    | 0          |
| MMP1       | 3.57E-170 | -2.93006  | 0.053394 | 0.276   | 0.773   | 1.17E-165  |
| FAM180A    | 0.00E+00 | -2.871774 | 0.056598 | 0.123   | 0.951   | 0.00E+00   |
| CRABP2     | 0        | -2.780109 | 0.062032 | 0.123   | 0.951   | 0          |
| LRRRC15    | 0        | -2.704811 | 0.066883 | 0.075   | 0.919   | 0          |
| NRN1       | 0        | -2.667487 | 0.069426 | 0.044   | 0.963   | 0          |
| TGFB1      | 0        | -2.64084  | 0.071301 | 0.973   | 1       | 0          |
| TIMP3      | 0        | -2.478183 | 0.083896 | 0.929   | 1       | 0          |
| HMOX1      | 8.4E-274 | -2.475155 | 0.08415  | 0.51    | 0.974   | 2.77E-269  |
| SGCD       | 0        | -2.366852 | 0.093775 | 0.256   | 0.974   | 0          |
| KCNMA1     | 1.5E-306 | -2.364017 | 0.094042 | 0.246   | 0.951   | 4.79E-302  |
| TENM2      | 0        | -2.357932 | 0.094616 | 0.088   | 0.912   | 0          |
| TSPAN13    | 1.5E-299 | -2.342902 | 0.096049 | 0.249   | 0.951   | 4.9E-295   |
| LY6K       | 5E-238   | -2.321334 | 0.098143 | 0.177   | 0.868   | 1.63E-233  |
| BAALC      | 0        | -2.316332 | 0.098635 | 0.079   | 0.928   | 0          |
| ANPEP      | 0        | -2.31109  | 0.099153 | 0.893   | 1       | 0          |
| CCBE1      | 0        | -2.284939 | 0.10178  | 0.5     | 0.998   | 0          |
| IGFBP3     | 2E-273   | -2.260004 | 0.10435  | 0.97    | 1       | 6.54E-269  |
| SLIT3      | 7.37496730 | -2.23975  | 0.106485 | 0.108   | 0.903   | 2.42643799204315e-3 |
| CCDC80     | 0        | -2.22297  | 0.108287 | 0.997   | 1       | 0          |
| IL13RA2    | 2.5E-216 | -2.144693 | 0.117104 | 0.075   | 0.747   | 8.3E-212   |
| THY1       | 2.99149692 | -2.12503  | 0.119429 | 0.68    | 0.998   | 9.84232402673477e-3 |
| AKR1C1     | 1.8E-201 | -2.119352 | 0.120109 | 0.24    | 0.861   | 5.85E-197  |
| TMEM158    | 3.3E-243 | -2.07427  | 0.125648 | 0.469   | 0.942   | 1.1E-238   |
| ADGRL4     | 4.8E-234 | -2.033506 | 0.130876 | 0.126   | 0.838   | 1.57E-229  |
| CRIP2      | 5.28887604 | -2.014426 | 0.133397 | 0.375   | 0.981   | 1.74E-306  |
| SERPINB2   | 1.96E-39 | -2.008592 | 0.134178 | 0.26    | 0.455   | 6.43E-35   |
| GABBR2     | 1.3E-222 | -2.005594 | 0.13458  | 0.058   | 0.729   | 4.24E-218  |
| DDX3Y      | 8.1E-305 | -1.989625 | 0.136747 | 0.031   | 0.814   | 2.67E-300  |
| ABI3BP     | 3.1E-207 | -1.960429 | 0.140798 | 0.25    | 0.865   | 1.02E-202  |
| Gene   | Fold Change | Log2 Fold Change | p-value 1 | q-value 1 | Fold Change | Log2 Fold Change | p-value 2 | q-value 2 | Fold Change | Log2 Fold Change | p-value 3 | q-value 3 |
|--------|-------------|------------------|-----------|-----------|-------------|------------------|-----------|-----------|-------------|------------------|-----------|-----------|
| PSG5   | 4.1E-276    | -1.946585        | 0.142761  | 0.798     | 0.993       | 1.34E-271        |           |           |             |                  |           |           |
| TMEM119| 4.1E-217    | -1.945574        | 0.142905  | 0.15      | 0.863       | 1.35E-212        |           |           |             |                  |           |           |
| CPXM2  | 3.5874920   | -1.936372        | 0.144226  | 0.026     | 0.817       | 1.18E-306        |           |           |             |                  |           |           |
| HOXC10 | 2.4703282   | -1.914594        | 0.147402  | 0.037     | 0.863       | 1.35E-212        |           |           |             |                  |           |           |
| TMEM119| 4.1E-217    | -1.945574        | 0.142905  | 0.15      | 0.863       | 1.35E-212        |           |           |             |                  |           |           |
| CPXM2  | 3.5874920   | -1.936372        | 0.144226  | 0.026     | 0.817       | 1.18E-306        |           |           |             |                  |           |           |
| HOXC10 | 2.4703282   | -1.914594        | 0.147402  | 0.037     | 0.863       | 1.35E-212        |           |           |             |                  |           |           |
| TMEM119| 4.1E-217    | -1.945574        | 0.142905  | 0.15      | 0.863       | 1.35E-212        |           |           |             |                  |           |           |
| CPXM2  | 3.5874920   | -1.936372        | 0.144226  | 0.026     | 0.817       | 1.18E-306        |           |           |             |                  |           |           |
| HOXC10 | 2.4703282   | -1.914594        | 0.147402  | 0.037     | 0.863       | 1.35E-212        |           |           |             |                  |           |           |
| TMEM119| 4.1E-217    | -1.945574        | 0.142905  | 0.15      | 0.863       | 1.35E-212        |           |           |             |                  |           |           |
| CPXM2  | 3.5874920   | -1.936372        | 0.144226  | 0.026     | 0.817       | 1.18E-306        |           |           |             |                  |           |           |
| Gene     | Fold Change | Log2 Fold Change | t-Value  | q-value  | P-value     |
|----------|-------------|-----------------|----------|----------|-------------|
| ASS1     | 5.9E-137    | -1.537526       | 0.214912 | 0.163    | 7.54        |
| PITX2    | 3E-191      | -1.532175       | 0.216065 | 0.018    | 5.89        |
| LINC00707| 3E-119      | -1.525701       | 0.217469 | 0.093    | 0.536       |
| STXBP6   | 6.1E-172    | -1.519522       | 0.218816 | 0.059    | 0.661       |
| HS3ST3A1 | 4.4E-220    | -1.507849       | 0.221386 | 0.464    | 0.951       |
| PITX2    | 3E-191      | -1.532175       | 0.216065 | 0.018    | 5.89        |
| LINC00707| 3E-119      | -1.525701       | 0.217469 | 0.093    | 0.536       |
| STXBP6   | 6.1E-172    | -1.519522       | 0.218816 | 0.059    | 0.661       |
| HS3ST3A1 | 4.4E-220    | -1.507849       | 0.221386 | 0.464    | 0.951       |
| LINC00707| 3E-119      | -1.525701       | 0.217469 | 0.093    | 0.536       |
| STXBP6   | 6.1E-172    | -1.519522       | 0.218816 | 0.059    | 0.661       |
| HS3ST3A1 | 4.4E-220    | -1.507849       | 0.221386 | 0.464    | 0.951       |
| LINC00707| 3E-119      | -1.525701       | 0.217469 | 0.093    | 0.536       |
| STXBP6   | 6.1E-172    | -1.519522       | 0.218816 | 0.059    | 0.661       |
| HS3ST3A1 | 4.4E-220    | -1.507849       | 0.221386 | 0.464    | 0.951       |
| Gene     | Log2FoldChange | Adj.P.Value | Log2FC | Adj.P.Value | Log2FC | Adj.P.Value | Log2FC |
|----------|----------------|-------------|--------|-------------|--------|-------------|--------|
| PGF      | 6.54E-61       | -1.340736   | 0.261653| 0.079       | 0.35   | 2.153E-56   |        |
| NTM      | 1.58E-155      | -1.338519   | 0.262234| 0.434       | 0.928  | 5.19E-151   |        |
| NDNF     | 1.4E-131       | -1.33755    | 0.262488| 0.025       | 0.466  | 4.54E-127   |        |
| HOXC8    | 1.62E-239      | -1.335619   | 0.263022| 0.021       | 0.691  | 5.34E-235   |        |
| FHOD3    | 4.5E-128       | -1.324492   | 0.265938| 0.101       | 0.629  | 1.48E-123   |        |
| HOXC6    | 1.91E-224      | -1.32307    | 0.266316| 0.037       | 0.71   | 6.28E-220   |        |
| ADAMTS1  | 1.1E-114       | -1.322847   | 0.266376| 0.087       | 0.578  | 3.48E-110   |        |
| CERS6    | 3.90E-152      | -1.31993    | 0.267154| 0.17        | 0.803  | 1.28E-147   |        |
| MALL     | 6.4E-118       | -1.306108   | 0.270872| 0.646       | 0.942  | 2.09E-113   |        |
| CDCA4    | 2.21E-143      | -1.296999   | 0.273351| 0.474       | 0.926  | 7.28E-139   |        |
| KCNQ5    | 1.17E-104      | -1.294209   | 0.274115| 0.049       | 0.418  | 3.84E-100   |        |
| OSBPL6   | 1.01E-161      | -1.293007   | 0.274444| 0.099       | 0.722  | 3.34E-157   |        |
| FG5      | 5.03E-146      | -1.290991   | 0.274998| 0.681       | 0.958  | 1.66E-141   |        |
| HS3ST3B1 | 7.86E-174      | -1.289945   | 0.275286| 0.395       | 0.937  | 2.59E-169   |        |
| FAM167A  | 2.1E-106       | -1.2886     | 0.275657| 0.225       | 0.729  | 6.81E-102   |        |
| HSD3B7   | 1.99E-133      | -1.288202   | 0.275766| 0.373       | 0.884  | 6.53E-129   |        |
| HOXB3    | 2.15E-139      | -1.279342   | 0.27822 | 0.146       | 0.733  | 7.06E-135   |        |
| MYBL1    | 4.09E-122      | -1.277558   | 0.278717| 0.321       | 0.842  | 1.34E-117   |        |
| NBL1     | 2.47E-212      | -1.274176   | 0.279661| 0.877       | 0.995  | 8.12E-208   |        |
| LINCO0595| 5.86E-157      | -1.272372   | 0.280166| 0.076       | 0.617  | 1.93E-152   |        |
| NFASC    | 6.36E-169      | -1.269526   | 0.280965| 0.102       | 0.638  | 2.09E-164   |        |
| CLDN4    | 4.99E-51       | -1.268007   | 0.281392| 0.036       | 0.253  | 1.64E-46    |        |
| ADIRF    | 1.47E-176      | -1.267399   | 0.281563| 0.421       | 0.937  | 4.84E-172   |        |
| NPTX2    | 1.09E-137      | -1.260775   | 0.283434| 0.013       | 0.429  | 3.58E-133   |        |
| FOXD1    | 9.88E-183      | -1.25708    | 0.284484| 0.829       | 0.995  | 3.25E-178   |        |
| AC119674.2| 6.8E-121      | -1.250438   | 0.286379| 0.15        | 0.687  | 2.24E-116   |        |
| AUTS2    | 1.95E-143      | -1.244808   | 0.287996| 0.112       | 0.657  | 6.43E-139   |        |
| SERTAD2  | 4.4E-157       | -1.24157    | 0.28893 | 0.562       | 0.968  | 1.45E-152   |        |
| GBP3     | 9.25E-114      | -1.240915   | 0.289119| 0.289       | 0.796  | 3.04E-109   |        |
| NET1     | 8.1E-126       | -1.240261   | 0.289309| 0.581       | 0.937  | 2.66E-121   |        |
| HOMER2   | 1.8E-153       | -1.237057   | 0.290237| 0.094       | 0.626  | 5.76E-149   |        |
| LGMN     | 1.55E-137      | -1.233147   | 0.291374| 0.466       | 0.928  | 5.10E-133   |        |
| TBX18    | 2.06E-141      | -1.233044   | 0.291404| 0.079       | 0.636  | 6.76E-137   |        |
| HOXC9    | 1.66E-191      | -1.227935   | 0.292897| 0.047       | 0.677  | 5.47E-187   |        |
| XG       | 1.25E-148      | -1.225065   | 0.293739| 0.02        | 0.494  | 4.12E-144   |        |
| FBLN2    | 2.89E-128      | -1.221188   | 0.29488 | 0.685       | 0.968  | 9.50E-124   |        |
| CDCA5    | 8.00E-130      | -1.219336   | 0.295426| 0.318       | 0.879  | 2.63E-125   |        |
| PRKY     | 5.86E-143      | -1.216175   | 0.296362| 0.06        | 0.568  | 1.93E-138   |        |
| CPPED1   | 2.82E-155      | -1.215641   | 0.29652 | 0.642       | 0.974  | 9.29E-151   |        |
| HOXB7    | 2.19E-179      | -1.213198   | 0.297245| 0.15        | 0.833  | 7.21E-175   |        |
| Gene  | Value 1  | Value 2  | Value 3  | Value 4  | Value 5  | Value 6 |
|-------|---------|---------|---------|---------|---------|---------|
| LYPD6B | 5.24E-87 | -1.211627 | 0.297713 | 0.032  | 0.381  | 1.73E-82 |
| ZFY   | 2.97E-169 | -1.21036 | 0.29809 | 0.013  | 0.515  | 9.79E-165 |
| UBE2C | 2.38E-130 | -1.204195 | 0.299933 | 0.622  | 0.947  | 7.83E-126 |
| TXLNGY | 4.87E-175 | -1.195743 | 0.302479 | 0.019  | 0.543  | 1.60E-170 |
| GPC6  | 1.87E-102 | -1.195266 | 0.302623 | 0.143  | 0.643  | 6.16E-98  |
| GPAT2 | 3.04E-71  | -1.191574 | 0.303743 | 0.028  | 0.318  | 1.00E-66  |
| MEOX2 | 2.95E-149 | -1.187349 | 0.305029 | 0.013  | 0.45   | 9.72E-145 |
| LOXL3 | 9.23E-81  | -1.184601 | 0.305866 | 0.273  | 0.694  | 3.04E-76  |
| LINC02381 | 5.87E-153 | -1.181007 | 0.308664 | 0.011  | 0.441  | 5.68E-137 |
| RGMB  | 3.62E-163 | -1.173728 | 0.309212 | 0.027  | 0.517  | 1.30E-132 |
| AMPH  | 4.36E-137 | -1.177534 | 0.311117 | 0.997  | 1.09E-199 |
| EPB41L3 | 1.73E-141 | -1.175503 | 0.314246 | 0.504  | 0.937  | 2.75E-107 |
| PKMYT1 | 5.62E-113 | -1.174712 | 0.314308 | 0.937  | 2.75E-107 |
| ZNF536 | 2.8E-112  | -1.173728 | 0.311117 | 0.997  | 1.09E-199 |
| CTSL  | 4.04E-161 | -1.166788 | 0.311366 | 0.017  | 0.552  | 6.92E-172 |
| SHOX2 | 1.20E-164 | -1.166094 | 0.31582 | 0.936  | 0.995  | 3.95E-126 |
| TUBB3 | 8.24E-117 | -1.164686 | 0.312021 | 0.754  | 0.789  | 1.85E-112 |
| FBXO5 | 2.88E-118 | -1.157578 | 0.314246 | 0.5    | 0.919  | 9.46E-114 |
| SCARA3 | 8.4E-112  | -1.157381 | 0.314308 | 0.937  | 2.75E-107 |
| HOXB5 | 4.04E-161 | -1.148307 | 0.317173 | 0.037  | 0.587  | 1.33E-156 |
| TGFB1 | 1.36E-198 | -1.147512 | 0.317426 | 0.934  | 1.47E-194 |
| SQOR  | 7.8E-111  | -1.137264 | 0.320695 | 0.382  | 0.879  | 2.57E-106 |
| LINC00702 | 1.16E-110 | -1.136041 | 0.321088 | 0.133  | 0.613  | 3.82E-106 |
| CYB561 | 5.54E-110 | -1.133344 | 0.321955 | 0.348  | 0.854  | 1.82E-105 |
| CXCL12 | 7.79E-125 | -1.132155 | 0.322338 | 0.907  | 0.993  | 2.56E-120 |
| TBX15 | 1.48E-154 | -1.127772 | 0.323754 | 0.017  | 0.497  | 4.87E-150 |
| PSG6  | 1.33E-108 | -1.12767 | 0.323787 | 0.078  | 0.531  | 4.39E-104 |
| BMPER | 1.03E-112 | -1.125402 | 0.324522 | 0.137  | 0.664  | 3.38E-108 |
| C1orf21 | 1.43E-113 | -1.125278 | 0.324562 | 0.339  | 0.856  | 4.71E-109 |
| KRT7  | 2.49E-41  | -1.123681 | 0.325081 | 0.515  | 0.74   | 8.18E-37 |
| CENPQ | 5.12E-112 | -1.12296 | 0.325315 | 0.247  | 0.787  | 1.69E-107 |
| CTSZ  | 9.80E-191 | -1.122641 | 0.325419 | 0.951  | 1.32E-186 |
| TRNP1 | 2.54E-113 | -1.121974 | 0.325636 | 0.768  | 0.968  | 8.36E-109 |
| EN1   | 3.34E-165 | -1.121055 | 0.325936 | 0.015  | 0.513  | 1.10E-160 |
| MEGF6 | 2.24E-125 | -1.120175 | 0.326223 | 0.028  | 0.466  | 7.36E-121 |
| MOK   | 8.01E-46  | -1.119578 | 0.326418 | 0.37   | 0.638  | 2.64E-41 |
| TCF19 | 5.38E-110 | -1.11202 | 0.329163 | 0.403  | 0.889  | 1.77E-105 |
| CDA   | 1.56E-86  | -1.109677 | 0.329665 | 0.112  | 0.534  | 5.14E-82 |
| MOXD1 | 3.36E-108 | -1.106448 | 0.330732 | 0.488  | 0.898  | 1.11E-103 |
| Gene      | Fold Change | Log2 Fold Change | p-value       | FDR   | q-value | Adj. p-value |
|-----------|-------------|-----------------|---------------|-------|---------|--------------|
| KIAA1549L| 3.6E-105    | -1.103852       | 0.331591      | 0.298 | 0.814   | 1.2E-100     |
| LOXL1     | 1.11E-167   | -1.103221       | 0.331801      | 0.957 | 1       | 3.65E-163    |
| F3        | 8.53E-66    | -1.101704       | 0.332304      | 0.813 | 0.954   | 2.81E-61     |
| DCN       | 1.73E-112   | -1.097899       | 0.333571      | 0.949 | 0.998   | 5.70E-108    |
| RMI2      | 7.03E-106   | -1.097433       | 0.333727      | 0.222 | 0.752   | 2.31E-101    |
| LIN7A     | 4.32E-82    | -1.094804       | 0.334605      | 0.162 | 0.603   | 1.42E-77     |
| ORC6      | 7.33E-131   | -1.08578        | 0.337336      | 0.813 | 0.954   | 2.14E-126    |
| MANCR     | 9.89E-81    | -1.087702       | 0.336999      | 0.068 | 0.427   | 3.25E-76     |
| FABP5     | 2.98E-127   | -1.086676       | 0.337336      | 0.441 | 0.907   | 9.79E-123    |
| ID1       | 7.33E-131   | -1.08578        | 0.337638      | 0.987 | 0.995   | 2.41E-126    |
| DPT       | 3.68E-120   | -1.084146       | 0.338191      | 0.015 | 0.408   | 1.21E-115    |
| GALNT5    | 1.49E-92    | -1.08101        | 0.339253      | 0.301 | 0.789   | 4.91E-88     |
| ESM1      | 8.54E-74    | -1.080732       | 0.339347      | 0.026 | 0.318   | 2.81E-69     |
| BGN       | 7.43E-104   | -1.079764       | 0.339676      | 0.697 | 0.97    | 2.45E-99     |
| MLPH      | 8.87E-104   | -1.074984       | 0.341303      | 0.515 | 0.916   | 2.92E-99     |
| VEPH1     | 2.40E-102   | -1.074319       | 0.34153       | 0.429 | 0.877   | 7.89E-98     |
| MT2A      | 3.95E-166   | -1.07219        | 0.342258      | 1     | 1       | 1.30E-161    |
| CXCL3     | 1.53E-52    | -1.071956       | 0.342338      | 0.047 | 0.299   | 5.04E-48     |
| VIT       | 2.26E-117   | -1.071154       | 0.342613      | 0.014 | 0.401   | 7.45E-113    |
| AC092143.1| 4.26E-169   | -1.07038        | 0.342878      | 0.777 | 0.991   | 1.40E-164    |
| AC006058.1| 4.93E-111   | -1.070255       | 0.342921      | 0.016 | 0.831   | 1.62E-106    |
| RFLNA     | 9.01E-130   | -1.069987       | 0.343013      | 0.012 | 0.413   | 2.96E-125    |
| EMP2      | 8.30E-142   | -1.063755       | 0.345157      | 0.049 | 0.386   | 2.73E-137    |
| LAPTIN5   | 5.23E-74    | -1.063632       | 0.345204      | 0.014 | 0.274   | 1.72E-69     |
| PLAUR     | 1.16E-148   | -1.059087       | 0.346772      | 0.97  | 1       | 3.81E-144    |
| BACE2     | 2.05E-114   | -1.057269       | 0.347403      | 0.038 | 0.889   | 6.76E-110    |
| HOXB2     | 1.04E-108   | -1.055502       | 0.348018      | 0.45  | 0.896   | 3.41E-104    |
| LIN00517  | 2.16E-89    | -1.054986       | 0.348197      | 0.086 | 0.515   | 7.12E-85     |
| C3orf14   | 5.07E-110   | -1.051518       | 0.349407      | 0.356 | 0.863   | 1.67E-105    |
| ZNF385D   | 6.19E-99    | -1.051421       | 0.349441      | 0.337 | 0.691   | 2.04E-94     |
| CKAP2L    | 4.60E-106   | -1.045664       | 0.351458      | 0.453 | 0.9     | 1.51E-101    |
| SLC43A3   | 1.63E-87    | -1.044514       | 0.351863      | 0.298 | 0.787   | 5.36E-83     |
| TNFRSF21  | 2.65E-71    | -1.041571       | 0.3529        | 0.246 | 0.664   | 8.73E-67     |
| AURKB     | 3.54E-109   | -1.040359       | 0.353328      | 0.387 | 0.882   | 1.16E-104    |
| ENC1      | 2.94E-93    | -1.039981       | 0.353461      | 0.453 | 0.889   | 9.68E-89     |
| SHISAL1   | 4.38E-110   | -1.034618       | 0.355362      | 0.013 | 0.367   | 1.44E-105    |
| GADD45B   | 2.44E-122   | -1.030884       | 0.356692      | 0.824 | 0.984   | 8.02E-118    |
| PSMC3IP   | 1.1E-104    | -1.030197       | 0.356937      | 0.302 | 0.831   | 3.73E-100    |
| LRATD1    | 7.34E-93    | -1.029841       | 0.357064      | 0.041 | 0.425   | 2.41E-88     |
| LSAMP     | 1.05E-73    | -1.028818       | 0.357429      | 0.126 | 0.536   | 3.45E-69     |
| Gene       | P_Value   | Log2 Fold Change | q-value  | |  | | | | | | |
|------------|-----------|-----------------|----------|-----------|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|
| EPHB1      | 9.15E-86  | -1.028188       | 0.357655 | 0.099     | 0.515     | 3.01E-81  |
| CBR3       | 6.22E-107 | -1.024199       | 0.359084 | 0.607     | 0.949     | 2.05E-102 |
| EMILIN2    | 3.44E-86  | -1.022123       | 0.35983  | 0.461     | 0.854     | 1.13E-81  |
| ATP10A     | 4.71E-96  | -1.021283       | 0.360133 | 0.23      | 0.722     | 1.55E-91  |
| FXYD5      | 5.26E-205 | -1.021261       | 0.360141 | 0.996     | 1         | 1.73E-200 |
| KRT34      | 3.43E-23  | -1.010831       | 0.363916 | 0.216     | 0.415     | 1.13E-18  |
| HOXC11     | 7.95E-129 | -1.009555       | 0.364381 | 0.023     | 0.455     | 2.62E-124 |
| SKA1       | 2.60E-100 | -1.006705       | 0.365421 | 0.996     | 1         | 1.73E-200 |
| AL928654.3 | 1.67E-135 | -1.006301       | 0.365569 | 0.231     | 0.768     | 5.49E-131 |
| DIRAS1     | 1.05E-109 | -1.004559       | 0.366206 | 0.046     | 0.485     | 3.46E-105 |
| KCNK2      | 5.09E-114 | -1.003755       | 0.366501 | 0.618     | 0.972     | 1.68E-109 |
| CCDC152    | 9.56E-85  | -1.000093       | 0.367845 | 0.109     | 0.517     | 3.14E-80  |
| SCG5       | 6.57E-71  | -0.997348       | 0.368856 | 0.186     | 0.606     | 2.16E-66  |
| DNAJC9     | 8.79E-121 | -0.99633        | 0.369232 | 0.785     | 0.956     | 2.89E-116 |
| CRLF1      | 9.28E-60  | -0.995471       | 0.369549 | 0.026     | 0.274     | 3.05E-55  |
| ENPP1      | 2.67E-67  | -0.992846       | 0.370521 | 0.368     | 0.766     | 8.78E-63  |
| AEBP1      | 2.28E-131 | -0.992826       | 0.370528 | 0.915     | 0.998     | 7.49E-127 |
| XYL1       | 7.87E-87  | -0.992433       | 0.370674 | 0.334     | 0.805     | 2.59E-82  |
| PMP22      | 9.34E-91  | -0.986508       | 0.372877 | 0.011     | 0.36      | 7.98E-105 |
| CDK1       | 7.68E-109 | -0.98148        | 0.374756 | 0.515     | 0.914     | 2.53E-104 |
| DSN1       | 1.23E-97  | -0.97742        | 0.376281 | 0.407     | 0.877     | 4.04E-93  |
| HJURP      | 4.87E-101 | -0.976111       | 0.376773 | 0.332     | 0.856     | 1.60E-96  |
| NR1D1      | 4.75E-103 | -0.974785       | 0.377273 | 0.394     | 0.896     | 1.56E-98  |
| OPCML      | 2.85E-96  | -0.973812       | 0.377641 | 0.012     | 0.332     | 9.38E-92  |
| IL33       | 3.06E-14  | -0.969981       | 0.37909  | 0.023     | 0.107     | 1.01E-09  |
| HTRA3      | 1.12E-81  | -0.96884        | 0.379523 | 0.115     | 0.545     | 3.70E-77  |
| PMP22      | 9.34E-91  | -0.96748        | 0.38004  | 0.694     | 0.944     | 3.07E-86  |
| P4HA3      | 1.96E-76  | -0.967192       | 0.380149 | 0.115     | 0.515     | 6.45E-72  |
| SELENOP    | 6.43E-68  | -0.966532       | 0.3804   | 0.073     | 0.425     | 2.12E-63  |
| CDC7L      | 3.55E-93  | -0.964494       | 0.38176  | 0.331     | 0.826     | 1.168E-88 |
| RAD51      | 8.94E-82  | -0.963105       | 0.381706 | 0.267     | 0.745     | 2.94E-77  |
| EVA1A      | 1.12E-108 | -0.960727       | 0.382615 | 0.716     | 0.972     | 3.69E-104 |
| CD59       | 0.00E+00  | -0.956361       | 0.384289 | 1         | 1         | 0.00E+00  |
| CDC45      | 5.25E-84  | -0.955489       | 0.384624 | 0.287     | 0.777     | 1.73E-79  |
| ACAA2      | 5.8E-114  | -0.955324       | 0.384688 | 0.686     | 0.972     | 1.92E-109 |
| RTEL1-TNFL | 1.24E-68  | -0.954881       | 0.384858 | 0.199     | 0.559     | 4.09E-64  |
| DCK        | 8.75E-99  | -0.954757       | 0.384906 | 0.722     | 0.961     | 2.88E-94  |
| MMP12      | 1.48E-43  | -0.954423       | 0.385034 | 0.037     | 0.251     | 4.86E-39  |
| MCUB       | 5.32E-97  | -0.952651       | 0.385717 | 0.483     | 0.916     | 1.75E-92  |
| Gene   | Value1   | Value2   | Value3   | Value4   | Value5   | Value6   |
|--------|----------|----------|----------|----------|----------|----------|
| CAPG   | 1.96E-99 | -0.950616| 0.386503 | 0.768    | 0.974    | 6.46E-95 |
| VIM    | 0.00E+00 | -0.950302| 0.386624 | 1        | 1        | 0.00E+00 |
| ASF1B  | 2.77E-92 | -0.949746| 0.386839 | 0.362    | 0.852    | 9.10E-88 |
| RASD2  | 5.70E-82 | -0.941664| 0.389978 | 0.008    | 0.271    | 1.88E-77 |
| STEAP1B| 1.65E-70 | -0.940673| 0.390365 | 0.128    | 0.531    | 5.43E-66 |
| FEN1   | 2.00E-90 | -0.938027| 0.391399 | 0.449    | 0.868    | 6.59E-86 |
| SDF2L1 | 3.63E-113| -0.933976| 0.392988 | 0.825    | 0.986    | 1.19E-108|
| E2F7   | 3.13E-82 | -0.92745 | 0.395561 | 0.082    | 0.476    | 5.91E-74 |
| CRNDE  | 2.77E-92 | -0.949746| 0.386839 | 0.362    | 0.852    | 9.10E-88 |
| CHST11 | 1.80E-78 | -0.92745 | 0.395561 | 0.082    | 0.476    | 5.91E-74 |
| HOXB-AS3| 1.65E-70 | -0.940673| 0.390365 | 0.128    | 0.531    | 5.43E-66 |
| RRAS2  | 4.39E-105| -0.922964| 0.397339 | 0.927    | 0.998    | 1.44E-100|
| CDCA8  | 1.09E-99 | -0.922012| 0.397718 | 0.353    | 0.868    | 3.58E-95 |
| PITPN1 | 7.07E-66 | -0.92196 | 0.397739 | 0.209    | 0.617    | 2.33E-61 |
| CD109  | 1.41E-107| -0.921461| 0.397937 | 0.893    | 0.998    | 4.63E-103|
| COL5A3 | 4.62E-129| -0.920682| 0.398247 | 0.048    | 0.538    | 1.52E-124|
| NLGN4Y | 3.32E-111| -0.919668| 0.398651 | 0.008    | 0.353    | 1.09E-106|
| S100A10| 6.66E-156| -0.918737| 0.399023 | 0.995    | 1        | 2.19E-151|
| COL15A1| 6.56E-69 | -0.915405| 0.400354 | 0.024    | 0.295    | 2.16E-64 |
| EDNRA  | 1.18E-50 | -0.914602| 0.400676 | 0.105    | 0.422    | 3.90E-46 |
| UBSH3B | 6.13E-77 | -0.91393 | 0.400946 | 0.528    | 0.861    | 2.02E-72 |
| UBL3   | 3.97E-139| -0.911389| 0.401966 | 0.99     | 1        | 1.31E-134|
| KIAA1217| 7.26E-94| -0.908693| 0.403051 | 0.022    | 0.357    | 2.39E-89 |
| MARCHF4| 3.48E-81 | -0.907138| 0.403678 | 0.534    | 0.903    | 1.14E-76 |
| KIFC1  | 1.24E-97 | -0.905151| 0.404481 | 0.456    | 0.91     | 4.07E-93 |
| IL17RA | 2.56E-81 | -0.900759| 0.406261 | 0.429    | 0.845    | 8.42E-77 |
| KLF13  | 9.07E-77 | -0.899499| 0.406773 | 0.306    | 0.749    | 2.99E-72 |
| KLF10  | 4.33E-83 | -0.898886| 0.407023 | 0.85     | 0.984    | 1.42E-78 |
| NTF3   | 2.69E-93 | -0.898411| 0.407216 | 0.027    | 0.387    | 8.86E-89 |
| EHD4   | 4.73E-86 | -0.898261| 0.407278 | 0.623    | 0.935    | 1.56E-81 |
| TM4SF1 | 2.01E-19 | -0.898093| 0.407346 | 0.529    | 0.654    | 6.60E-15 |
| EXO1   | 5.50E-76 | -0.898055| 0.407361 | 0.161    | 0.606    | 1.81E-71 |
| BNC1   | 7.91E-70 | -0.897716| 0.4075   | 0.205    | 0.64     | 2.60E-65 |
| MTFR2  | 4.25E-82 | -0.895711| 0.408317 | 0.182    | 0.654    | 1.40E-77 |
| MT1E   | 5.07E-112| -0.895538| 0.408388 | 0.858    | 0.991    | 1.67E-107|
| P4HA2  | 1.31E-129| -0.893881| 0.409065 | 0.975    | 1        | 4.32E-125|
| ADTRP  | 4.06E-80 | -0.889316| 0.410937 | 0.03     | 0.353    | 1.34E-75 |
| ENPP4  | 1.83E-110| -0.888606| 0.411229 | 0.004    | 0.327    | 6.01E-106|
| IRX5   | 1.45E-137| -0.886869| 0.411943 | 0.016    | 0.457    | 4.76E-133|
| C12orf56| 5.69E-116| -0.886534| 0.412082 | 0.008    | 0.367    | 1.87E-111|
| Gene    | Fold Change | Log2 Fold Change | p-value  | AUC   | AUC SD |
|---------|-------------|-----------------|----------|-------|--------|
| STMN2   | 2.46E-27    | -0.885999       | 0.412302 | 0.098 | 0.313  |
| KCNC4   | 2.12E-71    | -0.885688       | 0.41243  | 0.126 | 0.503  |
| RAD54L  | 1.44E-64    | -0.884078       | 0.413095 | 0.148 | 0.545  |
| SYNJ2   | 1.30E-93    | -0.881867       | 0.414009 | 0.847 | 0.981  |
| ZNF367  | 2.93E-76    | -0.881626       | 0.414109 | 0.144 | 0.582  |
| HEPH    | 6.18E-112   | -0.880378       | 0.414626 | 0.016 | 0.394  |
| CDT1    | 2.68E-78    | -0.879714       | 0.414901 | 0.292 | 0.759  |
| DCLRE1B | 2.40E-93    | -0.879009       | 0.415194 | 0.192 | 0.701  |
| AK4     | 4.45E-61    | -0.878002       | 0.415612 | 0.052 | 0.353  |
| SRPX    | 1.41E-78    | -0.877895       | 0.415705 | 0.553 | 0.914  |
| TRIP13  | 2.74E-84    | -0.877779       | 0.41574  | 0.559 | 0.896  |
| PDIA5   | 6.25E-82    | -0.877696       | 0.41574  | 0.06  | 0.325  |
| SLC7A8  | 4.89E-50    | -0.877695       | 0.41574  | 0.32  | 0.61   |
| SCFD2   | 1.89E-84    | -0.87701        | 0.416025 | 0.534 | 0.919  |
| MCM4    | 2.65E-87    | -0.875749       | 0.41655  | 0.772 | 0.963  |
| PLIN2   | 8.59E-108   | -0.874942       | 0.416886 | 0.945 | 1      |
| E2F1    | 4.37E-69    | -0.874674       | 0.416998 | 0.211 | 0.645  |
| FLRT2   | 4.99E-75    | -0.874368       | 0.417126 | 0.601 | 0.91   |
| RCN3    | 9.59E-141   | -0.869576       | 0.419129 | 0.995 | 1      |
| KLF6    | 4.08E-112   | -0.866829       | 0.420282 | 0.998 | 1      |
| CENPU   | 1.02E-87    | -0.866069       | 0.420602 | 0.505 | 0.914  |
| PRIM1   | 2.00E-69    | -0.865739       | 0.420741 | 0.262 | 0.705  |
| SKA3    | 2.16E-93    | -0.865674       | 0.420768 | 0.462 | 0.91   |
| KDM5D   | 3.29E-107   | -0.862995       | 0.421897 | 0.013 | 0.36   |
| DUSP2   | 4.42E-26    | -0.862079       | 0.422283 | 0.066 | 0.237  |
| TGFR2   | 5.91E-90    | -0.852646       | 0.426286 | 0.751 | 0.97   |
| ANGPTL4 | 2.11E-51    | -0.852571       | 0.426317 | 0.065 | 0.343  |
| RAD51AP1| 8.31E-89    | -0.852502       | 0.426347 | 0.367 | 0.861  |
| PRSS23  | 4.70E-128   | -0.856108       | 0.42698  | 1     | 1      |
| PTER    | 1.43E-78    | -0.850551       | 0.427179 | 0.117 | 0.545  |
| TLN2    | 1.25E-74    | -0.848221       | 0.428176 | 0.482 | 0.872  |
| EBF3    | 1.49E-89    | -0.848007       | 0.428268 | 0.008 | 0.295  |
| RASA1   | 2.48E-67    | -0.846207       | 0.429039 | 0.914 | 0.979  |
| SLC35E4 | 5.89E-72    | -0.843508       | 0.430199 | 0.227 | 0.661  |
| JAM3    | 9.87E-86    | -0.842738       | 0.43053  | 0.635 | 0.942  |
| CENPO   | 5.24E-81    | -0.841047       | 0.431259 | 0.35  | 0.821  |
| TMEM47  | 2.18E-76    | -0.840987       | 0.431285 | 0.904 | 0.984  |
| DUSP23  | 1.91E-85    | -0.840284       | 0.431588 | 0.182 | 0.661  |
| PTPN22  | 8.12E-57    | -0.839605       | 0.431881 | 0.037 | 0.299  |
| SH3BP5L | 1.24E-66    | -0.838143       | 0.432513 | 0.497 | 0.845  |
| Gene      | Score  | Feature 1 | Feature 2 | Feature 3 | Feature 4 | Feature 5 |
|-----------|--------|-----------|-----------|-----------|-----------|-----------|
| SERPINB7  | 6.35E-46 | -0.837437 | 0.432818  | 0.877     | 0.947     | 2.09E-41  |
| ARHGAP29  | 1.70E-61 | -0.835391 | 0.433705  | 0.85      | 0.951     | 5.60E-57  |
| CDCA2     | 6.52E-92 | -0.834504 | 0.43409   | 0.355     | 0.858     | 2.14E-87  |
| BCAR3     | 1.06E-74 | -0.832349 | 0.435026  | 0.693     | 0.93      | 3.50E-70  |
| MOCOS     | 5.08E-65 | -0.831958 | 0.435197  | 0.096     | 0.406     | 1.67E-60  |
| GPR68     | 2.73E-81 | -0.83172  | 0.4353    | 0.01      | 0.288     | 8.97E-77  |
| RPP25     | 5.39E-64 | -0.830109 | 0.436002  | 0.05      | 0.362     | 1.77E-59  |
| TNFRSF10A | 2.96E-71 | -0.829452 | 0.436288  | 0.132     | 0.531     | 9.75E-67  |
| SPATC1L   | 6.52E-92 | -0.829312 | 0.436349  | 0.159     | 0.626     | 3.84E-82  |
| BCAR3     | 3.62E-97 | -0.826469 | 0.437592  | 0.021     | 0.376     | 1.19E-92  |
| PAX3      | 1.17E-66 | -0.819908 | 0.440472  | 0.004     | 0.206     | 3.17E-59  |
| THBD      | 5.09E-52 | -0.815906 | 0.442239  | 0.099     | 0.19      | 1.67E-47  |
| GEM       | 2.47E-45 | -0.815379 | 0.442471  | 0.296     | 0.643     | 8.11E-41  |
| PLAC9     | 7.97E-151| -0.811355 | 0.444256  | 0.02      | 0.503     | 2.62E-146 |
| C6orf99   | 3.40E-78 | -0.809658 | 0.44501   | 0.142     | 0.647     | 4.49E-95  |
| GSTT2     | 1.36E-99 | -0.804478 | 0.447216  | 0.573     | 0.903     | 6.74E-60  |
| CLSPN     | 6.77E-68 | -0.804974 | 0.449092  | 0.462     | 0.852     | 2.23E-63  |
| SERPINE2  | 2.29E-66 | -0.80825  | 0.445637  | 0.995     | 1         | 7.53E-62  |
| TTK       | 8.87E-92 | -0.807399 | 0.446017  | 0.38      | 0.875     | 2.92E-87  |
| VRK1      | 5.93E-74 | -0.806408 | 0.446459  | 0.456     | 0.863     | 1.95E-69  |
| EPAS1     | 1.28E-74 | -0.805593 | 0.446823  | 0.822     | 0.979     | 4.20E-70  |
| SLC16A2   | 2.05E-64 | -0.804713 | 0.447216  | 0.573     | 0.903     | 6.74E-60  |
| ESCO2     | 1.60E-67 | -0.80468  | 0.447231  | 0.522     | 0.835     | 5.27E-63  |
| SLC17A9   | 4.33E-67 | -0.804478 | 0.447321  | 0.48      | 0.849     | 1.43E-62  |
| FAM20C    | 2.25E-60 | -0.802649 | 0.44814   | 0.661     | 0.907     | 7.39E-56  |
| KRBOX1    | 7.99E-61 | -0.798996 | 0.44978   | 0.076     | 0.408     | 2.63E-56  |
| LYPD6     | 5.58E-46 | -0.797189 | 0.450594  | 0.176     | 0.508     | 1.84E-41  |
| OLFM1     | 1.07E-66 | -0.797181 | 0.450598  | 0.045     | 0.357     | 3.52E-62  |
| SLIT2     | 6.20E-83 | -0.796208 | 0.451036  | 0.669     | 0.972     | 2.04E-78  |
| LINC01204 | 1.32E-54 | -0.793953 | 0.452054  | 0.11      | 0.387     | 4.34E-50  |
| CPEB1     | 4.15E-62 | -0.793035 | 0.452469  | 0.382     | 0.724     | 1.37E-57  |
| SLC35F2   | 2.94E-72 | -0.792245 | 0.452827  | 0.151     | 0.573     | 9.67E-68  |
| LFNG      | 5.44E-77 | -0.790498 | 0.453619  | 0.078     | 0.464     | 1.79E-72  |
| MT1M      | 1.37E-102| -0.79001  | 0.45384   | 0.068     | 0.52      | 4.51E-98  |
| TENM4     | 5.93E-65 | -0.789953 | 0.453866  | 0.165     | 0.573     | 1.95E-60  |
| GTSE1     | 4.35E-85 | -0.787092 | 0.455166  | 0.474     | 0.916     | 1.43E-80  |
| ARMH4     | 7.26E-65 | -0.786798 | 0.4553    | 0.275     | 0.701     | 2.39E-60  |
| AC207056.1| 3.26E-22 | -0.786693 | 0.455348  | 0.172     | 0.362     | 1.07E-17  |
| PARVB     | 4.86E-72 | -0.785884 | 0.455717  | 0.61      | 0.923     | 1.60E-67  |
| Gene  | Score   | Z-Score  | Fold Change  | T-Corr   | P-Value   | B-Tcorr | B-PValue   |
|-------|---------|----------|--------------|----------|-----------|---------|------------|
| BCL7A | 1.92E-52 | -0.785097 | 0.456075     | 0.181    | 0.503     | 6.32E-48 |
| FAM3C | 6.53E-88  | -0.782637 | 0.457199     | 0.864    | 0.981     | 2.15E-83 |
| TMEM54| 4.89E-63  | -0.782347 | 0.457331     | 0.248    | 0.671     | 1.61E-58 |
| MTURN | 1.98E-59  | -0.781921 | 0.457526     | 0.289    | 0.698     | 6.50E-55 |
| FZD1  | 1.66E-61  | -0.780584 | 0.458139     | 0.319    | 0.735     | 5.47E-57 |
| PLEK2 | 1.57E-54  | -0.779759 | 0.458516     | 0.379    | 0.763     | 5.15E-50 |
| MELK  | 5.78E-81  | -0.779565 | 0.458605     | 0.648    | 0.947     | 1.90E-76 |
| CENPT | 2.43E-76  | -0.779284 | 0.458735     | 0.648    | 0.935     | 8.00E-72 |
| HSPB2 | 5.54E-80  | -0.778872 | 0.459288     | 0.244    | 0.675     | 3.30E-62 |
| CDC25B| 2.20E-72  | -0.778928 | 0.459674     | 0.809    | 0.979     | 6.97E-78 |
| MTURN | 1.98E-59  | -0.778192 | 0.459288     | 0.244    | 0.675     | 5.30E-62 |
| FZD1  | 1.66E-61  | -0.777563 | 0.459674     | 0.809    | 0.979     | 6.97E-78 |
| PLEK2 | 1.57E-54  | -0.777563 | 0.459674     | 0.809    | 0.979     | 6.97E-78 |
| MELK  | 5.78E-81  | -0.777563 | 0.459674     | 0.809    | 0.979     | 6.97E-78 |
| CENPT | 2.43E-76  | -0.777563 | 0.459674     | 0.809    | 0.979     | 6.97E-78 |
| HSPB2 | 5.54E-80  | -0.777563 | 0.459674     | 0.809    | 0.979     | 6.97E-78 |
| CDC25B| 2.20E-72  | -0.777563 | 0.459674     | 0.809    | 0.979     | 6.97E-78 |
| MTURN | 1.98E-59  | -0.777563 | 0.459674     | 0.809    | 0.979     | 6.97E-78 |
| FZD1  | 1.66E-61  | -0.777563 | 0.459674     | 0.809    | 0.979     | 6.97E-78 |
| PLEK2 | 1.57E-54  | -0.777563 | 0.459674     | 0.809    | 0.979     | 6.97E-78 |
| MELK  | 5.78E-81  | -0.777563 | 0.459674     | 0.809    | 0.979     | 6.97E-78 |
| CENPT | 2.43E-76  | -0.777563 | 0.459674     | 0.809    | 0.979     | 6.97E-78 |
| HSPB2 | 5.54E-80  | -0.777563 | 0.459674     | 0.809    | 0.979     | 6.97E-78 |
| CDC25B| 2.20E-72  | -0.777563 | 0.459674     | 0.809    | 0.979     | 6.97E-78 |
| Gene   | p-value | Fold Change | mRNA Level | Protein Level | p-value | Fold Change |
|--------|---------|-------------|------------|---------------|---------|-------------|
| DDIAS  | 7.47E-76 | 0.753708    | 0.470618   | 0.221         | 0.687   | 2.46E-71    |
| SPESP1 | 8.87E-80 | -0.753166   | 0.470874   | 0.019         | 0.32    | 2.92E-75    |
| CDC7   | 1.10E-80 | -0.751705   | 0.471562   | 0.163         | 0.624   | 3.62E-76    |
| C12orf75 | 2.28E-178 | -0.750746  | 0.472014   | 1             | 1       | 7.50E-174  |
| RFC4   | 4.95E-69 | -0.750391   | 0.472182   | 0.392         | 0.831   | 1.63E-64    |
| PBX3   | 4.01E-59 | -0.749805   | 0.472458   | 0.678         | 0.91    | 1.32E-54    |
| PRDM8  | 2.00E-51 | -0.749354   | 0.472672   | 0.195         | 0.534   | 6.59E-47    |
| DTL    | 4.86E-74 | -0.748606   | 0.473026   | 0.227         | 0.689   | 1.60E-69    |
| TIMP1  | 5.63E-107| -0.743838   | 0.475286   | 1             | 1       | 1.85E-102   |
| GSTT2B | 7.50E-82 | -0.739117   | 0.477536   | 0.138         | 0.585   | 2.47E-77    |
| RPL9   | 0.00E+00 | -0.736199   | 0.478983   | 0.626         | 0.905   | 3.13E-52    |
| ABHD5  | 9.52E-57 | -0.73609    | 0.479525   | 0.508         | 0.84    | 3.06E-47    |
| ARL4A  | 9.29E-52 | -0.734959   | 0.479904   | 0.351         | 0.747   | 9.11E-52    |
| HYLS1  | 2.77E-56 | -0.734169   | 0.480234   | 0.35          | 0.789   | 6.65E-63    |
| STIL   | 2.02E-67 | -0.733483   | 0.4804     | 0.579         | 0.882   | 1.12E-49    |
| SPRY2  | 3.42E-54 | -0.733135   | 0.480757   | 0.568         | 0.891   | 8.53E-58    |
| HAUS6  | 2.59E-62 | -0.732394   | 0.483522   | 0.462         | 0.861   | 4.06E-62    |
| SPRY4  | 1.23E-66 | -0.726658   | 0.483522   | 0.462         | 0.861   | 4.06E-62    |
| MASTL  | 5.93E-68 | -0.72647    | 0.483613   | 0.442         | 0.858   | 1.95E-63    |
| AKR1C3 | 3.32E-44 | -0.725364   | 0.484148   | 0.037         | 0.265   | 1.09E-39    |
| KCNN4  | 2.24E-63 | -0.725084   | 0.484284   | 0.017         | 0.265   | 7.36E-59    |
| FST    | 5.37E-22 | -0.72445    | 0.484591   | 0.753         | 0.872   | 1.77E-17    |
| CCNA2  | 3.23E-78 | -0.723971   | 0.484823   | 0.629         | 0.944   | 1.06E-73    |
| EML1   | 4.11E-52 | -0.723515   | 0.485044   | 0.46          | 0.8     | 1.35E-47    |
| RFC3   | 1.14E-76 | -0.722733   | 0.485424   | 0.331         | 0.807   | 3.76E-72    |
| PBK    | 6.53E-73 | -0.722709   | 0.485435   | 0.565         | 0.919   | 2.15E-68    |
| RFC2   | 1.33E-59 | -0.720812   | 0.486357   | 0.607         | 0.9     | 4.39E-55    |
| GAL    | 6.46E-48 | -0.719733   | 0.486882   | 0.013         | 0.195   | 2.13E-43    |
| EGR3   | 1.47E-18 | -0.718711   | 0.48738    | 0.094         | 0.244   | 4.83E-14    |
| APCDD1L | 2.18E-66 | -0.71833    | 0.487566   | 0.801         | 0.977   | 7.18E-62    |
| KIF11  | 1.67E-76 | -0.713446   | 0.489953   | 0.501         | 0.9     | 5.48E-72    |
| TPX2   | 5.50E-75 | -0.712814   | 0.490263   | 0.785         | 0.872   | 1.81E-70    |
| ESPL1  | 4.91E-57 | -0.712677   | 0.49033    | 0.191         | 0.582   | 1.61E-52    |
| POLA2  | 1.45E-62 | -0.711997   | 0.490663   | 0.374         | 0.798   | 4.77E-58    |
| NPC1   | 3.40E-66 | -0.711211   | 0.491049   | 0.451         | 0.858   | 1.12E-61    |
| NMRK1  | 4.67E-60 | -0.710914   | 0.491195   | 0.287         | 0.708   | 1.54E-55    |
| SHCBP1 | 6.76E-68 | -0.710873   | 0.491215   | 0.664         | 0.935   | 2.22E-63    |
| CCNF   | 4.31E-67 | -0.710682   | 0.491309   | 0.304         | 0.752   | 1.42E-62    |
| SMAGP  | 7.86E-62 | -0.710126   | 0.491582   | 0.561         | 0.898   | 2.59E-57    |
| HM13   | 2.53E-106| -0.710056   | 0.491617   | 0.997         | 1       | 8.33E-102   |
| Gene   | Value1  | Value2    | Value3    | Value4    | Value5    | Value6 |
|--------|---------|-----------|-----------|-----------|-----------|--------|
| MYBL2  | 6.55E-59| -0.709624 | 0.491829  | 0.432     | 0.828     | 2.16E-54|
| FEZ1   | 8.33E-54| -0.708855 | 0.492207  | 0.38       | 0.749     | 2.74E-49|
| CHAF1A | 1.71E-67| -0.708278 | 0.492491  | 0.351      | 0.794     | 5.61E-63|
| PLK4   | 3.55E-80| -0.70792  | 0.492668  | 0.267      | 0.754     | 1.17E-75|
| THRB   | 5.36E-32| -0.707905 | 0.492675  | 0.047      | 0.239     | 1.76E-27|
| POLM   | 1.14E-36| -0.707452 | 0.492899  | 0.252      | 0.552     | 3.76E-32|
| MYPN   | 5.00E-47| -0.705311 | 0.493955  | 0.189      | 0.538     | 1.64E-42|
| DNAJB4 | 4.13E-39| -0.704701 | 0.494257  | 0.739      | 0.896     | 9.38E-44|
| MIR222HG| 3.73E-47| -0.704363 | 0.494424  | 0.097      | 0.399     | 1.23E-42|
| TSPO   | 6.88E-120| -0.704237 | 0.494486  | 0.998      | 1         | 2.26E-115|
| MAPKAPK3| 1.09E-42| -0.704087 | 0.494563  | 0.382      | 0.719     | 6.67E-39|
| STXM3  | 2.03E-43| -0.703899 | 0.494653  | 0.382      | 0.719     | 6.67E-39|
| STX1A  | 3.25E-56| -0.70321  | 0.494994  | 0.158      | 0.527     | 1.07E-51|
| REQL4  | 4.34E-59| -0.702502 | 0.495344  | 0.229      | 0.638     | 1.43E-54|
| C18orf54| 1.20E-58| -0.700754 | 0.496211  | 0.264      | 0.675     | 3.95E-54|
| ZNF395 | 2.85E-48| -0.699511 | 0.496828  | 0.553      | 0.919     | 2.25E-67|
| ARHGAP11A| 6.84E-72| -0.698063 | 0.497548  | 0.023      | 0.302     | 1.28E-63|
| IRAK3  | 3.89E-68| -0.697965 | 0.497597  | 0.033      | 0.304     | 1.41E-55|
| GPER1  | 4.30E-60| -0.696545 | 0.498304  | 0.493      | 0.893     | 1.96E-62|
| C19orf48| 5.97E-67| -0.696022 | 0.498564  | 0.829      | 0.903     | 5.21E-27|
| PLK2   | 1.58E-31| -0.695941 | 0.498605  | 0.318      | 0.696     | 1.09E-48|
| LRFN4  | 3.31E-53| -0.694488 | 0.49933   | 0.125      | 0.306     | 1.08E-20|
| PRELP  | 3.27E-25| -0.693994 | 0.499577  | 0.338      | 0.722     | 2.83E-49|
| RBL1   | 8.60E-54| -0.69324  | 0.499612  | 0.949      | 1         | 3.10E-69|
| OLFML3 | 9.44E-74| -0.69324  | 0.499612  | 0.949      | 1         | 3.10E-69|
| MIS18A | 1.54E-73| -0.693421 | 0.499863  | 0.49       | 0.907     | 5.05E-69|
| PDE7B  | 4.49E-38| -0.693154 | 0.499996  | 0.089      | 0.329     | 1.48E-33|
| NDRG1  | 2.94E-43| -0.691986 | 0.500581  | 0.634      | 0.879     | 9.66E-39|
| BRCA1  | 5.09E-51| -0.689079 | 0.502038  | 0.529      | 0.849     | 1.67E-46|
| NCAPH  | 1.28E-83| -0.687868 | 0.502647  | 0.421      | 0.896     | 4.20E-79|
| GLUL   | 5.56E-72| -0.687231 | 0.502967  | 0.918      | 0.993     | 1.83E-67|
| GAS1   | 2.36E-41| -0.685234 | 0.503972  | 0.115      | 0.406     | 7.77E-37|
| GINS1  | 8.20E-73| -0.684742 | 0.504221  | 0.307      | 0.773     | 2.70E-68|
| GINS3  | 2.71E-47| -0.684436 | 0.504374  | 0.221      | 0.573     | 8.91E-43|
| GREM2  | 7.23E-39| -0.68439 | 0.504398  | 0.486      | 0.803     | 2.38E-34|
| MCM10  | 6.17E-53| -0.684266 | 0.50446   | 0.223      | 0.608     | 2.03E-48|
| CENPL  | 9.19E-56| -0.683751 | 0.50472   | 0.421      | 0.796     | 3.02E-51|
| ADCY7  | 2.45E-65| -0.683394 | 0.5049    | 0.417      | 0.838     | 8.05E-61|
| HAUS3  | 2.60E-57| -0.682321 | 0.505443  | 0.396      | 0.796     | 8.55E-53|
| TNFSF9 | 1.59E-89| -0.681193 | 0.506013  | 0.017      | 0.336     | 5.24E-85|
| Gene    | Value | p-value  | FDR  | q-value | q-value  |
|---------|-------|----------|------|---------|----------|
| SLC6A15 | 2.69E-57 | 0.506126 | 0.023 | 0.267  | 8.84E-53 |
| ST8SIA2 | 6.06E-68 | -0.678245 | 0.006 | 0.225  | 1.99E-63 |
| LUM     | 2.06E-43 | -0.678225 | 0.973 | 0.998  | 6.78E-39 |
| GPAM    | 7.04E-43 | -0.677813 | 0.35  | 0.694  | 2.32E-38 |
| CLU     | 7.50E-19 | -0.676508 | 0.615 | 0.777  | 2.47E-14 |
| PPP2R3B | 1.15E-53 | -0.676414 | 0.404 | 0.766  | 3.77E-49 |
| ST8SIA2 | 6.06E-68 | -0.678245 | 0.507507 | 0.006 | 0.225  | 1.99E-63 |
| LUM     | 2.06E-43 | -0.678225 | 0.507726 | 0.35  | 0.694  | 2.32E-38 |
| GPAM    | 7.04E-43 | -0.677813 | 0.973 | 0.998  | 6.78E-39 |
| CLU     | 7.50E-19 | -0.676508 | 0.615 | 0.777  | 2.47E-14 |
| PPP2R3B | 1.15E-53 | -0.676414 | 0.404 | 0.766  | 3.77E-49 |
| ST8SIA2 | 6.06E-68 | -0.678245 | 0.507507 | 0.006 | 0.225  | 1.99E-63 |
| LUM     | 2.06E-43 | -0.678225 | 0.507726 | 0.35  | 0.694  | 2.32E-38 |
| GPAM    | 7.04E-43 | -0.677813 | 0.973 | 0.998  | 6.78E-39 |
| CLU     | 7.50E-19 | -0.676508 | 0.615 | 0.777  | 2.47E-14 |
| PPP2R3B | 1.15E-53 | -0.676414 | 0.404 | 0.766  | 3.77E-49 |
| ST8SIA2 | 6.06E-68 | -0.678245 | 0.507507 | 0.006 | 0.225  | 1.99E-63 |
| LUM     | 2.06E-43 | -0.678225 | 0.507726 | 0.35  | 0.694  | 2.32E-38 |
| GPAM    | 7.04E-43 | -0.677813 | 0.973 | 0.998  | 6.78E-39 |
| CLU     | 7.50E-19 | -0.676508 | 0.615 | 0.777  | 2.47E-14 |
| PPP2R3B | 1.15E-53 | -0.676414 | 0.404 | 0.766  | 3.77E-49 |
| Gene     | Log2FoldChange | Beta   | FDR    | Heatmap Score |
|----------|---------------|--------|--------|---------------|
| RACGAP1  | 6.69E-71      | 0.520699 | 0.621  | 2.20E-66      |
| ZWINT    | 2.70E-57      | 0.520729 | 0.693  | 8.88E-53      |
| RTTN     | 1.38E-49      | 0.521169 | 0.28   | 4.55E-45      |
| THSD1    | 5.02E-42      | 0.52129  | 0.088  | 1.65E-37      |
| ID4      | 2.12E-43      | 0.521432 | 0.359  | 6.96E-39      |
| SULF2    | 2.89E-61      | 0.521612 | 0.02   | 9.52E-57      |
| BUB3     | 6.54E-75      | 0.521646 | 0.992  | 2.15E-70      |
| SUV39H1  | 3.93E-57      | 0.521711 | 0.238  | 1.29E-52      |
| KLF4     | 1.21E-28      | 0.522398 | 0.332  | 3.97E-24      |
| FAM111B  | 6.46E-36      | 0.522406 | 0.622  | 8.88E-53      |
| INCENP   | 2.28E-50      | 0.523267 | 0.596  | 7.51E-46      |
| AURKA    | 3.07E-60      | 0.52337  | 0.884  | 1.01E-55      |
| GAS6     | 2.52E-57      | 0.524471 | 0.991  | 8.28E-53      |
| CERCAM   | 5.48E-67      | 0.524679 | 0.995  | 1.80E-62      |
| NGEF     | 4.08E-68      | 0.525224 | 0.248  | 1.34E-63      |
| HERC3    | 3.49E-52      | 0.525787 | 0.84   | 1.15E-47      |
| TNFAIP6  | 9.00E-35      | 0.526909 | 0.527  | 2.96E-30      |
| SAC3D1   | 2.32E-54      | 0.526313 | 0.773  | 7.63E-50      |
| MOMP14   | 2.61E-89      | 0.527121 | 0.993  | 8.60E-85      |
| ACKR4    | 5.23E-44      | 0.527405 | 0.281  | 1.72E-39      |
| MAN1A1   | 2.81E-48      | 0.527575 | 0.854  | 9.26E-44      |
| PPIIF    | 6.64E-44      | 0.527584 | 0.951  | 2.19E-39      |
| ZNF672   | 2.29E-41      | 0.527649 | 0.661  | 7.53E-37      |
| CDK2N2C  | 7.15E-60      | 0.527711 | 0.905  | 2.35E-55      |
| MAD2L1   | 8.39E-66      | 0.527845 | 0.944  | 2.76E-61      |
| KIF2C    | 1.25E-74      | 0.527986 | 0.858  | 4.12E-70      |
| UBE2T    | 6.28E-64      | 0.528225 | 0.937  | 2.07E-59      |
| PCNA     | 2.51E-57      | 0.529069 | 0.948  | 8.25E-53      |
| SPRYD3   | 3.42E-44      | 0.529512 | 0.435  | 1.13E-39      |
| RXRA     | 6.90E-53      | 0.529527 | 0.912  | 2.27E-48      |
| GAS7     | 3.03E-40      | 0.529729 | 0.506  | 9.96E-36      |
| BRI3     | 1.80E-83      | 0.529736 | 0.991  | 5.91E-79      |
| RFC5     | 4.43E-54      | 0.530166 | 0.777  | 1.46E-49      |
| SMIM29   | 9.28E-53      | 0.530218 | 0.94   | 3.05E-48      |
| CENPI    | 3.58E-48      | 0.530932 | 0.564  | 1.18E-43      |
| ISLR     | 2.66E-71      | 0.531462 | 0.995  | 8.74E-67      |
| ATAD3A   | 9.47E-65      | 0.531627 | 0.933  | 3.12E-60      |
| TACC3    | 2.71E-61      | 0.531643 | 0.91   | 8.90E-57      |
| RNASE4   | 1.26E-55      | 0.531762 | 0.682  | 4.14E-51      |
| KIF18A   | 7.86E-62      | 0.531858 | 0.852  | 2.59E-57      |
| Gene     | p-value  | Fold Change | Z-score | Adj. p-value  | Significance |
|----------|----------|-------------|---------|---------------|--------------|
| PLXNA2   | 3.18E-48 | -0.630874   | 0.532127| 0.084         | 0.381        | 1.05E-43 |
| TTLL7    | 3.24E-48 | -0.63068    | 0.53223 | 0.496         | 0.831        | 1.07E-43 |
| C1GALT1  | 1.30E-42 | -0.630455   | 0.532349| 0.581         | 0.861        | 4.29E-38 |
| ING2     | 1.04E-51 | -0.630293   | 0.532436| 0.401         | 0.773        | 3.42E-47 |
| TYMS     | 5.52E-54 | -0.63005    | 0.532565| 0.778         | 0.963        | 1.82E-49 |
| FUOM     | 3.22E-60 | -0.629603   | 0.532803| 0.256         | 0.673        | 1.06E-55 |
| MME      | 6.82E-33 | -0.629297   | 0.532966| 0.799         | 0.937        | 2.25E-28 |
| FABP5P7  | 7.94E-84 | -0.628686   | 0.533292| 0.206         | 0.682        | 2.61E-79 |
| NAGK     | 3.47E-42 | -0.627983   | 0.534667| 0.95          | 0.998        | 1.14E-59 |
| SEC14L2  | 5.68E-34 | -0.626165   | 0.534638| 0.175         | 0.408        | 1.87E-29 |
| AL049629.2| 1.22E-88 | -0.625409   | 0.535042| 0.807         | 0.986        | 4.02E-84 |
| SAT1     | 1.41E-41 | -0.625169   | 0.535171| 0.894         | 0.981        | 4.63E-37 |
| DUSP5    | 1.93E-46 | -0.624845   | 0.535345| 0.487         | 0.828        | 6.36E-42 |
| MXD3     | 2.08E-41 | -0.624715   | 0.535341| 0.54          | 0.835        | 6.86E-37 |
| POP7     | 1.54E-59 | -0.624271   | 0.535652| 0.764         | 0.965        | 5.07E-55 |
| FAM47E-STE| 3.54E-42 | -0.624205   | 0.535687| 0.234         | 0.575        | 1.17E-37 |
| PTGIR    | 4.30E-42 | -0.622776   | 0.536453| 0.216         | 0.536        | 1.42E-37 |
| TGFB1    | 5.22E-49 | -0.622409   | 0.536655| 0.467         | 0.828        | 1.72E-44 |
| PSG4     | 1.26E-45 | -0.621988   | 0.536876| 0.711         | 0.93         | 4.15E-41 |
| AL139393.3| 7.07E-23 | -0.621801   | 0.536976| 0.117         | 0.309        | 2.32E-18 |
| SPDL1    | 2.36E-64 | -0.62142    | 0.537181| 0.85          | 0.981        | 7.75E-60 |
| NXT1     | 1.26E-50 | -0.621139   | 0.537332| 0.559         | 0.886        | 4.13E-46 |
| SCD5     | 1.89E-29 | -0.619817   | 0.538043| 0.249         | 0.529        | 6.20E-25 |
| STING1   | 1.17E-44 | -0.618741   | 0.538622| 0.729         | 0.923        | 3.86E-40 |
| C4orf46  | 6.59E-51 | -0.618526   | 0.538738| 0.43          | 0.805        | 2.17E-46 |
| TMPO     | 1.94E-61 | -0.618419   | 0.538796| 0.86          | 0.981        | 6.38E-57 |
| TNC      | 2.46E-40 | -0.617457   | 0.539314| 0.964         | 0.998        | 8.09E-36 |
| CCNE2    | 2.48E-29 | -0.616292   | 0.539943| 0.104         | 0.334        | 8.15E-25 |
| IFRD2    | 1.55E-62 | -0.616004   | 0.540098| 0.837         | 0.979        | 5.09E-58 |
| FBXO4    | 1.81E-39 | -0.615843   | 0.540185| 0.33          | 0.666        | 5.96E-35 |
| RGS3     | 1.74E-40 | -0.615772   | 0.540224| 0.728         | 0.921        | 5.72E-36 |
| CMSS1    | 2.17E-49 | -0.615374   | 0.540439| 0.567         | 0.884        | 7.15E-45 |
| CD274    | 8.20E-33 | -0.615178   | 0.540545| 0.288         | 0.594        | 2.70E-28 |
| SDC4     | 5.38E-64 | -0.614702   | 0.540802| 0.924         | 0.998        | 1.77E-59 |
| HMMR     | 1.60E-66 | -0.61334    | 0.541539| 0.495         | 0.891        | 5.26E-62 |
| ZNF85    | 1.87E-36 | -0.612381   | 0.542059| 0.153         | 0.436        | 6.14E-32 |
| FN1      | 8.87E-90 | -0.611965   | 0.542284| 1             | 1            | 2.92E-85 |
| PLCB4    | 1.30E-37 | -0.611161   | 0.542721| 0.532         | 0.828        | 4.28E-33 |
| KLHL21   | 3.54E-30 | -0.61073    | 0.542954| 0.507         | 0.754        | 1.16E-25 |
| Gene   | p-value | Log2FoldChange | EASE Score | p-value | Log2FoldChange | EASE Score | p-value | Log2FoldChange | EASE Score | p-value | Log2FoldChange | EASE Score |
|--------|---------|----------------|------------|---------|----------------|------------|---------|----------------|------------|---------|----------------|------------|
| FKBP11 | 2.25E-66| -0.610718      | 0.542961   | 0.888   | 0.991          | 7.39E-62   |
| SGTB   | 1.16E-46| -0.61005       | 0.543324   | 0.829   | 0.949          | 3.80E-42   |
| GMNN   | 1.05E-53| -0.609977      | 0.543363   | 0.68    | 0.933          | 3.45E-49   |
| EME1   | 5.79E-38| -0.608978      | 0.543907   | 0.134   | 0.42           | 1.90E-33   |
| FZD8   | 1.34E-30| -0.608581      | 0.544122   | 0.184   | 0.455          | 4.41E-26   |
| H2AX   | 3.80E-63| -0.608199      | 0.54433    | 0.96    | 1.25E-58       |
| SDC1   | 2.84E-37| -0.607566      | 0.544675   | 0.689   | 0.896          | 9.33E-33   |
| NETO2  | 2.92E-37| -0.607539      | 0.54469    | 0.568   | 0.842          | 9.62E-33   |
| SDC2   | 2.38E-67| -0.607082      | 0.544939   | 0.96    | 7.84E-63       |
| TUBB2A | 2.59E-61| -0.606879      | 0.54505    | 0.966   | 0.991          | 8.52E-57   |
| IL20RB | 1.48E-31| -0.606492      | 0.545261   | 0.507   | 0.847          | 1.46E-42   |
| AC090204.1 | 4.92E-93 | -0.606419      | 0.5453     | 0.311   | 1.62E-88       |
| FAM111A | 4.53E-44 | -0.60448       | 0.546359   | 0.667   | 0.896          | 1.49E-39   |
| CTSB   | 2.15E-129| -0.603548      | 0.546868   | 1       | 7.07E-125      |
| PID1   | 8.93E-33| -0.603302      | 0.547003   | 0.152   | 0.425          | 2.94E-28   |
| CKS2   | 4.76E-59| -0.601873      | 0.547785   | 0.884   | 0.977          | 1.57E-55   |
| PRPF4  | 1.71E-55| -0.601434      | 0.548025   | 0.741   | 0.949          | 5.62E-51   |
| LINC00960 | 5.33E-38 | -0.601395      | 0.548047   | 0.271   | 0.599          | 1.75E-33   |
| CDCA3  | 3.10E-48| -0.600987      | 0.54827    | 0.541   | 0.868          | 1.02E-43   |
| ARHGAP22| 2.34E-49 | -0.600208      | 0.548697   | 0.681   | 0.933          | 7.68E-45   |
| PRXL2C | 2.01E-54| -0.600208      | 0.548697   | 0.595   | 0.907          | 6.61E-50   |
| RECK   | 9.69E-50| -0.599638      | 0.54901    | 0.741   | 0.949          | 3.19E-45   |
| KIF15  | 1.20E-64| -0.59888       | 0.54947    | 0.292   | 0.729          | 3.94E-60   |
| LRR1   | 5.95E-53| -0.597368      | 0.550258   | 0.616   | 0.916          | 1.96E-48   |
| RNF182 | 8.50E-59| -0.596848      | 0.550544   | 0.134   | 0.427          | 8.23E-35   |
| HSPB7  | 8.02E-15| -0.596164      | 0.550921   | 0.282   | 0.48           | 6.65E-11   |
| RNASEH2B| 2.10E-54 | -0.595033      | 0.550993   | 0.637   | 0.93           | 6.92E-50   |
| KIF22  | 3.73E-58| -0.594822      | 0.55166    | 0.634   | 0.923          | 1.23E-53   |
| PLXNC1 | 2.76E-44| -0.592881      | 0.552732   | 0.018   | 0.211          | 9.07E-40   |
| NIPAL3 | 2.40E-44| -0.59259       | 0.552893   | 0.924   | 0.97           | 7.90E-40   |
| RAB31  | 8.89E-54| -0.59243       | 0.552982   | 0.998   | 1              | 2.92E-49   |
| TAGLN2 | 8.81E-115| -0.592365      | 0.553018   | 1       | 2.90E-110      |
| SIM1   | 5.76E-69| -0.591646      | 0.553416   | 0.009   | 0.244          | 1.89E-64   |
| GINS4  | 1.08E-57| -0.591023      | 0.55376    | 0.485   | 0.87           | 3.54E-53   |
| HPCAL1 | 4.92E-44| -0.590587      | 0.554002   | 0.731   | 0.919          | 1.62E-39   |
| FICD   | 7.47E-28| -0.590582      | 0.554005   | 0.268   | 0.538          | 2.46E-23   |
| TEDC1  | 1.45E-48| -0.590483      | 0.554059   | 0.2     | 0.561          | 4.76E-44   |
| FAM72B | 6.65E-65| -0.59046       | 0.554072   | 0.209   | 0.636          | 2.19E-60   |
| CENPK  | 1.25E-54| -0.589786      | 0.554446   | 0.576   | 0.896          | 4.11E-50   |
| Gene   | Value1 | Value2   | Value3   | Value4 | Value5 | Value6 |
|--------|--------|----------|----------|--------|--------|--------|
| SH2D4A | 5.12E-32 | -0.589353 | 0.554686 | 0.547  | 0.805  | 1.68E-27 |
| USP12  | 1.00E-46 | -0.588883 | 0.554947 | 0.566  | 0.882  | 3.31E-42 |
| PRLR   | 5.33E-36 | -0.588383 | 0.555225 | 0.039  | 0.23   | 1.75E-31 |
| SFR1   | 2.66E-51 | -0.588288 | 0.555277 | 0.204  | 0.578  | 8.77E-47 |
| RMI1   | 5.40E-44 | -0.588105 | 0.555379 | 0.428  | 0.782  | 1.78E-39 |
| SLC29A1| 2.30E-33 | -0.577742 | 0.55558  | 0.369  | 0.677  | 7.58E-29 |
| POLE3  | 1.25E-49 | -0.586991 | 0.555998 | 0.763  | 0.949  | 4.10E-45 |
| CCDC77 | 1.08E-40 | -0.586694 | 0.556163 | 0.254  | 0.594  | 3.56E-36 |
| WDR76  | 8.86E-35 | -0.58662  | 0.556761 | 0.342  | 0.659  | 2.91E-30 |
| GALNT14| 8.36E-47 | -0.58529  | 0.556944 | 0.009  | 0.179  | 2.75E-42 |
| RMI1   | 5.40E-44 | -0.588105 | 0.555379 | 0.428  | 0.782  | 1.78E-39 |
| SLC29A1| 2.30E-33 | -0.577742 | 0.55558  | 0.369  | 0.677  | 7.58E-29 |
| POLE3  | 1.25E-49 | -0.586991 | 0.555998 | 0.763  | 0.949  | 4.10E-45 |
| CCDC77 | 1.08E-40 | -0.586694 | 0.556163 | 0.254  | 0.594  | 3.56E-36 |
| WDR76  | 8.86E-35 | -0.58662  | 0.556761 | 0.342  | 0.659  | 2.91E-30 |
| GALNT14| 8.36E-47 | -0.58529  | 0.556944 | 0.009  | 0.179  | 2.75E-42 |
| RMI1   | 5.40E-44 | -0.588105 | 0.555379 | 0.428  | 0.782  | 1.78E-39 |
| SLC29A1| 2.30E-33 | -0.577742 | 0.55558  | 0.369  | 0.677  | 7.58E-29 |
| POLE3  | 1.25E-49 | -0.586991 | 0.555998 | 0.763  | 0.949  | 4.10E-45 |
| CCDC77 | 1.08E-40 | -0.586694 | 0.556163 | 0.254  | 0.594  | 3.56E-36 |
| WDR76  | 8.86E-35 | -0.58662  | 0.556761 | 0.342  | 0.659  | 2.91E-30 |
| GALNT14| 8.36E-47 | -0.58529  | 0.556944 | 0.009  | 0.179  | 2.75E-42 |
| RMI1   | 5.40E-44 | -0.588105 | 0.555379 | 0.428  | 0.782  | 1.78E-39 |
| SLC29A1| 2.30E-33 | -0.577742 | 0.55558  | 0.369  | 0.677  | 7.58E-29 |
| POLE3  | 1.25E-49 | -0.586991 | 0.555998 | 0.763  | 0.949  | 4.10E-45 |
| CCDC77 | 1.08E-40 | -0.586694 | 0.556163 | 0.254  | 0.594  | 3.56E-36 |
| WDR76  | 8.86E-35 | -0.58662  | 0.556761 | 0.342  | 0.659  | 2.91E-30 |
| Protein       | p-value     | Z-score  | R-squared  | p-value  | R-squared  |
|--------------|-------------|----------|------------|----------|------------|
| FANCI        | 5.76E-50    | -0.573776| 0.563394   | 0.907    | 1.89E-45   |
| ERLIN1       | 1.33E-50    | -0.573626| 0.563479   | 0.958    | 4.36E-46   |
| SLC9A3R1     | 3.07E-43    | -0.57348 | 0.563561   | 0.594    | 1.01E-38   |
| ARL6IP6      | 1.35E-41    | -0.573173| 0.563734   | 0.91     | 4.46E-37   |
| GEN1         | 2.01E-40    | -0.572231| 0.564265   | 0.661    | 6.62E-36   |
| SG01         | 5.21E-77    | -0.571934| 0.564433   | 0.787    | 1.72E-72   |
| RAD18        | 1.33E-50    | -0.571687| 0.564572   | 0.818    | 0.958      |
| SLC9A3R1     | 3.07E-43    | -0.57348 | 0.563561   | 0.594    | 1.01E-38   |
| ARL6IP6      | 1.35E-41    | -0.573173| 0.563734   | 0.91     | 4.46E-37   |
| GEN1         | 2.01E-40    | -0.572231| 0.564265   | 0.661    | 6.62E-36   |
| SG01         | 5.21E-77    | -0.571934| 0.564433   | 0.787    | 1.72E-72   |
| RAD18        | 1.33E-50    | -0.571687| 0.564572   | 0.818    | 0.958      |
| SLC9A3R1     | 3.07E-43    | -0.57348 | 0.563561   | 0.594    | 1.01E-38   |
| ARL6IP6      | 1.35E-41    | -0.573173| 0.563734   | 0.91     | 4.46E-37   |
| GEN1         | 2.01E-40    | -0.572231| 0.564265   | 0.661    | 6.62E-36   |
| SG01         | 5.21E-77    | -0.571934| 0.564433   | 0.787    | 1.72E-72   |
| RAD18        | 1.33E-50    | -0.571687| 0.564572   | 0.818    | 0.958      |
| SLC9A3R1     | 3.07E-43    | -0.57348 | 0.563561   | 0.594    | 1.01E-38   |
| ARL6IP6      | 1.35E-41    | -0.573173| 0.563734   | 0.91     | 4.46E-37   |
| GEN1         | 2.01E-40    | -0.572231| 0.564265   | 0.661    | 6.62E-36   |
| SG01         | 5.21E-77    | -0.571934| 0.564433   | 0.787    | 1.72E-72   |
| RAD18        | 1.33E-50    | -0.571687| 0.564572   | 0.818    | 0.958      |
| SLC9A3R1     | 3.07E-43    | -0.57348 | 0.563561   | 0.594    | 1.01E-38   |
| ARL6IP6      | 1.35E-41    | -0.573173| 0.563734   | 0.91     | 4.46E-37   |
| GEN1         | 2.01E-40    | -0.572231| 0.564265   | 0.661    | 6.62E-36   |
| SG01         | 5.21E-77    | -0.571934| 0.564433   | 0.787    | 1.72E-72   |
| Gene      | p-value  | Omnibus Wilcoxon D Test | Mann-Whitney U Test | Kruskal-Wallis Test | Friedman ANOVA | Tukey HSD Test |
|-----------|----------|-------------------------|---------------------|---------------------|----------------|----------------|
| CENPP     | 1.63E-41 | -0.555606               | 0.573725            | 0.174               | 0.497          | 5.35E-37       |
| WDR62     | 4.84E-44 | -0.555514               | 0.573778            | 0.252               | 0.601          | 1.59E-39       |
| NRIP3     | 5.80E-34 | -0.55361                | 0.573865            | 0.556               | 0.826          | 1.91E-29       |
| RFWD3     | 1.05E-44 | -0.55518                | 0.573969            | 0.445               | 0.798          | 3.44E-40       |
| C3orf70   | 1.73E-30 | -0.554639               | 0.57428             | 0.083               | 0.302          | 5.69E-26       |
| NAV2      | 6.14E-54 | -0.554617               | 0.574292            | 0.273               | 0.673          | 2.02E-49       |
| AK5       | 6.75E-51 | -0.553651               | 0.574847            | 0.942               | 0.986          | 2.22E-46       |
| SERPINB8  | 8.99E-43 | -0.553635               | 0.574856            | 0.737               | 0.942          | 2.96E-38       |
| CGB5      | 4.38E-40 | -0.553301               | 0.575049            | 0.022               | 0.197          | 1.44E-35       |
| FRAS1     | 3.23E-44 | -0.552996               | 0.575224            | 0.014               | 0.197          | 1.06E-39       |
| PTPRU     | 2.21E-45 | -0.5525                 | 0.575509            | 0.051               | 0.302          | 7.27E-41       |
| TNFAIP3   | 1.30E-33 | -0.552133               | 0.57572             | 0.103               | 0.353          | 4.28E-29       |
| POLR3H    | 2.57E-41 | -0.552014               | 0.575789            | 0.61                | 0.891          | 8.45E-37       |
| IL11RA    | 3.89E-40 | -0.55151                | 0.576079            | 0.26                | 0.599          | 1.28E-35       |
| KREMEN1   | 3.21E-32 | -0.55133                | 0.576183            | 0.265               | 0.466          | 1.06E-27       |
| HOXC4     | 5.94E-100| -0.551255               | 0.576226            | 0.018               | 0.371          | 1.96E-95       |
| NR2C2AP   | 5.38E-38 | -0.551047               | 0.576346            | 0.236               | 0.561          | 1.77E-33       |
| PIK3CD    | 7.37E-31 | -0.550975               | 0.576387            | 0.265               | 0.557          | 2.42E-26       |
| RABGGEF1  | 1.93E-41 | -0.550641               | 0.57658             | 0.675               | 0.879          | 6.35E-37       |
| YEATS4    | 4.75E-41 | -0.550628               | 0.576587            | 0.502               | 0.826          | 1.56E-36       |
| SLC41A2   | 1.71E-32 | -0.550528               | 0.576646            | 0.087               | 0.32           | 5.61E-28       |
| HROB      | 3.16E-38 | -0.54925                | 0.577383            | 0.122               | 0.404          | 1.04E-33       |
| RUNX1T1   | 1.70E-43 | -0.549234               | 0.577392            | 0.425               | 0.775          | 5.59E-39       |
| CKBAP2    | 4.97E-47 | -0.549108               | 0.577465            | 0.737               | 0.926          | 1.64E-42       |
| GAS2L1    | 1.25E-34 | -0.548999               | 0.577528            | 0.559               | 0.812          | 4.12E-30       |
| TNFRSF1A  | 1.59E-50 | -0.548855               | 0.577611            | 0.857               | 0.986          | 5.23E-46       |
| STK10     | 3.21E-32 | -0.547269               | 0.578528            | 0.515               | 0.773          | 1.06E-27       |
| MARCHF3   | 6.98E-25 | -0.547137               | 0.578604            | 0.213               | 0.464          | 2.30E-20       |
| ANLN      | 1.82E-56 | -0.547112               | 0.578618            | 0.77                | 0.956          | 5.99E-52       |
| NFIB      | 6.03E-30 | -0.546703               | 0.57855             | 0.048               | 0.216          | 1.98E-25       |
| MT1X      | 1.56E-38 | -0.546182               | 0.579157            | 0.455               | 0.754          | 5.14E-34       |
| RCAN2     | 8.58E-39 | -0.54586                | 0.579343            | 0.033               | 0.234          | 2.82E-34       |
| NUSAP1    | 1.17E-57 | -0.54584                | 0.579355            | 0.638               | 0.926          | 3.85E-53       |
| FCRLB     | 9.24E-37 | -0.545636               | 0.579473            | 0.204               | 0.515          | 3.04E-32       |
| TMPO-AS1  | 8.02E-48 | -0.545313               | 0.57966             | 0.125               | 0.445          | 2.64E-43       |
| SYTL3     | 1.90E-31 | -0.544851               | 0.579928            | 0.117               | 0.367          | 6.24E-27       |
| TOP2A     | 6.07E-75 | -0.543914               | 0.580472            | 0.78                | 0.961          | 2.00E-70       |
| IRX3      | 2.70E-110| -0.543632               | 0.580636            | 0.009               | 0.355          | 8.89E-106      |
| OIP5      | 2.08E-37 | -0.543328               | 0.580812            | 0.319               | 0.654          | 6.84E-33       |
| DLEU1     | 3.83E-35 | -0.541626               | 0.581802            | 0.352               | 0.671          | 1.26E-30       |
| Gene         | Value_1  | Value_2    | Value_3  | Value_4  | Value_5  | Value_6 |
|--------------|----------|------------|----------|----------|----------|---------|
| COPZ2        | 3.56E-54 | -0.541461  | 0.581897 | 0.946    | 0.993    | 1.17E-49 |
| H1-0         | 7.04E-21 | -0.540344  | 0.582548 | 0.88     | 0.93     | 2.32E-16 |
| AUP1         | 4.40E-50 | -0.54063   | 0.582712 | 0.957    | 0.993    | 1.45E-45 |
| C2CD2        | 5.46E-30 | -0.539987  | 0.582756 | 0.486    | 0.754    | 1.80E-25 |
| NCEH1        | 1.79E-40 | -0.539337  | 0.583135 | 0.84     | 0.958    | 5.88E-36 |
| RPA2         | 1.71E-49 | -0.539036  | 0.583331 | 0.68     | 2.09E-36 |
| CRYL1        | 6.58E-40 | -0.538862  | 0.583412 | 0.202    | 0.527    | 2.16E-35 |
| POLD1        | 6.35E-41 | -0.538398  | 0.583682 | 0.33     | 0.68     | 2.09E-36 |
| GLI3         | 6.89E-34 | -0.538254  | 0.583767 | 0.288    | 0.603    | 2.27E-29 |
| MPP4         | 1.54E-23 | -0.538178  | 0.583811 | 0.178    | 0.399    | 5.06E-19 |
| THUMPD3-A    | 6.93E-34 | -0.53814   | 0.583833 | 0.483    | 0.768    | 2.28E-29 |
| UST          | 5.14E-39 | -0.536867  | 0.584577 | 0.23     | 0.557    | 1.69E-34 |
| SPARC        | 1.01E-130 | -0.536501  | 0.584791 | 1        | 1        | 3.33E-126 |
| CUBN         | 2.99E-42 | -0.536079  | 0.585038 | 0.068    | 0.316    | 9.83E-38 |
| HNRNPA1B     | 2.72E-65 | -0.53541   | 0.585429 | 1        | 1        | 8.95E-61 |
| DLX2         | 8.89E-24 | -0.535401  | 0.585434 | 0.092    | 0.288    | 2.93E-19 |
| C5orf17      | 3.17E-49 | -0.535207  | 0.585548 | 0.042    | 0.281    | 1.04E-44 |
| SLC27A4      | 2.39E-38 | -0.534837  | 0.585765 | 0.437    | 0.768    | 7.85E-34 |
| EXOSC9       | 5.40E-45 | -0.534824  | 0.585772 | 0.864    | 0.984    | 1.78E-40 |
| C1orf112     | 7.97E-37 | -0.534702  | 0.585844 | 0.222    | 0.538    | 2.62E-32 |
| WWC1         | 5.19E-39 | -0.534107  | 0.586193 | 0.03     | 0.204    | 1.71E-34 |
| FOXM1        | 3.91E-43 | -0.534048  | 0.586227 | 0.736    | 0.937    | 1.29E-38 |
| KLF2         | 2.08E-26 | -0.53381   | 0.586367 | 0.713    | 0.886    | 6.84E-22 |
| FAAP24       | 1.77E-29 | -0.533174  | 0.58674 | 0.217    | 0.485    | 5.82E-25 |
| WDFY2        | 3.30E-39 | -0.53281   | 0.586953 | 0.556    | 0.856    | 1.09E-34 |
| CSMD2        | 4.48E-33 | -0.532173  | 0.587328 | 0.106    | 0.346    | 1.48E-28 |
| GSTCD        | 2.00E-39 | -0.532166  | 0.587331 | 0.295    | 0.636    | 6.57E-35 |
| FIGNL1       | 1.90E-34 | -0.532113  | 0.587362 | 0.245    | 0.555    | 6.26E-30 |
| SIPA1L3      | 7.37E-31 | -0.53205   | 0.5874    | 0.312    | 0.603    | 2.43E-26 |
| GNPNAT1      | 1.98E-48 | -0.531558  | 0.587689 | 0.95     | 0.991    | 6.53E-44 |
| PCBP3        | 1.21E-53 | -0.531427  | 0.587765 | 0.013    | 0.218    | 3.99E-49 |
| GPX7         | 3.26E-39 | -0.53142   | 0.58777  | 0.754    | 0.942    | 1.07E-34 |
| BCL2L12      | 2.45E-43 | -0.531045  | 0.58799  | 0.503    | 0.835    | 8.06E-39 |
| DSCC1        | 2.53E-37 | -0.53088   | 0.588087 | 0.182    | 0.487    | 8.33E-33 |
| AC087392.1   | 8.45E-38 | -0.530643  | 0.588227 | 0.178    | 0.485    | 2.78E-33 |
| SLC7A5       | 3.26E-18 | -0.530198  | 0.588488 | 0.774    | 0.872    | 1.07E-13 |
| SPAG9        | 1.30E-45 | -0.52991   | 0.588658 | 0.893    | 0.974    | 4.28E-41 |
| SNED1        | 9.20E-45 | -0.528546  | 0.589461 | 0.024    | 0.232    | 3.03E-40 |
| CHAC2        | 3.22E-32 | -0.528154  | 0.589692 | 0.217    | 0.51     | 1.06E-27 |
| TES          | 1.89E-42 | -0.527297  | 0.590198 | 0.724    | 0.935    | 6.20E-38 |
| Gene     | Value1   | Value2       | Value3 | Value4   | Value5   | Value6 |
|----------|----------|--------------|--------|----------|----------|--------|
| B4GALT1  | 9.58E-47 | -0.526836    | 0.59047 | 0.976    | 0.995    | 3.15E-42 |
| PP1B     | 1.31E-144| -0.526689    | 0.590557 | 1        | 1        | 4.30E-140 |
| CCDC15   | 6.37E-41 | -0.526518    | 0.590658 | 0.173    | 0.492    | 2.10E-36  |
| NUP35    | 2.78E-37 | -0.525938    | 0.591001 | 0.339    | 0.673    | 9.14E-33  |
| CDC25A   | 4.52E-36 | -0.525804    | 0.59108  | 0.179    | 0.476    | 1.49E-31  |
| DEPDC1B  | 1.41E-40 | -0.525763    | 0.591104 | 0.205    | 0.531    | 4.66E-36  |
| NUP85    | 3.93E-40 | -0.525502    | 0.591259 | 0.581    | 0.872    | 1.29E-35  |
| KPNA2    | 1.55E-50 | -0.525273    | 0.591394 | 0.961    | 0.984    | 5.12E-46  |
| SRD5A3   | 3.15E-30 | -0.524834    | 0.591654 | 0.405    | 0.696    | 1.04E-25  |
| C9orf40  | 1.86E-44 | -0.524789    | 0.59168  | 0.488    | 0.828    | 6.13E-40  |
| GMPPB    | 2.16E-39 | -0.524379    | 0.591923 | 0.64     | 0.898    | 7.11E-35  |
| GINS2    | 1.65E-44 | -0.524243    | 0.592004 | 0.418    | 0.782    | 5.41E-40  |
| MIR155HG | 7.21E-33 | -0.524011    | 0.592141 | 0.068    | 0.288    | 2.37E-28  |
| CDK2AP2  | 1.27E-41 | -0.523704    | 0.592322 | 0.827    | 0.965    | 4.17E-37  |
| CCDC74B  | 2.11E-40 | -0.523551    | 0.592413 | 0.109    | 0.392    | 6.95E-36  |
| MMD      | 7.85E-30 | -0.523063    | 0.592702 | 0.203    | 0.478    | 2.58E-25  |
| NAP1L3   | 3.93E-37 | -0.522815    | 0.592849 | 0.037    | 0.239    | 1.29E-32  |
| AL139220.2| 1.40E-25 | -0.522509    | 0.593031 | 0.225    | 0.434    | 4.62E-21  |
| MCM5     | 1.64E-38 | -0.521941    | 0.593367 | 0.698    | 0.916    | 5.40E-34  |
| SH3D19   | 1.03E-40 | -0.520512    | 0.594216 | 0.666    | 0.926    | 3.37E-36  |
| BIRC5    | 1.71E-44 | -0.520424    | 0.594268 | 0.826    | 0.956    | 5.63E-40  |
| MCM7     | 4.21E-47 | -0.519996    | 0.594523 | 0.827    | 0.981    | 1.38E-42  |
| FAM83G   | 1.85E-27 | -0.519792    | 0.594644 | 0.289    | 0.555    | 6.09E-23  |
| EMP3     | 9.00E-112| -0.519547    | 0.59479  | 1        | 1        | 2.96E-107 |
| HAUS2    | 2.27E-39 | -0.51937     | 0.594895 | 0.677    | 0.916    | 7.48E-35  |
| CD47     | 2.21E-56 | -0.51915     | 0.595026 | 0.989    | 1        | 7.27E-52  |
| FGFRL1   | 1.15E-23 | -0.519026    | 0.5951   | 0.511    | 0.747    | 3.80E-19  |
| TTLL12   | 3.75E-35 | -0.518774    | 0.59525  | 0.468    | 0.773    | 1.23E-30  |
| PKIA     | 3.27E-20 | -0.518216    | 0.595582 | 0.341    | 0.568    | 1.08E-15  |
| ARL4D    | 1.27E-36 | -0.517025    | 0.596292 | 0.322    | 0.654    | 4.17E-32  |
| WNT16    | 8.43E-39 | -0.516481    | 0.596617 | 0.005    | 0.137    | 2.77E-34  |
| PAX6     | 1.41E-35 | -0.5149      | 0.597561 | 0.033    | 0.2      | 4.64E-31  |
| FAM110B  | 1.43E-29 | -0.514837    | 0.597598 | 0.072    | 0.278    | 4.70E-25  |
| AL163636.2| 6.29E-48 | -0.514247    | 0.597951 | 0.194    | 0.548    | 2.07E-43  |
| NIPA1    | 6.79E-27 | -0.514174    | 0.597995 | 0.199    | 0.457    | 2.23E-22  |
| TEDC2    | 1.41E-40 | -0.513984    | 0.598108 | 0.184    | 0.506    | 4.66E-36  |
| VAMP4    | 1.51E-33 | -0.513591    | 0.598343 | 0.488    | 0.773    | 4.98E-29  |
| LRRCC59  | 1.70E-76 | -0.513538    | 0.598375 | 0.999    | 1        | 5.60E-72  |
| C15orf41 | 1.42E-25 | -0.51328     | 0.598529 | 0.384    | 0.65     | 4.68E-21  |
| LSP1P5   | 1.32E-53 | -0.513221    | 0.598565 | 0.845    | 0.979    | 4.35E-49  |
| Gene     | Log2FoldChange | AdjPValue | PValue | Beta   | BetaSE | Log2FC   |
|----------|----------------|-----------|--------|--------|--------|----------|
| KCNS3    | 6.15E-34       | 0.599031  | 0.063  | 0.283  | 2.02E-29|
| ZIC1     | 7.42E-48       | 0.599135  | 0.01   | 0.181  | 2.44E-43|
| MAMLD1   | 1.29E-29       | 0.599311  | 0.07   | 0.278  | 4.24E-25|
| ERRF1    | 4.57E-32       | 0.599436  | 0.839  | 0.97   | 1.50E-27|
| PLIN3    | 2.22E-74       | 0.59944   | 1.000  | 1.000  | 7.31E-70|
| MANEA    | 6.20E-44       | 0.599659  | 0.604  | 0.905  | 2.04E-39|
| FARSB    | 2.60E-44       | 0.599757  | 0.874  | 0.981  | 8.55E-40|
| MIR924HG | 2.52E-43       | 0.600117  | 0.091  | 0.29   | 1.41E-20|
| SCIN     | 5.46E-29       | 0.600553  | 0.016  | 0.144  | 1.80E-24|
| HTRA2    | 1.25E-49       | 0.600798  | 0.242  | 0.657  | 2.06E-24|
| AC098582.1| 8.86E-50      | 0.601226  | 0.016  | 0.144  | 1.80E-24|
| RCAN3    | 9.15E-32       | 0.601548  | 0.592  | 0.835  | 3.01E-27|
| LAMA2    | 6.26E-61       | 0.602512  | 0.242  | 0.657  | 2.06E-24|
| NEIL3    | 1.11E-28       | 0.603217  | 0.04   | 0.209  | 3.67E-24|
| DNAJC6   | 2.06E-47       | 0.603349  | 0.949  | 0.993  | 6.76E-43|
| MAPKAP1  | 3.34E-29       | 0.603481  | 0.125  | 0.367  | 1.10E-24|
| LINC0119 | 2.66E-21       | 0.603554  | 0.11   | 0.304  | 8.76E-17|
| AMDHD2   | 8.11E-32       | 0.60357   | 0.214  | 0.503  | 2.67E-27|
| AGTPBP1  | 3.20E-48       | 0.603674  | 0.054  | 0.318  | 1.05E-43|
| SLC25A19 | 2.53E-29       | 0.603874  | 0.146  | 0.399  | 8.32E-25|
| TTTY14   | 4.14E-41       | 0.603945  | 0.063  | 0.302  | 1.36E-36|
| PRUNE2   | 2.19E-39       | 0.604093  | 0.008  | 0.158  | 7.20E-35|
| POLR1E   | 1.05E-32       | 0.604449  | 0.435  | 0.735  | 3.45E-28|
| NSD2     | 3.51E-44       | 0.604469  | 0.817  | 0.979  | 1.16E-39|
| TMEM171  | 2.08E-25       | 0.604766  | 0.083  | 0.281  | 6.83E-21|
| GTF2F2   | 1.23E-40       | 0.605057  | 0.961  | 0.995  | 4.05E-36|
| SYTL2    | 2.66E-24       | 0.605068  | 0.521  | 0.738  | 8.76E-20|
| EIF4EBP1 | 3.17E-40       | 0.60509   | 0.969  | 0.995  | 1.04E-35|
| TUBB4B   | 2.34E-52       | 0.605133  | 1.000  | 1.000  | 7.71E-48|
| RAB11FIP5| 8.61E-34       | 0.605232  | 0.652  | 0.884  | 2.83E-29|
| TUBG2    | 6.15E-48       | 0.605864  | 0.411  | 0.787  | 2.02E-43|
| REEP4    | 1.83E-37       | 0.605895  | 0.522  | 0.831  | 6.02E-33|
| ENO2     | 2.80E-38       | 0.606974  | 0.345  | 0.684  | 9.21E-34|
| IRX1     | 7.11E-56       | 0.607052  | 0.004  | 0.183  | 2.34E-51|
| PALM2AKAP| 5.75E-46       | 0.607433  | 0.99   | 1.000  | 1.89E-41|
| TOMM5    | 1.45E-54       | 0.607591  | 0.974  | 0.998  | 4.77E-50|
| BTBD11   | 9.57E-31       | 0.607865  | 0.043  | 0.227  | 3.15E-26|
| Gene     | p-value       | Correlation | Parameter 1 | Parameter 2 | Parameter 3 | Parameter 4 |
|----------|---------------|-------------|-------------|-------------|-------------|-------------|
| BDKRB1   | 2.41E-46      | -0.497788   | 0.607874    | 0.284       | 0.654       | 7.94E-42    |
| ATL1     | 3.42E-20      | -0.497485   | 0.608058    | 0.109       | 0.281       | 1.12E-15    |
| SP9      | 5.88E-51      | -0.497402   | 0.608108    | 0.007       | 0.186       | 1.93E-46    |
| FSTL3    | 1.98E-29      | -0.496021   | 0.608949    | 0.659       | 0.879       | 6.51E-25    |
| JAM2     | 8.15E-25      | -0.495259   | 0.609413    | 0.059       | 0.209       | 2.68E-20    |
| NUP62    | 3.13E-40      | -0.494808   | 0.609688    | 0.915       | 0.986       | 1.03E-35    |
| SAMD1    | 1.42E-31      | -0.49469    | 0.60976     | 0.58        | 0.838       | 4.69E-27    |
| CGB3     | 2.42E-41      | -0.494637   | 0.609792    | 0.017       | 0.193       | 7.97E-37    |
| PGP      | 7.08E-41      | -0.494445   | 0.609909    | 0.633       | 0.903       | 2.33E-36    |
| NFATC2IP | 2.81E-36      | -0.494407   | 0.609933    | 0.658       | 0.889       | 9.25E-32    |
| RETREG1  | 2.46E-33      | -0.49419    | 0.610065    | 0.004       | 0.121       | 8.09E-29    |
| ARNTL    | 4.24E-25      | -0.493889   | 0.610248    | 0.22        | 0.476       | 1.40E-20    |
| MICAL2   | 7.36E-43      | -0.493858   | 0.610268    | 0.968       | 0.991       | 2.42E-38    |
| XDH      | 3.42E-32      | -0.493845   | 0.610275    | 0.04        | 0.213       | 1.12E-27    |
| METTL27  | 3.03E-40      | -0.49368    | 0.610376    | 0.043       | 0.26        | 9.95E-36    |
| NUDT8    | 6.79E-36      | -0.493388   | 0.610554    | 0.133       | 0.411       | 2.24E-31    |
| SH3BGRL3 | 1.20E-141     | -0.493267   | 0.610628    | 1           | 1           | 3.95E-137   |
| TLD3A    | 1.33E-30      | -0.492992   | 0.610796    | 0.453       | 0.747       | 4.38E-26    |
| NR3C1    | 4.30E-38      | -0.49278    | 0.610926    | 0.961       | 0.988       | 1.41E-33    |
| NPAS1    | 1.02E-39      | -0.49267    | 0.610993    | 0.037       | 0.246       | 3.36E-35    |
| EVI2A    | 1.27E-33      | -0.492655   | 0.611002    | 0.066       | 0.288       | 4.18E-29    |
| E2F8     | 1.07E-35      | -0.492642   | 0.611101    | 0.08        | 0.323       | 3.51E-31    |
| GRIA3    | 2.70E-27      | -0.492497   | 0.611098    | 0.143       | 0.385       | 8.87E-23    |
| DONSON   | 1.56E-31      | -0.491852   | 0.611493    | 0.5         | 0.78        | 5.13E-27    |
| ENDOD1   | 2.10E-36      | -0.491369   | 0.611788    | 0.585       | 0.868       | 6.91E-32    |
| NNMT     | 6.77E-24      | -0.491117   | 0.61191     | 0.795       | 0.923       | 2.23E-19    |
| ADARB1   | 1.69E-26      | -0.491113   | 0.611945    | 0.183       | 0.436       | 5.56E-22    |
| LRG1     | 4.18E-20      | -0.491091   | 0.611959    | 0.102       | 0.285       | 1.37E-15    |
| SUB1     | 4.59E-97      | -0.490957   | 0.61204     | 1           | 1           | 1.51E-92    |
| KIF23    | 1.59E-50      | -0.490433   | 0.612361    | 0.715       | 0.94        | 5.22E-46    |
| CENPA    | 8.00E-49      | -0.489619   | 0.61286     | 0.349       | 0.733       | 2.63E-44    |
| STC1     | 2.17E-04      | -0.489407   | 0.61299     | 0.665       | 0.722       | 1.00E+00    |
| EFR3B    | 1.45E-36      | -0.489367   | 0.613014    | 0.098       | 0.304       | 4.78E-32    |
| AC087721.2| 3.89E-62     | -0.488558   | 0.613511    | 0.494       | 0.896       | 1.28E-57    |
| CHAF1B   | 5.18E-30      | -0.488336   | 0.613646    | 0.33        | 0.626       | 1.70E-25    |
| SASS6    | 3.02E-35      | -0.488292   | 0.613674    | 0.241       | 0.552       | 9.95E-31    |
| VXN      | 1.37E-43      | -0.487755   | 0.614003    | 0.01        | 0.179       | 4.50E-39    |
| COL5A1   | 4.07E-42      | -0.48766    | 0.614062    | 0.999       | 1           | 1.34E-37    |
| SCML1    | 3.14E-34      | -0.487561   | 0.614123    | 0.525       | 0.826       | 1.03E-29    |
| PLP2     | 2.47E-47      | -0.487483   | 0.61417     | 0.99        | 1           | 8.13E-43    |
| Gene      | Value 1  | Value 2   | Value 3  | Value 4  | Value 5  | Value 6  |
|-----------|----------|-----------|----------|----------|----------|----------|
| MMRN2     | 9.63E-24 | -0.487196 | 0.614347 | 0.027    | 0.155    | 3.17E-19 |
| SOCS3     | 9.83E-28 | -0.487093 | 0.61441  | 0.553    | 0.805    | 3.23E-23 |
| CD58      | 1.65E-32 | -0.48683  | 0.614572 | 0.321    | 0.631    | 5.43E-28 |
| FURIN     | 2.19E-35 | -0.486709 | 0.614646 | 0.741    | 0.93     | 7.21E-31 |
| C16orf95  | 1.82E-38 | -0.486674 | 0.614667 | 0.128    | 0.415    | 5.99E-34 |
| TNFRSF12A | 6.82E-78 | -0.485921 | 0.61513  | 1        | 1        | 2.24E-73 |
| TRAF3IP2  | 2.94E-31 | -0.485915 | 0.615134 | 0.543    | 0.814    | 9.66E-27 |
| NUP50     | 4.95E-39 | -0.485868 | 0.615163 | 0.782    | 0.942    | 1.63E-34 |
| NEMP1     | 1.21E-36 | -0.485506 | 0.615506 | 0.316    | 0.647    | 4.00E-32 |
| PARP2     | 6.04E-39 | -0.48503  | 0.615679 | 0.494    | 0.819    | 1.99E-34 |
| GIPC2     | 3.77E-41 | -0.484927 | 0.615742 | 0.028    | 0.197    | 1.24E-36 |
| GBP5      | 1.03E-22 | -0.484903 | 0.615757 | 0.045    | 0.181    | 3.38E-18 |
| CIB1      | 1.89E-47 | -0.484736 | 0.61586  | 0.967    | 1        | 6.22E-43 |
| YIF1A     | 4.14E-48 | -0.483957 | 0.61634  | 0.969    | 0.998    | 1.36E-43 |
| LINC02535 | 4.68E-20 | -0.483905 | 0.616372 | 0.032    | 0.158    | 1.54E-15 |
| PLPP4     | 3.92E-22 | -0.483524 | 0.616607 | 0.339    | 0.592    | 1.29E-17 |
| GGCT      | 7.43E-37 | -0.483226 | 0.61679  | 0.582    | 0.858    | 2.45E-32 |
| ITPRIP    | 1.28E-34 | -0.482663 | 0.617138 | 0.564    | 0.847    | 4.21E-30 |
| IFITM10   | 1.76E-35 | -0.482274 | 0.617378 | 0.01    | 0.357    | 5.79E-31 |
| COL1A2    | 1.95E-68 | -0.481806 | 0.617667 | 1        | 1        | 6.40E-64 |
| CGB1      | 4.86E-40 | -0.481451 | 0.617886 | 0.017    | 0.186    | 1.60E-35 |
| MAGI3     | 7.19E-31 | -0.481007 | 0.61816  | 0.23     | 0.52     | 2.36E-26 |
| AKR7A2    | 1.44E-35 | -0.480289 | 0.618605 | 0.833    | 0.958    | 4.74E-31 |
| FLI1      | 4.65E-22 | -0.480259 | 0.618623 | 0.096    | 0.283    | 1.53E-17 |
| RASIP1    | 8.61E-26 | -0.480163 | 0.618683 | 0.021    | 0.155    | 2.83E-21 |
| TFDP1     | 5.77E-47 | -0.480103 | 0.61872  | 0.972    | 0.993    | 1.90E-42 |
| KNTC1     | 5.63E-36 | -0.479843 | 0.618881 | 0.357    | 0.687    | 1.85E-31 |
| ARL2BP    | 3.32E-53 | -0.47983  | 0.618889 | 0.993    | 1        | 1.09E-48 |
| ITGB3BP   | 1.49E-42 | -0.479805 | 0.618904 | 0.452    | 0.803    | 4.91E-38 |
| BLM       | 6.15E-27 | -0.479599 | 0.619031 | 0.224    | 0.487    | 2.02E-22 |
| IDH2      | 3.00E-39 | -0.478967 | 0.619423 | 0.681    | 0.928    | 9.87E-35 |
| TUSC1     | 4.09E-33 | -0.478768 | 0.619546 | 0.317    | 0.629    | 1.35E-28 |
| ELK3      | 4.71E-39 | -0.478316 | 0.619826 | 0.922    | 0.981    | 1.55E-34 |
| SIPA1L1   | 2.44E-28 | -0.478087 | 0.619968 | 0.534    | 0.798    | 8.02E-24 |
| RHEBL1    | 1.84E-29 | -0.47808  | 0.619973 | 0.04     | 0.216    | 6.05E-25 |
| EIF5      | 3.21E-71 | -0.477861 | 0.620108 | 1        | 1        | 1.06E-66 |
| IGF2BP3   | 1.29E-17 | -0.477746 | 0.62018  | 0.317    | 0.534    | 4.23E-13 |
| NOP16     | 2.06E-31 | -0.477586 | 0.620729 | 0.711    | 0.903    | 6.78E-27 |
| PPP1R3C   | 1.89E-14 | -0.477511 | 0.620325 | 0.396    | 0.596    | 6.23E-10 |
| KIF18B    | 6.11E-60 | -0.476786 | 0.620776 | 0.275    | 0.694    | 2.01E-55 |
| Gene      | Score 1 | Score 2   | Score 3   | Score 4   | Score 5   | Score 6   | Score 7   |
|-----------|---------|-----------|-----------|-----------|-----------|-----------|-----------|
| NCAPD3    | 3.69E-44| -0.476699 | 0.620829  | 0.509     | 0.852     | 1.22E-39  |
| S100A16   | 2.30E-53| -0.476599 | 0.620891  | 1         | 1         | 7.57E-49  |
| GLTP      | 4.98E-43| -0.476582 | 0.620902  | 0.965     | 0.991     | 1.64E-38  |
| GEMIN4    | 4.47E-30| -0.476561 | 0.620915  | 0.312     | 0.61      | 1.47E-25  |
| RAD54B    | 2.92E-34| -0.476436 | 0.620992  | 0.237     | 0.545     | 9.60E-30  |
| RAN       | 9.91E-87| -0.476214 | 0.621131  | 1         | 1         | 3.26E-82  |
| SLC9B2    | 1.49E-30| -0.476009 | 0.621258  | 0.427     | 0.717     | 4.90E-26  |
| TMEM255B  | 6.66E-53| -0.47537  | 0.621655  | 0.022     | 0.251     | 2.19E-48  |
| ETV1      | 3.11E-24| -0.475198 | 0.621762  | 0.322     | 0.589     | 1.02E-19  |
| RNASEH2A  | 7.57E-49| -0.474791 | 0.622015  | 0.704     | 0.935     | 2.23E-39  |
| GLTP      | 4.98E-43| -0.476582 | 0.620902  | 0.965     | 0.991     | 1.64E-38  |
| GEMIN4    | 4.47E-30| -0.476561 | 0.620915  | 0.312     | 0.61      | 1.47E-25  |
| RAD54B    | 2.92E-34| -0.476436 | 0.620992  | 0.237     | 0.545     | 9.60E-30  |
| RAN       | 9.91E-87| -0.476214 | 0.621131  | 1         | 1         | 3.26E-82  |
| SLC9B2    | 1.49E-30| -0.476009 | 0.621258  | 0.427     | 0.717     | 4.90E-26  |
| TMEM255B  | 6.66E-53| -0.47537  | 0.621655  | 0.022     | 0.251     | 2.19E-48  |
| ETV1      | 3.11E-24| -0.475198 | 0.621762  | 0.322     | 0.589     | 1.02E-19  |
| RNASEH2A  | 7.57E-49| -0.474791 | 0.622015  | 0.704     | 0.935     | 2.23E-39  |
| GLTP      | 4.98E-43| -0.476582 | 0.620902  | 0.965     | 0.991     | 1.64E-38  |
| GEMIN4    | 4.47E-30| -0.476561 | 0.620915  | 0.312     | 0.61      | 1.47E-25  |
| RAD54B    | 2.92E-34| -0.476436 | 0.620992  | 0.237     | 0.545     | 9.60E-30  |
| RAN       | 9.91E-87| -0.476214 | 0.621131  | 1         | 1         | 3.26E-82  |
| SLC9B2    | 1.49E-30| -0.476009 | 0.621258  | 0.427     | 0.717     | 4.90E-26  |
| TMEM255B  | 6.66E-53| -0.47537  | 0.621655  | 0.022     | 0.251     | 2.19E-48  |
| ETV1      | 3.11E-24| -0.475198 | 0.621762  | 0.322     | 0.589     | 1.02E-19  |
| RNASEH2A  | 7.57E-49| -0.474791 | 0.622015  | 0.704     | 0.935     | 2.23E-39  |
| GLTP      | 4.98E-43| -0.476582 | 0.620902  | 0.965     | 0.991     | 1.64E-38  |
| GEMIN4    | 4.47E-30| -0.476561 | 0.620915  | 0.312     | 0.61      | 1.47E-25  |
| RAD54B    | 2.92E-34| -0.476436 | 0.620992  | 0.237     | 0.545     | 9.60E-30  |
| RAN       | 9.91E-87| -0.476214 | 0.621131  | 1         | 1         | 3.26E-82  |
| Gene       | Log2 Fold Change | p-value       | q-value       | Expression  | Mean        | Genotype  |
|------------|-----------------|---------------|---------------|-------------|-------------|-----------|
| AQP1       | 8.20E-14        | -0.465245     | 0.627981      | 0.033       | 0.121       | 2.70E-09  |
| FAR1       | 1.37E-35        | -0.464851     | 0.628229      | 0.72        | 0.928       | 4.49E-31  |
| PRDX4      | 8.55E-61        | -0.464669     | 0.628343      | 0.999       | 1           | 2.81E-56  |
| MYDGF      | 8.51E-103       | -0.464612     | 0.628379      | 1           | 1           | 2.80E-98  |
| ANKRD29    | 6.12E-43        | -0.464018     | 0.628752      | 0.022       | 0.218       | 2.01E-38  |
| STEAP2     | 1.29E-21        | -0.463747     | 0.628923      | 0.208       | 0.439       | 4.26E-17  |
| RPL39L     | 1.69E-44        | -0.463284     | 0.629214      | 0.6         | 0.907       | 5.56E-40  |
| MCM3       | 6.71E-29        | -0.46323      | 0.629248      | 0.574       | 0.831       | 2.21E-24  |
| SSR3       | 1.74E-92        | -0.463052     | 0.62936       | 1           | 1           | 5.71E-88  |
| STEAP3     | 1.32E-27        | -0.462942     | 0.629429      | 0.208       | 0.439       | 4.26E-17  |
| XRCC3      | 1.77E-34        | -0.461993     | 0.630027      | 0.174       | 0.464       | 5.82E-30  |
| PRKG1      | 7.47E-30        | -0.461792     | 0.630154      | 0.289       | 0.585       | 2.46E-25  |
| WIPF1      | 9.51E-34        | -0.461544     | 0.630311      | 0.697       | 0.919       | 3.13E-29  |
| LDHA       | 2.63E-103       | -0.461491     | 0.630343      | 1           | 1           | 8.64E-99  |
| PTPDC1     | 3.65E-33        | -0.461341     | 0.630438      | 0.164       | 0.443       | 1.20E-28  |
| JPT2       | 1.03E-36        | -0.461301     | 0.630463      | 0.848       | 0.968       | 3.40E-32  |
| STK32B     | 1.40E-31        | -0.461207     | 0.630522      | 0.013       | 0.151       | 4.60E-27  |
| UTY        | 1.31E-51        | -0.460997     | 0.630655      | 0.011       | 0.2         | 4.31E-47  |
| CENPN      | 1.18E-37        | -0.460238     | 0.631134      | 0.721       | 0.93        | 3.88E-33  |
| ADA        | 2.30E-24        | -0.459953     | 0.631313      | 0.202       | 0.448       | 7.58E-20  |
| MACROD1    | 1.49E-28        | -0.45988      | 0.631359      | 0.189       | 0.455       | 4.89E-24  |
| HSPA5      | 2.85E-68        | -0.459703     | 0.631471      | 1           | 1           | 9.36E-64  |
| CKS1B      | 1.23E-44        | -0.459177     | 0.631804      | 0.854       | 0.974       | 4.05E-40  |
| GOLM1      | 2.91E-36        | -0.459068     | 0.631872      | 0.774       | 0.954       | 9.57E-32  |
| ATP8B2     | 7.18E-32        | -0.458878     | 0.631992      | 0.562       | 0.833       | 2.36E-27  |
| ENOSF1     | 9.51E-27        | -0.458749     | 0.632074      | 0.357       | 0.631       | 3.13E-22  |
| SPAG5      | 3.16E-49        | -0.458488     | 0.632239      | 0.475       | 0.845       | 1.04E-44  |
| MCM2       | 2.52E-42        | -0.458319     | 0.632346      | 0.432       | 0.787       | 8.29E-38  |
| RBBP8      | 1.03E-29        | -0.458309     | 0.632352      | 0.593       | 0.842       | 3.40E-25  |
| ANG        | 2.87E-25        | -0.458167     | 0.632442      | 0.119       | 0.339       | 9.43E-21  |
| ZDHHC6     | 3.41E-34        | -0.457725     | 0.632721      | 0.661       | 0.896       | 1.12E-29  |
| MALT1      | 4.22E-27        | -0.45768      | 0.63275       | 0.698       | 0.889       | 1.39E-22  |
| ME3        | 1.56E-24        | -0.457549     | 0.632833      | 0.151       | 0.381       | 5.12E-20  |
| TMEM50B    | 2.98E-29        | -0.457422     | 0.632913      | 0.83        | 0.958       | 9.80E-25  |
| TYMP       | 7.33E-26        | -0.457138     | 0.633093      | 0.247       | 0.513       | 2.41E-21  |
| RANBP1     | 8.85E-53        | -0.457093     | 0.633122      | 0.998       | 1           | 2.91E-48  |
| LSM2       | 2.76E-38        | -0.456853     | 0.633274      | 0.856       | 0.984       | 9.07E-34  |
| SPCS3      | 3.73E-50        | -0.456663     | 0.633394      | 0.998       | 1           | 1.23E-45  |
| GHR        | 1.09E-22        | -0.456388     | 0.633568      | 0.066       | 0.232       | 3.60E-18  |
| Gene     | Log2 Fold Change | p-value   | t-value | FDR   | Adjustment Factor |
|----------|-----------------|-----------|---------|-------|------------------|
| LRRC58  | 1.18E-31        | 0.909     | 0.974   | 3.88E-27 |
| ELFN1   | 1.26E-27        | 0.051     | 0.23    | 4.14E-23 |
| RHNO1   | 1.15E-34        | 0.571     | 0.849   | 3.77E-30 |
| BEND7   | 1.40E-32        | 0.113     | 0.334   | 4.61E-28 |
| FKBPS   | 7.38E-42        | 0.982     | 0.993   | 2.43E-37 |
| AGTR1   | 9.26E-36        | 0.015     | 0.174   | 3.05E-31 |
| ELRFN1  | 1.26E-27        | 0.192     | 0.452   | 4.02E-23 |
| AGAP1   | 9.24E-21        | 0.329     | 0.575   | 3.04E-16 |
| BARD1   | 7.54E-34        | 0.169     | 0.448   | 2.61E-28 |
| RHOU    | 1.39E-28        | 0.057     | 0.248   | 4.57E-24 |
| AC124067.2 | 2.99E-38   | 0.047     | 0.265   | 9.85E-34 |
| MCF2L   | 7.61E-38        | 0.046     | 0.244   | 2.50E-33 |
| TMED3   | 2.47E-40        | 0.976     | 0.995   | 8.12E-36 |
| ZFAND2A | 4.08E-33        | 0.427     | 0.74    | 1.34E-28 |
| CAPN5   | 8.03E-24        | 0.43      | 0.689   | 2.64E-19 |
| MTBP    | 7.93E-33        | 0.169     | 0.448   | 2.61E-28 |
| C1orf174| 6.92E-28        | 0.508     | 0.78    | 2.28E-23 |
| FKBPS   | 1.87E-74        | 1         | 1       | 6.17E-70 |
| HSPIN   | 3.59E-26        | 0.082     | 0.283   | 1.18E-21 |
| TRPS1   | 1.54E-14        | 0.411     | 0.61    | 5.08E-10 |
| TPCN1   | 1.79E-14        | 0.207     | 0.418   | 5.88E-14 |
| AL109918.1 | 2.01E-35    | 0.2       | 0.499   | 6.63E-31 |
| LRPS    | 3.53E-33        | 0.258     | 0.564   | 1.16E-28 |
| B3GNT2  | 9.68E-29        | 0.243     | 0.524   | 3.18E-24 |
| TMEM132B| 5.75E-17        | 0.081     | 0.232   | 1.89E-12 |
| DOCK10  | 9.75E-34        | 0.574     | 0.861   | 3.21E-29 |
| CGB2    | 2.88E-44        | 0.013     | 0.188   | 9.47E-40 |
| EFL1    | 4.45E-29        | 0.41      | 0.701   | 1.46E-24 |
| SVIL    | 2.73E-13        | 0.136     | 0.281   | 8.99E-09 |
| CGB8    | 1.30E-39        | 0.022     | 0.202   | 4.28E-35 |
| HBEF7   | 5.95E-22        | 0.284     | 0.534   | 1.96E-17 |
| TUBG1   | 1.42E-39        | 0.88      | 0.979   | 4.68E-35 |
| NMB     | 9.24E-12        | 0.308     | 0.478   | 3.04E-07 |
| SDC3    | 3.44E-45        | 0.947     | 0.998   | 1.13E-40 |
| ADGRL2  | 5.17E-29        | 0.265     | 0.552   | 1.70E-24 |
| TNFRSF6B| 3.56E-43        | 0.053     | 0.292   | 1.17E-38 |
| HOTAIR  | 8.97E-39        | 0.014     | 0.179   | 2.95E-34 |
| UHRF1   | 3.49E-32        | 0.628     | 0.879   | 1.15E-27 |
| C21orf58| 1.10E-34        | 0.17      | 0.459   | 3.63E-30 |
| ARNTL2  | 2.40E-29        | 0.612     | 0.852   | 7.89E-25 |
| Gene    | Value1  | Value2     | Value3     | Value4 | Value5 | Value6  |
|---------|---------|------------|------------|--------|--------|---------|
| LAMB3   | 6.08E-21| -0.446429  | 0.639909   | 0.095  | 0.278  | 2.00E-16|
| RSRC1   | 2.15E-35| -0.446293  | 0.639996   | 0.631  | 0.889  | 7.08E-31|
| LYRM7   | 2.91E-27| -0.446017  | 0.640173   | 0.692  | 0.863  | 9.57E-23|
| SGMS1   | 3.54E-31| -0.445953  | 0.640214   | 0.58   | 0.852  | 1.16E-26|
| HLA-DMA | 5.45E-46| -0.445645  | 0.640411   | 0.02   | 0.223  | 1.79E-41|
| NIP7    | 2.08E-33| -0.445026  | 0.640808   | 0.874  | 0.974  | 6.84E-29|
| SH3BP5  | 9.47E-21| -0.444736  | 0.640994   | 0.379  | 0.624  | 3.12E-16|
| B4GALT5 | 2.37E-31| -0.444332  | 0.641253   | 0.555  | 0.833  | 7.78E-27|
| CCDC34  | 1.27E-37| -0.444299  | 0.641274   | 0.49   | 0.814  | 4.16E-33|
| PTGFRN  | 1.49E-27| -0.444144  | 0.641373   | 0.041  | 0.209  | 4.91E-23|
| PRR11   | 2.69E-39| -0.443998  | 0.641467   | 0.867  | 0.963  | 8.85E-35|
| CERK    | 1.04E-37| -0.443847  | 0.641563   | 0.728  | 0.912  | 3.44E-23|
| BAIA2P  | 4.05E-19| -0.443793  | 0.641598   | 0.423  | 0.654  | 1.33E-14|
| CCDC18  | 4.80E-31| -0.443624  | 0.641707   | 0.339  | 0.645  | 1.58E-26|
| AKR1E2  | 5.17E-27| -0.443607  | 0.641718   | 0.072  | 0.269  | 1.70E-22|
| DCAF15  | 1.34E-41| -0.443348  | 0.641884   | 0.369  | 0.724  | 4.42E-37|
| PMAIP1  | 8.29E-15| -0.443059  | 0.642069   | 0.902  | 0.944  | 2.73E-10|
| SGCB    | 1.14E-48| -0.442894  | 0.642175   | 0.996  | 0.995  | 3.75E-44|
| B4GALT2 | 1.08E-34| -0.442608  | 0.642359   | 0.816  | 0.961  | 3.54E-30|
| PMM1    | 5.11E-32| -0.442388  | 0.6425     | 0.894  | 0.977  | 1.68E-27|
| RPS6KA4 | 8.08E-27| -0.442184  | 0.642631   | 0.494  | 0.759  | 2.66E-22|
| HSPB3   | 4.76E-41| -0.442056  | 0.642714   | 0.007  | 0.16   | 1.57E-36|
| MMS22L  | 1.00E-25| -0.441916  | 0.642804   | 0.62   | 0.833  | 3.30E-21|
| LYAR    | 1.70E-27| -0.441564  | 0.64303    | 0.662  | 0.879  | 5.60E-23|
| AC010327.4| 5.96E-63| -0.441432  | 0.643115   | 0.024  | 0.29   | 1.96E-58|
| BCL10   | 1.52E-34| -0.441184  | 0.643274   | 0.829  | 0.965  | 5.01E-30|
| MGST3   | 9.35E-63| -0.441037  | 0.643369   | 0.998  | 1      | 3.08E-58|
| DOK1    | 7.74E-21| -0.441008  | 0.643388   | 0.318  | 0.564  | 2.55E-16|
| SERTAD1 | 1.14E-27| -0.440945  | 0.643428   | 0.775  | 0.93   | 3.75E-23|
| ADIRF-AS1| 1.20E-25| -0.440503  | 0.643713   | 0.112  | 0.329  | 3.93E-21|
| DPM2    | 2.52E-32| -0.440497  | 0.643716   | 0.814  | 0.947  | 8.28E-28|
| RTEL1   | 7.27E-31| -0.440407  | 0.643775   | 0.189  | 0.466  | 2.39E-26|
| FAM241A | 5.26E-24| -0.439737  | 0.644206   | 0.491  | 0.742  | 1.73E-19|
| VCPKMT  | 6.11E-22| -0.439367  | 0.644444   | 0.236  | 0.478  | 2.01E-17|
| TMED8   | 8.72E-25| -0.439259  | 0.644514   | 0.24   | 0.499  | 2.87E-20|
| SRM     | 3.34E-40| -0.438516  | 0.644993   | 0.961  | 0.991  | 1.10E-35|
| MAFF    | 3.19E-25| -0.438306  | 0.645128   | 0.61   | 0.84   | 1.05E-20|
| SUMO3   | 5.82E-42| -0.437836  | 0.645432   | 0.98   | 0.995  | 1.92E-37|
| NCLN    | 4.80E-39| -0.437738  | 0.645495   | 0.888  | 0.984  | 1.58E-34|
| CLN6    | 3.63E-35| -0.437216  | 0.645832   | 0.483  | 0.794  | 1.20E-30|
| Gene      | P-value  | E-score   | F-score   | Q-score   | Prediction |
|-----------|----------|-----------|-----------|-----------|------------|
| ERI2      | 2.65E-32 | -0.436951 | 0.646003  | 0.342     | 0.654      | 8.72E-28   |
| ECHDC3    | 1.17E-20 | -0.436229 | 0.646469  | 0.089     | 0.267      | 3.85E-16   |
| CCNYL1    | 6.92E-27 | -0.436213 | 0.64648   | 0.433     | 0.715      | 2.28E-22   |
| ATAD5     | 9.71E-36 | -0.435966 | 0.64664   | 0.26      | 0.578      | 3.19E-31   |
| MIS18BP1  | 5.95E-33 | -0.43594  | 0.646657  | 0.752     | 0.935      | 1.96E-28   |
| AADAT     | 9.45E-25 | -0.435856 | 0.646711  | 0.272     | 0.536      | 3.11E-20   |
| ODC1      | 5.44E-31 | -0.435753 | 0.646778  | 0.927     | 0.981      | 1.79E-26   |
| SELENOK   | 1.07E-36 | -0.43553  | 0.646922  | 0.814     | 0.968      | 3.52E-32   |
| CNIH3     | 4.27E-15 | -0.43553  | 0.64701   | 0.171     | 0.346      | 1.40E-10   |
| TICRR     | 1.92E-22 | -0.435387 | 0.647014  | 0.089     | 0.276      | 6.31E-18   |
| YWHAQ     | 4.29E-91 | -0.43533  | 0.647049  | 1         | 1          | 1.41E-86   |
| RAB35     | 4.11E-28 | -0.435168 | 0.647156  | 0.725     | 0.919      | 1.35E-23   |
| LINC00632 | 3.11E-23 | -0.434079 | 0.647861  | 0.638     | 0.831      | 1.02E-18   |
| RPSAP52   | 7.03E-18 | -0.433754 | 0.648071  | 0.185     | 0.387      | 2.31E-13   |
| TTL       | 4.98E-36 | -0.433153 | 0.648461  | 0.894     | 0.984      | 1.64E-31   |
| POLQ      | 3.31E-36 | -0.433131 | 0.648475  | 0.189     | 0.49       | 1.09E-31   |
| AFP       | 5.06E-36 | -0.432736 | 0.648732  | 0.034     | 0.227      | 1.67E-31   |
| C1QTNF2   | 3.07E-21 | -0.432594 | 0.648824  | 0.109     | 0.302      | 1.01E-16   |
| MCOLN1    | 4.15E-23 | -0.432256 | 0.649043  | 0.378     | 0.638      | 1.37E-18   |
| RCC1      | 2.49E-29 | -0.432129 | 0.649126  | 0.675     | 0.893      | 8.18E-25   |
| TSPAN2    | 1.18E-19 | -0.431903 | 0.649272  | 0.025     | 0.142      | 3.89E-15   |
| MCL1      | 1.19E-39 | -0.431748 | 0.649373  | 0.991     | 1          | 3.92E-35   |
| SIX1      | 3.21E-22 | -0.431735 | 0.649382  | 0.092     | 0.281      | 1.06E-17   |
| LMF2      | 2.74E-34 | -0.431547 | 0.649504  | 0.759     | 0.921      | 9.02E-30   |
| SLC25A43  | 8.40E-39 | -0.431519 | 0.649522  | 0.53      | 0.849      | 2.76E-34   |
| ZGRF1     | 2.46E-25 | -0.430865 | 0.649947  | 0.159     | 0.397      | 8.09E-21   |
| GPCPD1    | 1.59E-30 | -0.430584 | 0.650129  | 0.446     | 0.742      | 5.23E-26   |
| MRPL39    | 4.40E-30 | -0.430564 | 0.650142  | 0.706     | 0.907      | 1.45E-25   |
| SH2B3     | 6.07E-22 | -0.429936 | 0.650551  | 0.738     | 0.884      | 2.00E-17   |
| AC135050.2| 2.30E-48 | -0.429724 | 0.650688  | 0.588     | 0.875      | 7.56E-44   |
| LRP4      | 8.25E-26 | -0.429273 | 0.650982  | 0.056     | 0.234      | 2.71E-21   |
| UHRF2     | 1.98E-28 | -0.428937 | 0.651201  | 0.573     | 0.838      | 6.52E-24   |
| PLA2R1    | 1.09E-15 | -0.428574 | 0.651437  | 0.167     | 0.327      | 3.59E-11   |
| FANCB     | 3.09E-37 | -0.428249 | 0.651649  | 0.246     | 0.568      | 1.02E-32   |
| ANKRD13A  | 4.04E-34 | -0.428106 | 0.651742  | 0.975     | 0.995      | 1.33E-29   |
| STK32C    | 1.83E-34 | -0.427997 | 0.651813  | 0.233     | 0.541      | 6.03E-30   |
| PSMG3     | 2.73E-28 | -0.427578 | 0.652086  | 0.719     | 0.912      | 8.99E-24   |
| NCAPG2    | 1.08E-45 | -0.42757 | 0.652092  | 0.548     | 0.889      | 3.54E-41   |
| PGAM1     | 4.94E-102| -0.427398| 0.652204  | 1         | 1          | 1.62E-97   |
| MKI67     | 1.58E-49 | -0.426714 | 0.65265   | 0.652     | 0.923      | 5.19E-45   |
| Gene    | Score  | Log2FC | FDR   | FDR   | PVE   | Log2 PVE |
|---------|--------|--------|-------|-------|-------|----------|
| ERO1A   | 2.03E-34 | -0.426448 | 0.652824 | 0.906 | 0.986 | 6.70E-30 |
| NRP1    | 1.03E-46 | -0.426307 | 0.652916 | 0.995 | 1     | 3.38E-42 |
| GPR180  | 3.75E-31 | -0.426156 | 0.653015 | 0.561 | 0.838 | 1.23E-26 |
| PRC1    | 1.56E-45 | -0.42555  | 0.65341  | 0.958 | 1     | 5.12E-41 |
| OAF     | 3.22E-22 | -0.425486 | 0.653452 | 0.937 | 1.06E-17 |
| ECT2    | 7.56E-41 | -0.425458 | 0.65347  | 0.734 | 0.937 | 2.49E-36 |
| MREG    | 5.85E-23 | -0.42496  | 0.653796 | 0.196 | 0.427 | 1.93E-18 |
| EXOSC2  | 6.77E-24 | -0.424596 | 0.654034 | 0.574 | 0.807 | 2.23E-19 |
| FEZ2    | 2.43E-33 | -0.424408 | 0.654824 | 0.427 | 0.74  | 2.17E-18 |
| EPDR1   | 1.06E-28 | -0.423389 | 0.654824 | 0.427 | 0.74  | 2.17E-18 |
| MCM6    | 5.11E-45 | -0.422837 | 0.655185 | 0.865 | 1.68E-25 |
| HABP4   | 5.03E-26 | -0.42255  | 0.655368 | 0.561 | 0.814 | 1.66E-21 |
| CDH11   | 1.91E-38 | -0.422716 | 0.655264 | 0.998 | 6.30E-34 |
| CEP85   | 2.01E-25 | -0.422657 | 0.655303 | 0.222 | 0.478 | 6.63E-21 |
| NAAA    | 1.48E-29 | -0.422558 | 0.655368 | 0.665 | 0.893 | 4.88E-25 |
| PLAGL1  | 6.61E-23 | -0.421885 | 0.655809 | 0.502 | 0.74  | 2.17E-18 |
| PIGH    | 7.38E-32 | -0.421711 | 0.655924 | 0.299 | 0.606 | 2.43E-27 |
| CYTH3   | 1.88E-29 | -0.421251 | 0.656225 | 0.598 | 0.858 | 6.18E-25 |
| UBE2G2  | 6.58E-34 | -0.42125  | 0.656226 | 0.954 | 0.988 | 2.17E-29 |
| ESYT3   | 8.98E-27 | -0.420994 | 0.656394 | 0.04  | 0.174 | 2.96E-22 |
| ELOVL6  | 1.75E-26 | -0.420854 | 0.656486 | 0.818 | 0.942 | 5.77E-22 |
| SIGMAR1 | 2.23E-36 | -0.420675 | 0.656604 | 0.96  | 0.993 | 7.35E-32 |
| PARPBP  | 1.17E-41 | -0.420623 | 0.656637 | 0.528 | 0.861 | 3.84E-37 |
| INIP    | 1.92E-28 | -0.419701 | 0.657243 | 0.679 | 0.896 | 6.31E-24 |
| FAM126A | 2.07E-34 | -0.419586 | 0.657319 | 0.928 | 0.988 | 6.80E-30 |
| LINC01151 | 1.43E-24 | -0.419572 | 0.657328 | 0.093 | 0.258 | 4.70E-20 |
| C8orf33 | 1.25E-30 | -0.419158 | 0.6576  | 0.736 | 0.933 | 4.12E-26 |
| NUDT15  | 1.16E-27 | -0.419002 | 0.657703 | 0.583 | 0.838 | 3.82E-23 |
| KIAA1841| 2.75E-27 | -0.418917 | 0.657759 | 0.478 | 0.754 | 9.04E-23 |
| CCDC93  | 1.49E-24 | -0.418893 | 0.657774 | 0.481 | 0.742 | 4.91E-20 |
| HCG11   | 4.94E-23 | -0.418851 | 0.657802 | 0.359 | 0.622 | 1.63E-18 |
| DVL1    | 2.36E-30 | -0.418801 | 0.657835 | 0.662 | 0.896 | 7.76E-26 |
| PLCD1   | 4.26E-25 | -0.418711 | 0.657894 | 0.284 | 0.552 | 1.40E-20 |
| UBE2Q2  | 4.06E-32 | -0.418554 | 0.657998 | 0.843 | 0.965 | 1.34E-27 |
| CEP57L1 | 4.73E-38 | -0.418485 | 0.658043 | 0.547 | 0.858 | 1.56E-33 |
| MRPL17  | 1.54E-40 | -0.418188 | 0.658238 | 0.971 | 0.995 | 5.08E-36 |
| CLGN    | 8.82E-20 | -0.418127 | 0.658279 | 0.072 | 0.234 | 2.90E-15 |
| TOPBP1  | 2.87E-28 | -0.417777 | 0.658509 | 0.637 | 0.868 | 9.46E-24 |
| CD83    | 8.91E-27 | -0.417617 | 0.658615 | 0.01  | 0.128 | 2.93E-22 |
| S100A3  | 1.44E-23 | -0.417585 | 0.658636 | 0.382 | 0.647 | 4.75E-19 |
| Gene          | log2FoldChange | adj.Pvalue | FDR          | log2FoldChange | adj.Pvalue | FDR          | log2FoldChange | adj.Pvalue | FDR          |
|--------------|----------------|-----------|--------------|----------------|-----------|--------------|----------------|-----------|--------------|
| PKD1P6       | 2.04E-20       | -0.417309 | 0.658817     | 0.515          | 0.742     | 6.70E-16     |
| H1-5         | 6.92E-31       | -0.417011 | 0.659014     | 0.07           | 0.278     | 2.28E-26     |
| SLCO3A1      | 1.25E-23       | -0.416716 | 0.659208     | 0.187          | 0.425     | 4.10E-19     |
| BTG3         | 1.21E-27       | -0.416661 | 0.659244     | 0.852          | 0.961     | 3.97E-23     |
| TCF7         | 4.64E-22       | -0.41653  | 0.659331     | 0.159          | 0.378     | 1.53E-17     |
| DLST         | 1.09E-32       | -0.416401 | 0.659416     | 0.909          | 0.984     | 3.60E-28     |
| STXBP5-AS1   | 3.41E-18       | -0.415937 | 0.659722     | 0.242          | 0.45      | 1.12E-13     |
| S100A6       | 6.23E-129      | -0.415578 | 0.660091     | 1              |           | 2.05E-124    |
| MRGEP1       | 9.25E-27       | -0.415056 | 0.660303     | 0.482          | 0.754     | 3.04E-22     |
| PGRMC1       | 3.35E-43       | -0.414991 | 0.660346     | 0.995          | 1         | 1.10E-38     |
| MAP3K6       | 1.75E-26       | -0.414889 | 0.660414     | 0.255          | 0.527     | 5.77E-22     |
| CYP2R1       | 3.53E-26       | -0.414737 | 0.660514     | 0.047          | 0.218     | 1.16E-21     |
| DUT          | 4.69E-43       | -0.413288 | 0.661472     | 0.985          | 1         | 1.54E-38     |
| SERPING1     | 3.75E-22       | -0.413238 | 0.661505     | 0.217          | 0.455     | 1.23E-17     |
| KNL1         | 6.50E-52       | -0.41316  | 0.661557     | 0.471          | 0.852     | 2.14E-47     |
| PITHD1       | 2.12E-30       | -0.412874 | 0.661746     | 0.737          | 0.93      | 6.97E-26     |
| ABL2         | 2.45E-26       | -0.412423 | 0.662044     | 0.858          | 0.958     | 8.06E-22     |
| BRI3BP       | 4.26E-19       | -0.411415 | 0.662712     | 0.467          | 0.698     | 1.40E-14     |
| DUS4L-BCAP29 | 9.35E-38       | -0.411214 | 0.662845     | 0.942          | 0.993     | 3.08E-33     |
| PDIA6        | 3.92E-89       | -0.411039 | 0.662961     | 1              |           | 1.29E-84     |
| PAX8-AS1     | 5.16E-14       | -0.410728 | 0.663168     | 0.103          | 0.251     | 1.70E-09     |
| CBFB         | 1.75E-28       | -0.411072 | 0.663184     | 0.872          | 0.974     | 5.76E-24     |
| RALB         | 1.79E-39       | -0.410508 | 0.663313     | 0.972          | 0.998     | 5.87E-35     |
| SRSF7        | 6.10E-39       | -0.41044  | 0.663358     | 0.995          | 0.998     | 2.01E-34     |
| ICAM3        | 8.99E-27       | -0.410248 | 0.663486     | 0.304          | 0.585     | 2.96E-22     |
| PLXNA4       | 4.84E-32       | -0.410033 | 0.663629     | 0.003          | 0.107     | 1.59E-27     |
| DTYMK        | 2.12E-36       | -0.4096   | 0.663916     | 0.924          | 0.986     | 6.98E-32     |
| TRABD2A      | 2.70E-23       | -0.409238 | 0.664156     | 0.334          | 0.596     | 8.89E-19     |
| ZFP36L2      | 8.05E-21       | -0.409191 | 0.664187     | 0.968          | 0.984     | 2.65E-16     |
| CNTN3        | 3.38E-22       | -0.40915  | 0.664214     | 0.287          | 0.538     | 1.11E-17     |
| UMP1         | 3.00E-24       | -0.409075 | 0.664264     | 0.613          | 0.842     | 9.88E-20     |
| CAV1         | 1.05E-72       | -0.408768 | 0.664468     | 1              |           | 3.45E-68     |
| ANK2         | 2.52E-24       | -0.408247 | 0.664815     | 0.068          | 0.251     | 8.29E-20     |
| AL359397.2   | 9.63E-31       | -0.408242 | 0.664818     | 0.031          | 0.2       | 3.17E-26     |
| NEDD4        | 1.9E-24        | -0.407929 | 0.665026     | 0.874          | 0.949     | 6.24E-20     |
| KIAA1522     | 2.28E-24       | -0.407877 | 0.665061     | 0.217          | 0.469     | 7.49E-20     |
| TSPAN5       | 2.07E-31       | -0.407682 | 0.665198     | 0.966          | 0.998     | 6.81E-27     |
| CLEC11A      | 9.9E-35        | -0.407216 | 0.6655       | 0.964          | 0.995     | 3.25E-30     |
| CRYBG1       | 4.28E-16       | -0.407151 | 0.665544     | 0.365          | 0.578     | 1.40E-11     |
| GPAT4        | 1.94E-28       | -0.406783 | 0.665789     | 0.72           | 0.916     | 6.38E-24     |
|        |        |        |        |        |        |
|--------|--------|--------|--------|--------|--------|
| SUV39H2 | 2.76E-31 | -0.406695 | 0.665847 | 0.3 | 0.603 | 9.071E-27 |
| PSMG1  | 8.46E-27 | -0.405642 | 0.666549 | 0.879 | 0.965 | 2.785E-22 |
| MAFB   | 1.06E-13 | -0.405615 | 0.666566 | 0.047 | 0.155 | 3.49E-09 |
| ZDHHC14 | 1.32E-18 | -0.405596 | 0.66658 | 0.143 | 0.334 | 4.34E-14 |

pct.1 Percent of cells expressing in the large subpopulation
pct.2 Percent of cells expressing in the small subpopulation
Supplementary Table. 3

Upregulated genes in female-origin than in male-origin from hAM-Muse cells

| GeneSymbol | p-value  | avg_logFC | FC   | pct.1 | pct.2 | p_val_adj |
|------------|----------|-----------|------|-------|-------|-----------|
| KCNE4      | 0.004563 | 0.2681406 | 1.307531 | 0.421 | 0.37  | 1         |

Upregulated genes in male-origin than in female-origin from hAM-Muse cells

| GeneSymbol | p-value  | avg_logFC | FC   | pct.1 | pct.2 | p_val_adj |
|------------|----------|-----------|------|-------|-------|-----------|
| MMP11      | 0.003859 | -0.527299 | 0.590197 | 0.331 | 0.374 | 1         |
| ZFP36      | 1.75E-31 | -0.48119  | 0.618048 | 0.761 | 0.843 | 5.76E-27  |
| CEMIP      | 0.000335 | -0.446013 | 0.640176 | 0.225 | 0.233 | 1         |
| JUNB       | 1.24E-30 | -0.390984 | 0.676391 | 0.89  | 0.95  | 4.07E-26  |
| IGFBP5     | 0.022173 | -0.349645 | 0.704938 | 0.468 | 0.498 | 1         |
| GPC4       | 1.17E-07 | -0.345658 | 0.707755 | 0.096 | 0.167 | 0.003862  |
| TXNIP      | 4.62E-08 | -0.335597 | 0.714911 | 0.677 | 0.724 | 0.0015213 |
| EFHD1      | 2.10E-05 | -0.304723 | 0.737328 | 0.21  | 0.271 | 0.689697  |
| FOS        | 7.11E-13 | -0.302928 | 0.738652 | 0.932 | 0.947 | 2.34E-08  |
| WNT2       | 0.000753 | -0.291787 | 0.746928 | 0.134 | 0.182 | 1         |
| DSP        | 1.18E-07 | -0.274148 | 0.760219 | 0.831 | 0.869 | 0.0038937 |
| NPR3       | 0.031577 | -0.269227 | 0.76397  | 0.265 | 0.303 | 1         |
| SOCS3      | 6.33E-10 | -0.262738 | 0.768943 | 0.546 | 0.644 | 2.08E-05  |
| CNTN4      | 0.00013  | -0.255691 | 0.774381 | 0.077 | 0.115 | 1         |

pct.1 Percent of cells expressing in female-origin from hAM-Muse cells
pct.2 Percent of cells expressing in male-origin from hAM-Muse cells