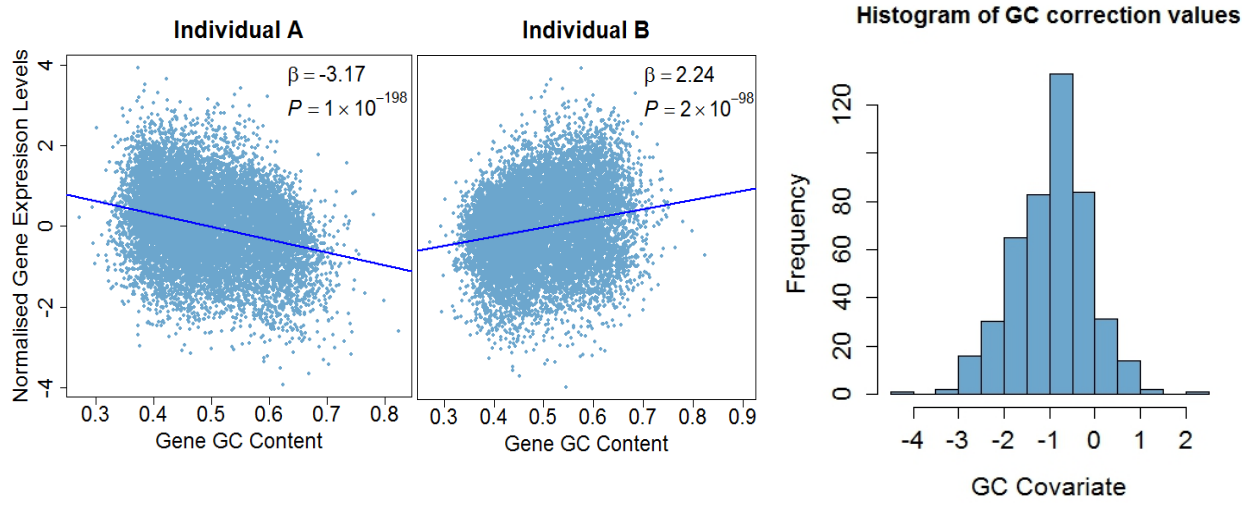


Supplementary Figure 1. Comparison of GC content effect on gene expression levels of two representative individuals (two left panels) and histogram of GC covariate values.



Supplementary Table 1. 2,203 genes co-expressed with *IL6R* in the GEUVADIS and DMAP studies. Abbreviations: Chr, chromosome; Cor, correlation.

| Gene | Chr | Geuvadis | | DMAP | |
|-----------|-----|----------|----------|--------|----------|
| | | Cor | P-value | Cor | P-value |
| FYN | 6 | -0.236 | 3.95E-06 | 0.413 | 4.14E-10 |
| CD180 | 5 | 0.234 | 4.70E-06 | 0.181 | 0.0083 |
| ATP8B2 | 1 | 0.230 | 6.89E-06 | 0.027 | 0.6949 |
| NEURL3 | 2 | 0.230 | 7.52E-06 | NA | NA |
| CCL22 | 16 | 0.221 | 1.59E-05 | 0.056 | 0.4144 |
| CASK-AS1 | X | 0.219 | 1.95E-05 | NA | NA |
| SYBU | 8 | 0.213 | 3.27E-05 | NA | NA |
| TRIM47 | 17 | 0.211 | 3.92E-05 | NA | NA |
| FAM104A | 17 | -0.207 | 5.49E-05 | NA | NA |
| CACNA1A | 19 | 0.206 | 6.11E-05 | -0.313 | 3.62E-06 |
| NCR2 | 6 | -0.205 | 6.90E-05 | NA | NA |
| TBKBP1 | 17 | -0.203 | 7.71E-05 | NA | NA |
| IL18R1 | 2 | -0.202 | 8.25E-05 | -0.008 | 0.9073 |
| RNF213 | 17 | 0.199 | 0.0001 | NA | NA |
| KYNU | 2 | 0.197 | 0.0001 | 0.262 | 0.0001 |
| KLF10 | 8 | 0.196 | 0.0001 | 0.023 | 0.7387 |
| RARRES3 | 11 | 0.193 | 0.0002 | 0.175 | 0.0110 |
| FAM65B | 6 | 0.193 | 0.0002 | NA | NA |
| B3GNT2 | 2 | -0.193 | 0.0002 | -0.335 | 6.45E-07 |
| ITM2C | 2 | 0.193 | 0.0002 | -0.179 | 0.0092 |
| RGS2 | 1 | -0.191 | 0.0002 | 0.237 | 0.0005 |
| BCL9L | 11 | 0.189 | 0.0002 | NA | NA |
| DPYSL2 | 8 | 0.188 | 0.0003 | 0.186 | 0.0066 |
| NCK2 | 2 | 0.188 | 0.0003 | 0.195 | 0.0045 |
| SPSB1 | 1 | 0.188 | 0.0003 | NA | NA |
| CISH | 3 | 0.187 | 0.0003 | 0.318 | 2.51E-06 |
| ATPIF1 | 1 | -0.185 | 0.0003 | -0.042 | 0.5476 |
| CUEDC1 | 17 | 0.185 | 0.0003 | 0.084 | 0.2216 |
| STX5 | 11 | -0.184 | 0.0004 | 0.097 | 0.1605 |
| RIN3 | 14 | -0.183 | 0.0004 | 0.357 | 9.63E-08 |
| EEF1A1P38 | 16 | 0.182 | 0.0004 | NA | NA |
| GFPT1 | 2 | -0.182 | 0.0004 | 0.114 | 0.0984 |
| ARHGAP11A | 15 | -0.181 | 0.0004 | -0.123 | 0.0748 |
| RPL3P9 | 8 | 0.180 | 0.0005 | NA | NA |
| MOXD1 | 6 | -0.180 | 0.0005 | -0.174 | 0.0115 |
| KLHL29 | 2 | 0.180 | 0.0005 | NA | NA |
| PLCL2 | 3 | -0.180 | 0.0005 | 0.068 | 0.3232 |
| ZNF697 | 1 | 0.179 | 0.0005 | NA | NA |
| AHNAK | 11 | 0.179 | 0.0005 | 0.238 | 0.0005 |
| CBLB | 3 | -0.178 | 0.0006 | -0.010 | 0.8903 |
| HIPK2 | 7 | 0.178 | 0.0006 | -0.063 | 0.3610 |

| | | | | | |
|-----------|----|--------|--------|--------|----------|
| ZFP91 | 11 | -0.177 | 0.0006 | NA | NA |
| CPNE5 | 6 | 0.177 | 0.0006 | NA | NA |
| ITPR3 | 6 | 0.176 | 0.0006 | -0.031 | 0.6506 |
| KLF2 | 19 | 0.175 | 0.0007 | 0.275 | 5.27E-05 |
| EPS8 | 12 | 0.175 | 0.0007 | 0.429 | 7.80E-11 |
| PTGIR | 19 | 0.175 | 0.0007 | NA | NA |
| FAM8A1 | 6 | 0.175 | 0.0007 | 0.093 | 0.1802 |
| SLC25A5P5 | 7 | 0.173 | 0.0008 | NA | NA |
| MAP3K5 | 6 | -0.172 | 0.0009 | 0.261 | 0.0001 |
| VDR | 12 | 0.171 | 0.0009 | 0.391 | 4.15E-09 |
| TBX21 | 17 | -0.171 | 0.0009 | -0.175 | 0.0107 |
| ZNF329 | 19 | -0.171 | 0.0009 | -0.080 | 0.2486 |
| BICD1 | 12 | 0.171 | 0.0009 | -0.310 | 4.39E-06 |
| CORO1B | 11 | 0.171 | 0.0009 | 0.469 | 6.50E-13 |
| CEACAM1 | 19 | 0.171 | 0.0009 | 0.185 | 0.0071 |
| ZNF84 | 12 | -0.170 | 0.0010 | -0.053 | 0.4419 |
| LIMK1 | 7 | -0.170 | 0.0010 | 0.040 | 0.5633 |
| COLGALT2 | 1 | 0.169 | 0.0010 | NA | NA |
| HNF4G | 8 | 0.169 | 0.0010 | NA | NA |
| SLC25A37 | 8 | 0.169 | 0.0010 | -0.090 | 0.1945 |
| ZNF570 | 19 | -0.169 | 0.0010 | NA | NA |
| LRRC32 | 11 | 0.169 | 0.0010 | NA | NA |
| SLC25A32 | 8 | -0.169 | 0.0011 | 0.002 | 0.9769 |
| MPZL2 | 11 | 0.169 | 0.0011 | NA | NA |
| MSN | X | 0.169 | 0.0011 | 0.180 | 0.0087 |
| AQR | 15 | 0.168 | 0.0011 | 0.209 | 0.0023 |
| UBAC2 | 13 | -0.168 | 0.0012 | NA | NA |
| SAMSN1 | 21 | -0.167 | 0.0012 | 0.333 | 7.46E-07 |
| AP3D1 | 19 | -0.167 | 0.0012 | 0.184 | 0.0074 |
| PSIP1 | 9 | -0.167 | 0.0012 | -0.012 | 0.8620 |
| RPL5P35 | 22 | 0.167 | 0.0012 | NA | NA |
| MFHAS1 | 8 | 0.166 | 0.0013 | -0.024 | 0.7248 |
| EEF1A1P14 | 1 | 0.166 | 0.0013 | NA | NA |
| PRKCH | 14 | -0.165 | 0.0014 | 0.155 | 0.0243 |
| APBB1IP | 10 | 0.165 | 0.0014 | 0.288 | 2.19E-05 |
| RPL7AP31 | 4 | 0.165 | 0.0014 | NA | NA |
| SEMA4B | 15 | 0.165 | 0.0014 | NA | NA |
| TMCC2 | 1 | 0.164 | 0.0015 | -0.171 | 0.0128 |
| MYL12AP1 | 8 | 0.164 | 0.0015 | NA | NA |
| ARID3A | 19 | 0.162 | 0.0017 | 0.091 | 0.1877 |
| FECH | 18 | -0.162 | 0.0018 | -0.188 | 0.0063 |
| FAM46C | 1 | 0.161 | 0.0018 | -0.301 | 8.60E-06 |
| TBC1D23 | 3 | -0.161 | 0.0018 | NA | NA |
| ANKRD33B | 5 | 0.161 | 0.0018 | NA | NA |
| CTSZ | 20 | 0.161 | 0.0019 | 0.210 | 0.0021 |
| UFL1 | 6 | -0.161 | 0.0019 | NA | NA |

| | | | | | |
|-----------|----|--------|--------|--------|----------|
| TOMM70A | 3 | -0.160 | 0.0019 | 0.074 | 0.2816 |
| PLEKHM2 | 1 | -0.160 | 0.0019 | NA | NA |
| GPR18 | 13 | -0.160 | 0.0019 | 0.189 | 0.0058 |
| G0S2 | 1 | 0.160 | 0.0020 | 0.302 | 8.23E-06 |
| MBOAT2 | 2 | 0.159 | 0.0021 | -0.254 | 0.0002 |
| RAB37 | 17 | -0.159 | 0.0021 | NA | NA |
| BCL7A | 12 | 0.158 | 0.0022 | -0.360 | 7.78E-08 |
| CD1C | 1 | 0.158 | 0.0023 | 0.300 | 9.24E-06 |
| CLINT1 | 5 | 0.158 | 0.0023 | 0.030 | 0.6605 |
| TLE1 | 9 | 0.158 | 0.0023 | -0.305 | 6.50E-06 |
| CAMK2D | 4 | -0.156 | 0.0025 | -0.001 | 0.9882 |
| ABCA5 | 17 | -0.156 | 0.0025 | -0.020 | 0.7723 |
| SORBS3 | 8 | 0.156 | 0.0025 | NA | NA |
| SEMA6A | 5 | 0.156 | 0.0025 | -0.092 | 0.1835 |
| ECHS1 | 10 | -0.156 | 0.0026 | 0.070 | 0.3123 |
| FEZ1 | 11 | -0.155 | 0.0026 | -0.018 | 0.7953 |
| ZFP41 | 8 | 0.155 | 0.0026 | NA | NA |
| SMIM3 | 5 | -0.155 | 0.0027 | NA | NA |
| ERICH5 | 8 | 0.155 | 0.0027 | NA | NA |
| RPL17P50 | 10 | 0.155 | 0.0027 | NA | NA |
| FCHO1 | 19 | 0.154 | 0.0028 | NA | NA |
| GOLGA6L5P | 15 | -0.154 | 0.0028 | NA | NA |
| SYCP2 | 20 | -0.154 | 0.0028 | NA | NA |
| RPL7P26 | 6 | 0.154 | 0.0029 | NA | NA |
| PABPC1P1 | 4 | 0.154 | 0.0029 | NA | NA |
| BIRC3 | 11 | 0.154 | 0.0029 | 0.286 | 2.46E-05 |
| NAPSB | 19 | 0.153 | 0.0030 | NA | NA |
| C3orf20 | 3 | -0.153 | 0.0030 | NA | NA |
| RILPL2 | 12 | -0.153 | 0.0031 | NA | NA |
| RGS14 | 5 | 0.152 | 0.0032 | 0.340 | 4.32E-07 |
| F13A1 | 6 | -0.152 | 0.0032 | 0.295 | 1.34E-05 |
| DNAH17 | 17 | -0.152 | 0.0032 | 0.357 | 1.01E-07 |
| GHITM | 10 | -0.151 | 0.0035 | 0.012 | 0.8673 |
| GNGT2 | 17 | -0.150 | 0.0036 | 0.212 | 0.0020 |
| CLSTN1 | 1 | -0.150 | 0.0036 | 0.175 | 0.0109 |
| LAMB3 | 1 | 0.150 | 0.0037 | NA | NA |
| FRMD3 | 9 | 0.150 | 0.0038 | NA | NA |
| TM6SF1 | 15 | -0.149 | 0.0038 | 0.292 | 1.59E-05 |
| SMIM10 | X | 0.149 | 0.0040 | NA | NA |
| MAPK6PS3 | 13 | -0.149 | 0.0040 | NA | NA |
| GLUD2 | X | -0.149 | 0.0040 | 0.273 | 5.75E-05 |
| EFNB2 | 13 | 0.149 | 0.0040 | NA | NA |
| MYO1D | 17 | 0.149 | 0.0040 | NA | NA |
| FAM129C | 19 | 0.148 | 0.0041 | NA | NA |
| CDC42EP4 | 17 | 0.148 | 0.0042 | -0.015 | 0.8234 |
| HCG27 | 6 | 0.148 | 0.0042 | NA | NA |

| | | | | | |
|------------|----|--------|--------|--------|----------|
| NUDT8 | 11 | -0.147 | 0.0043 | NA | NA |
| GBF1 | 10 | -0.147 | 0.0043 | -0.030 | 0.6657 |
| SLC14A1 | 18 | -0.147 | 0.0044 | -0.215 | 0.0017 |
| MYO5C | 15 | 0.147 | 0.0045 | -0.210 | 0.0022 |
| RBMS3 | 3 | 0.147 | 0.0045 | NA | NA |
| NIPAL1 | 4 | 0.147 | 0.0046 | NA | NA |
| CAPG | 2 | 0.146 | 0.0046 | 0.274 | 5.35E-05 |
| POU5F1B | 8 | 0.146 | 0.0046 | NA | NA |
| MSNP1 | 5 | 0.146 | 0.0046 | NA | NA |
| PARM1 | 4 | 0.146 | 0.0047 | NA | NA |
| ALOX12-AS1 | 17 | -0.146 | 0.0047 | NA | NA |
| DSTYK | 1 | 0.146 | 0.0048 | NA | NA |
| ABI3 | 17 | -0.146 | 0.0048 | NA | NA |
| FZR1 | 19 | -0.146 | 0.0048 | -0.062 | 0.3693 |
| ATL1 | 14 | 0.145 | 0.0049 | NA | NA |
| DNMBP-AS1 | 10 | -0.145 | 0.0050 | NA | NA |
| SLC25A19 | 17 | 0.145 | 0.0050 | NA | NA |
| YRDC | 1 | -0.145 | 0.0051 | -0.060 | 0.3880 |
| NPIPP1 | 16 | -0.144 | 0.0052 | NA | NA |
| CDC20P1 | 9 | -0.144 | 0.0052 | NA | NA |
| SESN3 | 11 | 0.144 | 0.0052 | NA | NA |
| SIRPB1 | 20 | 0.144 | 0.0053 | 0.570 | 0 |
| ARHGAP31 | 3 | 0.144 | 0.0053 | NA | NA |
| RPL3P1 | 21 | 0.144 | 0.0053 | NA | NA |
| DPF3 | 14 | -0.144 | 0.0053 | NA | NA |
| HIST1H3PS1 | 6 | 0.144 | 0.0053 | NA | NA |
| GLDC | 9 | 0.144 | 0.0053 | -0.084 | 0.2221 |
| PSD3 | 8 | 0.144 | 0.0053 | -0.207 | 0.0025 |
| SOAT1 | 1 | -0.144 | 0.0053 | 0.463 | 1.36E-12 |
| TPMT | 6 | 0.144 | 0.0055 | 0.240 | 0.0004 |
| MGAT4A | 2 | 0.143 | 0.0055 | 0.308 | 5.24E-06 |
| IL18RAP | 2 | -0.143 | 0.0057 | -0.143 | 0.0373 |
| CREB3 | 9 | -0.142 | 0.0059 | NA | NA |
| NRD1 | 1 | -0.142 | 0.0059 | 0.100 | 0.1470 |
| HLTF | 3 | -0.142 | 0.0059 | -0.215 | 0.0017 |
| GLTPP1 | 11 | -0.142 | 0.0060 | NA | NA |
| NR3C1 | 5 | 0.142 | 0.0061 | 0.220 | 0.0013 |
| TCL6 | 14 | 0.141 | 0.0062 | -0.176 | 0.0106 |
| RASGRP2 | 11 | 0.141 | 0.0064 | 0.131 | 0.0584 |
| ZNF425 | 7 | 0.141 | 0.0064 | NA | NA |
| CXCR5 | 11 | 0.141 | 0.0065 | NA | NA |
| TBC1D17 | 19 | -0.141 | 0.0065 | NA | NA |
| RAP1GDS1 | 4 | -0.141 | 0.0065 | 0.158 | 0.0218 |
| RBBP4P2 | 3 | 0.140 | 0.0067 | NA | NA |
| HMGB3P6 | 1 | -0.140 | 0.0067 | NA | NA |
| ITM2A | X | -0.140 | 0.0067 | -0.130 | 0.0591 |

| | | | | | |
|-----------|----|--------|--------|--------|----------|
| SIGIRR | 11 | 0.140 | 0.0069 | 0.236 | 0.0006 |
| MALT1 | 18 | -0.140 | 0.0069 | 0.367 | 4.14E-08 |
| RELA | 11 | -0.140 | 0.0069 | 0.189 | 0.0059 |
| KL | 13 | 0.140 | 0.0070 | 0.116 | 0.0941 |
| SUPT5H | 19 | -0.139 | 0.0070 | 0.165 | 0.0161 |
| GCAT | 22 | -0.139 | 0.0071 | NA | NA |
| EFCAB7 | 1 | 0.139 | 0.0072 | NA | NA |
| ZNF540 | 19 | -0.139 | 0.0072 | NA | NA |
| PPP3CA | 4 | -0.139 | 0.0073 | -0.103 | 0.1365 |
| YIF1B | 19 | -0.139 | 0.0073 | NA | NA |
| IER5L | 9 | 0.139 | 0.0073 | NA | NA |
| TNS1 | 2 | 0.139 | 0.0073 | -0.200 | 0.0035 |
| C9orf142 | 9 | 0.139 | 0.0074 | NA | NA |
| CALHM1 | 10 | 0.138 | 0.0074 | NA | NA |
| HCAR1 | 12 | 0.138 | 0.0074 | NA | NA |
| SNHG10 | 14 | 0.138 | 0.0074 | NA | NA |
| USP46 | 4 | 0.138 | 0.0074 | 0.089 | 0.1993 |
| HSPD1P2 | 8 | 0.138 | 0.0075 | NA | NA |
| ETV4 | 17 | -0.138 | 0.0076 | NA | NA |
| BORA | 13 | -0.138 | 0.0076 | NA | NA |
| ZBED3-AS1 | 5 | 0.138 | 0.0076 | NA | NA |
| FKBP8 | 19 | -0.138 | 0.0076 | -0.145 | 0.0355 |
| LRRC42 | 1 | -0.138 | 0.0077 | NA | NA |
| FAM207BP | 13 | 0.138 | 0.0078 | NA | NA |
| FAM174B | 15 | -0.137 | 0.0079 | NA | NA |
| PFKFB1 | X | -0.137 | 0.0079 | NA | NA |
| AQP3 | 9 | 0.137 | 0.0079 | 0.184 | 0.0074 |
| RPL18AP16 | X | 0.137 | 0.0079 | NA | NA |
| RPL7AP73 | 13 | 0.137 | 0.0081 | NA | NA |
| SUPT3H | 6 | 0.137 | 0.0082 | 0.083 | 0.2289 |
| TMC8 | 17 | -0.137 | 0.0082 | NA | NA |
| NDFIP1 | 5 | -0.137 | 0.0083 | 0.439 | 2.40E-11 |
| TET2 | 4 | -0.136 | 0.0083 | NA | NA |
| JUN | 1 | 0.136 | 0.0085 | -0.075 | 0.2800 |
| TMEM51 | 1 | -0.136 | 0.0085 | 0.207 | 0.0025 |
| PPM1M | 3 | 0.136 | 0.0085 | NA | NA |
| SFR1P1 | X | 0.136 | 0.0085 | NA | NA |
| DSC2 | 18 | -0.136 | 0.0085 | 0.388 | 5.45E-09 |
| EEF1A1P30 | X | 0.136 | 0.0085 | NA | NA |
| SS18L1 | 20 | -0.136 | 0.0085 | 0.238 | 0.0005 |
| NR4A3 | 9 | 0.136 | 0.0086 | -0.032 | 0.6488 |
| NDUFS1 | 2 | -0.136 | 0.0086 | 0.169 | 0.0142 |
| CCDC26 | 8 | -0.136 | 0.0086 | NA | NA |
| TMEM147 | 19 | 0.136 | 0.0086 | 0.121 | 0.0804 |
| ACTG1P2 | Y | 0.136 | 0.0086 | NA | NA |
| NFIB | 9 | 0.136 | 0.0087 | -0.185 | 0.0069 |

| | | | | | |
|-----------|----|--------|--------|--------|----------|
| WDFY1 | 2 | -0.136 | 0.0087 | NA | NA |
| C9orf156 | 9 | 0.136 | 0.0087 | 0.267 | 8.77E-05 |
| KLF3 | 4 | -0.136 | 0.0087 | 0.117 | 0.0903 |
| LTA | 6 | 0.136 | 0.0088 | 0.039 | 0.5715 |
| TRAFD1 | 12 | 0.136 | 0.0088 | 0.336 | 5.63E-07 |
| ARF4 | 3 | -0.136 | 0.0088 | -0.010 | 0.8881 |
| CDK9 | 9 | -0.135 | 0.0088 | NA | NA |
| KLHL36 | 16 | -0.135 | 0.0088 | NA | NA |
| SLFN11 | 17 | 0.135 | 0.0088 | NA | NA |
| C21orf91 | 21 | -0.135 | 0.0088 | 0.017 | 0.8051 |
| PDZD2 | 5 | 0.135 | 0.0088 | -0.240 | 0.0004 |
| CKB | 14 | 0.135 | 0.0088 | NA | NA |
| TBC1D16 | 17 | -0.135 | 0.0090 | -0.140 | 0.0422 |
| RPL36AP13 | 2 | 0.135 | 0.0090 | NA | NA |
| NCR3LG1 | 11 | -0.135 | 0.0090 | NA | NA |
| VAMP5 | 2 | -0.135 | 0.0090 | NA | NA |
| MED11 | 17 | 0.135 | 0.0090 | NA | NA |
| SGMS1-AS1 | 10 | -0.135 | 0.0091 | NA | NA |
| ASB2 | 14 | 0.135 | 0.0091 | NA | NA |
| ATP1B2 | 17 | 0.135 | 0.0091 | -0.179 | 0.0092 |
| CACYBPP1 | 10 | 0.135 | 0.0092 | NA | NA |
| FOXA3 | 19 | 0.135 | 0.0092 | NA | NA |
| PIK3R5 | 17 | 0.134 | 0.0093 | 0.235 | 0.0006 |
| YBX1P10 | 9 | -0.134 | 0.0094 | NA | NA |
| PA2G4P1 | X | 0.134 | 0.0094 | NA | NA |
| MAP4 | 3 | -0.134 | 0.0094 | 0.104 | 0.1309 |
| H3F3AP5 | X | 0.134 | 0.0094 | NA | NA |
| EEF1A1P17 | 12 | 0.134 | 0.0096 | NA | NA |
| DNASE1L3 | 3 | -0.134 | 0.0096 | -0.038 | 0.5826 |
| DTX3L | 3 | 0.134 | 0.0096 | NA | NA |
| TRGV2 | 7 | 0.134 | 0.0097 | NA | NA |
| HMSD | 18 | 0.134 | 0.0098 | NA | NA |
| ATAD2B | 2 | 0.134 | 0.0098 | 0.146 | 0.0340 |
| NUAK2 | 1 | 0.134 | 0.0098 | NA | NA |
| SYNGR3 | 16 | -0.134 | 0.0098 | NA | NA |
| SMAGP | 12 | 0.134 | 0.0098 | NA | NA |
| MCL1 | 1 | 0.133 | 0.0099 | 0.478 | 2.03E-13 |
| FCRL3 | 1 | -0.133 | 0.0099 | NA | NA |
| VEZF1 | 17 | 0.133 | 0.0099 | 0.194 | 0.0047 |
| VDAC3 | 8 | -0.133 | 0.0099 | 0.025 | 0.7143 |
| MORF4L1P1 | 1 | -0.133 | 0.0100 | NA | NA |
| INPP5F | 10 | 0.133 | 0.0101 | 0.101 | 0.1423 |
| WDR33 | 2 | -0.133 | 0.0101 | 0.142 | 0.0393 |
| ORC6 | 16 | -0.133 | 0.0101 | NA | NA |
| EPB41L5 | 2 | 0.133 | 0.0101 | -0.072 | 0.2965 |
| HIVEP3 | 1 | 0.133 | 0.0101 | -0.037 | 0.5889 |

| | | | | | |
|------------|----|--------|--------|--------|----------|
| ERCC6L | X | -0.133 | 0.0102 | NA | NA |
| B4GALT2 | 1 | -0.133 | 0.0102 | -0.079 | 0.2513 |
| TBC1D9 | 4 | 0.133 | 0.0102 | 0.149 | 0.0305 |
| ANKRD13B | 17 | 0.133 | 0.0102 | NA | NA |
| PTBP3 | 9 | -0.133 | 0.0103 | NA | NA |
| LINC01358 | 1 | 0.133 | 0.0104 | NA | NA |
| ZFR | 5 | -0.132 | 0.0105 | 0.059 | 0.3951 |
| ZMYM5 | 13 | -0.132 | 0.0105 | 0.017 | 0.8032 |
| KLF7 | 2 | 0.132 | 0.0106 | 0.313 | 3.65E-06 |
| BTF3P8 | X | 0.132 | 0.0107 | NA | NA |
| PRDX1P1 | 9 | 0.132 | 0.0107 | NA | NA |
| CDC20 | 1 | -0.132 | 0.0107 | -0.308 | 5.13E-06 |
| HMX3 | 10 | 0.132 | 0.0107 | NA | NA |
| STT3B | 3 | -0.132 | 0.0110 | NA | NA |
| POU3F1 | 1 | 0.132 | 0.0110 | -0.097 | 0.1591 |
| ENSA | 1 | 0.131 | 0.0110 | -0.211 | 0.0020 |
| PPP6R1 | 19 | -0.131 | 0.0111 | NA | NA |
| DENND1C | 19 | -0.131 | 0.0111 | 0.226 | 0.0010 |
| CHM | X | 0.131 | 0.0111 | NA | NA |
| PQLC2 | 1 | 0.131 | 0.0111 | NA | NA |
| PPP1R14BP3 | 4 | -0.131 | 0.0112 | NA | NA |
| ESR1 | 6 | 0.131 | 0.0114 | 0.151 | 0.0282 |
| HMGB3 | X | -0.131 | 0.0114 | -0.226 | 0.0009 |
| MYO1F | 19 | 0.131 | 0.0116 | 0.297 | 1.13E-05 |
| LHFPL2 | 5 | 0.130 | 0.0117 | -0.203 | 0.0031 |
| TMEM140 | 7 | 0.130 | 0.0117 | NA | NA |
| KLHDC2 | 14 | -0.130 | 0.0117 | -0.049 | 0.4814 |
| R3HDM4 | 19 | 0.130 | 0.0118 | NA | NA |
| SHE | 1 | 0.130 | 0.0118 | NA | NA |
| ACBD4 | 17 | -0.130 | 0.0119 | NA | NA |
| SERPINH1P1 | 9 | -0.130 | 0.0119 | NA | NA |
| RPS3AP25 | 7 | 0.130 | 0.0119 | NA | NA |
| MTMR9LP | 1 | 0.130 | 0.0121 | NA | NA |
| PURB | 7 | -0.130 | 0.0121 | NA | NA |
| SNIP1 | 1 | 0.130 | 0.0121 | 0.056 | 0.4202 |
| ARHGEF2 | 1 | 0.130 | 0.0122 | 0.069 | 0.3195 |
| IQCH | 15 | -0.130 | 0.0122 | NA | NA |
| SLC22A23 | 6 | 0.130 | 0.0122 | NA | NA |
| COMMD8 | 4 | -0.130 | 0.0123 | 0.385 | 7.08E-09 |
| ZBP1 | 20 | 0.129 | 0.0123 | 0.097 | 0.1613 |
| PYCARD | 16 | 0.129 | 0.0123 | 0.313 | 3.66E-06 |
| PLA1A | 3 | 0.129 | 0.0124 | 0.092 | 0.1816 |
| CFAP57 | 1 | 0.129 | 0.0125 | NA | NA |
| TSKU | 11 | 0.129 | 0.0125 | NA | NA |
| LAMA3 | 18 | 0.129 | 0.0125 | NA | NA |
| NDUFAF4 | 6 | -0.129 | 0.0126 | NA | NA |

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|------------|----|--------|--------|--------|----------|
| GRB2 | 17 | 0.129 | 0.0126 | 0.208 | 0.0024 |
| BIRC5 | 17 | -0.129 | 0.0126 | -0.322 | 1.82E-06 |
| OSBPL3 | 7 | 0.129 | 0.0126 | 0.017 | 0.8029 |
| TMEM173 | 5 | 0.129 | 0.0127 | NA | NA |
| SEMA3F-AS1 | 3 | -0.129 | 0.0127 | NA | NA |
| MICAL1 | 6 | -0.129 | 0.0127 | 0.330 | 9.50E-07 |
| SLC20A1 | 2 | 0.129 | 0.0127 | 0.107 | 0.1213 |
| FAM78B | 1 | 0.129 | 0.0127 | NA | NA |
| RPL26P37 | Y | 0.129 | 0.0128 | NA | NA |
| DCTN3 | 9 | -0.129 | 0.0128 | 0.027 | 0.6916 |
| MRGBP | 20 | -0.129 | 0.0128 | NA | NA |
| SH3PXD2A | 10 | 0.129 | 0.0128 | -0.011 | 0.8715 |
| MED12L | 3 | 0.129 | 0.0129 | NA | NA |
| MOB3B | 9 | 0.129 | 0.0129 | NA | NA |
| GAPDHP70 | 11 | 0.129 | 0.0129 | NA | NA |
| TMED9 | 5 | -0.128 | 0.0130 | 0.157 | 0.0226 |
| CTDSP2 | 12 | 0.128 | 0.0130 | 0.165 | 0.0166 |
| NCOA1 | 2 | -0.128 | 0.0131 | 0.193 | 0.0050 |
| TTYH3 | 7 | -0.128 | 0.0131 | NA | NA |
| TMEM80 | 11 | -0.128 | 0.0132 | 0.158 | 0.0218 |
| UHMK1 | 1 | -0.128 | 0.0132 | NA | NA |
| ATP6V1G1 | 9 | 0.128 | 0.0132 | 0.137 | 0.0474 |
| MAD2L1 | 4 | -0.128 | 0.0132 | -0.244 | 0.0004 |
| PKIG | 20 | -0.128 | 0.0133 | -0.468 | 7.26E-13 |
| GAS2 | 11 | 0.128 | 0.0133 | -0.007 | 0.9169 |
| KIAA0232 | 4 | -0.128 | 0.0133 | 0.235 | 0.0006 |
| GALNT10 | 5 | -0.128 | 0.0133 | 0.018 | 0.7937 |
| WNT5B | 12 | 0.128 | 0.0135 | NA | NA |
| FOXD2-AS1 | 1 | 0.128 | 0.0135 | NA | NA |
| HIST2H2BF | 1 | 0.128 | 0.0136 | NA | NA |
| GRAMD4 | 22 | 0.128 | 0.0136 | NA | NA |
| RASAL2 | 1 | 0.128 | 0.0136 | -0.083 | 0.2301 |
| CYBB | X | 0.128 | 0.0136 | 0.296 | 1.26E-05 |
| HECW2 | 2 | -0.128 | 0.0136 | NA | NA |
| IFNGR2 | 21 | 0.128 | 0.0137 | 0.329 | 1.04E-06 |
| HMX2 | 10 | 0.128 | 0.0137 | NA | NA |
| MED28 | 4 | -0.128 | 0.0137 | -0.094 | 0.1725 |
| GLT1D1 | 12 | -0.127 | 0.0138 | NA | NA |
| GABARAP | 17 | -0.127 | 0.0138 | 0.196 | 0.0043 |
| DAB2IP | 9 | -0.127 | 0.0139 | NA | NA |
| YARS | 1 | -0.127 | 0.0139 | -0.105 | 0.1285 |
| RPL23AP12 | 21 | 0.127 | 0.0139 | NA | NA |
| HABP4 | 9 | 0.127 | 0.0140 | 0.188 | 0.0063 |
| DUX4L50 | 9 | 0.127 | 0.0140 | NA | NA |
| METTL18 | 1 | -0.127 | 0.0140 | NA | NA |
| DIS3 | 13 | -0.127 | 0.0140 | NA | NA |

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|-----------|----|--------|--------|--------|--------|
| RPL5P11 | 4 | 0.127 | 0.0141 | NA | NA |
| BMP6 | 6 | 0.127 | 0.0141 | -0.055 | 0.4305 |
| ZBTB12 | 6 | -0.127 | 0.0141 | NA | NA |
| SLC4A1AP | 2 | -0.127 | 0.0141 | 0.129 | 0.0615 |
| IFI27L1 | 14 | -0.127 | 0.0142 | NA | NA |
| EEF1A1P10 | 7 | 0.127 | 0.0143 | NA | NA |
| PTEN | 10 | -0.127 | 0.0143 | 0.196 | 0.0043 |
| ORAI3 | 16 | -0.127 | 0.0143 | NA | NA |
| MTATP8P1 | 1 | -0.127 | 0.0144 | NA | NA |
| CNN3 | 1 | 0.127 | 0.0144 | -0.235 | 0.0006 |
| CCL17 | 16 | 0.126 | 0.0145 | NA | NA |
| LSP1P3 | 5 | 0.126 | 0.0146 | NA | NA |
| SGOL1 | 3 | -0.126 | 0.0146 | NA | NA |
| RASAL3 | 19 | -0.126 | 0.0147 | NA | NA |
| BSCL2 | 11 | -0.126 | 0.0147 | NA | NA |
| CASKIN1 | 16 | 0.126 | 0.0148 | NA | NA |
| RPL23AP38 | 3 | 0.126 | 0.0148 | NA | NA |
| SNAI1 | 20 | 0.126 | 0.0148 | NA | NA |
| SERBP1P1 | X | -0.126 | 0.0149 | NA | NA |
| OGDHL | 10 | -0.126 | 0.0149 | NA | NA |
| DQX1 | 2 | 0.126 | 0.0149 | NA | NA |
| NUDT19 | 19 | -0.126 | 0.0150 | NA | NA |
| TNFRSF11B | 8 | 0.126 | 0.0151 | NA | NA |
| SLCO3A1 | 15 | 0.126 | 0.0152 | 0.597 | 0 |
| CNKSR1 | 1 | 0.126 | 0.0152 | NA | NA |
| TANK | 2 | 0.126 | 0.0153 | -0.005 | 0.9389 |
| PPAP2B | 1 | 0.125 | 0.0153 | -0.211 | 0.0021 |
| SNHG14 | 15 | -0.125 | 0.0153 | NA | NA |
| LRBA | 4 | -0.125 | 0.0153 | -0.191 | 0.0053 |
| NSUN3 | 3 | -0.125 | 0.0154 | -0.060 | 0.3883 |
| SFXN4 | 10 | -0.125 | 0.0154 | NA | NA |
| NPM1P33 | 2 | 0.125 | 0.0155 | NA | NA |
| TSG101 | 11 | 0.125 | 0.0155 | -0.014 | 0.8361 |
| PPP4R2 | 3 | -0.125 | 0.0155 | -0.065 | 0.3495 |
| LGALS9C | 17 | -0.125 | 0.0155 | NA | NA |
| PALLD | 4 | 0.125 | 0.0156 | 0.095 | 0.1706 |
| LAMP5 | 20 | -0.125 | 0.0157 | NA | NA |
| ZNF706 | 8 | -0.125 | 0.0157 | 0.143 | 0.0377 |
| ABHD6 | 3 | -0.125 | 0.0157 | 0.019 | 0.7816 |
| RPS12P23 | 13 | 0.125 | 0.0157 | NA | NA |
| LMNTD2 | 11 | -0.125 | 0.0157 | NA | NA |
| YIPF6 | X | 0.125 | 0.0158 | -0.094 | 0.1754 |
| ADM | 11 | 0.125 | 0.0159 | 0.209 | 0.0023 |
| EPHA1-AS1 | 7 | 0.125 | 0.0159 | NA | NA |
| RPL32 | 3 | 0.125 | 0.0160 | 0.065 | 0.3501 |
| KIF4B | 5 | -0.125 | 0.0160 | NA | NA |

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|-----------|----|--------|--------|--------|----------|
| ACTG1P14 | 9 | 0.125 | 0.0160 | NA | NA |
| ATP5J2 | 7 | 0.125 | 0.0160 | 0.026 | 0.7021 |
| GPR183 | 13 | -0.125 | 0.0160 | NA | NA |
| PITPNC1 | 17 | 0.124 | 0.0162 | 0.271 | 6.77E-05 |
| RPL36AP26 | 7 | 0.124 | 0.0162 | NA | NA |
| CPS1 | 2 | 0.124 | 0.0162 | -0.135 | 0.0495 |
| RTKN | 2 | 0.124 | 0.0163 | NA | NA |
| CEACAM21 | 19 | -0.124 | 0.0163 | NA | NA |
| NOC4L | 12 | 0.124 | 0.0164 | -0.032 | 0.6481 |
| DLL4 | 15 | 0.124 | 0.0165 | NA | NA |
| NFAM1 | 22 | -0.124 | 0.0165 | NA | NA |
| IL12B | 5 | 0.124 | 0.0166 | NA | NA |
| BCL2A1 | 15 | 0.124 | 0.0167 | 0.366 | 4.50E-08 |
| CXCR4 | 2 | 0.124 | 0.0167 | 0.239 | 0.0005 |
| RAP1BP1 | 9 | 0.124 | 0.0167 | NA | NA |
| VOPP1 | 7 | 0.124 | 0.0168 | NA | NA |
| RPL7P48 | 17 | -0.124 | 0.0168 | NA | NA |
| PIAS2 | 18 | -0.124 | 0.0170 | -0.060 | 0.3886 |
| ZMYM4 | 1 | 0.123 | 0.0170 | 0.106 | 0.1243 |
| SH2D3C | 9 | -0.123 | 0.0171 | NA | NA |
| RAB42 | 1 | 0.123 | 0.0171 | NA | NA |
| LRRC8C | 1 | -0.123 | 0.0172 | NA | NA |
| PSMB10 | 16 | -0.123 | 0.0172 | 0.285 | 2.70E-05 |
| TNFRSF8 | 1 | 0.123 | 0.0172 | 0.289 | 1.96E-05 |
| LGALS14 | 19 | -0.123 | 0.0172 | NA | NA |
| FITM1 | 14 | -0.123 | 0.0173 | NA | NA |
| HTR2B | 2 | 0.123 | 0.0174 | 0.118 | 0.0880 |
| SMIM7 | 19 | -0.123 | 0.0174 | NA | NA |
| FAM222B | 17 | 0.123 | 0.0174 | NA | NA |
| SLC44A2 | 19 | -0.123 | 0.0175 | NA | NA |
| ZNF355P | 21 | 0.123 | 0.0177 | NA | NA |
| C2orf44 | 2 | 0.123 | 0.0177 | -0.097 | 0.1608 |
| GAPT | 5 | 0.123 | 0.0177 | NA | NA |
| NCKAP5 | 2 | 0.123 | 0.0178 | NA | NA |
| HYOU1 | 11 | -0.123 | 0.0178 | -0.010 | 0.8886 |
| KCNK5 | 6 | -0.123 | 0.0178 | -0.289 | 1.94E-05 |
| TMC4 | 19 | 0.123 | 0.0178 | NA | NA |
| TMX1 | 14 | 0.123 | 0.0179 | NA | NA |
| WWC3 | X | -0.123 | 0.0179 | 0.051 | 0.4621 |
| ANXA2P2 | 9 | 0.122 | 0.0180 | 0.409 | 6.58E-10 |
| PPP2R2A | 8 | -0.122 | 0.0180 | 0.150 | 0.0291 |
| JDP2 | 14 | 0.122 | 0.0180 | NA | NA |
| NLRP3 | 1 | 0.122 | 0.0181 | 0.484 | 8.37E-14 |
| LCA5 | 6 | 0.122 | 0.0182 | NA | NA |
| CENPJ | 13 | -0.122 | 0.0184 | -0.331 | 8.84E-07 |
| TCF19 | 6 | 0.122 | 0.0185 | NA | NA |

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|------------|----|--------|--------|--------|----------|
| GYS1 | 19 | -0.122 | 0.0186 | 0.196 | 0.0043 |
| CD300C | 17 | -0.122 | 0.0186 | 0.189 | 0.0059 |
| ANKRA2 | 5 | -0.122 | 0.0188 | 0.139 | 0.0433 |
| RBBP7 | X | 0.121 | 0.0189 | -0.108 | 0.1177 |
| SEC24B-AS1 | 4 | -0.121 | 0.0189 | NA | NA |
| ANKRD16 | 10 | 0.121 | 0.0190 | NA | NA |
| YBX1P2 | 7 | -0.121 | 0.0191 | NA | NA |
| RNF144A | 2 | -0.121 | 0.0191 | NA | NA |
| GPCPD1 | 20 | -0.121 | 0.0191 | NA | NA |
| GPR63 | 6 | -0.121 | 0.0192 | NA | NA |
| UBE2G1 | 17 | 0.121 | 0.0192 | 0.099 | 0.1505 |
| SRSF10 | 1 | 0.121 | 0.0192 | NA | NA |
| B4GALT1 | 9 | -0.121 | 0.0192 | -0.022 | 0.7495 |
| GBP1 | 1 | -0.121 | 0.0193 | 0.389 | 4.85E-09 |
| RPS21P4 | 4 | 0.121 | 0.0193 | NA | NA |
| RXRA | 9 | 0.121 | 0.0194 | 0.151 | 0.0285 |
| RPS17P2 | 5 | 0.121 | 0.0194 | NA | NA |
| TXNL1 | 18 | -0.121 | 0.0195 | -0.130 | 0.0597 |
| TRABD2A | 2 | 0.121 | 0.0195 | NA | NA |
| ARAP1-AS1 | 11 | -0.121 | 0.0196 | NA | NA |
| MAPK6 | 15 | -0.121 | 0.0197 | 0.120 | 0.0822 |
| SLC18A2 | 10 | 0.121 | 0.0197 | NA | NA |
| SRP54 | 14 | -0.121 | 0.0198 | 0.183 | 0.0076 |
| MTCH2 | 11 | -0.121 | 0.0198 | 0.049 | 0.4827 |
| RBMXP4 | 4 | -0.121 | 0.0198 | NA | NA |
| ZSCAN30 | 18 | -0.121 | 0.0199 | NA | NA |
| SOWAHD | X | 0.120 | 0.0200 | NA | NA |
| HNRNPA1P33 | 10 | 0.120 | 0.0201 | NA | NA |
| ABI1 | 10 | 0.120 | 0.0201 | 0.122 | 0.0761 |
| ADD2 | 2 | 0.120 | 0.0202 | -0.229 | 0.0008 |
| UBR3 | 2 | -0.120 | 0.0202 | NA | NA |
| PRORS1P | 2 | -0.120 | 0.0202 | NA | NA |
| LIPH | 3 | -0.120 | 0.0203 | NA | NA |
| MED10 | 5 | -0.120 | 0.0203 | NA | NA |
| C11orf24 | 11 | -0.120 | 0.0204 | -0.095 | 0.1696 |
| ICK | 6 | 0.120 | 0.0205 | 0.151 | 0.0285 |
| STPG1 | 1 | -0.120 | 0.0206 | NA | NA |
| ANXA11 | 10 | 0.120 | 0.0206 | 0.346 | 2.44E-07 |
| FNIP2 | 4 | -0.120 | 0.0206 | NA | NA |
| FAM207A | 21 | 0.120 | 0.0208 | NA | NA |
| BCAP29 | 7 | -0.120 | 0.0209 | -0.182 | 0.0081 |
| ANKDD1A | 15 | 0.120 | 0.0209 | 0.014 | 0.8412 |
| RDH14 | 2 | 0.119 | 0.0210 | -0.093 | 0.1766 |
| DNAJC3 | 13 | -0.119 | 0.0211 | 0.177 | 0.0099 |
| PMAIP1 | 18 | -0.119 | 0.0211 | -0.237 | 0.0005 |
| FCHO2 | 5 | 0.119 | 0.0211 | NA | NA |

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|-----------|----|--------|--------|--------|----------|
| ADSL | 22 | -0.119 | 0.0211 | 0.200 | 0.0035 |
| IGLV1-47 | 22 | 0.119 | 0.0212 | NA | NA |
| SAPCD2 | 9 | 0.119 | 0.0212 | NA | NA |
| MAPK1 | 22 | 0.119 | 0.0214 | 0.033 | 0.6381 |
| NPM1P35 | 11 | 0.119 | 0.0214 | NA | NA |
| TNFRSF1B | 1 | -0.119 | 0.0214 | 0.437 | 3.14E-11 |
| GPR55 | 2 | 0.119 | 0.0215 | NA | NA |
| PLAU | 10 | 0.119 | 0.0216 | NA | NA |
| DZIP3 | 3 | -0.119 | 0.0216 | -0.191 | 0.0054 |
| RALY | 20 | -0.119 | 0.0216 | -0.093 | 0.1794 |
| APAF1 | 12 | 0.119 | 0.0216 | 0.534 | 0 |
| SARS2 | 19 | 0.119 | 0.0217 | NA | NA |
| ELK1 | X | -0.119 | 0.0217 | 0.250 | 0.0002 |
| RBM17P4 | 15 | -0.119 | 0.0218 | NA | NA |
| ACTG1P11 | Y | 0.119 | 0.0218 | NA | NA |
| RAB13 | 1 | 0.119 | 0.0219 | -0.170 | 0.0136 |
| PPFIA4 | 1 | -0.119 | 0.0220 | 0.306 | 6.11E-06 |
| RPL23P2 | 21 | 0.119 | 0.0220 | NA | NA |
| AHCYL2 | 7 | 0.119 | 0.0220 | NA | NA |
| TUBE1 | 6 | -0.119 | 0.0220 | NA | NA |
| SBNO2 | 19 | 0.118 | 0.0221 | NA | NA |
| IPCEF1 | 6 | -0.118 | 0.0221 | NA | NA |
| FAM167A | 8 | -0.118 | 0.0222 | NA | NA |
| KIZ | 20 | -0.118 | 0.0222 | NA | NA |
| PDCL | 9 | -0.118 | 0.0222 | -0.011 | 0.8771 |
| FAM60A | 12 | 0.118 | 0.0223 | 0.005 | 0.9474 |
| TIMM8B | 11 | -0.118 | 0.0223 | 0.067 | 0.3301 |
| C16orf87 | 16 | -0.118 | 0.0224 | NA | NA |
| CXorf21 | X | 0.118 | 0.0224 | 0.149 | 0.0300 |
| ARPC1B | 7 | -0.118 | 0.0225 | 0.239 | 0.0005 |
| UBE2E3 | 2 | -0.118 | 0.0225 | -0.225 | 0.0010 |
| HSPD1P3 | 8 | 0.118 | 0.0225 | NA | NA |
| NUP54 | 4 | -0.118 | 0.0225 | -0.027 | 0.6990 |
| CYCS | 7 | 0.118 | 0.0229 | -0.133 | 0.0537 |
| CD300A | 17 | -0.118 | 0.0230 | 0.131 | 0.0584 |
| FAM105A | 5 | -0.118 | 0.0231 | 0.620 | 0 |
| TAPT1-AS1 | 4 | 0.117 | 0.0233 | NA | NA |
| LRRC47 | 1 | -0.117 | 0.0233 | 0.146 | 0.0344 |
| IGLC6 | 22 | 0.117 | 0.0233 | NA | NA |
| GTF2E2 | 8 | 0.117 | 0.0234 | 0.169 | 0.0142 |
| GPR153 | 1 | 0.117 | 0.0235 | -0.067 | 0.3360 |
| NEK8 | 17 | 0.117 | 0.0235 | NA | NA |
| ECE1 | 1 | 0.117 | 0.0235 | 0.113 | 0.1032 |
| TMEM38A | 19 | 0.117 | 0.0235 | NA | NA |
| LYL1 | 19 | 0.117 | 0.0236 | -0.211 | 0.0020 |
| SLC28A3 | 9 | -0.117 | 0.0238 | 0.043 | 0.5303 |

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|------------|----|--------|--------|--------|----------|
| TPCN1 | 12 | -0.117 | 0.0238 | 0.451 | 5.98E-12 |
| LINC00865 | 10 | 0.117 | 0.0239 | NA | NA |
| ALDH6A1 | 14 | -0.117 | 0.0239 | -0.206 | 0.0026 |
| IGHV3-7 | 14 | 0.117 | 0.0240 | NA | NA |
| DPY19L2P1 | 7 | 0.117 | 0.0240 | NA | NA |
| SH3BP5-AS1 | 3 | 0.117 | 0.0241 | NA | NA |
| CFLAR | 2 | 0.117 | 0.0241 | 0.379 | 1.36E-08 |
| KIAA0040 | 1 | 0.117 | 0.0243 | 0.099 | 0.1514 |
| PRLR | 5 | 0.117 | 0.0243 | NA | NA |
| C10orf12 | 10 | -0.117 | 0.0244 | NA | NA |
| NDUFA2 | 5 | -0.116 | 0.0244 | 0.018 | 0.7970 |
| CDCA8 | 1 | -0.116 | 0.0245 | -0.226 | 0.0010 |
| ABHD17AP4 | 22 | 0.116 | 0.0245 | NA | NA |
| NSD1 | 5 | 0.116 | 0.0246 | 0.114 | 0.0975 |
| AHNAK2 | 14 | 0.116 | 0.0247 | NA | NA |
| THOP1 | 19 | 0.116 | 0.0248 | NA | NA |
| SPRYD7 | 13 | -0.116 | 0.0249 | NA | NA |
| TMOD2 | 15 | 0.116 | 0.0249 | NA | NA |
| TNFRSF17 | 16 | 0.116 | 0.0250 | -0.234 | 0.0006 |
| SLAIN1 | 13 | -0.116 | 0.0250 | NA | NA |
| TMEM156 | 4 | 0.116 | 0.0251 | -0.119 | 0.0837 |
| LY75 | 2 | 0.116 | 0.0251 | 0.199 | 0.0036 |
| HMG2P7 | 3 | -0.116 | 0.0251 | NA | NA |
| ANKH | 5 | -0.116 | 0.0251 | 0.014 | 0.8454 |
| NPNT | 4 | 0.116 | 0.0253 | NA | NA |
| MAP4K4 | 2 | 0.116 | 0.0253 | 0.222 | 0.0012 |
| ZSCAN16 | 6 | -0.116 | 0.0253 | NA | NA |
| ZFP36L2 | 2 | 0.116 | 0.0254 | 0.091 | 0.1903 |
| YEATS2 | 3 | 0.116 | 0.0254 | -0.023 | 0.7451 |
| SMIM13 | 6 | -0.116 | 0.0254 | NA | NA |
| ABHD4 | 14 | -0.116 | 0.0255 | -0.101 | 0.1456 |
| HSPA4 | 5 | -0.116 | 0.0256 | 0.010 | 0.8798 |
| EEF1A1P28 | 7 | 0.115 | 0.0257 | NA | NA |
| LETM1 | 4 | -0.115 | 0.0258 | -0.018 | 0.7915 |
| WIPI1 | 17 | -0.115 | 0.0258 | 0.112 | 0.1032 |
| RNPC3 | 1 | 0.115 | 0.0258 | NA | NA |
| RPS27L | 15 | -0.115 | 0.0258 | 0.085 | 0.2184 |
| RPL34P34 | 19 | 0.115 | 0.0259 | NA | NA |
| NHP2P1 | 10 | -0.115 | 0.0260 | NA | NA |
| TEAD4 | 12 | 0.115 | 0.0261 | NA | NA |
| ADARB1 | 21 | 0.115 | 0.0261 | 0.068 | 0.3290 |
| RWDD2A | 6 | -0.115 | 0.0262 | NA | NA |
| XAF1 | 17 | 0.115 | 0.0262 | NA | NA |
| PIK3CD-AS1 | 1 | 0.115 | 0.0262 | NA | NA |
| CD69 | 12 | -0.115 | 0.0263 | -0.093 | 0.1779 |
| TMEM132A | 11 | 0.115 | 0.0263 | NA | NA |

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|-----------|----|--------|--------|--------|----------|
| ARHGAP25 | 2 | 0.115 | 0.0263 | 0.172 | 0.0126 |
| MED26 | 19 | -0.115 | 0.0263 | NA | NA |
| TPGS2 | 18 | -0.115 | 0.0263 | NA | NA |
| SSR2 | 1 | -0.115 | 0.0265 | 0.197 | 0.0041 |
| ZSCAN18 | 19 | -0.115 | 0.0265 | NA | NA |
| TXNDC5 | 6 | 0.115 | 0.0267 | -0.286 | 2.50E-05 |
| FABP5P3 | 7 | 0.115 | 0.0267 | NA | NA |
| ADCK4 | 19 | -0.115 | 0.0267 | NA | NA |
| MYH6 | 14 | 0.115 | 0.0267 | NA | NA |
| GALK2 | 15 | -0.115 | 0.0269 | 0.015 | 0.8337 |
| FAM53B | 10 | 0.115 | 0.0269 | 0.122 | 0.0778 |
| AMMECR1 | X | -0.115 | 0.0270 | -0.009 | 0.8982 |
| EXD3 | 9 | -0.114 | 0.0271 | NA | NA |
| LRP6 | 12 | 0.114 | 0.0272 | -0.134 | 0.0519 |
| IMPDH1P10 | 2 | 0.114 | 0.0272 | NA | NA |
| PLEKHM1P | 17 | -0.114 | 0.0272 | NA | NA |
| DHX30 | 3 | -0.114 | 0.0273 | -0.018 | 0.7984 |
| RGS6 | 14 | -0.114 | 0.0274 | NA | NA |
| PIIF | 10 | -0.114 | 0.0275 | 0.167 | 0.0153 |
| AMOTL1 | 11 | 0.114 | 0.0276 | NA | NA |
| CLSPN | 1 | 0.114 | 0.0276 | NA | NA |
| SNX10 | 7 | 0.114 | 0.0277 | 0.137 | 0.0470 |
| NOL7 | 6 | -0.114 | 0.0278 | -0.042 | 0.5477 |
| CHPF2 | 7 | -0.114 | 0.0278 | NA | NA |
| DNAH14 | 1 | 0.114 | 0.0278 | NA | NA |
| OXA1L | 14 | -0.114 | 0.0279 | 0.274 | 5.34E-05 |
| RPL3P12 | X | 0.114 | 0.0279 | NA | NA |
| AMT | 3 | -0.114 | 0.0279 | -0.081 | 0.2422 |
| CMPK1 | 1 | -0.114 | 0.0280 | NA | NA |
| ECH1 | 19 | -0.114 | 0.0280 | -0.137 | 0.0473 |
| ZNF121 | 19 | -0.114 | 0.0280 | NA | NA |
| DEPDC4 | 12 | 0.114 | 0.0281 | NA | NA |
| CD9 | 12 | 0.114 | 0.0282 | 0.098 | 0.1558 |
| IRF8 | 16 | -0.114 | 0.0282 | 0.053 | 0.4412 |
| DNAJB6 | 7 | -0.114 | 0.0282 | -0.039 | 0.5703 |
| SGOL1-AS1 | 3 | -0.114 | 0.0283 | NA | NA |
| ANO10 | 3 | 0.114 | 0.0283 | NA | NA |
| HSPA5 | 9 | -0.114 | 0.0283 | 0.053 | 0.4395 |
| MTTP | 4 | 0.114 | 0.0284 | NA | NA |
| HHAT | 1 | -0.114 | 0.0284 | -0.171 | 0.0130 |
| FBXL19 | 16 | 0.114 | 0.0284 | NA | NA |
| DET1 | 15 | 0.114 | 0.0284 | 0.059 | 0.3943 |
| ZNF569 | 19 | -0.113 | 0.0284 | NA | NA |
| GDF11 | 12 | -0.113 | 0.0284 | NA | NA |
| LINC00342 | 2 | 0.113 | 0.0285 | NA | NA |
| QPCTL | 19 | -0.113 | 0.0286 | NA | NA |

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|-----------|----|--------|--------|--------|----------|
| CEP250 | 20 | 0.113 | 0.0287 | NA | NA |
| SECISBP2 | 9 | 0.113 | 0.0288 | 0.058 | 0.3985 |
| MYC | 8 | 0.113 | 0.0289 | -0.133 | 0.0545 |
| EEF1A1P8 | 3 | 0.113 | 0.0290 | NA | NA |
| TBC1D22A | 22 | 0.113 | 0.0290 | 0.179 | 0.0092 |
| DNAJB11 | 3 | -0.113 | 0.0290 | NA | NA |
| MEA1 | 6 | -0.113 | 0.0290 | -0.207 | 0.0025 |
| IGFBP4 | 17 | 0.113 | 0.0291 | -0.171 | 0.0129 |
| ATP8B1 | 18 | -0.113 | 0.0291 | -0.057 | 0.4087 |
| PODXL2 | 3 | 0.113 | 0.0293 | NA | NA |
| FAM160A1 | 4 | 0.113 | 0.0294 | NA | NA |
| TCEA1P4 | 9 | -0.113 | 0.0294 | NA | NA |
| HES1 | 3 | 0.113 | 0.0295 | -0.201 | 0.0034 |
| NME3 | 16 | -0.113 | 0.0295 | NA | NA |
| HADHA | 2 | -0.113 | 0.0296 | 0.176 | 0.0102 |
| IRGQ | 19 | -0.113 | 0.0296 | NA | NA |
| RPL7P19 | 5 | 0.113 | 0.0296 | NA | NA |
| ADTRP | 6 | 0.113 | 0.0297 | NA | NA |
| RPSAP14 | X | 0.113 | 0.0298 | NA | NA |
| DNLZ | 9 | 0.113 | 0.0298 | NA | NA |
| IST1 | 16 | 0.112 | 0.0298 | NA | NA |
| FAM160A2 | 11 | -0.112 | 0.0299 | NA | NA |
| AJUBA | 14 | -0.112 | 0.0299 | NA | NA |
| LHFP | 13 | 0.112 | 0.0299 | -0.135 | 0.0504 |
| KCTD3 | 1 | 0.112 | 0.0300 | -0.094 | 0.1718 |
| AMZ2 | 17 | -0.112 | 0.0300 | 0.065 | 0.3501 |
| RPL35AP35 | 17 | -0.112 | 0.0301 | NA | NA |
| PSTPIP2 | 18 | -0.112 | 0.0303 | 0.224 | 0.0010 |
| KIF13B | 8 | -0.112 | 0.0304 | 0.205 | 0.0028 |
| SUB1P3 | 16 | 0.112 | 0.0304 | NA | NA |
| DYNC1LI2 | 16 | -0.112 | 0.0304 | 0.319 | 2.23E-06 |
| PRKX | X | -0.112 | 0.0304 | 0.295 | 1.33E-05 |
| RPL7AP3 | 14 | 0.112 | 0.0305 | NA | NA |
| PSMA6P1 | Y | 0.112 | 0.0305 | NA | NA |
| FSTL3 | 19 | 0.112 | 0.0308 | NA | NA |
| SLC45A3 | 1 | 0.112 | 0.0308 | NA | NA |
| RGMB | 5 | 0.112 | 0.0308 | NA | NA |
| CAMSAP2 | 1 | 0.112 | 0.0310 | NA | NA |
| NXT2 | X | -0.112 | 0.0311 | -0.099 | 0.1535 |
| CYP51A1P2 | 13 | -0.112 | 0.0311 | NA | NA |
| MYL12BP1 | 15 | 0.112 | 0.0311 | NA | NA |
| OSGIN2 | 8 | -0.112 | 0.0312 | 0.185 | 0.0069 |
| RPL19P20 | X | 0.112 | 0.0313 | NA | NA |
| PLAC8 | 4 | 0.111 | 0.0314 | -0.058 | 0.4004 |
| UCN | 2 | -0.111 | 0.0314 | 0.006 | 0.9338 |
| FUT8 | 14 | 0.111 | 0.0314 | -0.201 | 0.0034 |

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|-----------|----|--------|--------|--------|----------|
| GSTP1 | 11 | -0.111 | 0.0314 | 0.048 | 0.4894 |
| ZNF641 | 12 | 0.111 | 0.0315 | NA | NA |
| RRM2P3 | X | 0.111 | 0.0315 | NA | NA |
| TFEB | 6 | 0.111 | 0.0315 | 0.102 | 0.1403 |
| XPOT | 12 | -0.111 | 0.0315 | 0.043 | 0.5346 |
| C14orf105 | 14 | 0.111 | 0.0315 | NA | NA |
| MRPL13 | 8 | -0.111 | 0.0316 | -0.004 | 0.9535 |
| ZNF649 | 19 | -0.111 | 0.0316 | NA | NA |
| NME4 | 16 | 0.111 | 0.0316 | -0.365 | 4.57E-08 |
| PGAM1P7 | X | 0.111 | 0.0316 | NA | NA |
| IGLV1-51 | 22 | 0.111 | 0.0316 | NA | NA |
| CHCHD4 | 3 | 0.111 | 0.0317 | NA | NA |
| ZNF680 | 7 | -0.111 | 0.0318 | NA | NA |
| TPBG | 6 | -0.111 | 0.0319 | -0.119 | 0.0856 |
| ZNF248 | 10 | 0.111 | 0.0320 | 0.017 | 0.8116 |
| CUL7 | 6 | -0.111 | 0.0320 | NA | NA |
| UBXN6 | 19 | -0.111 | 0.0321 | NA | NA |
| SPSB3 | 16 | -0.111 | 0.0321 | 0.117 | 0.0907 |
| TRIM13 | 13 | 0.111 | 0.0321 | 0.034 | 0.6285 |
| TSGA10 | 2 | -0.111 | 0.0323 | NA | NA |
| FHL2 | 2 | -0.111 | 0.0323 | -0.304 | 6.67E-06 |
| CD4 | 12 | 0.111 | 0.0323 | 0.739 | 0 |
| EDN1 | 6 | 0.111 | 0.0323 | NA | NA |
| C19orf52 | 19 | -0.111 | 0.0323 | NA | NA |
| WDR62 | 19 | -0.111 | 0.0324 | NA | NA |
| PLEKHA8 | 7 | 0.111 | 0.0324 | NA | NA |
| RFNG | 17 | -0.111 | 0.0325 | 0.074 | 0.2869 |
| ABCC5 | 3 | 0.111 | 0.0325 | 0.010 | 0.8807 |
| GFM2 | 5 | -0.111 | 0.0325 | NA | NA |
| CDH24 | 14 | -0.111 | 0.0326 | NA | NA |
| SWT1 | 1 | 0.111 | 0.0326 | NA | NA |
| GPR150 | 5 | -0.111 | 0.0326 | NA | NA |
| PLS1 | 3 | 0.111 | 0.0326 | -0.274 | 5.63E-05 |
| ZFP30 | 19 | -0.111 | 0.0326 | -0.065 | 0.3506 |
| LONP1 | 19 | -0.111 | 0.0327 | NA | NA |
| C7orf26 | 7 | -0.111 | 0.0327 | 0.034 | 0.6231 |
| RABGAP1L | 1 | 0.111 | 0.0327 | 0.229 | 0.0008 |
| CHST12 | 7 | -0.111 | 0.0328 | -0.260 | 0.0001 |
| SIKE1 | 1 | 0.111 | 0.0328 | NA | NA |
| STRBP | 9 | -0.111 | 0.0329 | NA | NA |
| XKR9 | 8 | -0.110 | 0.0329 | NA | NA |
| IGLC7 | 22 | 0.110 | 0.0329 | NA | NA |
| ADRB1 | 10 | -0.110 | 0.0329 | NA | NA |
| SLC25A26 | 3 | -0.110 | 0.0329 | NA | NA |
| HCAR2 | 12 | 0.110 | 0.0330 | NA | NA |
| TANC2 | 17 | -0.110 | 0.0331 | NA | NA |

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|-------------|----|--------|--------|--------|----------|
| RPS2P46 | 17 | -0.110 | 0.0331 | NA | NA |
| VCL | 10 | 0.110 | 0.0331 | 0.168 | 0.0143 |
| PHLPP1 | 18 | -0.110 | 0.0332 | NA | NA |
| SUGP2 | 19 | -0.110 | 0.0332 | NA | NA |
| UBE2MP1 | 16 | -0.110 | 0.0332 | NA | NA |
| MSTO2P | 1 | -0.110 | 0.0333 | NA | NA |
| PCTP | 17 | -0.110 | 0.0333 | 0.036 | 0.6047 |
| MBD2 | 18 | -0.110 | 0.0334 | 0.285 | 2.72E-05 |
| KIN | 10 | 0.110 | 0.0335 | 0.190 | 0.0057 |
| YBEY | 21 | -0.110 | 0.0336 | NA | NA |
| TMEM200A | 6 | 0.110 | 0.0336 | NA | NA |
| POU5F1P4 | 1 | 0.110 | 0.0337 | NA | NA |
| IGLC3 | 22 | 0.110 | 0.0338 | NA | NA |
| RPL37P23 | 19 | 0.110 | 0.0339 | NA | NA |
| ANAPC1 | 2 | -0.110 | 0.0340 | 0.003 | 0.9644 |
| PPP1R11P1 | 1 | 0.110 | 0.0341 | NA | NA |
| RPS20P24 | 9 | 0.110 | 0.0341 | NA | NA |
| IFNG | 12 | -0.110 | 0.0343 | -0.138 | 0.0459 |
| TTC38 | 22 | -0.110 | 0.0343 | NA | NA |
| CNR1 | 6 | 0.110 | 0.0344 | -0.201 | 0.0034 |
| FAM212B-AS1 | 1 | -0.110 | 0.0344 | NA | NA |
| NACAP3 | 12 | 0.109 | 0.0346 | NA | NA |
| C10orf128 | 10 | 0.109 | 0.0346 | NA | NA |
| DARS-AS1 | 2 | 0.109 | 0.0346 | NA | NA |
| AMZ2P1 | 17 | -0.109 | 0.0347 | NA | NA |
| KLF13 | 15 | 0.109 | 0.0348 | NA | NA |
| NPM1P22 | 13 | 0.109 | 0.0348 | NA | NA |
| SLC44A1 | 9 | 0.109 | 0.0348 | NA | NA |
| RIT1 | 1 | 0.109 | 0.0348 | 0.069 | 0.3197 |
| SRIP3 | Y | -0.109 | 0.0350 | NA | NA |
| RAPGEF1 | 9 | 0.109 | 0.0350 | 0.111 | 0.1076 |
| CAPN2 | 1 | 0.109 | 0.0350 | 0.427 | 8.87E-11 |
| RCL1 | 9 | -0.109 | 0.0351 | -0.306 | 5.99E-06 |
| C1orf162 | 1 | 0.109 | 0.0351 | NA | NA |
| ZNF135 | 19 | -0.109 | 0.0351 | NA | NA |
| SERBP1P5 | 4 | -0.109 | 0.0352 | NA | NA |
| AIM2 | 1 | 0.109 | 0.0352 | -0.047 | 0.4947 |
| POC1A | 3 | -0.109 | 0.0352 | NA | NA |
| TMEM67 | 8 | -0.109 | 0.0353 | NA | NA |
| FA2H | 16 | 0.109 | 0.0353 | NA | NA |
| FAM3C | 7 | -0.109 | 0.0353 | -0.282 | 3.17E-05 |
| DDN | 12 | 0.109 | 0.0354 | NA | NA |
| SLAMF1 | 1 | 0.109 | 0.0354 | 0.171 | 0.0129 |
| FAM199X | X | -0.109 | 0.0355 | NA | NA |
| TMEM107 | 17 | -0.109 | 0.0355 | NA | NA |
| RPL6P27 | 18 | -0.109 | 0.0355 | NA | NA |

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|----------|----|--------|--------|--------|----------|
| DEAF1 | 11 | 0.109 | 0.0357 | NA | NA |
| FAM129B | 9 | -0.109 | 0.0357 | NA | NA |
| RGS19 | 20 | -0.109 | 0.0358 | 0.300 | 9.45E-06 |
| QPCT | 2 | -0.109 | 0.0358 | 0.442 | 1.64E-11 |
| STK17B | 2 | -0.109 | 0.0359 | 0.402 | 1.38E-09 |
| ATG13 | 11 | -0.109 | 0.0361 | NA | NA |
| NME9 | 3 | -0.109 | 0.0361 | NA | NA |
| HNRNPLP1 | 6 | 0.109 | 0.0361 | NA | NA |
| RNF24 | 20 | -0.109 | 0.0362 | 0.175 | 0.0109 |
| Sep-10 | 2 | 0.109 | 0.0362 | NA | NA |
| PTOV1 | 19 | -0.108 | 0.0363 | -0.083 | 0.2314 |
| ALG13 | X | 0.108 | 0.0365 | -0.064 | 0.3571 |
| FAM219A | 9 | 0.108 | 0.0365 | NA | NA |
| NPM1P46 | 2 | 0.108 | 0.0366 | NA | NA |
| NLK | 17 | 0.108 | 0.0367 | -0.167 | 0.0150 |
| CD44 | 11 | 0.108 | 0.0367 | 0.472 | 4.27E-13 |
| NOL8P1 | 4 | 0.108 | 0.0367 | NA | NA |
| ELL | 19 | -0.108 | 0.0367 | NA | NA |
| JUP | 17 | 0.108 | 0.0369 | -0.068 | 0.3242 |
| CYBRD1 | 2 | -0.108 | 0.0370 | -0.152 | 0.0272 |
| FTSJ2 | 7 | -0.108 | 0.0370 | 0.187 | 0.0065 |
| PRKRIRP3 | 10 | -0.108 | 0.0371 | NA | NA |
| ZNF277 | 7 | 0.108 | 0.0371 | NA | NA |
| IPO7 | 11 | 0.108 | 0.0371 | 0.139 | 0.0435 |
| SHOC2 | 10 | -0.108 | 0.0373 | 0.013 | 0.8561 |
| ZNF653 | 19 | 0.108 | 0.0375 | NA | NA |
| HCFC1R1 | 16 | 0.108 | 0.0376 | -0.101 | 0.1427 |
| AFG3L2P1 | 8 | -0.108 | 0.0376 | NA | NA |
| RPL15P20 | 16 | 0.108 | 0.0376 | NA | NA |
| KCNA1 | 12 | -0.108 | 0.0377 | NA | NA |
| RHOBTB3 | 5 | -0.108 | 0.0377 | -0.365 | 4.75E-08 |
| IGLC2 | 22 | 0.108 | 0.0378 | NA | NA |
| TNKS2 | 10 | -0.108 | 0.0379 | 0.266 | 9.13E-05 |
| LRFN4 | 11 | 0.108 | 0.0380 | NA | NA |
| PHB2 | 12 | 0.107 | 0.0380 | 0.028 | 0.6889 |
| SPTLC1P5 | 13 | -0.107 | 0.0380 | NA | NA |
| RPL3P10 | 8 | 0.107 | 0.0380 | NA | NA |
| TBCA | 5 | 0.107 | 0.0381 | 0.141 | 0.0411 |
| GAPDHP69 | 13 | 0.107 | 0.0381 | NA | NA |
| SREK1IP1 | 5 | 0.107 | 0.0382 | NA | NA |
| AUH | 9 | -0.107 | 0.0383 | -0.156 | 0.0235 |
| SLC16A1 | 1 | 0.107 | 0.0383 | -0.171 | 0.0128 |
| PUS7 | 7 | 0.107 | 0.0384 | -0.043 | 0.5362 |
| KCNMB3P1 | 22 | -0.107 | 0.0384 | NA | NA |
| PIGBOS1 | 15 | -0.107 | 0.0385 | NA | NA |
| UBA52P3 | 14 | 0.107 | 0.0386 | NA | NA |

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|------------|----|--------|--------|--------|----------|
| KIAA1462 | 10 | 0.107 | 0.0386 | -0.273 | 5.79E-05 |
| PLEK | 2 | 0.107 | 0.0388 | -0.151 | 0.0287 |
| RPL7L1P9 | 2 | 0.107 | 0.0389 | NA | NA |
| MAF1 | 8 | -0.107 | 0.0389 | NA | NA |
| SLC3A2 | 11 | -0.107 | 0.0392 | 0.081 | 0.2423 |
| MORF4L1 | 15 | -0.107 | 0.0393 | 0.055 | 0.4297 |
| MTRF1LP1 | 11 | 0.107 | 0.0393 | NA | NA |
| MTX1P1 | 1 | -0.107 | 0.0393 | NA | NA |
| MGST3 | 1 | 0.107 | 0.0394 | 0.048 | 0.4867 |
| RPS12P26 | 15 | 0.107 | 0.0394 | NA | NA |
| HGS | 17 | -0.107 | 0.0395 | 0.045 | 0.5193 |
| RPL31P63 | X | 0.107 | 0.0396 | NA | NA |
| FANCM | 14 | -0.106 | 0.0398 | NA | NA |
| SPATA3-AS1 | 2 | 0.106 | 0.0398 | NA | NA |
| PPP2R4 | 9 | 0.106 | 0.0399 | -0.021 | 0.7669 |
| MTND2P28 | 1 | -0.106 | 0.0399 | NA | NA |
| AKR1B1P1 | 1 | -0.106 | 0.0399 | NA | NA |
| KBTBD8 | 3 | 0.106 | 0.0400 | NA | NA |
| RBMX2 | X | -0.106 | 0.0400 | 0.146 | 0.0337 |
| SMG1P4 | 16 | -0.106 | 0.0401 | NA | NA |
| SOCS2 | 12 | 0.106 | 0.0403 | -0.267 | 8.84E-05 |
| RNF180 | 5 | 0.106 | 0.0403 | NA | NA |
| AAGAB | 15 | -0.106 | 0.0404 | NA | NA |
| HOXB3 | 17 | 0.106 | 0.0405 | -0.128 | 0.0635 |
| SEPT10P1 | 8 | 0.106 | 0.0407 | NA | NA |
| YKT6 | 7 | -0.106 | 0.0407 | 0.160 | 0.0202 |
| HECA | 6 | -0.106 | 0.0409 | 0.247 | 0.0003 |
| MDFIC | 7 | 0.106 | 0.0410 | 0.289 | 2.04E-05 |
| ZIK1 | 19 | -0.106 | 0.0411 | NA | NA |
| CYSLTR1 | X | 0.106 | 0.0411 | -0.115 | 0.0953 |
| SLC2A3P4 | 8 | 0.106 | 0.0412 | NA | NA |
| STARD13 | 13 | 0.106 | 0.0414 | -0.008 | 0.9067 |
| RPL34P18 | 8 | 0.106 | 0.0414 | NA | NA |
| PIFO | 1 | -0.106 | 0.0415 | NA | NA |
| GMEB1 | 1 | 0.106 | 0.0415 | NA | NA |
| FBXL5 | 4 | -0.106 | 0.0415 | 0.401 | 1.51E-09 |
| MIB1 | 18 | -0.106 | 0.0415 | NA | NA |
| RAPGEF5 | 7 | 0.106 | 0.0416 | NA | NA |
| C9orf41 | 9 | -0.106 | 0.0417 | NA | NA |
| FOXN3P1 | X | 0.106 | 0.0417 | NA | NA |
| SLC41A2 | 12 | 0.105 | 0.0419 | NA | NA |
| MGAT3 | 22 | 0.105 | 0.0419 | NA | NA |
| TPRG1 | 3 | 0.105 | 0.0419 | NA | NA |
| GEMIN8P4 | 1 | -0.105 | 0.0420 | NA | NA |
| TGM2 | 20 | 0.105 | 0.0420 | -0.121 | 0.0786 |
| SH3PXD2B | 5 | 0.105 | 0.0420 | NA | NA |

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|------------|----|--------|--------|--------|----------|
| PCSK4 | 19 | -0.105 | 0.0422 | NA | NA |
| HIPK1-AS1 | 1 | 0.105 | 0.0422 | NA | NA |
| DTX1 | 12 | -0.105 | 0.0422 | NA | NA |
| HSPD1P6 | 3 | 0.105 | 0.0422 | NA | NA |
| HMG2P3 | 16 | -0.105 | 0.0422 | NA | NA |
| JMJD4 | 1 | -0.105 | 0.0422 | -0.078 | 0.2564 |
| FAM91A3P | 1 | -0.105 | 0.0423 | NA | NA |
| FANCF | 11 | 0.105 | 0.0423 | -0.029 | 0.6732 |
| SLC30A7 | 1 | -0.105 | 0.0424 | NA | NA |
| SH3KBP1 | X | 0.105 | 0.0425 | NA | NA |
| OSBPL7 | 17 | -0.105 | 0.0425 | NA | NA |
| RPS15AP38 | 22 | 0.105 | 0.0425 | NA | NA |
| FABP3 | 1 | 0.105 | 0.0425 | 0.000 | 0.9964 |
| IGSF10 | 3 | 0.105 | 0.0426 | NA | NA |
| NID1 | 1 | -0.105 | 0.0426 | 0.367 | 3.92E-08 |
| TULP2 | 19 | 0.105 | 0.0427 | NA | NA |
| UNC13D | 17 | -0.105 | 0.0427 | NA | NA |
| TMEM129 | 4 | -0.105 | 0.0428 | NA | NA |
| SURF4 | 9 | -0.105 | 0.0428 | NA | NA |
| ACTBP11 | 1 | -0.105 | 0.0430 | NA | NA |
| MRPL39 | 21 | -0.105 | 0.0431 | -0.006 | 0.9294 |
| HHLA2 | 3 | 0.105 | 0.0435 | NA | NA |
| VPS36 | 13 | -0.105 | 0.0435 | NA | NA |
| AQP9 | 15 | 0.105 | 0.0435 | 0.436 | 3.37E-11 |
| CARM1 | 19 | 0.105 | 0.0436 | -0.074 | 0.2841 |
| GRHPR | 9 | 0.105 | 0.0436 | 0.008 | 0.9104 |
| TUBBP2 | 13 | -0.105 | 0.0437 | NA | NA |
| SLC16A7 | 12 | -0.104 | 0.0437 | 0.260 | 0.0001 |
| POU5F1P3 | 12 | 0.104 | 0.0439 | NA | NA |
| RPL7P59 | 7 | 0.104 | 0.0439 | NA | NA |
| RPL3P6 | 5 | 0.104 | 0.0440 | NA | NA |
| ATIC | 2 | 0.104 | 0.0440 | -0.090 | 0.1950 |
| EFNA4 | 1 | 0.104 | 0.0441 | -0.151 | 0.0288 |
| CYP1B1-AS1 | 2 | 0.104 | 0.0441 | NA | NA |
| IGSF8 | 1 | 0.104 | 0.0442 | NA | NA |
| PDE4C | 19 | -0.104 | 0.0442 | 0.043 | 0.5300 |
| FAM27C | 9 | 0.104 | 0.0442 | NA | NA |
| NPM1P21 | 8 | 0.104 | 0.0442 | NA | NA |
| ZDBF2 | 2 | -0.104 | 0.0444 | NA | NA |
| TRIO | 5 | 0.104 | 0.0444 | -0.153 | 0.0266 |
| GOLGA6L9 | 15 | -0.104 | 0.0446 | NA | NA |
| MAD1L1 | 7 | -0.104 | 0.0446 | NA | NA |
| MFSD6 | 2 | -0.104 | 0.0446 | NA | NA |
| LINC01320 | 2 | 0.104 | 0.0447 | NA | NA |
| KIAA1524 | 3 | -0.104 | 0.0448 | NA | NA |
| CLIP2 | 7 | 0.104 | 0.0448 | NA | NA |

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|------------|----|--------|--------|--------|----------|
| LMTK2 | 7 | 0.104 | 0.0448 | -0.100 | 0.1479 |
| BIN2 | 12 | 0.104 | 0.0449 | 0.322 | 1.79E-06 |
| SCIN | 7 | 0.104 | 0.0450 | 0.019 | 0.7793 |
| BTK | X | 0.104 | 0.0450 | -0.085 | 0.2162 |
| IRF3 | 19 | -0.104 | 0.0450 | 0.065 | 0.3448 |
| PET117 | 20 | -0.104 | 0.0451 | NA | NA |
| FIRRE | X | 0.104 | 0.0453 | NA | NA |
| CDC14B | 9 | 0.104 | 0.0453 | 0.076 | 0.2709 |
| TMEM263 | 12 | -0.104 | 0.0454 | NA | NA |
| CHCHD5 | 2 | -0.104 | 0.0454 | NA | NA |
| NDUFAF3 | 3 | 0.104 | 0.0454 | NA | NA |
| FOXM1 | 12 | -0.104 | 0.0455 | -0.101 | 0.1452 |
| CDKN2D | 19 | 0.104 | 0.0456 | -0.044 | 0.5237 |
| PRR11 | 17 | -0.104 | 0.0456 | 0.011 | 0.8772 |
| PDE4B | 1 | 0.104 | 0.0456 | 0.212 | 0.0020 |
| MIA | 19 | 0.103 | 0.0458 | NA | NA |
| POU5F1 | 6 | 0.103 | 0.0458 | 0.067 | 0.3357 |
| FRMD8 | 11 | -0.103 | 0.0459 | NA | NA |
| NUDT16L1 | 16 | -0.103 | 0.0460 | NA | NA |
| PSMD6 | 3 | -0.103 | 0.0460 | 0.094 | 0.1721 |
| ERCC5 | 13 | -0.103 | 0.0460 | 0.216 | 0.0016 |
| SRP68P3 | 17 | 0.103 | 0.0461 | NA | NA |
| ATP5G3 | 2 | -0.103 | 0.0461 | 0.066 | 0.3431 |
| MED21 | 12 | 0.103 | 0.0462 | NA | NA |
| CD200 | 3 | 0.103 | 0.0462 | -0.319 | 2.23E-06 |
| GPX4 | 19 | 0.103 | 0.0463 | 0.019 | 0.7831 |
| MYLK-AS1 | 3 | 0.103 | 0.0463 | NA | NA |
| NECAB1 | 8 | 0.103 | 0.0463 | NA | NA |
| BAX | 19 | -0.103 | 0.0463 | 0.226 | 0.0010 |
| LMCD1 | 3 | 0.103 | 0.0463 | NA | NA |
| MPRIPP1 | 3 | -0.103 | 0.0464 | NA | NA |
| RAB18 | 10 | -0.103 | 0.0464 | NA | NA |
| PYCARD-AS1 | 16 | 0.103 | 0.0464 | NA | NA |
| ST13P6 | 8 | -0.103 | 0.0464 | NA | NA |
| CTTNBP2NL | 1 | 0.103 | 0.0466 | 0.022 | 0.7501 |
| HMGB1P4 | 2 | 0.103 | 0.0467 | NA | NA |
| TNFAIP6 | 2 | 0.103 | 0.0469 | 0.224 | 0.0011 |
| CCNA2 | 4 | -0.103 | 0.0469 | -0.222 | 0.0012 |
| BCO1 | 16 | 0.103 | 0.0470 | NA | NA |
| C1orf106 | 1 | 0.103 | 0.0470 | NA | NA |
| KIAA1671 | 22 | 0.103 | 0.0470 | NA | NA |
| GLDCP1 | 4 | 0.103 | 0.0471 | NA | NA |
| ZNF195 | 11 | 0.103 | 0.0472 | -0.067 | 0.3301 |
| TMEM237 | 2 | 0.103 | 0.0473 | NA | NA |
| KIF9-AS1 | 3 | -0.103 | 0.0475 | NA | NA |
| ZNF568 | 19 | -0.103 | 0.0475 | NA | NA |

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|-----------|----|--------|--------|--------|----------|
| PCAT6 | 1 | -0.103 | 0.0476 | NA | NA |
| HSD17B4 | 5 | -0.103 | 0.0476 | 0.116 | 0.0941 |
| HKR1 | 19 | -0.103 | 0.0476 | NA | NA |
| DEK | 6 | -0.103 | 0.0476 | 0.048 | 0.4898 |
| RHBDL1 | 16 | -0.103 | 0.0477 | NA | NA |
| TADA2B | 4 | -0.103 | 0.0477 | NA | NA |
| EEF1E1 | 6 | 0.103 | 0.0477 | -0.008 | 0.9067 |
| PRKCDBP | 11 | 0.103 | 0.0477 | NA | NA |
| CEP128 | 14 | 0.103 | 0.0477 | NA | NA |
| MTMR9 | 8 | -0.103 | 0.0478 | 0.269 | 7.79E-05 |
| ANKRD29 | 18 | 0.102 | 0.0479 | NA | NA |
| ANXA2P1 | 4 | 0.102 | 0.0480 | 0.058 | 0.4044 |
| RIPK2 | 8 | 0.102 | 0.0480 | 0.030 | 0.6632 |
| H3F3A | 1 | 0.102 | 0.0480 | -0.063 | 0.3640 |
| ABCD2 | 12 | 0.102 | 0.0481 | 0.140 | 0.0417 |
| APEX2 | X | -0.102 | 0.0481 | NA | NA |
| SRGN | 10 | 0.102 | 0.0482 | NA | NA |
| RPL21P134 | X | -0.102 | 0.0482 | NA | NA |
| CD47 | 3 | -0.102 | 0.0482 | 0.119 | 0.0855 |
| GAB1 | 4 | 0.102 | 0.0482 | -0.286 | 2.44E-05 |
| SIRPA | 20 | 0.102 | 0.0483 | 0.395 | 2.60E-09 |
| TMCO1 | 1 | 0.102 | 0.0483 | 0.153 | 0.0260 |
| STMN3 | 20 | 0.102 | 0.0484 | NA | NA |
| RPL34P33 | 19 | 0.102 | 0.0485 | NA | NA |
| MED13L | 12 | 0.102 | 0.0485 | NA | NA |
| ARHGAP11B | 15 | -0.102 | 0.0486 | NA | NA |
| NOTCH2 | 1 | 0.102 | 0.0486 | 0.258 | 0.0002 |
| SMARCE1P6 | 2 | 0.102 | 0.0486 | NA | NA |
| ACSL3 | 2 | -0.102 | 0.0487 | 0.084 | 0.2269 |
| ZNF816 | 19 | 0.102 | 0.0487 | NA | NA |
| NPM1P19 | 20 | 0.102 | 0.0487 | NA | NA |
| LDHAP2 | 1 | 0.102 | 0.0488 | NA | NA |
| DAAM2 | 6 | 0.102 | 0.0488 | NA | NA |
| CBX3P1 | 11 | 0.102 | 0.0490 | NA | NA |
| SETD3 | 14 | -0.102 | 0.0490 | 0.194 | 0.0046 |
| DGKZP1 | 13 | -0.102 | 0.0490 | NA | NA |
| HMGB3P24 | 9 | -0.102 | 0.0491 | NA | NA |
| UBA7 | 3 | -0.102 | 0.0491 | NA | NA |
| PLEKHG2 | 19 | 0.102 | 0.0492 | NA | NA |
| FAM227B | 15 | -0.102 | 0.0492 | NA | NA |
| COPB1 | 11 | -0.102 | 0.0493 | 0.171 | 0.0130 |
| PHF10 | 6 | 0.102 | 0.0493 | 0.244 | 0.0004 |
| KISS1R | 19 | 0.102 | 0.0495 | NA | NA |
| NTNG2 | 9 | 0.102 | 0.0495 | NA | NA |
| GPR34 | X | 0.102 | 0.0495 | NA | NA |
| PTPRO | 12 | 0.102 | 0.0495 | 0.389 | 4.97E-09 |

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|------------|----|--------|--------|--------|----------|
| TLR4 | 9 | 0.102 | 0.0495 | 0.380 | 1.22E-08 |
| CMC2 | 16 | -0.102 | 0.0495 | NA | NA |
| PLD4 | 14 | 0.102 | 0.0495 | NA | NA |
| ZBED3 | 5 | 0.102 | 0.0496 | NA | NA |
| TFR2 | 7 | -0.102 | 0.0496 | -0.352 | 1.45E-07 |
| PTMAP4 | 12 | 0.102 | 0.0497 | NA | NA |
| TMED4 | 7 | -0.102 | 0.0497 | NA | NA |
| ATG16L2 | 11 | -0.102 | 0.0497 | NA | NA |
| KIF4A | X | -0.102 | 0.0498 | -0.238 | 0.0005 |
| LRP10 | 14 | -0.102 | 0.0498 | 0.105 | 0.1277 |
| ZNF25 | 10 | -0.102 | 0.0499 | NA | NA |
| AP1S3 | 2 | -0.102 | 0.0500 | NA | NA |
| UPB1 | 22 | 0.102 | 0.0500 | NA | NA |
| LMAN1 | 18 | -0.102 | 0.0500 | -0.087 | 0.2105 |
| ZFP36L1 | 14 | -0.102 | 0.0500 | 0.341 | 3.69E-07 |
| PTPRC | 1 | 0.102 | 0.0501 | 0.308 | 5.18E-06 |
| EIF3LP1 | 14 | -0.102 | 0.0501 | NA | NA |
| FAM129A | 1 | 0.102 | 0.0501 | 0.337 | 5.49E-07 |
| AMD1 | 6 | -0.101 | 0.0502 | -0.120 | 0.0830 |
| BOLA3-AS1 | 2 | 0.101 | 0.0503 | NA | NA |
| GLE1 | 9 | -0.101 | 0.0504 | NA | NA |
| ZNF264 | 19 | -0.101 | 0.0506 | 0.193 | 0.0049 |
| PCGF3 | 4 | 0.101 | 0.0506 | 0.127 | 0.0657 |
| SERTAD2 | 2 | 0.101 | 0.0506 | -0.011 | 0.8747 |
| NFE2L3 | 7 | 0.101 | 0.0507 | 0.119 | 0.0833 |
| MLLT3 | 9 | -0.101 | 0.0507 | -0.120 | 0.0826 |
| IGLV1-44 | 22 | 0.101 | 0.0507 | NA | NA |
| RPS18P13 | 19 | 0.101 | 0.0508 | NA | NA |
| ACSL5 | 10 | 0.101 | 0.0508 | 0.221 | 0.0013 |
| ZNF611 | 19 | -0.101 | 0.0509 | 0.031 | 0.6578 |
| TPT1P6 | 6 | 0.101 | 0.0509 | NA | NA |
| SELPLG | 12 | 0.101 | 0.0509 | 0.515 | 1.11E-15 |
| MICU1 | 10 | 0.101 | 0.0510 | NA | NA |
| CLPB | 11 | -0.101 | 0.0510 | NA | NA |
| TMED6 | 16 | -0.101 | 0.0511 | NA | NA |
| PTPN1 | 20 | 0.101 | 0.0513 | 0.168 | 0.0149 |
| PHBP11 | 1 | 0.101 | 0.0513 | NA | NA |
| ANXA3 | 4 | 0.101 | 0.0514 | 0.061 | 0.3788 |
| DLGAP1-AS2 | 18 | 0.101 | 0.0516 | NA | NA |
| RALGPS2 | 1 | 0.101 | 0.0517 | -0.170 | 0.0133 |
| SCAP | 3 | -0.101 | 0.0517 | 0.073 | 0.2923 |
| C11orf63 | 11 | 0.101 | 0.0519 | 0.082 | 0.2373 |
| RPS6KA5 | 14 | 0.101 | 0.0519 | 0.237 | 0.0005 |
| CASP9 | 1 | -0.101 | 0.0519 | 0.033 | 0.6386 |
| FBXW7 | 4 | 0.101 | 0.0519 | 0.279 | 4.01E-05 |
| EP300 | 22 | 0.101 | 0.0519 | 0.186 | 0.0067 |

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|-----------|----|--------|--------|--------|----------|
| TBL3 | 16 | -0.101 | 0.0519 | NA | NA |
| SYNPO2 | 4 | -0.101 | 0.0520 | -0.001 | 0.9840 |
| ZNF736 | 7 | -0.101 | 0.0520 | NA | NA |
| QPRT | 16 | -0.101 | 0.0520 | NA | NA |
| CCDC13 | 3 | 0.101 | 0.0521 | NA | NA |
| RPL23 | 17 | -0.101 | 0.0522 | 0.038 | 0.5856 |
| LEAP2 | 5 | 0.101 | 0.0522 | NA | NA |
| ACTL10 | 20 | -0.101 | 0.0523 | NA | NA |
| ANKS3 | 16 | -0.101 | 0.0524 | NA | NA |
| DGKE | 17 | -0.101 | 0.0524 | -0.007 | 0.9231 |
| SORT1 | 1 | -0.100 | 0.0525 | 0.403 | 1.26E-09 |
| SMEK1 | 14 | -0.100 | 0.0525 | 0.216 | 0.0016 |
| ABRACL | 6 | -0.100 | 0.0526 | NA | NA |
| NPM1P6 | 8 | -0.100 | 0.0526 | NA | NA |
| AICDA | 12 | 0.100 | 0.0526 | NA | NA |
| B3GNTL1 | 17 | 0.100 | 0.0528 | NA | NA |
| TROAP | 12 | -0.100 | 0.0529 | NA | NA |
| WDFY2 | 13 | 0.100 | 0.0529 | NA | NA |
| RAB42P1 | 14 | 0.100 | 0.0529 | NA | NA |
| NOP9 | 14 | -0.100 | 0.0530 | NA | NA |
| ZNF324B | 19 | -0.100 | 0.0531 | NA | NA |
| ARPC3 | 12 | 0.100 | 0.0531 | 0.307 | 5.62E-06 |
| ZWILCH | 15 | -0.100 | 0.0533 | -0.305 | 6.66E-06 |
| EEF1A1P25 | 3 | 0.100 | 0.0533 | NA | NA |
| ARHGEF7 | 13 | -0.100 | 0.0533 | 0.113 | 0.1030 |
| FLOT2 | 17 | 0.100 | 0.0535 | 0.200 | 0.0034 |
| LINC00426 | 13 | 0.100 | 0.0535 | NA | NA |
| HMGA1P3 | 12 | 0.100 | 0.0535 | NA | NA |
| SEMA7A | 15 | -0.100 | 0.0537 | NA | NA |
| LCMT1-AS2 | 16 | -0.100 | 0.0539 | NA | NA |
| DROSHA | 5 | -0.100 | 0.0540 | NA | NA |
| GAPDHP1 | X | -0.100 | 0.0540 | NA | NA |
| MYBPC2 | 19 | 0.100 | 0.0540 | NA | NA |
| FAM72A | 1 | -0.100 | 0.0541 | NA | NA |
| RPS3AP22 | 5 | 0.100 | 0.0542 | NA | NA |
| SRIP2 | X | -0.100 | 0.0543 | NA | NA |
| CLK1 | 2 | 0.100 | 0.0544 | 0.122 | 0.0759 |
| GNPNAT1 | 14 | -0.100 | 0.0544 | NA | NA |
| CCNE1 | 19 | -0.100 | 0.0544 | -0.090 | 0.1908 |
| MAP3K15 | X | 0.100 | 0.0544 | 0.019 | 0.7840 |
| KHSRP | 19 | -0.100 | 0.0544 | 0.010 | 0.8828 |
| ARAP1 | 11 | -0.100 | 0.0544 | NA | NA |
| TBXAS1 | 7 | 0.100 | 0.0546 | 0.295 | 1.36E-05 |
| TMEM109 | 11 | 0.100 | 0.0546 | 0.085 | 0.2197 |
| KT112 | 1 | -0.100 | 0.0546 | NA | NA |
| C16orf13 | 16 | -0.100 | 0.0547 | NA | NA |

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|------------|----|--------|--------|--------|----------|
| HAUS1P1 | 5 | 0.100 | 0.0547 | NA | NA |
| SHB | 9 | 0.100 | 0.0547 | 0.071 | 0.3069 |
| SYTL3 | 6 | -0.100 | 0.0548 | NA | NA |
| PARP14 | 3 | 0.100 | 0.0549 | NA | NA |
| HCP5 | 6 | 0.099 | 0.0549 | NA | NA |
| RPL17P43 | 17 | 0.099 | 0.0549 | NA | NA |
| ITGA6 | 2 | 0.099 | 0.0549 | 0.115 | 0.0966 |
| PCP4L1 | 1 | 0.099 | 0.0550 | NA | NA |
| KDM2A | 11 | 0.099 | 0.0550 | NA | NA |
| TEKT4 | 2 | -0.099 | 0.0550 | NA | NA |
| AFTPH | 2 | -0.099 | 0.0551 | 0.148 | 0.0316 |
| ALDOC | 17 | -0.099 | 0.0552 | -0.076 | 0.2749 |
| PPP1R21 | 2 | -0.099 | 0.0553 | NA | NA |
| KIF23 | 15 | -0.099 | 0.0553 | NA | NA |
| ATP1A1-AS1 | 1 | 0.099 | 0.0554 | NA | NA |
| IFIH1 | 2 | 0.099 | 0.0554 | 0.236 | 0.0005 |
| ELMO1 | 7 | 0.099 | 0.0555 | 0.057 | 0.4063 |
| GATAD2B | 1 | -0.099 | 0.0556 | NA | NA |
| DIABLO | 12 | 0.099 | 0.0558 | 0.093 | 0.1795 |
| DDB2 | 11 | -0.099 | 0.0558 | 0.152 | 0.0276 |
| SRSF6 | 20 | -0.099 | 0.0560 | NA | NA |
| FLI1 | 11 | 0.099 | 0.0560 | 0.159 | 0.0211 |
| STK40 | 1 | -0.099 | 0.0560 | NA | NA |
| VN1R1 | 19 | -0.099 | 0.0561 | NA | NA |
| RASSF7 | 11 | 0.099 | 0.0562 | 0.094 | 0.1739 |
| RPS2P4 | 14 | -0.099 | 0.0562 | NA | NA |
| DDX3X | X | -0.099 | 0.0563 | 0.041 | 0.5520 |
| ADAM19 | 5 | 0.099 | 0.0564 | 0.205 | 0.0028 |
| CUL5 | 11 | -0.099 | 0.0564 | 0.156 | 0.0237 |
| MRPS36P1 | 3 | -0.099 | 0.0566 | NA | NA |
| EFNA5 | 5 | 0.099 | 0.0567 | NA | NA |
| C6orf136 | 6 | -0.099 | 0.0568 | NA | NA |
| IGLC1 | 22 | 0.099 | 0.0568 | NA | NA |
| NET1 | 10 | -0.099 | 0.0569 | -0.097 | 0.1595 |
| ERBB2 | 17 | -0.099 | 0.0569 | -0.175 | 0.0109 |
| MRPL51 | 12 | -0.099 | 0.0570 | NA | NA |
| EPRS | 1 | -0.099 | 0.0571 | 0.094 | 0.1730 |
| KCMF1 | 2 | -0.099 | 0.0571 | 0.219 | 0.0014 |
| PDE4A | 19 | -0.099 | 0.0572 | 0.309 | 4.62E-06 |
| ZNF565 | 19 | -0.099 | 0.0573 | NA | NA |
| TFAP2A | 6 | 0.099 | 0.0573 | NA | NA |
| MBP | 18 | 0.099 | 0.0573 | 0.242 | 0.0004 |
| CD160 | 1 | -0.098 | 0.0575 | -0.104 | 0.1328 |
| UCK2 | 1 | 0.098 | 0.0575 | -0.255 | 0.0002 |
| BCL2L11 | 2 | -0.098 | 0.0577 | -0.059 | 0.3925 |
| GRAMD1C | 3 | 0.098 | 0.0577 | -0.293 | 1.51E-05 |

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|------------|----|--------|--------|--------|----------|
| AP2A2 | 11 | 0.098 | 0.0577 | 0.126 | 0.0679 |
| NELFA | 4 | 0.098 | 0.0577 | NA | NA |
| DLGAP5 | 14 | -0.098 | 0.0578 | NA | NA |
| HSPA9P1 | 2 | -0.098 | 0.0578 | NA | NA |
| GAPDHP63 | 6 | 0.098 | 0.0579 | NA | NA |
| RPL21P119 | 16 | -0.098 | 0.0580 | NA | NA |
| TRMT5 | 14 | -0.098 | 0.0581 | -0.030 | 0.6609 |
| ATP11A | 13 | 0.098 | 0.0581 | 0.457 | 2.83E-12 |
| BIK | 22 | 0.098 | 0.0581 | 0.101 | 0.1453 |
| LDHAP1 | 4 | 0.098 | 0.0581 | NA | NA |
| PTPN2P1 | 1 | 0.098 | 0.0582 | NA | NA |
| TEC | 4 | -0.098 | 0.0584 | NA | NA |
| STAM-AS1 | 10 | 0.098 | 0.0584 | NA | NA |
| P2RY10 | X | -0.098 | 0.0585 | 0.051 | 0.4582 |
| PCOLCE | 7 | -0.098 | 0.0585 | NA | NA |
| DACT3 | 19 | 0.098 | 0.0586 | NA | NA |
| TMEM117 | 12 | 0.098 | 0.0586 | NA | NA |
| FUNDC2 | X | -0.098 | 0.0587 | NA | NA |
| C11orf65 | 11 | -0.098 | 0.0587 | NA | NA |
| ACTG1 | 17 | -0.098 | 0.0587 | 0.214 | 0.0018 |
| STX12 | 1 | 0.098 | 0.0588 | 0.406 | 9.00E-10 |
| BCL2L13 | 22 | 0.098 | 0.0588 | 0.094 | 0.1719 |
| SNX18 | 5 | -0.098 | 0.0588 | NA | NA |
| ZNF134 | 19 | -0.098 | 0.0588 | 0.055 | 0.4243 |
| BRI3 | 7 | 0.098 | 0.0588 | NA | NA |
| HNRNPA1P35 | 2 | 0.098 | 0.0589 | NA | NA |
| PDK2 | 17 | 0.098 | 0.0590 | NA | NA |
| TMEM2 | 9 | -0.098 | 0.0591 | 0.301 | 8.71E-06 |
| SUV39H2 | 10 | -0.098 | 0.0591 | -0.104 | 0.1310 |
| GNA11 | 19 | 0.098 | 0.0591 | -0.086 | 0.2131 |
| STAG3L4 | 7 | -0.098 | 0.0592 | NA | NA |
| C1orf123 | 1 | 0.098 | 0.0592 | 0.203 | 0.0031 |
| PHBP21 | 16 | 0.098 | 0.0593 | NA | NA |
| LBR | 1 | 0.098 | 0.0593 | 0.014 | 0.8433 |
| SLC39A7 | 6 | -0.098 | 0.0594 | 0.012 | 0.8593 |
| SEMA6A-AS1 | 5 | 0.098 | 0.0594 | NA | NA |
| CCSER2 | 10 | 0.098 | 0.0594 | NA | NA |
| SIN3B | 19 | -0.098 | 0.0594 | 0.285 | 2.55E-05 |
| TUBB | 6 | -0.098 | 0.0595 | -0.267 | 8.71E-05 |
| EBNA1BP2 | 1 | 0.098 | 0.0595 | -0.232 | 0.0007 |
| ZNF853 | 7 | -0.098 | 0.0595 | NA | NA |
| REL | 2 | 0.098 | 0.0595 | 0.070 | 0.3122 |
| CCSER1 | 4 | -0.098 | 0.0596 | NA | NA |
| PABPC1P4 | 12 | 0.098 | 0.0596 | NA | NA |
| CBR3 | 21 | 0.098 | 0.0596 | 0.108 | 0.1187 |
| KIF6 | 6 | 0.098 | 0.0596 | NA | NA |

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|-----------|----|--------|--------|--------|----------|
| TMEM170A | 16 | -0.098 | 0.0598 | NA | NA |
| XPO6 | 16 | -0.098 | 0.0599 | 0.242 | 0.0004 |
| HMG4 | 6 | 0.097 | 0.0600 | 0.208 | 0.0024 |
| ATP5G2 | 12 | -0.097 | 0.0600 | 0.068 | 0.3221 |
| BBS10 | 12 | 0.097 | 0.0600 | 0.090 | 0.1952 |
| MCTP2 | 15 | -0.097 | 0.0601 | -0.374 | 2.04E-08 |
| PPP2R5C | 14 | 0.097 | 0.0601 | 0.201 | 0.0034 |
| FAM49B | 8 | -0.097 | 0.0603 | 0.202 | 0.0032 |
| ERICH3 | 1 | -0.097 | 0.0603 | NA | NA |
| E2F2 | 1 | 0.097 | 0.0604 | -0.169 | 0.0141 |
| RNPS1 | 16 | -0.097 | 0.0604 | 0.014 | 0.8357 |
| TCEB2P2 | 11 | 0.097 | 0.0604 | NA | NA |
| NDUFA10 | 2 | -0.097 | 0.0604 | 0.164 | 0.0175 |
| ARHGEF1 | 19 | -0.097 | 0.0606 | 0.290 | 1.88E-05 |
| KRT18P34 | 3 | -0.097 | 0.0606 | NA | NA |
| PRKAA1 | 5 | -0.097 | 0.0607 | -0.010 | 0.8836 |
| MTND1P23 | 1 | -0.097 | 0.0607 | NA | NA |
| DHX8 | 17 | -0.097 | 0.0608 | 0.263 | 0.0001 |
| RPL21P2 | 20 | 0.097 | 0.0609 | NA | NA |
| ANKFY1 | 17 | 0.097 | 0.0610 | NA | NA |
| YBX1P1 | 14 | -0.097 | 0.0611 | NA | NA |
| ITGA3 | 17 | 0.097 | 0.0612 | NA | NA |
| PAQR4 | 16 | 0.097 | 0.0613 | NA | NA |
| LAT | 16 | -0.097 | 0.0613 | 0.295 | 1.31E-05 |
| PEG10 | 7 | 0.097 | 0.0613 | -0.236 | 0.0006 |
| PSME2P2 | 13 | 0.097 | 0.0615 | NA | NA |
| RWDD4P2 | 7 | 0.097 | 0.0615 | NA | NA |
| RPEL1 | 10 | 0.097 | 0.0615 | NA | NA |
| RAD54L | 1 | -0.097 | 0.0615 | -0.284 | 2.75E-05 |
| MUC12 | 7 | 0.097 | 0.0616 | NA | NA |
| RCN3 | 19 | 0.097 | 0.0616 | 0.006 | 0.9261 |
| UCLH5 | 1 | -0.097 | 0.0617 | -0.059 | 0.3977 |
| CHID1 | 11 | -0.097 | 0.0617 | NA | NA |
| ECI2 | 6 | -0.097 | 0.0618 | NA | NA |
| DIP2A | 21 | -0.097 | 0.0619 | 0.069 | 0.3181 |
| CDKN2C | 1 | -0.097 | 0.0619 | NA | NA |
| COX6C | 8 | -0.097 | 0.0619 | -0.007 | 0.9174 |
| PRR14L | 22 | 0.097 | 0.0619 | NA | NA |
| CCNC | 6 | -0.097 | 0.0620 | 0.150 | 0.0289 |
| ERHP1 | 7 | 0.097 | 0.0620 | NA | NA |
| EID1 | 15 | 0.097 | 0.0621 | -0.087 | 0.2056 |
| IMPACT | 18 | -0.097 | 0.0622 | 0.101 | 0.1444 |
| LUC7L | 16 | 0.097 | 0.0624 | 0.102 | 0.1411 |
| LINC00937 | 12 | 0.097 | 0.0624 | NA | NA |
| MEST | 7 | 0.097 | 0.0624 | -0.255 | 0.0002 |
| KIF21B | 1 | 0.097 | 0.0625 | 0.158 | 0.0216 |

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|------------|----|--------|--------|--------|----------|
| SNAI3 | 16 | 0.097 | 0.0625 | NA | NA |
| LSP1 | 11 | 0.096 | 0.0627 | 0.369 | 3.29E-08 |
| RIMKLA | 1 | -0.096 | 0.0627 | NA | NA |
| IER5 | 1 | 0.096 | 0.0628 | 0.117 | 0.0897 |
| COL18A1 | 21 | -0.096 | 0.0628 | -0.052 | 0.4515 |
| ANKRD13A | 12 | 0.096 | 0.0628 | NA | NA |
| ZNF674-AS1 | X | 0.096 | 0.0628 | NA | NA |
| ANKRD44 | 2 | 0.096 | 0.0629 | NA | NA |
| PRTFDC1 | 10 | 0.096 | 0.0629 | NA | NA |
| TNFRSF21 | 6 | 0.096 | 0.0630 | -0.249 | 0.0003 |
| KDM3B | 5 | 0.096 | 0.0631 | NA | NA |
| RPS10P3 | 9 | -0.096 | 0.0631 | NA | NA |
| NDUFC1 | 4 | 0.096 | 0.0632 | 0.023 | 0.7409 |
| GRIN2D | 19 | 0.096 | 0.0632 | NA | NA |
| PNMA1 | 14 | 0.096 | 0.0632 | 0.007 | 0.9218 |
| SPARC | 5 | 0.096 | 0.0632 | -0.004 | 0.9577 |
| GPLD1 | 6 | 0.096 | 0.0632 | -0.162 | 0.0187 |
| MRPS18AP1 | 3 | 0.096 | 0.0633 | NA | NA |
| ILDR2 | 1 | 0.096 | 0.0633 | NA | NA |
| HSPE1 | 2 | -0.096 | 0.0634 | -0.048 | 0.4839 |
| ZBTB4 | 17 | -0.096 | 0.0634 | NA | NA |
| DACT1 | 14 | 0.096 | 0.0634 | 0.058 | 0.4025 |
| ZG16B | 16 | -0.096 | 0.0634 | NA | NA |
| C12orf74 | 12 | 0.096 | 0.0636 | NA | NA |
| GIMAP1 | 7 | -0.096 | 0.0637 | NA | NA |
| IMPAD1 | 8 | -0.096 | 0.0637 | NA | NA |
| CCNB2 | 15 | -0.096 | 0.0638 | -0.280 | 3.62E-05 |
| Mar-09 | 12 | 0.096 | 0.0638 | NA | NA |
| CXXC5 | 5 | 0.096 | 0.0639 | NA | NA |
| SLC9A7P1 | 12 | 0.096 | 0.0641 | NA | NA |
| ADAMTS12 | 5 | 0.096 | 0.0643 | NA | NA |
| RSBN1 | 1 | 0.096 | 0.0643 | 0.145 | 0.0358 |
| NAMPTP1 | 10 | 0.096 | 0.0645 | NA | NA |
| APOL2 | 22 | 0.096 | 0.0646 | 0.190 | 0.0057 |
| FAR2 | 12 | -0.096 | 0.0646 | NA | NA |
| TRAF3IP2 | 6 | -0.096 | 0.0647 | -0.072 | 0.2974 |
| TERF1P4 | X | -0.096 | 0.0647 | NA | NA |
| CD83 | 6 | 0.096 | 0.0647 | 0.064 | 0.3542 |
| RASGRP4 | 19 | 0.096 | 0.0648 | NA | NA |
| KPNA3 | 13 | -0.096 | 0.0648 | 0.028 | 0.6852 |
| CCDC18 | 1 | -0.096 | 0.0649 | NA | NA |
| NPM1P25 | 10 | 0.096 | 0.0650 | NA | NA |
| MZT1 | 13 | -0.096 | 0.0650 | NA | NA |
| SPATA9 | 5 | -0.096 | 0.0651 | NA | NA |
| SLC29A2 | 11 | -0.096 | 0.0651 | NA | NA |
| ACPP | 3 | 0.096 | 0.0654 | 0.360 | 7.26E-08 |

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|------------|----|--------|--------|--------|----------|
| FAM171B | 2 | 0.095 | 0.0655 | NA | NA |
| CLSTN3 | 12 | -0.095 | 0.0655 | -0.032 | 0.6390 |
| METTL6 | 3 | -0.095 | 0.0656 | NA | NA |
| ARSG | 17 | -0.095 | 0.0656 | NA | NA |
| AP1S1 | 7 | -0.095 | 0.0658 | 0.048 | 0.4901 |
| MTA3 | 2 | 0.095 | 0.0658 | NA | NA |
| HNRNPA1P51 | 2 | 0.095 | 0.0658 | NA | NA |
| PRKACA | 19 | -0.095 | 0.0659 | 0.451 | 5.45E-12 |
| COG3 | 13 | -0.095 | 0.0659 | NA | NA |
| LILRB4 | 19 | 0.095 | 0.0660 | 0.015 | 0.8341 |
| IFI6 | 1 | 0.095 | 0.0660 | -0.316 | 2.91E-06 |
| SLC9A7 | X | 0.095 | 0.0660 | -0.279 | 3.83E-05 |
| P2RX5 | 17 | 0.095 | 0.0661 | -0.136 | 0.0486 |
| TMEM86B | 19 | -0.095 | 0.0661 | NA | NA |
| ATF7 | 12 | 0.095 | 0.0662 | 0.031 | 0.6571 |
| CCDC51 | 3 | 0.095 | 0.0662 | -0.180 | 0.0088 |
| SH2B1 | 16 | 0.095 | 0.0662 | NA | NA |
| LSM6 | 4 | -0.095 | 0.0664 | 0.219 | 0.0014 |
| RNASE6 | 14 | 0.095 | 0.0665 | 0.242 | 0.0004 |
| ARHGEF38 | 4 | 0.095 | 0.0667 | NA | NA |
| HMGA1P6 | 13 | 0.095 | 0.0667 | NA | NA |
| CLCN5 | X | 0.095 | 0.0668 | 0.132 | 0.0559 |
| SLC30A6 | 2 | 0.095 | 0.0668 | NA | NA |
| H2AFJ | 12 | 0.095 | 0.0669 | -0.168 | 0.0144 |
| GTF2H2 | 5 | -0.095 | 0.0670 | 0.112 | 0.1040 |
| RDH13 | 19 | -0.095 | 0.0670 | NA | NA |
| ASS1 | 9 | -0.095 | 0.0670 | NA | NA |
| ST20 | 15 | 0.095 | 0.0671 | NA | NA |
| FCHSD2 | 11 | 0.095 | 0.0671 | 0.086 | 0.2149 |
| RPS11P5 | 12 | 0.095 | 0.0671 | NA | NA |
| NDNL2 | 15 | -0.095 | 0.0671 | NA | NA |
| RINL | 19 | -0.095 | 0.0672 | NA | NA |
| MAN1A2 | 1 | 0.095 | 0.0672 | 0.150 | 0.0294 |
| NDUFA4L2 | 12 | 0.095 | 0.0673 | NA | NA |
| RITA1 | 12 | -0.095 | 0.0673 | NA | NA |
| RPSAP4 | 14 | 0.095 | 0.0673 | NA | NA |
| TARSL2 | 15 | -0.095 | 0.0673 | NA | NA |
| CD58 | 1 | 0.095 | 0.0674 | 0.175 | 0.0109 |
| RANGAP1 | 22 | -0.095 | 0.0674 | NA | NA |
| MITD1 | 2 | 0.095 | 0.0675 | NA | NA |
| ITIH1 | 3 | -0.095 | 0.0676 | NA | NA |
| CENPN | 16 | -0.095 | 0.0676 | -0.291 | 1.77E-05 |
| ELF4 | X | 0.095 | 0.0676 | 0.360 | 7.77E-08 |
| ACBD5 | 10 | 0.095 | 0.0677 | NA | NA |
| LMTK3 | 19 | -0.095 | 0.0679 | NA | NA |
| H1FX | 3 | 0.095 | 0.0679 | 0.066 | 0.3383 |

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|-----------|----|--------|--------|--------|----------|
| KCTD12 | 13 | 0.095 | 0.0679 | 0.481 | 1.35E-13 |
| COQ10A | 12 | 0.095 | 0.0680 | NA | NA |
| RNF169 | 11 | 0.095 | 0.0680 | NA | NA |
| MAP2K2 | 19 | -0.095 | 0.0680 | -0.100 | 0.1493 |
| RPS23P2 | 4 | 0.095 | 0.0682 | NA | NA |
| UBE2V1 | 20 | -0.095 | 0.0682 | -0.089 | 0.1967 |
| HSP90AB3P | 4 | -0.095 | 0.0683 | NA | NA |
| PIIB | 15 | -0.094 | 0.0683 | -0.061 | 0.3795 |
| RPLP1P6 | 5 | 0.094 | 0.0683 | NA | NA |
| DDT | 22 | 0.094 | 0.0684 | 0.089 | 0.1999 |
| PLEKHG3 | 14 | 0.094 | 0.0687 | NA | NA |
| ARHGAP6 | X | 0.094 | 0.0687 | -0.009 | 0.8946 |
| CTAGE1 | 18 | 0.094 | 0.0689 | NA | NA |
| XPO4 | 13 | -0.094 | 0.0689 | 0.173 | 0.0117 |
| EFNA3 | 1 | -0.094 | 0.0689 | NA | NA |
| RHOA | 1 | 0.094 | 0.0690 | NA | NA |
| PER1 | 17 | -0.094 | 0.0690 | 0.087 | 0.2074 |
| IL18 | 11 | -0.094 | 0.0694 | -0.047 | 0.4981 |
| C3orf67 | 3 | 0.094 | 0.0695 | NA | NA |
| SLC46A1 | 17 | -0.094 | 0.0695 | NA | NA |
| AIM1 | 6 | -0.094 | 0.0695 | 0.393 | 3.41E-09 |
| FLII | 17 | -0.094 | 0.0695 | 0.202 | 0.0031 |
| CCDC85B | 11 | 0.094 | 0.0695 | -0.068 | 0.3291 |
| BRD4 | 19 | -0.094 | 0.0696 | -0.030 | 0.6631 |
| JMJD1C | 10 | -0.094 | 0.0696 | 0.209 | 0.0023 |
| LIMD1-AS1 | 3 | 0.094 | 0.0696 | NA | NA |
| TSPYL1 | 6 | -0.094 | 0.0697 | -0.084 | 0.2266 |
| SETD6 | 16 | 0.094 | 0.0700 | 0.058 | 0.4036 |
| HMG2P5 | 15 | -0.094 | 0.0700 | NA | NA |
| ATP10D | 4 | -0.094 | 0.0700 | 0.031 | 0.6588 |
| MAPK6PS4 | 8 | -0.094 | 0.0701 | NA | NA |
| ITGB3 | 17 | 0.094 | 0.0702 | -0.039 | 0.5778 |
| ZNF322P1 | 9 | 0.094 | 0.0702 | NA | NA |
| SLC26A1 | 4 | 0.094 | 0.0703 | NA | NA |
| IFI16 | 1 | 0.094 | 0.0703 | 0.179 | 0.0091 |
| STYX | 14 | -0.094 | 0.0703 | NA | NA |
| SGCB | 4 | 0.094 | 0.0703 | -0.055 | 0.4296 |
| PRKAR1A | 17 | -0.094 | 0.0703 | 0.168 | 0.0147 |
| ESF1 | 20 | -0.094 | 0.0703 | 0.070 | 0.3117 |
| MCM6 | 2 | 0.094 | 0.0704 | -0.148 | 0.0319 |
| DTD1 | 20 | -0.094 | 0.0707 | NA | NA |
| SIDT1 | 3 | -0.094 | 0.0707 | 0.051 | 0.4594 |
| RPS20 | 8 | -0.094 | 0.0708 | 0.043 | 0.5320 |
| C16orf74 | 16 | 0.094 | 0.0709 | NA | NA |
| SH3D21 | 1 | -0.094 | 0.0709 | NA | NA |
| GLIS2 | 16 | 0.094 | 0.0710 | NA | NA |

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|-----------|----|--------|--------|--------|--------|
| SNORD3B-2 | 17 | 0.094 | 0.0711 | NA | NA |
| EEF1A1P16 | 12 | 0.094 | 0.0711 | NA | NA |
| NPHP4 | 1 | -0.094 | 0.0711 | NA | NA |
| RPSA | 3 | -0.094 | 0.0712 | NA | NA |
| CAPRIN2 | 12 | -0.093 | 0.0713 | NA | NA |
| RAB8A | 19 | -0.093 | 0.0714 | 0.108 | 0.1193 |
| WDR83OS | 19 | -0.093 | 0.0714 | NA | NA |
| NXPH3 | 17 | 0.093 | 0.0714 | NA | NA |
| FRMD4B | 3 | 0.093 | 0.0715 | 0.080 | 0.2478 |
| APOL6 | 22 | 0.093 | 0.0716 | 0.261 | 0.0001 |
| PPP1CC | 12 | 0.093 | 0.0716 | 0.081 | 0.2424 |
| CAPN7 | 3 | -0.093 | 0.0717 | 0.182 | 0.0082 |
| ZNF426 | 19 | -0.093 | 0.0718 | NA | NA |
| BRD7P2 | 3 | -0.093 | 0.0718 | NA | NA |
| IL17RA | 22 | -0.093 | 0.0718 | 0.622 | 0 |
| KRT8P46 | 4 | 0.093 | 0.0719 | NA | NA |
| KLF9 | 9 | -0.093 | 0.0719 | 0.244 | 0.0003 |
| ID3 | 1 | 0.093 | 0.0719 | 0.054 | 0.4393 |
| TMC6 | 17 | -0.093 | 0.0719 | 0.175 | 0.0109 |
| LCN10 | 9 | -0.093 | 0.0721 | NA | NA |
| TBP | 6 | -0.093 | 0.0722 | 0.167 | 0.0152 |
| TTC13 | 1 | -0.093 | 0.0722 | 0.245 | 0.0003 |
| TAF11 | 6 | -0.093 | 0.0723 | 0.011 | 0.8692 |
| BAP1 | 3 | -0.093 | 0.0723 | -0.081 | 0.2438 |
| PIKFYVE | 2 | 0.093 | 0.0723 | NA | NA |
| SATL1 | X | 0.093 | 0.0725 | 0.051 | 0.4611 |
| ZNF962P | 13 | 0.093 | 0.0725 | NA | NA |
| VGLL4 | 3 | 0.093 | 0.0725 | 0.026 | 0.7100 |
| POLR1A | 2 | 0.093 | 0.0726 | NA | NA |
| ITSN2 | 2 | 0.093 | 0.0727 | 0.192 | 0.0050 |
| GIGYF2 | 2 | -0.093 | 0.0728 | NA | NA |
| ADRB2 | 5 | 0.093 | 0.0728 | 0.059 | 0.3959 |
| RUSC1-AS1 | 1 | -0.093 | 0.0729 | NA | NA |
| BASP1 | 5 | 0.093 | 0.0729 | -0.100 | 0.1488 |
| OLA1P2 | 17 | 0.093 | 0.0729 | NA | NA |
| PREPL | 2 | -0.093 | 0.0731 | 0.110 | 0.1112 |
| SLC5A3 | 21 | 0.093 | 0.0731 | 0.165 | 0.0165 |
| ASNSP4 | 8 | -0.093 | 0.0732 | NA | NA |
| NRAS | 1 | -0.093 | 0.0732 | -0.041 | 0.5566 |
| GPT2 | 16 | -0.093 | 0.0732 | NA | NA |
| EDNRB | 13 | 0.093 | 0.0734 | -0.091 | 0.1903 |
| FCER1G | 1 | -0.093 | 0.0735 | 0.127 | 0.0646 |
| BTBD2 | 19 | -0.093 | 0.0735 | NA | NA |
| ACTG1P17 | 15 | -0.093 | 0.0735 | NA | NA |
| ZNF529 | 19 | -0.093 | 0.0736 | -0.092 | 0.1825 |
| SLC35A5 | 3 | -0.093 | 0.0736 | 0.237 | 0.0005 |

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|-----------|----|--------|--------|--------|----------|
| IRF2BPL | 14 | 0.093 | 0.0737 | NA | NA |
| LIN7C | 11 | -0.093 | 0.0738 | 0.085 | 0.2185 |
| ACTN4P1 | 4 | 0.093 | 0.0738 | NA | NA |
| VPS37B | 12 | 0.093 | 0.0738 | -0.202 | 0.0032 |
| SENCR | 11 | 0.093 | 0.0742 | NA | NA |
| IFI44L | 1 | 0.093 | 0.0742 | 0.271 | 6.59E-05 |
| CNOT6 | 5 | -0.093 | 0.0743 | 0.030 | 0.6610 |
| MCTP1 | 5 | -0.092 | 0.0744 | 0.232 | 0.0007 |
| GOLGA6L4 | 15 | -0.092 | 0.0745 | NA | NA |
| MNDA | 1 | 0.092 | 0.0746 | 0.333 | 7.19E-07 |
| TSEN34 | 19 | 0.092 | 0.0746 | 0.358 | 8.93E-08 |
| POLB | 8 | -0.092 | 0.0747 | 0.204 | 0.0029 |
| TMEM154 | 4 | 0.092 | 0.0748 | NA | NA |
| TOM1 | 22 | -0.092 | 0.0749 | NA | NA |
| DCHS2 | 4 | 0.092 | 0.0749 | NA | NA |
| ZNF821 | 16 | -0.092 | 0.0749 | NA | NA |
| CCDC81 | 11 | 0.092 | 0.0750 | NA | NA |
| DCBLD2 | 3 | -0.092 | 0.0750 | -0.189 | 0.0060 |
| CC2D1A | 19 | -0.092 | 0.0750 | -0.021 | 0.7566 |
| NDUFV1 | 11 | -0.092 | 0.0750 | 0.085 | 0.2212 |
| VLDLR-AS1 | 9 | -0.092 | 0.0750 | NA | NA |
| SLC12A7 | 5 | 0.092 | 0.0751 | 0.340 | 4.16E-07 |
| PSMB9 | 6 | 0.092 | 0.0752 | 0.253 | 0.0002 |
| FBXO33 | 14 | -0.092 | 0.0755 | NA | NA |
| RUNX1 | 21 | 0.092 | 0.0755 | 0.137 | 0.0463 |
| VPS25 | 17 | -0.092 | 0.0755 | NA | NA |
| PMS2CL | 7 | -0.092 | 0.0757 | NA | NA |
| CPA4 | 7 | 0.092 | 0.0757 | NA | NA |
| DBI | 2 | -0.092 | 0.0757 | 0.145 | 0.0356 |
| BLCAP | 20 | -0.092 | 0.0758 | 0.145 | 0.0357 |
| FOXP1 | 3 | 0.092 | 0.0758 | 0.364 | 5.34E-08 |
| SSH3 | 11 | -0.092 | 0.0759 | 0.073 | 0.2919 |
| HINT1 | 5 | -0.092 | 0.0759 | 0.012 | 0.8636 |
| MTM1 | X | -0.092 | 0.0760 | 0.323 | 1.62E-06 |
| PEX12 | 17 | 0.092 | 0.0760 | -0.125 | 0.0707 |
| SF3B1 | 2 | 0.092 | 0.0760 | 0.226 | 0.0010 |
| PLEKHF1 | 19 | -0.092 | 0.0761 | NA | NA |
| RPS24P17 | 16 | 0.092 | 0.0761 | NA | NA |
| IFI30 | 19 | -0.092 | 0.0762 | 0.368 | 3.72E-08 |
| ZNF608 | 5 | -0.092 | 0.0762 | NA | NA |
| RPL7P37 | 10 | 0.092 | 0.0762 | NA | NA |
| SGMS1 | 10 | -0.092 | 0.0763 | NA | NA |
| FABP5P2 | 13 | 0.092 | 0.0763 | NA | NA |
| RGS1 | 1 | -0.092 | 0.0763 | 0.106 | 0.1246 |
| GATC | 12 | -0.092 | 0.0765 | NA | NA |
| Mar-08 | 10 | 0.092 | 0.0765 | NA | NA |

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|------------|----|--------|--------|--------|----------|
| IRS1 | 2 | 0.092 | 0.0765 | 0.143 | 0.0382 |
| LIMK2 | 22 | -0.092 | 0.0765 | 0.341 | 3.81E-07 |
| PNKP | 19 | -0.092 | 0.0766 | -0.156 | 0.0238 |
| PDXP | 22 | -0.092 | 0.0766 | NA | NA |
| ORC3 | 6 | 0.092 | 0.0770 | NA | NA |
| PCED1B-AS1 | 12 | 0.092 | 0.0770 | NA | NA |
| SRSF5 | 14 | -0.092 | 0.0771 | NA | NA |
| RPS2P6 | 18 | 0.092 | 0.0771 | NA | NA |
| CHAC1 | 15 | -0.092 | 0.0771 | NA | NA |
| ZNF682 | 19 | -0.092 | 0.0772 | -0.083 | 0.2305 |
| JAM2 | 21 | -0.092 | 0.0774 | NA | NA |
| DSC3 | 18 | -0.092 | 0.0775 | NA | NA |
| MCMBP | 10 | 0.092 | 0.0775 | NA | NA |
| SLC35E2B | 1 | -0.091 | 0.0776 | NA | NA |
| GPR68 | 14 | -0.091 | 0.0777 | -0.014 | 0.8436 |
| TSPAN12 | 7 | -0.091 | 0.0778 | NA | NA |
| IQCD | 12 | -0.091 | 0.0778 | NA | NA |
| C1orf52 | 1 | -0.091 | 0.0779 | NA | NA |
| ZHX2 | 8 | 0.091 | 0.0779 | -0.047 | 0.4937 |
| KDM1B | 6 | 0.091 | 0.0780 | NA | NA |
| HMGB2 | 4 | -0.091 | 0.0780 | -0.097 | 0.1590 |
| PDE12 | 3 | -0.091 | 0.0780 | NA | NA |
| BCL2L14 | 12 | 0.091 | 0.0780 | NA | NA |
| MPC1 | 6 | -0.091 | 0.0781 | NA | NA |
| SLC29A4 | 7 | -0.091 | 0.0781 | NA | NA |
| FFAR2 | 19 | 0.091 | 0.0782 | NA | NA |
| C10orf55 | 10 | 0.091 | 0.0782 | NA | NA |
| FAM175B | 10 | 0.091 | 0.0782 | NA | NA |
| SLC52A1 | 17 | -0.091 | 0.0782 | NA | NA |
| OAT | 10 | -0.091 | 0.0784 | -0.097 | 0.1602 |
| PLGRKT | 9 | -0.091 | 0.0784 | NA | NA |
| ZNF219 | 14 | 0.091 | 0.0784 | -0.195 | 0.0045 |
| SDSL | 12 | 0.091 | 0.0786 | NA | NA |
| RBM8B | 14 | -0.091 | 0.0787 | NA | NA |
| ANKHD1 | 5 | 0.091 | 0.0787 | 0.221 | 0.0012 |
| RGS10 | 10 | 0.091 | 0.0787 | 0.250 | 0.0002 |
| CLK4 | 5 | 0.091 | 0.0788 | 0.149 | 0.0307 |
| GMPSP1 | 4 | -0.091 | 0.0788 | NA | NA |
| PEX3 | 6 | -0.091 | 0.0788 | 0.079 | 0.2531 |
| CDH23 | 10 | 0.091 | 0.0791 | NA | NA |
| RPL7AP6 | 14 | -0.091 | 0.0791 | NA | NA |
| JAG1 | 20 | -0.091 | 0.0792 | 0.159 | 0.0212 |
| ARL8B | 3 | 0.091 | 0.0792 | 0.205 | 0.0028 |
| DHX9P1 | 13 | 0.091 | 0.0793 | NA | NA |
| SNHG17 | 20 | -0.091 | 0.0794 | NA | NA |
| HSDL2 | 9 | -0.091 | 0.0796 | 0.083 | 0.2283 |

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|-----------|----|--------|--------|--------|----------|
| TMED10 | 14 | -0.091 | 0.0796 | 0.132 | 0.0555 |
| RABGGTB | 1 | -0.091 | 0.0797 | 0.071 | 0.3064 |
| CHEK1 | 11 | 0.091 | 0.0798 | -0.333 | 7.14E-07 |
| FAM3C2 | X | -0.091 | 0.0798 | NA | NA |
| PDXDC1 | 16 | 0.091 | 0.0801 | NA | NA |
| RAB15 | 14 | 0.091 | 0.0801 | NA | NA |
| DRAM1 | 12 | 0.091 | 0.0801 | NA | NA |
| LINC00094 | 9 | -0.091 | 0.0802 | NA | NA |
| AZIN1 | 8 | -0.091 | 0.0802 | 0.145 | 0.0357 |
| PSMA1 | 11 | 0.091 | 0.0802 | 0.124 | 0.0717 |
| CECR1 | 22 | 0.091 | 0.0803 | 0.436 | 3.17E-11 |
| BCLAF1 | 6 | -0.091 | 0.0803 | 0.099 | 0.1533 |
| ARID5B | 10 | 0.091 | 0.0804 | -0.047 | 0.4927 |
| C17orf75 | 17 | -0.091 | 0.0804 | 0.020 | 0.7713 |
| PA2G4P2 | 20 | 0.091 | 0.0806 | NA | NA |
| HIP1R | 12 | 0.091 | 0.0806 | NA | NA |
| BCL10 | 1 | 0.091 | 0.0806 | 0.117 | 0.0890 |
| CCDC101 | 16 | 0.091 | 0.0806 | 0.142 | 0.0398 |
| UBE2SP1 | 17 | -0.091 | 0.0807 | NA | NA |
| NXPH4 | 12 | 0.091 | 0.0808 | 0.012 | 0.8583 |
| TMEM189 | 20 | 0.091 | 0.0808 | NA | NA |
| FAM103A2P | 6 | -0.091 | 0.0809 | NA | NA |
| TMEM14A | 6 | -0.090 | 0.0810 | -0.218 | 0.0015 |
| PARL | 3 | -0.090 | 0.0810 | 0.256 | 0.0002 |
| SVIL | 10 | 0.090 | 0.0810 | 0.475 | 2.81E-13 |
| SRD5A1 | 5 | -0.090 | 0.0811 | 0.325 | 1.45E-06 |
| SPAG16 | 2 | 0.090 | 0.0812 | -0.235 | 0.0006 |
| PPA2 | 4 | -0.090 | 0.0813 | 0.097 | 0.1593 |
| NCKAP1 | 2 | 0.090 | 0.0813 | -0.083 | 0.2290 |
| ZNF337 | 20 | -0.090 | 0.0814 | 0.157 | 0.0224 |
| MLX | 17 | 0.090 | 0.0816 | 0.364 | 5.13E-08 |
| CCR1 | 3 | 0.089 | 0.0861 | 0.477 | 2.27E-13 |
| SLC16A6 | 17 | -0.088 | 0.0887 | 0.318 | 2.45E-06 |
| CDK5R1 | 17 | -0.088 | 0.0902 | 0.349 | 2.01E-07 |
| BAG3 | 10 | 0.087 | 0.0916 | 0.383 | 8.55E-09 |
| TNFAIP2 | 14 | 0.087 | 0.0928 | 0.330 | 9.33E-07 |
| TDRD7 | 9 | 0.087 | 0.0932 | 0.337 | 5.51E-07 |
| MKNK1 | 1 | 0.087 | 0.0932 | 0.332 | 7.77E-07 |
| F2R | 5 | -0.087 | 0.0951 | -0.354 | 1.29E-07 |
| FAS | 10 | -0.086 | 0.0955 | 0.339 | 4.56E-07 |
| NUMB | 14 | 0.086 | 0.0956 | 0.407 | 8.03E-10 |
| MKKS | 20 | -0.086 | 0.0957 | 0.456 | 3.04E-12 |
| NINJ1 | 9 | -0.086 | 0.0978 | 0.375 | 1.87E-08 |
| KIAA0513 | 16 | -0.085 | 0.1004 | 0.486 | 6.79E-14 |
| SLC27A2 | 15 | -0.085 | 0.1022 | -0.323 | 1.63E-06 |
| IL11RA | 9 | 0.084 | 0.1056 | 0.328 | 1.08E-06 |

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|---------|----|--------|--------|--------|----------|
| CD209 | 19 | 0.083 | 0.1081 | 0.364 | 5.06E-08 |
| SNN | 16 | 0.083 | 0.1084 | 0.445 | 1.19E-11 |
| ZNF516 | 18 | -0.083 | 0.1103 | 0.392 | 3.76E-09 |
| GLG1 | 16 | -0.083 | 0.1104 | 0.393 | 3.18E-09 |
| MICAL3 | 22 | 0.081 | 0.1167 | -0.394 | 3.10E-09 |
| STX2 | 12 | 0.081 | 0.1183 | 0.352 | 1.47E-07 |
| LTB4R | 14 | 0.081 | 0.1187 | 0.382 | 9.33E-09 |
| ZDHHC7 | 16 | -0.081 | 0.1188 | 0.424 | 1.34E-10 |
| HSPA6 | 1 | 0.081 | 0.1192 | 0.332 | 7.77E-07 |
| TK2 | 16 | -0.081 | 0.1200 | 0.451 | 5.52E-12 |
| CREBL2 | 12 | -0.080 | 0.1216 | 0.469 | 5.98E-13 |
| LY96 | 8 | 0.080 | 0.1218 | 0.532 | 0 |
| NECAP2 | 1 | 0.080 | 0.1227 | 0.476 | 2.40E-13 |
| GNPDA1 | 5 | -0.080 | 0.1229 | 0.561 | 0 |
| SGK3 | 8 | -0.080 | 0.1235 | 0.368 | 3.73E-08 |
| HDAC4 | 2 | 0.079 | 0.1281 | 0.430 | 6.39E-11 |
| FGL2 | 7 | 0.079 | 0.1284 | 0.487 | 6.06E-14 |
| SULT1A2 | 16 | 0.078 | 0.1305 | 0.433 | 4.74E-11 |
| TCIRG1 | 11 | -0.078 | 0.1320 | 0.361 | 6.79E-08 |
| ATP6AP1 | X | 0.078 | 0.1333 | 0.394 | 3.09E-09 |
| CD86 | 3 | 0.077 | 0.1356 | 0.399 | 1.78E-09 |
| GIMAP6 | 7 | -0.077 | 0.1362 | 0.359 | 8.32E-08 |
| RAB20 | 13 | 0.077 | 0.1373 | 0.354 | 1.30E-07 |
| GADD45B | 19 | -0.077 | 0.1377 | 0.386 | 6.69E-09 |
| ZNF711 | X | 0.077 | 0.1392 | -0.396 | 2.59E-09 |
| TOB1 | 17 | -0.076 | 0.1419 | 0.497 | 1.47E-14 |
| KCNQ1 | 11 | -0.076 | 0.1427 | 0.328 | 1.09E-06 |
| TBL1X | X | 0.075 | 0.1457 | 0.493 | 2.44E-14 |
| SLFN12 | 17 | 0.075 | 0.1458 | 0.367 | 4.08E-08 |
| SLC16A3 | 17 | 0.075 | 0.1472 | 0.352 | 1.50E-07 |
| JUNB | 19 | 0.075 | 0.1473 | 0.413 | 4.08E-10 |
| CYP1B1 | 2 | 0.075 | 0.1482 | 0.475 | 2.90E-13 |
| SIGLEC5 | 19 | 0.075 | 0.1493 | 0.405 | 1.03E-09 |
| CRYL1 | 13 | -0.075 | 0.1495 | 0.475 | 2.76E-13 |
| SEMA6C | 1 | -0.075 | 0.1497 | 0.378 | 1.37E-08 |
| LRRC8D | 1 | -0.075 | 0.1498 | 0.438 | 2.77E-11 |
| PELI1 | 2 | 0.075 | 0.1501 | 0.319 | 2.23E-06 |
| GAS7 | 17 | -0.074 | 0.1522 | 0.338 | 5.05E-07 |
| CAPZB | 1 | -0.074 | 0.1537 | 0.415 | 3.51E-10 |
| CTSA | 20 | 0.073 | 0.1573 | 0.366 | 4.34E-08 |
| MOSPD2 | X | -0.073 | 0.1582 | 0.368 | 3.57E-08 |
| SLC7A7 | 14 | 0.073 | 0.1583 | 0.346 | 2.44E-07 |
| SMYD3 | 1 | -0.073 | 0.1585 | -0.331 | 9.01E-07 |
| SH2B3 | 12 | 0.073 | 0.1589 | 0.331 | 8.38E-07 |
| PRKCA | 17 | -0.073 | 0.1595 | 0.504 | 5.11E-15 |
| FZD7 | 2 | 0.073 | 0.1608 | -0.329 | 1.01E-06 |

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|----------|----|--------|--------|--------|----------|
| RAD51AP1 | 12 | 0.073 | 0.1616 | -0.342 | 3.44E-07 |
| PPARD | 6 | 0.072 | 0.1648 | 0.337 | 5.55E-07 |
| KIF1B | 1 | -0.072 | 0.1655 | 0.351 | 1.68E-07 |
| STAT6 | 12 | 0.072 | 0.1662 | 0.415 | 3.43E-10 |
| EPHX2 | 8 | 0.072 | 0.1663 | 0.343 | 3.17E-07 |
| TNFSF13 | 17 | 0.071 | 0.1685 | 0.501 | 8.88E-15 |
| ACTN1 | 14 | -0.071 | 0.1705 | 0.421 | 1.75E-10 |
| PIAS1 | 15 | -0.071 | 0.1705 | 0.380 | 1.21E-08 |
| NUSAP1 | 15 | -0.071 | 0.1737 | -0.321 | 1.99E-06 |
| FRAT2 | 10 | -0.070 | 0.1748 | 0.438 | 2.77E-11 |
| CD93 | 20 | -0.070 | 0.1763 | 0.401 | 1.48E-09 |
| TGFBR2 | 3 | -0.070 | 0.1775 | 0.384 | 8.36E-09 |
| TRAF3IP3 | 1 | 0.070 | 0.1779 | 0.365 | 4.78E-08 |
| RASSF2 | 20 | 0.070 | 0.1785 | 0.394 | 3.00E-09 |
| DISC1 | 1 | 0.070 | 0.1790 | 0.673 | 0 |
| SLC11A1 | 2 | 0.069 | 0.1816 | 0.358 | 8.85E-08 |
| OSTF1 | 9 | 0.069 | 0.1852 | 0.335 | 6.39E-07 |
| CD48 | 1 | -0.069 | 0.1856 | 0.431 | 6.23E-11 |
| GCH1 | 14 | -0.069 | 0.1860 | 0.401 | 1.46E-09 |
| DDAH1 | 1 | 0.068 | 0.1880 | -0.355 | 1.12E-07 |
| RUFY2 | 10 | 0.068 | 0.1901 | 0.419 | 2.24E-10 |
| CDC42BPA | 1 | 0.068 | 0.1923 | -0.357 | 9.63E-08 |
| CNIH4 | 1 | 0.067 | 0.1947 | 0.499 | 1.11E-14 |
| RPS6KA4 | 11 | 0.067 | 0.1984 | 0.466 | 8.85E-13 |
| PHC2 | 1 | 0.066 | 0.2004 | 0.320 | 2.14E-06 |
| ARL4C | 2 | -0.066 | 0.2020 | 0.373 | 2.36E-08 |
| AHR | 7 | 0.066 | 0.2028 | 0.383 | 8.85E-09 |
| DOK2 | 8 | -0.066 | 0.2031 | 0.457 | 2.91E-12 |
| CORO1A | 16 | -0.066 | 0.2039 | 0.437 | 3.00E-11 |
| FCGRT | 19 | 0.065 | 0.2119 | 0.481 | 1.31E-13 |
| AOAH | 7 | 0.064 | 0.2152 | 0.327 | 1.15E-06 |
| STX6 | 1 | 0.064 | 0.2155 | 0.352 | 1.50E-07 |
| GRN | 17 | 0.064 | 0.2178 | 0.445 | 1.12E-11 |
| SCRN3 | 2 | 0.064 | 0.2205 | 0.406 | 9.07E-10 |
| MAL | 2 | -0.063 | 0.2269 | 0.414 | 3.73E-10 |
| ITPK1 | 14 | 0.062 | 0.2317 | 0.327 | 1.17E-06 |
| ATG7 | 3 | -0.062 | 0.2329 | 0.505 | 4.88E-15 |
| IL6ST | 5 | 0.062 | 0.2347 | 0.518 | 6.66E-16 |
| IL16 | 15 | -0.062 | 0.2357 | 0.409 | 6.70E-10 |
| VIM | 10 | 0.061 | 0.2362 | 0.438 | 2.72E-11 |
| RAB27A | 15 | -0.061 | 0.2363 | 0.357 | 9.43E-08 |
| TLR2 | 4 | -0.061 | 0.2377 | 0.534 | 0 |
| LILRA6 | 19 | 0.061 | 0.2402 | 0.317 | 2.52E-06 |
| PPT1 | 1 | 0.061 | 0.2430 | 0.517 | 8.88E-16 |
| PPFIA1 | 11 | 0.060 | 0.2452 | 0.333 | 7.39E-07 |
| CKS2 | 9 | -0.060 | 0.2494 | -0.394 | 2.93E-09 |

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| SERPINB8 | 18 | 0.059 | 0.2530 | 0.426 | 1.01E-10 |
| MYD88 | 3 | 0.059 | 0.2540 | 0.440 | 2.13E-11 |
| CD46 | 1 | -0.059 | 0.2542 | 0.345 | 2.67E-07 |
| SH3BP2 | 4 | 0.059 | 0.2548 | 0.318 | 2.47E-06 |
| REEP5 | 5 | -0.059 | 0.2555 | 0.380 | 1.13E-08 |
| PRRG4 | 11 | -0.059 | 0.2561 | 0.343 | 3.21E-07 |
| NCF2 | 1 | 0.059 | 0.2587 | 0.526 | 2.22E-16 |
| PLCL1 | 2 | -0.058 | 0.2613 | 0.494 | 2.31E-14 |
| TRIM38 | 6 | 0.058 | 0.2635 | 0.337 | 5.24E-07 |
| MCM2 | 3 | 0.058 | 0.2650 | -0.359 | 8.27E-08 |
| UPP1 | 7 | 0.058 | 0.2655 | 0.498 | 1.20E-14 |
| ST7 | 7 | 0.058 | 0.2665 | -0.343 | 3.23E-07 |
| GALNS | 16 | -0.057 | 0.2733 | 0.351 | 1.71E-07 |
| TBC1D4 | 13 | 0.057 | 0.2734 | 0.377 | 1.63E-08 |
| APOL3 | 22 | 0.057 | 0.2743 | 0.418 | 2.52E-10 |
| NFE2L2 | 2 | 0.056 | 0.2767 | 0.373 | 2.36E-08 |
| GNG10 | 9 | 0.056 | 0.2803 | 0.322 | 1.79E-06 |
| CAB39 | 2 | 0.056 | 0.2828 | 0.351 | 1.69E-07 |
| F5 | 1 | 0.056 | 0.2837 | 0.580 | 0 |
| TNFAIP3 | 6 | 0.056 | 0.2841 | 0.359 | 8.32E-08 |
| SLC15A3 | 11 | 0.056 | 0.2850 | 0.445 | 1.22E-11 |
| OSBPL11 | 3 | 0.055 | 0.2921 | 0.320 | 2.05E-06 |
| SLC6A6 | 3 | 0.055 | 0.2925 | 0.322 | 1.82E-06 |
| PEA15 | 1 | -0.055 | 0.2932 | 0.328 | 1.12E-06 |
| KDELC1 | 13 | 0.054 | 0.2995 | -0.388 | 5.37E-09 |
| PCYOX1L | 5 | -0.054 | 0.3010 | 0.323 | 1.58E-06 |
| SYNJ1 | 21 | 0.053 | 0.3040 | 0.482 | 1.14E-13 |
| CKLF | 16 | -0.053 | 0.3093 | 0.400 | 1.58E-09 |
| CLTB | 5 | -0.053 | 0.3093 | 0.318 | 2.40E-06 |
| PDGFD | 11 | -0.053 | 0.3118 | -0.406 | 9.01E-10 |
| SNX27 | 1 | -0.052 | 0.3128 | 0.561 | 0 |
| N4BP1 | 16 | 0.052 | 0.3128 | 0.435 | 3.66E-11 |
| FBN1 | 15 | 0.052 | 0.3146 | -0.324 | 1.56E-06 |
| MX2 | 21 | 0.052 | 0.3153 | 0.573 | 0 |
| NPTN | 15 | -0.052 | 0.3154 | 0.423 | 1.51E-10 |
| PIK3CD | 1 | 0.052 | 0.3192 | 0.352 | 1.51E-07 |
| LPXN | 11 | -0.052 | 0.3197 | 0.394 | 3.14E-09 |
| IRAK4 | 12 | -0.051 | 0.3222 | 0.332 | 8.19E-07 |
| LDLRAP1 | 1 | 0.051 | 0.3245 | 0.349 | 2.04E-07 |
| TBC1D2B | 15 | 0.051 | 0.3266 | 0.426 | 1.02E-10 |
| GIT2 | 12 | -0.051 | 0.3271 | 0.333 | 7.24E-07 |
| CRK | 17 | 0.051 | 0.3277 | 0.349 | 1.91E-07 |
| HERC3 | 4 | -0.051 | 0.3286 | 0.373 | 2.22E-08 |
| SLC25A44 | 1 | -0.050 | 0.3348 | 0.331 | 8.60E-07 |
| DEGS1 | 1 | 0.050 | 0.3376 | 0.331 | 8.63E-07 |
| FTH1 | 11 | 0.050 | 0.3398 | 0.442 | 1.75E-11 |

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| CHMP4A | 14 | 0.049 | 0.3412 | 0.336 | 5.89E-07 |
| SNAP23 | 15 | -0.049 | 0.3417 | 0.338 | 4.92E-07 |
| NETO2 | 16 | -0.049 | 0.3422 | 0.399 | 1.78E-09 |
| WDFY3 | 4 | -0.049 | 0.3449 | 0.428 | 8.30E-11 |
| WARS | 14 | 0.049 | 0.3449 | 0.415 | 3.49E-10 |
| STX10 | 19 | 0.049 | 0.3467 | 0.358 | 9.24E-08 |
| CAMKK2 | 12 | 0.049 | 0.3481 | 0.359 | 8.51E-08 |
| IL13RA1 | X | 0.049 | 0.3483 | 0.412 | 4.78E-10 |
| ZFYVE16 | 5 | 0.048 | 0.3531 | 0.341 | 3.70E-07 |
| SERPINA1 | 14 | 0.048 | 0.3551 | 0.424 | 1.35E-10 |
| TIMELESS | 12 | -0.048 | 0.3595 | -0.323 | 1.59E-06 |
| DPEP2 | 16 | 0.047 | 0.3614 | 0.459 | 2.08E-12 |
| S100A6 | 1 | 0.047 | 0.3615 | 0.477 | 2.25E-13 |
| ARHGEF11 | 1 | 0.047 | 0.3653 | 0.618 | 0 |
| COG5 | 7 | 0.047 | 0.3664 | 0.323 | 1.68E-06 |
| ALDOA | 16 | -0.047 | 0.3682 | 0.335 | 6.05E-07 |
| MTUS1 | 8 | -0.046 | 0.3736 | 0.361 | 7.04E-08 |
| EVI2B | 17 | 0.046 | 0.3737 | 0.378 | 1.47E-08 |
| CERK | 22 | 0.046 | 0.3743 | 0.460 | 2.03E-12 |
| GCSH | 16 | -0.046 | 0.3744 | -0.348 | 2.14E-07 |
| IER3 | 6 | 0.046 | 0.3769 | 0.456 | 2.98E-12 |
| GIMAP5 | 7 | -0.046 | 0.3788 | 0.409 | 6.36E-10 |
| GLCE | 15 | 0.045 | 0.3863 | 0.334 | 6.93E-07 |
| AMPD2 | 1 | -0.045 | 0.3893 | 0.351 | 1.65E-07 |
| TMEM43 | 3 | -0.045 | 0.3908 | 0.318 | 2.39E-06 |
| TRIM14 | 9 | 0.044 | 0.3936 | 0.437 | 2.93E-11 |
| RNASET2 | 6 | 0.044 | 0.3959 | 0.424 | 1.31E-10 |
| PRMT2 | 21 | -0.044 | 0.3962 | 0.359 | 8.14E-08 |
| OAS3 | 12 | 0.044 | 0.3969 | 0.461 | 1.62E-12 |
| CNDP2 | 18 | 0.044 | 0.3991 | 0.351 | 1.58E-07 |
| DLG5 | 10 | -0.044 | 0.3992 | -0.320 | 2.07E-06 |
| SIRT7 | 17 | -0.044 | 0.3994 | 0.325 | 1.39E-06 |
| NLRP1 | 17 | 0.043 | 0.4069 | 0.518 | 6.66E-16 |
| HEATR3 | 16 | -0.043 | 0.4131 | 0.440 | 2.15E-11 |
| SERPINI1 | 3 | -0.042 | 0.4135 | -0.424 | 1.23E-10 |
| CFP | X | -0.042 | 0.4209 | 0.494 | 2.20E-14 |
| MYH9 | 22 | 0.042 | 0.4227 | 0.349 | 1.91E-07 |
| PEPD | 19 | 0.042 | 0.4235 | 0.349 | 1.92E-07 |
| CHMP7 | 8 | 0.041 | 0.4249 | 0.326 | 1.27E-06 |
| ALDH5A1 | 6 | -0.041 | 0.4267 | -0.327 | 1.17E-06 |
| OSTM1 | 6 | 0.041 | 0.4275 | 0.339 | 4.41E-07 |
| ERO1L | 14 | 0.041 | 0.4283 | 0.345 | 2.81E-07 |
| STX16 | 20 | -0.041 | 0.4285 | 0.383 | 8.52E-09 |
| ARL6IP5 | 3 | 0.041 | 0.4310 | 0.349 | 2.02E-07 |
| SORL1 | 11 | -0.041 | 0.4326 | 0.417 | 2.69E-10 |
| SLC16A5 | 17 | 0.041 | 0.4328 | 0.443 | 1.40E-11 |

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| MAN2B1 | 19 | -0.041 | 0.4331 | 0.425 | 1.21E-10 |
| MAN1C1 | 1 | 0.041 | 0.4348 | 0.534 | 0 |
| RAD51 | 15 | -0.040 | 0.4367 | -0.408 | 7.00E-10 |
| PDE3B | 11 | -0.040 | 0.4378 | 0.375 | 1.93E-08 |
| DTL | 1 | 0.040 | 0.4381 | -0.357 | 9.61E-08 |
| HTRA2 | 2 | -0.040 | 0.4384 | -0.341 | 3.83E-07 |
| MAN2C1 | 15 | 0.040 | 0.4401 | 0.364 | 5.25E-08 |
| EVI2A | 17 | 0.040 | 0.4429 | 0.546 | 0 |
| PDXK | 21 | -0.040 | 0.4433 | 0.505 | 4.88E-15 |
| MINA | 3 | 0.040 | 0.4445 | 0.439 | 2.45E-11 |
| GINS2 | 16 | 0.040 | 0.4450 | -0.351 | 1.71E-07 |
| NDST2 | 10 | -0.040 | 0.4453 | 0.348 | 2.04E-07 |
| SEMA4A | 1 | 0.040 | 0.4463 | 0.519 | 6.66E-16 |
| ANKS1A | 6 | 0.039 | 0.4491 | 0.338 | 5.10E-07 |
| LILRB2 | 19 | 0.039 | 0.4506 | 0.344 | 3.09E-07 |
| STAT1 | 2 | 0.039 | 0.4525 | 0.429 | 7.25E-11 |
| STK10 | 5 | 0.039 | 0.4537 | 0.354 | 1.24E-07 |
| NUP62 | 19 | -0.039 | 0.4567 | 0.330 | 9.46E-07 |
| CEBPB | 20 | 0.039 | 0.4570 | 0.379 | 1.24E-08 |
| USP4 | 3 | -0.039 | 0.4583 | 0.378 | 1.38E-08 |
| TRIM36 | 5 | -0.038 | 0.4622 | 0.458 | 2.50E-12 |
| LACTB2 | 8 | -0.038 | 0.4652 | 0.320 | 2.09E-06 |
| PFKFB3 | 10 | -0.038 | 0.4670 | 0.323 | 1.62E-06 |
| SGSH | 17 | -0.038 | 0.4671 | 0.521 | 4.44E-16 |
| UBE2D1 | 10 | 0.038 | 0.4693 | 0.398 | 2.05E-09 |
| SCO2 | 22 | 0.037 | 0.4722 | 0.475 | 2.78E-13 |
| NCAPG | 4 | -0.037 | 0.4722 | -0.319 | 2.17E-06 |
| SMPD4 | 2 | -0.037 | 0.4738 | 0.318 | 2.49E-06 |
| SQRDL | 15 | -0.037 | 0.4744 | 0.488 | 4.80E-14 |
| RHOG | 11 | -0.037 | 0.4745 | 0.394 | 2.93E-09 |
| ZDHHC18 | 1 | 0.037 | 0.4751 | 0.396 | 2.52E-09 |
| MYO5A | 15 | 0.037 | 0.4768 | 0.348 | 2.07E-07 |
| SAMHD1 | 20 | 0.037 | 0.4768 | 0.609 | 0 |
| CSAD | 12 | 0.037 | 0.4803 | 0.324 | 1.48E-06 |
| GNS | 12 | -0.037 | 0.4806 | 0.382 | 1.02E-08 |
| CHAF1B | 21 | -0.037 | 0.4808 | -0.417 | 2.74E-10 |
| S100A11 | 1 | 0.036 | 0.4861 | 0.458 | 2.45E-12 |
| ALDH2 | 12 | 0.036 | 0.4868 | 0.373 | 2.20E-08 |
| USP3 | 15 | -0.036 | 0.4873 | 0.425 | 1.11E-10 |
| MX1 | 21 | 0.036 | 0.4875 | 0.317 | 2.58E-06 |
| PYGB | 20 | -0.036 | 0.4885 | 0.323 | 1.62E-06 |
| ZNF200 | 16 | 0.036 | 0.4911 | 0.338 | 4.84E-07 |
| ICAM1 | 19 | 0.036 | 0.4915 | 0.413 | 4.24E-10 |
| SOCS3 | 17 | -0.036 | 0.4922 | 0.463 | 1.35E-12 |
| KLHL23 | 2 | 0.036 | 0.4938 | -0.381 | 1.06E-08 |
| LCP2 | 5 | 0.035 | 0.4945 | 0.401 | 1.51E-09 |

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| CTSS | 1 | 0.035 | 0.4955 | 0.423 | 1.48E-10 |
| CPD | 17 | -0.035 | 0.4956 | 0.344 | 2.89E-07 |
| MTF1 | 1 | 0.035 | 0.4956 | 0.356 | 1.06E-07 |
| KIAA1467 | 12 | 0.035 | 0.4962 | -0.342 | 3.48E-07 |
| WAS | X | 0.035 | 0.4993 | 0.461 | 1.76E-12 |
| HIPK3 | 11 | -0.035 | 0.4994 | 0.399 | 1.90E-09 |
| LEPROTL1 | 8 | -0.035 | 0.5047 | 0.360 | 7.67E-08 |
| CRIP1 | 14 | 0.035 | 0.5057 | 0.378 | 1.41E-08 |
| ITM2B | 13 | -0.034 | 0.5066 | 0.399 | 1.90E-09 |
| TNFSF10 | 3 | 0.034 | 0.5084 | 0.493 | 2.46E-14 |
| MKL1 | 22 | 0.034 | 0.5088 | 0.408 | 7.42E-10 |
| PHACTR2 | 6 | 0.034 | 0.5149 | 0.361 | 7.01E-08 |
| CASP1 | 11 | -0.034 | 0.5170 | 0.557 | 0 |
| OAS2 | 12 | 0.034 | 0.5180 | 0.412 | 4.69E-10 |
| TLR1 | 4 | 0.034 | 0.5181 | 0.448 | 8.07E-12 |
| ZCCHC14 | 16 | -0.033 | 0.5192 | 0.340 | 4.27E-07 |
| HIST1H3D | 6 | 0.033 | 0.5223 | -0.347 | 2.37E-07 |
| PLP2 | X | 0.033 | 0.5256 | 0.395 | 2.62E-09 |
| TMEM30A | 6 | -0.033 | 0.5260 | 0.331 | 8.51E-07 |
| HEXB | 5 | -0.033 | 0.5271 | 0.455 | 3.56E-12 |
| KIAA1324 | 1 | -0.033 | 0.5277 | 0.323 | 1.66E-06 |
| GLIPR1 | 12 | 0.032 | 0.5338 | 0.351 | 1.63E-07 |
| WDR7 | 18 | 0.032 | 0.5354 | 0.320 | 2.14E-06 |
| DMXL2 | 15 | -0.032 | 0.5383 | 0.407 | 8.09E-10 |
| MPPE1 | 18 | -0.032 | 0.5408 | 0.329 | 9.91E-07 |
| IMPDH1 | 7 | 0.032 | 0.5413 | 0.334 | 7.08E-07 |
| SEC23B | 20 | -0.032 | 0.5415 | 0.364 | 5.36E-08 |
| ACVR2A | 2 | 0.032 | 0.5418 | 0.437 | 2.85E-11 |
| MNT | 17 | 0.032 | 0.5422 | 0.331 | 8.83E-07 |
| PDLIM5 | 4 | -0.032 | 0.5429 | 0.362 | 6.00E-08 |
| DGKA | 12 | 0.032 | 0.5435 | 0.395 | 2.83E-09 |
| PAK1 | 11 | 0.031 | 0.5490 | 0.337 | 5.54E-07 |
| SLC17A5 | 6 | 0.031 | 0.5493 | 0.405 | 9.98E-10 |
| VNN2 | 6 | -0.031 | 0.5510 | 0.424 | 1.36E-10 |
| GSTK1 | 7 | 0.031 | 0.5526 | 0.379 | 1.32E-08 |
| POLR3G | 5 | -0.031 | 0.5532 | -0.386 | 6.39E-09 |
| EXT1 | 8 | -0.031 | 0.5558 | 0.408 | 7.26E-10 |
| PTPRE | 10 | -0.031 | 0.5567 | 0.420 | 1.93E-10 |
| AGTPBP1 | 9 | 0.030 | 0.5584 | 0.391 | 4.25E-09 |
| ANXA5 | 4 | 0.030 | 0.5622 | 0.481 | 1.34E-13 |
| IL10RB | 21 | 0.030 | 0.5624 | 0.389 | 5.06E-09 |
| SLC2A3 | 12 | 0.030 | 0.5630 | 0.360 | 7.57E-08 |
| ABCB1 | 7 | -0.030 | 0.5666 | -0.394 | 2.89E-09 |
| STOML2 | 9 | 0.030 | 0.5688 | -0.346 | 2.42E-07 |
| FHIT | 3 | -0.030 | 0.5696 | 0.346 | 2.50E-07 |
| TM9SF4 | 20 | -0.030 | 0.5700 | 0.390 | 4.59E-09 |

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|------------|----|--------|--------|--------|----------|
| DPYD | 1 | 0.029 | 0.5713 | 0.434 | 4.11E-11 |
| WWP1 | 8 | -0.029 | 0.5744 | 0.381 | 1.06E-08 |
| MYL6B | 12 | -0.029 | 0.5744 | -0.429 | 7.74E-11 |
| ATP1A1 | 1 | -0.029 | 0.5786 | 0.457 | 2.79E-12 |
| POLE2 | 14 | -0.028 | 0.5843 | -0.331 | 8.73E-07 |
| MEGF9 | 9 | 0.028 | 0.5849 | 0.431 | 5.70E-11 |
| RBMS1 | 2 | -0.028 | 0.5860 | 0.440 | 2.12E-11 |
| WASF1 | 6 | 0.028 | 0.5879 | -0.388 | 5.24E-09 |
| DNASE1L1 | X | 0.028 | 0.5903 | 0.321 | 1.96E-06 |
| TPP1 | 11 | -0.028 | 0.5931 | 0.398 | 1.94E-09 |
| GSTA4 | 6 | 0.028 | 0.5943 | -0.355 | 1.14E-07 |
| STK38L | 12 | 0.028 | 0.5956 | 0.324 | 1.53E-06 |
| PSAP | 10 | -0.027 | 0.5984 | 0.323 | 1.66E-06 |
| NDRG1 | 8 | -0.027 | 0.5991 | 0.428 | 8.57E-11 |
| ATP6V1B2 | 8 | 0.027 | 0.5999 | 0.440 | 2.04E-11 |
| DPP4 | 2 | 0.027 | 0.6065 | 0.322 | 1.71E-06 |
| RNH1 | 11 | 0.027 | 0.6072 | 0.425 | 1.13E-10 |
| TOR1AIP1 | 1 | -0.027 | 0.6088 | 0.434 | 4.41E-11 |
| GPSM3 | 6 | -0.026 | 0.6140 | 0.473 | 3.74E-13 |
| TNFSF12 | 17 | -0.026 | 0.6142 | 0.407 | 7.69E-10 |
| ITGB2 | 21 | -0.026 | 0.6168 | 0.477 | 2.10E-13 |
| FLNA | X | 0.026 | 0.6199 | 0.324 | 1.47E-06 |
| CSF1R | 5 | 0.025 | 0.6285 | 0.462 | 1.58E-12 |
| CDK6 | 7 | -0.025 | 0.6293 | -0.358 | 8.83E-08 |
| PILRA | 7 | -0.025 | 0.6321 | 0.423 | 1.37E-10 |
| NSF | 17 | 0.025 | 0.6324 | 0.374 | 2.08E-08 |
| ST6GALNAC2 | 17 | -0.025 | 0.6333 | 0.383 | 8.79E-09 |
| LRCH4 | 7 | -0.025 | 0.6338 | 0.373 | 2.22E-08 |
| PTAFR | 1 | 0.025 | 0.6350 | 0.476 | 2.57E-13 |
| GPR65 | 14 | -0.025 | 0.6364 | 0.336 | 5.57E-07 |
| RNF44 | 5 | -0.024 | 0.6394 | 0.319 | 2.16E-06 |
| PIK3R3 | 1 | 0.024 | 0.6398 | -0.361 | 6.92E-08 |
| PIK3CB | 3 | -0.024 | 0.6450 | 0.323 | 1.69E-06 |
| FBN2 | 5 | -0.024 | 0.6454 | 0.330 | 9.39E-07 |
| KLHL22 | 22 | 0.024 | 0.6463 | 0.325 | 1.44E-06 |
| LRPAP1 | 4 | 0.024 | 0.6469 | 0.343 | 3.30E-07 |
| SLC9A6 | X | -0.024 | 0.6475 | 0.328 | 1.11E-06 |
| ID2 | 2 | -0.023 | 0.6582 | 0.324 | 1.57E-06 |
| FGD6 | 12 | 0.023 | 0.6589 | 0.343 | 3.19E-07 |
| GNAI2 | 3 | -0.023 | 0.6591 | 0.361 | 6.74E-08 |
| ARF5 | 7 | -0.023 | 0.6623 | 0.351 | 1.71E-07 |
| TBC1D8 | 2 | 0.022 | 0.6682 | 0.361 | 6.96E-08 |
| RGL1 | 1 | -0.022 | 0.6692 | 0.699 | 0 |
| STX3 | 11 | 0.022 | 0.6695 | 0.362 | 6.24E-08 |
| CLEC4A | 12 | 0.022 | 0.6728 | 0.503 | 6.22E-15 |
| CYBA | 16 | -0.022 | 0.6761 | 0.334 | 6.59E-07 |

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|-----------|----|--------|--------|--------|----------|
| HLA-B | 6 | 0.022 | 0.6768 | 0.338 | 4.96E-07 |
| HMMR | 5 | 0.022 | 0.6772 | -0.322 | 1.74E-06 |
| NAGA | 22 | 0.021 | 0.6821 | 0.525 | 2.22E-16 |
| EHD4 | 15 | 0.021 | 0.6837 | 0.507 | 3.55E-15 |
| NOD2 | 16 | 0.021 | 0.6846 | 0.648 | 0 |
| SLC7A6 | 16 | 0.021 | 0.6848 | 0.348 | 2.14E-07 |
| DOCK4 | 7 | 0.021 | 0.6877 | 0.374 | 2.11E-08 |
| DBN1 | 5 | -0.021 | 0.6879 | -0.326 | 1.27E-06 |
| SETX | 9 | 0.021 | 0.6880 | 0.330 | 9.10E-07 |
| ENTPD6 | 20 | -0.021 | 0.6897 | 0.330 | 9.75E-07 |
| MYH10 | 17 | -0.021 | 0.6907 | -0.368 | 3.46E-08 |
| LILRB1 | 19 | 0.021 | 0.6910 | 0.425 | 1.09E-10 |
| NPC2 | 14 | 0.021 | 0.6918 | 0.319 | 2.32E-06 |
| SMARCD3 | 7 | -0.021 | 0.6929 | 0.512 | 1.78E-15 |
| TIAM1 | 21 | -0.021 | 0.6930 | 0.661 | 0 |
| C1GALT1C1 | X | 0.021 | 0.6930 | 0.317 | 2.70E-06 |
| LRP1 | 12 | 0.020 | 0.6953 | 0.486 | 6.62E-14 |
| ACAA1 | 3 | 0.020 | 0.6971 | 0.351 | 1.70E-07 |
| MTMR11 | 1 | 0.020 | 0.6975 | 0.546 | 0 |
| DYNLT1 | 6 | -0.020 | 0.6980 | 0.354 | 1.21E-07 |
| TGOLN2 | 2 | -0.020 | 0.6983 | 0.433 | 4.83E-11 |
| FYB | 5 | -0.020 | 0.6983 | 0.511 | 1.78E-15 |
| TAPBPL | 12 | 0.020 | 0.7003 | 0.322 | 1.74E-06 |
| CBX6 | 22 | 0.020 | 0.7020 | 0.322 | 1.75E-06 |
| PSEN1 | 14 | -0.020 | 0.7038 | 0.364 | 5.45E-08 |
| CTBS | 1 | -0.020 | 0.7043 | 0.409 | 6.40E-10 |
| TFDP2 | 3 | -0.020 | 0.7043 | -0.424 | 1.32E-10 |
| ARNTL | 11 | 0.020 | 0.7070 | 0.415 | 3.46E-10 |
| GIMAP4 | 7 | 0.019 | 0.7102 | 0.536 | 0 |
| ENTPD1 | 10 | 0.019 | 0.7106 | 0.419 | 2.35E-10 |
| PMM1 | 22 | -0.019 | 0.7119 | 0.385 | 7.17E-09 |
| AGER | 6 | -0.019 | 0.7149 | 0.318 | 2.44E-06 |
| GLRX | 5 | -0.019 | 0.7171 | 0.429 | 7.13E-11 |
| ZNF217 | 20 | -0.019 | 0.7186 | 0.338 | 5.09E-07 |
| RPS6KA3 | X | -0.019 | 0.7190 | 0.401 | 1.53E-09 |
| CYP27A1 | 2 | 0.019 | 0.7193 | 0.517 | 8.88E-16 |
| CREB5 | 7 | 0.019 | 0.7211 | 0.494 | 2.22E-14 |
| AIP | 11 | -0.018 | 0.7232 | 0.319 | 2.27E-06 |
| ZYX | 7 | -0.018 | 0.7233 | 0.461 | 1.75E-12 |
| CYLD | 16 | 0.018 | 0.7235 | 0.322 | 1.81E-06 |
| CLN3 | 16 | 0.018 | 0.7268 | 0.359 | 8.34E-08 |
| IL10RA | 11 | 0.018 | 0.7286 | 0.441 | 1.91E-11 |
| RPS6KA1 | 1 | 0.018 | 0.7309 | 0.364 | 4.98E-08 |
| ANXA1 | 9 | -0.018 | 0.7320 | 0.431 | 5.98E-11 |
| CTSH | 15 | -0.018 | 0.7340 | 0.343 | 3.22E-07 |
| TCF4 | 18 | -0.018 | 0.7351 | -0.324 | 1.53E-06 |

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| ATF6 | 1 | 0.018 | 0.7356 | 0.326 | 1.31E-06 |
| PGS1 | 17 | -0.017 | 0.7380 | 0.365 | 4.60E-08 |
| LAMP3 | 3 | -0.017 | 0.7404 | 0.407 | 7.88E-10 |
| KIAA0125 | 14 | 0.017 | 0.7404 | -0.386 | 6.64E-09 |
| C1orf21 | 1 | 0.017 | 0.7425 | -0.319 | 2.26E-06 |
| IL27RA | 19 | -0.017 | 0.7428 | 0.400 | 1.67E-09 |
| SASH1 | 6 | -0.017 | 0.7437 | 0.434 | 4.23E-11 |
| DLEU1 | 13 | 0.017 | 0.7452 | -0.330 | 9.47E-07 |
| PXN | 12 | 0.017 | 0.7456 | 0.437 | 2.87E-11 |
| LGALS1 | 22 | 0.017 | 0.7457 | 0.349 | 1.94E-07 |
| COL5A1 | 9 | 0.017 | 0.7475 | -0.328 | 1.11E-06 |
| MAP2K1 | 15 | -0.017 | 0.7476 | 0.415 | 3.58E-10 |
| BLM | 15 | 0.016 | 0.7509 | -0.357 | 9.65E-08 |
| RASA4 | 7 | 0.016 | 0.7515 | 0.443 | 1.51E-11 |
| BSPRY | 9 | -0.016 | 0.7521 | -0.359 | 7.92E-08 |
| EDEM3 | 1 | -0.016 | 0.7521 | 0.413 | 4.38E-10 |
| TYK2 | 19 | -0.016 | 0.7523 | 0.403 | 1.21E-09 |
| TRPS1 | 8 | -0.016 | 0.7529 | 0.331 | 8.93E-07 |
| TSPAN14 | 10 | 0.016 | 0.7535 | 0.361 | 6.70E-08 |
| GDAP2 | 1 | 0.016 | 0.7562 | 0.360 | 7.22E-08 |
| TNFRSF10B | 8 | -0.016 | 0.7565 | 0.431 | 5.62E-11 |
| TRADD | 16 | 0.016 | 0.7568 | 0.351 | 1.69E-07 |
| RCBTB2 | 13 | -0.016 | 0.7610 | 0.492 | 2.73E-14 |
| HMHA1 | 19 | -0.016 | 0.7639 | 0.369 | 3.40E-08 |
| ITGAL | 16 | 0.015 | 0.7670 | 0.367 | 3.81E-08 |
| CKAP4 | 12 | 0.015 | 0.7789 | 0.453 | 4.37E-12 |
| TLE4 | 9 | 0.015 | 0.7792 | 0.363 | 5.62E-08 |
| PLCB2 | 15 | -0.014 | 0.7812 | 0.410 | 5.75E-10 |
| KIAA0319L | 1 | -0.014 | 0.7816 | 0.400 | 1.68E-09 |
| RNF13 | 3 | 0.014 | 0.7872 | 0.329 | 1.00E-06 |
| MAP3K1 | 5 | 0.014 | 0.7883 | 0.363 | 5.72E-08 |
| ACVR1B | 12 | 0.014 | 0.7885 | 0.335 | 6.22E-07 |
| TUBD1 | 17 | 0.014 | 0.7893 | 0.332 | 8.30E-07 |
| TAP1 | 6 | 0.014 | 0.7897 | 0.324 | 1.51E-06 |
| ANXA2 | 15 | 0.014 | 0.7907 | 0.365 | 4.65E-08 |
| GLB1 | 3 | -0.014 | 0.7915 | 0.520 | 4.44E-16 |
| GABBR1 | 6 | 0.014 | 0.7927 | 0.443 | 1.48E-11 |
| LRRFIP1 | 2 | 0.014 | 0.7949 | 0.378 | 1.37E-08 |
| ATP6V0E1 | 5 | -0.013 | 0.7950 | 0.354 | 1.24E-07 |
| UROS | 10 | -0.013 | 0.7967 | -0.334 | 6.72E-07 |
| KLF4 | 9 | 0.013 | 0.7976 | 0.340 | 4.06E-07 |
| ARHGAP26 | 5 | -0.013 | 0.7997 | 0.358 | 9.17E-08 |
| TIMP1 | X | -0.013 | 0.8003 | 0.441 | 1.91E-11 |
| GGA3 | 17 | 0.013 | 0.8006 | 0.320 | 2.15E-06 |
| PAWR | 12 | 0.013 | 0.8058 | -0.398 | 1.95E-09 |
| SPATS2 | 12 | 0.012 | 0.8102 | -0.373 | 2.35E-08 |

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| ARRB2 | 17 | 0.012 | 0.8105 | 0.578 | 0 |
| YWHAB | 20 | -0.012 | 0.8106 | 0.400 | 1.60E-09 |
| LPTM5 | 1 | 0.012 | 0.8106 | 0.344 | 2.94E-07 |
| MTO1 | 6 | 0.012 | 0.8118 | 0.332 | 7.86E-07 |
| YPEL1 | 22 | -0.012 | 0.8128 | -0.430 | 6.92E-11 |
| MTMR2 | 11 | -0.012 | 0.8138 | -0.344 | 2.88E-07 |
| AZI2 | 3 | -0.012 | 0.8165 | 0.363 | 5.47E-08 |
| MTMR14 | 3 | 0.012 | 0.8175 | 0.343 | 3.27E-07 |
| WDR1 | 4 | -0.011 | 0.8272 | 0.374 | 2.15E-08 |
| TSPO | 22 | -0.011 | 0.8290 | 0.474 | 3.27E-13 |
| LAMC1 | 1 | -0.011 | 0.8311 | -0.354 | 1.30E-07 |
| PACSIN2 | 22 | -0.011 | 0.8346 | 0.361 | 7.10E-08 |
| WEE1 | 11 | 0.010 | 0.8409 | -0.509 | 2.83E-15 |
| TPK1 | 7 | -0.010 | 0.8431 | 0.538 | 0 |
| WAPAL | 10 | -0.010 | 0.8434 | 0.353 | 1.34E-07 |
| IRS2 | 13 | 0.010 | 0.8446 | 0.323 | 1.63E-06 |
| SEL1L | 14 | -0.010 | 0.8486 | 0.334 | 6.61E-07 |
| AKAP13 | 15 | 0.010 | 0.8519 | 0.383 | 9.03E-09 |
| HIST1H1C | 6 | 0.010 | 0.8521 | -0.359 | 8.08E-08 |
| SCML1 | X | -0.009 | 0.8552 | 0.459 | 2.21E-12 |
| CRTAP | 3 | 0.009 | 0.8552 | 0.321 | 1.97E-06 |
| MTHFS | 15 | 0.009 | 0.8561 | 0.324 | 1.55E-06 |
| M6PR | 12 | 0.009 | 0.8583 | 0.391 | 3.91E-09 |
| VPS54 | 2 | 0.009 | 0.8602 | 0.323 | 1.65E-06 |
| SULT1A4 | 16 | -0.009 | 0.8616 | 0.333 | 7.63E-07 |
| ADI1 | 2 | -0.009 | 0.8621 | 0.352 | 1.55E-07 |
| MAK | 6 | 0.009 | 0.8623 | 0.343 | 3.17E-07 |
| OS9 | 12 | -0.009 | 0.8645 | 0.411 | 5.44E-10 |
| TREX1 | 3 | -0.009 | 0.8647 | 0.337 | 5.50E-07 |
| MAP3K3 | 17 | 0.009 | 0.8657 | 0.523 | 4.44E-16 |
| UBL3 | 13 | -0.009 | 0.8672 | 0.410 | 5.94E-10 |
| PHF7 | 3 | -0.009 | 0.8684 | -0.374 | 2.17E-08 |
| TGFBI | 5 | -0.009 | 0.8688 | 0.456 | 2.95E-12 |
| HSPBAP1 | 3 | -0.008 | 0.8702 | 0.415 | 3.43E-10 |
| MIPEP | 13 | 0.008 | 0.8710 | -0.335 | 6.35E-07 |
| CD28 | 2 | 0.008 | 0.8730 | 0.335 | 6.52E-07 |
| VANGL1 | 1 | 0.008 | 0.8733 | -0.322 | 1.78E-06 |
| NAIP | 5 | 0.008 | 0.8740 | 0.492 | 2.84E-14 |
| FRAT1 | 10 | -0.008 | 0.8804 | 0.422 | 1.59E-10 |
| NXF1 | 11 | -0.008 | 0.8845 | 0.342 | 3.66E-07 |
| VASH1 | 14 | 0.007 | 0.8858 | 0.423 | 1.51E-10 |
| FKBP15 | 9 | -0.007 | 0.8868 | 0.495 | 1.91E-14 |
| MTCH1 | 6 | 0.007 | 0.8885 | 0.349 | 1.88E-07 |
| CECR5 | 22 | 0.007 | 0.8895 | 0.421 | 1.76E-10 |
| ARHGEF10L | 1 | 0.007 | 0.8902 | 0.514 | 1.33E-15 |
| PLAUR | 19 | -0.007 | 0.8930 | 0.346 | 2.54E-07 |

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| LAP3 | 4 | -0.007 | 0.8933 | 0.363 | 5.47E-08 |
| SAT1 | X | 0.007 | 0.8938 | 0.395 | 2.60E-09 |
| NUP214 | 9 | 0.007 | 0.8951 | 0.498 | 1.29E-14 |
| ARPC5 | 1 | -0.007 | 0.8954 | 0.349 | 1.98E-07 |
| FAM45B | X | -0.007 | 0.8968 | 0.342 | 3.45E-07 |
| PSMC3IP | 17 | -0.007 | 0.8970 | 0.364 | 5.20E-08 |
| PGK1 | X | -0.007 | 0.8984 | 0.401 | 1.51E-09 |
| IFNGR1 | 6 | 0.007 | 0.8993 | 0.342 | 3.56E-07 |
| IFNAR2 | 21 | -0.007 | 0.9000 | 0.434 | 4.11E-11 |
| SERPINB2 | 18 | 0.007 | 0.9001 | 0.362 | 6.45E-08 |
| APOBEC3A | 22 | 0.006 | 0.9005 | 0.344 | 2.94E-07 |
| AAK1 | 2 | -0.006 | 0.9014 | 0.371 | 2.78E-08 |
| PLK4 | 4 | 0.006 | 0.9020 | -0.347 | 2.40E-07 |
| MTMR6 | 13 | -0.006 | 0.9027 | 0.384 | 7.95E-09 |
| DHFR | 5 | 0.006 | 0.9043 | -0.331 | 8.78E-07 |
| CSTB | 21 | 0.006 | 0.9116 | 0.438 | 2.80E-11 |
| UBQLN2 | X | 0.006 | 0.9131 | 0.350 | 1.80E-07 |
| HMOX1 | 22 | -0.006 | 0.9143 | 0.357 | 9.61E-08 |
| OCEL1 | 19 | -0.005 | 0.9157 | 0.358 | 8.60E-08 |
| DHX16 | 6 | -0.005 | 0.9199 | 0.323 | 1.65E-06 |
| RNASEL | 1 | 0.005 | 0.9216 | 0.479 | 1.58E-13 |
| BTN2A1 | 6 | 0.005 | 0.9263 | 0.329 | 1.06E-06 |
| ALDH3A2 | 17 | 0.005 | 0.9266 | 0.492 | 2.89E-14 |
| NFKB1 | 4 | 0.005 | 0.9280 | 0.425 | 1.17E-10 |
| CEBPD | 8 | 0.005 | 0.9300 | 0.384 | 7.72E-09 |
| NPEPL1 | 20 | 0.005 | 0.9305 | 0.323 | 1.60E-06 |
| HBEGF | 5 | -0.004 | 0.9317 | 0.499 | 1.11E-14 |
| SORBS1 | 10 | -0.004 | 0.9355 | -0.327 | 1.21E-06 |
| ELOVL6 | 4 | -0.004 | 0.9366 | -0.358 | 9.01E-08 |
| CORO2A | 9 | -0.004 | 0.9381 | 0.406 | 8.49E-10 |
| CNN2 | 19 | 0.004 | 0.9392 | 0.325 | 1.36E-06 |
| CAP1 | 1 | -0.004 | 0.9398 | 0.375 | 1.94E-08 |
| MGAT1 | 5 | -0.004 | 0.9404 | 0.472 | 4.26E-13 |
| DECR1 | 8 | -0.004 | 0.9416 | 0.318 | 2.39E-06 |
| TFCP2 | 12 | 0.004 | 0.9426 | 0.336 | 5.85E-07 |
| SULT1A1 | 16 | 0.004 | 0.9439 | 0.429 | 7.39E-11 |
| DHRS4 | 14 | -0.004 | 0.9461 | 0.318 | 2.36E-06 |
| ATRN | 20 | -0.003 | 0.9467 | 0.343 | 3.19E-07 |
| INPP4A | 2 | -0.003 | 0.9499 | 0.371 | 2.63E-08 |
| SLC35A1 | 6 | -0.003 | 0.9503 | 0.420 | 1.90E-10 |
| CAMTA2 | 17 | 0.003 | 0.9519 | 0.455 | 3.53E-12 |
| SERINC5 | 5 | 0.003 | 0.9530 | 0.503 | 6.66E-15 |
| C5AR1 | 19 | 0.003 | 0.9532 | 0.345 | 2.81E-07 |
| DSG2 | 18 | 0.003 | 0.9534 | -0.334 | 6.74E-07 |
| HCLS1 | 3 | 0.003 | 0.9548 | 0.370 | 3.02E-08 |
| NAGK | 2 | -0.003 | 0.9550 | 0.494 | 2.31E-14 |

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| VAMP3 | 1 | -0.003 | 0.9552 | 0.387 | 6.22E-09 |
| CST3 | 20 | 0.003 | 0.9558 | 0.501 | 8.44E-15 |
| VPS45 | 1 | 0.003 | 0.9573 | 0.341 | 3.87E-07 |
| RETSAT | 2 | -0.003 | 0.9574 | 0.320 | 2.12E-06 |
| SNX1 | 15 | 0.003 | 0.9587 | 0.397 | 2.15E-09 |
| PRNP | 20 | -0.002 | 0.9625 | 0.344 | 2.91E-07 |
| ERP29 | 12 | 0.002 | 0.9702 | 0.325 | 1.37E-06 |
| SFXN3 | 10 | 0.002 | 0.9729 | 0.324 | 1.53E-06 |
| WDHD1 | 14 | 0.002 | 0.9738 | -0.375 | 1.95E-08 |
| NRBF2 | 10 | 0.002 | 0.9739 | 0.395 | 2.64E-09 |
| RRAS2 | 11 | 0.002 | 0.9769 | -0.375 | 1.87E-08 |
| LILRA1 | 19 | 0.001 | 0.9777 | 0.396 | 2.47E-09 |
| PADI2 | 1 | -0.001 | 0.9778 | 0.400 | 1.63E-09 |
| TMEM127 | 2 | -0.001 | 0.9786 | 0.340 | 4.09E-07 |
| KLHL2 | 4 | 0.001 | 0.9828 | 0.329 | 1.04E-06 |
| COTL1 | 16 | -0.001 | 0.9848 | 0.454 | 4.23E-12 |
| DAZAP2 | 12 | 0.001 | 0.9878 | 0.358 | 8.84E-08 |
| CCDC109B | 4 | -0.001 | 0.9887 | 0.352 | 1.50E-07 |
| ULK2 | 17 | 0.000 | 0.9943 | 0.424 | 1.25E-10 |
| VASP | 19 | 0.000 | 0.9943 | 0.338 | 4.92E-07 |
| ALDH3B1 | 11 | 0.000 | 0.9945 | 0.343 | 3.35E-07 |
| ACVR1 | 2 | 0.000 | 0.9951 | 0.502 | 7.11E-15 |
| HTATIP2 | 11 | 0.000 | 0.9958 | 0.321 | 1.91E-06 |
| HCK | 20 | 0.000 | 0.9962 | 0.335 | 6.19E-07 |
| PHF20L1 | 8 | 0.000 | 0.9965 | 0.333 | 7.69E-07 |
| S100A10 | 1 | 0.000 | 0.9974 | 0.561 | 0 |
| SLC31A2 | 9 | 0.000 | 0.9978 | 0.456 | 3.27E-12 |
| RASGRP3 | 2 | 0.000 | 0.9997 | -0.322 | 1.84E-06 |
| VIPR1 | 3 | NA | NA | 0.736 | 0 |
| CD163 | 12 | NA | NA | 0.591 | 0 |
| PCSK5 | 9 | NA | NA | 0.570 | 0 |
| RTN1 | 14 | NA | NA | 0.556 | 0 |
| CACNA2D3 | 3 | NA | NA | 0.555 | 0 |
| CRISPLD2 | 16 | NA | NA | 0.544 | 0 |
| FBP1 | 9 | NA | NA | 0.530 | 0 |
| HNMT | 2 | NA | NA | 0.520 | 4.44E-16 |
| ZNF467 | 7 | NA | NA | 0.519 | 4.44E-16 |
| ASGR2 | 17 | NA | NA | 0.519 | 6.66E-16 |
| TLR5 | 1 | NA | NA | 0.518 | 6.66E-16 |
| TREM1 | 6 | NA | NA | 0.518 | 8.88E-16 |
| TMEM176A | 7 | NA | NA | 0.503 | 6.22E-15 |
| SIGLEC1 | 20 | NA | NA | 0.500 | 9.77E-15 |
| LGALS2 | 22 | NA | NA | 0.496 | 1.69E-14 |
| ADAMTSL4 | 1 | NA | NA | 0.494 | 2.26E-14 |
| SECTM1 | 17 | NA | NA | 0.493 | 2.53E-14 |
| SULT1B1 | 4 | NA | NA | 0.493 | 2.53E-14 |

| | | | | | |
|----------|----|----|----|-------|----------|
| VSIG4 | X | NA | NA | 0.491 | 3.22E-14 |
| VENTX | 10 | NA | NA | 0.491 | 3.29E-14 |
| FCN1 | 9 | NA | NA | 0.491 | 3.31E-14 |
| MS4A6A | 11 | NA | NA | 0.489 | 4.55E-14 |
| FCGR1B | 1 | NA | NA | 0.487 | 6.15E-14 |
| KBTBD11 | 8 | NA | NA | 0.474 | 3.40E-13 |
| FCGR1A | 1 | NA | NA | 0.473 | 3.71E-13 |
| CD14 | 5 | NA | NA | 0.469 | 6.09E-13 |
| CCR2 | 3 | NA | NA | 0.467 | 8.00E-13 |
| CSF2RA | X | NA | NA | 0.467 | 8.23E-13 |
| TMEM176B | 7 | NA | NA | 0.466 | 9.20E-13 |
| MRC1 | 10 | NA | NA | 0.461 | 1.73E-12 |
| MAPK10 | 4 | NA | NA | 0.453 | 4.34E-12 |
| STEAP4 | 7 | NA | NA | 0.453 | 4.40E-12 |
| P2RY13 | 3 | NA | NA | 0.452 | 5.20E-12 |
| CLEC4E | 12 | NA | NA | 0.452 | 5.36E-12 |
| FPR1 | 19 | NA | NA | 0.439 | 2.24E-11 |
| SEZ6L | 22 | NA | NA | 0.433 | 4.46E-11 |
| IL1RN | 2 | NA | NA | 0.433 | 4.60E-11 |
| MEFV | 16 | NA | NA | 0.433 | 4.67E-11 |
| TLR8 | X | NA | NA | 0.432 | 5.37E-11 |
| PPARGC1A | 4 | NA | NA | 0.428 | 7.94E-11 |
| RNASE4 | 14 | NA | NA | 0.427 | 9.46E-11 |
| CSTA | 3 | NA | NA | 0.419 | 2.31E-10 |
| IGSF6 | 16 | NA | NA | 0.415 | 3.36E-10 |
| VNN3 | 6 | NA | NA | 0.407 | 8.35E-10 |
| CSF3R | 1 | NA | NA | 0.406 | 8.54E-10 |
| DSG1 | 18 | NA | NA | 0.404 | 1.13E-09 |
| CLEC7A | 12 | NA | NA | 0.388 | 5.59E-09 |
| THBD | 20 | NA | NA | 0.382 | 9.82E-09 |
| CLEC10A | 17 | NA | NA | 0.381 | 1.10E-08 |
| SMPDL3A | 6 | NA | NA | 0.372 | 2.43E-08 |
| FCAR | 19 | NA | NA | 0.372 | 2.50E-08 |
| CACNA1I | 22 | NA | NA | 0.368 | 3.51E-08 |
| TGFA | 2 | NA | NA | 0.362 | 6.11E-08 |
| EPB41L3 | 18 | NA | NA | 0.359 | 8.34E-08 |
| CPVL | 7 | NA | NA | 0.358 | 8.56E-08 |
| CALCA | 11 | NA | NA | 0.358 | 8.74E-08 |
| MAFB | 20 | NA | NA | 0.356 | 1.11E-07 |
| STAB1 | 3 | NA | NA | 0.354 | 1.27E-07 |
| ICOS | 2 | NA | NA | 0.353 | 1.37E-07 |
| CD5 | 11 | NA | NA | 0.346 | 2.58E-07 |
| GNAQ | 9 | NA | NA | 0.345 | 2.69E-07 |
| SLA | 8 | NA | NA | 0.344 | 3.00E-07 |
| CDA | 1 | NA | NA | 0.344 | 3.01E-07 |
| HAL | 12 | NA | NA | 0.339 | 4.41E-07 |

| | | | | | |
|-----------|----|----|----|--------|----------|
| EGLN2 | 19 | NA | NA | 0.337 | 5.49E-07 |
| CLEC1A | 12 | NA | NA | 0.336 | 5.57E-07 |
| HK3 | 5 | NA | NA | 0.334 | 6.82E-07 |
| LILRA5 | 19 | NA | NA | 0.333 | 7.62E-07 |
| S100A12 | 1 | NA | NA | 0.332 | 7.97E-07 |
| NBPF14 | 1 | NA | NA | 0.328 | 1.13E-06 |
| RIN2 | 20 | NA | NA | 0.326 | 1.30E-06 |
| BCL6 | 3 | NA | NA | 0.324 | 1.49E-06 |
| NBPF10 | 1 | NA | NA | 0.321 | 1.90E-06 |
| CEBPA | 19 | NA | NA | 0.321 | 1.97E-06 |
| SLC8A1 | 2 | NA | NA | 0.317 | 2.67E-06 |
| CFH | 1 | NA | NA | -0.317 | 2.61E-06 |
| MPDZ | 9 | NA | NA | -0.318 | 2.51E-06 |
| SPTA1 | 1 | NA | NA | -0.318 | 2.38E-06 |
| CRYGD | 2 | NA | NA | -0.319 | 2.20E-06 |
| CRHBP | 5 | NA | NA | -0.321 | 1.93E-06 |
| HIST1H2BE | 6 | NA | NA | -0.323 | 1.63E-06 |
| GSTM5 | 1 | NA | NA | -0.324 | 1.50E-06 |
| MPPED2 | 11 | NA | NA | -0.324 | 1.48E-06 |
| MYOZ3 | 5 | NA | NA | -0.325 | 1.46E-06 |
| HMGA2 | 12 | NA | NA | -0.325 | 1.45E-06 |
| HIST1H2BF | 6 | NA | NA | -0.325 | 1.38E-06 |
| NPR3 | 5 | NA | NA | -0.329 | 9.83E-07 |
| HIST1H2BI | 6 | NA | NA | -0.330 | 9.52E-07 |
| TEK | 9 | NA | NA | -0.331 | 8.60E-07 |
| IGLL1 | 22 | NA | NA | -0.331 | 8.59E-07 |
| HIST1H2BH | 6 | NA | NA | -0.336 | 6.03E-07 |
| COBLL1 | 2 | NA | NA | -0.336 | 5.86E-07 |
| ENAH | 1 | NA | NA | -0.336 | 5.66E-07 |
| ADAMTS3 | 4 | NA | NA | -0.338 | 5.01E-07 |
| KHDRBS2 | 6 | NA | NA | -0.339 | 4.62E-07 |
| KLF1 | 19 | NA | NA | -0.339 | 4.38E-07 |
| AGTR1 | 3 | NA | NA | -0.349 | 1.97E-07 |
| HIST1H4C | 6 | NA | NA | -0.352 | 1.48E-07 |
| HIST1H3C | 6 | NA | NA | -0.355 | 1.20E-07 |
| HOXA10 | 7 | NA | NA | -0.358 | 9.16E-08 |
| AKR1C2 | 10 | NA | NA | -0.359 | 8.42E-08 |
| MYT1L | 2 | NA | NA | -0.360 | 7.55E-08 |
| FAT4 | 4 | NA | NA | -0.360 | 7.26E-08 |
| JAKMIP2 | 5 | NA | NA | -0.361 | 6.68E-08 |
| NUDT11 | X | NA | NA | -0.363 | 5.90E-08 |
| CYTL1 | 4 | NA | NA | -0.366 | 4.35E-08 |
| TFPI | 2 | NA | NA | -0.371 | 2.66E-08 |
| AKR1C3 | 10 | NA | NA | -0.398 | 2.01E-09 |
| TSPAN13 | 7 | NA | NA | -0.432 | 5.59E-11 |

Supplementary Table 2. eQTLs for genes co-expressed with *IL6R*. *Proxy SNPs were chosen based on an $R^2 > 0.8$. Abbreviations: BP, base pair; Chr, chromosome; SNP, single nucleotide polymorphism.

| No. | SNP | Chr | bp | Gene regulated by a risk SNP | Proxy SNP* | P-value | Sample | Study |
|-----|------------|-----|-----------|------------------------------|------------|-----------|-------------|--------------------|
| 1 | rs9611485 | 22 | 41060886 | EP300 | rs9611462 | 0 | Lung | {Hao,2012} |
| | rs9611485 | 22 | 41060886 | PMM1 | rs9611485 | 4.67E-06 | LCLs | {Lappalainen,2013} |
| 2 | rs324011 | 12 | 57108399 | STAT6 | rs12368672 | 9.81E-198 | Whole-Blood | {Westra,2013} |
| 3 | rs8003392 | 14 | 76672868 | VASH1 | rs10873292 | 9.81E-198 | Whole-Blood | {Westra,2013} |
| 4 | rs4911214 | 20 | 32299661 | TM9SF4 | rs6141641 | 3.03E-184 | Whole-Blood | {Westra,2013} |
| 5 | rs4778892 | 15 | 81312048 | IL16 | rs3726 | 1.57E-183 | Whole-Blood | {Westra,2013} |
| 6 | rs10197862 | 2 | 102350089 | IL18RAP | rs10197862 | 2.82E-137 | Whole-Blood | {Westra,2013} |
| | rs10197862 | 2 | 102350089 | IL18R1 | rs950881 | 0.0003 | Whole-Blood | {Westra,2013} |
| 7 | rs731945 | 19 | 18456229 | ELL | rs731945 | 1.27E-135 | Whole-Blood | {Westra,2013} |
| 8 | rs2267076 | 22 | 24434627 | UPB1 | rs1008931 | 4.45E-98 | Whole-Blood | {Westra,2013} |
| 9 | rs785472 | 1 | 46052616 | PIK3R3 | rs1707321 | 3.04E-62 | Whole-Blood | {Battle,2014} |
| 10 | rs4833095 | 4 | 38798089 | TLR1 | rs12233670 | 2.80E-57 | Whole-Blood | {Battle,2014} |
| 11 | rs7223589 | 17 | 31401266 | EVI2A | rs10512434 | 1.32E-56 | Whole-Blood | {Westra,2013} |
| | rs7223589 | 17 | 31401266 | EVI2B | rs2525570 | 2.15E-06 | Whole-Blood | {Westra,2013} |
| 12 | rs11602465 | 11 | 9943274 | ADM | rs12421179 | 5.90E-56 | Whole-Blood | {Westra,2013} |
| 13 | rs13020280 | 2 | 223941421 | WDFY1 | rs6734908 | 1.83E-43 | Whole-Blood | {Westra,2013} |
| 14 | rs10845506 | 12 | 12282676 | LRP6 | rs1071994 | 2.51E-40 | Whole-Blood | {Battle,2014} |
| 15 | rs9289837 | 3 | 151388204 | MED12L | rs13327359 | 2.42E-37 | Whole-Blood | {Westra,2013} |
| | rs9289837 | 3 | 151388204 | P2RY13 | rs7637803 | 2.01E-14 | Whole-Blood | {Westra,2013} |
| 16 | rs6790914 | 3 | 49168885 | USP4 | rs10865954 | 3.57E-33 | Whole-Blood | {Westra,2013} |
| | rs6790914 | 3 | 49168885 | NDUFAF3 | rs10865954 | 0.0034 | Whole-Blood | {Westra,2013} |
| 17 | rs7155696 | 14 | 35027548 | SRP54 | rs12890307 | 1.98E-27 | Whole-Blood | {Westra,2013} |
| 18 | rs12502586 | 4 | 15724941 | FBXL5 | rs12502586 | 6.06E-19 | Whole-Blood | {Westra,2013} |
| 19 | rs162328 | 2 | 38091546 | CYP1B1 | rs4670814 | 6.33E-18 | Whole-Blood | {Westra,2013} |
| 20 | rs17061789 | 3 | 60014239 | FHIT | rs17061789 | 8.06E-18 | Whole-Blood | {Westra,2013} |
| 21 | rs7234644 | 18 | 56770128 | TXNL1 | rs7234644 | 9.19E-17 | Whole-Blood | {Westra,2013} |
| 22 | rs13212921 | 6 | 27237643 | BTN2A1 | rs13217285 | 1.72E-15 | LCLs | {Lappalainen,2013} |
| 23 | rs11265424 | 1 | 160530060 | SLAMF1 | rs6670721 | 2.96E-15 | Whole-Blood | {Westra,2013} |
| 24 | rs17710743 | 19 | 41569079 | CEACAM21 | rs16975338 | 4.76E-14 | Whole-Blood | {Westra,2013} |
| 25 | rs56872707 | 5 | 80898586 | DHFR | rs13159448 | 1.42E-13 | LCLs | {Lappalainen,2013} |
| 26 | rs10101062 | 8 | 123112091 | ZHX2 | rs7012815 | 1.78E-13 | Whole-Blood | {Westra,2013} |
| 27 | rs4942758 | 13 | 48213854 | ITM2B | rs551034 | 2.18E-13 | Whole-Blood | {Westra,2013} |
| 28 | rs6949090 | 7 | 67432703 | STAG3L4 | rs10233061 | 2.99E-12 | PBMCs | {Zeller,2010} |
| 29 | rs2357792 | 16 | 50734311 | NOD2 | rs7342715 | 3.45E-11 | PBMCs | {Zeller,2010} |
| 30 | rs7185536 | 16 | 67958261 | SLC7A6 | rs1107767 | 4.94E-11 | PBMCs | {Zeller,2010} |
| | rs7185536 | 16 | 67958261 | PSMB10 | rs1133090 | 3.35E-07 | Whole-Blood | {Battle,2014} |
| 31 | rs11000805 | 10 | 73903593 | NDST2 | rs17741873 | 2.68E-10 | Whole-Blood | {Westra,2013} |
| 32 | rs1464510 | 3 | 188394766 | BCL6 | rs9864529 | 5.22E-10 | PBMCs | {Zeller,2010} |

| | | | | | | | | |
|----|------------|----|-----------|----------|------------|----------|-------------|--------------------|
| 33 | rs12757280 | 1 | 150753573 | CTSS | rs55972172 | 1.35E-09 | LCLs | {Lappalainen,2013} |
| 34 | rs9890550 | 17 | 75018845 | SLC16A5 | rs12449492 | 7.19E-09 | Whole-Blood | {Westra,2013} |
| 35 | rs28631821 | 14 | 55379269 | DLGAP5 | rs7147136 | 1.02E-08 | LCLs | {Lappalainen,2013} |
| 36 | rs2419618 | 10 | 112316082 | ACSL5 | rs2419618 | 1.28E-08 | LCLs | {Lappalainen,2013} |
| 37 | rs931702 | 3 | 113215905 | SIDT1 | rs931702 | 3.10E-08 | LCLs | {Lappalainen,2013} |
| 38 | rs13416555 | 2 | 8301605 | ID2 | rs891058 | 6.05E-08 | PBMCs | {Zeller,2010} |
| 39 | rs9630721 | 17 | 6947049 | ASGR2 | rs9630722 | 6.08E-08 | Whole-Blood | {Westra,2013} |
| 40 | rs1757460 | 15 | 41498262 | NUSAP1 | rs1757457 | 8.65E-08 | LCLs | {Lappalainen,2013} |
| 41 | rs9298557 | 8 | 56981127 | IMPAD1 | rs9298557 | 1.03E-07 | Lung | {Hao,2012} |
| 42 | rs3827279 | 22 | 17115039 | IL17RA | rs3827278 | 3.33E-07 | Lung | {Hao,2012} |
| 43 | rs10501420 | 11 | 74784992 | RNF169 | rs17133608 | 3.49E-07 | PBMCs | {Zeller,2010} |
| 44 | rs11167763 | 5 | 142055901 | NDFIP1 | rs6884380 | 5.45E-07 | LCLs | {Lappalainen,2013} |
| 45 | rs4653051 | 1 | 33333327 | PHC2 | rs4653015 | 1.05E-06 | Whole-Blood | {Battle,2014} |
| 46 | rs12048743 | 1 | 205145745 | DSTYK | rs1572993 | 1.15E-06 | Monocytes | {Fairfax, 2012} |
| 47 | rs7946115 | 11 | 65598721 | FRMD8 | rs10791820 | 1.61E-06 | LCLs | {Lappalainen,2013} |
| 48 | rs12709916 | 19 | 49817730 | PTOV1 | rs12709916 | 1.96E-06 | LCLs | {Lappalainen,2013} |
| 49 | rs4725618 | 7 | 143425331 | ZYX | rs6951852 | 2.43E-06 | Whole-Blood | {Westra,2013} |
| 50 | rs758206 | 7 | 140204661 | TBXAS1 | rs6956540 | 2.70E-06 | Whole-Blood | {Westra,2013} |
| 51 | rs2797414 | 1 | 113752816 | RSBN1 | rs6537798 | 3.09E-06 | Whole-Blood | {Westra,2013} |
| 52 | rs2071595 | 6 | 31539285 | HLA-B | rs3219184 | 3.98E-06 | LCLs | {Lappalainen,2013} |
| 53 | rs25987 | 5 | 14712600 | FAM105A | rs31926 | 5.06E-06 | Lung | {Hao,2012} |
| 54 | rs6511788 | 19 | 12369223 | MAN2B1 | rs10411986 | 5.22E-06 | LCLs | {Lappalainen,2013} |
| 55 | rs2453570 | 17 | 19474180 | ALDH3A2 | rs2428584 | 6.11E-06 | Whole-Blood | {Westra,2013} |
| 56 | rs10245342 | 7 | 64627050 | ZNF736 | rs4313046 | 6.23E-06 | LCLs | {Lappalainen,2013} |
| 57 | rs1163073 | 10 | 103263177 | SH3PXD2A | rs7911488 | 1.33E-05 | Whole-Blood | {Westra,2013} |
| 58 | rs10431490 | 12 | 51931787 | SMAGP | rs10783481 | 2.15E-05 | Monocytes | {Fairfax, 2012} |
| 59 | rs2033466 | 5 | 151701814 | SPARC | rs2033466 | 2.28E-05 | Whole-Blood | {Westra,2013} |
| 60 | rs2167524 | 18 | 54644208 | MBD2 | rs1077553 | 5.15E-05 | Lung | {Hao,2012} |
| 61 | rs2435206 | 17 | 45980745 | NSF | rs2435211 | 9.38E-05 | LCLS | {Dimas,2009} |
| 62 | rs7039317 | 9 | 34964538 | STOML2 | rs10972275 | 9.58E-05 | Whole-Blood | {Westra,2013} |
| 63 | rs540178 | 9 | 117547445 | TLR4 | rs540178 | 0.0002 | Whole-Blood | {Westra,2013} |
| 64 | rs13268953 | 8 | 28197719 | KIF13B | rs13268953 | 0.0002 | Monocytes | {Fairfax, 2012} |
| 65 | rs9989026 | 12 | 7105855 | CD163 | rs6487290 | 0.0002 | Monocytes | {Fairfax, 2012} |
| 66 | rs13256893 | 8 | 89664751 | RIPK2 | rs13256893 | 0.0003 | Whole-Blood | {Westra,2013} |
| 67 | rs34097828 | 14 | 94321337 | SERPINA1 | rs3748320 | 0.0003 | Whole-Blood | {Westra,2013} |
| 68 | rs2071390 | 16 | 30070046 | CORO1A | rs2071390 | 0.0003 | Whole-Blood | {Westra,2013} |
| 69 | rs2251083 | 10 | 133461697 | ECHS1 | rs2255518 | 0.0003 | Whole-Blood | {Westra,2013} |
| 70 | rs3918188 | 7 | 151005693 | TMEM176A | rs3918188 | 0.0004 | Whole-Blood | {Westra,2013} |
| 71 | rs7596735 | 2 | 44105567 | PREPL | rs7596735 | 0.0004 | Whole-Blood | {Westra,2013} |
| 72 | rs2391391 | 1 | 94986370 | CNN3 | rs2391391 | 0.0004 | B-cells | {Fairfax, 2012} |
| 73 | rs6792409 | 3 | 69465422 | FRMD4B | rs17432953 | 0.0004 | Whole-Blood | {Westra,2013} |
| 74 | rs4687721 | 3 | 51564238 | PPM1M | rs11719995 | 0.0005 | Monocytes | {Fairfax, 2012} |
| 75 | rs1501534 | 1 | 37221817 | MTF1 | rs1566599 | 0.0006 | B-cells | {Fairfax, 2012} |

| | | | | | | | | |
|----|------------|----|-----------|----------|------------|--------|-------------|-----------------|
| 76 | rs35259724 | 12 | 113124090 | OAS3 | rs17643821 | 0.0006 | B-cells | {Fairfax, 2012} |
| 77 | rs2932967 | 4 | 23813502 | PPARGC1A | rs2932965 | 0.0006 | Whole-Blood | {Westra,2013} |
| 78 | rs4944804 | 11 | 72809485 | ARAP1 | rs663015 | 0.0009 | Whole-Blood | {Westra,2013} |
| 79 | rs1253118 | 14 | 59497301 | RTN1 | rs956901 | 0.0016 | Whole-Blood | {Westra,2013} |
| 80 | rs1288354 | 1 | 53134678 | C1orf123 | rs1288354 | 0.0017 | Whole-Blood | {Westra,2013} |
| 81 | rs6544629 | 2 | 43142628 | ZFP36L2 | rs12105183 | 0.0022 | Whole-Blood | {Westra,2013} |
| 82 | rs17125240 | 8 | 17751387 | MTUS1 | rs3862101 | 0.0026 | Whole-Blood | {Westra,2013} |
| 83 | rs6134069 | 20 | 10882886 | JAG1 | rs6134067 | 0.0027 | Whole-Blood | {Westra,2013} |
| 84 | rs7246816 | 19 | 15403849 | BRD4 | rs3826863 | 0.0031 | Whole-Blood | {Westra,2013} |

Supplementary Table 3. Meta-analysis of the Ferreira 2,014 and GABRIEL GWAS for the 14 SNPs with validated asthma risk association. Abbreviations: A1, allele 1; A2, allele 2; SE, standard error; SNP, single nucleotide polymorphism.

| SNP | A1 | A2 | Effect | SE | P-value | Direction |
|------------|----|----|--------|--------|------------------------|-----------|
| rs10197862 | A | G | 0.197 | 0.0222 | 7.25x10 ⁻¹⁹ | ++ |
| rs4833095 | T | G | 0.121 | 0.0179 | 1.67x10 ⁻¹¹ | ++ |
| rs1464510 | A | G | -0.086 | 0.0153 | 1.70x10 ⁻⁰⁸ | -- |
| rs324011 | T | G | 0.077 | 0.0154 | 5.80x10 ⁻⁰⁷ | ++ |
| rs13416555 | C | G | 0.082 | 0.017 | 1.54x10 ⁻⁰⁶ | ++ |
| rs7039317 | T | G | 0.094 | 0.0196 | 1.67x10 ⁻⁰⁶ | ++ |
| rs9289837 | T | G | -0.085 | 0.0194 | 1.20x10 ⁻⁰⁵ | -- |
| rs2357792 | A | G | 0.068 | 0.0158 | 1.82x10 ⁻⁰⁵ | ++ |
| rs13212921 | T | G | 0.102 | 0.024 | 2.00x10 ⁻⁰⁵ | ++ |
| rs11265424 | A | G | -0.068 | 0.0169 | 5.63x10 ⁻⁰⁵ | -- |
| rs2435206 | T | G | 0.062 | 0.0162 | 0.00015 | ++ |
| rs1253118 | T | G | 0.056 | 0.0157 | 0.00033 | ++ |
| rs6511788 | T | G | 0.063 | 0.0175 | 0.00034 | ++ |
| rs11000805 | C | G | 0.064 | 0.0192 | 0.00094 | ++ |

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