

## Supplementary Information

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**Table S1 The primer sequences of mice and clinical samples.**

**-Mice samples**

| Gene   | Primer sequences (5' - 3')       |
|--------|----------------------------------|
| GAPDH  | Forward: CCTCGTCCCGTAGACAAAATG   |
|        | Reverse: TGAGGTCAATGAAGGGGTCGT   |
| JUN    | Forward: ACTCGGACCTTCTCACGTC     |
|        | Reverse: GGTCGGTGTAGTGGTGATGT    |
| ATF3   | Forward: GTGCCTGCAGAAAGAGTCAGA   |
|        | Reverse: CTTCCGGTGTCCGTCCATTC    |
| CDKN1A | Forward: GCAGAATAAAAAGGTGCCACAGG |
|        | Reverse: AAAGTTCCACCGTTCTCGGG    |
| GPX4   | Forward: TGTGCATCCCGCGATGATT     |
|        | Reverse: CCCTGTACTTATCCAGGCAGA   |

**Table S1 The primer sequences of mice and clinical samples.  
-Clinical samples**

| Gene          | Primer sequences (5'-3') |   |
|---------------|--------------------------|---|
| β-actin       | Forward:                 | ATTGCCGACAGGATGCAGAA                                |
|               | Reverse:                 | GCTGATCCACATCTGCTGGAA                               |
| U6            | Forward:                 | CTCGCTTCGGCAGCACA                                   |
|               | Reverse:                 | AACGCTTCACGAATTTGCGT                                |
| IL-1β         | Forward:                 | TTCGACACATGGGATAACGAGG                              |
|               | Reverse:                 | TTTTTGCTGTGAGTCCCGGAG                               |
| TNF-α         | Forward:                 | GCCTCGCCCTTTGCTTTACT                                |
|               | Reverse:                 | CTGTGGGTCTCAGGGAGATCA                               |
| JUN           | Forward:                 | TCCAAGTGCCGAAAAAGGAAG                               |
|               | Reverse:                 | CGAGTTCTGAGCTTCAAGGT                                |
| ATF3          | Forward:                 | CCTCTGCGCTGGAATCAGTC                                |
|               | Reverse:                 | TTCTTTCTCGTCGCCTCTTTTT                              |
| CDKN1A        | Forward:                 | TGTCCGTCAGAACCCATGC                                 |
|               | Reverse:                 | AAAGTCGAAGTTCCATCGCTC                               |
| GPX4          | Forward:                 | GAGGCAAGACCGAAGTAACTAC                              |
|               | Reverse:                 | CCGAAGTGGTTACACGGGAA                                |
| RP5-894D12.5  | Forward:                 | TGTTCCCTGAGTGCTTCGTC                                |
|               | Reverse:                 | GAGGCCAGATCCACGATCAG                                |
| FAM95B1       | Forward:                 | ACACATCATTCTGGGAGGC                                 |
|               | Reverse:                 | AGACACCATGGGCTTTGGTC                                |
| miR-665       | Forward:                 | CGCGACCAGGAGGCTGAG                                  |
|               | Reverse:                 | GTCGTATCCAGTGCAGGGTCCGAGGTATTTCGCACTGGATACGACAGGGGC |
| miR-1972      | Forward:                 | CGTCAGGCCAGGCACAGT                                  |
|               | Reverse:                 | GTCGTATCCAGTGCAGGGTCCGAGGTATTTCGCACTGGATACGACTGAGCC |
| miR-181a-2-3p | Forward:                 | GTCGTATCCAGTGCAGGGTCCGAGGTATTTCGCACTGGATACGACGGTACA |
|               | Reverse:                 | GCGACCACTGACCGTTGAC                                 |

**Table S2 The differentially expressed genes of GSE114007 dataset and GSE55235 dataset.**

| -GSE114007 |             |             |             |          |           |             |      |
|------------|-------------|-------------|-------------|----------|-----------|-------------|------|
| Gene ID    | logFC       | AveExpr     | t           | P.Value  | adj.P.Val | B           | Type |
| CFI        | 3.395201335 | 5.884655883 | 12.71447717 | 2.43E-15 | 1.38E-11  | 24.54514554 | up   |
| SPOCK1     | 3.312175813 | 7.474253654 | 10.54032103 | 6.79E-13 | 1.19E-09  | 19.21173345 | up   |
| SULF1      | 2.368262875 | 9.27354015  | 9.434562106 | 1.51E-11 | 1.07E-08  | 16.24211073 | up   |
| CHPF2      | 1.635358691 | 8.425273508 | 9.389054021 | 1.72E-11 | 1.19E-08  | 16.11621787 | up   |
| TNFSF15    | 4.161568909 | 3.444507067 | 9.378217224 | 1.77E-11 | 1.19E-08  | 16.08619708 | up   |
| TYMP       | 2.224476661 | 5.643928271 | 9.206745121 | 2.91E-11 | 1.73E-08  | 15.60903339 | up   |
| GRIA2      | 4.257781399 | 4.457451431 | 9.19269105  | 3.03E-11 | 1.73E-08  | 15.5697468  | up   |
| SKP2       | 1.32959585  | 5.725351839 | 9.090605517 | 4.08E-11 | 2.16E-08  | 15.28357673 | up   |
| SH3KBP1    | 1.435842588 | 6.864751612 | 8.982312724 | 5.60E-11 | 2.83E-08  | 14.97847705 | up   |
| PHACTR3    | 2.049812721 | 1.4744957   | 8.905981803 | 7.01E-11 | 3.47E-08  | 14.76248856 | up   |
| THBS2      | 2.597917708 | 8.889316625 | 8.719061402 | 1.22E-10 | 5.54E-08  | 14.23034641 | up   |
| BICD2      | 1.16749505  | 7.297307427 | 8.655207378 | 1.47E-10 | 6.49E-08  | 14.04752535 | up   |
| GALNT7     | 1.354005373 | 7.302043967 | 8.647416709 | 1.50E-10 | 6.49E-08  | 14.02518413 | up   |
| ST6GALNAC5 | 4.171511823 | 4.229387524 | 8.5708757   | 1.89E-10 | 7.68E-08  | 13.80527873 | up   |
| POSTN      | 6.451032995 | 6.710705985 | 8.542954592 | 2.05E-10 | 7.79E-08  | 13.72487623 | up   |
| CCNJ       | 1.23163332  | 5.371323616 | 8.51570655  | 2.23E-10 | 8.30E-08  | 13.64631772 | up   |
| PREX2      | 2.867834053 | 5.654608375 | 8.510872117 | 2.26E-10 | 8.30E-08  | 13.63236994 | up   |
| LRRC15     | 4.574792078 | 5.29721778  | 8.455253833 | 2.67E-10 | 9.35E-08  | 13.4716971  | up   |
| COL1A1     | 5.063091252 | 9.690685111 | 8.355605064 | 3.60E-10 | 1.14E-07  | 13.18287409 | up   |
| HTRA1      | 2.742875865 | 12.65129157 | 8.257789894 | 4.83E-10 | 1.45E-07  | 12.89819469 | up   |
| EPDR1      | 2.348280779 | 4.719583362 | 8.17461816  | 6.21E-10 | 1.81E-07  | 12.65523763 | up   |
| THY1       | 4.267922597 | 6.382197603 | 8.088621913 | 8.06E-10 | 2.27E-07  | 12.40318077 | up   |
| CRTAC1     | 1.55508613  | 12.65010717 | 8.068344651 | 8.57E-10 | 2.38E-07  | 12.34362375 | up   |
| ASPM       | 3.67995869  | 3.760617154 | 8.031176571 | 9.59E-10 | 2.63E-07  | 12.2343348  | up   |
| NACC1      | 1.058240533 | 5.412537196 | 7.902439112 | 1.42E-09 | 3.59E-07  | 11.85460089 | up   |
| GPX8       | 1.339638961 | 8.638413412 | 7.897501022 | 1.44E-09 | 3.61E-07  | 11.83999877 | up   |
| C14orf119  | 1.354680927 | 6.246592862 | 7.811543836 | 1.88E-09 | 4.31E-07  | 11.58539891 | up   |
| DIO2       | 3.321602265 | 8.390667537 | 7.759813258 | 2.20E-09 | 4.96E-07  | 11.43179773 | up   |
| FAM98A     | 1.154883866 | 7.68900873  | 7.71756372  | 2.50E-09 | 5.48E-07  | 11.30614126 | up   |
| FAP        | 2.581241516 | 8.740657884 | 7.693644285 | 2.69E-09 | 5.84E-07  | 11.23491989 | up   |
| PDGFC      | 2.020166599 | 7.779708535 | 7.655088116 | 3.03E-09 | 6.35E-07  | 11.11999453 | up   |
| FUT4       | 1.523197627 | 8.002044659 | 7.639253536 | 3.18E-09 | 6.53E-07  | 11.07275266 | up   |
| GDE1       | 1.206391174 | 7.136910898 | 7.634896043 | 3.23E-09 | 6.53E-07  | 11.05974785 | up   |
| P4HA3      | 2.146157163 | 7.003624287 | 7.614707837 | 3.43E-09 | 6.86E-07  | 10.99947211 | up   |
| TMEM19     | 1.493321634 | 6.764464111 | 7.546375904 | 4.24E-09 | 8.40E-07  | 10.79515707 | up   |
| CTSC       | 2.72303159  | 7.026030585 | 7.484100632 | 5.14E-09 | 9.76E-07  | 10.60856026 | up   |
| SMIM13     | 1.51443482  | 5.097997778 | 7.459920734 | 5.55E-09 | 1.04E-06  | 10.53511059 | up   |
| NT5E       | 1.810968812 | 10.22305486 | 7.458069287 | 5.57E-09 | 1.04E-06  | 10.53045374 | up   |
| TGFB1      | 4.139657181 | 9.145711497 | 7.441410677 | 5.87E-09 | 1.08E-06  | 10.48043695 | up   |
| CD276      | 1.527465727 | 7.498987039 | 7.417381835 | 6.32E-09 | 1.14E-06  | 10.4082465  | up   |
| ISM1       | 1.878640453 | 9.871042913 | 7.385112607 | 6.99E-09 | 1.23E-06  | 10.31121682 | up   |
| KDELCL1    | 1.444526696 | 5.611882452 | 7.380896691 | 7.08E-09 | 1.24E-06  | 10.29853316 | up   |
| ECM1       | 1.880760157 | 6.616508339 | 7.379117259 | 7.12E-09 | 1.24E-06  | 10.29317923 | up   |
| TNFAIP6    | 4.282171099 | 6.692272733 | 7.368255397 | 7.36E-09 | 1.26E-06  | 10.26049209 | up   |
| GM2A       | 1.006572001 | 7.09610293  | 7.327796544 | 8.35E-09 | 1.41E-06  | 10.13864563 | up   |
| EXTL2      | 1.600499244 | 7.100902042 | 7.306709957 | 8.91E-09 | 1.48E-06  | 10.07508437 | up   |
| DNM3OS     | 1.335324105 | 8.715930204 | 7.305334254 | 8.95E-09 | 1.48E-06  | 10.07093626 | up   |
| EFEMP1     | 3.16894718  | 8.979511151 | 7.256738202 | 1.04E-08 | 1.66E-06  | 9.92430281  | up   |
| TREM1      | 3.829430875 | 4.509376892 | 7.248748943 | 1.07E-08 | 1.69E-06  | 9.90017702  | up   |
| MEX3D      | 2.413220946 | 3.999786922 | 7.213255562 | 1.19E-08 | 1.83E-06  | 9.792930968 | up   |
| GLI3       | 1.351161318 | 10.70660758 | 7.195114399 | 1.26E-08 | 1.87E-06  | 9.738076204 | up   |
| ADO        | 1.029608133 | 6.610451634 | 7.119246688 | 1.60E-08 | 2.30E-06  | 9.508385122 | up   |
| LYPLA1     | 1.089133205 | 6.481082639 | 7.080691417 | 1.80E-08 | 2.55E-06  | 9.391487245 | up   |
| C7orf73    | 1.505407473 | 7.941881236 | 7.067465142 | 1.88E-08 | 2.61E-06  | 9.351359963 | up   |
| CHST6      | 1.795715463 | 9.508027617 | 7.012943515 | 2.23E-08 | 2.95E-06  | 9.185810714 | up   |
| TTC9       | 2.556058191 | 4.940867587 | 6.971235011 | 2.54E-08 | 3.27E-06  | 9.05902361  | up   |
| LIPA       | 1.711774371 | 5.65529568  | 6.928167425 | 2.91E-08 | 3.62E-06  | 8.927979147 | up   |
| LOC400940  | 3.071273409 | 3.270288976 | 6.904034645 | 3.14E-08 | 3.86E-06  | 8.854494501 | up   |
| PAQR4      | 2.392518419 | 2.645002368 | 6.860399849 | 3.60E-08 | 4.32E-06  | 8.72153003  | up   |
| CDH2       | 2.933300254 | 2.352141303 | 6.860282976 | 3.60E-08 | 4.32E-06  | 8.721173732 | up   |
| RTN1       | 1.732002513 | 3.11972429  | 6.846975416 | 3.75E-08 | 4.43E-06  | 8.680598695 | up   |
| MKI67      | 3.536572534 | 3.801139984 | 6.842335738 | 3.81E-08 | 4.47E-06  | 8.66449632  | up   |
| SNX10      | 2.842424269 | 2.707499519 | 6.809162065 | 4.23E-08 | 4.92E-06  | 8.565245587 | up   |
| THBS3      | 1.506446351 | 9.473806847 | 6.802703909 | 4.32E-08 | 4.99E-06  | 8.545535771 | up   |
| CD300C     | 2.369151185 | 2.427423826 | 6.742056235 | 5.22E-08 | 5.85E-06  | 8.360325148 | up   |
| BMP1       | 1.412823813 | 7.980597852 | 6.731739838 | 5.40E-08 | 5.99E-06  | 8.328799415 | up   |
| GTF2E1     | 1.256391278 | 5.442418558 | 6.709734365 | 5.78E-08 | 6.24E-06  | 8.261533763 | up   |
| SERPINA5   | 1.626000334 | 10.90200325 | 6.666041113 | 6.64E-08 | 6.83E-06  | 8.127897462 | up   |
| CCND1      | 2.052652132 | 8.189778429 | 6.665552157 | 6.65E-08 | 6.83E-06  | 8.126401426 | up   |
| CD55       | 1.82559101  | 9.833735565 | 6.653345939 | 6.91E-08 | 7.02E-06  | 8.089050747 | up   |
| SHC4       | 2.968657701 | 5.992375929 | 6.648427347 | 7.02E-08 | 7.10E-06  | 8.073997887 | up   |

|              |             |             |             |          |          |             |    |
|--------------|-------------|-------------|-------------|----------|----------|-------------|----|
| CTSO         | 1.296653349 | 7.718786366 | 6.617278774 | 7.74E-08 | 7.70E-06 | 7.978643307 | up |
| SLC35B4      | 1.429892842 | 7.142288991 | 6.609187968 | 7.94E-08 | 7.78E-06 | 7.953867446 | up |
| LOC100132891 | 2.523641504 | 2.333185882 | 6.590066163 | 8.44E-08 | 8.04E-06 | 7.895300055 | up |
| GOLM1        | 1.333885251 | 9.991258577 | 6.585307128 | 8.56E-08 | 8.09E-06 | 7.880721191 | up |
| PRSS23       | 2.86385489  | 6.785785803 | 6.575728297 | 8.83E-08 | 8.24E-06 | 7.851374222 | up |
| RCC2         | 1.089425777 | 6.544777789 | 6.545082044 | 9.72E-08 | 8.94E-06 | 7.757455088 | up |
| DMBT1        | 2.450183253 | 3.155824424 | 6.544618991 | 9.74E-08 | 8.94E-06 | 7.756035697 | up |
| ARHGDIB      | 1.748323173 | 6.410486049 | 6.537597923 | 9.96E-08 | 9.11E-06 | 7.734512952 | up |
| RPN2         | 1.020875539 | 10.04549231 | 6.519581626 | 1.05E-07 | 9.49E-06 | 7.679275444 | up |
| COL1A2       | 3.350537165 | 12.50407982 | 6.452476467 | 1.30E-07 | 1.14E-05 | 7.473419605 | up |
| TUBB3        | 2.501520784 | 2.885308626 | 6.450343109 | 1.31E-07 | 1.14E-05 | 7.466872414 | up |
| GLRB         | 1.943842766 | 4.698214656 | 6.446291684 | 1.33E-07 | 1.15E-05 | 7.454438305 | up |
| GLB1         | 1.092699082 | 7.472073352 | 6.434987999 | 1.38E-07 | 1.18E-05 | 7.41974343  | up |
| IMPAD1       | 1.093094757 | 9.681844954 | 6.424478996 | 1.42E-07 | 1.22E-05 | 7.38748373  | up |
| ST6GAL2      | 3.20703753  | 2.993464243 | 6.422550869 | 1.43E-07 | 1.22E-05 | 7.38156451  | up |
| KIF23        | 2.481173443 | 2.668874695 | 6.418258909 | 1.45E-07 | 1.23E-05 | 7.36838803  | up |
| ZBTB39       | 1.14140656  | 5.216605108 | 6.412380249 | 1.48E-07 | 1.25E-05 | 7.350339324 | up |
| AMTN         | 4.307680992 | 4.273307634 | 6.373160173 | 1.68E-07 | 1.40E-05 | 7.229897072 | up |
| TOP2A        | 3.484185945 | 3.694858376 | 6.300732025 | 2.11E-07 | 1.71E-05 | 7.007356815 | up |
| ANTXR1       | 1.383193622 | 9.618319124 | 6.289138898 | 2.19E-07 | 1.74E-05 | 6.971723467 | up |
| CYR61        | 2.182307845 | 10.54948527 | 6.27988004  | 2.25E-07 | 1.79E-05 | 6.943262585 | up |
| ZMAT3        | 1.241655271 | 7.274816232 | 6.278516537 | 2.26E-07 | 1.79E-05 | 6.939071135 | up |
| FNDC1        | 2.802962108 | 7.782919873 | 6.236954876 | 2.58E-07 | 1.99E-05 | 6.811289962 | up |
| ISM1-AS1     | 2.651441556 | 5.961775993 | 6.233946906 | 2.60E-07 | 2.00E-05 | 6.802040597 | up |
| PARP15       | 2.238279211 | 2.165928131 | 6.192228763 | 2.97E-07 | 2.21E-05 | 6.673742387 | up |
| LPAL2        | 2.107190499 | 2.712147495 | 6.185742996 | 3.03E-07 | 2.25E-05 | 6.653793719 | up |
| REEP3        | 1.009586464 | 9.597033148 | 6.180779776 | 3.08E-07 | 2.28E-05 | 6.638527605 | up |
| NAT2         | 2.213084794 | 2.79392185  | 6.179067365 | 3.10E-07 | 2.28E-05 | 6.633260404 | up |
| GPR124       | 1.79702353  | 4.806892535 | 6.17214947  | 3.17E-07 | 2.32E-05 | 6.61198123  | up |
| TNC          | 3.742819901 | 11.6960175  | 6.139028458 | 3.52E-07 | 2.54E-05 | 6.510093439 | up |
| ADAMTS14     | 2.38564359  | 3.960629191 | 6.136928829 | 3.54E-07 | 2.55E-05 | 6.50363405  | up |
| ENC1         | 2.216076332 | 5.596445108 | 6.11488828  | 3.80E-07 | 2.69E-05 | 6.435824756 | up |
| SCN8A        | 1.633288475 | 3.799039554 | 6.111127927 | 3.85E-07 | 2.71E-05 | 6.424255292 | up |
| IGFBP3       | 3.050288506 | 5.462294856 | 6.102327742 | 3.95E-07 | 2.75E-05 | 6.397179311 | up |
| JAK3         | 1.333175455 | 6.43676497  | 6.086412654 | 4.16E-07 | 2.86E-05 | 6.348210979 | up |
| ICMT         | 1.27410245  | 7.800079948 | 6.079863072 | 4.25E-07 | 2.90E-05 | 6.328058384 | up |
| EVI2A        | 1.523913278 | 6.959344407 | 6.06825251  | 4.41E-07 | 2.98E-05 | 6.29233287  | up |
| TLL1         | 2.725029775 | 3.5415327   | 6.052825716 | 4.63E-07 | 3.12E-05 | 6.244863815 | up |
| FAM111B      | 1.92116926  | 2.610429895 | 6.046534813 | 4.72E-07 | 3.16E-05 | 6.225506097 | up |
| KCNJ15       | 1.418161436 | 5.339290221 | 6.046504907 | 4.72E-07 | 3.16E-05 | 6.225414073 | up |
| IFNE         | 2.204143177 | 2.252720998 | 6.008270937 | 5.33E-07 | 3.53E-05 | 6.107762452 | up |
| DIAPH3       | 2.788295359 | 2.470014283 | 6.004646107 | 5.39E-07 | 3.56E-05 | 6.096608244 | up |
| NELL1        | 2.854887883 | 2.443219337 | 5.98632502  | 5.72E-07 | 3.73E-05 | 6.040231376 | up |
| ZWINT        | 1.874866293 | 2.733020651 | 5.984069351 | 5.76E-07 | 3.74E-05 | 6.033290365 | up |
| MMP13        | 3.477729333 | 5.272669389 | 5.983599548 | 5.77E-07 | 3.74E-05 | 6.031844716 | up |
| FTSJD1       | 1.571810721 | 5.961338632 | 5.98291536  | 5.78E-07 | 3.74E-05 | 6.029739379 | up |
| GFRA2        | 2.807812374 | 5.774872785 | 5.946790323 | 6.48E-07 | 4.12E-05 | 5.918580083 | up |
| STEAP1       | 1.400834821 | 7.309074197 | 5.942900809 | 6.56E-07 | 4.14E-05 | 5.906612147 | up |
| FRMD7        | 1.940511836 | 3.593185253 | 5.94253909  | 6.57E-07 | 4.14E-05 | 5.905499151 | up |
| MLIP         | 1.974207408 | 2.890707415 | 5.94246597  | 6.57E-07 | 4.14E-05 | 5.905274163 | up |
| SPAG17       | 1.126229152 | 6.912465284 | 5.934557432 | 6.74E-07 | 4.24E-05 | 5.880940107 | up |
| COL5A1       | 1.722894535 | 12.29169614 | 5.932959072 | 6.77E-07 | 4.25E-05 | 5.876022108 | up |
| IL27RA       | 1.43688447  | 3.873117383 | 5.931753114 | 6.80E-07 | 4.25E-05 | 5.872311504 | up |
| TMEM59L      | 2.311348111 | 2.096276468 | 5.927187451 | 6.90E-07 | 4.28E-05 | 5.858263543 | up |
| S100A4       | 2.95291841  | 8.242277215 | 5.923201581 | 6.98E-07 | 4.29E-05 | 5.84599966  | up |
| TMEM119      | 3.392664196 | 3.175669109 | 5.923103333 | 6.99E-07 | 4.29E-05 | 5.845697367 | up |
| MTHFD1L      | 1.027436627 | 8.471076447 | 5.913060432 | 7.21E-07 | 4.38E-05 | 5.814797557 | up |
| RCN2         | 1.074038194 | 8.691517614 | 5.907988041 | 7.33E-07 | 4.43E-05 | 5.799191257 | up |
| RCBTB2       | 1.056526986 | 6.153815411 | 5.902763678 | 7.45E-07 | 4.48E-05 | 5.783117633 | up |
| GPR161       | 1.228565257 | 6.315920218 | 5.890684853 | 7.74E-07 | 4.62E-05 | 5.745956178 | up |
| CDK6         | 1.715910644 | 7.777519385 | 5.883270597 | 7.93E-07 | 4.70E-05 | 5.723146426 | up |
| NOVA1        | 1.564070109 | 7.267484906 | 5.881034168 | 7.98E-07 | 4.72E-05 | 5.716266238 | up |
| PLXNA1       | 1.016503146 | 7.284404939 | 5.876012565 | 8.11E-07 | 4.77E-05 | 5.700817918 | up |
| KCNN4        | 2.472637891 | 4.834391618 | 5.869145042 | 8.29E-07 | 4.87E-05 | 5.679691371 | up |
| C1orf233     | 1.994815658 | 1.383264864 | 5.852209898 | 8.75E-07 | 5.09E-05 | 5.62759654  | up |
| CHI3L2       | 3.561118151 | 12.30345768 | 5.851678749 | 8.77E-07 | 5.09E-05 | 5.625962718 | up |
| THEMIS2      | 2.402010009 | 3.482646245 | 5.826003544 | 9.51E-07 | 5.41E-05 | 5.546990712 | up |
| VANGL1       | 1.904588977 | 6.069378069 | 5.817502532 | 9.77E-07 | 5.49E-05 | 5.520845666 | up |
| ARNTL2       | 1.793627745 | 5.948167011 | 5.79740864  | 1.04E-06 | 5.76E-05 | 5.459051798 | up |
| HBB          | 4.370603634 | 3.806446733 | 5.790974625 | 1.06E-06 | 5.85E-05 | 5.439267237 | up |
| MXRA5        | 3.338592789 | 9.970449335 | 5.789244246 | 1.07E-06 | 5.87E-05 | 5.433946475 | up |
| SOX11        | 3.327359276 | 4.80059548  | 5.784286576 | 1.09E-06 | 5.91E-05 | 5.418702433 | up |
| ADCY7        | 1.367240429 | 6.423079335 | 5.783687105 | 1.09E-06 | 5.91E-05 | 5.41685919  | up |
| LOC150622    | 2.377587383 | 6.831422837 | 5.744465094 | 1.23E-06 | 6.60E-05 | 5.296277943 | up |

|           |             |             |             |          |             |             |    |
|-----------|-------------|-------------|-------------|----------|-------------|-------------|----|
| EHD3      | 1.110240265 | 6.495413076 | 5.743928172 | 1.23E-06 | 6.60E-05    | 5.294627527 | up |
| MMP11     | 2.506676309 | 2.375901266 | 5.740389828 | 1.25E-06 | 6.64E-05    | 5.283751391 | up |
| OSBPL3    | 1.325536586 | 6.519875989 | 5.737727443 | 1.26E-06 | 6.65E-05    | 5.275567986 | up |
| SMOC2     | 2.213153724 | 11.84057817 | 5.733177643 | 1.28E-06 | 6.72E-05    | 5.261583637 | up |
| TBC1D9    | 1.334078379 | 5.421782367 | 5.732784274 | 1.28E-06 | 6.72E-05    | 5.260374598 | up |
| AEBP1     | 1.435320162 | 12.11787431 | 5.731121593 | 1.29E-06 | 6.73E-05    | 5.255264307 | up |
| HMGA2     | 2.250070737 | 3.09502614  | 5.720439965 | 1.33E-06 | 6.93E-05    | 5.222435849 | up |
| CTSK      | 1.152243374 | 9.684936385 | 5.710611973 | 1.37E-06 | 7.05E-05    | 5.192233738 | up |
| PARS2     | 1.349298764 | 3.614512438 | 5.709210727 | 1.38E-06 | 7.06E-05    | 5.187927835 | up |
| PRDX1     | 1.215407052 | 9.203873978 | 5.708634882 | 1.38E-06 | 7.06E-05    | 5.186158333 | up |
| MAMDC2    | 1.83693479  | 8.021066742 | 5.704815002 | 1.40E-06 | 7.12E-05    | 5.174420544 | up |
| TSPAN11   | 1.540409912 | 6.572076452 | 5.701112857 | 1.41E-06 | 7.17E-05    | 5.163044944 | up |
| ARHGAP44  | 1.356236189 | 4.243402736 | 5.698162508 | 1.43E-06 | 7.22E-05    | 5.153979685 | up |
| CCDC80    | 1.734106619 | 11.57013671 | 5.68191235  | 1.50E-06 | 7.54E-05    | 5.104054157 | up |
| CALD1     | 1.165495018 | 10.37453256 | 5.678942414 | 1.52E-06 | 7.59E-05    | 5.094930488 | up |
| MMP19     | 2.35494471  | 3.777090713 | 5.674250763 | 1.54E-06 | 7.67E-05    | 5.080518285 | up |
| EI24      | 1.002308346 | 7.511762481 | 5.66918969  | 1.56E-06 | 7.78E-05    | 5.064972067 | up |
| PLEKHG1   | 1.728594504 | 5.068425139 | 5.665924534 | 1.58E-06 | 7.84E-05    | 5.054942861 | up |
| ACPL2     | 1.708025901 | 8.623609698 | 5.660965721 | 1.61E-06 | 7.92E-05    | 5.039712132 | up |
| SERPINE2  | 2.111816636 | 9.570502283 | 5.654800403 | 1.64E-06 | 8.02E-05    | 5.020776859 | up |
| FSTL1     | 1.611262511 | 11.34061688 | 5.646707009 | 1.68E-06 | 8.18E-05    | 4.995921986 | up |
| SLC38A7   | 1.236462179 | 4.118130263 | 5.645498798 | 1.69E-06 | 8.19E-05    | 4.992211762 | up |
| COL6A1    | 1.362090528 | 12.64865214 | 5.639017955 | 1.72E-06 | 8.33E-05    | 4.972311009 | up |
| LEPROTL1  | 1.110845769 | 6.49698071  | 5.619734268 | 1.83E-06 | 8.72E-05    | 4.913105698 | up |
| MYO1H     | 1.607877737 | 2.861261775 | 5.618475896 | 1.84E-06 | 8.72E-05    | 4.909242702 | up |
| LGI2      | 1.704132937 | 3.872031146 | 5.612440032 | 1.87E-06 | 8.86E-05    | 4.890714431 | up |
| HEG1      | 1.420001678 | 7.193379776 | 5.603800632 | 1.93E-06 | 9.04E-05    | 4.864196601 | up |
| GPR68     | 2.226148128 | 4.316502568 | 5.603666668 | 1.93E-06 | 9.04E-05    | 4.863785434 | up |
| OLFML2B   | 1.947886259 | 5.978436195 | 5.601405824 | 1.94E-06 | 9.09E-05    | 4.856846491 | up |
| MICALL2   | 1.485194787 | 5.739619202 | 5.597284739 | 1.97E-06 | 9.19E-05    | 4.844198663 | up |
| OGN       | 2.386305909 | 12.85728335 | 5.591060477 | 2.00E-06 | 9.34E-05    | 4.825097396 | up |
| RAMP3     | 2.149612643 | 4.821872268 | 5.58706328  | 2.03E-06 | 9.40E-05    | 4.812831486 | up |
| ZNF30     | 1.165171372 | 4.691903054 | 5.573179293 | 2.12E-06 | 9.78E-05    | 4.770231974 | up |
| ANPEP     | 3.207277689 | 5.198707573 | 5.570239232 | 2.14E-06 | 9.83E-05    | 4.761212208 | up |
| C10orf105 | 1.711184673 | 8.274923439 | 5.563125597 | 2.19E-06 | 0.000100111 | 4.739389979 | up |
| TMEM182   | 1.035856029 | 4.341918032 | 5.562105191 | 2.20E-06 | 0.000100111 | 4.736259904 | up |
| PCDH12    | 1.104904197 | 5.226674266 | 5.56203852  | 2.20E-06 | 0.000100111 | 4.736055394 | up |
| ZKSCAN4   | 1.165057878 | 4.293318534 | 5.560015848 | 2.21E-06 | 0.000100353 | 4.729851031 | up |
| RFX8      | 2.025749863 | 1.684916111 | 5.54808987  | 2.30E-06 | 0.000103601 | 4.693272955 | up |
| ABCC10    | 1.069340399 | 5.683625882 | 5.544235701 | 2.33E-06 | 0.000104647 | 4.681453265 | up |
| PPIC      | 1.881148721 | 8.319035758 | 5.537979064 | 2.37E-06 | 0.000105927 | 4.662267347 | up |
| KCNS3     | 2.351488676 | 2.942457839 | 5.532025939 | 2.42E-06 | 0.000107523 | 4.644013868 | up |
| SFRP4     | 3.075272914 | 3.587387395 | 5.523720152 | 2.48E-06 | 0.000109962 | 4.618549521 | up |
| AOC2      | 1.979493179 | 6.110347393 | 5.521384237 | 2.50E-06 | 0.000110564 | 4.611388551 | up |
| NOTCH3    | 3.218560519 | 4.44623353  | 5.512908982 | 2.57E-06 | 0.000112698 | 4.585409119 | up |
| PENK      | 3.769312625 | 4.168868656 | 5.51079342  | 2.59E-06 | 0.000113238 | 4.578924792 | up |
| ANLN      | 2.544969605 | 3.880337962 | 5.492449031 | 2.74E-06 | 0.000118647 | 4.522707721 | up |
| ECT2      | 2.152122762 | 4.31122016  | 5.480923966 | 2.84E-06 | 0.000122567 | 4.487397751 | up |
| NOV       | 2.242919156 | 4.439400552 | 5.478782427 | 2.86E-06 | 0.000122962 | 4.480837387 | up |
| SEMA3C    | 2.223614558 | 7.69485314  | 5.471972222 | 2.92E-06 | 0.000125171 | 4.459976746 | up |
| IGFBP1    | 2.906336927 | 1.676709813 | 5.464012997 | 3.00E-06 | 0.000127646 | 4.435599731 | up |
| CIT       | 1.898437873 | 4.005909926 | 5.447714618 | 3.16E-06 | 0.000132917 | 4.385693205 | up |
| HJURP     | 2.199323123 | 1.789215795 | 5.44285508  | 3.21E-06 | 0.000134481 | 4.370815984 | up |
| CENPF     | 2.373576673 | 4.50433977  | 5.43084693  | 3.33E-06 | 0.00013918  | 4.334059609 | up |
| CRLF1     | 2.115441248 | 8.110242516 | 5.420139896 | 3.45E-06 | 0.000142929 | 4.301293155 | up |
| TMEM8A    | 1.097987641 | 5.42043285  | 5.418226476 | 3.47E-06 | 0.000143536 | 4.295438298 | up |
| ALDH1B1   | 1.216947531 | 5.221615585 | 5.413672642 | 3.52E-06 | 0.000145162 | 4.28150497  | up |
| MRC2      | 1.078815665 | 10.7741836  | 5.385893651 | 3.84E-06 | 0.000156542 | 4.196537997 | up |
| ZNF547    | 1.884773091 | 2.482195972 | 5.375399277 | 3.97E-06 | 0.000160572 | 4.164452035 | up |
| MAP1B     | 1.742053531 | 7.047672227 | 5.373480539 | 3.99E-06 | 0.000160693 | 4.158586384 | up |
| ZSCAN9    | 1.012246253 | 5.41581052  | 5.359127353 | 4.18E-06 | 0.000166976 | 4.114716036 | up |
| NCAM1     | 2.224460732 | 5.738976898 | 5.354424637 | 4.24E-06 | 0.000168917 | 4.100345284 | up |
| ARPC1B    | 1.0751969   | 7.628258326 | 5.354365349 | 4.24E-06 | 0.000168917 | 4.10016412  | up |
| TIMP3     | 1.131650352 | 11.3299664  | 5.349143313 | 4.31E-06 | 0.0001702   | 4.084208216 | up |
| RAC2      | 2.075820074 | 1.432582897 | 5.337968521 | 4.47E-06 | 0.000175451 | 4.050070088 | up |
| TPPP3     | 2.967457916 | 6.841662792 | 5.328018379 | 4.61E-06 | 0.000180126 | 4.019680615 | up |
| P2RY6     | 2.005827127 | 5.003337857 | 5.308013521 | 4.91E-06 | 0.000189926 | 3.958604015 | up |
| STEAP3    | 1.084568243 | 9.774564853 | 5.304345096 | 4.97E-06 | 0.000191815 | 3.947407199 | up |
| ARSB      | 1.403609782 | 6.374180586 | 5.27087539  | 5.52E-06 | 0.000208953 | 3.845297887 | up |
| LHFPL2    | 1.168376774 | 8.643382844 | 5.267632802 | 5.58E-06 | 0.000210753 | 3.835410042 | up |
| COL3A1    | 2.75275355  | 14.89467897 | 5.263456599 | 5.65E-06 | 0.000212143 | 3.822676498 | up |
| NPTX2     | 2.229413491 | 2.489709197 | 5.256589749 | 5.78E-06 | 0.000214664 | 3.801742014 | up |
| DEPDC1    | 2.076548751 | 1.951286913 | 5.256082181 | 5.79E-06 | 0.000214664 | 3.800194779 | up |
| EZH2      | 1.101520648 | 4.483951212 | 5.254253595 | 5.82E-06 | 0.000215317 | 3.794620817 | up |

|              |             |             |             |          |             |             |    |
|--------------|-------------|-------------|-------------|----------|-------------|-------------|----|
| LEPREL4      | 1.412799552 | 7.930936469 | 5.254090393 | 5.82E-06 | 0.000215317 | 3.794123349 | up |
| SMOC1        | 1.816152092 | 10.29184496 | 5.252648763 | 5.85E-06 | 0.000215948 | 3.789729129 | up |
| ARHGAP9      | 1.975535649 | 2.516189871 | 5.221139654 | 6.26E-06 | 0.000228157 | 3.724187719 | up |
| NUF2         | 1.990066923 | 1.586134647 | 5.225903371 | 6.37E-06 | 0.000229739 | 3.708237842 | up |
| GAS1         | 1.565767139 | 9.730337542 | 5.224512093 | 6.39E-06 | 0.000229739 | 3.704000357 | up |
| PART1        | 2.139439223 | 8.386325147 | 5.195516988 | 7.01E-06 | 0.000246224 | 3.615726502 | up |
| EML1         | 1.102961173 | 8.53006695  | 5.186246996 | 7.21E-06 | 0.000250669 | 3.587520158 | up |
| CCNA2        | 1.430394043 | 3.947848471 | 5.178292864 | 7.40E-06 | 0.000255135 | 3.563323814 | up |
| TRAM1L1      | 1.414032574 | 4.01609707  | 5.15920848  | 7.85E-06 | 0.00026642  | 3.505293015 | up |
| SLC2A12      | 1.705937501 | 6.751662678 | 5.158350579 | 7.88E-06 | 0.00026642  | 3.502685148 | up |
| PVRL4        | 1.921046469 | 2.501245465 | 5.157612024 | 7.89E-06 | 0.00026642  | 3.500440125 | up |
| FLRT2        | 2.891593963 | 4.707720062 | 5.157546922 | 7.90E-06 | 0.00026642  | 3.500242233 | up |
| ZNF200       | 1.000191438 | 4.287113471 | 5.152037854 | 8.03E-06 | 0.000270283 | 3.483497696 | up |
| SPARC        | 1.884179951 | 14.19832697 | 5.145317082 | 8.21E-06 | 0.000274846 | 3.463074131 | up |
| NRP2         | 1.715804033 | 8.761024927 | 5.144226597 | 8.23E-06 | 0.000275387 | 3.459760692 | up |
| PLBD1        | 1.069492363 | 7.599537478 | 5.142612995 | 8.28E-06 | 0.000275492 | 3.454857967 | up |
| SEZ6L2       | 2.062781778 | 2.5333467   | 5.142374904 | 8.28E-06 | 0.000275492 | 3.454134579 | up |
| AEN          | 1.038669289 | 5.680030604 | 5.142245162 | 8.29E-06 | 0.000275492 | 3.453740388 | up |
| C1R          | 1.300355444 | 10.79518214 | 5.140639599 | 8.33E-06 | 0.000276082 | 3.448862394 | up |
| PPP1R14C     | 2.3358467   | 5.711729352 | 5.13625427  | 8.44E-06 | 0.000279514 | 3.435540223 | up |
| B3GALT6      | 1.192189116 | 6.039182288 | 5.125043311 | 8.75E-06 | 0.000287807 | 3.401490964 | up |
| FZD8         | 1.454534095 | 9.137856288 | 5.124665443 | 8.76E-06 | 0.000287807 | 3.40034354  | up |
| ODF3B        | 1.776330794 | 4.626221833 | 5.123204205 | 8.80E-06 | 0.000288717 | 3.39590651  | up |
| ADAMTS7      | 2.043731759 | 3.480539161 | 5.116616999 | 8.98E-06 | 0.00029305  | 3.375907166 | up |
| DOCK10       | 2.264125599 | 3.528848808 | 5.116010576 | 9.00E-06 | 0.00029305  | 3.374066225 | up |
| NPR3         | 2.784655897 | 4.133727693 | 5.115821023 | 9.00E-06 | 0.00029305  | 3.373490801 | up |
| TSPAN2       | 1.918679809 | 9.584222224 | 5.102234221 | 9.40E-06 | 0.000302863 | 3.332254755 | up |
| LOC283174    | 1.047142608 | 6.126049291 | 5.097522494 | 9.54E-06 | 0.000306826 | 3.317958968 | up |
| DOLK         | 1.432673725 | 5.081900061 | 5.093912867 | 9.65E-06 | 0.000309891 | 3.30700857  | up |
| EDEM3        | 1.130631218 | 9.236119146 | 5.08354966  | 9.97E-06 | 0.00031836  | 3.275577494 | up |
| AKR1C2       | 1.699562485 | 8.095433832 | 5.06928473  | 1.04E-05 | 0.000330037 | 3.232330903 | up |
| APMAP        | 1.014517178 | 7.300552527 | 5.068982733 | 1.04E-05 | 0.000330037 | 3.231415578 | up |
| COL5A2       | 1.949972127 | 12.45465164 | 5.06730002  | 1.05E-05 | 0.000331327 | 3.226315606 | up |
| MELK         | 1.901618838 | 1.828050143 | 5.060919366 | 1.07E-05 | 0.000337103 | 3.206979817 | up |
| CIQTNF2      | 2.008104155 | 3.829272131 | 5.054377151 | 1.09E-05 | 0.000340804 | 3.187158945 | up |
| CDH10        | 2.193499471 | 1.863656199 | 5.049156673 | 1.11E-05 | 0.000344552 | 3.171345821 | up |
| POLQ         | 1.860187103 | 2.778139396 | 5.042533771 | 1.13E-05 | 0.000349888 | 3.151288921 | up |
| ITGB5        | 1.012677728 | 10.11786005 | 5.041261442 | 1.14E-05 | 0.000350813 | 3.147436326 | up |
| SBSPON       | 1.718878659 | 8.648732307 | 5.02901846  | 1.18E-05 | 0.000363089 | 3.110373827 | up |
| ITGB8        | 2.465146205 | 9.542270628 | 5.025938716 | 1.19E-05 | 0.00036514  | 3.101053296 | up |
| ZNF850       | 1.029888455 | 5.21000238  | 5.018429266 | 1.22E-05 | 0.000372848 | 3.078331148 | up |
| RAB23        | 1.141690916 | 6.665285414 | 5.009378266 | 1.26E-05 | 0.000380534 | 3.050953    | up |
| HYAL2        | 1.052458918 | 5.852634822 | 5.007604526 | 1.27E-05 | 0.00038215  | 3.045588744 | up |
| COL6A6       | 1.812341781 | 3.048829911 | 4.997946233 | 1.30E-05 | 0.000391828 | 3.016385839 | up |
| IKBIP        | 1.021554374 | 7.64584212  | 4.997206162 | 1.31E-05 | 0.000392221 | 3.014148596 | up |
| ENO4         | 1.195854903 | 3.306373814 | 4.996277872 | 1.31E-05 | 0.000392847 | 3.011342452 | up |
| KBTBD6       | 1.088107976 | 6.672014571 | 4.992640549 | 1.33E-05 | 0.000395274 | 3.000348089 | up |
| GALNT1       | 1.175415017 | 8.396418237 | 4.989921603 | 1.34E-05 | 0.000398138 | 2.992130664 | up |
| RAET1E       | 1.173934681 | 2.808531847 | 4.983807892 | 1.36E-05 | 0.000402686 | 2.973656441 | up |
| CPNE2        | 1.262898471 | 6.265428528 | 4.977528429 | 1.39E-05 | 0.000408572 | 2.954685913 | up |
| IPO13        | 1.03983751  | 5.961007806 | 4.975194979 | 1.40E-05 | 0.00041036  | 2.947637647 | up |
| PRH2         | 1.308357771 | 5.109892171 | 4.968525929 | 1.43E-05 | 0.000417036 | 2.927497108 | up |
| FGF9         | 1.883865799 | 2.298535951 | 4.961174624 | 1.46E-05 | 0.00042404  | 2.905302312 | up |
| BASP1        | 2.567395152 | 4.215185009 | 4.959563874 | 1.47E-05 | 0.000425494 | 2.90044006  | up |
| C2           | 1.332049675 | 6.943570007 | 4.954592202 | 1.49E-05 | 0.000429055 | 2.88543442  | up |
| CTHRC1       | 2.072018892 | 8.527642423 | 4.951284571 | 1.51E-05 | 0.000432977 | 2.875452896 | up |
| BUB1         | 1.971809217 | 2.391040129 | 4.948299416 | 1.52E-05 | 0.000435946 | 2.866445661 | up |
| NRP1         | 1.579897691 | 7.745710028 | 4.941956171 | 1.55E-05 | 0.000443787 | 2.847309535 | up |
| LOC100132077 | 1.700624851 | 1.559399793 | 4.939310534 | 1.57E-05 | 0.00044615  | 2.839329711 | up |
| ADAMTS5      | 1.985607827 | 7.632973792 | 4.938167868 | 1.57E-05 | 0.000446633 | 2.835883447 | up |
| ITGB2        | 2.706678571 | 3.014586016 | 4.934813278 | 1.59E-05 | 0.000450226 | 2.825766985 | up |
| CSN1S1       | 2.468163534 | 1.476940364 | 4.932846612 | 1.60E-05 | 0.000451882 | 2.819836745 | up |
| ZSCAN16      | 1.344220983 | 3.65138157  | 4.920098036 | 1.66E-05 | 0.000466802 | 2.781406697 | up |
| WNT5A        | 2.422555358 | 2.492210808 | 4.907839876 | 1.73E-05 | 0.000481494 | 2.744474335 | up |
| IL31RA       | 1.706694285 | 3.262739156 | 4.905576582 | 1.74E-05 | 0.000483732 | 2.737657399 | up |
| CASC5        | 2.32442705  | 3.330329742 | 4.904362791 | 1.75E-05 | 0.000484981 | 2.734001788 | up |
| LCTL         | 1.799608237 | 2.482365839 | 4.885262465 | 1.86E-05 | 0.000511709 | 2.676501849 | up |
| SLC38A5      | 1.52926561  | 4.852761272 | 4.875520406 | 1.91E-05 | 0.000523723 | 2.647192575 | up |
| ELN          | 1.728188858 | 6.758486731 | 4.868201342 | 1.96E-05 | 0.000532    | 2.62518123  | up |
| SYNDIG1      | 2.1923774   | 3.954738273 | 4.861760317 | 2.00E-05 | 0.000538952 | 2.605816427 | up |
| TRAK1        | 1.010033175 | 6.200002208 | 4.856962155 | 2.03E-05 | 0.00054515  | 2.591394486 | up |
| PLD1         | 1.001486816 | 6.736592236 | 4.855516635 | 2.04E-05 | 0.000546326 | 2.587050264 | up |
| WISP1        | 1.412301495 | 8.255958669 | 4.849595105 | 2.07E-05 | 0.000552615 | 2.569257256 | up |
| NRK          | 1.173188446 | 9.050023917 | 4.848597647 | 2.08E-05 | 0.000553691 | 2.566260564 | up |

|              |             |             |             |          |             |             |    |
|--------------|-------------|-------------|-------------|----------|-------------|-------------|----|
| LNX1         | 1.03057981  | 7.168176688 | 4.844187668 | 2.11E-05 | 0.000557736 | 2.553013175 | up |
| SGK1         | 1.819253793 | 7.210888896 | 4.843396761 | 2.12E-05 | 0.000558188 | 2.550637603 | up |
| INSC         | 2.318396196 | 6.050093232 | 4.836074945 | 2.16E-05 | 0.000569111 | 2.528649881 | up |
| TBXA2R       | 1.509848887 | 2.917934007 | 4.835094332 | 2.17E-05 | 0.000569539 | 2.525705619 | up |
| HLA-DRA      | 3.433019493 | 3.712613647 | 4.831649394 | 2.19E-05 | 0.00057371  | 2.515363359 | up |
| FUCA1        | 1.162267017 | 7.22014178  | 4.827199808 | 2.22E-05 | 0.000576913 | 2.502007424 | up |
| NEFH         | 1.66291085  | 3.796622548 | 4.826985041 | 2.23E-05 | 0.000576913 | 2.501362847 | up |
| ANGPTL2      | 1.886188394 | 12.17444108 | 4.826569378 | 2.23E-05 | 0.000576913 | 2.500115344 | up |
| BTBD11       | 1.278536951 | 6.990039774 | 4.82120142  | 2.27E-05 | 0.00058268  | 2.484006973 | up |
| DYSF         | 1.302805647 | 7.164395626 | 4.818299555 | 2.29E-05 | 0.000585992 | 2.475300638 | up |
| CACNA1A      | 2.084434774 | 3.951747673 | 4.817230034 | 2.30E-05 | 0.000587289 | 2.472092101 | up |
| AOC3         | 1.49412195  | 4.410898256 | 4.815817709 | 2.31E-05 | 0.000589219 | 2.467855407 | up |
| ASTN2        | 1.090504891 | 3.981728702 | 4.800809095 | 2.35E-05 | 0.000596814 | 2.450150245 | up |
| BUB1B        | 2.014476847 | 1.560602103 | 4.807506715 | 2.37E-05 | 0.000599979 | 2.442929815 | up |
| PDE3A        | 1.547218759 | 4.12689952  | 4.802139092 | 2.41E-05 | 0.000608736 | 2.426836954 | up |
| ANGPTL1      | 1.239988074 | 6.974121528 | 4.801372866 | 2.41E-05 | 0.000609514 | 2.424540042 | up |
| SLC46A3      | 1.171478396 | 4.674742789 | 4.800809095 | 2.42E-05 | 0.000609909 | 2.422850082 | up |
| PRADC1       | 1.064816632 | 4.628339271 | 4.791659699 | 2.49E-05 | 0.000624207 | 2.395430257 | up |
| TTK          | 1.704647188 | 2.018320058 | 4.790359873 | 2.50E-05 | 0.000624584 | 2.391535792 | up |
| MME          | 2.464711334 | 2.399262518 | 4.783520897 | 2.55E-05 | 0.00063543  | 2.371049289 | up |
| RIPK3        | 1.167283224 | 3.945496343 | 4.77936067  | 2.58E-05 | 0.000641383 | 2.358590463 | up |
| DPT          | 1.727080788 | 9.317949443 | 4.773754579 | 2.63E-05 | 0.000649841 | 2.341805664 | up |
| SLC39A3      | 1.426419943 | 5.187894617 | 4.763911203 | 2.71E-05 | 0.000666439 | 2.312345573 | up |
| PDLIM7       | 1.488061265 | 6.532336552 | 4.762267616 | 2.72E-05 | 0.000669134 | 2.307427913 | up |
| SLC25A20     | 1.099224052 | 4.854503724 | 4.75621255  | 2.78E-05 | 0.000680391 | 2.289314468 | up |
| LOXL1        | 1.404077369 | 5.829180952 | 4.75471097  | 2.79E-05 | 0.000682841 | 2.284823414 | up |
| RSPO2        | 2.555583748 | 7.343952984 | 4.742672259 | 2.89E-05 | 0.000702845 | 2.248829341 | up |
| GDNF         | 1.432920692 | 1.320913547 | 4.740231451 | 2.92E-05 | 0.000706692 | 2.241534354 | up |
| BIRC5        | 2.188885135 | 1.968483758 | 4.734499098 | 2.97E-05 | 0.000715057 | 2.224405313 | up |
| ENPP6        | 1.6070989   | 2.573574064 | 4.701722389 | 3.29E-05 | 0.000779088 | 2.126562078 | up |
| RAB31        | 1.684693558 | 6.890117481 | 4.696305411 | 3.34E-05 | 0.000784946 | 2.110407903 | up |
| MAP1A        | 1.203049703 | 8.158069755 | 4.686275171 | 3.45E-05 | 0.000801494 | 2.08050874  | up |
| CCDC64B      | 1.43273243  | 1.605483869 | 4.672120943 | 3.60E-05 | 0.000833205 | 2.038344021 | up |
| SCRG1        | 1.500506337 | 12.11061851 | 4.670246279 | 3.62E-05 | 0.000836298 | 2.03276194  | up |
| SSX2IP       | 1.579419254 | 5.617263913 | 4.666078606 | 3.67E-05 | 0.000845523 | 2.020354161 | up |
| CCDC164      | 1.611786224 | 3.362487055 | 4.663835846 | 3.70E-05 | 0.000849702 | 2.013678315 | up |
| LOC100507632 | 1.855781091 | 1.762866446 | 4.66285465  | 3.71E-05 | 0.000851431 | 2.010757928 | up |
| EIF4E2       | 1.108106348 | 6.950616141 | 4.655338707 | 3.80E-05 | 0.000868862 | 1.988393089 | up |
| SUCNR1       | 1.051408145 | 0.80020238  | 4.65417191  | 3.81E-05 | 0.000871133 | 1.984921945 | up |
| PBK          | 2.114272869 | 1.707381013 | 4.653149473 | 3.82E-05 | 0.000873019 | 1.981880451 | up |
| OLFML3       | 1.998237567 | 5.857335813 | 4.6513428   | 3.84E-05 | 0.000876562 | 1.976506475 | up |
| TENM3        | 1.689681525 | 5.334802708 | 4.649983166 | 3.86E-05 | 0.0008781   | 1.972462581 | up |
| PCNA         | 1.038443086 | 6.727941427 | 4.643623076 | 3.94E-05 | 0.000893136 | 1.953550182 | up |
| ADTRP        | 1.808701757 | 4.243768857 | 4.643262613 | 3.94E-05 | 0.000893136 | 1.952478512 | up |
| BAALC        | 1.836332428 | 7.268310241 | 4.639399552 | 3.99E-05 | 0.000899266 | 1.940994842 | up |
| RGS4         | 1.617339638 | 1.609705578 | 4.638055676 | 4.00E-05 | 0.000900687 | 1.937000511 | up |
| BPGM         | 1.005993869 | 7.059015805 | 4.631894034 | 4.08E-05 | 0.000914934 | 1.918690496 | up |
| IL11         | 2.923584847 | 2.424307547 | 4.630303383 | 4.10E-05 | 0.000916773 | 1.913964741 | up |
| KIF20A       | 1.908580734 | 3.157704349 | 4.624817955 | 4.17E-05 | 0.000923331 | 1.897671088 | up |
| FAM213B      | 1.54576941  | 3.990475796 | 4.624769571 | 4.17E-05 | 0.000923331 | 1.897527393 | up |
| RRM2         | 2.129471659 | 2.673202147 | 4.624523973 | 4.18E-05 | 0.000923331 | 1.896798004 | up |
| IL21R        | 1.565103604 | 2.418469861 | 4.622936829 | 4.20E-05 | 0.000925195 | 1.892084664 | up |
| GINS3        | 1.377131446 | 5.579273233 | 4.612775424 | 4.33E-05 | 0.000946484 | 1.861918614 | up |
| PROS1        | 1.102410649 | 8.052238707 | 4.608185788 | 4.39E-05 | 0.00095817  | 1.848299256 | up |
| PROZ         | 1.279177968 | 1.210081366 | 4.604824838 | 4.44E-05 | 0.000965402 | 1.838328242 | up |
| TNR          | 2.03278449  | 1.908574882 | 4.603133868 | 4.46E-05 | 0.000966767 | 1.833312341 | up |
| LRRRC8E      | 1.300514351 | 4.060934326 | 4.602358781 | 4.47E-05 | 0.000968164 | 1.83101338  | up |
| KCNQ5        | 1.051235114 | 8.546826938 | 4.597061706 | 4.55E-05 | 0.000983206 | 1.815304695 | up |
| C9           | 1.491870447 | 1.947936102 | 4.595194333 | 4.57E-05 | 0.000987957 | 1.8097681   | up |
| SERPINH1     | 1.035379002 | 9.086713254 | 4.590925006 | 4.63E-05 | 0.000999176 | 1.797112227 | up |
| HOMER2       | 1.744785951 | 3.910551641 | 4.587169333 | 4.69E-05 | 0.001009876 | 1.785981678 | up |
| CAMK2A       | 1.106939635 | 3.344281543 | 4.586802734 | 4.69E-05 | 0.001010065 | 1.784895334 | up |
| C16orf54     | 1.535956864 | 1.080944475 | 4.58320746  | 4.74E-05 | 0.001020376 | 1.774242725 | up |
| CDK1         | 2.069707141 | 2.359240383 | 4.579231201 | 4.80E-05 | 0.001031032 | 1.762463954 | up |
| DSEL         | 1.424488837 | 8.634906767 | 4.574593599 | 4.87E-05 | 0.001043929 | 1.748729666 | up |
| TFDP1        | 1.03193173  | 6.736121199 | 4.572476984 | 4.90E-05 | 0.001049782 | 1.742462577 | up |
| NGF          | 2.746446836 | 3.584222339 | 4.564395215 | 5.03E-05 | 0.001072257 | 1.71854066  | up |
| LRRRC17      | 1.281626366 | 4.991564001 | 4.552086353 | 5.22E-05 | 0.001105061 | 1.682129328 | up |
| STAB1        | 1.523926102 | 6.326819916 | 4.551901913 | 5.23E-05 | 0.001105061 | 1.681583937 | up |
| LRRRC66      | 1.278358753 | 3.821837335 | 4.549363175 | 5.27E-05 | 0.001112711 | 1.674077517 | up |
| SLC35G5      | 1.160664707 | 0.90317342  | 4.546933088 | 5.31E-05 | 0.001116909 | 1.666893456 | up |
| ZSWIM3       | 1.771860684 | 3.263494991 | 4.546838093 | 5.31E-05 | 0.001116909 | 1.666612645 | up |
| GRIN2A       | 2.204772508 | 4.849606774 | 4.54475622  | 5.34E-05 | 0.001122376 | 1.660458909 | up |
| ALDH1A2      | 1.342124265 | 8.49577484  | 4.544093123 | 5.35E-05 | 0.001123635 | 1.658499049 | up |



|             |             |             |             |             |             |             |    |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|----|
| ZFP3        | 1.151820878 | 5.227317142 | 4.537463049 | 5.46E-05    | 0.001141565 | 1.638907574 | up |
| ROR1        | 1.805188804 | 4.632209565 | 4.536832547 | 5.47E-05    | 0.001141689 | 1.6370449   | up |
| ABRACL      | 1.462494001 | 4.253816036 | 4.536385817 | 5.48E-05    | 0.001142216 | 1.635725183 | up |
| PTGES       | 1.70841069  | 7.319994861 | 4.533644297 | 5.53E-05    | 0.001150849 | 1.627627078 | up |
| ANKH        | 1.004278564 | 11.96816353 | 4.530145093 | 5.59E-05    | 0.001160138 | 1.617292898 | up |
| SYT11       | 1.508110618 | 5.343371277 | 4.528252618 | 5.62E-05    | 0.001164945 | 1.611704813 | up |
| HRCT1       | 1.854511613 | 5.376250738 | 4.528210756 | 5.62E-05    | 0.001164945 | 1.611581211 | up |
| VAT1L       | 1.775865476 | 4.195047395 | 4.525809259 | 5.66E-05    | 0.001170396 | 1.604491072 | up |
| PTGER3      | 2.302945216 | 4.684314384 | 4.517359548 | 5.81E-05    | 0.001196893 | 1.579552882 | up |
| ADAMTS2     | 2.088527841 | 7.678163099 | 4.513330258 | 5.88E-05    | 0.001205287 | 1.567665706 | up |
| PCYOX1L     | 1.173000554 | 5.101733987 | 4.511393055 | 5.92E-05    | 0.001211403 | 1.561951677 | up |
| SNORD116-24 | 1.166198632 | 1.036929438 | 4.501933363 | 6.09E-05    | 0.001240482 | 1.534059348 | up |
| TRPA1       | 1.70739588  | 1.63279947  | 4.493978135 | 6.25E-05    | 0.001268929 | 1.51061623  | up |
| GLB1L3      | 1.547495504 | 5.113533899 | 4.491730795 | 6.29E-05    | 0.001273181 | 1.503995788 | up |
| SLC9C1      | 1.814029054 | 3.298266117 | 4.488156734 | 6.36E-05    | 0.001281821 | 1.493468961 | up |
| GEN1        | 1.668580317 | 4.739715581 | 4.485347937 | 6.41E-05    | 0.001291513 | 1.485197831 | up |
|             | 1-Dec       | 1.598559562 | 1.615801301 | 6.45E-05    | 0.001298643 | 1.479074633 | up |
| KLHL4       | 1.712917181 | 1.170417947 | 4.480729642 | 6.51E-05    | 0.001306502 | 1.471601553 | up |
| AVIL        | 1.329973601 | 5.302748398 | 4.450722917 | 7.13E-05    | 0.001413845 | 1.3833635   | up |
| FBLN5       | 1.623500322 | 5.592342411 | 4.437958195 | 7.42E-05    | 0.001451324 | 1.345881685 | up |
| LINC00671   | 1.281570981 | 1.011525539 | 4.437440936 | 7.43E-05    | 0.001452379 | 1.344363519 | up |
| ALPL        | 2.943707485 | 2.901277911 | 4.43390129  | 7.51E-05    | 0.001465573 | 1.334060646 | up |
| CYP8B1      | 1.700394091 | 4.098217359 | 4.432396206 | 7.55E-05    | 0.001471216 | 1.329559953 | up |
| MICAL2      | 1.32185078  | 6.534158514 | 4.430348006 | 7.59E-05    | 0.001479211 | 1.323551061 | up |
| GTF3C6      | 1.107910087 | 6.463152886 | 4.425247529 | 7.71E-05    | 0.001498656 | 1.308591282 | up |
| PLEKHS1     | 1.903898688 | 1.767765488 | 4.423546048 | 7.75E-05    | 0.001503919 | 1.303601989 | up |
| ADAM12      | 1.71480478  | 7.176784724 | 4.41752495  | 7.90E-05    | 0.001524094 | 1.285950943 | up |
| FAM225A     | 1.414319929 | 1.602770932 | 4.415848678 | 7.94E-05    | 0.001529361 | 1.281038218 | up |
| KIF18B      | 1.718667693 | 1.54770197  | 4.415011886 | 7.96E-05    | 0.001531954 | 1.278586014 | up |
| RPSAP52     | 1.459644912 | 1.307443758 | 4.412939183 | 8.01E-05    | 0.001536427 | 1.272512609 | up |
| PCSK9       | 1.521846583 | 1.649997494 | 4.410956825 | 8.06E-05    | 0.001543291 | 1.266704758 | up |
| VEPH1       | 1.265660873 | 3.487546012 | 4.405275451 | 8.20E-05    | 0.001562468 | 1.250064151 | up |
| FIBIN       | 1.283567146 | 11.06179227 | 4.403741289 | 8.24E-05    | 0.001567195 | 1.245571775 | up |
| GRM6        | 1.374925172 | 3.248309132 | 4.398205746 | 8.38E-05    | 0.001588645 | 1.229366509 | up |
| VWA5B2      | 1.483992434 | 1.902037531 | 4.393989248 | 8.49E-05    | 0.001606583 | 1.217027031 | up |
| CLEC11A     | 1.663097311 | 6.574963264 | 4.386271713 | 8.69E-05    | 0.001634065 | 1.1944515   | up |
| S1PR3       | 1.381622756 | 5.235595453 | 4.385250547 | 8.72E-05    | 0.00163782  | 1.191465297 | up |
| ANK3        | 1.714950943 | 9.953865991 | 4.382243624 | 8.80E-05    | 0.001647499 | 1.182673409 | up |
| FZD10       | 1.827682784 | 4.495658664 | 4.376659042 | 8.95E-05    | 0.001673094 | 1.166349828 | up |
| TMEM132B    | 1.514253407 | 2.085419167 | 4.364261512 | 9.29E-05    | 0.001727706 | 1.130135905 | up |
| HTRA3       | 1.592199169 | 6.935628986 | 4.35859009  | 9.46E-05    | 0.001752145 | 1.113580317 | up |
| SLC16A10    | 1.560268722 | 6.633218298 | 4.351206027 | 9.67E-05    | 0.001783352 | 1.09203571  | up |
| DKK3        | 1.85395265  | 9.02886235  | 4.35042169  | 9.69E-05    | 0.001786176 | 1.08974793  | up |
| TXNRD3NB    | 1.254931583 | 1.373087949 | 4.347834112 | 9.77E-05    | 0.001797417 | 1.082201344 | up |
| CBX8        | 1.581562885 | 2.178194138 | 4.3464229   | 9.81E-05    | 0.001800803 | 1.078086204 | up |
| PANK1       | 1.545940915 | 3.234125776 | 4.341287597 | 9.97E-05    | 0.001818955 | 1.063115156 | up |
| VSIG4       | 2.887589219 | 2.474890167 | 4.340654715 | 9.99E-05    | 0.001821008 | 1.061270499 | up |
| NT5DC2      | 1.047456676 | 6.475795596 | 4.337489195 | 0.000100834 | 0.00183572  | 1.052045307 | up |
| RAI14       | 1.033368013 | 7.858132374 | 4.332241397 | 0.000102459 | 0.001862329 | 1.036756626 | up |
| FAT3        | 2.060864158 | 5.231825999 | 4.326173971 | 0.00010437  | 0.00189221  | 1.019087641 | up |
| LOC340113   | 1.563774532 | 1.234535267 | 4.322464977 | 0.000105555 | 0.00190234  | 1.008290665 | up |
| UCP2        | 1.606341779 | 4.25569718  | 4.322162826 | 0.000105652 | 0.00190234  | 1.007411231 | up |
| ZNF815P     | 1.235547766 | 3.440142201 | 4.320572344 | 0.000106165 | 0.001909879 | 1.00278234  | up |
| GAP43       | 2.102085717 | 2.723014057 | 4.317426564 | 0.000107186 | 0.001922181 | 0.99362861  | up |
| HAPLN1      | 1.443427524 | 12.22282147 | 4.303926007 | 0.00011168  | 0.001991825 | 0.954369196 | up |
| LOC441666   | 1.937397068 | 3.633632728 | 4.303920837 | 0.000111682 | 0.001991825 | 0.954354172 | up |
| SLC36A1     | 1.434184165 | 4.760460726 | 4.303182618 | 0.000111933 | 0.001994739 | 0.952208623 | up |
| TYRO3       | 1.145239389 | 4.392246305 | 4.287598296 | 0.000117363 | 0.00207204  | 0.906943335 | up |
| ABLIM3      | 1.642506937 | 4.345516928 | 4.279943189 | 0.000120123 | 0.002114223 | 0.884729015 | up |
| TMSB4X      | 1.57387215  | 6.797338938 | 4.278023555 | 0.000120825 | 0.002124939 | 0.879160543 | up |
| FSD2        | 1.401543217 | 2.315254149 | 4.276743832 | 0.000121296 | 0.002129919 | 0.875448793 | up |
| MPZL2       | 1.303059069 | 5.477033387 | 4.276490345 | 0.000121389 | 0.002129919 | 0.874713615 | up |
| ITGAM       | 2.056025571 | 3.058522268 | 4.270445803 | 0.000123637 | 0.002162691 | 0.857187288 | up |
| ISLR        | 1.035688282 | 11.08006225 | 4.267794733 | 0.000124635 | 0.002168757 | 0.849503094 | up |
| NAGPA       | 1.401370308 | 4.558719944 | 4.263110309 | 0.000126419 | 0.002191166 | 0.835929155 | up |
| ECM2        | 1.264248334 | 10.2268686  | 4.261373044 | 0.000127087 | 0.002200066 | 0.830896421 | up |
| MYO3A       | 2.172620022 | 4.013630175 | 4.25821142  | 0.000128311 | 0.002215532 | 0.821739222 | up |
| SPTSSB      | 2.157280895 | 5.319891815 | 4.256360844 | 0.000129033 | 0.002226311 | 0.81638037  | up |
| COL7A1      | 1.185841098 | 6.756311126 | 4.251187266 | 0.000131073 | 0.00225808  | 0.801403104 | up |
| HSPA8       | 1.322002025 | 10.16367238 | 4.250426824 | 0.000131375 | 0.002260412 | 0.799202189 | up |
| CEP55       | 1.848937914 | 1.47469885  | 4.249936771 | 0.00013157  | 0.002260412 | 0.797783921 | up |
| CAPS        | 1.202397496 | 7.520844332 | 4.245940786 | 0.000133173 | 0.00228002  | 0.786221204 | up |
| SLC44A5     | 1.812648931 | 3.079671214 | 4.245464495 | 0.000133366 | 0.002280331 | 0.784843265 | up |
| EFNB3       | 1.780303063 | 2.489959855 | 4.243134287 | 0.00013431  | 0.002287898 | 0.77810261  | up |

|           |             |             |             |             |             |              |    |
|-----------|-------------|-------------|-------------|-------------|-------------|--------------|----|
| NIP7      | 1.294484655 | 4.976913032 | 4.239943782 | 0.000135615 | 0.002304943 | 0.768875429  | up |
| RPL23AP32 | 1.165162708 | 3.770178224 | 4.238788166 | 0.000136609 | 0.002309577 | 0.765533895  | up |
| PCOLCE    | 1.525239325 | 9.932579333 | 4.237530672 | 0.000136609 | 0.002313217 | 0.761898132  | up |
| TM4SF1    | 1.256092144 | 8.360154726 | 4.2325626   | 0.000138868 | 0.002339578 | 0.747537736  | up |
| SPSB4     | 1.328013232 | 5.064443391 | 4.231878946 | 0.000138967 | 0.002342689 | 0.74556207   | up |
| FLJ31485  | 1.651545301 | 3.521057419 | 4.231383899 | 0.000139175 | 0.002343347 | 0.744131519  | up |
| GLDN      | 1.08469808  | 9.56918821  | 4.230996585 | 0.000139339 | 0.00234375  | 0.74301233   | up |
| RARRES1   | 2.068344302 | 4.202090379 | 4.230252226 | 0.000139653 | 0.002345572 | 0.740861516  | up |
| GPR153    | 1.432006856 | 5.763877238 | 4.227522948 | 0.000140811 | 0.002361544 | 0.732976439  | up |
| NRON      | 1.256027886 | 1.712754584 | 4.224290567 | 0.000142195 | 0.002381247 | 0.723640163  | up |
| CTGF      | 1.246091416 | 13.0149773  | 4.221745629 | 0.000143294 | 0.00239437  | 0.71629123   | up |
| CDKN2B    | 1.352930825 | 4.217939186 | 4.219769563 | 0.000144153 | 0.002403435 | 0.710586081  | up |
| LUM       | 1.40879179  | 14.7158252  | 4.217261085 | 0.000145251 | 0.002416431 | 0.703345142  | up |
| HUNK      | 1.094935699 | 3.606285864 | 4.216810605 | 0.000145449 | 0.002417959 | 0.702044955  | up |
| ARPC5     | 1.081781173 | 7.277449232 | 4.212326267 | 0.000147435 | 0.002440279 | 0.689104792  | up |
| FAM186A   | 1.272116871 | 3.659837498 | 4.201590915 | 0.000152296 | 0.002507988 | 0.658146259  | up |
| COL8A1    | 2.513807951 | 4.06893307  | 4.198919977 | 0.00015353  | 0.002524653 | 0.650448181  | up |
| METRN     | 1.300881233 | 5.040301137 | 4.185744293 | 0.00015976  | 0.002610142 | 0.61249926   | up |
| C5orf30   | 1.512281283 | 2.467517654 | 4.179937423 | 0.000162584 | 0.002648675 | 0.595787737  | up |
| C15orf48  | 1.71668577  | 2.059896023 | 4.174738794 | 0.000165153 | 0.002680942 | 0.580833744  | up |
| FZD1      | 1.092790001 | 7.352282288 | 4.167788531 | 0.00016865  | 0.002714523 | 0.560851629  | up |
| GPX7      | 1.530518193 | 5.690541204 | 4.165752679 | 0.000169688 | 0.002724507 | 0.555000804  | up |
| GJB2      | 2.426045017 | 2.555578037 | 4.164736817 | 0.000170208 | 0.002724507 | 0.552081712  | up |
| CYB5A     | 1.15289161  | 4.804791826 | 4.164695662 | 0.000170229 | 0.002724507 | 0.55196346   | up |
| CMTM3     | 1.02075372  | 6.27166379  | 4.159282843 | 0.000173028 | 0.002749976 | 0.536414072  | up |
| RGS19     | 1.798734671 | 3.733078187 | 4.155144667 | 0.000175198 | 0.002778647 | 0.524531316  | up |
| TF        | 1.841935007 | 8.274635218 | 4.152575079 | 0.000176559 | 0.002794391 | 0.517154925  | up |
| CENPK     | 1.341068743 | 3.202253383 | 4.151572371 | 0.000177093 | 0.002800893 | 0.514276954  | up |
| ERI2      | 1.03534752  | 6.381362851 | 4.1406051   | 0.000183035 | 0.002880875 | 0.482815333  | up |
| MATN3     | 2.030967319 | 8.144222312 | 4.124951848 | 0.000191855 | 0.002994462 | 0.437964287  | up |
| MMD       | 1.090123077 | 3.406361394 | 4.119479623 | 0.000195035 | 0.003027902 | 0.422299662  | up |
| HSBP1     | 1.155353671 | 8.120100721 | 4.117962561 | 0.000195926 | 0.003037589 | 0.417958337  | up |
| RAB27B    | 1.49311125  | 1.774207819 | 4.112833151 | 0.000198967 | 0.003076361 | 0.403284102  | up |
| BMPR1B    | 1.503065045 | 2.913201222 | 4.105775985 | 0.000203227 | 0.003135833 | 0.383106123  | up |
| DOPEY2    | 1.103439506 | 4.626186462 | 4.093288272 | 0.000210983 | 0.003227068 | 0.347432969  | up |
| GMFG      | 1.859898743 | 2.333915412 | 4.093066662 | 0.000211123 | 0.003227068 | 0.346800276  | up |
| GABRA4    | 1.467733367 | 7.752812111 | 4.09275694  | 0.000211319 | 0.003227899 | 0.345916045  | up |
| SGCD      | 1.239850348 | 8.612430568 | 4.091242379 | 0.000212281 | 0.003236514 | 0.341592461  | up |
| AQP1      | 1.966095319 | 8.448305507 | 4.091197262 | 0.00021231  | 0.003236514 | 0.341463676  | up |
| C1QTNF1   | 1.553303428 | 5.894996392 | 4.083660715 | 0.000217159 | 0.003286246 | 0.319958374  | up |
| KIF5C     | 1.992238723 | 4.201127127 | 4.082602296 | 0.000217849 | 0.003294493 | 0.316939414  | up |
| HPGDS     | 1.693780348 | 1.511577269 | 4.079095594 | 0.000220149 | 0.003318262 | 0.306939272  | up |
| MYBL2     | 1.45704459  | 1.250976833 | 4.065755073 | 0.000229118 | 0.003423991 | 0.268925829  | up |
| CLDN7     | 1.381176068 | 2.80316206  | 4.062712433 | 0.000231213 | 0.00345077  | 0.260262598  | up |
| AUNIP     | 1.391771474 | 1.906204291 | 4.05779316  | 0.00023464  | 0.003490475 | 0.246261363  | up |
| CD84      | 2.253942125 | 2.60973535  | 4.049028735 | 0.000240868 | 0.003559872 | 0.221332289  | up |
| FMNL1     | 1.419329486 | 3.73249183  | 4.047473704 | 0.000241989 | 0.003569501 | 0.216911421  | up |
| FAM169A   | 1.108748561 | 3.640432637 | 4.044407907 | 0.000244216 | 0.003597683 | 0.208197457  | up |
| LOC285740 | 1.441340197 | 2.149223885 | 4.040673865 | 0.000246955 | 0.003623838 | 0.197587597  | up |
| NCAPG     | 1.591502461 | 2.758642435 | 4.040469747 | 0.000247105 | 0.003623838 | 0.197007728  | up |
| TWIST1    | 1.676881728 | 4.579771744 | 4.038016519 | 0.000248922 | 0.003642868 | 0.190039372  | up |
| LRRC8C    | 2.023790589 | 5.336946431 | 4.036080029 | 0.000250365 | 0.003657514 | 0.184539968  | up |
| GPR176    | 1.60111135  | 4.682877863 | 4.033699263 | 0.000252151 | 0.003678878 | 0.17780285   | up |
| ZCCHC5    | 1.18134899  | 3.874995075 | 4.030733159 | 0.000254392 | 0.003706836 | 0.169360838  | up |
| FAM171A1  | 1.50254552  | 4.981139078 | 4.02909913  | 0.000255636 | 0.003719782 | 0.164723596  | up |
| LTBP1     | 1.397697461 | 9.921353392 | 4.024121185 | 0.00025946  | 0.00375903  | 0.150601135  | up |
| CELF2     | 1.461124591 | 4.896205304 | 4.022293111 | 0.000260878 | 0.003774776 | 0.145416598  | up |
| FAM133A   | 1.435610481 | 2.927781946 | 4.021826614 | 0.000261241 | 0.003777089 | 0.144093729  | up |
| STMN3     | 1.193692772 | 4.753203502 | 4.021431454 | 0.000261549 | 0.003777288 | 0.142973203  | up |
| PON2      | 1.184167109 | 7.050994735 | 4.013114865 | 0.000268114 | 0.003846337 | 0.119400531  | up |
| KIAA1644  | 1.875260777 | 3.714732378 | 4.008360281 | 0.000271939 | 0.003890329 | 0.105932726  | up |
| CDK2AP1   | 1.097083113 | 9.560585394 | 4.003951255 | 0.000275533 | 0.003931869 | 0.093449405  | up |
| SEMA5A    | 1.305902406 | 4.864400995 | 3.992186004 | 0.000285352 | 0.004034071 | 0.060165098  | up |
| RCAN1     | 1.560042945 | 9.129582602 | 3.988452051 | 0.000288539 | 0.004071542 | 0.04960979   | up |
| SLC35B2   | 1.009260587 | 8.21433849  | 3.985281827 | 0.000291272 | 0.004100077 | 0.040651167  | up |
| ADCY1     | 1.083315911 | 4.613211409 | 3.985270905 | 0.000291281 | 0.004100077 | 0.040620307  | up |
| GPR128    | 1.186961403 | 1.329919954 | 3.980577332 | 0.000295373 | 0.004142322 | 0.027362171  | up |
| USP31     | 1.012475366 | 6.144942106 | 3.976475406 | 0.000298996 | 0.004182819 | 0.015780436  | up |
| TMEM180   | 1.02656262  | 3.74238563  | 3.972030921 | 0.000302969 | 0.004217683 | 0.003236923  | up |
| LRIT3     | 1.123113569 | 2.555980314 | 3.958829788 | 0.000315077 | 0.004349023 | -0.033986656 | up |
| NPFF      | 1.23575414  | 4.233566533 | 3.957695578 | 0.000316139 | 0.004361038 | -0.037182468 | up |
| HMMR      | 1.456317541 | 2.320688103 | 3.948093954 | 0.00032527  | 0.004462664 | -0.064221568 | up |
| ANKRD65   | 1.065158835 | 5.503381011 | 3.945410037 | 0.000327868 | 0.004484796 | -0.071774934 | up |
| MAGED1    | 1.054816032 | 9.912556745 | 3.936742836 | 0.000336395 | 0.004573968 | -0.096152695 | up |

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| CD70         | 1.579148536 | 1.031318044 | 3.932780348 | 0.000340365 | 0.004619674 | -0.107290418 | up |
| RUNX1-IT1    | 2.06069431  | 3.174662034 | 3.92897894  | 0.000344216 | 0.00466361  | -0.117971032 | up |
| C1QA         | 2.259859995 | 1.989153122 | 3.926846988 | 0.000346395 | 0.004690335 | -0.123959194 | up |
| SNORD127     | 1.06726949  | 0.933008874 | 3.923591774 | 0.000349747 | 0.004727293 | -0.133099741 | up |
| ICA1         | 1.023097914 | 4.973363429 | 3.922082778 | 0.000351312 | 0.004742811 | -0.137335896 | up |
| COL2A1       | 2.417652123 | 15.25638938 | 3.919227393 | 0.000354291 | 0.004774541 | -0.145349869 | up |
| TNNI2        | 1.794607849 | 2.692421225 | 3.918265486 | 0.0003553   | 0.004778853 | -0.148049029 | up |
| LRRN2        | 1.265503476 | 4.881953685 | 3.913046645 | 0.000360824 | 0.004845276 | -0.162688553 | up |
| SERTAD4      | 1.426864653 | 8.272883791 | 3.912854484 | 0.000361029 | 0.004845276 | -0.163227433 | up |
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| OLFM2        | 1.424413566 | 1.947687117 | 3.90759515  | 0.000366683 | 0.004904963 | -0.177972011 | up |
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| TPX2         | 1.721646101 | 2.836596513 | 3.904248644 | 0.000370326 | 0.004938037 | -0.187349649 | up |
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| NUSAP1       | 1.321566563 | 3.845715007 | 3.901966016 | 0.00037283  | 0.004962718 | -0.193744137 | up |
| KIF4A        | 1.411643149 | 3.56180129  | 3.900987928 | 0.000373909 | 0.004971259 | -0.196483645 | up |
| SOX10        | 1.190482239 | 1.578756725 | 3.899785685 | 0.000375238 | 0.004978884 | -0.199850591 | up |
| GRM3         | 1.270431184 | 1.990012622 | 3.898309185 | 0.000376877 | 0.004993238 | -0.203985011 | up |
| VSNL1        | 1.677501912 | 2.908437883 | 3.891131518 | 0.000384945 | 0.005070627 | -0.224074168 | up |
| TUBA1A       | 1.031728669 | 7.543902395 | 3.883294886 | 0.000393944 | 0.005150448 | -0.245989832 | up |
| HMGR         | 1.106037758 | 6.618560737 | 3.873754908 | 0.000405176 | 0.005260111 | -0.272643754 | up |
| FCGR3A       | 2.007475303 | 1.871402268 | 3.873621962 | 0.000405335 | 0.005260111 | -0.273014999 | up |
| EVA1A        | 1.593240622 | 1.656027658 | 3.867539322 | 0.00041266  | 0.005333901 | -0.289994598 | up |
| PCP4L1       | 1.197175105 | 2.059318159 | 3.864372421 | 0.000416525 | 0.005365584 | -0.298830448 | up |
| TFPI2        | 1.714763461 | 2.115679582 | 3.863711617 | 0.000417336 | 0.00537299  | -0.300673742 | up |
| SAMD13       | 1.284958306 | 1.806826558 | 3.861867446 | 0.000419607 | 0.005396126 | -0.305817293 | up |
| C3orf80      | 1.102965984 | 1.227248676 | 3.859026501 | 0.000423128 | 0.005426098 | -0.313738877 | up |
| ENOX1        | 1.19461686  | 5.943061892 | 3.855595104 | 0.000427421 | 0.005465751 | -0.323303522 | up |
| PCSK6        | 1.434818168 | 4.041218079 | 3.853706276 | 0.000429801 | 0.005486951 | -0.328566866 | up |
| F5           | 1.353042347 | 8.61999055  | 3.852807894 | 0.000430938 | 0.005496291 | -0.331069878 | up |
| CSMD2        | 1.049143762 | 7.943738695 | 3.844361664 | 0.000441769 | 0.005586103 | -0.354589915 | up |
| KIF5A        | 1.570665994 | 2.667563185 | 3.842582797 | 0.000444084 | 0.005603327 | -0.359540652 | up |
| CLEC3B       | 2.14464037  | 5.79569963  | 3.840584286 | 0.000446698 | 0.005630076 | -0.365101494 | up |
| PLXDC1       | 1.89427787  | 5.108520635 | 3.836198229 | 0.000452488 | 0.00569     | -0.377301277 | up |
| APBB1IP      | 1.913238466 | 3.878821431 | 3.83331339  | 0.000456336 | 0.005719897 | -0.385322139 | up |
| MGAT4B       | 1.051626685 | 6.914165733 | 3.830286479 | 0.000460408 | 0.005757644 | -0.393735198 | up |
| CSRNP3       | 1.43822898  | 3.869514976 | 3.824716416 | 0.000467992 | 0.005827512 | -0.409209189 | up |
| INMT         | 1.150689531 | 3.365280205 | 3.823692778 | 0.000469399 | 0.005841838 | -0.412051854 | up |
| SERPINF1     | 1.497309447 | 5.361469158 | 3.822692322 | 0.000470778 | 0.005851623 | -0.414829821 | up |
| COL15A1      | 1.377741    | 11.08141849 | 3.821698705 | 0.000472152 | 0.005863279 | -0.417588484 | up |
| HBA2         | 2.256213865 | 1.735848377 | 3.82122134  | 0.000472813 | 0.005865094 | -0.418913723 | up |
| LY6D         | 1.63682761  | 1.697516324 | 3.815970498 | 0.000480146 | 0.005931525 | -0.433486083 | up |
| NALCN        | 1.509870786 | 2.147304485 | 3.813119031 | 0.000484174 | 0.005960577 | -0.441395921 | up |
| SAMD9        | 1.418886129 | 5.462612293 | 3.812317332 | 0.000485313 | 0.005971365 | -0.443619333 | up |
| TRPV2        | 1.26261508  | 4.147939038 | 3.811937163 | 0.000485853 | 0.00597479  | -0.44467361  | up |
| CLEC7A       | 1.761855905 | 1.592072395 | 3.811065584 | 0.000487095 | 0.005985249 | -0.447090484 | up |
| ANO1         | 1.057944983 | 7.336333943 | 3.807151351 | 0.000492711 | 0.006036306 | -0.457941597 | up |
| CHST4        | 1.240704995 | 1.358133953 | 3.805121991 | 0.000495647 | 0.006062493 | -0.463565499 | up |
| CDKN3        | 1.299499833 | 4.024264381 | 3.804480874 | 0.000496578 | 0.006067365 | -0.465341933 | up |
| TNFSF11      | 2.197003117 | 5.895216661 | 3.798552517 | 0.000505269 | 0.006153295 | -0.481762216 | up |
| MIR3606      | 1.585256926 | 1.757284669 | 3.797974478 | 0.000506124 | 0.00615428  | -0.483362657 | up |
| BFSP1        | 1.367727127 | 6.59287962  | 3.793980352 | 0.000512071 | 0.006213756 | -0.494418415 | up |
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| CTPS1        | 1.237034906 | 5.085869742 | 3.786321644 | 0.000523665 | 0.006329511 | -0.515603342 | up |
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| CYTIP        | 1.267885095 | 1.158679346 | 3.780249383 | 0.000533038 | 0.00639955  | -0.532386447 | up |
| HLA-DMB      | 1.879063316 | 1.949839619 | 3.778157471 | 0.000536305 | 0.006431984 | -0.538165497 | up |
| VSTM5        | 1.003421347 | 1.030213189 | 3.777703525 | 0.000537016 | 0.006433797 | -0.539419367 | up |
| GRIK3        | 1.606644597 | 5.178134183 | 3.776449582 | 0.000538986 | 0.006453944 | -0.542882601 | up |
| MSR1         | 2.223352723 | 2.697572598 | 3.77339324  | 0.000543816 | 0.006498118 | -0.55132169  | up |
| DOK3         | 1.466893924 | 2.392251752 | 3.772641025 | 0.000545011 | 0.006505574 | -0.553398216 | up |
| MMP9         | 2.480984469 | 2.155239803 | 3.772244992 | 0.000545642 | 0.006509686 | -0.554491411 | up |
| DDX25        | 1.495432734 | 3.317094661 | 3.770797863 | 0.000547951 | 0.006526978 | -0.558485575 | up |
| COL13A1      | 1.696480064 | 5.152063039 | 3.770250801 | 0.000548826 | 0.006533989 | -0.559995321 | up |
| WNT7B        | 1.615244859 | 2.290654816 | 3.767357069 | 0.000553479 | 0.006561944 | -0.56797962  | up |
| FBXO45       | 1.218214363 | 5.245523238 | 3.766269346 | 0.000555238 | 0.006579372 | -0.570980122 | up |
| CSF1R        | 1.455772845 | 4.073366766 | 3.759027876 | 0.000567087 | 0.006684991 | -0.590945926 | up |
| AGPS         | 1.126388719 | 7.148157773 | 3.755968836 | 0.000572165 | 0.006737881 | -0.599374957 | up |
| CDHR4        | 1.289697959 | 3.853706092 | 3.75416311  | 0.000575183 | 0.006752476 | -0.604349093 | up |
| PLTP         | 1.832532359 | 6.818055823 | 3.753060841 | 0.000577034 | 0.006765623 | -0.607384923 | up |
| LNK1-AS1     | 1.580939305 | 1.675306041 | 3.751337195 | 0.000579938 | 0.00678106  | -0.612131322 | up |
| ABCA12       | 1.339675003 | 3.385114652 | 3.748539711 | 0.000584682 | 0.006832291 | -0.619832649 | up |
| CPZ          | 1.849012013 | 2.517749249 | 3.739226029 | 0.000600749 | 0.007005659 | -0.645453975 | up |

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| IER3IP1    | 1.026937939 | 8.016348695 | 3.736910857 | 0.000604808 | 0.007042183 | -0.651818371 | up |
| C1QL1      | 1.266333622 | 0.949346218 | 3.731793218 | 0.000613876 | 0.007122277 | -0.665880366 | up |
| TNN        | 1.572971677 | 1.908191545 | 3.725333632 | 0.00062551  | 0.007224129 | -0.683617151 | up |
| VASH2      | 1.412896672 | 2.800113877 | 3.724468102 | 0.000627085 | 0.007238647 | -0.685992661 | up |
| GNG2       | 1.110599538 | 6.511500376 | 3.709856279 | 0.000654257 | 0.007480273 | -0.726057691 | up |
| CHSY3      | 1.277748577 | 6.898853478 | 3.709373512 | 0.000655174 | 0.007483243 | -0.727380183 | up |
| RPIA       | 1.075901265 | 4.77056536  | 3.708028127 | 0.000657736 | 0.007501218 | -0.731065311 | up |
| GAL3ST4    | 1.419676603 | 3.475669859 | 3.700561359 | 0.00067213  | 0.007638607 | -0.751506236 | up |
| CKAP2L     | 1.636046285 | 1.78442125  | 3.697341376 | 0.000678431 | 0.007700499 | -0.76031534  | up |
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| GRIK1      | 1.430707816 | 2.283676208 | 3.688414947 | 0.000696199 | 0.007857247 | -0.784717309 | up |
| ARL4C      | 1.862221345 | 5.095604471 | 3.686320409 | 0.000700432 | 0.007901112 | -0.790439128 | up |
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| CAPZB      | 1.097373698 | 8.574234038 | 3.680625161 | 0.00071207  | 0.008000687 | -0.805989635 | up |
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| TGM2       | 1.378458365 | 7.730531367 | 3.654579163 | 0.000767713 | 0.008471251 | -0.876962836 | up |
| IFNA5      | 1.342252815 | 1.470429672 | 3.652152631 | 0.000773105 | 0.008514252 | -0.883562842 | up |
| GINS1      | 1.123851958 | 3.017011547 | 3.646440498 | 0.000785944 | 0.008618136 | -0.899091275 | up |
| MAPK15     | 1.512803695 | 1.590556969 | 3.645921599 | 0.00078712  | 0.008626882 | -0.90050133  | up |
| NAT1       | 1.097462507 | 3.490619396 | 3.642791198 | 0.000794253 | 0.008687837 | -0.909005858 | up |
| GNG11      | 1.302759407 | 6.829277577 | 3.640765819 | 0.000798901 | 0.008716747 | -0.914506466 | up |
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| MYOM3      | 1.247300077 | 2.849386856 | 3.625956309 | 0.000833695 | 0.009007308 | -0.954682418 | up |
| FDXACB1    | 1.264091924 | 3.186001744 | 3.616627536 | 0.000856357 | 0.009191108 | -0.979949722 | up |
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| C12orf75   | 1.385493889 | 5.770759514 | 3.605621431 | 0.000883857 | 0.009415269 | -1.009719865 | up |
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| FAM198B    | 1.405352982 | 6.190485545 | 3.597666968 | 0.00090426  | 0.009587763 | -1.031208399 | up |
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| C11orf87   | 1.263006929 | 1.307005378 | 3.590595472 | 0.000922778 | 0.009738767 | -1.050292326 | up |
| MLLT10P1   | 1.289142836 | 3.976014067 | 3.587665032 | 0.000930558 | 0.009788839 | -1.058195387 | up |
| CCL3       | 1.19864881  | 0.778175023 | 3.58735394  | 0.000931388 | 0.009788839 | -1.059034181 | up |
| CCL4       | 1.223915339 | 0.803484814 | 3.584010432 | 0.000940349 | 0.009851177 | -1.068047019 | up |
| FBN2       | 1.726374686 | 4.076531284 | 3.583472371 | 0.000941799 | 0.009861831 | -1.069497045 | up |
| AURKA      | 1.065538202 | 2.917305776 | 3.58195177  | 0.000945909 | 0.009900308 | -1.073594357 | up |
| MS4A6A     | 1.938023755 | 2.172725203 | 3.575749545 | 0.000962849 | 0.010049902 | -1.090297662 | up |
| NCF2       | 1.421123084 | 2.961396445 | 3.57173824  | 0.00097396  | 0.010142636 | -1.101093021 | up |
| RPS6KA4    | 1.037519244 | 4.924162623 | 3.571318251 | 0.000975131 | 0.010150184 | -1.102222964 | up |
| IGFBP4     | 1.630958596 | 8.066581685 | 3.568874776 | 0.000981967 | 0.010202694 | -1.108795636 | up |
| CD163      | 2.429650022 | 3.076126728 | 3.568028494 | 0.000984346 | 0.010213429 | -1.111071523 | up |
| HCLS1      | 1.036036208 | 4.111300022 | 3.567339771 | 0.000986286 | 0.010228849 | -1.112923495 | up |
| MARCO      | 2.203952858 | 2.577762899 | 3.567182098 | 0.00098673  | 0.010228849 | -1.113347452 | up |
| CDYL2      | 1.617211258 | 2.297250032 | 3.562689641 | 0.000999479 | 0.010342182 | -1.125423065 | up |
| TMEM158    | 1.505900589 | 1.322873685 | 3.557961634 | 0.001013068 | 0.010469775 | -1.138123737 | up |
| ZNF681     | 1.106044618 | 4.522240713 | 3.557919758 | 0.001013189 | 0.010469775 | -1.138236189 | up |
| NEIL3      | 1.120112349 | 1.083253204 | 3.554114321 | 0.001024256 | 0.010536333 | -1.148452489 | up |
| KAL1       | 1.494514795 | 9.661134084 | 3.553509548 | 0.001026026 | 0.01054501  | -1.150075601 | up |
| SPP1       | 2.605265041 | 7.98570254  | 3.55253612  | 0.00102888  | 0.010558368 | -1.152687836 | up |
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| RAG1       | 1.316380279 | 3.050693486 | 3.536459962 | 0.001077138 | 0.010966395 | -1.195777541 | up |
| VGLL3      | 1.909782842 | 3.134253161 | 3.534002745 | 0.001084704 | 0.011023705 | -1.202355175 | up |
| ADAMTSL5   | 1.162420885 | 1.348272878 | 3.531501299 | 0.001092457 | 0.01107286  | -1.209048864 | up |
| TMEM196    | 1.65919861  | 3.964016964 | 3.530294678 | 0.001096217 | 0.011103112 | -1.21227685  | up |
| KPNA2      | 1.265171395 | 4.636932431 | 3.527394293 | 0.001105304 | 0.011157273 | -1.220033782 | up |
| RPP40      | 1.023542935 | 4.197729171 | 3.522121494 | 0.001122009 | 0.011296974 | -1.234127448 | up |
| RTN4RL1    | 1.103370923 | 6.768256982 | 3.518733252 | 0.001132872 | 0.011385495 | -1.243178303 | up |
| CYP19A1    | 1.347104177 | 2.726335135 | 3.515595441 | 0.001143021 | 0.011457881 | -1.251556295 | up |
| MIR1245B   | 1.704702739 | 1.789438697 | 3.509616109 | 0.001162604 | 0.01161839  | -1.267510776 | up |
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| IGFL2      | 1.195215321 | 1.158413202 | 3.50637143  | 0.001173365 | 0.011684913 | -1.276162734 | up |
| TIAM1      | 1.012425936 | 5.680847247 | 3.502824688 | 0.001185238 | 0.011777395 | -1.285615527 | up |
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| ERMN       | 1.047808759 | 1.665768122 | 3.480425193 | 0.001262924 | 0.012339378 | -1.345202667 | up |
| TUBB1      | 1.048807851 | 2.910534969 | 3.479054314 | 0.001267834 | 0.012360835 | -1.348843163 | up |

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| ANKRD30BP3   | 1.106604015 | 1.81653433  | 3.477897946 | 0.001271989 | 0.012380154 | -1.351913436 | up |
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| GPC4         | 1.669360942 | 3.599612488 | 3.471383776 | 0.001295645 | 0.012530073 | -1.369199462 | up |
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| MAFB         | 1.586794008 | 7.049595561 | 3.431578448 | 0.00144962  | 0.013643439 | -1.474464115 | up |
| MMP28        | 1.438044654 | 1.592610481 | 3.429346408 | 0.001458754 | 0.013711563 | -1.480348078 | up |
| GRIN2D       | 1.371576111 | 3.92068059  | 3.420890967 | 0.001493856 | 0.013956583 | -1.502619665 | up |
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| VCAM1        | 1.735814914 | 9.842710467 | 3.398933807 | 0.001588827 | 0.014626327 | -1.560320033 | up |
| TNFRSF9      | 1.255246133 | 2.16690663  | 3.398259694 | 0.001591832 | 0.014648071 | -1.562088413 | up |
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| C9orf142     | 1.195107071 | 4.584468985 | 3.392158267 | 0.001619281 | 0.014817387 | -1.578085679 | up |
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| LPHN1        | 1.099941668 | 6.308589499 | 3.378270871 | 0.001683453 | 0.015275157 | -1.614440082 | up |
| PODNL1       | 1.339568834 | 8.148489003 | 3.375394453 | 0.001697045 | 0.015392356 | -1.621960054 | up |
| DCLK1        | 2.067074915 | 3.640527335 | 3.368752693 | 0.001728832 | 0.015624662 | -1.639310914 | up |
| KCNH2        | 1.33581664  | 1.650515351 | 3.367973766 | 0.001732597 | 0.015640069 | -1.641344578 | up |
| DKK1         | 1.845409575 | 4.421693701 | 3.361088719 | 0.001766218 | 0.015874351 | -1.659309494 | up |
| HLA-DRB1     | 2.239666647 | 3.743941756 | 3.359469885 | 0.001774213 | 0.015921077 | -1.663530605 | up |
| FAM20A       | 1.268670012 | 5.215895588 | 3.358706621 | 0.001777994 | 0.015942448 | -1.665520437 | up |
| SLCO2B1      | 1.776012806 | 2.378250484 | 3.356637256 | 0.001788286 | 0.016009514 | -1.67091406  | up |
| KCNJ6        | 1.239531595 | 1.30337048  | 3.352893064 | 0.001807051 | 0.016139444 | -1.680668442 | up |
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| C12orf70     | 1.071963942 | 1.026003281 | 3.344620625 | 0.00184918  | 0.016444775 | -1.702199057 | up |
| PPP1R14B     | 1.013018414 | 5.411477611 | 3.343406607 | 0.001855441 | 0.016476211 | -1.705356359 | up |
| CYBB         | 2.201973722 | 2.957717835 | 3.341323902 | 0.001866229 | 0.016538273 | -1.710771423 | up |
| MGAT3        | 1.031116821 | 4.150610842 | 3.340389737 | 0.001871087 | 0.016568432 | -1.713199672 | up |
| C3orf52      | 1.501503816 | 3.484464961 | 3.339265657 | 0.001876949 | 0.016600976 | -1.716121098 | up |
| AURKB        | 1.095180347 | 1.837166549 | 3.338391084 | 0.001881522 | 0.016630364 | -1.7183937   | up |
| STXBP6       | 1.03902148  | 2.914389237 | 3.338211476 | 0.001882462 | 0.016630364 | -1.718860377 | up |
| FGF1         | 1.610666434 | 8.699938541 | 3.338062448 | 0.001883243 | 0.01663081  | -1.719247586 | up |
| C4BPA        | 1.854136044 | 4.044501919 | 3.337835958 | 0.00188443  | 0.016634842 | -1.719836043 | up |
| AQP3         | 1.367490064 | 7.430576062 | 3.335927171 | 0.001894462 | 0.016716923 | -1.724794514 | up |
| CD28         | 1.303420508 | 1.719572394 | 3.335139814 | 0.001898615 | 0.016740598 | -1.726839389 | up |
| RRH          | 1.163260722 | 2.105680323 | 3.331874465 | 0.001915932 | 0.016828133 | -1.735317169 | up |
| EN1          | 1.425216394 | 1.867710934 | 3.328376945 | 0.001934647 | 0.016938578 | -1.744392735 | up |
| TRAPPC1      | 1.716332391 | 5.814524827 | 3.328274029 | 0.0019352   | 0.016938578 | -1.74465971  | up |
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| EDA2R        | 1.053560194 | 4.179923779 | 3.327772694 | 0.001937898 | 0.016942656 | -1.745960157 | up |
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| NETO2        | 1.47560481  | 1.417830762 | 3.3208577   | 0.001975474 | 0.017198551 | -1.763886571 | up |
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| TMEM14A      | 1.170405202 | 6.438741911 | 3.308688828 | 0.002043292 | 0.017701018 | -1.795383766 | up |

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| MARCKS       | 1.78641424  | 5.449528873 | 3.308259089 | 0.002045727 | 0.017715374 | -1.796494923 | up |
| LECT1        | 1.795080159 | 8.658438507 | 3.304596729 | 0.002066592 | 0.017848554 | -1.805961314 | up |
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| PLAU         | 1.990893342 | 3.33835438  | 3.301758116 | 0.002082904 | 0.01797122  | -1.813294546 | up |
| FLG2         | 1.188915442 | 3.00084834  | 3.299907253 | 0.002093605 | 0.018047638 | -1.81807418  | up |
| ZNF284       | 1.099369502 | 4.086977753 | 3.292793367 | 0.002135227 | 0.018311991 | -1.836431232 | up |
| TMEM189      | 1.188758207 | 5.253720115 | 3.290368518 | 0.002149593 | 0.018402548 | -1.842683463 | up |
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| FOXD4        | 1.062869666 | 1.259384013 | 3.278626735 | 0.002220472 | 0.018898074 | -1.872922511 | up |
| MID1         | 1.215642553 | 4.64199607  | 3.274625683 | 0.002245128 | 0.019072284 | -1.883212911 | up |
| PTPRC        | 1.884535697 | 2.44094743  | 3.264401375 | 0.002309324 | 0.019501107 | -1.909477362 | up |
| CHST13       | 1.095638225 | 1.30226625  | 3.261992699 | 0.0023247   | 0.019602018 | -1.91565818  | up |
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| CENPW        | 1.165283677 | 2.389518006 | 3.255181884 | 0.002368706 | 0.019892065 | -1.933121407 | up |
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| PNMAL1       | 1.151879043 | 5.000983715 | 3.249678126 | 0.002404844 | 0.020113967 | -1.947218386 | up |
| CIQC         | 2.136631549 | 2.250297188 | 3.247032892 | 0.002422399 | 0.020238498 | -1.953988972 | up |
| BIRC7        | 1.317676138 | 1.509181475 | 3.239217681 | 0.002474979 | 0.020564629 | -1.973974269 | up |
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| MMP2         | 1.549694698 | 9.013221654 | 3.233941274 | 0.002511109 | 0.020803953 | -1.987451956 | up |
| TPIIP3       | 1.201417264 | 1.746796586 | 3.23235277  | 0.002522059 | 0.020884959 | -1.991507099 | up |
| MEX3B        | 1.161105558 | 1.651128002 | 3.227978821 | 0.002552498 | 0.021070365 | -2.002667137 | up |
| AP1S3        | 1.057884033 | 2.716096174 | 3.22318939  | 0.002586229 | 0.021310187 | -2.014877484 | up |
| CA12         | 2.136496017 | 3.538098508 | 3.2221943   | 0.00259329  | 0.021345202 | -2.017413117 | up |
| TBXAS1       | 1.25132417  | 2.134921042 | 3.218328509 | 0.002620895 | 0.021516509 | -2.027259506 | up |
| LEF1         | 1.358608532 | 2.372460176 | 3.216195762 | 0.002636244 | 0.021589525 | -2.032688887 | up |
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| SYT8         | 1.539792169 | 4.197554696 | 3.19914499  | 0.002762063 | 0.022338774 | -2.076021703 | up |
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| ABCG5        | 1.005858577 | 2.759699916 | 3.187179531 | 0.002853738 | 0.022933618 | -2.106352247 | up |
| CAMK2N1      | 1.12416549  | 5.156432609 | 3.186160809 | 0.002861674 | 0.022973083 | -2.108931541 | up |
| COL25A1      | 1.424477504 | 4.417144482 | 3.185966481 | 0.002863191 | 0.022977157 | -2.109423504 | up |
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| TMTC4        | 1.021734555 | 3.706604619 | 3.171767433 | 0.002976076 | 0.023691064 | -2.145323382 | up |
| NFAM1        | 1.041723256 | 3.376963337 | 3.168331951 | 0.003004016 | 0.023863434 | -2.15399554  | up |
| LOC100130894 | 1.052855072 | 1.867918252 | 3.168053083 | 0.003006295 | 0.02387321  | -2.154699248 | up |
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| COL6A3       | 1.340400019 | 12.37974457 | 3.153382022 | 0.00312852  | 0.024569671 | -2.191670252 | up |
| DLK2         | 1.013540318 | 1.927632022 | 3.150667137 | 0.003151648 | 0.024708704 | -2.198500843 | up |
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| FPR3         | 1.314437107 | 2.407829419 | 3.139682374 | 0.00324689  | 0.025203788 | -2.226103333 | up |
| LYZ          | 1.728654397 | 3.348679326 | 3.139534899 | 0.003248187 | 0.025205265 | -2.226473528 | up |
| SGCG         | 1.049549327 | 1.491804068 | 3.137676027 | 0.003264577 | 0.025289369 | -2.231138813 | up |
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| NREP         | 1.181521125 | 7.325697384 | 3.108432474 | 0.003532956 | 0.026708631 | -2.304319351 | up |
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| ALOX5        | 1.244128909 | 2.158979534 | 3.100544919 | 0.003608839 | 0.027125485 | -2.323988479 | up |
| KIAA0101     | 1.158323379 | 1.319963062 | 3.099500987 | 0.003618996 | 0.027166329 | -2.32658951  | up |
| ABCC3        | 1.356429686 | 3.855449208 | 3.098195473 | 0.003631738 | 0.027235042 | -2.329841561 | up |
| MYEF2        | 1.296812159 | 1.783434534 | 3.093548526 | 0.003677434 | 0.027487221 | -2.341410582 | up |
| GRIP2        | 1.188410364 | 4.266081347 | 3.092418455 | 0.003688629 | 0.027543777 | -2.344222445 | up |
| VAV1         | 1.020167355 | 1.284062571 | 3.091338105 | 0.003699361 | 0.027584933 | -2.346910023 | up |
| TM4SF20      | 1.156577158 | 1.653825904 | 3.087077456 | 0.003741974 | 0.02780537  | -2.35750377  | up |
| CD163L1      | 1.003908399 | 1.837990277 | 3.084641789 | 0.003796542 | 0.027915068 | -2.36355595  | up |
| DACH1        | 1.273741785 | 1.891233489 | 3.083666741 | 0.00377642  | 0.027942811 | -2.365977968 | up |
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| GPC5         | 1.231922501 | 6.391258932 | 3.075607799 | 0.003859004 | 0.028418378 | -2.385978899 | up |

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| ZGLP1         | 1.137682428 | 2.875747155 | 3.071543774 | 0.003901294 | 0.028643444 | -2.396053279 | up |
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| MEST      | 1.093286716  | 2.340411629 | 2.822610944 | 0.007505778 | 0.046550982 | -2.997353042 | up |
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| SCG2      | 1.139931623  | 1.342556457 | 2.791009981 | 0.008140065 | 0.049393138 | -3.071364084 | up |
| EYA4      | 1.159775964  | 2.802810428 | 2.788409973 | 0.008194413 | 0.049608653 | -3.077429149 | up |
| F7        | 1.10902024   | 1.681807532 | 2.786476011 | 0.008235057 | 0.049788537 | -3.081938114 | up |
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| INSL3     | 1.108698656  | 1.344383182 | 2.781736993 | 0.008335445 | 0.050162524 | -3.092978275 | up |
| CCR1      | 1.438017602  | 1.392498355 | 2.780399973 | 0.008363973 | 0.050287614 | -3.096090803 | up |
| AGTR2     | 1.06314077   | 0.93619584  | 2.775291275 | 0.008473814 | 0.050653834 | -3.10797456  | up |
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| PLXNA4    | 1.268846134  | 4.946248834 | 2.771297415 | 0.008560617 | 0.051019831 | -3.117254966 | up |
| DLL3      | 1.03862583   | 1.01775911  | 2.769457885 | 0.008600874 | 0.051184978 | -3.121526456 | up |
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| CDC25A    | 1.04523289   | 3.163630148 | 2.762158495 | 0.008762359 | 0.051834476 | -3.138457558 | up |
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| GDF5      | 1.123590541  | 6.969780831 | 2.750340804 | 0.009029782 | 0.053058192 | -3.165806182 | up |
| SKA3      | 1.15758053   | 1.930739556 | 2.750340299 | 0.009029794 | 0.053058192 | -3.165807348 | up |
| NKX3-2    | 1.012939041  | 7.341749857 | 2.741553287 | 0.009233523 | 0.053798172 | -3.186091823 | up |
| LINC00707 | 1.038494339  | 1.252081907 | 2.737346985 | 0.009332548 | 0.054239407 | -3.195786605 | up |
| TMEM63C   | 1.282806307  | 1.456359613 | 2.719628908 | 0.009760572 | 0.055994215 | -3.236514387 | up |
| CHML      | 1.162375151  | 5.257737176 | 2.718072569 | 0.009799025 | 0.056186506 | -3.240083411 | up |
| AQPEP     | 1.026226893  | 8.732703486 | 2.716430269 | 0.009839754 | 0.056306635 | -3.243848077 | up |
| NME1      | 1.007633824  | 6.484013764 | 2.715877531 | 0.009853498 | 0.056371114 | -3.245114781 | up |
| NDST3     | 1.112526876  | 1.1531127   | 2.709535051 | 0.010012472 | 0.057065578 | -3.259637388 | up |
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| GREM1     | 1.935065133  | 10.34274634 | 2.68921591  | 0.010537893 | 0.059069777 | -3.306008689 | up |
| C8B       | 1.142125498  | 2.253684048 | 2.687347102 | 0.010587475 | 0.059240223 | -3.310261738 | up |
| ALX4      | 1.022975497  | 3.954774236 | 2.680232158 | 0.010778227 | 0.060032802 | -3.32643565  | up |
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| MACC1     | 1.184051979  | 3.517386125 | 2.672933396 | 0.010977202 | 0.060769512 | -3.34299717  | up |
| SLC24A3   | 1.197890516  | 2.671745707 | 2.672554004 | 0.010987637 | 0.060812498 | -3.343857202 | up |
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| DSG3      | 1.122535709  | 1.328248303 | 2.667522372 | 0.011126897 | 0.061345879 | -3.355255415 | up |
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| ARNT2     | 1.344295713  | 2.850945249 | 2.659625667 | 0.011348742 | 0.062296362 | -3.373114387 | up |
| CADM1     | 1.014436292  | 5.784021235 | 2.654054313 | 0.011507708 | 0.062964202 | -3.385692652 | up |
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| LAMB1     | 1.296257404  | 6.220256883 | 2.64209802  | 0.011855807 | 0.064197812 | -3.412625007 | up |
| MCM10     | 1.010590735  | 2.242657387 | 2.637893495 | 0.011980507 | 0.064734529 | -3.422076155 | up |
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| PTPRQ     | 1.217076955  | 1.154845435 | 2.614565481 | 0.012694599 | 0.067677781 | -3.47432559  | up |
| SYK       | 1.112611109  | 2.888736565 | 2.613695264 | 0.012721979 | 0.067782081 | -3.476268475 | up |
| SGOL1     | 1.002371976  | 2.321874617 | 2.61217244  | 0.012770024 | 0.067956904 | -3.479667323 | up |
| TMEM176B  | 1.766540327  | 3.745996604 | 2.607194557 | 0.012928243 | 0.068554302 | -3.490768067 | up |
| SRM       | 1.493580212  | 7.30997744  | 2.605891877 | 0.012969944 | 0.068679486 | -3.493670637 | up |
| GDF6      | 1.450390227  | 6.017196131 | 2.594809363 | 0.013329748 | 0.070104385 | -3.518323416 | up |
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| ZNF93     | 1.006378461  | 2.435554304 | 2.578687938 | 0.01386953  | 0.072266885 | -3.554054414 | up |



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| DMP1      | 1.105811695 | 1.265516244 | 2.57557935  | 0.013975892 | 0.072642135 | -3.560926297 | up |
| HK3       | 1.082893114 | 1.263343441 | 2.574830731 | 0.014001618 | 0.072755383 | -3.562580337 | up |
| IL10      | 1.107721722 | 2.445256186 | 2.573980201 | 0.014030898 | 0.072797777 | -3.564459136 | up |
| ATP5J2    | 1.236832764 | 6.604114119 | 2.573943828 | 0.014032152 | 0.072797777 | -3.564539472 | up |
| IGFBP7    | 1.131810827 | 9.765131583 | 2.569672209 | 0.014180071 | 0.073281399 | -3.573968703 | up |
| ANGPT1    | 1.235765877 | 2.631085209 | 2.569197574 | 0.014196595 | 0.073333512 | -3.575015741 | up |
| TPO       | 1.147037941 | 3.217333432 | 2.561145966 | 0.014479605 | 0.074466424 | -3.592756795 | up |
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| UBE2QL1   | 1.214715476 | 3.555165554 | 2.527820136 | 0.0157068   | 0.079099082 | -3.6657698   | up |
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| GAS2L3    | 1.072425402 | 1.966794821 | 2.493368379 | 0.01707476  | 0.084263849 | -3.740535113 | up |
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| PTPRO     | 1.084982954 | 2.124322305 | 2.408132447 | 0.020937941 | 0.097094674 | -3.922325323 | up |
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| MIRLET7A2 | 1.060311966 | 2.210731818 | 2.40343868  | 0.021172088 | 0.097947247 | -3.932202281 | up |
| MT1H      | 1.612981873 | 4.753735687 | 2.402299387 | 0.021229277 | 0.098146597 | -3.934597531 | up |
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| FRK       | 1.208960679 | 5.336615472 | 2.385135981 | 0.022107917 | 0.101004578 | -3.970580826 | up |
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| ARGFXP2   | 1.078503902 | 1.825478379 | 2.366229019 | 0.023113752 | 0.104385428 | -4.009999113 | up |
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| OAS2         | 1.016679647  | 2.699758596 | 2.258567238  | 0.029668198 | 0.12452879  | -4.229976527 | up   |
| DAW1         | 1.00805315   | 3.339143782 | 2.253049013  | 0.030045092 | 0.125505009 | -4.241042806 | up   |
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| ROS1         | 1.202308994  | 1.933257202 | 2.240522978  | 0.030916529 | 0.127720652 | -4.26608593  | up   |
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| HSPA7        | 1.106049952  | 1.687602253 | 2.180389822  | 0.035421507 | 0.140251188 | -4.384813922 | up   |
| CDH4         | 1.004676827  | 1.30617411  | 2.177889569  | 0.035620831 | 0.140917914 | -4.389696405 | up   |
| COX17        | 1.063543167  | 5.998929328 | 2.174416769  | 0.035899337 | 0.141773437 | -4.39647086  | up   |
| LOC100507244 | 1.058704654  | 3.673554337 | 2.162964799  | 0.036831465 | 0.144378076 | -4.418750862 | up   |
| CKMT2        | 1.047932241  | 3.466489418 | 2.162180419  | 0.036896087 | 0.144565377 | -4.420273536 | up   |
| GJC1         | 1.238542673  | 3.381005177 | 2.150550342  | 0.037866074 | 0.147091905 | -4.442799824 | up   |
| FRMD6        | 1.047449575  | 7.296323151 | 2.147646335  | 0.038111768 | 0.147844578 | -4.448409793 | up   |
| EPHA3        | 1.085485129  | 6.419670451 | 2.136617778  | 0.039057721 | 0.150769422 | -4.469660753 | up   |
| TNFRSF11B    | 1.119480775  | 9.320659221 | 2.134026159  | 0.039282997 | 0.151356835 | -4.474642117 | up   |
| CXCL12       | 1.322947084  | 3.159975182 | 2.132171324  | 0.039444931 | 0.151771007 | -4.478204393 | up   |
| C4orf48      | 1.486087196  | 4.319821839 | 2.123189556  | 0.040237432 | 0.153450691 | -4.495419795 | up   |
| SERTAD4-AS1  | 1.083597091  | 6.915639483 | 2.122111322  | 0.040333507 | 0.15368841  | -4.497482612 | up   |
| RASSF2       | 1.089575688  | 2.460001712 | 2.121928097  | 0.040349853 | 0.153699265 | -4.497833067 | up   |
| LRRC2        | 1.137338329  | 4.011362417 | 2.104810166  | 0.04190298  | 0.157820467 | -4.530469359 | up   |
| TFEC         | 1.117501772  | 1.702348898 | 2.101179534  | 0.042239071 | 0.158666476 | -4.537364556 | up   |
| FLNC         | 1.245886332  | 3.802868528 | 2.093447556  | 0.042962736 | 0.160479109 | -4.552017557 | up   |
| MS4A7        | 1.318606299  | 2.03300767  | 2.08323566   | 0.043935183 | 0.162888456 | -4.571304732 | up   |
| LAIR1        | 1.028938341  | 1.601994851 | 2.074033537  | 0.044827961 | 0.16493648  | -4.588620646 | up   |
| LCPI         | 1.114428479  | 2.811478867 | 2.071970945  | 0.045030239 | 0.165335852 | -4.59249353  | up   |
| TEX15        | 1.052817335  | 1.241206655 | 2.062646655  | 0.045954683 | 0.167605811 | -4.609963278 | up   |
| KCNK2        | 1.225898576  | 3.257857543 | 2.051085981  | 0.047123884 | 0.170463    | -4.631535806 | up   |
| SDC1         | 1.054471616  | 8.685777149 | 2.027533827  | 0.049586537 | 0.176667723 | -4.675184499 | up   |
| DDIT3        | -2.668034101 | 7.244232911 | -15.64127846 | 3.00E-18    | 3.61E-14    | 30.73273116  | down |
| MAFF         | -3.051153603 | 7.331979493 | -15.61510121 | 3.17E-18    | 3.61E-14    | 30.68199552  | down |
| PFKFB3       | -2.293554231 | 11.58134326 | -13.37311287 | 4.95E-16    | 3.75E-12    | 26.03234002  | down |
| ETS2         | -2.034802714 | 9.531172041 | -12.21612227 | 8.38E-15    | 3.58E-11    | 23.38099348  | down |
| KLF10        | -2.240682209 | 9.294230522 | -12.16871669 | 9.44E-15    | 3.58E-11    | 23.26847876  | down |
| ADM          | -4.443230151 | 8.955623447 | -11.10129916 | 1.50E-13    | 4.88E-10    | 20.65174896  | down |
| SESN2        | -2.967427999 | 6.162717432 | -10.97348231 | 2.11E-13    | 6.00E-10    | 20.32760017  | down |
| MTFP1        | -2.494948    | 5.283411285 | -10.77964674 | 3.55E-13    | 8.98E-10    | 19.8315754   | down |
| HILPDA       | -3.684241232 | 9.535905101 | -10.69511451 | 4.46E-13    | 1.02E-09    | 19.61357637  | down |
| CISH         | -3.137076529 | 6.421797273 | -10.62877911 | 5.34E-13    | 1.11E-09    | 19.44178952  | down |
| LOC143666    | -3.116877853 | 5.879065755 | -10.56171412 | 6.41E-13    | 1.19E-09    | 19.26747376  | down |
| MYO7A        | -2.855669453 | 5.625574856 | -10.32649528 | 1.22E-12    | 1.99E-09    | 18.65101127  | down |
| GADD45B      | -2.796267488 | 9.588457695 | -10.18711173 | 1.80E-12    | 2.73E-09    | 18.28198879  | down |
| JMJD6        | -1.311975147 | 8.093939493 | -10.06100592 | 2.55E-12    | 3.50E-09    | 17.94573677  | down |
| DHRS13       | -2.610410296 | 5.522721678 | -10.02424358 | 2.83E-12    | 3.50E-09    | 17.84728748  | down |
| SLC2A1       | -2.165924243 | 9.544550531 | -10.01678801 | 2.89E-12    | 3.50E-09    | 17.82729813  | down |
| C19orf35     | -2.993844899 | 3.940059445 | -10.01350875 | 2.92E-12    | 3.50E-09    | 17.81850352  | down |
| PIM2         | -2.244199338 | 5.520430794 | -9.975107335 | 3.25E-12    | 3.70E-09    | 17.71540174  | down |
| UBC          | -1.652728659 | 12.54612297 | -9.957769992 | 3.41E-12    | 3.70E-09    | 17.66878527  | down |
| ZNF395       | -1.99429308  | 10.44307454 | -9.89401246  | 4.08E-12    | 4.22E-09    | 17.49698903  | down |
| IER2         | -2.488143505 | 8.188958271 | -9.844658566 | 4.69E-12    | 4.64E-09    | 17.36360955  | down |
| DDIT4        | -4.117980222 | 11.29961579 | -9.788286664 | 5.50E-12    | 5.22E-09    | 17.21084383  | down |
| TUBB4B       | -1.871389285 | 8.639453616 | -9.713787832 | 6.79E-12    | 6.02E-09    | 17.00826942  | down |
| GPT2         | -1.799708051 | 8.137897674 | -9.709677258 | 6.87E-12    | 6.02E-09    | 16.99706943  | down |
| IRS2         | -1.979608824 | 7.606834284 | -9.664798221 | 7.80E-12    | 6.35E-09    | 16.87463454  | down |
| JUN          | -3.029998196 | 9.400743924 | -9.594666673 | 9.53E-12    | 7.48E-09    | 16.68274429  | down |
| ATF3         | -3.691878909 | 5.464494195 | -9.483313968 | 1.31E-11    | 9.62E-09    | 16.37665998  | down |
| DHRS3        | -1.829225286 | 9.27918947  | -9.353500537 | 1.90E-11    | 1.24E-08    | 16.01766494  | down |
| FAM166A      | -3.222701563 | 3.497268904 | -9.336765468 | 2.00E-11    | 1.26E-08    | 15.97121587  | down |
| HK2          | -2.564239318 | 9.004287646 | -9.301840758 | 2.21E-11    | 1.36E-08    | 15.87415688  | down |
| ING1         | -1.662681325 | 8.162600041 | -9.201478118 | 2.95E-11    | 1.73E-08    | 15.59431321  | down |
| FAM84B       | -1.968964435 | 5.691241962 | -9.132378345 | 3.61E-11    | 1.98E-08    | 15.40084583  | down |
| TOB1         | -2.722334259 | 8.761982268 | -9.128130403 | 3.66E-11    | 1.98E-08    | 15.38893128  | down |
| RNF39        | -2.223876086 | 3.980329399 | -9.07870491  | 4.22E-11    | 2.19E-08    | 15.25012516  | down |
| ERRF1        | -2.441505485 | 11.87718159 | -8.9614943   | 7.21E-11    | 3.49E-08    | 14.73461062  | down |
| CDKN1A       | -2.889319557 | 7.704106647 | -8.766584497 | 1.06E-10    | 5.01E-08    | 14.36607003  | down |
| KBTBD11      | -1.711145468 | 7.514017515 | -8.749430257 | 1.11E-10    | 5.17E-08    | 14.31711199  | down |
| RNU4ATAC     | -2.562979943 | 2.798941954 | -8.64603915  | 1.51E-10    | 6.49E-08    | 14.02123292  | down |
| AKAP12       | -1.780394107 | 6.691140384 | -8.625283832 | 1.61E-10    | 6.78E-08    | 13.96167179  | down |
| NCK1         | -1.127824939 | 7.613375178 | -8.600413068 | 1.73E-10    | 7.16E-08    | 13.89022864  | down |

|              |              |             |              |          |          |             |      |
|--------------|--------------|-------------|--------------|----------|----------|-------------|------|
| VEGFA        | -2.604198118 | 11.98114588 | -8.550715982 | 2.01E-10 | 7.79E-08 | 13.747236   | down |
| HMGB2        | -1.679294256 | 8.225520607 | -8.548635993 | 2.02E-10 | 7.79E-08 | 13.7412445  | down |
| NXT1         | -1.38166174  | 6.301625198 | -8.543243782 | 2.05E-10 | 7.79E-08 | 13.7257095  | down |
| CEP95        | -1.343329507 | 8.389317336 | -8.503239201 | 2.30E-10 | 8.31E-08 | 13.6161478  | down |
| CTH          | -2.031523082 | 6.382159209 | -8.480872736 | 2.47E-10 | 8.79E-08 | 13.54575392 | down |
| SNAPC1       | -1.263396719 | 8.512428854 | -8.419394426 | 2.97E-10 | 1.03E-07 | 13.36790192 | down |
| ELMSAN1      | -1.53601514  | 8.940921539 | -8.412647365 | 3.03E-10 | 1.03E-07 | 13.34835486 | down |
| SLC6A8       | -1.682685836 | 7.963750603 | -8.390982656 | 3.23E-10 | 1.08E-07 | 13.28555187 | down |
| PPP1R15A     | -2.092902021 | 7.980425539 | -8.374972408 | 3.39E-10 | 1.12E-07 | 13.23910356 | down |
| PIM3         | -1.758181007 | 8.798344129 | -8.358304922 | 3.57E-10 | 1.14E-07 | 13.19071536 | down |
| CCNL1        | -1.754892678 | 9.715460573 | -8.305125696 | 4.19E-10 | 1.31E-07 | 13.03610336 | down |
| BHLHE40      | -2.346107817 | 11.86259522 | -8.289380477 | 4.39E-10 | 1.35E-07 | 12.99026078 | down |
| SLC38A3      | -2.485657191 | 8.339860694 | -8.26056212  | 4.79E-10 | 1.45E-07 | 12.90627869 | down |
| GRPEL1       | -1.280223025 | 7.455305046 | -8.127475526 | 7.16E-10 | 2.06E-07 | 12.51716738 | down |
| KLF11        | -1.262980361 | 6.65458029  | -8.01453187  | 1.01E-09 | 2.72E-07 | 12.18534216 | down |
| FAM210A      | -1.378293343 | 7.574626076 | -8.012473875 | 1.02E-09 | 2.72E-07 | 12.17928241 | down |
| SOX9         | -1.960905137 | 11.31402452 | -7.979071274 | 1.12E-09 | 2.94E-07 | 12.08086255 | down |
| PMS2CL       | -1.211422013 | 5.557082317 | -7.955880452 | 1.21E-09 | 3.12E-07 | 12.01245836 | down |
| LOC399715    | -2.456851139 | 6.088558306 | -7.923769199 | 1.33E-09 | 3.41E-07 | 11.91764422 | down |
| IRF2BP2      | -1.115061414 | 9.98918508  | -7.889195122 | 1.48E-09 | 3.62E-07 | 11.81543193 | down |
| ELF3         | -2.975435412 | 4.530926173 | -7.87041823  | 1.57E-09 | 3.77E-07 | 11.7598669  | down |
| CECR5        | -1.208303192 | 5.869011652 | -7.869131583 | 1.57E-09 | 3.77E-07 | 11.75605803 | down |
| ITPRIP       | -2.341230312 | 8.315941624 | -7.842476798 | 1.71E-09 | 4.01E-07 | 11.67711163 | down |
| HERC5        | -2.513277127 | 5.647814976 | -7.826095325 | 1.79E-09 | 4.17E-07 | 11.6285551  | down |
| MXII         | -1.742169424 | 9.308565043 | -7.765289243 | 2.16E-09 | 4.92E-07 | 11.44807058 | down |
| SAP30        | -1.609786597 | 7.55084     | -7.754045944 | 2.24E-09 | 4.99E-07 | 11.41460577 | down |
| KLF4         | -1.4599806   | 9.959151063 | -7.743135187 | 2.31E-09 | 5.11E-07 | 11.3822167  | down |
| CEBPG        | -1.453025906 | 7.624895193 | -7.653373416 | 3.05E-09 | 6.35E-07 | 11.11488    | down |
| BCOR         | -1.593039645 | 8.867332388 | -7.652974765 | 3.05E-09 | 6.35E-07 | 11.11369088 | down |
| LOC100507217 | -1.195314673 | 8.879759648 | -7.651524023 | 3.07E-09 | 6.35E-07 | 11.10936338 | down |
| SNHG15       | -1.081998073 | 5.320320148 | -7.633722307 | 3.24E-09 | 6.53E-07 | 11.05624454 | down |
| STX11        | -1.941963744 | 5.230039992 | -7.540010347 | 4.32E-09 | 8.49E-07 | 10.77610076 | down |
| RRAGD        | -1.307514415 | 7.459791542 | -7.522190959 | 4.57E-09 | 8.89E-07 | 10.72273494 | down |
| JUNB         | -1.716141791 | 10.95383788 | -7.516042975 | 4.66E-09 | 8.99E-07 | 10.70431582 | down |
| MYZAP        | -2.464253418 | 4.425277149 | -7.449412865 | 5.72E-09 | 1.06E-06 | 10.50446639 | down |
| CSRNP1       | -2.970339586 | 7.686622482 | -7.39967928  | 6.68E-09 | 1.20E-06 | 10.35502867 | down |
| LONRF3       | -2.82731202  | 5.155323959 | -7.385831325 | 6.97E-09 | 1.23E-06 | 10.31337894 | down |
| EGLN3        | -1.715080449 | 8.364294865 | -7.375883591 | 7.19E-09 | 1.24E-06 | 10.28344909 | down |
| CCNG2        | -1.324327869 | 8.542257711 | -7.357764302 | 7.61E-09 | 1.29E-06 | 10.22891079 | down |
| DUSP2        | -3.435889834 | 2.820526136 | -7.272716661 | 9.91E-09 | 1.62E-06 | 9.972538176 | down |
| AVPI1        | -1.995674339 | 7.218577451 | -7.26506819  | 1.01E-08 | 1.65E-06 | 9.949451841 | down |
| KIT          | -3.101508919 | 4.475110049 | -7.261907966 | 1.02E-08 | 1.66E-06 | 9.939911508 | down |
| LOC100272217 | -1.978078558 | 3.943296826 | -7.257375169 | 1.04E-08 | 1.66E-06 | 9.926226081 | down |
| SPSB2        | -1.326803944 | 4.762492745 | -7.229071656 | 1.13E-08 | 1.78E-06 | 9.840733363 | down |
| ST3GAL5      | -1.760148212 | 5.095411004 | -7.22256484  | 1.16E-08 | 1.80E-06 | 9.821069715 | down |
| PELO         | -1.118333515 | 8.314695671 | -7.207106751 | 1.22E-08 | 1.85E-06 | 9.77434135  | down |
| HERPUD1      | -1.394426025 | 10.19656369 | -7.20673969  | 1.22E-08 | 1.85E-06 | 9.773231522 | down |
| FNBP1        | -1.042749966 | 7.270874158 | -7.204429451 | 1.23E-08 | 1.85E-06 | 9.766246146 | down |
| SLC47A1      | -1.771594958 | 7.340494915 | -7.195888325 | 1.26E-08 | 1.87E-06 | 9.740416925 | down |
| SIK1         | -3.020787599 | 7.133308391 | -7.194163724 | 1.27E-08 | 1.87E-06 | 9.735200843 | down |
| CDKN1B       | -1.18500928  | 8.874471397 | -7.19103929  | 1.28E-08 | 1.88E-06 | 9.725750334 | down |
| BEND5        | -1.995243121 | 4.416209366 | -7.188162733 | 1.29E-08 | 1.88E-06 | 9.717048888 | down |
| H1FX         | -1.608490521 | 8.40025122  | -7.125723615 | 1.57E-08 | 2.27E-06 | 9.528011744 | down |
| CLDN5        | -2.992478784 | 3.621292866 | -7.092679026 | 1.74E-08 | 2.48E-06 | 9.427845212 | down |
| L3MBTL4      | -2.162208948 | 5.422972684 | -7.091211638 | 1.75E-08 | 2.48E-06 | 9.423395262 | down |
| NOD2         | -2.252639255 | 4.40209964  | -7.074897385 | 1.84E-08 | 2.57E-06 | 9.373910299 | down |
| NFIL3        | -2.85419917  | 7.600562164 | -7.05071751  | 1.98E-08 | 2.70E-06 | 9.300530599 | down |
| KLF2         | -2.318539377 | 7.141813314 | -7.047789943 | 2.00E-08 | 2.71E-06 | 9.291643262 | down |
| ELL3         | -1.034903394 | 5.687052405 | -7.045445797 | 2.01E-08 | 2.71E-06 | 9.284526588 | down |
| C10orf10     | -2.232082097 | 10.58932385 | -7.039151277 | 2.05E-08 | 2.75E-06 | 9.265414852 | down |
| GPRC5A       | -1.98795125  | 7.62722284  | -7.029784561 | 2.12E-08 | 2.82E-06 | 9.23696983  | down |
| RORC         | -1.766607442 | 7.488042825 | -7.003778444 | 2.29E-08 | 3.02E-06 | 9.157960879 | down |
| STC2         | -2.605360729 | 11.10406206 | -6.997265718 | 2.34E-08 | 3.05E-06 | 9.138167089 | down |
| FOSL2        | -2.132593456 | 9.331274674 | -6.996599768 | 2.35E-08 | 3.05E-06 | 9.136142931 | down |
| ALDH1L1      | -2.319115364 | 6.340298297 | -6.978275144 | 2.49E-08 | 3.22E-06 | 9.08043301  | down |
| BCL7A        | -1.554358206 | 4.826206523 | -6.944415233 | 2.76E-08 | 3.51E-06 | 8.977432136 | down |
| HIP1R        | -1.536731603 | 6.837596019 | -6.943667461 | 2.77E-08 | 3.51E-06 | 8.975156553 | down |
| MKNK2        | -1.770525938 | 8.826145625 | -6.939270974 | 2.81E-08 | 3.54E-06 | 8.96177662  | down |
| GSE1         | -1.356644539 | 7.639470871 | -6.913242554 | 3.05E-08 | 3.77E-06 | 8.882537237 | down |
| BHLHE41      | -1.846718871 | 10.79203435 | -6.89757051  | 3.20E-08 | 3.92E-06 | 8.834804634 | down |
| FOXD2-AS1    | -1.694362817 | 5.690855303 | -6.880012617 | 3.38E-08 | 4.12E-06 | 8.781309355 | down |
| N4BP2L1      | -1.539558812 | 6.792658763 | -6.860047236 | 3.60E-08 | 4.32E-06 | 8.720455052 | down |
| PTPRU        | -1.107303796 | 8.222932276 | -6.855200407 | 3.66E-08 | 4.36E-06 | 8.705678172 | down |
| OPTC         | -2.759436313 | 4.221346957 | -6.847212658 | 3.75E-08 | 4.43E-06 | 8.681322146 | down |

|              |              |             |              |          |          |             |      |
|--------------|--------------|-------------|--------------|----------|----------|-------------|------|
| SASH1        | -1.234200159 | 9.609530115 | -6.781274816 | 4.62E-08 | 5.24E-06 | 8.480118131 | down |
| IER5         | -1.968305255 | 8.469467695 | -6.779059373 | 4.65E-08 | 5.24E-06 | 8.473353411 | down |
| PAK3         | -2.313156948 | 2.791539222 | -6.740850567 | 5.24E-08 | 5.85E-06 | 8.356641068 | down |
| KLF5         | -1.772943126 | 6.127422023 | -6.729652844 | 5.43E-08 | 6.00E-06 | 8.322421085 | down |
| PROSER2      | -1.380333084 | 5.670880049 | -6.724701411 | 5.52E-08 | 6.03E-06 | 8.307287428 | down |
| MYLIP        | -1.360425918 | 7.632687025 | -6.722198107 | 5.56E-08 | 6.03E-06 | 8.299635771 | down |
| PIGA         | -2.018211546 | 6.53189625  | -6.701737046 | 5.93E-08 | 6.34E-06 | 8.237081351 | down |
| RELT         | -1.158860296 | 6.136826584 | -6.701561855 | 5.93E-08 | 6.34E-06 | 8.236545656 | down |
| MLXIP        | -1.370663685 | 7.582691636 | -6.680987116 | 6.33E-08 | 6.71E-06 | 8.173621138 | down |
| FOXP2        | -1.073647842 | 6.940485262 | -6.678660536 | 6.38E-08 | 6.73E-06 | 8.166504284 | down |
| PCDH17       | -2.79851461  | 3.557964736 | -6.670419944 | 6.55E-08 | 6.83E-06 | 8.141294615 | down |
| SNHG1        | -1.047265666 | 7.328601773 | -6.665947416 | 6.64E-08 | 6.83E-06 | 8.12761078  | down |
| RYBP         | -1.158860296 | 8.078948333 | -6.665129325 | 6.66E-08 | 6.83E-06 | 8.125107696 | down |
| NEAT1        | -1.476811273 | 13.22536859 | -6.664959157 | 6.66E-08 | 6.83E-06 | 8.124587035 | down |
| SLC2A3       | -1.826754523 | 8.151439117 | -6.657510425 | 6.82E-08 | 6.96E-06 | 8.101794797 | down |
| PDK1         | -1.485371488 | 9.813961418 | -6.644746256 | 7.10E-08 | 7.15E-06 | 8.062731494 | down |
| BTG2         | -2.384114387 | 8.980001707 | -6.623886825 | 7.58E-08 | 7.61E-06 | 7.998876334 | down |
| SLC3A2       | -1.365830112 | 8.184339181 | -6.621803643 | 7.63E-08 | 7.62E-06 | 7.992498116 | down |
| LINGO3       | -2.378702555 | 1.991958871 | -6.610219286 | 7.92E-08 | 7.78E-06 | 7.957025744 | down |
| KIAA1683     | -2.44901502  | 5.981630062 | -6.609786694 | 7.93E-08 | 7.78E-06 | 7.955700986 | down |
| HPN          | -2.601668741 | 2.221580237 | -6.603541503 | 8.08E-08 | 7.85E-06 | 7.936574886 | down |
| TESK2        | -1.001174231 | 6.210830396 | -6.597380084 | 8.24E-08 | 7.96E-06 | 7.917703561 | down |
| H3F3B        | -1.114877955 | 12.0936625  | -6.595124446 | 8.30E-08 | 7.98E-06 | 7.910794506 | down |
| NDRG1        | -1.218758374 | 11.58045486 | -6.586426639 | 8.53E-08 | 8.09E-06 | 7.884150802 | down |
| KLF9         | -1.790664422 | 10.13692188 | -6.578595004 | 8.75E-08 | 8.20E-06 | 7.860157476 | down |
| RASSF7       | -1.955693783 | 5.209209057 | -6.548013762 | 9.63E-08 | 8.92E-06 | 7.766441453 | down |
| MIR4505      | -2.438936693 | 2.074391797 | -6.533507049 | 1.01E-07 | 9.19E-06 | 7.721971618 | down |
| MPP2         | -1.606621877 | 6.469600305 | -6.531888607 | 1.01E-07 | 9.20E-06 | 7.717009791 | down |
| FHDC1        | -1.685527525 | 6.572108399 | -6.52371588  | 1.04E-07 | 9.40E-06 | 7.691952145 | down |
| C11orf35     | -2.358766559 | 2.770747725 | -6.505630771 | 1.10E-07 | 9.86E-06 | 7.636493364 | down |
| CTIF         | -1.065927456 | 7.852698367 | -6.504922448 | 1.10E-07 | 9.86E-06 | 7.634320992 | down |
| ANGPTL4      | -2.595804446 | 9.613890441 | -6.496546506 | 1.13E-07 | 1.01E-05 | 7.608631129 | down |
| TLE3         | -1.199846943 | 8.02101528  | -6.472599612 | 1.22E-07 | 1.08E-05 | 7.535168574 | down |
| STAC2        | -2.357363745 | 6.752385265 | -6.44986965  | 1.31E-07 | 1.14E-05 | 7.465419365 | down |
| ITPKC        | -1.882254161 | 7.306713535 | -6.448980272 | 1.32E-07 | 1.14E-05 | 7.462689837 | down |
| DNAJB9       | -1.245060322 | 9.128348588 | -6.424342821 | 1.42E-07 | 1.22E-05 | 7.387065686 | down |
| HLA-J        | -1.553317566 | 4.980684236 | -6.38730018  | 1.60E-07 | 1.35E-05 | 7.273325669 | down |
| DAPK2        | -1.798854773 | 5.797312189 | -6.360994784 | 1.74E-07 | 1.45E-05 | 7.192528353 | down |
| SOX13        | -2.160587348 | 4.859223623 | -6.331264502 | 1.91E-07 | 1.58E-05 | 7.101187244 | down |
| PAIP2B       | -1.654844129 | 6.433054032 | -6.329053537 | 1.93E-07 | 1.59E-05 | 7.094393463 | down |
| PLEKHG2      | -1.761197968 | 6.991902847 | -6.328776618 | 1.93E-07 | 1.59E-05 | 7.093542547 | down |
| LOC100188947 | -2.375391775 | 5.031693105 | -6.316322182 | 2.01E-07 | 1.64E-05 | 7.055270469 | down |
| GADD45A      | -1.841846508 | 8.062005726 | -6.298097604 | 2.13E-07 | 1.72E-05 | 6.999259781 | down |
| KRBA1        | -1.412937381 | 6.91419228  | -6.292227043 | 2.17E-07 | 1.74E-05 | 6.981215694 | down |
| TIPARP       | -1.825723126 | 10.67672399 | -6.290237842 | 2.18E-07 | 1.74E-05 | 6.975101385 | down |
| FAM160A1     | -1.562379035 | 7.647987907 | -6.289775558 | 2.18E-07 | 1.74E-05 | 6.973680427 | down |
| SLC5A10      | -1.930214109 | 4.067757627 | -6.271815585 | 2.31E-07 | 1.81E-05 | 6.91847159  | down |
| ATOH8        | -1.947369126 | 8.431896269 | -6.250018446 | 2.48E-07 | 1.94E-05 | 6.851457749 | down |
| SLC43A2      | -2.002995036 | 4.999276908 | -6.247897567 | 2.49E-07 | 1.94E-05 | 6.844936713 | down |
| SPRY4        | -1.635014918 | 6.939533004 | -6.216466754 | 2.75E-07 | 2.10E-05 | 6.748286601 | down |
| IFRD1        | -1.359943004 | 8.483287962 | -6.212346695 | 2.79E-07 | 2.12E-05 | 6.735616018 | down |
| TTC21A       | -1.253121982 | 6.086857795 | -6.205278384 | 2.85E-07 | 2.15E-05 | 6.713877869 | down |
| TLN2         | -1.160596027 | 6.878962121 | -6.203368022 | 2.87E-07 | 2.16E-05 | 6.708002523 | down |
| ULK1         | -1.391413077 | 7.083136062 | -6.200729174 | 2.89E-07 | 2.17E-05 | 6.699886611 | down |
| ACADL        | -2.37056291  | 6.043301697 | -6.175154782 | 3.14E-07 | 2.31E-05 | 6.621225539 | down |
| IFT122       | -1.039422429 | 8.062200339 | -6.133424896 | 3.58E-07 | 2.57E-05 | 6.492854293 | down |
| STK32B       | -1.76432705  | 6.84597068  | -6.12144413  | 3.72E-07 | 2.66E-05 | 6.455994799 | down |
| FOSL1        | -2.433126313 | 4.648001968 | -6.11576653  | 3.79E-07 | 2.69E-05 | 6.438526845 | down |
| KCNJ9        | -2.081431443 | 2.953451886 | -6.10824934  | 3.88E-07 | 2.72E-05 | 6.415398669 | down |
| ARHGEF2      | -1.109278105 | 9.293033374 | -6.108058391 | 3.88E-07 | 2.72E-05 | 6.414811168 | down |
| VPS37B       | -1.670966523 | 6.616332369 | -6.099607295 | 3.99E-07 | 2.77E-05 | 6.388809042 | down |
| RHOB         | -1.903907411 | 10.39843249 | -6.090125137 | 4.11E-07 | 2.84E-05 | 6.359633898 | down |
| KCNK7        | -1.980695913 | 2.778051759 | -6.074462573 | 4.32E-07 | 2.95E-05 | 6.31144123  | down |
| THRA         | -1.307420862 | 7.786352789 | -6.07028687  | 4.38E-07 | 2.98E-05 | 6.29859262  | down |
| TOB1-AS1     | -1.957397283 | 2.9773106   | -6.069186188 | 4.39E-07 | 2.98E-05 | 6.29520581  | down |
| TUBA8        | -1.619944077 | 4.352337096 | -6.038073196 | 4.85E-07 | 3.24E-05 | 6.199468681 | down |
| FAM43A       | -2.084358453 | 6.253594693 | -6.02432637  | 5.07E-07 | 3.36E-05 | 6.157167674 | down |
| ADPRM        | -1.001831338 | 5.989360271 | -5.9874178   | 5.70E-07 | 3.73E-05 | 6.043594018 | down |
| HES1         | -2.135951386 | 8.933604786 | -5.974565673 | 5.93E-07 | 3.82E-05 | 6.004046359 | down |
| RIOK3        | -1.231316512 | 8.751257712 | -5.973942549 | 5.94E-07 | 3.82E-05 | 6.002128936 | down |
| HLA-F        | -1.086290809 | 6.169622827 | -5.954049934 | 6.33E-07 | 4.05E-05 | 5.940917955 | down |
| RND1         | -3.45394701  | 3.651434457 | -5.923355289 | 6.98E-07 | 4.29E-05 | 5.846472593 | down |
| TUFT1        | -1.094258526 | 5.834276154 | -5.92084736  | 7.04E-07 | 4.31E-05 | 5.838756159 | down |
| RNMT         | -1.227151806 | 8.975148014 | -5.915788111 | 7.15E-07 | 4.35E-05 | 5.823189943 | down |

|              |              |             |              |          |             |             |      |
|--------------|--------------|-------------|--------------|----------|-------------|-------------|------|
| GYS1         | -1.477676795 | 7.326046719 | -5.908987023 | 7.31E-07 | 4.43E-05    | 5.80226482  | down |
| ERICH1       | -1.574497761 | 7.702785443 | -5.900931197 | 7.50E-07 | 4.49E-05    | 5.777479763 | down |
| TSPYL2       | -1.514310095 | 9.778908888 | -5.89083494  | 7.74E-07 | 4.62E-05    | 5.746417922 | down |
| MOAP1        | -1.239224886 | 6.053861906 | -5.876997527 | 8.09E-07 | 4.77E-05    | 5.703848005 | down |
| ALDH3A2      | -1.043952347 | 8.910742819 | -5.856501019 | 8.63E-07 | 5.05E-05    | 5.640796234 | down |
| RARA         | -2.161608658 | 8.55532392  | -5.855697358 | 8.65E-07 | 5.05E-05    | 5.638324113 | down |
| MIR210       | -1.764521141 | 1.565594432 | -5.84993941  | 8.81E-07 | 5.11E-05    | 5.620612517 | down |
| PLD6         | -1.406841607 | 4.440312558 | -5.848982384 | 8.84E-07 | 5.11E-05    | 5.617668729 | down |
| KIF26A       | -1.146141867 | 5.714199926 | -5.840159275 | 9.09E-07 | 5.23E-05    | 5.590529718 | down |
| LOC100506801 | -2.262002701 | 3.170538353 | -5.828787572 | 9.43E-07 | 5.39E-05    | 5.555553324 | down |
| MAB21L3      | -2.247026611 | 2.874017471 | -5.82773801  | 9.46E-07 | 5.40E-05    | 5.552325253 | down |
| HOXD1        | -1.800929221 | 2.272348407 | -5.816968767 | 9.79E-07 | 5.49E-05    | 5.519204103 | down |
| ARHGEF37     | -1.699246827 | 5.086412302 | -5.809983316 | 1.00E-06 | 5.57E-05    | 5.497721248 | down |
| SLCO2A1      | -2.473095844 | 4.405114374 | -5.808104396 | 1.01E-06 | 5.59E-05    | 5.491943026 | down |
| ABLIM1       | -1.31622921  | 7.910178595 | -5.791041898 | 1.06E-06 | 5.85E-05    | 5.439474095 | down |
| AGPAT9       | -1.286715477 | 4.58655121  | -5.785394356 | 1.08E-06 | 5.91E-05    | 5.422108634 | down |
| SLC2A1-AS1   | -1.706115342 | 4.579173505 | -5.783729783 | 1.09E-06 | 5.91E-05    | 5.416990418 | down |
| ASH1L-AS1    | -1.772505632 | 3.872073238 | -5.77567655  | 1.12E-06 | 6.05E-05    | 5.392229244 | down |
| ELL          | -1.183020851 | 6.491510692 | -5.769211366 | 1.14E-06 | 6.16E-05    | 5.372351187 | down |
| ATP8A1       | -1.591534359 | 6.37757846  | -5.767775406 | 1.14E-06 | 6.17E-05    | 5.367937105 | down |
| EEDP1        | -1.498161614 | 5.406166703 | -5.767249757 | 1.15E-06 | 6.17E-05    | 5.366321043 | down |
| RAB11FIP1    | -1.003030075 | 5.831443171 | -5.750771919 | 1.21E-06 | 6.49E-05    | 5.315664691 | down |
| SLC37A2      | -1.397315467 | 8.751666594 | -5.738944667 | 1.25E-06 | 6.64E-05    | 5.279309359 | down |
| GBP2         | -1.150253745 | 9.690719553 | -5.731746386 | 1.28E-06 | 6.73E-05    | 5.257184615 | down |
| TINAGL1      | -1.996050096 | 4.447798255 | -5.720627796 | 1.33E-06 | 6.93E-05    | 5.223013095 | down |
| OSR2         | -1.515959275 | 6.117742826 | -5.714894896 | 1.35E-06 | 7.02E-05    | 5.205395124 | down |
| MYO15A       | -1.187227277 | 6.316882324 | -5.712000566 | 1.37E-06 | 7.05E-05    | 5.196500814 | down |
| TFCP2L1      | -2.274038643 | 5.001059015 | -5.696259407 | 1.44E-06 | 7.25E-05    | 5.148132347 | down |
| PFKFB4       | -2.490880277 | 6.402632779 | -5.664819952 | 1.59E-06 | 7.84E-05    | 5.051550123 | down |
| WDR5B        | -1.167996735 | 7.806135382 | -5.658029754 | 1.62E-06 | 7.97E-05    | 5.03069486  | down |
| SPRY1        | -1.712571903 | 5.315968951 | -5.655527108 | 1.63E-06 | 8.02E-05    | 5.023008689 | down |
| CITED2       | -1.643979521 | 7.920062553 | -5.650592262 | 1.66E-06 | 8.11E-05    | 5.007853339 | down |
| ANKRD37      | -2.513075302 | 5.494124874 | -5.646737331 | 1.68E-06 | 8.18E-05    | 4.996015102 | down |
| PTPN22       | -1.246891613 | 8.433623588 | -5.642981391 | 1.70E-06 | 8.24E-05    | 4.984481369 | down |
| HOXA13       | -1.257690134 | 6.149255508 | -5.637361878 | 1.73E-06 | 8.35E-05    | 4.967225932 | down |
| IRF1         | -2.144799266 | 6.408995648 | -5.633998796 | 1.75E-06 | 8.40E-05    | 4.95689971  | down |
| DUSP1        | -1.22606147  | 11.39594578 | -5.633420711 | 1.75E-06 | 8.40E-05    | 4.955124764 | down |
| LOC284950    | -1.726180014 | 3.621399168 | -5.626197312 | 1.79E-06 | 8.58E-05    | 4.932947156 | down |
| SCML1        | -1.077874388 | 6.862410313 | -5.611771682 | 1.88E-06 | 8.86E-05    | 4.888662887 | down |
| LOC100129617 | -2.006781896 | 2.743432749 | -5.594870808 | 1.98E-06 | 9.24E-05    | 4.836790503 | down |
| SLC7A5       | -1.717873939 | 7.123751641 | -5.589601688 | 2.01E-06 | 9.36E-05    | 4.820620838 | down |
| SBF2-AS1     | -1.539408163 | 4.924664682 | -5.57802348  | 2.09E-06 | 9.65E-05    | 4.785094198 | down |
| FAM83G       | -2.315318549 | 5.391818379 | -5.563941425 | 2.18E-06 | 0.000100109 | 4.741892551 | down |
| C2CD4B       | -1.883712186 | 1.21049796  | -5.56091009  | 2.21E-06 | 0.000100269 | 4.732594015 | down |
| FAM162A      | -1.124461932 | 8.262577152 | -5.549707634 | 2.29E-06 | 0.000103276 | 4.698234403 | down |
| ASS1         | -1.002765452 | 9.138831527 | -5.543673768 | 2.33E-06 | 0.000104647 | 4.679730028 | down |
| KCND3        | -1.889427742 | 4.631926588 | -5.538475504 | 2.37E-06 | 0.000105927 | 4.663789606 | down |
| RALGDS       | -1.192011083 | 7.438137464 | -5.535966392 | 2.39E-06 | 0.000106396 | 4.6560959   | down |
| TAS1R1       | -1.876063887 | 3.6601349   | -5.516819193 | 2.54E-06 | 0.000111741 | 4.597394751 | down |
| RBM24        | -2.103092378 | 2.57513857  | -5.50880146  | 2.60E-06 | 0.000113737 | 4.572819518 | down |
| SMIM3        | -1.841153898 | 8.168516872 | -5.500349781 | 2.67E-06 | 0.000116231 | 4.546917733 | down |
| BRE-AS1      | -2.288170382 | 3.196230659 | -5.499541919 | 2.68E-06 | 0.000116231 | 4.544442078 | down |
| TGIF1        | -1.114940219 | 7.448658477 | -5.482783865 | 2.83E-06 | 0.000122104 | 4.493095544 | down |
| RAB20        | -1.671863363 | 5.484467356 | -5.468214114 | 2.96E-06 | 0.000126432 | 4.44846621  | down |
| TXNIP        | -2.311267262 | 11.66899413 | -5.465532465 | 2.98E-06 | 0.000127272 | 4.440253189 | down |
| WWP2         | -1.32434591  | 12.92862114 | -5.461694572 | 3.02E-06 | 0.000128108 | 4.428499669 | down |
| C2orf62      | -1.516346949 | 2.151713003 | -5.45865174  | 3.05E-06 | 0.000129108 | 4.419181603 | down |
| BNIP3        | -1.634190028 | 10.11313921 | -5.457755785 | 3.06E-06 | 0.000129235 | 4.416438022 | down |
| CEBPB        | -1.299371311 | 9.266778449 | -5.456383205 | 3.07E-06 | 0.000129558 | 4.412235008 | down |
| PPF1A4       | -1.276337501 | 8.513497491 | -5.446652752 | 3.17E-06 | 0.000133119 | 4.382442241 | down |
| GRASP        | -1.624456493 | 3.731870898 | -5.422916565 | 3.42E-06 | 0.000141937 | 4.309789857 | down |
| GAB2         | -1.364522004 | 7.718720656 | -5.397430516 | 3.70E-06 | 0.000151646 | 4.231819592 | down |
| RASSF5       | -1.195734005 | 5.99625244  | -5.374356989 | 3.98E-06 | 0.000160693 | 4.161265694 | down |
| C6orf223     | -1.858877891 | 2.45913552  | -5.37254059  | 4.01E-06 | 0.000160887 | 4.155713019 | down |
| ARNTL        | -1.920318457 | 6.626140095 | -5.368093833 | 4.06E-06 | 0.000162593 | 4.142120354 | down |
| HAVCR1       | -1.520362492 | 1.750592558 | -5.351829906 | 4.28E-06 | 0.000169683 | 4.092416852 | down |
| TLE2         | -1.16313924  | 5.866375675 | -5.350567776 | 4.29E-06 | 0.000169981 | 4.088560467 | down |
| SH2B2        | -1.555365245 | 2.950088054 | -5.340775865 | 4.43E-06 | 0.000174201 | 4.05864548  | down |
| PLK3         | -1.433179932 | 6.891510687 | -5.327378605 | 4.62E-06 | 0.000180181 | 4.017726879 | down |
| LOC100506394 | -1.604192353 | 3.542297919 | -5.32411067  | 4.67E-06 | 0.000181741 | 4.007747738 | down |
| MATN1-AS1    | -1.876753977 | 4.711104182 | -5.322159248 | 4.70E-06 | 0.000182553 | 4.001789139 | down |
| ZNF442       | -1.524583758 | 4.644343712 | -5.298493231 | 5.06E-06 | 0.000194734 | 3.929548147 | down |
| CERK         | -1.018813878 | 8.951099029 | -5.295290523 | 5.11E-06 | 0.000196383 | 3.919775039 | down |
| CHAC1        | -1.728148743 | 3.831238999 | -5.291365527 | 5.18E-06 | 0.000198498 | 3.907798924 | down |

|             |              |             |              |          |             |             |      |
|-------------|--------------|-------------|--------------|----------|-------------|-------------|------|
| ZNF331      | -1.131151563 | 7.775404608 | -5.286136169 | 5.26E-06 | 0.00020105  | 3.891844721 | down |
| LOC150381   | -1.21622655  | 6.499857957 | -5.282093248 | 5.33E-06 | 0.000202709 | 3.879511655 | down |
| WEE1        | -1.600085453 | 6.349464976 | -5.282065168 | 5.33E-06 | 0.000202709 | 3.879426    | down |
| FAM115C     | -1.112497792 | 7.513459042 | -5.278242315 | 5.40E-06 | 0.000204829 | 3.867765436 | down |
| CLUHP3      | -1.844447404 | 3.956713519 | -5.272661398 | 5.49E-06 | 0.000208124 | 3.850744437 | down |
| MLLT3       | -1.028439399 | 6.882736303 | -5.267034223 | 5.59E-06 | 0.000210803 | 3.833584847 | down |
| FZD5        | -1.700759029 | 5.42993823  | -5.259629692 | 5.72E-06 | 0.000213666 | 3.811009205 | down |
| SBDSP1      | -1.319984607 | 7.070024795 | -5.246959483 | 5.96E-06 | 0.000219505 | 3.772389341 | down |
| C5orf4      | -1.341851582 | 8.921321434 | -5.238031992 | 6.13E-06 | 0.000224687 | 3.745185505 | down |
| ZBTB21      | -1.028029116 | 9.038330918 | -5.231753496 | 6.25E-06 | 0.00022808  | 3.726057651 | down |
| SMOX        | -1.338891876 | 6.359389928 | -5.229390651 | 6.30E-06 | 0.000229053 | 3.718859946 | down |
| NPAS2       | -1.134233271 | 7.066452381 | -5.228522104 | 6.31E-06 | 0.000229315 | 3.716214294 | down |
| PPP4R4      | -1.205610605 | 9.002800123 | -5.227992812 | 6.32E-06 | 0.000229332 | 3.714602065 | down |
| PNRC1       | -1.607791949 | 10.50675714 | -5.226456938 | 6.35E-06 | 0.000229739 | 3.709923914 | down |
| LOC284578   | -1.923343395 | 1.811270222 | -5.224417759 | 6.40E-06 | 0.000229739 | 3.703713047 | down |
| SLC6A16     | -1.998643451 | 5.053987837 | -5.223038811 | 6.42E-06 | 0.000230377 | 3.699513288 | down |
| PRKAG2      | -1.481317331 | 7.396275712 | -5.217407214 | 6.54E-06 | 0.000233038 | 3.682363251 | down |
| HOXA11      | -1.315797901 | 7.263741386 | -5.216311919 | 6.56E-06 | 0.000233479 | 3.679028037 | down |
| ARID5A      | -1.280985637 | 6.165794901 | -5.215702455 | 6.57E-06 | 0.000233563 | 3.677172242 | down |
| ASNS        | -1.249906827 | 6.716681346 | -5.191727543 | 7.09E-06 | 0.000248416 | 3.60419521  | down |
| ICAM1       | -1.207126184 | 8.468616804 | -5.190010042 | 7.13E-06 | 0.000249381 | 3.59896927  | down |
| CDC42EP4    | -1.375139574 | 7.959379533 | -5.186494899 | 7.21E-06 | 0.000250669 | 3.588274368 | down |
| FAM157A     | -1.758190768 | 1.979360069 | -5.181937516 | 7.31E-06 | 0.000253472 | 3.574410077 | down |
| BCR         | -1.207727406 | 7.435950167 | -5.178973122 | 7.38E-06 | 0.000255135 | 3.565392925 | down |
| FP588       | -1.304211798 | 4.713783868 | -5.178237467 | 7.40E-06 | 0.000255135 | 3.563155318 | down |
| SGSM1       | -1.624493062 | 5.529732723 | -5.177936843 | 7.40E-06 | 0.000255135 | 3.562240937 | down |
| SH3GL3      | -1.732095497 | 2.766753276 | -5.176244795 | 7.44E-06 | 0.000256111 | 3.557094549 | down |
| DHDH        | -1.521671595 | 1.796669485 | -5.16772709  | 7.65E-06 | 0.000261021 | 3.531191809 | down |
| MIDN        | -1.243428103 | 7.915312975 | -5.167315257 | 7.66E-06 | 0.000261021 | 3.529939574 | down |
| RPS16P5     | -2.178774329 | 5.290605953 | -5.158239413 | 7.88E-06 | 0.00026642  | 3.502347227 | down |
| TCF7        | -1.058426112 | 6.182836753 | -5.155300169 | 7.95E-06 | 0.000267915 | 3.493412996 | down |
| SPAG4       | -1.119403746 | 6.355105763 | -5.145968382 | 8.19E-06 | 0.000274687 | 3.46505316  | down |
| FOS         | -2.289721848 | 11.66919147 | -5.133853616 | 8.51E-06 | 0.000281226 | 3.428248074 | down |
| JPH1        | -1.612015717 | 3.342074803 | -5.127237572 | 8.69E-06 | 0.000286313 | 3.40815428  | down |
| ALDH2       | -1.058994668 | 7.602981659 | -5.119933248 | 8.89E-06 | 0.000291285 | 3.38597506  | down |
| FOSB        | -3.091337327 | 8.859910426 | -5.117729369 | 8.95E-06 | 0.000292891 | 3.37928412  | down |
| LAYN        | -1.155706896 | 7.256427787 | -5.114699945 | 9.04E-06 | 0.000293587 | 3.370087623 | down |
| ID12-AS1    | -1.674008523 | 4.06595994  | -5.110412064 | 9.16E-06 | 0.000297151 | 3.357072358 | down |
| PRKD2       | -1.033796024 | 6.588652354 | -5.102813823 | 9.38E-06 | 0.000302863 | 3.334013475 | down |
| NR1D1       | -2.414597043 | 10.08029699 | -5.088029513 | 9.83E-06 | 0.00031479  | 3.289163304 | down |
| PLEKHA2     | -1.020115227 | 6.720825734 | -5.070329573 | 1.04E-05 | 0.000330037 | 3.235497801 | down |
| RSG1        | -1.411780177 | 4.132112827 | -5.069547794 | 1.04E-05 | 0.000330037 | 3.233128235 | down |
| PLIN2       | -1.015488331 | 6.705651361 | -5.059698254 | 1.07E-05 | 0.000337931 | 3.203279881 | down |
| SNORD99     | -1.418096446 | 1.560371587 | -5.057964704 | 1.08E-05 | 0.000339273 | 3.198027545 | down |
| KCNAB1      | -1.008834354 | 8.803692857 | -5.052650504 | 1.10E-05 | 0.000341847 | 3.181928507 | down |
| C22orf26    | -2.367452634 | 5.514973641 | -5.052533613 | 1.10E-05 | 0.000341847 | 3.181574428 | down |
| LOC284023   | -1.575604215 | 4.519986501 | -5.050585743 | 1.11E-05 | 0.000343476 | 3.175674263 | down |
| NR4A3       | -1.871052645 | 5.327611855 | -5.046693913 | 1.12E-05 | 0.000346755 | 3.163887002 | down |
| ADSSL1      | -1.589684956 | 8.738709564 | -5.044016872 | 1.13E-05 | 0.000348734 | 3.155779952 | down |
| VWA2        | -1.535808631 | 3.204075903 | -5.032388905 | 1.17E-05 | 0.000359751 | 3.12057534  | down |
| GUSBP5      | -1.012797248 | 4.180072526 | -5.026870162 | 1.19E-05 | 0.000364738 | 3.10387211  | down |
| C9orf173    | -1.504463681 | 2.886347546 | -5.018613693 | 1.22E-05 | 0.000372848 | 3.078889115 | down |
| ALDH1L1-AS2 | -1.782103217 | 2.995043647 | -5.012958369 | 1.24E-05 | 0.000377788 | 3.061781259 | down |
| PATL1       | -1.120834598 | 7.627312971 | -5.011875228 | 1.25E-05 | 0.000378066 | 3.058505073 | down |
| SOWAHA      | -1.930564635 | 2.177248549 | -5.005175116 | 1.27E-05 | 0.000384564 | 3.038242153 | down |
| LDHD        | -1.27873811  | 5.704908792 | -4.994139009 | 1.32E-05 | 0.000394972 | 3.004877228 | down |
| PER1        | -1.590042512 | 10.46167921 | -4.985376588 | 1.36E-05 | 0.00040123  | 2.978396259 | down |
| DENND3      | -1.036952011 | 7.78072626  | -4.983267003 | 1.37E-05 | 0.000402847 | 2.972022208 | down |
| MIR614      | -2.077654106 | 2.42378345  | -4.981429074 | 1.37E-05 | 0.00040465  | 2.966469384 | down |
| EMC9        | -1.455586735 | 4.9332872   | -4.977584164 | 1.39E-05 | 0.000408572 | 2.954854271 | down |
| TMEM184A    | -1.356341109 | 4.741008007 | -4.970978356 | 1.42E-05 | 0.000414906 | 2.934902824 | down |
| PPM1J       | -1.576633812 | 4.24653791  | -4.969845213 | 1.42E-05 | 0.000415848 | 2.931480929 | down |
| APOBEC3H    | -1.758782663 | 1.375765582 | -4.959271467 | 1.47E-05 | 0.000425494 | 2.899557427 | down |
| VIT         | -2.152485665 | 8.690819733 | -4.958260758 | 1.48E-05 | 0.000425791 | 2.896506672 | down |
| HIST1H1D    | -2.427943841 | 2.080639112 | -4.958239364 | 1.48E-05 | 0.000425791 | 2.896442096 | down |
| CYP2W1      | -1.569926272 | 1.893037927 | -4.957237482 | 1.48E-05 | 0.000426051 | 2.893418106 | down |
| LOC440028   | -1.400453115 | 3.155722015 | -4.94180644  | 1.55E-05 | 0.000443787 | 2.846857889 | down |
| FBXO31      | -1.016863334 | 7.668205536 | -4.939574556 | 1.57E-05 | 0.00044615  | 2.840126021 | down |
| ZFAND5      | -1.478760873 | 10.9463536  | -4.938419386 | 1.57E-05 | 0.000446633 | 2.836642008 | down |
| IGSF8       | -1.000910523 | 6.841193747 | -4.936282667 | 1.58E-05 | 0.000448717 | 2.830198062 | down |
| SULT1C4     | -2.029801403 | 5.15040464  | -4.930916561 | 1.61E-05 | 0.000450457 | 2.814017381 | down |
| ZFP36       | -2.154082396 | 9.424153795 | -4.923094173 | 1.65E-05 | 0.000464161 | 2.790436593 | down |
| TBX4        | -1.478801406 | 7.705957796 | -4.919398091 | 1.67E-05 | 0.00046725  | 2.779297334 | down |
| SNORA80B    | -1.813289591 | 1.519374211 | -4.910910011 | 1.71E-05 | 0.000478648 | 2.753722489 | down |

|               |              |             |              |          |             |             |      |
|---------------|--------------|-------------|--------------|----------|-------------|-------------|------|
| BEAN1         | -1.172969278 | 3.956916043 | -4.884582247 | 1.86E-05 | 0.000512178 | 2.674454986 | down |
| EFNA3         | -1.53186844  | 3.245200506 | -4.881221038 | 1.88E-05 | 0.000516289 | 2.664341575 | down |
| NRARP         | -1.553205839 | 1.818367631 | -4.881125859 | 1.88E-05 | 0.000516289 | 2.664055216 | down |
| FOXD2         | -1.134581245 | 7.600643563 | -4.876198142 | 1.91E-05 | 0.000523244 | 2.649231157 | down |
| AVPR1A        | -2.629586362 | 4.542982546 | -4.87246702  | 1.93E-05 | 0.000526843 | 2.638008957 | down |
| KLF15         | -2.131593034 | 7.950029674 | -4.869820464 | 1.95E-05 | 0.000529948 | 2.630049961 | down |
| PIEZO2        | -1.670057327 | 9.351758415 | -4.867740203 | 1.96E-05 | 0.000532132 | 2.62379464  | down |
| MIR5087       | -2.238123127 | 1.800304868 | -4.867060425 | 1.96E-05 | 0.000532628 | 2.621750683 | down |
| SLC25A33      | -1.06002103  | 4.024873091 | -4.865077775 | 1.98E-05 | 0.000535299 | 2.615789599 | down |
| CXXC4         | -1.283016282 | 4.853609305 | -4.858009439 | 2.02E-05 | 0.000544013 | 2.594542064 | down |
| FLJ26850      | -1.494954076 | 1.949869082 | -4.856413806 | 2.03E-05 | 0.000545441 | 2.5897465   | down |
| C19orf69      | -1.383718104 | 1.045856041 | -4.854322207 | 2.04E-05 | 0.000547723 | 2.583460866 | down |
| TCTEX1D4      | -2.510518796 | 3.786034591 | -4.853298491 | 2.05E-05 | 0.00054851  | 2.580384628 | down |
| LOC148696     | -1.722679609 | 7.605046138 | -4.853109346 | 2.05E-05 | 0.00054851  | 2.579816269 | down |
| TNFRSF1B      | -1.988213679 | 4.594638633 | -4.850400546 | 2.07E-05 | 0.000551873 | 2.571677162 | down |
| MYOC          | -2.930102344 | 6.48451745  | -4.844556234 | 2.11E-05 | 0.000557736 | 2.554120228 | down |
| C6orf123      | -1.922423824 | 2.21687264  | -4.838758138 | 2.15E-05 | 0.000565672 | 2.536706763 | down |
| RXFP4         | -2.194643962 | 3.601901003 | -4.83562428  | 2.17E-05 | 0.000569254 | 2.527296756 | down |
| SNORD70       | -1.621175768 | 1.573616324 | -4.828429781 | 2.22E-05 | 0.000576913 | 2.505699052 | down |
| UBTD1         | -1.074569323 | 6.270583643 | -4.827323427 | 2.22E-05 | 0.000576913 | 2.502378444 | down |
| APOF          | -1.309349209 | 1.14321182  | -4.827167533 | 2.22E-05 | 0.000576913 | 2.501910558 | down |
| AQP10         | -1.381393465 | 1.058171697 | -4.825486663 | 2.24E-05 | 0.000577552 | 2.496865965 | down |
| STBD1         | -1.13874937  | 4.331815683 | -4.824512698 | 2.24E-05 | 0.000578653 | 2.493943104 | down |
| IL6R          | -1.820468397 | 8.099622217 | -4.823609243 | 2.25E-05 | 0.000579629 | 2.491231958 | down |
| EFNA1         | -1.835342779 | 7.242325297 | -4.822295049 | 2.26E-05 | 0.000581352 | 2.487288448 | down |
| EPN2-AS1      | -1.84053598  | 4.387515446 | -4.820417637 | 2.27E-05 | 0.000583447 | 2.481655309 | down |
| IRF4          | -2.318561299 | 3.383795424 | -4.814405209 | 2.32E-05 | 0.000591156 | 2.46361847  | down |
| BTG3          | -1.060161315 | 7.592447701 | -4.813019427 | 2.33E-05 | 0.000593051 | 2.459461951 | down |
| TCTE1         | -1.959390943 | 2.28635132  | -4.812291722 | 2.33E-05 | 0.000593366 | 2.457279381 | down |
| ZNF215        | -1.01950892  | 5.77471214  | -4.805437974 | 2.38E-05 | 0.00060318  | 2.436726961 | down |
| EGR3          | -2.085632554 | 5.911050841 | -4.792166385 | 2.48E-05 | 0.000624207 | 2.396948428 | down |
| GALR2         | -1.120494749 | 0.95832621  | -4.790343388 | 2.50E-05 | 0.000624584 | 2.391486403 | down |
| RPS6KA5       | -1.204316324 | 5.646377017 | -4.78357478  | 2.55E-05 | 0.000635343 | 2.371210673 | down |
| SNORD63       | -1.689029724 | 2.334017164 | -4.783407812 | 2.55E-05 | 0.000635343 | 2.370710596 | down |
| LOC440518     | -1.508762966 | 2.693298633 | -4.781728272 | 2.56E-05 | 0.000637382 | 2.365680521 | down |
| ZC3H12A       | -1.381387077 | 5.542551006 | -4.778847197 | 2.59E-05 | 0.000641709 | 2.357052917 | down |
| PDXP          | -1.711104942 | 4.480818762 | -4.778315468 | 2.59E-05 | 0.000642073 | 2.355460748 | down |
| AK8           | -1.210275061 | 2.598957309 | -4.777891665 | 2.59E-05 | 0.000642222 | 2.354191772 | down |
| SH3RF2        | -1.290662058 | 4.682636374 | -4.76965939  | 2.66E-05 | 0.000656751 | 2.329547486 | down |
| RGS16         | -1.290644832 | 8.233680952 | -4.764338237 | 2.71E-05 | 0.000666274 | 2.313623339 | down |
| HLA-L         | -1.576266562 | 5.778281    | -4.753337491 | 2.80E-05 | 0.000684293 | 2.280715795 | down |
| ILF3-AS1      | -1.217180901 | 7.737709098 | -4.748039299 | 2.85E-05 | 0.000694483 | 2.264873328 | down |
| SLAIN1        | -1.353927878 | 4.799371656 | -4.743773003 | 2.88E-05 | 0.000701191 | 2.252119498 | down |
| COL4A2-AS1    | -1.102677933 | 0.754736158 | -4.742250065 | 2.90E-05 | 0.000703019 | 2.247567439 | down |
| CCNB1IP1      | -1.260457639 | 7.608749282 | -4.738033844 | 2.94E-05 | 0.00071078  | 2.234967013 | down |
| MAB21L2       | -1.182325613 | 5.46785511  | -4.734362958 | 2.97E-05 | 0.000715057 | 2.223998569 | down |
| STON1-GTF2A11 | -1.496363102 | 1.945779814 | -4.733719285 | 2.98E-05 | 0.000715057 | 2.222075516 | down |
| ZFPM2         | -1.016544583 | 5.610089798 | -4.729417908 | 3.02E-05 | 0.000722394 | 2.209226263 | down |
| TACR2         | -1.520235134 | 3.933822555 | -4.726864818 | 3.04E-05 | 0.000727383 | 2.201600915 | down |
| GYLTL1B       | -1.28309075  | 2.768971784 | -4.713170684 | 3.17E-05 | 0.000755816 | 2.160717777 | down |
| ARIH2OS       | -1.384630686 | 3.43163502  | -4.709389144 | 3.21E-05 | 0.000763944 | 2.14943336  | down |
| BCKDHA        | -1.195249292 | 6.736596956 | -4.700615611 | 3.30E-05 | 0.000780145 | 2.123261133 | down |
| PRDM16        | -1.703119295 | 5.054862661 | -4.69943656  | 3.31E-05 | 0.000782193 | 2.119744849 | down |
| DPY19L2       | -1.185037119 | 5.878813425 | -4.696988074 | 3.34E-05 | 0.000784353 | 2.11244344  | down |
| SH3D21        | -1.897237885 | 6.737544954 | -4.696881155 | 3.34E-05 | 0.000784353 | 2.112124628 | down |
| VIPR1         | -2.028829456 | 3.155302677 | -4.695543739 | 3.35E-05 | 0.000785993 | 2.108136867 | down |
| IRF2BPL       | -1.038505569 | 7.405592475 | -4.694055943 | 3.37E-05 | 0.000788621 | 2.103701054 | down |
| ZNF185        | -1.016651463 | 6.099548206 | -4.691581325 | 3.39E-05 | 0.000791715 | 2.096323854 | down |
| KIAA1522      | -1.241141269 | 4.990935504 | -4.691550545 | 3.39E-05 | 0.000791715 | 2.0962321   | down |
| ZNF821        | -1.096834082 | 5.068964068 | -4.682871709 | 3.49E-05 | 0.000808377 | 2.070367034 | down |
| C17orf100     | -1.633162928 | 2.420354209 | -4.682860758 | 3.49E-05 | 0.000808377 | 2.070334406 | down |
| LRCH2         | -1.076959922 | 4.545265538 | -4.677102727 | 3.55E-05 | 0.000821269 | 2.053180787 | down |
| C20orf203     | -1.144529624 | 3.631150148 | -4.671035869 | 3.62E-05 | 0.000835164 | 2.035112987 | down |
| FAM222A       | -1.637157133 | 5.134715889 | -4.669944388 | 3.63E-05 | 0.000836298 | 2.031863069 | down |
| ZNF703        | -1.091771408 | 5.77406296  | -4.65874276  | 3.76E-05 | 0.000861479 | 1.998521211 | down |
| LDHC          | -1.867126039 | 2.726726802 | -4.656973153 | 3.78E-05 | 0.000865344 | 1.993255837 | down |
| LOC730227     | -1.766232836 | 1.953437225 | -4.647159636 | 3.89E-05 | 0.000884928 | 1.96406568  | down |
| GMPR          | -1.165925879 | 3.708587501 | -4.643212188 | 3.94E-05 | 0.000893136 | 1.952328597 | down |
| HIST1H2AK     | -1.809927467 | 3.183351811 | -4.640178695 | 3.98E-05 | 0.000899162 | 1.943310788 | down |
| NMNAT3        | -1.101724983 | 4.568649322 | -4.640077259 | 3.98E-05 | 0.000899162 | 1.943009269 | down |
| MLLT4-AS1     | -2.250232613 | 4.064428873 | -4.634626323 | 4.05E-05 | 0.000909051 | 1.926809006 | down |
| FAM71A        | -1.742345702 | 1.538856335 | -4.633325158 | 4.06E-05 | 0.000911819 | 1.922942667 | down |
| PCK1          | -2.401174782 | 4.319833043 | -4.630484747 | 4.10E-05 | 0.000916773 | 1.914503544 | down |
| FGL2          | -1.511154462 | 5.939852503 | -4.627756133 | 4.13E-05 | 0.000922217 | 1.906397874 | down |

|              |              |              |              |             |             |             |      |
|--------------|--------------|--------------|--------------|-------------|-------------|-------------|------|
| HSD17B3      | -1.191482359 | 2.822902187  | -4.625269654 | 4.17E-05    | 0.000923331 | 1.899012598 | down |
| EGR1         | -1.817951884 | 11.02723521  | -4.621888129 | 4.21E-05    | 0.000926407 | 1.888970578 | down |
| LOC284648    | -1.488074339 | 4.314349653  | -4.617654252 | 4.27E-05    | 0.000936808 | 1.876400119 | down |
| SERTAD1      | -1.282059875 | 6.812815173  | -4.616900945 | 4.28E-05    | 0.000938088 | 1.874163859 | down |
| FBXO32       | -1.039498138 | 7.015994644  | -4.613557933 | 4.32E-05    | 0.000946013 | 1.864241008 | down |
| LOC100498859 | -1.475684692 | 1.209786796  | -4.611777427 | 4.34E-05    | 0.000948499 | 1.85895683  | down |
| CRYL1        | -1.011298243 | 6.345060968  | -4.604095474 | 4.45E-05    | 0.000965736 | 1.836164679 | down |
| ASTL         | -1.85185612  | 1.234405719  | -4.577888099 | 4.82E-05    | 0.00103434  | 1.758485954 | down |
| FUT5         | -1.43256349  | 0.967811689  | -4.567373528 | 4.98E-05    | 0.001064443 | 1.727355053 | down |
| F2RL3        | -1.875054489 | 4.230749652  | -4.564421158 | 5.03E-05    | 0.001072257 | 1.718617432 | down |
| LINGO4       | -1.745862542 | 3.184992832  | -4.563431795 | 5.04E-05    | 0.001073438 | 1.715689737 | down |
| DLGAP2       | -1.628578154 | 3.797499724  | -4.561614633 | 5.07E-05    | 0.001077458 | 1.710312904 | down |
| LOC100134229 | -1.368203831 | 5.651452556  | -4.556876875 | 5.15E-05    | 0.00109128  | 1.696297086 | down |
| PITX1        | -1.593978228 | 7.736904471  | -4.53936284  | 5.43E-05    | 0.001136759 | 1.644520512 | down |
| GPR146       | -1.487694395 | 4.579721726  | -4.526239038 | 5.66E-05    | 0.001170396 | 1.605759867 | down |
| SNX25        | -1.040742879 | 7.105118015  | -4.524961291 | 5.68E-05    | 0.001172392 | 1.601987803 | down |
| FOXI2        | -2.185434353 | 4.020772231  | -4.515668236 | 5.84E-05    | 0.00119913  | 1.574562813 | down |
| CYP4F22      | -1.816629881 | 3.32038083   | -4.515579732 | 5.84E-05    | 0.00119913  | 1.574301705 | down |
| NFKB2        | -1.151788187 | 6.593359224  | -4.506306834 | 6.01E-05    | 0.001227199 | 1.54695261  | down |
| BCL6         | -1.398523535 | 10.87886973  | -4.505549371 | 6.03E-05    | 0.00122896  | 1.5447193   | down |
| THSD4        | -1.178028502 | 6.823925692  | -4.503156309 | 6.07E-05    | 0.001236931 | 1.537664301 | down |
| TRIM31       | -1.042287119 | 0.9211105781 | -4.492216954 | 6.28E-05    | 0.001272678 | 1.505427882 | down |
| LOC100133985 | -1.091447995 | 1.207273063  | -4.492197429 | 6.28E-05    | 0.001272678 | 1.505370366 | down |
| TMEM107      | -1.181496608 | 6.365936388  | -4.492148747 | 6.28E-05    | 0.001272678 | 1.505226959 | down |
| ORAI3        | -1.169037778 | 7.362424742  | -4.490590268 | 6.31E-05    | 0.001276517 | 1.500636279 | down |
| BAG3         | -1.131578064 | 8.589321767  | -4.490022332 | 6.32E-05    | 0.001277613 | 1.498963474 | down |
| PPP1R3C      | -1.757400883 | 12.26887678  | -4.489455429 | 6.33E-05    | 0.001278706 | 1.497293773 | down |
| LOC91450     | -1.373552656 | 2.943227437  | -4.477975677 | 6.56E-05    | 0.001315281 | 1.463495845 | down |
| SREBF1       | -1.025218437 | 8.007464133  | -4.470294453 | 6.72E-05    | 0.001338425 | 1.440895633 | down |
| LINC00167    | -1.659014671 | 3.515076193  | -4.467373775 | 6.78E-05    | 0.001349299 | 1.432305254 | down |
| RPS27        | -1.64249165  | 5.455698751  | -4.464443254 | 6.84E-05    | 0.001359114 | 1.423687613 | down |
| GPRC5B       | -1.315356059 | 7.541839223  | -4.451588702 | 7.11E-05    | 0.001411324 | 1.385906939 | down |
| RAB44        | -1.708709254 | 1.699718135  | -4.44878221  | 7.18E-05    | 0.001417746 | 1.37766278  | down |
| RELA         | -1.147717694 | 8.70255458   | -4.448691056 | 7.18E-05    | 0.001417746 | 1.37739504  | down |
| RNF113A      | -1.006398337 | 6.349193968  | -4.44817383  | 7.19E-05    | 0.001418766 | 1.375875851 | down |
| CLK3         | -1.031147964 | 7.95504305   | -4.442114469 | 7.32E-05    | 0.001437894 | 1.358082407 | down |
| LOC649133    | -1.397272088 | 1.308863139  | -4.438564817 | 7.40E-05    | 0.001451324 | 1.347662205 | down |
| PGF          | -1.40907401  | 5.615172639  | -4.438214353 | 7.41E-05    | 0.001451324 | 1.346633536 | down |
| NR3C2        | -1.056632854 | 7.254885978  | -4.428871374 | 7.63E-05    | 0.001484201 | 1.319219533 | down |
| CIRBP-AS1    | -1.324996783 | 3.990571572  | -4.428690534 | 7.63E-05    | 0.001484201 | 1.31868909  | down |
| ZNF292       | -1.105669487 | 10.66049692  | -4.422428382 | 7.78E-05    | 0.001506508 | 1.300324954 | down |
| MIR23A       | -2.008250763 | 2.343150872  | -4.419208356 | 7.86E-05    | 0.001520142 | 1.290885155 | down |
| LOC100131551 | -1.769404452 | 2.207257846  | -4.414742809 | 7.96E-05    | 0.001531954 | 1.277797517 | down |
| OPRK1        | -2.386297117 | 2.030970581  | -4.409671352 | 8.09E-05    | 0.001546771 | 1.262939054 | down |
| TMEM253      | -1.13451564  | 2.899453811  | -4.405276444 | 8.20E-05    | 0.001562468 | 1.250067061 | down |
| ARRDC2       | -1.03255796  | 7.346200737  | -4.391122929 | 8.56E-05    | 0.001617243 | 1.208640941 | down |
| LOC731223    | -1.363086979 | 1.014907775  | -4.391011226 | 8.56E-05    | 0.001617243 | 1.208314163 | down |
| TRIB1        | -1.615805048 | 6.414539251  | -4.388188288 | 8.64E-05    | 0.001625865 | 1.200056744 | down |
| OXNAD1       | -1.202753077 | 7.343307024  | -4.384104781 | 8.75E-05    | 0.001642209 | 1.188114987 | down |
| EID2B        | -1.349366191 | 4.510660605  | -4.381604636 | 8.81E-05    | 0.001649362 | 1.180805332 | down |
| CAHM         | -1.381515837 | 3.286980404  | -4.37610837  | 8.96E-05    | 0.001674535 | 1.164740588 | down |
| LOC100507156 | -2.066701194 | 5.595228106  | -4.375032171 | 8.99E-05    | 0.001678294 | 1.161595774 | down |
| NYAP1        | -1.32710641  | 4.753832506  | -4.374837413 | 9.00E-05    | 0.001678294 | 1.16102669  | down |
| NR4A2        | -1.645644158 | 8.044524688  | -4.365401145 | 9.26E-05    | 0.001723114 | 1.13346347  | down |
| ZNF791       | -1.024367635 | 7.753143959  | -4.359600223 | 9.43E-05    | 0.001748176 | 1.116528516 | down |
| KIAA0355     | -1.090415412 | 8.31530168   | -4.34255606  | 9.93E-05    | 0.001814844 | 1.066812595 | down |
| VPS37D       | -1.240113798 | 3.822973947  | -4.327898376 | 0.000103823 | 0.001885623 | 1.024108462 | down |
| AATK         | -1.240863603 | 3.565838231  | -4.327574052 | 0.000103926 | 0.001885982 | 1.023164103 | down |
| FLJ35282     | -1.220299983 | 5.531520285  | -4.325968481 | 0.000104435 | 0.00189221  | 1.018489373 | down |
| PLIN5        | -2.324631097 | 2.13085124   | -4.325559867 | 0.000104565 | 0.00189306  | 1.017299756 | down |
| MIR27A       | -1.876756049 | 1.995927843  | -4.324069839 | 0.000105041 | 0.001897144 | 1.012962085 | down |
| PRCD         | -1.493375329 | 4.226329117  | -4.316395939 | 0.000107523 | 0.001925463 | 0.990630132 | down |
| C9orf72      | -1.267255283 | 6.506165326  | -4.316348861 | 0.000107539 | 0.001925463 | 0.990493169 | down |
| PDLIM4       | -1.236207146 | 8.101140957  | -4.316081776 | 0.000107626 | 0.001925515 | 0.989716161 | down |
| C1orf51      | -1.354614721 | 6.92135749   | -4.311736659 | 0.000109058 | 0.001948082 | 0.977077479 | down |
| AKNA         | -1.041013251 | 7.269290483  | -4.294267178 | 0.000115008 | 0.002039964 | 0.92630663  | down |
| IL20RA       | -1.353636015 | 1.526988796  | -4.290912547 | 0.000116187 | 0.002059262 | 0.916565096 | down |
| KDM3A        | -1.913748431 | 8.712624483  | -4.290146942 | 0.000116457 | 0.002061661 | 0.914342208 | down |
| C15orf39     | -1.130163507 | 6.025737313  | -4.287611073 | 0.000117358 | 0.00207204  | 0.906980424 | down |
| PALD1        | -1.759527098 | 6.798926931  | -4.286315791 | 0.000117821 | 0.002078517 | 0.903220706 | down |
| PRKRIP1      | -1.502080445 | 2.44422447   | -4.27742073  | 0.000121112 | 0.002128343 | 0.876893862 | down |
| ACVR2B-AS1   | -1.216856385 | 4.371592095  | -4.274313914 | 0.000122194 | 0.002142387 | 0.86840202  | down |
| ZBTB7B       | -1.008648156 | 6.47736069   | -4.271252659 | 0.000123334 | 0.00215906  | 0.859526304 | down |
| C1orf226     | -1.333144373 | 4.204289617  | -4.268819411 | 0.000124248 | 0.002168394 | 0.852472957 | down |



|                |              |             |              |             |             |             |      |
|----------------|--------------|-------------|--------------|-------------|-------------|-------------|------|
| GPR133         | -1.82080518  | 4.162992494 | -4.267503916 | 0.000124745 | 0.002168757 | 0.848660256 | down |
| GPX3           | -1.877798846 | 12.91497346 | -4.252808516 | 0.00013043  | 0.002248712 | 0.806095873 | down |
| SNORA84        | -1.047138963 | 1.236566139 | -4.250145549 | 0.000131487 | 0.002260412 | 0.798388141 | down |
| RASSF4         | -1.133934819 | 5.593848735 | -4.249849793 | 0.000131605 | 0.002260412 | 0.797532202 | down |
| BCL3           | -1.419889779 | 6.4565359   | -4.247905386 | 0.000132383 | 0.002270346 | 0.79190547  | down |
| C5orf56        | -1.091363404 | 5.020102675 | -4.244472853 | 0.000133767 | 0.002285476 | 0.781974559 | down |
| PER2           | -1.285193052 | 8.925131409 | -4.24102576  | 0.000135171 | 0.002300619 | 0.77200432  | down |
| LOC644656      | -1.416604957 | 4.553199129 | -4.240810236 | 0.000135259 | 0.002300619 | 0.771381041 | down |
| RASD1          | -1.645772275 | 8.196428921 | -4.236122389 | 0.000137193 | 0.002320231 | 0.757826844 | down |
| CHRNE          | -1.132252979 | 4.289720623 | -4.233567779 | 0.000138258 | 0.002334198 | 0.750442772 | down |
| APOD           | -2.967889136 | 11.03364786 | -4.231297521 | 0.000139212 | 0.002343347 | 0.743881915 | down |
| G0S2           | -1.968682486 | 5.478637488 | -4.230379523 | 0.000139599 | 0.002345572 | 0.741229329 | down |
| SYCE2          | -1.343369152 | 2.890207307 | -4.228210616 | 0.000140519 | 0.002358371 | 0.734962993 | down |
| LRP5           | -1.04975784  | 6.864057579 | -4.221094198 | 0.000143577 | 0.002397334 | 0.714410363 | down |
| PPP1R3E        | -1.024720604 | 6.817005456 | -4.215138446 | 0.000146186 | 0.002426673 | 0.697219148 | down |
| LAMC3          | -1.539771162 | 6.281673634 | -4.213344532 | 0.000146981 | 0.00243632  | 0.692042708 | down |
| EXOC3L1        | -1.327674084 | 2.434013274 | -4.212552035 | 0.000147334 | 0.002440279 | 0.68975616  | down |
| ESR2           | -1.201704262 | 2.985027247 | -4.209254482 | 0.00014881  | 0.002455904 | 0.680243547 | down |
| UPK3B          | -1.490993812 | 2.536126808 | -4.199470299 | 0.000153275 | 0.002522281 | 0.652034156 | down |
| GPHA2          | -1.34461783  | 2.345124613 | -4.198049744 | 0.000153934 | 0.002529471 | 0.647940403 | down |
| SFMBT2         | -1.213198938 | 7.451640202 | -4.191152231 | 0.000157174 | 0.002577128 | 0.628070179 | down |
| ELL2           | -1.27473043  | 11.02495722 | -4.190496983 | 0.000157485 | 0.002578517 | 0.62618316  | down |
| PXN-AS1        | -1.301021392 | 3.180295652 | -4.187239645 | 0.000159041 | 0.002602123 | 0.616804064 | down |
| RNU12          | -2.661562807 | 4.113422212 | -4.186562594 | 0.000159366 | 0.002605574 | 0.614854909 | down |
| C9orf174       | -1.493942248 | 1.803466184 | -4.184155397 | 0.000160528 | 0.002620807 | 0.607925766 | down |
| PIM1           | -2.089768876 | 5.278287155 | -4.18129988  | 0.000161917 | 0.00264159  | 0.599707986 | down |
| PNPLA7         | -1.104032718 | 6.220962671 | -4.181007416 | 0.00016206  | 0.002642029 | 0.59886643  | down |
| GCKR           | -1.005606706 | 4.240862552 | -4.178642769 | 0.00016322  | 0.00265524  | 0.592063002 | down |
| GPM6A          | -1.273850283 | 5.231375593 | -4.17692168  | 0.000164069 | 0.002665251 | 0.587112054 | down |
| EIF4EBP3       | -1.392372487 | 1.845027114 | -4.174185443 | 0.000165429 | 0.002683506 | 0.579242411 | down |
| C2orf50        | -1.112898706 | 1.080892868 | -4.171600266 | 0.000166723 | 0.002696821 | 0.571808936 | down |
| MIR3190        | -1.45898175  | 1.109356093 | -4.171269445 | 0.00016689  | 0.002697448 | 0.570857806 | down |
| USP2           | -1.180932854 | 5.076130949 | -4.16936326  | 0.000167851 | 0.002707377 | 0.565377943 | down |
| NFKBIE         | -1.31992504  | 3.814450115 | -4.168778372 | 0.000168148 | 0.002710235 | 0.563696701 | down |
| TSKU           | -1.208328404 | 6.997498469 | -4.167362332 | 0.000168867 | 0.002715284 | 0.559626692 | down |
| HSD11B2        | -1.800757234 | 2.523241633 | -4.165190863 | 0.000169976 | 0.002724507 | 0.553386388 | down |
| PHLDB3         | -1.08666798  | 5.298094379 | -4.16513792  | 0.000170003 | 0.002724507 | 0.553234256 | down |
| C4orf47        | -1.540384955 | 6.23581725  | -4.164747129 | 0.000170203 | 0.002724507 | 0.552111344 | down |
| EHD1           | -1.15981093  | 6.426923777 | -4.162306863 | 0.000171459 | 0.002738414 | 0.545100257 | down |
| POU2F3         | -1.336788884 | 3.555417228 | -4.160772184 | 0.000172254 | 0.002740903 | 0.540691763 | down |
| DHH            | -1.254584458 | 1.197221188 | -4.157325196 | 0.000174051 | 0.002762384 | 0.53079216  | down |
| SLC43A1        | -1.029604604 | 5.117615577 | -4.152891649 | 0.000176391 | 0.002793671 | 0.518063598 | down |
| LOC554223      | -1.424835854 | 3.189002018 | -4.151166768 | 0.000177309 | 0.00280237  | 0.513112863 | down |
| METRNL         | -1.053482576 | 7.593770371 | -4.143435008 | 0.000181483 | 0.002860405 | 0.490930514 | down |
| KIAA1045       | -1.468741903 | 2.927681386 | -4.142845604 | 0.000181806 | 0.002863501 | 0.489240143 | down |
| DKFZP686115217 | -1.061349536 | 5.428083499 | -4.140369795 | 0.000183165 | 0.002880924 | 0.482140653 | down |
| VLDLR          | -1.301300453 | 6.575932928 | -4.121426433 | 0.000193898 | 0.00301751  | 0.427871654 | down |
| CYP1A1         | -1.415383519 | 1.492300984 | -4.121305613 | 0.000193969 | 0.00301751  | 0.427525827 | down |
| ADCYAP1R1      | -1.528738406 | 3.496198246 | -4.117042853 | 0.000196468 | 0.003043919 | 0.41532673  | down |
| PSRC1          | -1.263963239 | 5.125584056 | -4.106206609 | 0.000202964 | 0.003134769 | 0.384337    | down |
| OGFR           | -1.146717881 | 7.028461766 | -4.103163312 | 0.000204826 | 0.00315197  | 0.37563922  | down |
| LINC00313      | -1.251168076 | 1.386812346 | -4.100087021 | 0.000206725 | 0.003178732 | 0.366849608 | down |
| CRHR2          | -1.002172901 | 2.355102988 | -4.098857244 | 0.000207489 | 0.003184341 | 0.36333657  | down |
| MIR24-2        | -1.515134722 | 1.6076649   | -4.095160732 | 0.000209802 | 0.003215161 | 0.352779338 | down |
| TBC1D2B        | -1.211626845 | 8.000052489 | -4.093972839 | 0.00021055  | 0.003222638 | 0.349387483 | down |
| TPRG1          | -1.183346199 | 6.625280207 | -4.091638316 | 0.000212029 | 0.003236514 | 0.342722674 | down |
| LOC100126784   | -1.305939213 | 5.034123511 | -4.090736447 | 0.000212603 | 0.00323882  | 0.340148323 | down |
| EPN2-IT1       | -1.655121239 | 3.757002841 | -4.08986949  | 0.000213156 | 0.003245077 | 0.337673829 | down |
| SORL1          | -1.192370993 | 7.789680376 | -4.087930774 | 0.000214398 | 0.003257454 | 0.332141005 | down |
| ABHD4          | -1.128952809 | 6.165185333 | -4.085348617 | 0.000216064 | 0.00327402  | 0.324773439 | down |
| ODF3           | -1.37337948  | 2.911148052 | -4.080314183 | 0.000219347 | 0.003314949 | 0.310413981 | down |
| CD79B          | -1.095179679 | 5.561807369 | -4.077232776 | 0.000221381 | 0.003334617 | 0.301628366 | down |
| SLC7A5P2       | -1.271354257 | 5.928849596 | -4.069498425 | 0.000226566 | 0.003399032 | 0.279587594 | down |
| PTP4A3         | -1.323557384 | 3.338087423 | -4.069078482 | 0.000226851 | 0.003399032 | 0.27839133  | down |
| CASZ1          | -1.344310269 | 3.196656271 | -4.068395033 | 0.000227315 | 0.003403751 | 0.276444536 | down |
| ST7-AS1        | -1.070287878 | 4.432274608 | -4.067607353 | 0.000227852 | 0.003409542 | 0.274200996 | down |
| BEX2           | -2.227341011 | 5.950621604 | -4.061730979 | 0.000231893 | 0.003456385 | 0.257468661 | down |
| LOC254896      | -1.251683852 | 0.938391638 | -4.059459032 | 0.000233474 | 0.003477674 | 0.251002036 | down |
| GGTA1P         | -1.66561287  | 5.795992226 | -4.056270879 | 0.00023571  | 0.00349954  | 0.241929971 | down |
| REM2           | -1.290949744 | 3.255362222 | -4.055055228 | 0.000236568 | 0.003507708 | 0.238471494 | down |
| TBX3           | -1.208309208 | 4.599369429 | -4.053078788 | 0.00023797  | 0.003526197 | 0.232849458 | down |
| MYC            | -1.255912406 | 6.438746182 | -4.042947746 | 0.000245283 | 0.003606409 | 0.204048122 | down |
| PNOC           | -1.573108319 | 2.290066266 | -4.038271239 | 0.000248733 | 0.003642868 | 0.190762824 | down |
| FLJ38576       | -1.506322353 | 3.09303087  | -4.037848824 | 0.000249047 | 0.003642868 | 0.189563099 | down |

|              |              |             |              |             |             |              |      |
|--------------|--------------|-------------|--------------|-------------|-------------|--------------|------|
| NCKAP1L      | -1.235966766 | 4.718261455 | -4.037639015 | 0.000249203 | 0.003642868 | 0.188967227  | down |
| DPH3P1       | -1.350822646 | 3.71620865  | -4.034525685 | 0.000251529 | 0.003672167 | 0.180126561  | down |
| SDC4         | -1.127820078 | 9.316402662 | -4.032702809 | 0.000252901 | 0.003687472 | 0.174951528  | down |
| C1orf115     | -1.096439472 | 4.107427032 | -4.028886283 | 0.000255798 | 0.003719782 | 0.164119609  | down |
| CHD5         | -1.660183367 | 4.895780175 | -4.024474023 | 0.000259187 | 0.00375903  | 0.15160191   | down |
| ARHGEF5      | -1.057928507 | 5.939729575 | -4.024177766 | 0.000259416 | 0.00375903  | 0.150761616  | down |
| ENO1-AS1     | -1.568397198 | 2.17573792  | -4.012253796 | 0.000268803 | 0.003852725 | 0.116961003  | down |
| TRIM14       | -1.050094933 | 5.597479139 | -4.011476815 | 0.000269426 | 0.003859226 | 0.114759888  | down |
| KBTBD12      | -1.159636782 | 5.009262643 | -4.009143621 | 0.000271305 | 0.003883701 | 0.108151176  | down |
| KCNK17       | -1.695331264 | 2.125226469 | -4.005515023 | 0.000274253 | 0.003916542 | 0.097876292  | down |
| LIF          | -2.487593438 | 3.956374029 | -4.000500744 | 0.000278378 | 0.003955121 | 0.083683746  | down |
| RGS6         | -1.320730562 | 4.082343202 | -3.992840021 | 0.000284797 | 0.004032996 | 0.062014308  | down |
| CEBPA        | -1.547198946 | 2.226165668 | -3.990383663 | 0.000286886 | 0.004053241 | 0.055069664  | down |
| JUP          | -1.170677158 | 6.213778867 | -3.988612963 | 0.000288401 | 0.004071542 | 0.050064583  | down |
| LINC00092    | -1.52527271  | 3.189363283 | -3.986840946 | 0.000289924 | 0.004088562 | 0.045056668  | down |
| ENO2         | -1.396311324 | 9.115987256 | -3.98602239  | 0.000290631 | 0.004095989 | 0.042743641  | down |
| GPR3         | -1.382561273 | 2.456751144 | -3.978399507 | 0.000297291 | 0.00416409  | 0.021212512  | down |
| SALL4        | -1.246939196 | 3.217952172 | -3.977418042 | 0.00029816  | 0.004173684 | 0.01844153   | down |
| PLK2         | -2.030296308 | 3.997121227 | -3.973157499 | 0.000301957 | 0.004211317 | 0.006415888  | down |
| MIR4681      | -1.070937993 | 0.861713381 | -3.972255117 | 0.000302768 | 0.004217683 | 0.003869529  | down |
| C17orf82     | -1.294371673 | 1.573998747 | -3.972096465 | 0.00030291  | 0.004217683 | 0.003421866  | down |
| DBIL5P       | -1.045923744 | 3.319640801 | -3.967968212 | 0.000306647 | 0.004255867 | -0.008224152 | down |
| C5orf49      | -1.05740249  | 4.417352475 | -3.966686999 | 0.000307815 | 0.004269485 | -0.011837525 | down |
| OTUD1        | -1.50874828  | 6.465558232 | -3.962803476 | 0.000311384 | 0.004311108 | -0.022787235 | down |
| LOC255512    | -1.142742544 | 2.678640642 | -3.959675076 | 0.000314288 | 0.004343394 | -0.031604685 | down |
| KPNA7        | -1.047221816 | 1.524466438 | -3.959216023 | 0.000314717 | 0.004346676 | -0.032898295 | down |
| LOC100129917 | -1.712929851 | 5.950695816 | -3.94864852  | 0.000324736 | 0.004458019 | -0.062660587 | down |
| SNORD38A     | -1.359077076 | 2.259573047 | -3.946924954 | 0.000326399 | 0.004475457 | -0.067511749 | down |
| RNF144B      | -1.074269664 | 7.166756094 | -3.946313151 | 0.000326991 | 0.004480882 | -0.069233527 | down |
| PHF3         | -1.080584165 | 10.70465136 | -3.945514097 | 0.000327767 | 0.004484796 | -0.071482116 | down |
| SCN4A        | -1.354152101 | 3.154926307 | -3.94421772  | 0.000329028 | 0.004490271 | -0.075129803 | down |
| FOXJ1        | -1.33574862  | 1.042428623 | -3.918438839 | 0.000355118 | 0.004778853 | -0.147562611 | down |
| HOXA11-AS    | -1.367680172 | 5.130629656 | -3.915458153 | 0.000358261 | 0.004813804 | -0.15592497  | down |
| TBX5         | -1.647163749 | 6.530488463 | -3.908449141 | 0.000365759 | 0.004897217 | -0.175578404 | down |
| KCNK5        | -1.300882321 | 9.01963186  | -3.907166856 | 0.000367147 | 0.004904963 | -0.179172371 | down |
| JMY          | -1.551327141 | 7.839912259 | -3.906065309 | 0.000368344 | 0.004917371 | -0.182259375 | down |
| SYCP2L       | -1.255473199 | 4.230156362 | -3.903107533 | 0.000371576 | 0.00494891  | -0.190546519 | down |
| CAPN12       | -1.333126413 | 3.088798037 | -3.899678813 | 0.000375356 | 0.004978884 | -0.200149869 | down |
| ASIC4        | -1.350403097 | 2.391631406 | -3.896151728 | 0.000379285 | 0.005013469 | -0.210025029 | down |
| TRIB3        | -1.54435576  | 3.900259228 | -3.893752604 | 0.000381979 | 0.005042247 | -0.21673997  | down |
| TMEM88       | -1.311937602 | 2.054513965 | -3.891426288 | 0.00038461  | 0.005069152 | -0.223249462 | down |
| TSLP         | -1.032609403 | 4.796877666 | -3.888923505 | 0.00038746  | 0.005094919 | -0.230250911 | down |
| LOC100507391 | -1.501876994 | 1.528098551 | -3.887558607 | 0.000389023 | 0.005109569 | -0.234068367 | down |
| GNAT1        | -1.388561978 | 2.018141926 | -3.886068929 | 0.000390735 | 0.005129106 | -0.238234171 | down |
| SYNE3        | -1.142583919 | 7.074334056 | -3.885568009 | 0.000391313 | 0.005133028 | -0.239634815 | down |
| MED16        | -1.01944779  | 6.519336147 | -3.88525246  | 0.000391677 | 0.005133028 | -0.240517094 | down |
| RHOU         | -1.052850857 | 8.426929128 | -3.884444206 | 0.000392612 | 0.005135975 | -0.24277685  | down |
| KIAA2022     | -1.241697212 | 4.379065651 | -3.874761625 | 0.000403976 | 0.005253374 | -0.269832384 | down |
| KDM6B        | -1.3632561   | 6.868658015 | -3.868355261 | 0.00041167  | 0.005331583 | -0.287717576 | down |
| VAMP1        | -1.009693123 | 6.904249364 | -3.86791651  | 0.000412202 | 0.005331909 | -0.288942013 | down |
| PTGS2        | -1.718965454 | 7.078002443 | -3.859519354 | 0.000422515 | 0.005424345 | -0.312364803 | down |
| AKR7A2P1     | -2.431636564 | 3.5962332   | -3.858769506 | 0.000423448 | 0.005427146 | -0.314455348 | down |
| C11orf85     | -1.388666138 | 1.428269509 | -3.851835911 | 0.000432171 | 0.005507945 | -0.33377767  | down |
| TIPARP-AS1   | -1.230227899 | 5.477395444 | -3.85140618  | 0.000432717 | 0.005511823 | -0.334974738 | down |
| SIPR2        | -1.176159118 | 5.60273511  | -3.848868529 | 0.000435957 | 0.005540695 | -0.342042509 | down |
| STRA6        | -1.361464132 | 4.177066388 | -3.84856164  | 0.000436351 | 0.005542601 | -0.34289711  | down |
| NOTCH4       | -1.159177097 | 4.345962389 | -3.847346488 | 0.000437912 | 0.005554754 | -0.346280679 | down |
| F13A1        | -1.516602801 | 8.555910221 | -3.847247483 | 0.000438039 | 0.005554754 | -0.346556337 | down |
| TMC3         | -1.594175936 | 2.846575048 | -3.84654658  | 0.000438942 | 0.005560189 | -0.34850776  | down |
| B3GNT8       | -1.432086245 | 3.054043356 | -3.835607946 | 0.000453273 | 0.005694038 | -0.378942682 | down |
| ODF3L1       | -1.126514713 | 3.743925878 | -3.835328679 | 0.000453645 | 0.005695566 | -0.379719205 | down |
| LOC729970    | -1.253784289 | 3.946044432 | -3.83347801  | 0.000456116 | 0.005719897 | -0.38486451  | down |
| TSPAN33      | -1.062621134 | 3.758796262 | -3.832411621 | 0.000457545 | 0.00572691  | -0.387828838 | down |
| FUT3         | -1.433511962 | 1.277767085 | -3.828649746 | 0.000462624 | 0.005776457 | -0.398283164 | down |
| SNORA67      | -1.556823716 | 2.316001618 | -3.822563402 | 0.000470956 | 0.005851623 | -0.415187771 | down |
| CPSF4L       | -1.020698723 | 0.867505233 | -3.821328298 | 0.000472665 | 0.005865094 | -0.418616798 | down |
| DCST1        | -1.244463783 | 1.974457894 | -3.819358854 | 0.000475401 | 0.005890788 | -0.424083575 | down |
| ARC          | -1.335610016 | 1.812096498 | -3.815576494 | 0.000480701 | 0.005933852 | -0.434579187 | down |
| HIST1H2BG    | -1.561062323 | 1.868324204 | -3.801830614 | 0.000500445 | 0.006104787 | -0.472683982 | down |
| LINC00441    | -1.315167888 | 3.052791636 | -3.798394392 | 0.000505502 | 0.006153295 | -0.482200035 | down |
| ABCB1        | -1.395511333 | 3.418117949 | -3.795465742 | 0.000509852 | 0.006196301 | -0.490307451 | down |
| IZUMO4       | -1.237585298 | 2.71168642  | -3.793998214 | 0.000512044 | 0.006213756 | -0.494368984 | down |
| KIAA1462     | -1.100942768 | 8.392513398 | -3.793706029 | 0.000512482 | 0.006213756 | -0.495177556 | down |
| FLJ13224     | -1.342648998 | 1.778561764 | -3.786188336 | 0.00052387  | 0.006329511 | -0.515971921 | down |

|              |              |             |              |             |             |              |      |
|--------------|--------------|-------------|--------------|-------------|-------------|--------------|------|
| FLI1-AS1     | -1.044063451 | 3.822892801 | -3.783961787 | 0.000527289 | 0.006357334 | -0.522127168 | down |
| UPP1         | -1.107380486 | 6.09283748  | -3.781288627 | 0.000531423 | 0.00639026  | -0.529514933 | down |
| PPP1R27      | -1.369936238 | 1.267015909 | -3.780563571 | 0.000532549 | 0.006397137 | -0.531518357 | down |
| MATN1        | -1.320169363 | 3.114212167 | -3.780559011 | 0.000532556 | 0.006397137 | -0.531530956 | down |
| LOC400752    | -1.461633017 | 2.895702394 | -3.770858799 | 0.000547854 | 0.006526978 | -0.558317401 | down |
| ACPP         | -1.816326838 | 1.738576063 | -3.770037613 | 0.000549168 | 0.006534638 | -0.560583635 | down |
| SOCS1        | -1.661721587 | 2.16423072  | -3.769319878 | 0.000550319 | 0.006544876 | -0.562564196 | down |
| SLC16A9      | -1.213585615 | 4.759550161 | -3.767517467 | 0.000553221 | 0.006561944 | -0.567537127 | down |
| MYOG         | -1.391566348 | 2.701683999 | -3.765177831 | 0.000557009 | 0.00659692  | -0.573990694 | down |
| OTUB2        | -1.357823765 | 5.56048771  | -3.764030056 | 0.000558876 | 0.006615572 | -0.577156017 | down |
| FBLN1        | -1.681706241 | 7.219923499 | -3.762191017 | 0.000561882 | 0.006640816 | -0.582226802 | down |
| PTK6         | -1.145580702 | 4.763683612 | -3.761003519 | 0.00056383  | 0.006660391 | -0.585500497 | down |
| CCDC19       | -1.061149069 | 3.386981404 | -3.755326624 | 0.000573237 | 0.006743528 | -0.601144147 | down |
| OR51M1       | -1.136165567 | 1.718376109 | -3.754260538 | 0.00057502  | 0.006752476 | -0.604080741 | down |
| SKAP1        | -1.0675267   | 1.046010963 | -3.752965074 | 0.000577195 | 0.006765623 | -0.607648663 | down |
| OVOL1        | -1.355505913 | 1.326217756 | -3.751300363 | 0.00058     | 0.00678106  | -0.612232735 | down |
| RNU11        | -1.787860993 | 4.544858509 | -3.73488552  | 0.000608381 | 0.007072938 | -0.65738454  | down |
| 3-Mar        | -1.271877986 | 6.093372816 | -3.732511555 | 0.000612596 | 0.007114667 | -0.663907085 | down |
| DLGAP1       | -1.314553648 | 4.15305748  | -3.728634946 | 0.000619538 | 0.00717398  | -0.674554129 | down |
| LPPR3        | -1.214434059 | 1.859368026 | -3.724137392 | 0.000627687 | 0.007241934 | -0.686900255 | down |
| FAM205A      | -1.403166755 | 3.006294282 | -3.722871034 | 0.000630001 | 0.007264943 | -0.690375272 | down |
| MTRNR2L8     | -1.321294481 | 3.296971617 | -3.722559753 | 0.00063057  | 0.007265717 | -0.691229376 | down |
| PLD4         | -1.427869346 | 3.440455815 | -3.720368559 | 0.000634596 | 0.007306838 | -0.697240735 | down |
| CD37         | -1.572691244 | 3.764048323 | -3.717691204 | 0.000639549 | 0.007352711 | -0.704583632 | down |
| NR4A1        | -1.810379614 | 7.622555023 | -3.713356808 | 0.000647646 | 0.007415851 | -0.71646597  | down |
| WNT3A        | -1.108322078 | 1.429671287 | -3.711531614 | 0.000651085 | 0.007451485 | -0.721467663 | down |
| HCG9         | -1.192837715 | 1.611288307 | -3.702586639 | 0.000668196 | 0.007609084 | -0.745963737 | down |
| SLC25A29     | -1.719540014 | 4.345816214 | -3.702029634 | 0.000669276 | 0.007617571 | -0.747488209 | down |
| MRS2P2       | -1.82675505  | 4.877883368 | -3.701474732 | 0.000670353 | 0.007622215 | -0.749006822 | down |
| LOC100129722 | -1.55125319  | 4.152514003 | -3.693775732 | 0.000685475 | 0.007774585 | -0.77006594  | down |
| PXT1         | -1.108745705 | 1.368557204 | -3.693589686 | 0.000685845 | 0.007774585 | -0.770574583 | down |
| WDR86        | -1.428592645 | 2.395770329 | -3.693439401 | 0.000686143 | 0.007774585 | -0.770985446 | down |
| MEG3         | -1.044625279 | 9.331192001 | -3.690408912 | 0.000692191 | 0.007831424 | -0.77926883  | down |
| IER3         | -1.480172855 | 8.222985939 | -3.689997624 | 0.000693016 | 0.007836029 | -0.780392782 | down |
| AFAPIL2      | -1.07984463  | 4.982526656 | -3.689292921 | 0.000694431 | 0.007845077 | -0.782318428 | down |
| STC1         | -2.012297944 | 2.667475392 | -3.688568674 | 0.000695889 | 0.007857247 | -0.784297303 | down |
| LRP1B        | -1.589652242 | 5.18307923  | -3.675679238 | 0.000722328 | 0.00808801  | -0.819485049 | down |
| LOC154761    | -1.189043715 | 2.979553573 | -3.668449146 | 0.00073758  | 0.008214365 | -0.839197736 | down |
| MRPL23-AS1   | -1.520282749 | 3.014681968 | -3.66803997  | 0.000738452 | 0.008220061 | -0.840312803 | down |
| SLC51B       | -1.540617091 | 4.009310656 | -3.665646437 | 0.000743575 | 0.008260939 | -0.846834363 | down |
| GCH1         | -1.401911738 | 6.791174763 | -3.665037991 | 0.000744883 | 0.008266211 | -0.84849185  | down |
| IL17REL      | -1.448048022 | 1.990156668 | -3.664919175 | 0.000745139 | 0.008266211 | -0.848815506 | down |
| SPAG5-AS1    | -1.059250869 | 4.490668669 | -3.659256192 | 0.000757421 | 0.008386132 | -0.864235785 | down |
| PPME1        | -1.233919848 | 6.958604157 | -3.652863298 | 0.000771522 | 0.008505043 | -0.881630089 | down |
| TNFRSF10D    | -1.314322006 | 7.59788747  | -3.650955229 | 0.00077578  | 0.008535545 | -0.886818933 | down |
| NEURL2       | -1.071709214 | 3.348823845 | -3.649780173 | 0.000778413 | 0.008556154 | -0.890013765 | down |
| LOC730668    | -1.2223571   | 2.760428771 | -3.649166738 | 0.000779791 | 0.008563036 | -0.891681428 | down |
| LINC00115    | -1.221601508 | 4.181304952 | -3.646483601 | 0.000785846 | 0.008618136 | -0.898974141 | down |
| HSPA4L       | -1.405867166 | 5.975682981 | -3.643765635 | 0.000792026 | 0.008676476 | -0.906358927 | down |
| SNORD61      | -1.103761505 | 0.905925271 | -3.639708516 | 0.000801338 | 0.008732287 | -0.917377357 | down |
| MOGAT1       | -1.551404396 | 3.599154987 | -3.632472682 | 0.000818209 | 0.008866791 | -0.937014115 | down |
| MALAT1       | -1.081411378 | 17.22986687 | -3.631241149 | 0.000821114 | 0.008888252 | -0.94035442  | down |
| ANKZF1       | -1.029919513 | 8.651502782 | -3.623802837 | 0.000838875 | 0.009050387 | -0.960517943 | down |
| C22orf24     | -1.371605567 | 1.993960437 | -3.622340245 | 0.00084241  | 0.009081959 | -0.964480359 | down |
| PEG10        | -1.32446331  | 4.629497549 | -3.620776779 | 0.000846205 | 0.009104605 | -0.968715212 | down |
| LOC553103    | -1.025277016 | 3.533884867 | -3.620026851 | 0.000848031 | 0.00911894  | -0.970746177 | down |
| CASP12       | -1.062753401 | 3.980488985 | -3.617842837 | 0.000853372 | 0.009172032 | -0.976659809 | down |
| ICAM4        | -1.294623808 | 1.705562746 | -3.616753893 | 0.000856046 | 0.009191108 | -0.979607689 | down |
| MAP3K9       | -1.175826718 | 3.701255952 | -3.61555433  | 0.000859002 | 0.009207475 | -0.982854533 | down |
| LOC254100    | -1.259535719 | 2.776846293 | -3.610531784 | 0.000871485 | 0.009313965 | -0.996443374 | down |
| RNF157       | -1.078451066 | 4.044514802 | -3.6073623   | 0.000879451 | 0.009381502 | -1.005013943 | down |
| TMEM95       | -1.18180376  | 1.843620583 | -3.601261211 | 0.000894985 | 0.009517629 | -1.0215016   | down |
| DUSP15       | -1.091332845 | 2.872219502 | -3.601201801 | 0.000895138 | 0.009517629 | -1.021662082 | down |
| GAS6-AS1     | -1.195493821 | 2.99805297  | -3.600012042 | 0.000898198 | 0.00954126  | -1.024875702 | down |
| SHISA7       | -1.14032417  | 1.64019155  | -3.596005725 | 0.000908578 | 0.009623305 | -1.035693254 | down |
| CD274        | -1.167432593 | 4.533322251 | -3.591201238 | 0.000921177 | 0.009730895 | -1.048658252 | down |
| ABCA1        | -1.533816217 | 8.046361417 | -3.588703631 | 0.000927793 | 0.009773585 | -1.055394761 | down |
| RAMP1        | -1.467614809 | 5.198932496 | -3.587789434 | 0.000930226 | 0.009788839 | -1.057859952 | down |
| C20orf195    | -1.005384625 | 1.25098183  | -3.586885931 | 0.000932637 | 0.009797422 | -1.060296004 | down |
| NECAB3       | -1.233972224 | 5.326038973 | -3.585224288 | 0.000937086 | 0.009838989 | -1.064775395 | down |
| SLC2A4       | -1.256323409 | 3.696989789 | -3.578843117 | 0.000954363 | 0.009975045 | -1.081968085 | down |
| FOXC2        | -1.882289362 | 6.333523136 | -3.569999021 | 0.000978816 | 0.010177634 | -1.105771817 | down |
| FLJ42875     | -1.451693849 | 2.603730205 | -3.568069309 | 0.000984231 | 0.010213429 | -1.110961765 | down |
| SNORA75      | -1.409444328 | 2.320744156 | -3.565153149 | 0.000992469 | 0.010278979 | -1.118802144 | down |

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|--------------|--------------|-------------|--------------|-------------|-------------|--------------|------|
| ACER2        | -1.121509537 | 3.650127646 | -3.563471556 | 0.000997249 | 0.010323795 | -1.123321836 | down |
| GPBAR1       | -1.259869128 | 2.508122265 | -3.561449442 | 0.001003027 | 0.010374176 | -1.12875537  | down |
| SERPINA10    | -1.943455609 | 5.299244421 | -3.556278852 | 0.001017947 | 0.010504644 | -1.142642123 | down |
| TRPM3        | -1.412637718 | 3.97715522  | -3.555306166 | 0.001020778 | 0.010518002 | -1.145253373 | down |
| PARM1        | -1.143129435 | 9.356989513 | -3.55103623  | 0.001033293 | 0.01058626  | -1.156712163 | down |
| LOC401074    | -1.192735111 | 3.448302864 | -3.544264063 | 0.001053446 | 0.010771535 | -1.174871944 | down |
| DLL4         | -1.42277473  | 2.198649626 | -3.54385163  | 0.001054686 | 0.010776341 | -1.175977342 | down |
| CYTL1        | -1.979861369 | 12.80682856 | -3.540966502 | 0.001063395 | 0.010859885 | -1.183708234 | down |
| CCDC28A      | -1.215586275 | 5.8400373   | -3.526760114 | 0.0011073   | 0.011168627 | -1.221729439 | down |
| LOC100289473 | -1.199795421 | 3.522487063 | -3.520007405 | 0.001128775 | 0.011355056 | -1.23977523  | down |
| ADPGK-AS1    | -1.094398774 | 2.920808835 | -3.512720924 | 0.001152396 | 0.011536621 | -1.259227993 | down |
| MIR210HG     | -1.382557925 | 8.545847996 | -3.501901763 | 0.001188346 | 0.011797986 | -1.288074519 | down |
| HBZ          | -1.143922298 | 0.805414015 | -3.500881727 | 0.00119179  | 0.011821875 | -1.290791864 | down |
| AARD         | -1.527836911 | 2.172825753 | -3.500627535 | 0.00119265  | 0.011825254 | -1.291468963 | down |
| SAMD12       | -1.453576435 | 4.334861909 | -3.498282069 | 0.001200612 | 0.01188867  | -1.29771547  | down |
| CCDC96       | -1.215600613 | 3.658005137 | -3.49298853  | 0.00121877  | 0.012044976 | -1.311805567 | down |
| JUND         | -1.284866379 | 10.06959953 | -3.492909818 | 0.001219042 | 0.012044976 | -1.312014999 | down |
| INHA         | -1.318608447 | 3.352963474 | -3.489733621 | 0.001230065 | 0.012132839 | -1.32046396  | down |
| LTB4R2       | -1.166248211 | 2.863296703 | -3.486536446 | 0.001241257 | 0.012211506 | -1.328964782 | down |
| MIR219-1     | -1.139422448 | 0.962955828 | -3.486007586 | 0.001243118 | 0.012219256 | -1.33037056  | down |
| SLC34A3      | -1.202152465 | 2.362537698 | -3.485055719 | 0.001246474 | 0.012241676 | -1.332900473 | down |
| DUSP8        | -1.546389143 | 3.769403197 | -3.484756934 | 0.001247529 | 0.012246758 | -1.333694526 | down |
| ARRDC3       | -1.26451644  | 10.01880592 | -3.481284847 | 0.001259854 | 0.01232525  | -1.342919405 | down |
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| PDK4         | -1.927830357 | 7.913031944 | -3.475549172 | 0.001280471 | 0.012441434 | -1.358148061 | down |
| C2orf57      | -1.078406229 | 0.952038473 | -3.473006654 | 0.001289713 | 0.012483302 | -1.364894537 | down |
| HSPA6        | -1.340367451 | 2.484874449 | -3.462896262 | 0.001327101 | 0.012763818 | -1.391697044 | down |
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| MIR4308      | -1.512332864 | 1.477729877 | -3.459016109 | 0.001341724 | 0.0128658   | -1.401972618 | down |
| MIR5690      | -2.006859762 | 2.825548952 | -3.450655201 | 0.001373759 | 0.013063619 | -1.424094129 | down |
| GDF15        | -1.394887993 | 1.674055167 | -3.444975808 | 0.001395937 | 0.013257909 | -1.439105042 | down |
| LOC286059    | -1.493283422 | 1.914387097 | -3.443151245 | 0.001403134 | 0.013298538 | -1.443924737 | down |
| FAM163A      | -1.152296455 | 2.326029997 | -3.426236772 | 0.001471571 | 0.013789408 | -1.48854218  | down |
| GPRASP2      | -1.370833707 | 3.951696971 | -3.425853344 | 0.001473158 | 0.013795717 | -1.48955227  | down |
| PROSER2-AS1  | -1.056524843 | 4.028230355 | -3.425019927 | 0.001476615 | 0.013822406 | -1.491747591 | down |
| DNAJC27-AS1  | -1.064763756 | 4.078184175 | -3.422766529 | 0.001486001 | 0.013898839 | -1.497681922 | down |
| IGFLR1       | -1.218388682 | 3.436596292 | -3.422609165 | 0.001486659 | 0.013899281 | -1.498096265 | down |
| HIST1H2BB    | -1.486875394 | 3.43537072  | -3.419429987 | 0.001500003 | 0.014001053 | -1.506464968 | down |
| SSTR5        | -1.049467783 | 6.501832957 | -3.411095488 | 0.001535533 | 0.014256735 | -1.528384929 | down |
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| LOC339894    | -1.892187809 | 2.794716338 | -3.406494475 | 0.001555491 | 0.014383398 | -1.540473692 | down |
| SMG7-AS1     | -1.413458093 | 3.256823724 | -3.403598527 | 0.00156818  | 0.014477217 | -1.54807814  | down |
| ERN1         | -1.366076237 | 6.359554451 | -3.4033202   | 0.001569405 | 0.014482653 | -1.54880882  | down |
| FAM13A       | -1.049667867 | 8.806088698 | -3.400086285 | 0.001583702 | 0.014585041 | -1.557296343 | down |
| NCMAP        | -1.358398702 | 2.774450249 | -3.393546725 | 0.001612995 | 0.014788991 | -1.574446631 | down |
| MIR324       | -1.179736238 | 1.615276349 | -3.39307494  | 0.001615128 | 0.014796679 | -1.575683235 | down |
| UBQLN3       | -1.04534099  | 2.815659183 | -3.386671335 | 0.001644351 | 0.015010055 | -1.592458814 | down |
| DDTL         | -1.09614276  | 3.52577973  | -3.385318997 | 0.001650586 | 0.015054908 | -1.595999399 | down |
| PPP1R15B     | -1.391118598 | 8.555346171 | -3.384180039 | 0.001655856 | 0.015084846 | -1.598980744 | down |
| YBX2         | -1.082697237 | 1.128402059 | -3.370809943 | 0.001718926 | 0.01555365  | -1.633938526 | down |
| MIR4530      | -1.047597792 | 1.126152601 | -3.366295099 | 0.001740737 | 0.015694889 | -1.645726478 | down |
| CYP4F11      | -1.674295221 | 3.604455191 | -3.365240705 | 0.001745869 | 0.015728705 | -1.648478213 | down |
| SRCIN1       | -1.24735956  | 2.084128213 | -3.362524057 | 0.001759158 | 0.015818586 | -1.65556594  | down |
| LZTS2        | -1.468240115 | 7.187674694 | -3.358845938 | 0.001777303 | 0.015942448 | -1.665157256 | down |
| LGALS8-AS1   | -1.494605246 | 1.80990144  | -3.349068071 | 0.001826415 | 0.016276799 | -1.690627282 | down |
| LOC100129794 | -1.158506033 | 4.810568212 | -3.345275768 | 0.001845809 | 0.016427631 | -1.700494965 | down |
| ADAMTSL2     | -1.584440381 | 8.676377506 | -3.342386457 | 0.001860717 | 0.016513035 | -1.708008992 | down |
| TBL1Y        | -1.572661823 | 1.865440163 | -3.342123057 | 0.001862082 | 0.016514378 | -1.708693825 | down |
| LOC100289361 | -1.022943264 | 2.950726988 | -3.335317089 | 0.001897679 | 0.016738827 | -1.726379005 | down |
| RNU6ATAC     | -1.251500383 | 1.695378623 | -3.334247258 | 0.001903334 | 0.016749778 | -1.729157168 | down |
| LOC729966    | -1.210477887 | 0.866168973 | -3.332161655 | 0.001914403 | 0.016823566 | -1.734571721 | down |
| ACSS1        | -1.367685557 | 4.281180127 | -3.330634106 | 0.001922549 | 0.016875588 | -1.738536315 | down |
| ZNF628       | -1.024152875 | 4.644269988 | -3.329494902 | 0.001928646 | 0.016911409 | -1.741492358 | down |
| MAFK         | -1.332616503 | 6.681264312 | -3.329128433 | 0.001930611 | 0.016911409 | -1.742443169 | down |
| PANX2        | -1.361993419 | 3.638820697 | -3.326205745 | 0.001946352 | 0.017003518 | -1.750024088 | down |
| ARID5B       | -1.04487115  | 9.040819898 | -3.321999693 | 0.00196922  | 0.017157228 | -1.760927469 | down |
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| ARHGAP10     | -1.02225085  | 7.879217243 | -3.30981405  | 0.002036929 | 0.017665671 | -1.792473957 | down |
| SCNN1A       | -1.49634143  | 6.345352836 | -3.308940337 | 0.002041868 | 0.017695413 | -1.794733414 | down |
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| GRIK5        | -1.318539776 | 3.793816927 | -3.294397864 | 0.002125771 | 0.018259736 | -1.832292806 | down |
| KSR1         | -1.105444076 | 5.103545444 | -3.29027848  | 0.002150129 | 0.018402548 | -1.842915567 | down |
| GABRE        | -1.559475285 | 2.917595245 | -3.289396779 | 0.002155376 | 0.018433608 | -1.84518828  | down |

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|--------------|--------------|-------------|--------------|-------------|-------------|--------------|------|
| SLC25A28     | -1.092960092 | 6.774971563 | -3.281534981 | 0.002202712 | 0.018774987 | -1.865438362 | down |
| TMOD1        | -1.595282854 | 5.798382069 | -3.278634116 | 0.002220427 | 0.018898074 | -1.872903523 | down |
| TSSK6        | -1.07536761  | 2.451310072 | -3.269501274 | 0.002277088 | 0.019286232 | -1.896382319 | down |
| TICAM1       | -1.293106471 | 5.017117891 | -3.26700252  | 0.002292829 | 0.019390707 | -1.902799804 | down |
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| KANK3        | -1.181017824 | 3.422298864 | -3.244236061 | 0.002441093 | 0.020357338 | -1.961144218 | down |
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| SLCO4A1      | -1.492966079 | 1.948994139 | -3.183202778 | 0.00288484  | 0.023110173 | -2.116418276 | down |
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| RHOBTB3      | -1.119277922 | 10.32267834 | -3.180297793 | 0.002907762 | 0.023255487 | -2.123766866 | down |
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| SH3BP5       | -1.3599053   | 6.43100008  | -3.176453551 | 0.002938362 | 0.023448212 | -2.133485523 | down |
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| LINC00176    | -1.03565684  | 3.844984696 | -3.154157007 | 0.003121948 | 0.024526512 | -2.18971978  | down |
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| FAM131C      | -1.285552134 | 1.84415747  | -3.146141905 | 0.003190558 | 0.024868993 | -2.209878632 | down |
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| PNP          | -1.094049666 | 6.922568894 | -3.141006784 | 0.003235264 | 0.025130673 | -2.222778335 | down |
| BEST1        | -1.026841442 | 5.122082173 | -3.139252612 | 0.003250671 | 0.025215949 | -2.227182098 | down |
| SOX3         | -1.310223717 | 1.267089257 | -3.137754253 | 0.003263886 | 0.025289369 | -2.230942518 | down |
| LOC100507118 | -1.027954119 | 2.160363753 | -3.13603113  | 0.003279146 | 0.025364669 | -2.235265732 | down |
| SNORD22      | -1.490524949 | 2.784932108 | -3.135422878 | 0.003284549 | 0.025370582 | -2.23679147  | down |
| GPER         | -1.050775635 | 7.073570882 | -3.126677583 | 0.003363168 | 0.025833439 | -2.258709005 | down |
| PRICKLE3     | -1.006352025 | 4.124802515 | -3.125873312 | 0.003370487 | 0.025863489 | -2.260722876 | down |
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| PDZRN4       | -1.694067494 | 4.223827807 | -3.114477436 | 0.003475824 | 0.026422525 | -2.289225139 | down |
| UCA1         | -1.075244644 | 2.093858191 | -3.108386218 | 0.003533397 | 0.026708631 | -2.304434785 | down |
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| C3orf37      | -1.045990993 | 6.315156808 | -3.090001662 | 0.003712678 | 0.02765083  | -2.350233909 | down |
| MTX1         | -1.496791488 | 3.932101552 | -3.08627028  | 0.003750099 | 0.027825733 | -2.359509766 | down |
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| ZBP1         | -1.054839788 | 2.555891778 | -3.077129309 | 0.003843283 | 0.028345457 | -2.382205158 | down |
| IGFALS       | -1.021525155 | 2.010492397 | -3.072972401 | 0.003886378 | 0.028577986 | -2.392512739 | down |
| FAM91A2      | -1.060522531 | 1.319819097 | -3.0724073   | 0.003892272 | 0.028590645 | -2.393913336 | down |

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| ZBTB16       | -1.222635264 | 8.499974421 | -3.070044232 | 0.003917008 | 0.028731032 | -2.399768508 | down |
| CCL28        | -1.497858297 | 4.212559098 | -3.069446624 | 0.003923287 | 0.028767825 | -2.401248826 | down |
| SNORA78      | -1.140464617 | 1.228247253 | -3.067730059 | 0.003941376 | 0.028873258 | -2.405499921 | down |
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| TP53AIP1     | -1.092489356 | 1.683508939 | -3.050406055 | 0.004128393 | 0.029905903 | -2.448323179 | down |
| LOC100506795 | -1.005967912 | 1.292071137 | -3.045673567 | 0.004180919 | 0.030228706 | -2.459996066 | down |
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| NINJ1        | -1.022902037 | 8.225018503 | -3.040303016 | 0.004241289 | 0.030464931 | -2.473229519 | down |
| SNORA9       | -1.166239205 | 1.507804195 | -3.039068649 | 0.00425528  | 0.030543332 | -2.476269102 | down |
| LINC00272    | -1.068627408 | 2.144074445 | -3.033166259 | 0.004322784 | 0.030872186 | -2.490793193 | down |
| LOC100507346 | -1.017707369 | 4.078650834 | -3.02948498  | 0.004365395 | 0.031127701 | -2.499843109 | down |
| FUT8-AS1     | -1.00269369  | 1.900980314 | -3.025348815 | 0.004413744 | 0.031413443 | -2.510003346 | down |
| LRFN5        | -1.195128075 | 3.497183794 | -3.019437986 | 0.004483713 | 0.031871585 | -2.524508298 | down |
| XAB2         | -1.163034583 | 6.284221199 | -3.013641942 | 0.004553336 | 0.032215664 | -2.538714804 | down |
| PARD6B       | -1.098437111 | 2.373157422 | -3.00610162  | 0.004645435 | 0.03273508  | -2.557171727 | down |
| OSBPL10-AS1  | -1.237824901 | 3.444466392 | -3.004889554 | 0.004660402 | 0.032820239 | -2.560135944 | down |
| FXYD1        | -1.004580097 | 6.198460926 | -3.001691137 | 0.004700115 | 0.033008053 | -2.567954444 | down |
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| S1PR1        | -1.396884275 | 3.314813164 | -2.991346845 | 0.004830745 | 0.033769249 | -2.593206023 | down |
| FAM222A-AS1  | -1.255523181 | 2.957048434 | -2.990244334 | 0.004844867 | 0.033835303 | -2.59589422  | down |
| UCMA         | -2.090549198 | 2.835369972 | -2.989001443 | 0.004860834 | 0.033906737 | -2.598923968 | down |
| PGAM4        | -1.049136932 | 2.000361838 | -2.987703593 | 0.00487756  | 0.034002579 | -2.602086862 | down |
| FN3K         | -1.202331794 | 4.363688938 | -2.983707831 | 0.004882671 | 0.034027793 | -2.603051176 | down |
| STARD8       | -1.15429809  | 3.477106781 | -2.984417771 | 0.004920147 | 0.034226132 | -2.610090714 | down |
| NHSL2        | -1.113190776 | 3.644268979 | -2.979682917 | 0.004982131 | 0.034530744 | -2.621614681 | down |
| SBDS         | -1.179709777 | 8.109468919 | -2.979554276 | 0.004983825 | 0.034531978 | -2.621927619 | down |
| HSD11B1      | -1.522998827 | 4.10766383  | -2.977997644 | 0.005004369 | 0.034653238 | -2.625713676 | down |
| SNORD114-17  | -1.087208296 | 1.166239876 | -2.972347833 | 0.005079604 | 0.034961285 | -2.639444942 | down |
| ETV7         | -1.296778153 | 2.273118895 | -2.960360708 | 0.00524276  | 0.035781799 | -2.668524902 | down |
| LOC100507489 | -1.023387604 | 2.826851092 | -2.958742041 | 0.005265165 | 0.035902435 | -2.672446091 | down |
| SNORD50A     | -1.453864999 | 3.00231013  | -2.957382027 | 0.005284059 | 0.036009709 | -2.67573967  | down |
| SNORA31      | -1.340121833 | 3.015336117 | -2.952982429 | 0.005345618 | 0.036342224 | -2.686387831 | down |
| SHISA3       | -1.304126453 | 4.929294424 | -2.951519894 | 0.00536623  | 0.036431271 | -2.689925358 | down |
| C5orf38      | -1.4097969   | 2.453549387 | -2.947779309 | 0.005419288 | 0.036722489 | -2.698967981 | down |
| CN5H6.4      | -1.028286465 | 2.159739642 | -2.942810235 | 0.005490532 | 0.037061907 | -2.710969334 | down |
| TRPM5        | -1.098465301 | 1.689170111 | -2.940952737 | 0.005517389 | 0.037199094 | -2.715452335 | down |
| SLC30A2      | -1.276601785 | 2.921248064 | -2.937184983 | 0.005572244 | 0.037449642 | -2.724540228 | down |
| YPEL2        | -1.039812818 | 8.231935021 | -2.937158051 | 0.005572638 | 0.037449642 | -2.724605162 | down |
| ANKRD20A11P  | -1.012251439 | 0.753491705 | -2.936137598 | 0.005587584 | 0.037527934 | -2.727065244 | down |
| LOC113230    | -1.174906796 | 4.447275489 | -2.92772548  | 0.005712228 | 0.038145895 | -2.74732456  | down |
| NRCAM        | -1.200186799 | 3.959650251 | -2.922284224 | 0.005794235 | 0.03855206  | -2.760409569 | down |
| MIR155HG     | -1.252228529 | 3.913214185 | -2.912119262 | 0.005950397 | 0.039338255 | -2.784812983 | down |
| PPP1R2P3     | -1.024841976 | 3.094737298 | -2.904569225 | 0.006068927 | 0.03997103  | -2.802903912 | down |
| TAS1R3       | -1.027443821 | 3.474623997 | -2.903303949 | 0.006089006 | 0.040068511 | -2.805932782 | down |
| SNORA70      | -1.459275058 | 3.544167695 | -2.902341483 | 0.006104321 | 0.040123079 | -2.808236214 | down |
| TBC1D3P1-DHX | -1.162035086 | 1.03128125  | -2.900177081 | 0.006138894 | 0.040292021 | -2.813414424 | down |
| CALCA        | -1.306875331 | 1.64318368  | -2.896234488 | 0.006202342 | 0.040576904 | -2.822840567 | down |
| RAB37        | -1.024665409 | 5.352606771 | -2.893592906 | 0.006245195 | 0.040778187 | -2.829151639 | down |
| KLB          | -1.059450331 | 4.667975002 | -2.893046967 | 0.006254086 | 0.040824536 | -2.830455501 | down |
| NPNT         | -1.133725398 | 2.495284766 | -2.887564993 | 0.006344022 | 0.041234335 | -2.843539382 | down |
| HID1         | -1.24330531  | 1.701255329 | -2.884121475 | 0.006401133 | 0.041492745 | -2.851749989 | down |
| SLC24A4      | -1.051615964 | 3.523064866 | -2.877219647 | 0.00651705  | 0.042070809 | -2.868187673 | down |
| MGC12916     | -1.238436074 | 3.967683526 | -2.876472862 | 0.006529709 | 0.042116456 | -2.869964742 | down |
| SH3TC1       | -1.502056745 | 7.658240213 | -2.875566219 | 0.006545109 | 0.042156353 | -2.872121816 | down |
| DCXR         | -1.311917417 | 7.186999816 | -2.873156321 | 0.006586208 | 0.042397088 | -2.877853305 | down |
| MGC21881     | -1.0657744   | 2.888727721 | -2.869888268 | 0.006642328 | 0.042665146 | -2.885620846 | down |
| TULP2        | -1.252948333 | 3.021238329 | -2.855252517 | 0.006899179 | 0.043817289 | -2.920337739 | down |
| LOC643355    | -1.169150213 | 2.674211071 | -2.855096724 | 0.006901962 | 0.043822746 | -2.920706676 | down |
| IL6          | -1.076064725 | 0.99099154  | -2.852508482 | 0.006948356 | 0.043982436 | -2.926834065 | down |
| LURAP1       | -1.356651915 | 5.072959352 | -2.852250889 | 0.006952989 | 0.043991267 | -2.927443694 | down |
| MT1A         | -1.358327402 | 3.624126407 | -2.849537229 | 0.007001974 | 0.044198989 | -2.933863783 | down |
| RBM43        | -1.283689849 | 6.267351674 | -2.848163519 | 0.007026893 | 0.04430717  | -2.937112263 | down |
| PDE2A        | -1.555542304 | 3.818004524 | -2.845714802 | 0.00707152  | 0.044502309 | -2.942900363 | down |
| CACNA1H      | -1.489578715 | 4.42366448  | -2.842818806 | 0.007124638 | 0.044713043 | -2.949741562 | down |
| GALNT9       | -1.19631937  | 2.761104907 | -2.83531339  | 0.00726404  | 0.045437659 | -2.967450637 | down |
| CYP17A1      | -1.056387338 | 3.576895258 | -2.835027619 | 0.007269398 | 0.045458687 | -2.968124316 | down |
| HM13-AS1     | -1.208863259 | 2.73418128  | -2.832013577 | 0.007326131 | 0.045713049 | -2.975226982 | down |
| LINC00312    | -1.049585286 | 4.571795144 | -2.82912859  | 0.007380821 | 0.045982668 | -2.98202094  | down |
| TSC22D3      | -1.343211137 | 10.57252942 | -2.827742416 | 0.007407233 | 0.046094606 | -2.985283694 | down |
| TAF9B        | -1.245115311 | 8.127069552 | -2.823323715 | 0.007492018 | 0.046505128 | -2.995677438 | down |
| ZKSCAN1      | -1.095391674 | 9.741117282 | -2.823225576 | 0.007493911 | 0.046505128 | -2.995908161 | down |
| CYP4B1       | -1.978269268 | 1.570569396 | -2.822296201 | 0.007511862 | 0.046565777 | -2.998092861 | down |

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|--------------|--------------|-------------|--------------|-------------|-------------|--------------|------|
| INPP5J       | -1.002218475 | 1.416518759 | -2.818744324 | 0.007580839 | 0.04685308  | -3.006438018 | down |
| TNNC1        | -1.312531874 | 2.637714765 | -2.817129602 | 0.007612391 | 0.046997071 | -3.010229555 | down |
| ZBTB10       | -1.023596298 | 8.282864341 | -2.814259197 | 0.007668781 | 0.047228588 | -3.016966081 | down |
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| MIR612       | -2.110692798 | 5.904533041 | -2.813404293 | 0.007685651 | 0.047295517 | -3.018971582 | down |
| RAD9A        | -1.048300311 | 4.444476705 | -2.804638672 | 0.007860631 | 0.048164074 | -3.039511739 | down |
| ABCG1        | -1.216159238 | 2.271898568 | -2.790888027 | 0.008142607 | 0.049393138 | -3.071648651 | down |
| FOXN3-AS2    | -1.127734778 | 2.784948653 | -2.78240605  | 0.008321204 | 0.05010984  | -3.091420369 | down |
| ZNF550       | -1.15158256  | 4.557775653 | -2.780215901 | 0.008367907 | 0.050293384 | -3.096519236 | down |
| FAM132A      | -1.058849814 | 1.962829202 | -2.776864534 | 0.008439845 | 0.050517077 | -3.10431641  | down |
| TMEM200B     | -1.55260753  | 4.572182644 | -2.774503588 | 0.008490868 | 0.050715847 | -3.109805582 | down |
| BTG1         | -1.026366723 | 10.95868912 | -2.771745465 | 0.008550838 | 0.050986079 | -3.116214285 | down |
| DDIT4L       | -1.421564717 | 7.399371044 | -2.76750486  | 0.008643808 | 0.051367415 | -3.126059437 | down |
| NOS2         | -1.349604095 | 6.594434882 | -2.760624411 | 0.008796654 | 0.051969856 | -3.142012142 | down |
| MIR604       | -1.056765701 | 1.765180842 | -2.758976132 | 0.00883364  | 0.052120767 | -3.145829865 | down |
| RWDD2A       | -1.285840488 | 4.717615053 | -2.750446957 | 0.009027347 | 0.053058192 | -3.165560869 | down |
| LOC100507066 | -1.377421898 | 3.00731177  | -2.749373549 | 0.009052002 | 0.05314121  | -3.168041167 | down |
| NGFR         | -1.378488601 | 2.179601551 | -2.749319059 | 0.009053256 | 0.05314121  | -3.168167059 | down |
| LOC100288778 | -1.307505666 | 3.413486285 | -2.746282349 | 0.009123355 | 0.053456239 | -3.175180336 | down |
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| HSPB7        | -1.051303098 | 5.352365494 | -2.739100722 | 0.009291142 | 0.05407763  | -3.191745758 | down |
| PRELID2      | -1.008853669 | 5.796047885 | -2.73829555  | 0.009310131 | 0.05416047  | -3.193601197 | down |
| NAT6         | -1.279040332 | 4.09055261  | -2.737738694 | 0.009323285 | 0.05421738  | -3.194884205 | down |
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| CDC42EP2     | -1.019717714 | 3.116032071 | -2.732538911 | 0.009446946 | 0.054663159 | -3.206856196 | down |
| FOXA3        | -1.278655456 | 5.135604957 | -2.727640881 | 0.009564819 | 0.055149053 | -3.218119521 | down |
| TBC1D10C     | -1.045585689 | 2.505473957 | -2.722752104 | 0.009683827 | 0.055716308 | -3.229348083 | down |
| KCNJ13       | -1.322314124 | 5.905831597 | -2.720661875 | 0.009735128 | 0.055905011 | -3.23414481  | down |
| CIDEA        | -1.222371568 | 3.412297777 | -2.716812036 | 0.009830273 | 0.056280658 | -3.242973082 | down |
| CKB          | -1.315266526 | 7.685005711 | -2.707140071 | 0.010073117 | 0.057325149 | -3.26511532  | down |
| ZNF589       | -1.118706261 | 6.10360053  | -2.706882193 | 0.010079667 | 0.057348095 | -3.265704959 | down |
| MIR3605      | -1.044866607 | 1.320030257 | -2.706649474 | 0.010085582 | 0.057359259 | -3.26623704  | down |
| SLC6A15      | -1.200011681 | 3.851039204 | -2.697345231 | 0.010324695 | 0.058290758 | -3.287484647 | down |
| TSC2D2       | -1.141084534 | 7.295072159 | -2.694821451 | 0.010390452 | 0.058531423 | -3.293239554 | down |
| FAS-AS1      | -1.019804799 | 2.174165753 | -2.691852686 | 0.010468299 | 0.058882567 | -3.300004488 | down |
| TMEM213      | -1.085174657 | 2.113794577 | -2.690588987 | 0.010501599 | 0.058982472 | -3.302882554 | down |
| H3F3C        | -1.298505342 | 3.667720254 | -2.684660555 | 0.010659132 | 0.059471273 | -3.316372296 | down |
| HIST1H2BI    | -1.131731635 | 3.076201391 | -2.684344225 | 0.010667599 | 0.059501761 | -3.317091517 | down |
| IRX2         | -1.09399853  | 2.412844426 | -2.681069254 | 0.010755621 | 0.059921543 | -3.324534246 | down |
| ACTN2        | -1.377926982 | 3.430996776 | -2.678192421 | 0.010833495 | 0.060237514 | -3.331067077 | down |
| GPR27        | -1.046429934 | 3.256620832 | -2.676967092 | 0.010866822 | 0.060328037 | -3.333848159 | down |
| NXNL2        | -1.371581341 | 3.919017518 | -2.676912186 | 0.010868318 | 0.060328037 | -3.333972757 | down |
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| GPRC5C       | -1.270838105 | 7.499896489 | -2.671447781 | 0.011018115 | 0.060892397 | -3.346364395 | down |
| HIST1H3D     | -1.340873144 | 3.028422434 | -2.667235556 | 0.011134884 | 0.061366377 | -3.355904704 | down |
| HCP5         | -1.096877266 | 2.218481779 | -2.663147936 | 0.011249291 | 0.061854803 | -3.365152982 | down |
| HIF3A        | -1.227592823 | 4.259497147 | -2.658044789 | 0.011393642 | 0.062475849 | -3.376685316 | down |
| SNORA68      | -1.231902677 | 2.444845191 | -2.655346962 | 0.011470643 | 0.062829221 | -3.382775886 | down |
| FLJ36777     | -1.022075649 | 3.184187215 | -2.65041708  | 0.011612593 | 0.063362913 | -3.393894579 | down |
| SEMA4B       | -1.146089232 | 6.269405788 | -2.646418198 | 0.011728923 | 0.063817204 | -3.402903132 | down |
| SNORD44      | -1.151480795 | 2.106680336 | -2.644506876 | 0.011784903 | 0.064000065 | -3.407205604 | down |
| ITGB4        | -1.109036054 | 6.498527611 | -2.632208852 | 0.012151026 | 0.065469512 | -3.434837929 | down |
| IGSF9        | -1.028145758 | 2.464742708 | -2.631358211 | 0.012176734 | 0.06553051  | -3.43674595  | down |
| SCARNA4      | -1.1647432   | 2.650376544 | -2.627863463 | 0.012282877 | 0.065977011 | -3.444580353 | down |
| HIST1H3A     | -1.630074669 | 3.813276757 | -2.624946431 | 0.012372125 | 0.06633125  | -3.451114157 | down |
| SNHG12       | -1.060019567 | 7.07578418  | -2.611217289 | 0.012800244 | 0.068049851 | -3.481798459 | down |
| SNORD12B     | -1.153412675 | 1.772253865 | -2.607467542 | 0.012919519 | 0.068554302 | -3.490159686 | down |
| C3orf65      | -1.086888128 | 2.22644311  | -2.603850533 | 0.01303554  | 0.068994752 | -3.498217039 | down |
| TCEAL6       | -1.166304919 | 7.254864223 | -2.598385241 | 0.013212664 | 0.069673169 | -3.510376944 | down |
| VGLL4        | -1.289291386 | 7.827030661 | -2.587661687 | 0.013566643 | 0.071029952 | -3.534184457 | down |
| HIST1H3H     | -1.08998591  | 3.365468646 | -2.578794317 | 0.013865904 | 0.072264521 | -3.55381915  | down |
| FLJ14107     | -1.031584306 | 3.124969171 | -2.572336416 | 0.014087647 | 0.072952743 | -3.568088984 | down |
| ACAD11       | -1.393687621 | 4.815819375 | -2.570196365 | 0.014161844 | 0.073222876 | -3.572812265 | down |
| RASL11A      | -1.195814452 | 3.214663422 | -2.561503962 | 0.014466912 | 0.074455222 | -3.591968812 | down |
| GPR157       | -1.061215975 | 3.713127723 | -2.561435968 | 0.014469322 | 0.074455222 | -3.592118478 | down |
| GRID2IP      | -1.094868414 | 4.304561711 | -2.560897231 | 0.014488429 | 0.074469415 | -3.593304239 | down |
| SNORD76      | -1.15381428  | 2.479764481 | -2.555060996 | 0.014696908 | 0.075336951 | -3.606138562 | down |
| SNORA50      | -1.107897407 | 2.076143352 | -2.550070668 | 0.014877344 | 0.076056457 | -3.61709632  | down |
| PINX1        | -1.067921018 | 4.288024126 | -2.548301797 | 0.014941787 | 0.076317382 | -3.620976783 | down |
| FXYD7        | -1.101209007 | 2.05046037  | -2.541035158 | 0.015209213 | 0.077372117 | -3.636898036 | down |
| PSMB8        | -1.23035004  | 4.754089411 | -2.538132817 | 0.015317243 | 0.077764201 | -3.643248107 | down |
| MAPKAPK5-AS1 | -1.034191861 | 4.78967134  | -2.535974804 | 0.015398022 | 0.078084071 | -3.647966327 | down |
| ST6GALNAC3   | -1.006835896 | 2.203287907 | -2.534267361 | 0.015462212 | 0.078308176 | -3.65169742  | down |

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| CCDC134      | -1.012438572 | 4.28342683  | -2.5316714   | 0.015560273 | 0.078690175 | -3.657366686 | down |
| C19orf48     | -1.122138256 | 4.482307641 | -2.531427988 | 0.015569497 | 0.078694028 | -3.657898059 | down |
| HOXD11       | -1.185244039 | 3.861971049 | -2.52239687  | 0.015915276 | 0.079930306 | -3.677587487 | down |
| GLTPD2       | -1.143940406 | 2.000524218 | -2.511887557 | 0.016051989 | 0.080471948 | -3.685251    | down |
| LUC7L2       | -1.325972134 | 5.815374563 | -2.517442583 | 0.016107931 | 0.080610444 | -3.688367477 | down |
| C19orf77     | -1.048822168 | 1.652551708 | -2.509046411 | 0.016439298 | 0.081944463 | -3.706602181 | down |
| MPPED1       | -1.333350056 | 3.966458036 | -2.494119797 | 0.0170438   | 0.084247423 | -3.738912241 | down |
| LY6G5B       | -1.019589513 | 4.285512357 | -2.493931553 | 0.017051551 | 0.084247423 | -3.739318834 | down |
| MIR3650      | -1.008233478 | 2.958955533 | -2.490899054 | 0.017176864 | 0.08451136  | -3.745865753 | down |
| LOC285847    | -1.050510189 | 3.969283719 | -2.488381869 | 0.01728152  | 0.08489789  | -3.751295815 | down |
| CEBPD        | -1.308995462 | 9.979741837 | -2.485001301 | 0.017422986 | 0.08535352  | -3.758582168 | down |
| CDK2AP2      | -1.142941277 | 6.89928575  | -2.479860197 | 0.017640149 | 0.086120985 | -3.769649487 | down |
| MROH7        | -1.06911196  | 3.167863823 | -2.473684378 | 0.017904277 | 0.087074504 | -3.782922459 | down |
| LOC100127983 | -1.105654984 | 4.230623095 | -2.472915273 | 0.017937421 | 0.087179845 | -3.784573739 | down |
| PSORS1C3     | -1.121998046 | 2.623599562 | -2.468311361 | 0.018136993 | 0.087672742 | -3.794450675 | down |
| CRHR1        | -1.15845514  | 3.611133954 | -2.464925147 | 0.018285068 | 0.088210638 | -3.801706771 | down |
| HIST1H2BN    | -1.125350148 | 3.274594528 | -2.438498955 | 0.019478957 | 0.09225567  | -3.858086006 | down |
| LOC100289511 | -1.572852518 | 3.933775152 | -2.411194144 | 0.020786476 | 0.096575273 | -3.915875074 | down |
| TMEM92       | -1.040014906 | 3.55582207  | -2.409619393 | 0.020864256 | 0.09683787  | -3.91919344  | down |
| KCNK15       | -1.054174647 | 3.87741648  | -2.407640088 | 0.020962392 | 0.097154756 | -3.923362044 | down |
| CDR1         | -1.236240887 | 13.04731533 | -2.400105582 | 0.021339794 | 0.098463091 | -3.939207438 | down |
| CXCR6        | -1.121946171 | 3.305265343 | -2.399838091 | 0.021353305 | 0.098485526 | -3.939769314 | down |
| CERS4        | -1.016076113 | 4.701596203 | -2.384665482 | 0.02213246  | 0.101055889 | -3.971564558 | down |
| NTMT1        | -1.078214493 | 3.911848139 | -2.380622511 | 0.022344369 | 0.101819328 | -3.98001181  | down |
| ARRDC3-AS1   | -1.489288725 | 4.406102983 | -2.376536881 | 0.022560375 | 0.102598349 | -3.988537445 | down |
| MIR3136      | -1.007518857 | 1.873706095 | -2.37446404  | 0.022670684 | 0.102897363 | -3.992858783 | down |
| SNORD50B     | -1.033852704 | 2.659534582 | -2.362383082 | 0.02332334  | 0.105040352 | -4.017988919 | down |
| SERINC4      | -1.009449749 | 5.235030259 | -2.35847903  | 0.023537846 | 0.105696441 | -4.026089598 | down |
| PRKAG2-AS1   | -1.231883279 | 4.275627279 | -2.356503924 | 0.023647044 | 0.106016027 | -4.030184038 | down |
| SCARNA9L     | -1.081463593 | 1.977138475 | -2.326013174 | 0.02539171  | 0.111831104 | -4.093067715 | down |
| HIST1H4A     | -1.295191451 | 3.288003788 | -2.322514739 | 0.02559912  | 0.112400221 | -4.100243703 | down |
| DES          | -1.065659118 | 2.452584446 | -2.319703184 | 0.025766909 | 0.112952085 | -4.106004896 | down |
| EIF4EBP1     | -1.024915739 | 5.897514458 | -2.318334296 | 0.02584896  | 0.113087144 | -4.10880801  | down |
| PALM         | -1.11595575  | 4.530018661 | -2.30707481  | 0.026532805 | 0.115189598 | -4.131817265 | down |
| PCDH10       | -1.205191155 | 3.852428838 | -2.29645347  | 0.027192733 | 0.117103114 | -4.153445187 | down |
| SNORD74      | -1.083035411 | 1.596803225 | -2.292463145 | 0.02744444  | 0.117911172 | -4.161551125 | down |
| CD52         | -1.50390963  | 2.806277861 | -2.292241935 | 0.027458455 | 0.117949134 | -4.162000182 | down |
| WNT9A        | -1.154566203 | 2.665076538 | -2.288206295 | 0.027715261 | 0.118716393 | -4.170186751 | down |
| PRR26        | -1.028278821 | 5.961977105 | -2.285532831 | 0.027886568 | 0.119253873 | -4.175604053 | down |
| TNFSF13      | -1.038774335 | 4.093106407 | -2.285138816 | 0.027911896 | 0.119311829 | -4.17640205  | down |
| PEBP4        | -1.022402275 | 4.136911093 | -2.284042173 | 0.027982497 | 0.119546307 | -4.178622527 | down |
| PRLR         | -1.47502684  | 4.001339619 | -2.278497931 | 0.028341885 | 0.120629121 | -4.18983614  | down |
| FKBP8        | -1.013964111 | 8.468894758 | -2.274844262 | 0.028580976 | 0.12123816  | -4.197214653 | down |
| TTBK2        | -1.08207891  | 7.671096623 | -2.274115785 | 0.028628862 | 0.121351634 | -4.198684724 | down |
| PPP4R1L      | -1.006311035 | 4.958863397 | -2.264810317 | 0.029246896 | 0.123214588 | -4.217431789 | down |
| HSF4         | -1.466828279 | 6.16207162  | -2.259293364 | 0.02961892  | 0.124390725 | -4.228518814 | down |
| CXorf40A     | -1.031184274 | 3.609087667 | -2.258680474 | 0.029660509 | 0.124519463 | -4.229749227 | down |
| FAM163B      | -1.07189555  | 1.945068245 | -2.247302676 | 0.030442105 | 0.126310609 | -4.252544606 | down |
| AZGP1        | -1.17388194  | 1.407369682 | -2.235857773 | 0.031246808 | 0.128751274 | -4.275385735 | down |
| MBIP         | -1.090275236 | 6.051987575 | -2.224466997 | 0.032066484 | 0.131092114 | -4.29803016  | down |
| LOC100129518 | -1.051046794 | 2.873714257 | -2.222537998 | 0.032207175 | 0.131431357 | -4.301856152 | down |
| SNORA28      | -1.471650524 | 2.853267631 | -2.2206371   | 0.032346354 | 0.131904781 | -4.305623913 | down |
| MT1X         | -1.173731781 | 10.77119148 | -2.219377569 | 0.032438868 | 0.132249756 | -4.308119061 | down |
| BAI3         | -1.041641937 | 3.077758146 | -2.216027063 | 0.032686115 | 0.132914108 | -4.314751158 | down |
| RBM12B-AS1   | -1.17822781  | 4.269545482 | -2.190455279 | 0.034629045 | 0.138146173 | -4.365114224 | down |
| PROX1        | -1.197937371 | 2.729638941 | -2.179320004 | 0.035506673 | 0.140539536 | -4.386903589 | down |
| SLC7A8       | -1.011324409 | 7.479669569 | -2.175630273 | 0.0358018   | 0.141437294 | -4.39410461  | down |
| LOC100131635 | -1.088271043 | 1.819894838 | -2.156045988 | 0.037404944 | 0.145748092 | -4.432167121 | down |
| TMPRSS4      | -1.165684708 | 2.267719818 | -2.142511753 | 0.038549629 | 0.149187392 | -4.458314286 | down |
| LOC285074    | -1.08070746  | 3.632190539 | -2.125047001 | 0.0400724   | 0.153077644 | -4.491864303 | down |
| LOC389765    | -1.052474355 | 4.858209895 | -2.079519395 | 0.044293835 | 0.163685233 | -4.578305068 | down |
| CCDC144A     | -1.073361617 | 4.954201786 | -2.071865409 | 0.04504061  | 0.165344923 | -4.59269161  | down |
| MAOA         | -1.286623679 | 4.927742476 | -2.071188795 | 0.045107153 | 0.165562517 | -4.593961356 | down |
| MSMP         | -1.714495452 | 6.094028031 | -2.065365923 | 0.045683384 | 0.167058296 | -4.604875008 | down |
| HIST1H4B     | -1.340371559 | 4.797974062 | -2.058898199 | 0.046330975 | 0.168641195 | -4.616968594 | down |
| MIR3619      | -1.011573652 | 2.205981439 | -2.045672668 | 0.047680249 | 0.171849606 | -4.641603896 | down |
| CCRL1        | -1.030103488 | 4.064697809 | -2.030920067 | 0.049225698 | 0.175757268 | -4.668933731 | down |



**Table S2 The differentially expressed genes of GSE114007 dataset and GSE55235 dataset.**

| -GSE55235 |             |             |             |          |             |             |      |
|-----------|-------------|-------------|-------------|----------|-------------|-------------|------|
| Gene ID   | logFC       | AveExpr     | t           | P.Value  | adj.P.Val   | B           | Type |
| CX3CR1    | 3.344663288 | 6.765810161 | 12.51629426 | 2.39E-11 | 4.29E-08    | 15.95252749 | up   |
| LTC4S     | 4.027635932 | 4.594631751 | 10.59691508 | 5.32E-10 | 4.18E-07    | 13.03994857 | up   |
| UCP2      | 1.752192241 | 8.4712622   | 10.59637115 | 5.33E-10 | 4.18E-07    | 13.03906058 | up   |
| TPPP3     | 3.594635104 | 7.345074373 | 10.46447974 | 6.69E-10 | 4.55E-07    | 12.82263677 | up   |
| MEST      | 2.696468545 | 8.240612309 | 10.10438759 | 1.26E-09 | 7.51E-07    | 12.22037694 | up   |
| PLXNC1    | 2.284585514 | 5.796495035 | 9.707022747 | 2.57E-09 | 1.29E-06    | 11.53601918 | up   |
| MRC2      | 1.66187369  | 9.157698604 | 9.501578128 | 3.74E-09 | 1.81E-06    | 11.17387976 | up   |
| HLA-DME   | 2.157202118 | 9.351223498 | 9.48034511  | 3.89E-09 | 1.81E-06    | 11.13612454 | up   |
| GAL3ST4   | 1.598049574 | 7.617331883 | 9.268022817 | 5.78E-09 | 2.53E-06    | 10.75518147 | up   |
| MXRA5     | 3.370389491 | 8.650803603 | 9.220785646 | 6.32E-09 | 2.53E-06    | 10.66958333 | up   |
| KAL1      | 2.178643574 | 7.142003643 | 8.939227883 | 1.08E-08 | 3.76E-06    | 10.1529207  | up   |
| WNT5B     | 2.800437415 | 4.711684017 | 8.780764293 | 1.46E-08 | 4.59E-06    | 9.857237827 | up   |
| NREP      | 2.133232395 | 7.500658082 | 8.629132018 | 1.97E-08 | 5.74E-06    | 9.570968961 | up   |
| C1orf54   | 1.531457377 | 8.315131592 | 8.455589559 | 2.77E-08 | 7.17E-06    | 9.239312023 | up   |
| KDELR3    | 1.364786258 | 8.130035128 | 8.450296849 | 2.80E-08 | 7.17E-06    | 9.229129408 | up   |
| PPIC      | 1.190283987 | 9.18373164  | 8.430062473 | 2.91E-08 | 7.31E-06    | 9.190163573 | up   |
| HLA-DPB   | 1.771199745 | 10.89645965 | 8.386026928 | 3.18E-08 | 7.69E-06    | 9.105160263 | up   |
| SORL1     | 1.74928371  | 7.743945146 | 8.347272916 | 3.44E-08 | 8.13E-06    | 9.030121781 | up   |
| CRIP1     | 2.252942425 | 9.342973408 | 8.29346607  | 3.83E-08 | 8.42E-06    | 8.925579012 | up   |
| DOCK10    | 2.508211055 | 4.183779701 | 8.122180137 | 5.40E-08 | 1.13E-05    | 8.590008511 | up   |
| FCER1A    | 1.977553164 | 5.730691404 | 8.092376507 | 5.74E-08 | 1.16E-05    | 8.53118771  | up   |
| CSK       | 1.418531191 | 7.414666195 | 8.083553672 | 5.84E-08 | 1.16E-05    | 8.513750287 | up   |
| NID2      | 2.256054543 | 8.432311535 | 8.074957773 | 5.94E-08 | 1.16E-05    | 8.496750584 | up   |
| IGLC1     | 5.054869479 | 7.45203703  | 8.05118478  | 6.24E-08 | 1.17E-05    | 8.449680375 | up   |
| TNFSF11   | 2.344173998 | 4.825428054 | 7.999475371 | 6.93E-08 | 1.26E-05    | 8.347014955 | up   |
| LRRC17    | 2.257217399 | 7.289017341 | 7.977835277 | 7.24E-08 | 1.30E-05    | 8.303935583 | up   |
| SCRG1     | 2.961667379 | 8.433227239 | 7.880826991 | 8.84E-08 | 1.48E-05    | 8.109989156 | up   |
| PTGDS     | 2.656591269 | 10.20711351 | 7.835000998 | 9.71E-08 | 1.58E-05    | 8.017898365 | up   |
| LST1      | 2.231196326 | 6.656548133 | 7.710483869 | 1.26E-07 | 1.92E-05    | 7.766143781 | up   |
| COTL1     | 1.474981804 | 8.223414904 | 7.568225524 | 1.69E-07 | 2.36E-05    | 7.475790094 | up   |
| PLBD1     | 1.296034956 | 8.952360202 | 7.541922088 | 1.79E-07 | 2.47E-05    | 7.421785887 | up   |
| PRSS23    | 1.5052329   | 9.0384077   | 7.531705474 | 1.83E-07 | 2.49E-05    | 7.400783196 | up   |
| THBS4     | 1.381758375 | 11.55518785 | 7.44639195  | 2.19E-07 | 2.95E-05    | 7.224818115 | up   |
| VKORC1    | 1.377243092 | 9.986912245 | 7.442283883 | 2.21E-07 | 2.95E-05    | 7.21631871  | up   |
| GOLM1     | 2.008319276 | 8.061151117 | 7.386532293 | 2.48E-07 | 3.28E-05    | 7.100733365 | up   |
| COPZ2     | 1.232121655 | 8.527980128 | 7.354542569 | 2.66E-07 | 3.47E-05    | 7.034211895 | up   |
| TLR7      | 2.517770021 | 6.445076917 | 7.283498724 | 3.09E-07 | 3.88E-05    | 6.8859594   | up   |
| THY1      | 1.76515399  | 7.775664567 | 7.267444741 | 3.20E-07 | 3.97E-05    | 6.852359362 | up   |
| EPB41L2   | 1.111426529 | 8.722469036 | 7.259114704 | 3.26E-07 | 3.97E-05    | 6.834910736 | up   |
| COL14A1   | 1.677128612 | 8.064932084 | 7.224202265 | 3.51E-07 | 4.16E-05    | 6.761674371 | up   |
| DOK2      | 1.390033954 | 7.214576615 | 7.175918861 | 3.89E-07 | 4.44E-05    | 6.660106629 | up   |
| COL3A1    | 1.912662375 | 11.36502856 | 7.135908764 | 4.25E-07 | 4.71E-05    | 6.575694349 | up   |
| C1QTNF3   | 2.007865235 | 7.069774804 | 7.074195105 | 4.85E-07 | 5.29E-05    | 6.445053338 | up   |
| LY86      | 1.421211108 | 8.307844287 | 7.060764915 | 4.99E-07 | 5.37E-05    | 6.416552739 | up   |
| CALML4    | 1.977445051 | 5.291714186 | 7.030561663 | 5.33E-07 | 5.62E-05    | 6.352365929 | up   |
| TYROBP    | 1.648195702 | 9.816116423 | 6.994431582 | 5.77E-07 | 5.93E-05    | 6.275417461 | up   |
| TREM2     | 2.916996941 | 7.026431169 | 6.98932111  | 5.83E-07 | 5.95E-05    | 6.26451879  | up   |
| MGAT4C    | 2.216294738 | 4.476993377 | 6.965392281 | 6.14E-07 | 6.12E-05    | 6.213439839 | up   |
| EPYC      | 2.450127266 | 5.384509889 | 6.90011268  | 7.08E-07 | 6.72E-05    | 6.073692003 | up   |
| LGALS1    | 1.122640136 | 11.17943808 | 6.897997818 | 7.12E-07 | 6.72E-05    | 6.069154819 | up   |
| SLC5A3    | 2.105560298 | 7.617068396 | 6.858945034 | 7.75E-07 | 7.19E-05    | 5.985261916 | up   |
| CSF1R     | 1.684393158 | 8.973518078 | 6.853334097 | 7.85E-07 | 7.19E-05    | 5.973191457 | up   |
| OAS1      | 1.156002773 | 6.674842939 | 6.846785702 | 7.96E-07 | 7.24E-05    | 5.959098882 | up   |
| BLNK      | 1.330261236 | 6.728658859 | 6.817910642 | 8.48E-07 | 7.58E-05    | 5.896888377 | up   |
| ISLR      | 1.694487261 | 9.651392852 | 6.814154844 | 8.55E-07 | 7.58E-05    | 5.888788304 | up   |
| FUCA1     | 1.473590644 | 9.676203674 | 6.805434884 | 8.72E-07 | 7.60E-05    | 5.869974732 | up   |
| ARPC1B    | 1.059219331 | 9.816467732 | 6.801252242 | 8.80E-07 | 7.62E-05    | 5.860946908 | up   |
| ADAMTS1   | 1.093287224 | 7.704335685 | 6.792748345 | 8.97E-07 | 7.71E-05    | 5.842584781 | up   |
| HLA-DPA   | 1.581759437 | 10.25888628 | 6.724611515 | 1.04E-06 | 8.84E-05    | 5.695107941 | up   |
| SLC23A2   | 1.080365329 | 6.014034935 | 6.707327272 | 1.08E-06 | 9.10E-05    | 5.657598541 | up   |
| IGJ       | 3.869680086 | 4.672516408 | 6.70498687  | 1.09E-06 | 9.10E-05    | 5.652516452 | up   |
| TNS3      | 1.296651008 | 8.908759031 | 6.651758381 | 1.22E-06 | 9.91E-05    | 5.536736085 | up   |
| TIMP1     | 1.324908011 | 11.97659387 | 6.641953293 | 1.25E-06 | 0.000100487 | 5.515367486 | up   |
| KAZALD1   | 1.304698274 | 6.455286331 | 6.530135269 | 1.61E-06 | 0.000124377 | 5.270784904 | up   |
| PCOLCE    | 1.396597732 | 10.25760177 | 6.515506304 | 1.66E-06 | 0.000127156 | 5.238666016 | up   |

|          |             |             |             |          |             |             |    |
|----------|-------------|-------------|-------------|----------|-------------|-------------|----|
| AIF1     | 1.955029203 | 8.057864212 | 6.506501909 | 1.69E-06 | 0.000128744 | 5.218882498 | up |
| CXADR    | 2.194256035 | 5.756616819 | 6.485520037 | 1.77E-06 | 0.000133723 | 5.172742763 | up |
| B3GALNT  | 1.173895504 | 5.007322977 | 6.440483025 | 1.96E-06 | 0.00014612  | 5.073514365 | up |
| NAP1L3   | 1.390658373 | 6.765275228 | 6.418346208 | 2.06E-06 | 0.000152289 | 5.024646307 | up |
| ME2      | 1.295550806 | 7.916389625 | 6.409405004 | 2.11E-06 | 0.000153958 | 5.004890556 | up |
| ZNF423   | 1.118912623 | 7.648455025 | 6.408302108 | 2.11E-06 | 0.000153958 | 5.002452985 | up |
| CXCL12   | 1.003968452 | 10.89526423 | 6.403762565 | 2.13E-06 | 0.00015464  | 4.992418279 | up |
| OLR1     | 2.223862238 | 6.592586408 | 6.397646665 | 2.16E-06 | 0.000155104 | 4.978894902 | up |
| SSR4     | 1.092761102 | 10.23237192 | 6.388059322 | 2.21E-06 | 0.000155104 | 4.957686032 | up |
| PLXNB2   | 1.380910277 | 7.579998033 | 6.377464352 | 2.26E-06 | 0.000156872 | 4.934234655 | up |
| CYBA     | 1.515630982 | 9.221884372 | 6.366275806 | 2.32E-06 | 0.000159043 | 4.909454125 | up |
| ITGAM    | 1.252009791 | 8.629134074 | 6.364741591 | 2.33E-06 | 0.000159043 | 4.906054902 | up |
| SULF1    | 1.274214827 | 8.244275189 | 6.363951495 | 2.33E-06 | 0.000159043 | 4.904304242 | up |
| GLT8D2   | 1.335464014 | 8.188550629 | 6.350248742 | 2.41E-06 | 0.000162274 | 4.873929868 | up |
| ARRB1    | 1.27832553  | 6.79788732  | 6.338620908 | 2.47E-06 | 0.00016417  | 4.848136499 | up |
| HPGDS    | 1.420528276 | 7.312453539 | 6.319313987 | 2.58E-06 | 0.000167518 | 4.805271886 | up |
| ADAP2    | 1.198598015 | 8.27515512  | 6.319241618 | 2.58E-06 | 0.000167518 | 4.805111129 | up |
| TRIL     | 1.43684577  | 6.517053748 | 6.312013772 | 2.62E-06 | 0.000167894 | 4.789052135 | up |
| BGN      | 1.71703156  | 9.345361929 | 6.302808695 | 2.68E-06 | 0.000169696 | 4.768590728 | up |
| CFI      | 1.362587679 | 9.747584453 | 6.298185108 | 2.71E-06 | 0.000169869 | 4.758309292 | up |
| CD4      | 1.140867603 | 6.998867813 | 6.297918906 | 2.71E-06 | 0.000169869 | 4.757717259 | up |
| LGMN     | 1.507353684 | 9.55751495  | 6.27662615  | 2.84E-06 | 0.000175662 | 4.710334038 | up |
| SCARA3   | 1.118745946 | 7.877335842 | 6.274272847 | 2.86E-06 | 0.000175662 | 4.705093767 | up |
| PYCARD   | 1.030470014 | 7.296862272 | 6.258032378 | 2.96E-06 | 0.000180526 | 4.66891144  | up |
| LIPA     | 1.389715865 | 10.1535082  | 6.242979085 | 3.07E-06 | 0.000184704 | 4.635345288 | up |
| CD52     | 2.62170127  | 5.034976654 | 6.230918988 | 3.15E-06 | 0.000188071 | 4.608433549 | up |
| CBX6     | 1.090871144 | 7.764329723 | 6.227356693 | 3.18E-06 | 0.000188071 | 4.600481021 | up |
| MARCKS   | 1.315755035 | 8.186923103 | 6.196774132 | 3.41E-06 | 0.000196974 | 4.532144941 | up |
| PTGS1    | 1.048773125 | 7.564049922 | 6.193633387 | 3.43E-06 | 0.000197477 | 4.52512064  | up |
| PLA2G15  | 1.201203555 | 6.658033546 | 6.184881983 | 3.50E-06 | 0.000200532 | 4.505541818 | up |
| FBP1     | 1.581950535 | 8.031949897 | 6.176152969 | 3.57E-06 | 0.00020363  | 4.486003958 | up |
| RNASET2  | 1.145980845 | 9.327260825 | 6.167590252 | 3.64E-06 | 0.000206704 | 4.466829478 | up |
| ANGPTL2  | 1.382830808 | 9.65583691  | 6.153769084 | 3.76E-06 | 0.000211409 | 4.435861353 | up |
| IGLV1-44 | 3.710843657 | 5.790079443 | 6.144541784 | 3.84E-06 | 0.000214944 | 4.415173771 | up |
| COL1A2   | 1.535005931 | 11.64532148 | 6.137825531 | 3.90E-06 | 0.000215466 | 4.400109617 | up |
| BTN3A1   | 1.071735026 | 6.604282796 | 6.113043194 | 4.12E-06 | 0.000223981 | 4.344478339 | up |
| ABCC3    | 2.266437777 | 6.008128514 | 6.103670046 | 4.21E-06 | 0.000226792 | 4.323418762 | up |
| COL5A1   | 1.864190414 | 8.047786052 | 6.086504034 | 4.38E-06 | 0.000229912 | 4.284823606 | up |
| OSBPL3   | 1.130507514 | 5.858157937 | 6.085876966 | 4.39E-06 | 0.000229912 | 4.283413092 | up |
| PART1    | 1.645000573 | 4.939783771 | 6.08531248  | 4.39E-06 | 0.000229912 | 4.282143307 | up |
| C2       | 1.328551796 | 8.368261702 | 6.069352321 | 4.56E-06 | 0.000236285 | 4.246226419 | up |
| NBL1     | 1.431917312 | 8.959866583 | 6.043637823 | 4.83E-06 | 0.000242614 | 4.188296449 | up |
| NCF1     | 2.504911494 | 6.325215704 | 6.033297817 | 4.95E-06 | 0.00024745  | 4.16498096  | up |
| IGHM     | 2.694680499 | 5.363524839 | 6.021134425 | 5.09E-06 | 0.000251453 | 4.137538337 | up |
| EPHA3    | 1.493148753 | 6.379719611 | 6.004313363 | 5.29E-06 | 0.000260338 | 4.09955955  | up |
| NAGK     | 1.37042478  | 8.539241876 | 5.993545902 | 5.42E-06 | 0.000265821 | 4.075231861 | up |
| CD2      | 1.39079531  | 6.304549278 | 5.95872999  | 5.88E-06 | 0.000283572 | 3.996480754 | up |
| SPARC    | 1.035851523 | 10.64908428 | 5.94382379  | 6.08E-06 | 0.000290136 | 3.962722717 | up |
| RCN3     | 1.262761574 | 7.830296922 | 5.926225652 | 6.33E-06 | 0.000301011 | 3.922836662 | up |
| COL5A2   | 1.493249707 | 9.684404428 | 5.860808233 | 7.37E-06 | 0.00034751  | 3.774272458 | up |
| SLC18A2  | 2.223714159 | 4.88349435  | 5.852337835 | 7.51E-06 | 0.000353065 | 3.755002319 | up |
| IGKC     | 2.463056217 | 6.791671793 | 5.838254656 | 7.76E-06 | 0.000363412 | 3.722946219 | up |
| LRRC15   | 2.612464961 | 7.320021776 | 5.834513522 | 7.83E-06 | 0.000365214 | 3.714427126 | up |
| BTN3A3   | 1.077848163 | 5.97715805  | 5.798535068 | 8.51E-06 | 0.000389757 | 3.632423946 | up |
| MMP1     | 4.022166781 | 6.336912312 | 5.772840979 | 9.03E-06 | 0.000409248 | 3.573778712 | up |
| COL1A1   | 2.508402595 | 6.885445542 | 5.764494866 | 9.21E-06 | 0.000415564 | 3.554714575 | up |
| CYBB     | 1.355695269 | 7.268985192 | 5.693032984 | 1.09E-05 | 0.000477319 | 3.391193085 | up |
| ARHGAP2  | 1.225007466 | 6.079994851 | 5.676962695 | 1.13E-05 | 0.000492117 | 3.354350437 | up |
| IGLJ3    | 2.273454489 | 5.366667343 | 5.654680994 | 1.19E-05 | 0.000514829 | 3.303225791 | up |
| SEMA3C   | 1.209763653 | 9.161027827 | 5.629541847 | 1.26E-05 | 0.000542255 | 3.245487255 | up |
| GABRA4   | 1.198705371 | 7.822878348 | 5.609530685 | 1.32E-05 | 0.000562474 | 3.199483376 | up |
| CD74     | 1.223588028 | 11.87150883 | 5.600209665 | 1.35E-05 | 0.000571015 | 3.178042282 | up |
| L1TD1    | 1.142974073 | 6.051415719 | 5.58404957  | 1.40E-05 | 0.000591059 | 3.140850046 | up |
| SELPLG   | 1.104512174 | 6.794498756 | 5.567484374 | 1.46E-05 | 0.000610369 | 3.102700345 | up |
| LAMA4    | 1.109874536 | 6.800710868 | 5.560898998 | 1.48E-05 | 0.000614159 | 3.087527192 | up |
| SEL1L3   | 1.099309553 | 6.74745698  | 5.560604003 | 1.48E-05 | 0.000614159 | 3.08684741  | up |
| JMJD4    | 1.414280136 | 5.379505339 | 5.551430511 | 1.52E-05 | 0.000619441 | 3.065704212 | up |
| AHR      | 1.072336904 | 8.072010893 | 5.551365209 | 1.52E-05 | 0.000619441 | 3.065553676 | up |

|                |             |             |             |             |             |             |    |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|----|
| CECR1          | 2.118611874 | 8.505797259 | 5.548978946 | 1.52E-05    | 0.000620897 | 3.060052513 | up |
| TDO2           | 1.37721631  | 6.028745732 | 5.524291622 | 1.62E-05    | 0.000653445 | 3.003109517 | up |
| ENAH           | 1.098743666 | 8.495939159 | 5.518972367 | 1.64E-05    | 0.000653503 | 2.990833141 | up |
| SV2B           | 1.107493874 | 8.282837833 | 5.516935074 | 1.64E-05    | 0.000654555 | 2.98613058  | up |
| OGN            | 3.107251088 | 7.051170434 | 5.497143904 | 1.72E-05    | 0.000679264 | 2.940428704 | up |
| DOCK4          | 1.26807463  | 7.016105102 | 5.489085752 | 1.75E-05    | 0.00068666  | 2.921810922 | up |
| CRABP2         | 1.448572305 | 6.228081258 | 5.487628877 | 1.76E-05    | 0.00068666  | 2.918444312 | up |
| RAII           | 1.150075437 | 3.684867762 | 5.389018276 | 2.22E-05    | 0.000827039 | 2.690151348 | up |
| FAP            | 2.897153522 | 7.329661148 | 5.366787534 | 2.34E-05    | 0.000860669 | 2.638574419 | up |
| GAMT           | 1.692630903 | 3.551673476 | 5.342881947 | 2.48E-05    | 0.000893197 | 2.583068061 | up |
| VEGFC          | 1.462183444 | 7.523667462 | 5.340330543 | 2.49E-05    | 0.000896031 | 2.577141323 | up |
| MMP9           | 2.180026182 | 7.801450619 | 5.323068795 | 2.60E-05    | 0.000925447 | 2.537030278 | up |
| EMP3           | 1.145730419 | 10.62500545 | 5.303918571 | 2.72E-05    | 0.000952164 | 2.492504429 | up |
| PTPRC          | 1.378927183 | 7.304134875 | 5.288973113 | 2.81E-05    | 0.000981462 | 2.457735904 | up |
| FOLR2          | 1.120841063 | 9.319215825 | 5.28094758  | 2.87E-05    | 0.000995287 | 2.439058802 | up |
| RTN1           | 1.601483293 | 5.917401902 | 5.280205273 | 2.87E-05    | 0.000995287 | 2.437331059 | up |
| CLU            | 1.094397859 | 11.77296133 | 5.264963355 | 2.98E-05    | 0.001015928 | 2.401846132 | up |
| ENC1           | 1.350097427 | 5.714803147 | 5.251724615 | 3.07E-05    | 0.001042689 | 2.371011234 | up |
| CEBPA          | 1.753309359 | 7.820830847 | 5.250516184 | 3.08E-05    | 0.001042866 | 2.368196002 | up |
| LGI2           | 2.353646739 | 4.588971522 | 5.228883726 | 3.25E-05    | 0.001091957 | 2.31778237  | up |
| CAPG           | 1.579922399 | 8.380927079 | 5.221551271 | 3.30E-05    | 0.001102283 | 2.300686949 | up |
| ANKH           | 2.163179559 | 7.194224    | 5.209731068 | 3.40E-05    | 0.001118813 | 2.27312068  | up |
| SEMA3A         | 1.159607548 | 6.779441881 | 5.202673538 | 3.45E-05    | 0.001131804 | 2.256657057 | up |
| HNMT           | 1.139608867 | 7.290373087 | 5.174860633 | 3.69E-05    | 0.00118752  | 2.191743382 | up |
| HK3            | 2.487408577 | 5.09744068  | 5.165695771 | 3.77E-05    | 0.001203765 | 2.170341992 | up |
| RHOBTB1        | 1.574987573 | 5.290679413 | 5.165670705 | 3.77E-05    | 0.001203765 | 2.170283452 | up |
| ATP6V0E        | 1.232015173 | 6.643589725 | 5.164866126 | 3.78E-05    | 0.001203765 | 2.168404372 | up |
| OLFML2E        | 1.214368469 | 8.566938733 | 5.142699212 | 3.98E-05    | 0.001240684 | 2.116617672 | up |
| TMCO3          | 1.195742637 | 6.559322555 | 5.137599687 | 4.03E-05    | 0.001245586 | 2.104699686 | up |
| ANK3           | 1.301022075 | 7.345428708 | 5.127789656 | 4.13E-05    | 0.001269804 | 2.081768327 | up |
| TOP2A          | 1.560780222 | 3.596263177 | 5.122878104 | 4.18E-05    | 0.001281618 | 2.070285139 | up |
| KCNMA1         | 1.40143772  | 6.726327576 | 5.066469947 | 4.78E-05    | 0.001434692 | 1.938299725 | up |
| HCFC1R1        | 1.122646236 | 6.819677371 | 5.030180985 | 5.21E-05    | 0.001524524 | 1.853293787 | up |
| CCDC102I       | 2.273000212 | 3.21392558  | 5.018212282 | 5.36E-05    | 0.001557888 | 1.825241784 | up |
| CORO1A         | 1.824634244 | 5.909507173 | 4.999012684 | 5.62E-05    | 0.001612442 | 1.780226545 | up |
| PNMAL1         | 1.232024395 | 5.938836406 | 4.992228616 | 5.71E-05    | 0.001627658 | 1.764316168 | up |
| MCOLN3         | 2.162516699 | 5.072945606 | 4.977327084 | 5.91E-05    | 0.001662285 | 1.7293602   | up |
| PCDH12         | 1.748178128 | 5.777194695 | 4.976694815 | 5.92E-05    | 0.001662285 | 1.727876783 | up |
| C1QA           | 1.143013446 | 10.53447275 | 4.968334239 | 6.04E-05    | 0.00168893  | 1.708259553 | up |
| VASH1          | 1.287645203 | 6.473384802 | 4.947740366 | 6.35E-05    | 0.001762557 | 1.659923956 | up |
| GPR65          | 2.073493249 | 5.565490507 | 4.933556548 | 6.57E-05    | 0.001815464 | 1.626621892 | up |
| CBR3           | 1.086972507 | 7.815942052 | 4.916340088 | 6.85E-05    | 0.001875441 | 1.586187433 | up |
| LAIR1          | 1.135547706 | 7.8809906   | 4.90263043  | 7.07E-05    | 0.001929704 | 1.553979843 | up |
| HLA-DM $\beta$ | 1.323704012 | 9.367026339 | 4.8932675   | 7.23E-05    | 0.001943957 | 1.53197932  | up |
| SOCS6          | 1.064346174 | 5.847572131 | 4.886530881 | 7.35E-05    | 0.001966288 | 1.516147734 | up |
| IGLL3P         | 2.261965067 | 7.189426463 | 4.885838696 | 7.36E-05    | 0.001966288 | 1.514520942 | up |
| SELL           | 1.15418524  | 6.422300579 | 4.879749823 | 7.47E-05    | 0.001982577 | 1.500209864 | up |
| POMT1          | 1.186164065 | 5.305120995 | 4.875616347 | 7.55E-05    | 0.001993913 | 1.490493845 | up |
| MTUS2          | 2.248510309 | 5.474752669 | 4.857166867 | 7.89E-05    | 0.002071136 | 1.447118971 | up |
| GPR125         | 1.242701655 | 7.140870327 | 4.850978796 | 8.01E-05    | 0.002089033 | 1.432567873 | up |
| TTL1           | 1.564899673 | 5.266568667 | 4.806927203 | 8.90E-05    | 0.002284293 | 1.328942123 | up |
| ITGB2          | 1.087181276 | 8.888831783 | 4.791896063 | 9.23E-05    | 0.002343523 | 1.293568388 | up |
| SYK            | 1.370115419 | 5.590182896 | 4.788843517 | 9.30E-05    | 0.002347407 | 1.286383768 | up |
| NOV            | 1.108258178 | 7.40030089  | 4.785793532 | 9.37E-05    | 0.002359941 | 1.279204891 | up |
| GRN            | 1.08461642  | 10.10154479 | 4.782110234 | 9.45E-05    | 0.002376169 | 1.270534982 | up |
| KIF20A         | 1.436582528 | 3.373942504 | 4.760714807 | 9.95E-05    | 0.002467074 | 1.220165582 | up |
| CDH11          | 1.406318552 | 8.340906185 | 4.719865822 | 0.000109765 | 0.002654832 | 1.123963805 | up |
| MNDA           | 1.253435406 | 6.680571837 | 4.719707905 | 0.000109807 | 0.002654832 | 1.12359182  | up |
| ATXN1          | 1.393177401 | 7.119762316 | 4.717949938 | 0.000110273 | 0.002660969 | 1.119450762 | up |
| TMEM51         | 2.095840162 | 5.932944945 | 4.711355487 | 0.000112038 | 0.002698379 | 1.103916273 | up |
| SDC3           | 1.829813782 | 6.6206578   | 4.709379177 | 0.000112573 | 0.002706061 | 1.099260505 | up |
| NGFRAP1        | 1.260588486 | 10.62426822 | 4.695239394 | 0.000116473 | 0.002779286 | 1.06594766  | up |
| EML1           | 1.042676178 | 8.052538845 | 4.686667731 | 0.000118904 | 0.002825771 | 1.045751058 | up |
| TRBC1          | 1.144991735 | 6.491195629 | 4.676928184 | 0.000121728 | 0.002881963 | 1.022800906 | up |
| TBL1XR1        | 1.197200288 | 7.106377025 | 4.67551394  | 0.000122143 | 0.002886357 | 1.019468247 | up |
| AP4M1          | 1.37443414  | 4.764181618 | 4.660116702 | 0.000126762 | 0.002973045 | 0.98318237  | up |
| PER3           | 1.760449456 | 7.305574077 | 4.659349289 | 0.000126997 | 0.002973045 | 0.981373738 | up |
| RTP4           | 1.665351891 | 4.943999813 | 4.655917769 | 0.000128051 | 0.002986599 | 0.973286242 | up |

|           |             |             |             |             |             |              |    |
|-----------|-------------|-------------|-------------|-------------|-------------|--------------|----|
| LAPTM5    | 1.003480692 | 10.8104991  | 4.608034296 | 0.000143727 | 0.003303096 | 0.860414884  | up |
| HCK       | 1.128584396 | 7.754878735 | 4.602395555 | 0.000145696 | 0.003330044 | 0.847121265  | up |
| GABRB1    | 1.219684278 | 6.652712803 | 4.599896225 | 0.000146577 | 0.003338027 | 0.841228859  | up |
| C14orf132 | 1.266874585 | 8.631922769 | 4.594791682 | 0.000148394 | 0.003373275 | 0.829194221  | up |
| VAV1      | 1.034090856 | 6.504441993 | 4.592084748 | 0.000149366 | 0.003389242 | 0.82281216   | up |
| TNFRSF11  | 1.711375259 | 4.708061626 | 4.586750747 | 0.000151302 | 0.003416607 | 0.810236144  | up |
| DPYSL3    | 1.165941161 | 8.475196217 | 4.575164941 | 0.000155592 | 0.003483845 | 0.782919365  | up |
| APLNR     | 1.908071253 | 5.569901757 | 4.574108859 | 0.000155989 | 0.003483845 | 0.780429304  | up |
| PTN       | 1.353269232 | 7.158902806 | 4.560258164 | 0.000161293 | 0.003575806 | 0.74777104   | up |
| LIPC      | 1.605200555 | 3.629357448 | 4.551976922 | 0.00016455  | 0.003603859 | 0.728244338  | up |
| HIRIP3    | 1.082935479 | 5.60676235  | 4.536206035 | 0.000170938 | 0.003703909 | 0.691056656  | up |
| FCGR1B    | 1.479211519 | 7.3844641   | 4.5323136   | 0.000172552 | 0.003720246 | 0.681878189  | up |
| TTC9      | 1.158946554 | 3.678075651 | 4.530895413 | 0.000173144 | 0.003726606 | 0.678534055  | up |
| KIAA1644  | 1.705946646 | 5.264194076 | 4.527024828 | 0.00017477  | 0.003738168 | 0.669407065  | up |
| DPT       | 1.793135205 | 9.053927362 | 4.526781581 | 0.000174873 | 0.003738168 | 0.668833479  | up |
| TPSAB1    | 1.660913466 | 8.216083303 | 4.507309218 | 0.000183294 | 0.003859022 | 0.622916662  | up |
| ZNF528    | 1.682161792 | 4.81455978  | 4.484768716 | 0.000193553 | 0.003994572 | 0.569765441  | up |
| ADCY7     | 1.160477378 | 6.898666313 | 4.476659974 | 0.000197382 | 0.004066922 | 0.550645136  | up |
| SLC46A3   | 1.071745866 | 6.614615067 | 4.456132679 | 0.000207421 | 0.004245868 | 0.502243539  | up |
| IGFBP5    | 1.203108957 | 9.192180229 | 4.451537478 | 0.000209737 | 0.004272377 | 0.491408823  | up |
| IGHD      | 1.739581361 | 4.629115637 | 4.446312275 | 0.000212403 | 0.00429184  | 0.479088866  | up |
| GPR1      | 2.197747597 | 7.303079989 | 4.429430956 | 0.000221249 | 0.004434884 | 0.439287834  | up |
| HLA-DQA   | 4.086997716 | 6.175892222 | 4.419391245 | 0.000226685 | 0.004529365 | 0.415618622  | up |
| GUCA1A    | 1.021525756 | 5.322273473 | 4.408581447 | 0.000232687 | 0.00462719  | 0.390135223  | up |
| FKBP11    | 1.083363    | 7.650085225 | 4.407690927 | 0.000233189 | 0.004629825 | 0.388035947  | up |
| CD180     | 1.415881463 | 6.481091225 | 4.396985408 | 0.000239303 | 0.004711655 | 0.362800035  | up |
| DOCK2     | 1.317170502 | 6.873345219 | 4.388446525 | 0.000244295 | 0.004767363 | 0.342672695  | up |
| FLNB      | 1.009979285 | 7.322574142 | 4.387124054 | 0.000245078 | 0.004767803 | 0.339555548  | up |
| ARHGEF9   | 1.001845336 | 5.385849224 | 4.385882671 | 0.000245814 | 0.004774733 | 0.336629553  | up |
| PTHLH     | 1.133568832 | 4.542749672 | 4.366401915 | 0.000257671 | 0.004920437 | 0.290716019  | up |
| PDGFC     | 1.052705203 | 9.448233112 | 4.363622174 | 0.000259409 | 0.004924448 | 0.284165099  | up |
| PCYT1B    | 1.178798886 | 4.031020315 | 4.341784204 | 0.000273477 | 0.005144807 | 0.232705692  | up |
| LILRB2    | 1.392286068 | 6.214394617 | 4.332137681 | 0.000279932 | 0.005227063 | 0.209977715  | up |
| CPA3      | 1.428298974 | 8.443346958 | 4.330638794 | 0.000280949 | 0.005231118 | 0.206446412  | up |
| TAPBPL    | 1.031619392 | 6.373590262 | 4.330588305 | 0.000280983 | 0.005231118 | 0.206327463  | up |
| NKG7      | 1.725904825 | 2.500834566 | 4.319882388 | 0.000288353 | 0.005344547 | 0.181106428  | up |
| KCNN4     | 1.427625953 | 6.035583171 | 4.305524588 | 0.000298543 | 0.005500902 | 0.14728682   | up |
| LRMP      | 1.34780598  | 5.418505864 | 4.303430691 | 0.000300059 | 0.005513334 | 0.14235513   | up |
| XYLT1     | 1.061064264 | 8.33830638  | 4.301145923 | 0.000301721 | 0.005535086 | 0.136974024  | up |
| BTN3A2    | 1.133146136 | 6.482340669 | 4.286545189 | 0.000312567 | 0.005684188 | 0.10258973   | up |
| CCR5      | 1.542868764 | 5.700297718 | 4.281474839 | 0.000316424 | 0.005712929 | 0.090650667  | up |
| ST8SIA4   | 1.418719061 | 5.053242332 | 4.275905863 | 0.000320715 | 0.005773787 | 0.077538399  | up |
| KIF4A     | 1.304981531 | 4.46869807  | 4.273722449 | 0.000322413 | 0.005796044 | 0.072397768  | up |
| ITGBL1    | 1.07501098  | 9.761918059 | 4.26014725  | 0.000333175 | 0.005938469 | 0.040439748  | up |
| CD82      | 1.14403445  | 7.587744757 | 4.253341767 | 0.000338705 | 0.006028466 | 0.024420936  | up |
| TPSB2     | 1.41744153  | 8.755750241 | 4.247103655 | 0.000343854 | 0.006109653 | 0.009739007  | up |
| SLC38A4   | 1.509069841 | 2.635029878 | 4.246639732 | 0.00034424  | 0.006109653 | 0.008647179  | up |
| NPL       | 1.444695351 | 6.873594908 | 4.218926025 | 0.000368105 | 0.006487342 | -0.056561822 | up |
| TSPAN2    | 1.381792675 | 2.68218753  | 4.18357725  | 0.000400959 | 0.006892104 | -0.139691443 | up |
| NKX3-2    | 1.426117862 | 5.527735069 | 4.180668746 | 0.000403789 | 0.006921788 | -0.146528972 | up |
| OLFML1    | 1.157530785 | 7.834742788 | 4.172196649 | 0.000412147 | 0.006998139 | -0.166443627 | up |
| PLGRKT    | 1.311282931 | 6.128111243 | 4.168298048 | 0.000416051 | 0.007007531 | -0.175606634 | up |
| LTB       | 1.270383125 | 5.298526394 | 4.165423352 | 0.000418953 | 0.007035658 | -0.182362668 | up |
| CPVL      | 1.206879007 | 7.991482894 | 4.164979601 | 0.000419403 | 0.007035658 | -0.183405524 | up |
| HTR2B     | 2.022148954 | 5.083946883 | 4.160044605 | 0.000424438 | 0.007091676 | -0.195002603 | up |
| LYZ       | 1.170575425 | 10.12449947 | 4.159114523 | 0.000425394 | 0.00709742  | -0.197188134 | up |
| ARHGAP2   | 1.348327655 | 5.818021969 | 4.15516679  | 0.000429474 | 0.007137798 | -0.206464155 | up |
| USP46     | 1.023906568 | 5.228057653 | 4.145129583 | 0.000440024 | 0.007284202 | -0.230045214 | up |
| LTBP3     | 1.050673632 | 9.216716592 | 4.139559883 | 0.00044599  | 0.007334576 | -0.243128291 | up |
| IFI27     | 1.21405175  | 9.649317654 | 4.131544515 | 0.000454717 | 0.00744881  | -0.261953378 | up |
| VCAN      | 1.10422907  | 10.29128108 | 4.128079805 | 0.000458542 | 0.007501672 | -0.27008964  | up |
| GUSBP11   | 1.665231359 | 6.414864774 | 4.118547492 | 0.000469231 | 0.007611713 | -0.2924713   | up |
| NELL1     | 1.854401256 | 4.355587743 | 4.117146235 | 0.000470823 | 0.007623088 | -0.295761006 | up |
| SEMA4D    | 1.52734527  | 4.348323347 | 4.103162122 | 0.000487011 | 0.0078246   | -0.328585309 | up |
| BTC       | 1.966094762 | 4.644930472 | 4.076239452 | 0.000519753 | 0.008276479 | -0.391748045 | up |
| LINC0114  | 1.018425195 | 8.0377337   | 4.061762589 | 0.000538257 | 0.008450355 | -0.425693808 | up |
| RAG1      | 1.240120532 | 3.007105358 | 4.060863596 | 0.000539427 | 0.008450355 | -0.427801361 | up |
| ALDH5A1   | 1.098230087 | 3.611242897 | 4.058071164 | 0.000543079 | 0.008496954 | -0.434347461 | up |

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| PRR5L    | 1.216389841 | 5.197547846 | 4.014418138 | 0.000603472 | 0.009219013 | -0.536613078 | up |
| SHCBP1L  | 1.121619391 | 3.174409911 | 4.002797403 | 0.000620645 | 0.009382961 | -0.563814622 | up |
| MSR1     | 1.46776701  | 6.7499281   | 3.98824562  | 0.000642837 | 0.009637181 | -0.597863168 | up |
| RARRS3   | 1.004217421 | 7.435441625 | 3.972090224 | 0.0006684   | 0.009937295 | -0.635645156 | up |
| ITGA4    | 1.017312051 | 4.183520611 | 3.954505304 | 0.000697373 | 0.010236779 | -0.676747126 | up |
| ATP13A2  | 1.008964145 | 3.176258711 | 3.942498487 | 0.000717869 | 0.010437797 | -0.704796817 | up |
| AC005838 | 1.380845072 | 4.666185144 | 3.936760844 | 0.000727873 | 0.010535194 | -0.718196585 | up |
| ZBED8    | 1.82810886  | 4.324207749 | 3.909388673 | 0.000777539 | 0.011087001 | -0.782083248 | up |
| VCAM1    | 1.361810109 | 10.61038869 | 3.903846649 | 0.000787997 | 0.011176476 | -0.795010351 | up |
| SYT17    | 1.552652093 | 4.79225439  | 3.903704212 | 0.000788268 | 0.011176476 | -0.795342558 | up |
| APOE     | 1.298941852 | 9.981958935 | 3.874256724 | 0.00084624  | 0.011824741 | -0.863983234 | up |
| PKIA     | 1.30756164  | 4.978827197 | 3.869759208 | 0.000855459 | 0.011926993 | -0.874459589 | up |
| CD37     | 1.807236683 | 6.692683287 | 3.840421441 | 0.000918083 | 0.012404152 | -0.942749691 | up |
| IGK      | 2.073065871 | 4.206935621 | 3.835708728 | 0.000928558 | 0.012501657 | -0.953711578 | up |
| CLEC4A   | 1.388893912 | 5.252610039 | 3.828489409 | 0.000944834 | 0.012666426 | -0.970499502 | up |
| WWC1     | 1.2919951   | 4.105350899 | 3.82673407  | 0.000948834 | 0.012706473 | -0.974580587 | up |
| PLEKHA2  | 1.572065014 | 5.869969181 | 3.809221579 | 0.000989669 | 0.013074798 | -1.015278718 | up |
| ICAM3    | 1.12842395  | 5.62030441  | 3.809131448 | 0.000989884 | 0.013074798 | -1.015488094 | up |
| CEP55    | 1.139709396 | 3.454129685 | 3.806970911 | 0.000995042 | 0.013081924 | -1.020506802 | up |
| GCHFR    | 1.365448112 | 7.181523385 | 3.804345619 | 0.001001345 | 0.013115737 | -1.026604417 | up |
| IGHG1    | 1.330386845 | 4.141349195 | 3.800621234 | 0.001010355 | 0.013178728 | -1.035253559 | up |
| ANTXR1   | 1.067293447 | 4.378018758 | 3.785025212 | 0.001048965 | 0.01351377  | -1.071455792 | up |
| NQO2     | 1.096707428 | 7.844866829 | 3.783826943 | 0.001051991 | 0.013536449 | -1.074236161 | up |
| CLEC7A   | 1.028014189 | 7.01234229  | 3.776504124 | 0.001070673 | 0.01370898  | -1.091223971 | up |
| ZNF671   | 1.373482754 | 4.470358217 | 3.7571987   | 0.001121511 | 0.014143432 | -1.135980406 | up |
| CD14     | 1.109300049 | 10.19405397 | 3.754413454 | 0.001129039 | 0.014192845 | -1.142433992 | up |
| FADD     | 1.07373496  | 6.531417847 | 3.743112613 | 0.001160103 | 0.014484545 | -1.168609383 | up |
| RMI1     | 1.110554536 | 5.557714459 | 3.733684002 | 0.001186664 | 0.01462698  | -1.190436632 | up |
| RAB23    | 1.175533144 | 5.750638565 | 3.731547724 | 0.001192766 | 0.014673195 | -1.195380634 | up |
| FDXR     | 1.126482494 | 3.685244401 | 3.724792434 | 0.001212263 | 0.014826004 | -1.211010791 | up |
| HLA-DRA  | 1.669826682 | 10.9274481  | 3.712656269 | 0.001248085 | 0.015146011 | -1.239076945 | up |
| DENND1E  | 1.481971104 | 5.795922286 | 3.707676707 | 0.001263084 | 0.015210343 | -1.250587405 | up |
| CBR1     | 1.75371529  | 5.703276514 | 3.701947695 | 0.00128056  | 0.015376524 | -1.263826386 | up |
| CLN6     | 1.302148728 | 4.442794697 | 3.667536045 | 0.001390664 | 0.016293234 | -1.343258183 | up |
| RNASEL   | 1.141530322 | 5.511131174 | 3.655310649 | 0.001431986 | 0.01665298  | -1.37144016  | up |
| SCG2     | 1.352645185 | 6.717090926 | 3.617028347 | 0.001569365 | 0.017661333 | -1.459555293 | up |
| FAM198B  | 2.222536509 | 5.826958286 | 3.606404583 | 0.001609736 | 0.017970613 | -1.483971367 | up |
| FPR3     | 1.494682179 | 7.605832783 | 3.605821177 | 0.001611982 | 0.017979694 | -1.485311706 | up |
| DPYS     | 1.375067968 | 4.486073236 | 3.600513939 | 0.00163256  | 0.018176896 | -1.497502463 | up |
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| SPDL1    | 1.584073893 | 3.740218426 | 3.575514154 | 0.001733018 | 0.019003273 | -1.554870894 | up |
| KIF11    | 1.173995424 | 4.052914921 | 3.569506304 | 0.001758051 | 0.01914933  | -1.568643393 | up |
| RGS3     | 1.037968172 | 7.098970188 | 3.564001414 | 0.001781301 | 0.019352175 | -1.581258037 | up |
| RYS2     | 1.091733657 | 2.91031024  | 3.563461265 | 0.001783598 | 0.019360373 | -1.582495555 | up |
| PENK     | 1.420824152 | 6.633262563 | 3.552548313 | 0.001830645 | 0.019785468 | -1.607488159 | up |
| ASTE1    | 1.340778878 | 5.21762026  | 3.550389962 | 0.001840093 | 0.019870468 | -1.612428961 | up |
| EXOC2    | 1.030819218 | 5.240010395 | 3.545598867 | 0.001861237 | 0.020029849 | -1.623393902 | up |
| CSN1S1   | 3.345501951 | 8.027889788 | 3.533316123 | 0.00191654  | 0.020501918 | -1.651487629 | up |
| TK1      | 1.276357839 | 5.13793575  | 3.531730257 | 0.001923797 | 0.02054452  | -1.655113141 | up |
| MMP3     | 1.769043377 | 10.35692958 | 3.52515959  | 0.001954154 | 0.020730552 | -1.670130275 | up |
| TMEM10c  | 1.282178124 | 6.006216567 | 3.524493251 | 0.001957258 | 0.020730552 | -1.671652789 | up |
| ITPKB    | 1.166433099 | 6.563867168 | 3.512503232 | 0.002013956 | 0.021147381 | -1.69903629  | up |
| SLC12A8  | 1.068768019 | 4.263963005 | 3.502892972 | 0.002060561 | 0.021528662 | -1.72096761  | up |
| GNG7     | 1.134710429 | 4.948611421 | 3.49577112  | 0.00209578  | 0.021823937 | -1.737210234 | up |
| C3orf36  | 1.245023586 | 3.126110893 | 3.492746803 | 0.002110913 | 0.021926938 | -1.744105126 | up |
| GAP43    | 1.292521639 | 5.563611218 | 3.471155786 | 0.002222111 | 0.022836237 | -1.793283291 | up |
| SAMSN1   | 1.10951756  | 6.93555586  | 3.469973134 | 0.002228365 | 0.022863058 | -1.795974709 | up |
| TPX2     | 1.034308472 | 5.16596933  | 3.46622315  | 0.002248309 | 0.022992488 | -1.804507105 | up |
| ITGAL    | 1.256059099 | 4.249271253 | 3.443570264 | 0.002372561 | 0.023854883 | -1.855996718 | up |
| SMARCA1  | 1.418666929 | 4.609506709 | 3.438144715 | 0.002403304 | 0.024086788 | -1.868315257 | up |
| RGS13    | 1.633067914 | 4.316835341 | 3.437133112 | 0.002409079 | 0.024106159 | -1.870611481 | up |
| MAST3    | 1.224445401 | 5.779230492 | 3.431471169 | 0.002441654 | 0.024322838 | -1.883460006 | up |
| LINC0096 | 1.439835561 | 4.170622812 | 3.430110507 | 0.002449546 | 0.024355707 | -1.886546853 | up |
| IL11RA   | 1.724100183 | 6.75265732  | 3.428074059 | 0.002461405 | 0.02445424  | -1.89116618  | up |
| FMO1     | 1.356640296 | 4.995200841 | 3.421298075 | 0.002501268 | 0.024680221 | -1.906530823 | up |
| TAC1     | 1.973946085 | 5.099867268 | 3.420174793 | 0.002507938 | 0.024686262 | -1.909077061 | up |
| LILRB3   | 1.024020611 | 6.000434301 | 3.417634057 | 0.002523087 | 0.024792241 | -1.914835499 | up |

|          |             |             |             |             |             |              |    |
|----------|-------------|-------------|-------------|-------------|-------------|--------------|----|
| PLEC     | 1.143194507 | 6.769837434 | 3.417025958 | 0.002526726 | 0.024808571 | -1.916213542 | up |
| MARCO    | 1.118431123 | 9.760630375 | 3.413888101 | 0.002545585 | 0.024876949 | -1.923323308 | up |
| ZNF135   | 1.66162649  | 3.082906332 | 3.412191157 | 0.002555842 | 0.024918959 | -1.927167483 | up |
| HERC4    | 1.002404419 | 3.893969356 | 3.365508109 | 0.002854385 | 0.026869334 | -2.032705756 | up |
| KLF3-AS1 | 1.450400254 | 4.096208272 | 3.355858912 | 0.00292021  | 0.027250762 | -2.054467106 | up |
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| RUNX1-IT | 1.255332624 | 5.181264944 | 3.310969038 | 0.003246426 | 0.029454921 | -2.155456911 | up |
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| ZNF780B  | 1.181466483 | 1.75322153  | 3.301937054 | 0.003316227 | 0.029846834 | -2.175725839 | up |
| PRSS3P2  | 1.245058755 | 4.32037036  | 3.296728419 | 0.003357143 | 0.029993302 | -2.187406816 | up |
| CTSS     | 1.107688363 | 8.906928584 | 3.296054607 | 0.003362472 | 0.029993302 | -2.188917497 | up |
| PRMT7    | 1.274901192 | 2.805278536 | 3.295496844 | 0.003366889 | 0.029993302 | -2.190167922 | up |
| APOBEC3  | 1.208990803 | 3.081667753 | 3.287260145 | 0.003432782 | 0.030398414 | -2.20862567  | up |
| HN1      | 1.527144672 | 5.307924939 | 3.280623848 | 0.003486784 | 0.030768049 | -2.223486403 | up |
| VAMP8    | 1.327765088 | 8.596872527 | 3.257297493 | 0.003683236 | 0.032002732 | -2.275644928 | up |
| ZNF112   | 1.203504641 | 4.503636394 | 3.25634059  | 0.00369152  | 0.032034023 | -2.277782025 | up |
| XIST     | 2.387899567 | 7.47327261  | 3.25503714  | 0.003702834 | 0.032087823 | -2.280692756 | up |
| SYTL2    | 1.210059323 | 4.968088135 | 3.244880038 | 0.003792162 | 0.032524978 | -2.303361491 | up |
| NDUFA4L  | 1.23402358  | 8.068684091 | 3.237912794 | 0.003854643 | 0.032814149 | -2.318897605 | up |
| TNC      | 1.201561656 | 9.762275356 | 3.235891812 | 0.003872953 | 0.03283636  | -2.323402088 | up |
| FANCF    | 1.390036556 | 4.182637754 | 3.23506168  | 0.003880498 | 0.032877072 | -2.325252063 | up |
| RPE65    | 1.121100236 | 1.846596797 | 3.232330945 | 0.00390542  | 0.033002258 | -2.331336486 | up |
| CSF2RA   | 1.153824782 | 5.184476369 | 3.222410861 | 0.00399727  | 0.033617793 | -2.353425286 | up |
| BANK1    | 1.037620533 | 5.390561879 | 3.19694416  | 0.004242773 | 0.035105134 | -2.410026537 | up |
| TMEM104  | 1.006037494 | 5.040319341 | 3.196191612 | 0.004250245 | 0.035133122 | -2.411696796 | up |
| SPON1    | 1.059717059 | 6.964524385 | 3.192119875 | 0.004290899 | 0.035329532 | -2.420731563 | up |
| PSPH     | 1.449716472 | 4.505804992 | 3.174680003 | 0.004469334 | 0.036511199 | -2.459383869 | up |
| SLC5A2   | 1.048697485 | 5.332223421 | 3.158406575 | 0.004642305 | 0.037581707 | -2.495384331 | up |
| GPR88    | 1.009618792 | 6.781756053 | 3.142691398 | 0.004815486 | 0.038440569 | -2.530087735 | up |
| MMP13    | 1.577608269 | 3.229443669 | 3.142663987 | 0.004815793 | 0.038440569 | -2.530148213 | up |
| SNX17    | 1.218748559 | 7.480302097 | 3.134829368 | 0.004904455 | 0.039073718 | -2.547426049 | up |
| FGGY     | 1.402581874 | 5.148518591 | 3.129550128 | 0.004965087 | 0.039406652 | -2.559059712 | up |
| GRIA2    | 1.320182768 | 2.136111615 | 3.124352318 | 0.005025492 | 0.039710249 | -2.570507008 | up |
| KLHL4    | 1.405048404 | 3.746154348 | 3.120262312 | 0.005073522 | 0.039963937 | -2.5795097   | up |
| AGPAT4   | 1.242910229 | 5.790177539 | 3.114749019 | 0.005138968 | 0.040302358 | -2.591638459 | up |
| ZKSCAN7  | 1.607670546 | 4.427344666 | 3.098114017 | 0.005341419 | 0.041271015 | -2.6281863   | up |
| ZNF74    | 1.117768753 | 3.934062859 | 3.087261451 | 0.005477626 | 0.041987328 | -2.651990836 | up |
| DNASE1L  | 1.371859529 | 7.533285513 | 3.084406827 | 0.005514007 | 0.04218888  | -2.658247136 | up |
| LOXL1    | 1.519363002 | 7.569741526 | 3.074821213 | 0.005637886 | 0.042642671 | -2.679239444 | up |
| LRP1B    | 1.473000446 | 4.680394598 | 3.048237149 | 0.005995651 | 0.044664155 | -2.737328419 | up |
| ARRB2    | 1.33543296  | 7.33012264  | 3.045339858 | 0.006035939 | 0.044895652 | -2.743647647 | up |
| SEMG2    | 1.032075463 | 2.740376468 | 3.03660806  | 0.006158944 | 0.045557326 | -2.762678386 | up |
| MDK      | 1.417045167 | 5.519609084 | 3.030736817 | 0.006243006 | 0.045999552 | -2.775462708 | up |
| VCPIP1   | 1.092562358 | 3.722482831 | 3.027385758 | 0.006291479 | 0.046216888 | -2.782755147 | up |
| RIMBP2   | 1.231734094 | 3.951096173 | 3.00251971  | 0.006662655 | 0.048261723 | -2.836768592 | up |
| CDKAL1   | 1.068209797 | 3.680132553 | 3.002340149 | 0.00666541  | 0.048261723 | -2.837157991 | up |
| TBXAS1   | 1.050057042 | 6.767522977 | 2.9801455   | 0.007014561 | 0.05009602  | -2.885217799 | up |
| MYOM2    | 1.090825822 | 4.227215507 | 2.959856688 | 0.007349048 | 0.05197965  | -2.929024603 | up |
| RAB38    | 1.072679223 | 3.490471191 | 2.954663009 | 0.007437103 | 0.052311365 | -2.940218941 | up |
| SCUBE2   | 1.22375065  | 5.467011842 | 2.916466386 | 0.008116493 | 0.055446968 | -3.022296297 | up |
| ASPM     | 1.270086054 | 2.31403061  | 2.913757093 | 0.008166876 | 0.055755149 | -3.028101058 | up |
| ELOVL4   | 1.325609089 | 3.735428558 | 2.912605335 | 0.008188386 | 0.055841229 | -3.03056805  | up |
| NAIP     | 1.28856447  | 5.323957803 | 2.87658779  | 0.008889038 | 0.059046928 | -3.107505069 | up |
| LYL1     | 1.136057815 | 5.25305576  | 2.857812989 | 0.009276628 | 0.060653523 | -3.147445643 | up |
| KCNQ1    | 1.184921211 | 5.226202507 | 2.855676266 | 0.009321748 | 0.060763271 | -3.15198395  | up |
| SIL1     | 1.445424596 | 6.327396658 | 2.849734779 | 0.009448315 | 0.061238353 | -3.164595562 | up |
| YKT6     | 1.103687711 | 4.95083713  | 2.848949404 | 0.009465167 | 0.061252664 | -3.166261762 | up |
| COG7     | 1.202835771 | 4.631993485 | 2.846513352 | 0.009517622 | 0.061496971 | -3.171428636 | up |
| LEPREL1  | 1.112926999 | 4.218887754 | 2.844798482 | 0.009554714 | 0.061583447 | -3.175064712 | up |
| SNCAIP   | 1.296715833 | 5.289770688 | 2.837671932 | 0.009710341 | 0.062356885 | -3.190164878 | up |
| ACP5     | 1.080099656 | 8.711839996 | 2.811514666 | 0.010302519 | 0.064832499 | -3.245443323 | up |
| FAM155A  | 1.441744497 | 5.03015439  | 2.808939952 | 0.010362632 | 0.065077175 | -3.250872036 | up |
| P2RY13   | 1.621268298 | 4.212020016 | 2.806941634 | 0.010409518 | 0.065235109 | -3.255083883 | up |
| ST8SIA1  | 1.087035039 | 2.856195775 | 2.780998491 | 0.011036835 | 0.068037445 | -3.30963998  | up |
| TENM3    | 1.133800387 | 3.892499858 | 2.778419018 | 0.011101136 | 0.068246414 | -3.315051672 | up |
| LOC10193 | 1.306229322 | 3.819499924 | 2.775378691 | 0.011177382 | 0.068583759 | -3.321427251 | up |
| PPP1R1A  | 1.342419436 | 5.910148748 | 2.77171045  | 0.011270037 | 0.069050989 | -3.329115271 | up |
| AOAH     | 1.219669853 | 3.889625752 | 2.76242156  | 0.011507937 | 0.07000552  | -3.348562119 | up |

|          |              |             |              |             |             |              |      |
|----------|--------------|-------------|--------------|-------------|-------------|--------------|------|
| NOX5     | 1.062412489  | 4.191355449 | 2.758964532  | 0.011597687 | 0.070303274 | -3.355791851 | up   |
| CDON     | 1.634078555  | 4.976044329 | 2.751338652  | 0.011798022 | 0.071308742 | -3.37172499  | up   |
| MS4A6A   | 1.006485874  | 10.05542794 | 2.737061561  | 0.012181946 | 0.072720772 | -3.40149906  | up   |
| FMNL1    | 1.047744688  | 6.062837251 | 2.72631329   | 0.01247876  | 0.073733877 | -3.423865576 | up   |
| CALCB    | 1.081810864  | 3.886278037 | 2.714733519  | 0.012806198 | 0.075054726 | -3.447915412 | up   |
| CDK5     | 1.040640843  | 3.696147191 | 2.693753344  | 0.013420263 | 0.07749538  | -3.491363246 | up   |
| DNALI1   | 1.135595179  | 3.91804679  | 2.681046559  | 0.013805605 | 0.079065603 | -3.517598109 | up   |
| RSPH6A   | 1.004564999  | 5.130773524 | 2.67014986   | 0.014144358 | 0.080454853 | -3.540047415 | up   |
| LEPREL4  | 1.090090546  | 4.714041796 | 2.66152276   | 0.014418105 | 0.081348191 | -3.557788952 | up   |
| PLEKHA4  | 1.259437985  | 4.972240954 | 2.659560564  | 0.014481061 | 0.081484555 | -3.561820222 | up   |
| HLA-DQB1 | 1.118760577  | 8.068397299 | 2.638711716  | 0.015166197 | 0.083978758 | -3.604562065 | up   |
| LFNG     | 1.071061883  | 3.65806242  | 2.60808885   | 0.016228095 | 0.087880126 | -3.667034151 | up   |
| STMN2    | 1.049239157  | 4.382240893 | 2.58027424   | 0.017252839 | 0.092005366 | -3.723453988 | up   |
| ERAP2    | 1.624360419  | 5.988292811 | 2.572979261  | 0.017531486 | 0.093047693 | -3.738199522 | up   |
| NUDT6    | 1.04909086   | 3.350912609 | 2.566273812  | 0.017791333 | 0.09403776  | -3.75173425  | up   |
| MSTN     | 1.004517881  | 1.679815749 | 2.54715173   | 0.018552309 | 0.097119052 | -3.790229839 | up   |
| NSUN5P1  | 1.246514811  | 5.799030145 | 2.534024937  | 0.019092226 | 0.098999679 | -3.816568019 | up   |
| EHHADH   | 1.182685592  | 3.325792114 | 2.522402028  | 0.019582521 | 0.100664265 | -3.839828298 | up   |
| WDR41    | 1.072549344  | 5.995128735 | 2.515123372  | 0.019895526 | 0.101648642 | -3.854365537 | up   |
| ZNF134   | 1.016596055  | 5.286386011 | 2.508269482  | 0.020194532 | 0.102757903 | -3.868033781 | up   |
| MAP3K1   | 1.202466949  | 3.406748945 | 2.495476287  | 0.020763898 | 0.104973969 | -3.89349248  | up   |
| CEMP1    | 1.23616739   | 7.394816971 | 2.481741199  | 0.021391828 | 0.107369863 | -3.920746817 | up   |
| SP1      | 1.256685605  | 4.110889994 | 2.477534662  | 0.021587651 | 0.1077065   | -3.929077358 | up   |
| WIF1     | 1.611538414  | 4.438092707 | 2.470329603  | 0.021926946 | 0.108804635 | -3.943328109 | up   |
| COQ4     | 1.064994837  | 5.10023573  | 2.454712622  | 0.022679477 | 0.111338841 | -3.974138096 | up   |
| BST1     | 1.237442855  | 4.71317448  | 2.436956117  | 0.023564248 | 0.114695184 | -4.009037218 | up   |
| ZIC1     | 1.266255478  | 9.761211733 | 2.432006688  | 0.023816521 | 0.115475158 | -4.018739739 | up   |
| NTHL1    | 1.312227422  | 4.295133046 | 2.422410722  | 0.024312785 | 0.117032814 | -4.037519453 | up   |
| ASPA     | 1.225511802  | 4.862898633 | 2.422368413  | 0.024314994 | 0.117032814 | -4.037602161 | up   |
| GSTZ1    | 1.045273528  | 3.877321562 | 2.400349307  | 0.025490294 | 0.121018616 | -4.080535334 | up   |
| HS3ST3A1 | 1.055731576  | 2.80236998  | 2.378212842  | 0.026724689 | 0.125127388 | -4.123471723 | up   |
| HPSE     | 1.025457527  | 5.526623001 | 2.359707356  | 0.027798761 | 0.128242223 | -4.159189326 | up   |
| PTPLAD1  | 1.166804019  | 6.327786349 | 2.337732992  | 0.02912584  | 0.132569305 | -4.201391088 | up   |
| TRIM36   | 1.069540298  | 3.921850125 | 2.313928037  | 0.030629133 | 0.136746841 | -4.246846127 | up   |
| TST      | 1.081012353  | 6.095762026 | 2.310799418  | 0.030831925 | 0.1371425   | -4.252799652 | up   |
| LMAN1    | 1.110130843  | 4.718343946 | 2.29785487   | 0.031023912 | 0.137801079 | -4.258398523 | up   |
| SPP1     | 1.415128797  | 8.23956476  | 2.297737365  | 0.03169198  | 0.139631659 | -4.277603833 | up   |
| OSGEPL1  | 1.285925152  | 4.785140132 | 2.266421086  | 0.033844341 | 0.146289627 | -4.336727231 | up   |
| PMEPA1   | 1.245010715  | 4.919753387 | 2.258336855  | 0.03442129  | 0.147960109 | -4.351909932 | up   |
| CLIC3    | 1.157190568  | 3.354327368 | 2.249340851  | 0.035073872 | 0.149794689 | -4.368766074 | up   |
| RASGRP1  | 1.138809199  | 3.576015613 | 2.240560498  | 0.035721691 | 0.151635918 | -4.385178379 | up   |
| HSD11B2  | 1.263075835  | 3.710647559 | 2.238846628  | 0.035849408 | 0.152075176 | -4.388377358 | up   |
| GBAP1    | 1.071145389  | 6.307483811 | 2.147064657  | 0.043327962 | 0.173422416 | -4.557448522 | up   |
| IL18     | 1.069191554  | 5.337464433 | 2.144443392  | 0.043560934 | 0.174077262 | -4.562211208 | up   |
| PDZRN4   | 1.04310355   | 5.834459524 | 2.130473357  | 0.04482174  | 0.177029647 | -4.587530444 | up   |
| BTBD2    | 1.00739279   | 5.564599546 | 2.112911506  | 0.046453442 | 0.181305691 | -4.619208523 | up   |
| SLC16A4  | 1.22012623   | 5.711261685 | 2.108793776  | 0.046843688 | 0.182374992 | -4.62661135  | up   |
| KLF9     | -2.880558959 | 8.361204504 | -17.83680204 | 2.25E-14    | 2.82E-10    | 22.1517188   | down |
| FOSL2    | -2.531086193 | 6.842224349 | -14.95911665 | 7.55E-13    | 4.11E-09    | 19.09684938  | down |
| BCL6     | -1.917291599 | 9.549170222 | -14.76048067 | 9.83E-13    | 4.11E-09    | 18.86185842  | down |
| RHOB     | -1.964720739 | 11.37749727 | -13.84209452 | 3.45E-12    | 9.60E-09    | 17.72973115  | down |
| SLC19A2  | -2.84880611  | 7.215643676 | -13.7686865  | 3.83E-12    | 9.60E-09    | 17.63587759  | down |
| GADD45A  | -2.876270796 | 9.122152752 | -12.60228485 | 2.10E-11    | 4.29E-08    | 16.07326206  | down |
| NFIL3    | -3.761767141 | 9.092067404 | -12.23863833 | 3.66E-11    | 5.75E-08    | 15.55725196  | down |
| CEBPD    | -2.367458119 | 10.15915176 | -11.99141211 | 5.39E-11    | 6.91E-08    | 15.19818247  | down |
| SIK1     | -3.311701246 | 7.755284502 | -11.97787305 | 5.50E-11    | 6.91E-08    | 15.17832175  | down |
| GADD45B  | -3.287984716 | 9.107018655 | -11.35954649 | 1.48E-10    | 1.69E-07    | 14.24894227  | down |
| MAFF     | -3.943571571 | 7.620268789 | -11.20528792 | 1.91E-10    | 2.00E-07    | 14.01010905  | down |
| TIPARP   | -1.847737263 | 8.869961774 | -11.11031737 | 2.24E-10    | 2.16E-07    | 13.8616495   | down |
| KLF4     | -1.702961955 | 10.68739296 | -10.62282831 | 5.09E-10    | 4.18E-07    | 13.08220934  | down |
| MYC      | -2.563426889 | 9.147936099 | -10.45781784 | 6.77E-10    | 4.55E-07    | 12.81164637  | down |
| DDIT4    | -3.224258037 | 9.925989724 | -10.4479482  | 6.88E-10    | 4.55E-07    | 12.79535361  | down |
| NFKBIA   | -2.291991223 | 10.82653798 | -10.29475461 | 8.99E-10    | 5.64E-07    | 12.5408595   | down |
| DUSP2    | -3.230435352 | 4.4557416   | -9.820475976 | 2.09E-09    | 1.19E-06    | 11.73355999  | down |
| BTG2     | -1.618079804 | 8.694335401 | -9.77031565  | 2.29E-09    | 1.25E-06    | 11.64643582  | down |
| MT1M     | -2.781150925 | 9.637962913 | -9.739613004 | 2.42E-09    | 1.27E-06    | 11.59294133  | down |
| HNRNP1A1 | -1.44166225  | 8.285580274 | -9.256677108 | 5.91E-09    | 2.53E-06    | 10.73465022  | down |
| CDKN1A   | -2.355402967 | 9.037395189 | -9.213395874 | 6.41E-09    | 2.53E-06    | 10.65616437  | down |

|          |              |             |              |          |             |             |      |
|----------|--------------|-------------|--------------|----------|-------------|-------------|------|
| BTG1     | -1.252927596 | 10.70384447 | -9.201197721 | 6.56E-09 | 2.53E-06    | 10.63399735 | down |
| PPP1R15A | -2.447438618 | 8.721777658 | -9.193574983 | 6.65E-09 | 2.53E-06    | 10.62013448 | down |
| C10orf10 | -2.186211782 | 9.549195169 | -9.156773029 | 7.13E-09 | 2.63E-06    | 10.55309192 | down |
| RPGR     | -1.778347187 | 5.629510614 | -9.022218719 | 9.21E-09 | 3.30E-06    | 10.30636374 | down |
| APOLD1   | -3.365508215 | 7.647795606 | -8.922556113 | 1.11E-08 | 3.78E-06    | 10.12197913 | down |
| MTHFD2   | -1.865314219 | 8.726168476 | -8.898321633 | 1.17E-08 | 3.85E-06    | 10.07693187 | down |
| ATF3     | -3.155766739 | 8.5911392   | -8.790090748 | 1.44E-08 | 4.59E-06    | 9.874738769 | down |
| ZFP36    | -2.340388336 | 10.62597346 | -8.714640444 | 1.67E-08 | 5.10E-06    | 9.73280355  | down |
| PLIN2    | -2.495655223 | 8.237778737 | -8.656132989 | 1.87E-08 | 5.58E-06    | 9.622183893 | down |
| NPAS2    | -1.794003005 | 5.205742909 | -8.561709126 | 2.25E-08 | 6.41E-06    | 9.442628451 | down |
| PIGA     | -2.497616682 | 6.258377018 | -8.523214432 | 2.42E-08 | 6.76E-06    | 9.369062007 | down |
| IERS5    | -1.968926103 | 8.718441578 | -8.510824381 | 2.48E-08 | 6.77E-06    | 9.345338542 | down |
| SLC16A7  | -2.349541499 | 6.943040336 | -8.500431657 | 2.53E-08 | 6.77E-06    | 9.325422458 | down |
| ADCY2    | -1.834904902 | 5.87997646  | -8.384681652 | 3.19E-08 | 7.69E-06    | 9.102559049 | down |
| TNFAIP3  | -2.285795519 | 8.468811221 | -8.336388645 | 3.51E-08 | 8.13E-06    | 9.009008016 | down |
| CXCL2    | -3.601069195 | 8.120884339 | -8.329003717 | 3.56E-08 | 8.13E-06    | 8.994672729 | down |
| ADAMTS   | -1.729662378 | 9.116048729 | -8.307250074 | 3.72E-08 | 8.34E-06    | 8.952399983 | down |
| NEDD9    | -1.501953179 | 6.784767641 | -8.161832051 | 4.98E-08 | 1.07E-05    | 8.668067496 | down |
| RGS2     | -2.05150282  | 9.217556608 | -8.158514784 | 5.02E-08 | 1.07E-05    | 8.661545791 | down |
| BAG3     | -1.851503375 | 9.130695485 | -8.098194089 | 5.67E-08 | 1.16E-05    | 8.54267942  | down |
| SLCO4A1  | -3.745741091 | 6.310078141 | -8.070354242 | 6.00E-08 | 1.16E-05    | 8.487642018 | down |
| MCL1     | -1.266216086 | 9.127633808 | -8.054839529 | 6.19E-08 | 1.17E-05    | 8.456922031 | down |
| WEE1     | -1.29274696  | 6.431787547 | -8.039293694 | 6.39E-08 | 1.18E-05    | 8.426105601 | down |
| ADM      | -2.791389081 | 9.693674256 | -7.968110425 | 7.39E-08 | 1.31E-05    | 8.284554126 | down |
| SLC39A14 | -1.778172056 | 10.53571562 | -7.945185301 | 7.74E-08 | 1.35E-05    | 8.238810776 | down |
| CYP4B1   | -5.822918925 | 5.884071387 | -7.91192094  | 8.29E-08 | 1.42E-05    | 8.172302368 | down |
| CCNL1    | -2.016259142 | 9.140631982 | -7.896297842 | 8.56E-08 | 1.45E-05    | 8.141010634 | down |
| SPEN     | -1.036791938 | 8.165821933 | -7.861672137 | 9.19E-08 | 1.52E-05    | 8.071532857 | down |
| KLF2     | -1.528632923 | 10.5239841  | -7.815471923 | 1.01E-07 | 1.63E-05    | 7.978561228 | down |
| SRSF7    | -1.17335215  | 8.586220393 | -7.748942799 | 1.16E-07 | 1.84E-05    | 7.844140141 | down |
| BTG3     | -1.174364364 | 7.754534501 | -7.738049555 | 1.19E-07 | 1.86E-05    | 7.822069783 | down |
| CXCL8    | -3.507633749 | 7.181811491 | -7.721050425 | 1.23E-07 | 1.90E-05    | 7.787594415 | down |
| MT1E     | -1.274234948 | 11.70350783 | -7.686172744 | 1.32E-07 | 2.00E-05    | 7.716730004 | down |
| RND3     | -1.198513365 | 9.830634673 | -7.641025482 | 1.45E-07 | 2.17E-05    | 7.624740164 | down |
| MT1G     | -1.515806751 | 10.19631355 | -7.618003035 | 1.52E-07 | 2.25E-05    | 7.577718033 | down |
| NAMPT    | -2.528863396 | 8.801729118 | -7.602197132 | 1.58E-07 | 2.28E-05    | 7.545391264 | down |
| ZFAND5   | -1.5949874   | 9.710168735 | -7.60099836  | 1.58E-07 | 2.28E-05    | 7.542938033 | down |
| MT1X     | -1.455477882 | 12.200987   | -7.589595705 | 1.62E-07 | 2.31E-05    | 7.519592718 | down |
| CCDC59   | -1.345278546 | 7.236675306 | -7.577958231 | 1.66E-07 | 2.34E-05    | 7.495747419 | down |
| FOSB     | -5.088545291 | 9.031331505 | -7.339155795 | 2.75E-07 | 3.55E-05    | 7.002163878 | down |
| CYR61    | -2.28424593  | 9.698455432 | -7.332200665 | 2.79E-07 | 3.57E-05    | 6.987666507 | down |
| ABTB2    | -1.31354717  | 6.694746267 | -7.29427128  | 3.02E-07 | 3.83E-05    | 6.908485287 | down |
| DNAJB1   | -1.541404875 | 8.839343144 | -7.243553209 | 3.37E-07 | 4.06E-05    | 6.802288385 | down |
| SLC2A3   | -3.043772663 | 7.080251666 | -7.231110745 | 3.46E-07 | 4.13E-05    | 6.776180037 | down |
| PNRC1    | -1.645934423 | 9.620655691 | -7.209729018 | 3.62E-07 | 4.25E-05    | 6.731263239 | down |
| APOD     | -4.048620814 | 9.572698153 | -7.20125897  | 3.69E-07 | 4.28E-05    | 6.713452326 | down |
| PIM1     | -2.111659779 | 7.941323629 | -7.187541527 | 3.80E-07 | 4.37E-05    | 6.684585731 | down |
| ANGPTL7  | -4.323554566 | 5.613898156 | -7.154046779 | 4.08E-07 | 4.61E-05    | 6.613989278 | down |
| IFRD1    | -1.548696573 | 6.910242525 | -7.141454    | 4.19E-07 | 4.70E-05    | 6.587406939 | down |
| FAM107A  | -2.34290252  | 6.20591674  | -7.118031644 | 4.41E-07 | 4.86E-05    | 6.537905189 | down |
| VEGFA    | -2.314987006 | 7.404017985 | -7.059452702 | 5.01E-07 | 5.37E-05    | 6.413766707 | down |
| GABARA1  | -1.514882601 | 8.150976956 | -7.043454491 | 5.18E-07 | 5.51E-05    | 6.379780779 | down |
| ARID5B   | -1.341859675 | 9.908249961 | -6.997263947 | 5.73E-07 | 5.93E-05    | 6.281456249 | down |
| AASS     | -1.811852044 | 5.233527296 | -6.981507756 | 5.93E-07 | 5.95E-05    | 6.247848939 | down |
| JUND     | -1.208884352 | 9.926646038 | -6.949083475 | 6.37E-07 | 6.29E-05    | 6.178581509 | down |
| IL1B     | -1.474225731 | 6.596626837 | -6.913964202 | 6.87E-07 | 6.63E-05    | 6.103393646 | down |
| CEBPB    | -1.189025803 | 11.70512333 | -6.902117559 | 7.05E-07 | 6.72E-05    | 6.077992664 | down |
| MT1F     | -1.574827737 | 10.64383855 | -6.878996372 | 7.42E-07 | 6.95E-05    | 6.028362059 | down |
| ZBTB16   | -2.658912752 | 8.710098432 | -6.855101057 | 7.82E-07 | 7.19E-05    | 5.97699307  | down |
| PMAIP1   | -3.028554041 | 5.603570178 | -6.822260929 | 8.40E-07 | 7.58E-05    | 5.906268186 | down |
| NR4A2    | -2.498331318 | 7.26720735  | -6.811177224 | 8.61E-07 | 7.58E-05    | 5.882365158 | down |
| DUSP5    | -1.692393301 | 7.192699363 | -6.809941837 | 8.63E-07 | 7.58E-05    | 5.879699901 | down |
| PTGS2    | -3.247565227 | 5.877449425 | -6.6969005   | 1.11E-06 | 9.21E-05    | 5.634951596 | down |
| HMG2     | -1.522085662 | 8.514099267 | -6.666009054 | 1.19E-06 | 9.80E-05    | 5.567770429 | down |
| ADH1B    | -2.71779919  | 7.223227287 | -6.661617703 | 1.20E-06 | 9.83E-05    | 5.558210051 | down |
| RBPMS    | -1.279707302 | 7.529789646 | -6.656376437 | 1.21E-06 | 9.88E-05    | 5.546795984 | down |
| CXCL3    | -3.478883387 | 5.523354212 | -6.607926325 | 1.35E-06 | 0.000107213 | 5.441112829 | down |
| RRAD     | -2.807102881 | 5.168762504 | -6.553478769 | 1.52E-06 | 0.000119533 | 5.321979679 | down |



|          |              |             |              |          |             |             |      |
|----------|--------------|-------------|--------------|----------|-------------|-------------|------|
| TGIF1    | -1.075399836 | 7.715558825 | -6.531083761 | 1.60E-06 | 0.000124377 | 5.272866425 | down |
| EMP1     | -1.103989354 | 9.410792906 | -6.395132718 | 2.17E-06 | 0.000155104 | 4.973334736 | down |
| ZFP36L2  | -1.254641397 | 9.93994796  | -6.390066136 | 2.20E-06 | 0.000155104 | 4.962126412 | down |
| IRS2     | -1.600218137 | 8.18641627  | -6.387293712 | 2.21E-06 | 0.000155104 | 4.955991872 | down |
| MTSS1    | -1.061496197 | 7.708663812 | -6.340112674 | 2.46E-06 | 0.00016417  | 4.851446541 | down |
| CDC42EP1 | -1.26383145  | 6.326507536 | -6.338020924 | 2.47E-06 | 0.00016417  | 4.846805132 | down |
| GPR183   | -1.90381952  | 7.263878935 | -6.323869836 | 2.55E-06 | 0.000167518 | 4.815390809 | down |
| PHC2     | -1.070036961 | 9.11553934  | -6.305304788 | 2.66E-06 | 0.000169597 | 4.774140177 | down |
| MID1IP1  | -1.444700593 | 8.352425612 | -6.286732553 | 2.78E-06 | 0.000173361 | 4.732830982 | down |
| CBLB     | -1.604453704 | 7.716252476 | -6.274255807 | 2.86E-06 | 0.000175662 | 4.70505582  | down |
| ARL4C    | -1.13928615  | 6.961705992 | -6.272221004 | 2.87E-06 | 0.000175662 | 4.700524223 | down |
| KLF6     | -1.454862744 | 8.235258255 | -6.249153431 | 3.02E-06 | 0.000183311 | 4.649116314 | down |
| BNIP3    | -1.30197156  | 7.393893765 | -6.241581919 | 3.08E-06 | 0.000184704 | 4.63222846  | down |
| RORA     | -1.288394084 | 5.802861205 | -6.210699008 | 3.30E-06 | 0.000192963 | 4.563273758 | down |
| RND1     | -2.018016326 | 5.115575963 | -6.209883308 | 3.31E-06 | 0.000192963 | 4.561450919 | down |
| EDNRB    | -1.540324771 | 7.109047241 | -6.197197769 | 3.40E-06 | 0.000196974 | 4.533092318 | down |
| ABLIM1   | -1.366806124 | 8.284431583 | -6.15799329  | 3.72E-06 | 0.000210325 | 4.445328644 | down |
| FND4     | -2.11164885  | 6.296102805 | -6.142417902 | 3.86E-06 | 0.000215029 | 4.410410606 | down |
| JUN      | -2.127344804 | 9.461586349 | -6.132868993 | 3.94E-06 | 0.000216829 | 4.388988984 | down |
| GTPBP4   | -1.015261416 | 6.600468239 | -6.129142246 | 3.97E-06 | 0.000216829 | 4.38062564  | down |
| DDX21    | -1.548445083 | 9.182709172 | -6.098542397 | 4.26E-06 | 0.000227593 | 4.311893622 | down |
| IER2     | -1.527485608 | 11.1172559  | -6.094742353 | 4.30E-06 | 0.000228607 | 4.303350491 | down |
| SOCS3    | -1.740693397 | 6.998739059 | -6.084913056 | 4.40E-06 | 0.000229912 | 4.2812448   | down |
| UAP1     | -1.264904963 | 10.59665908 | -6.072854287 | 4.52E-06 | 0.000235369 | 4.254109799 | down |
| CRISPLD2 | -2.053948274 | 9.018318806 | -6.066314668 | 4.59E-06 | 0.000236875 | 4.239387118 | down |
| THAP9-A1 | -1.118336764 | 6.436001727 | -6.060320745 | 4.65E-06 | 0.000238184 | 4.225888631 | down |
| IL1R1    | -1.388205797 | 9.256370507 | -6.058705699 | 4.67E-06 | 0.000238184 | 4.22250793  | down |
| SPRY2    | -1.437324883 | 7.807145866 | -6.055144551 | 4.71E-06 | 0.000239165 | 4.214228363 | down |
| GLRX     | -1.491729503 | 9.709810279 | -6.053271428 | 4.73E-06 | 0.000239226 | 4.21000807  | down |
| LAMA2    | -1.880670562 | 6.816809797 | -6.022676427 | 5.07E-06 | 0.000251453 | 4.14101828  | down |
| HIST1H1C | -1.383698356 | 6.261457961 | -5.928699937 | 5.47E-06 | 0.000266465 | 4.066539235 | down |
| SLC38A1  | -1.071366153 | 6.506945244 | -5.987430087 | 5.50E-06 | 0.000266465 | 4.061408153 | down |
| STC1     | -1.646189818 | 6.187412728 | -5.955678943 | 5.92E-06 | 0.000284478 | 3.989573059 | down |
| ACADL    | -1.967584364 | 3.905803912 | -5.951889497 | 5.97E-06 | 0.000285878 | 3.980992162 | down |
| OGFRL1   | -1.114872645 | 6.261264821 | -5.872034979 | 7.18E-06 | 0.000339875 | 3.799801463 | down |
| ETS2     | -1.265358406 | 7.987159853 | -5.816795473 | 8.16E-06 | 0.000376785 | 3.674060569 | down |
| AF007147 | -1.789334356 | 5.452604454 | -5.81627823  | 8.17E-06 | 0.000376785 | 3.672881652 | down |
| MAGI2    | -1.058620995 | 6.137010106 | -5.80129343  | 8.46E-06 | 0.000388688 | 3.638715679 | down |
| LDLR     | -1.95359006  | 5.983288265 | -5.792303149 | 8.63E-06 | 0.000394    | 3.618206233 | down |
| TIMP4    | -1.994263116 | 8.038207087 | -5.760402245 | 9.30E-06 | 0.000416743 | 3.545363631 | down |
| AREG     | -1.670731324 | 3.938440672 | -5.749298783 | 9.54E-06 | 0.000426126 | 3.5199855   | down |
| HIFX     | -1.775501477 | 9.002563957 | -5.735080768 | 9.86E-06 | 0.000438902 | 3.487470463 | down |
| DUOX2    | -2.790183354 | 5.01823742  | -5.70068262  | 1.07E-05 | 0.00047218  | 3.408721655 | down |
| ZFH3     | -1.44475623  | 6.442594886 | -5.69823954  | 1.07E-05 | 0.000473212 | 3.403124149 | down |
| SVEP1    | -1.017829676 | 6.806536121 | -5.690087152 | 1.10E-05 | 0.000478936 | 3.384441389 | down |
| CCDC69   | -1.649855802 | 6.150079427 | -5.615711178 | 1.30E-05 | 0.000558179 | 3.213695825 | down |
| SIAH2    | -1.727114816 | 5.738025589 | -5.558341704 | 1.49E-05 | 0.000615396 | 3.081633942 | down |
| WASF3    | -1.147948852 | 8.111185554 | -5.553374547 | 1.51E-05 | 0.000619441 | 3.070185494 | down |
| ZNF395   | -1.327393822 | 8.534711968 | -5.533147635 | 1.58E-05 | 0.000642326 | 3.023542818 | down |
| MAOA     | -1.907931345 | 7.806975633 | -5.521392766 | 1.63E-05 | 0.000653503 | 2.996419524 | down |
| PKD1P1   | -1.464799587 | 4.895932212 | -5.506290711 | 1.68E-05 | 0.000666906 | 2.961554852 | down |
| EGR1     | -1.373979349 | 9.875611282 | -5.488207529 | 1.76E-05 | 0.00068666  | 2.919781508 | down |
| HSD11B1  | -1.136039799 | 7.245672859 | -5.473806697 | 1.82E-05 | 0.000704323 | 2.886494257 | down |
| MT1H     | -1.356099227 | 11.73980511 | -5.460843636 | 1.87E-05 | 0.000723921 | 2.856515098 | down |
| JUNB     | -1.601607359 | 10.11931121 | -5.457579357 | 1.89E-05 | 0.000727272 | 2.848963662 | down |
| MAP3K8   | -1.822103093 | 6.388636724 | -5.438617383 | 1.98E-05 | 0.000755528 | 2.805080021 | down |
| SNORA21  | -2.029280916 | 3.634879829 | -5.432401438 | 2.00E-05 | 0.00076008  | 2.790687887 | down |
| GPR56    | -1.532792752 | 5.416385166 | -5.422083644 | 2.05E-05 | 0.000776459 | 2.766791389 | down |
| ARL4A    | -1.287743879 | 7.288698061 | -5.412500477 | 2.10E-05 | 0.000789461 | 2.744588419 | down |
| CCL8     | -1.560806897 | 6.966289637 | -5.384904646 | 2.24E-05 | 0.000832644 | 2.680610414 | down |
| NR4A1    | -1.837602565 | 6.699697953 | -5.375394936 | 2.29E-05 | 0.000849054 | 2.6585489   | down |
| WASF1    | -1.007953087 | 6.007985017 | -5.366611339 | 2.34E-05 | 0.000860669 | 2.638165477 | down |
| FOXO3    | -1.497759921 | 9.818398031 | -5.355769788 | 2.40E-05 | 0.000876434 | 2.612997894 | down |
| INHBB    | -1.857836735 | 6.784585731 | -5.353102956 | 2.42E-05 | 0.000876897 | 2.606805692 | down |
| ZNF331   | -1.118378038 | 7.937202622 | -5.344267626 | 2.47E-05 | 0.000892838 | 2.586286688 | down |
| PHKA1    | -2.025949528 | 4.600009373 | -5.315730598 | 2.64E-05 | 0.000933713 | 2.519971641 | down |
| GJA4     | -1.704882737 | 6.723888532 | -5.279383133 | 2.88E-05 | 0.000995287 | 2.435417452 | down |
| CDH19    | -2.404464377 | 3.997824808 | -5.274611846 | 2.91E-05 | 0.001003849 | 2.424310882 | down |

|           |              |             |              |             |             |             |      |
|-----------|--------------|-------------|--------------|-------------|-------------|-------------|------|
| RHOBTB3   | -1.086222479 | 7.629500951 | -5.267304575 | 2.96E-05    | 0.001015821 | 2.407297853 | down |
| BZW1      | -1.163153543 | 9.963469772 | -5.255168082 | 3.05E-05    | 0.001037004 | 2.379032762 | down |
| SPRY1     | -1.290300963 | 8.149019639 | -5.202677966 | 3.45E-05    | 0.001131804 | 2.256667386 | down |
| MAY1B     | -1.159658461 | 7.459978618 | -5.198592049 | 3.49E-05    | 0.001139866 | 2.24713433  | down |
| ARNTL     | -1.634871086 | 5.733299624 | -5.18107199  | 3.64E-05    | 0.001179166 | 2.206244761 | down |
| BIN3-IT1  | -1.198624625 | 5.60754844  | -5.178522129 | 3.66E-05    | 0.001182388 | 2.200292022 | down |
| TSKU      | -1.317556257 | 8.014573921 | -5.177759125 | 3.67E-05    | 0.001182388 | 2.198510678 | down |
| PPAP2B    | -1.193100401 | 10.86622699 | -5.153158567 | 3.89E-05    | 0.001225357 | 2.141056882 | down |
| TRIB1     | -1.303642468 | 9.088081408 | -5.149995703 | 3.92E-05    | 0.00122845  | 2.133667298 | down |
| NID1      | -1.063357554 | 7.536978363 | -5.137634852 | 4.03E-05    | 0.001245586 | 2.104781875 | down |
| CHD1      | -1.255601777 | 7.225887394 | -5.136899077 | 4.04E-05    | 0.001245586 | 2.103062178 | down |
| CITED2    | -1.272425302 | 7.868315372 | -5.09920706  | 4.42E-05    | 0.001349451 | 2.014921811 | down |
| ADAMTS:   | -1.719532988 | 9.258377289 | -5.095843673 | 4.46E-05    | 0.001357021 | 2.007052592 | down |
| TMEM38E   | -1.473427554 | 5.735910158 | -5.076509487 | 4.67E-05    | 0.001407443 | 1.961804113 | down |
| MYOC      | -2.440649487 | 7.270605346 | -5.062025792 | 4.83E-05    | 0.001443096 | 1.927893328 | down |
| PELI1     | -1.443088078 | 8.018563136 | -5.040132129 | 5.09E-05    | 0.001502701 | 1.876611253 | down |
| FHL5      | -1.186221952 | 6.463337664 | -5.02886131  | 5.23E-05    | 0.001525785 | 1.850201131 | down |
| CCL4      | -1.19238239  | 7.777095343 | -5.011858845 | 5.45E-05    | 0.001578088 | 1.810347669 | down |
| CNOT8     | -1.006369682 | 7.640367811 | -5.006928944 | 5.51E-05    | 0.001589466 | 1.798789251 | down |
| HAS1      | -1.935848314 | 9.130241469 | -5.002608004 | 5.57E-05    | 0.001602298 | 1.788657548 | down |
| CDC42EP:  | -1.100209141 | 7.696060305 | -4.982673559 | 5.84E-05    | 0.001649925 | 1.741903204 | down |
| LINC0031: | -1.177068179 | 7.904504794 | -4.97590671  | 5.93E-05    | 0.001662285 | 1.72602772  | down |
| TGFBR3    | -1.307707867 | 9.827799586 | -4.925190202 | 6.70E-05    | 0.00184817  | 1.606974379 | down |
| SOCS2     | -1.004651689 | 7.141719583 | -4.89820287  | 7.15E-05    | 0.001933496 | 1.543576647 | down |
| FLJ10038  | -1.097639958 | 5.817734614 | -4.896324504 | 7.18E-05    | 0.001933893 | 1.539162908 | down |
| SLC6A8    | -1.190262512 | 6.143645233 | -4.880618204 | 7.46E-05    | 0.001982577 | 1.502250967 | down |
| SDC4      | -1.470819084 | 8.929924658 | -4.845043486 | 8.12E-05    | 0.002114631 | 1.418609808 | down |
| DPYSL4    | -1.172458544 | 4.281278773 | -4.842952192 | 8.16E-05    | 0.00211727  | 1.413691406 | down |
| FAM134B   | -1.095526074 | 8.22274971  | -4.842800336 | 8.17E-05    | 0.00211727  | 1.41333426  | down |
| SLC5A6    | -1.173083017 | 6.791287501 | -4.823191777 | 8.56E-05    | 0.002201216 | 1.367210272 | down |
| ZBTB43    | -1.02944698  | 6.633143369 | -4.797261306 | 9.11E-05    | 0.002323745 | 1.306195576 | down |
| PPARGC1   | -2.014220312 | 4.556456345 | -4.769581953 | 9.74E-05    | 0.002434238 | 1.24104234  | down |
| TFRC      | -1.505908955 | 7.96621428  | -4.767920145 | 9.78E-05    | 0.002439131 | 1.237129958 | down |
| ELL2      | -1.734581893 | 5.872213342 | -4.762653125 | 9.90E-05    | 0.0024628   | 1.224729335 | down |
| NFKB2     | -1.199051379 | 5.498322319 | -4.748879848 | 0.000102359 | 0.002518443 | 1.192298018 | down |
| EIF2AK3   | -1.035930406 | 7.797261336 | -4.735684438 | 0.000105663 | 0.002592603 | 1.16122264  | down |
| VPRBP     | -1.08935477  | 4.801363379 | -4.707992464 | 0.000112949 | 0.002709924 | 1.095993652 | down |
| FOXO4     | -1.207460618 | 4.56796371  | -4.695597341 | 0.000116373 | 0.002779286 | 1.066791022 | down |
| MKNK2     | -1.125037978 | 9.42476519  | -4.695126903 | 0.000116505 | 0.002779286 | 1.065682616 | down |
| DUSP1     | -1.359070112 | 11.1438216  | -4.683687756 | 0.000119761 | 0.002840756 | 1.038729279 | down |
| LAMA3     | -2.531200361 | 4.969720809 | -4.672172421 | 0.000123131 | 0.002904227 | 1.011593826 | down |
| CTH       | -1.153912615 | 5.06779975  | -4.643465625 | 0.000131954 | 0.003060561 | 0.943937095 | down |
| CEP72     | -1.420633682 | 4.32865233  | -4.573988903 | 0.000156035 | 0.003483845 | 0.780146467 | down |
| DYRK3     | -1.747724893 | 5.839675165 | -4.563038368 | 0.000160214 | 0.003560403 | 0.754326519 | down |
| RRS1      | -1.200491796 | 6.668582818 | -4.562778687 | 0.000160315 | 0.003560403 | 0.753714218 | down |
| ARHGAP6   | -1.588418691 | 6.564899308 | -4.557478393 | 0.000162379 | 0.003593535 | 0.741216536 | down |
| MUC1      | -1.092800705 | 5.768880808 | -4.555077215 | 0.000163323 | 0.003601723 | 0.735554694 | down |
| CSRP2     | -1.153213865 | 7.082189359 | -4.553773285 | 0.000163838 | 0.003603859 | 0.732480089 | down |
| SPSB1     | -1.204994502 | 7.098177102 | -4.546774031 | 0.000166631 | 0.00364265  | 0.715976048 | down |
| PLK2      | -1.32108079  | 6.310126316 | -4.512004767 | 0.000181227 | 0.003841279 | 0.633989011 | down |
| SASH1     | -1.172781989 | 9.87154186  | -4.487035076 | 0.000192496 | 0.003985869 | 0.57510953  | down |
| GCH1      | -2.045647069 | 6.656188896 | -4.47001775  | 0.000200576 | 0.00412595  | 0.534983079 | down |
| SNRPA1    | -1.014984626 | 7.305105647 | -4.454298853 | 0.000208342 | 0.004254135 | 0.497919665 | down |
| CD69      | -1.276809134 | 6.156504723 | -4.41377969  | 0.000229781 | 0.004576655 | 0.402389561 | down |
| REV3L     | -1.053327376 | 8.571638042 | -4.393146542 | 0.000241535 | 0.004742998 | 0.353751152 | down |
| ARC       | -2.793500696 | 4.242012506 | -4.37778695  | 0.000250674 | 0.004831725 | 0.317548221 | down |
| PHACTR1   | -1.295695097 | 4.268106747 | -4.370659245 | 0.000255032 | 0.004893176 | 0.3007494   | down |
| IL15RA    | -1.823468358 | 5.515971113 | -4.365212293 | 0.000258413 | 0.004920437 | 0.28791246  | down |
| GATA6     | -1.437727184 | 5.123228281 | -4.343785933 | 0.000272156 | 0.005127649 | 0.237422186 | down |
| TRAF3IP2  | -1.202050627 | 7.160531297 | -4.335971799 | 0.000277348 | 0.005194277 | 0.219010951 | down |
| LRCH1     | -1.625786892 | 3.407269559 | -4.322309019 | 0.000286666 | 0.005321132 | 0.186822846 | down |
| IL6       | -2.810357827 | 7.271345201 | -4.31570598  | 0.000291281 | 0.005390844 | 0.171268403 | down |
| FKBP5     | -3.529619296 | 5.720755884 | -4.297808003 | 0.000304167 | 0.005571808 | 0.129112786 | down |
| C8orf4    | -1.650629218 | 5.267912686 | -4.285452553 | 0.000313394 | 0.005690983 | 0.100016854 | down |
| AGTR1     | -1.121585701 | 8.187658616 | -4.279036363 | 0.000318296 | 0.005738467 | 0.084909107 | down |
| TJP2      | -1.000683896 | 6.272979703 | -4.270304438 | 0.00032509  | 0.0058358   | 0.064350706 | down |
| AOX1      | -1.309944565 | 7.365578939 | -4.263806055 | 0.00033024  | 0.005906777 | 0.049052524 | down |
| TAF15     | -1.003122236 | 6.664866282 | -4.263535798 | 0.000330456 | 0.005906777 | 0.048416327 | down |

|           |              |             |              |             |             |              |      |
|-----------|--------------|-------------|--------------|-------------|-------------|--------------|------|
| FASN      | -1.234442127 | 6.201258338 | -4.261906498 | 0.00033176  | 0.005921665 | 0.044580937  | down |
| RGS16     | -1.330233087 | 7.933630067 | -4.219002399 | 0.000368038 | 0.006487342 | -0.056382158 | down |
| KIF1C     | -1.524592938 | 4.360530855 | -4.206346773 | 0.000379477 | 0.006631858 | -0.086150392 | down |
| PSG7      | -1.31551258  | 4.788247943 | -4.189005221 | 0.00039573  | 0.006844824 | -0.126929956 | down |
| ACKR1     | -2.268735635 | 8.8507351   | -4.179363399 | 0.000405066 | 0.006934199 | -0.149597556 | down |
| CLDN5     | -1.987809982 | 6.50645509  | -4.167146634 | 0.000417211 | 0.00701765  | -0.178312703 | down |
| IRAK3     | -1.164079816 | 5.782480244 | -4.157365378 | 0.000427197 | 0.007109369 | -0.201298208 | down |
| MLXIPL    | -1.244645075 | 5.184806091 | -4.144298725 | 0.000440909 | 0.007289233 | -0.231996977 | down |
| RGS1      | -2.406403389 | 7.085197716 | -4.140575186 | 0.000444896 | 0.007326195 | -0.240743489 | down |
| PDE4B     | -1.281936545 | 7.562757423 | -4.136472213 | 0.000449332 | 0.007379863 | -0.25038046  | down |
| APOB      | -1.119751951 | 6.091415694 | -4.089760608 | 0.000503044 | 0.008041016 | -0.360031674 | down |
| PNMT      | -1.550344427 | 5.132209921 | -4.075579664 | 0.000520583 | 0.008279179 | -0.393295417 | down |
| CYP26B1   | -1.010029323 | 6.76287204  | -4.073285483 | 0.000523477 | 0.008293707 | -0.398675651 | down |
| MSX1      | -1.026978265 | 6.734753556 | -4.064322876 | 0.000534937 | 0.008433974 | -0.419691327 | down |
| SLC6A3    | -1.998259671 | 6.223965727 | -4.060896153 | 0.000539385 | 0.008450355 | -0.427725037 | down |
| ID2       | -1.000991287 | 9.17852849  | -4.020308436 | 0.000594948 | 0.009146369 | -0.522821524 | down |
| PLA2G2E   | -1.513585066 | 4.129266669 | -4.008476677 | 0.000612192 | 0.009296537 | -0.550521925 | down |
| HS3ST2    | -1.217811051 | 7.318715848 | -3.969445756 | 0.000672679 | 0.009989084 | -0.641827747 | down |
| LONRF1    | -1.133166828 | 6.320224737 | -3.961470956 | 0.00068575  | 0.010135204 | -0.660468963 | down |
| EGLN3     | -1.420226131 | 5.706349106 | -3.960402671 | 0.00068752  | 0.010141052 | -0.662965712 | down |
| LOC10050  | -1.663081273 | 3.473787755 | -3.951426307 | 0.000702573 | 0.010286911 | -0.683941241 | down |
| FOXC2     | -1.871952349 | 4.224746164 | -3.925296234 | 0.00074828  | 0.010755349 | -0.744962861 | down |
| PFKFB3    | -1.267089106 | 7.934667109 | -3.921515547 | 0.000755133 | 0.010816684 | -0.753787115 | down |
| IER3      | -1.847793428 | 9.715863383 | -3.907251684 | 0.000781555 | 0.011131617 | -0.787068227 | down |
| ERO1LB    | -1.608823459 | 4.070125374 | -3.905831191 | 0.000784236 | 0.011157138 | -0.790381603 | down |
| NEUROG3   | -1.650593123 | 3.576706272 | -3.867829138 | 0.000859445 | 0.011956005 | -0.878954834 | down |
| PLK3      | -1.001416384 | 6.548664886 | -3.865082064 | 0.000865151 | 0.012002523 | -0.885352309 | down |
| RP11-769C | -1.467199874 | 4.84945301  | -3.862284377 | 0.000871001 | 0.01203669  | -0.891866905 | down |
| NIP7      | -1.015569568 | 5.430766955 | -3.854946238 | 0.00088653  | 0.012144306 | -0.908950618 | down |
| LMOD1     | -1.98018945  | 6.388845511 | -3.841800008 | 0.000915041 | 0.012399233 | -0.939542685 | down |
| PRG2      | -1.715521046 | 4.461811705 | -3.841360674 | 0.00091601  | 0.012399233 | -0.940564741 | down |
| KCNE4     | -1.107307033 | 6.934116075 | -3.833505686 | 0.000933495 | 0.012541215 | -0.958835136 | down |
| GPRC5A    | -1.792098672 | 7.739337388 | -3.830347149 | 0.000940619 | 0.012623405 | -0.966179995 | down |
| CHST7     | -2.520786412 | 5.134781379 | -3.825055736 | 0.000952674 | 0.012725207 | -0.97848234  | down |
| GDF15     | -1.972716726 | 5.685753636 | -3.802632279 | 0.00100548  | 0.013152727 | -1.030583494 | down |
| NES       | -1.042203832 | 7.108057039 | -3.796655155 | 0.001020038 | 0.013236235 | -1.044462337 | down |
| IL1R2     | -1.744009758 | 4.348672883 | -3.758067644 | 0.001119172 | 0.014137059 | -1.133966825 | down |
| CRY1      | -1.158795815 | 6.81743479  | -3.734032262 | 0.001185673 | 0.01462698  | -1.189630602 | down |
| CRY2      | -1.703261918 | 5.44754939  | -3.715774166 | 0.001238784 | 0.015076876 | -1.231868224 | down |
| NR4A3     | -1.38090651  | 5.383503795 | -3.711936884 | 0.001250241 | 0.015157514 | -1.240740024 | down |
| EDN1      | -1.633707114 | 6.098777288 | -3.708501933 | 0.001260586 | 0.015196047 | -1.248680077 | down |
| OLFM4     | -1.473951703 | 2.725995497 | -3.704093998 | 0.001273985 | 0.015326908 | -1.258867053 | down |
| SLC7A5    | -2.354022297 | 5.795508133 | -3.703152008 | 0.001276867 | 0.015346861 | -1.261043726 | down |
| HSPA6     | -1.199851006 | 8.189132011 | -3.693592327 | 0.001306476 | 0.015627897 | -1.283127051 | down |
| MFAP5     | -2.092971945 | 7.629500909 | -3.659025495 | 0.001419304 | 0.016551508 | -1.362878832 | down |
| KLHL26    | -1.06896874  | 6.541375696 | -3.654683674 | 0.001434138 | 0.016662558 | -1.372884917 | down |
| THBS1     | -1.067115661 | 6.356691855 | -3.647541638 | 0.001458872 | 0.016825302 | -1.389338736 | down |
| NOX4      | -1.026753227 | 7.136108656 | -3.643877413 | 0.001471725 | 0.016942389 | -1.397777657 | down |
| AMPH      | -1.066003744 | 6.319371207 | -3.64220693  | 0.001477621 | 0.016994676 | -1.401624259 | down |
| RP11-473I | -1.052683981 | 5.734594899 | -3.640355228 | 0.001484184 | 0.017034988 | -1.405887699 | down |
| AKR1B10   | -1.373778948 | 6.446143262 | -3.636459039 | 0.001498088 | 0.017120226 | -1.414856899 | down |
| TM4SF1    | -1.531751572 | 8.006526211 | -3.626544972 | 0.001534048 | 0.017382801 | -1.437669923 | down |
| BRD4      | -1.038875105 | 8.126353447 | -3.588663287 | 0.001679445 | 0.018567115 | -1.524708483 | down |
| TWIST1    | -1.030493625 | 6.85691544  | -3.559118253 | 0.001802177 | 0.019528255 | -1.592444049 | down |
| RP1-68D1  | -1.211162277 | 4.899984107 | -3.547177619 | 0.001854243 | 0.020002308 | -1.619781157 | down |
| TOB1      | -1.017043879 | 9.00344426  | -3.540451235 | 0.001884221 | 0.020259817 | -1.635170763 | down |
| HILPDA    | -1.692295533 | 6.200320198 | -3.519688629 | 0.001979787 | 0.020875943 | -1.682628696 | down |
| PTX3      | -2.384338129 | 6.857083597 | -3.505532679 | 0.002047656 | 0.02142951  | -1.714945138 | down |
| FMO2      | -1.135096675 | 8.328394238 | -3.489053533 | 0.00212954  | 0.022083855 | -1.752523005 | down |
| LGALS1    | -1.199446285 | 3.692557772 | -3.47497537  | 0.00220203  | 0.022704248 | -1.784589225 | down |
| PDK1      | -1.029254511 | 3.336236511 | -3.450876501 | 0.002331769 | 0.023576982 | -1.839399755 | down |
| ICAM1     | -1.324372141 | 7.947895955 | -3.415122389 | 0.00253815  | 0.024855653 | -1.920526874 | down |
| H1FO      | -1.268321164 | 8.670691565 | -3.414927417 | 0.002539323 | 0.024855653 | -1.920968627 | down |
| THEG      | -1.047223248 | 4.97585887  | -3.403654926 | 0.002608051 | 0.025251407 | -1.946496847 | down |
| CNN1      | -1.337351521 | 6.599604631 | -3.40288752  | 0.002612795 | 0.025277838 | -1.94823388  | down |
| GGT5      | -1.303911029 | 6.196131715 | -3.397605109 | 0.002645683 | 0.025419623 | -1.960187658 | down |
| ADH1C     | -1.895289631 | 5.510976109 | -3.396893176 | 0.002650146 | 0.025443024 | -1.961798314 | down |
| KLHL29    | -1.748264241 | 3.960104342 | -3.391836852 | 0.002682057 | 0.025690423 | -1.973234805 | down |

|           |              |             |              |             |             |              |      |
|-----------|--------------|-------------|--------------|-------------|-------------|--------------|------|
| CH25H     | -1.286028174 | 5.929571662 | -3.364726817 | 0.00285966  | 0.026898815 | -2.034468454 | down |
| CCL25     | -1.148976619 | 4.093857933 | -3.353193527 | 0.002938653 | 0.027354759 | -2.060474941 | down |
| CDO1      | -1.297272937 | 10.38506493 | -3.349368999 | 0.002965314 | 0.027562048 | -2.06909302  | down |
| DDX3Y     | -2.70806769  | 5.949553413 | -3.345811834 | 0.002990324 | 0.027691943 | -2.077105987 | down |
| DCXR      | -1.637211586 | 6.678454939 | -3.343598635 | 0.003005988 | 0.027816473 | -2.082090209 | down |
| GRAMD3    | -1.292657746 | 6.049389671 | -3.300534629 | 0.003327196 | 0.029885221 | -2.17887151  | down |
| SNAI1     | -1.523734051 | 5.757741643 | -3.296344817 | 0.003360176 | 0.029993302 | -2.18826686  | down |
| RAMP2     | -2.189749522 | 6.168676344 | -3.27933696  | 0.003497351 | 0.030797857 | -2.226367039 | down |
| TPM2      | -1.00393181  | 6.226560051 | -3.276749021 | 0.003518696 | 0.030919186 | -2.232158923 | down |
| AQP8      | -1.000791658 | 4.8081792   | -3.267552679 | 0.003595576 | 0.031440622 | -2.252728747 | down |
| TEAD3     | -1.127461983 | 5.813471043 | -3.26203399  | 0.003642494 | 0.031762344 | -2.265063678 | down |
| SERPINE1  | -1.531898622 | 7.092661995 | -3.253641669 | 0.003714985 | 0.032146572 | -2.283808555 | down |
| CCL23     | -1.291584982 | 4.271233673 | -3.243819278 | 0.00380161  | 0.032583748 | -2.305727568 | down |
| CDA       | -1.331920116 | 4.145258282 | -3.242788244 | 0.003810816 | 0.03261932  | -2.308027096 | down |
| ANG       | -1.262001652 | 6.812035895 | -3.242382535 | 0.003814445 | 0.032626625 | -2.308931888 | down |
| FOS       | -1.420183384 | 11.3887702  | -3.241805566 | 0.003819611 | 0.032626625 | -2.310218551 | down |
| PDZRN3    | -1.024782563 | 5.321172917 | -3.236597009 | 0.003866554 | 0.03283636  | -2.321830409 | down |
| MYL2      | -1.117591446 | 4.670898974 | -3.236356404 | 0.003868736 | 0.03283636  | -2.322366661 | down |
| SOX17     | -1.01369777  | 6.515062962 | -3.232303615 | 0.00390567  | 0.033002258 | -2.331397373 | down |
| CCL20     | -2.910372968 | 3.838419054 | -3.21585525  | 0.004059116 | 0.033978511 | -2.368010021 | down |
| KCNK3     | -1.291698642 | 6.824164067 | -3.213367018 | 0.004082832 | 0.0341315   | -2.373543151 | down |
| CLSTN2    | -1.338259818 | 5.249340064 | -3.186095771 | 0.004351739 | 0.035689951 | -2.434091168 | down |
| NOS3      | -1.472105409 | 4.398421025 | -3.172558311 | 0.004491526 | 0.03659719  | -2.464081198 | down |
| ACACB     | -1.092606505 | 6.997526327 | -3.149890799 | 0.004735386 | 0.038089505 | -2.514197126 | down |
| CASQ2     | -1.441040839 | 5.331431022 | -3.149003663 | 0.004745186 | 0.038097037 | -2.516155922 | down |
| NOC4L     | -1.078466051 | 5.420809895 | -3.122397994 | 0.005048387 | 0.039840981 | -2.574809292 | down |
| USP36     | -1.152081849 | 5.283665043 | -3.106264329 | 0.005241284 | 0.040672623 | -2.610288694 | down |
| QTRT1     | -1.632120519 | 4.212997879 | -3.10456759  | 0.00526198  | 0.040782779 | -2.61401606  | down |
| RPS4Y1    | -2.890318034 | 7.782373893 | -3.101961748 | 0.005293918 | 0.041004986 | -2.61973907  | down |
| WNT11     | -1.113475671 | 3.963380807 | -3.091321114 | 0.005426287 | 0.04169568  | -2.643089814 | down |
| THBD      | -1.092231813 | 8.028738746 | -3.089961118 | 0.005443434 | 0.041754974 | -2.646072161 | down |
| FAM110D   | -1.493476065 | 4.460389786 | -3.089917374 | 0.005443986 | 0.041754974 | -2.64616808  | down |
| PLS1      | -1.400435277 | 5.289669823 | -3.082037033 | 0.005544386 | 0.04232723  | -2.663439219 | down |
| SCN3A     | -1.677592836 | 2.510693189 | -3.078650782 | 0.005588076 | 0.042454864 | -2.670855704 | down |
| TCEAL2    | -1.019062399 | 5.888637257 | -3.074121337 | 0.005647035 | 0.042660443 | -2.680771196 | down |
| LIF       | -2.500306876 | 5.866964173 | -3.070922017 | 0.005689041 | 0.042951919 | -2.687771571 | down |
| MYH11     | -1.16219666  | 7.712684251 | -3.0461379   | 0.006024816 | 0.044839496 | -2.741907282 | down |
| USP49     | -1.037251034 | 2.812467576 | -3.039560548 | 0.006117085 | 0.045364761 | -2.756245873 | down |
| P2RY2     | -1.203590656 | 3.734353645 | -3.022074236 | 0.006369053 | 0.0465755   | -2.794307409 | down |
| GMNN      | -1.005596051 | 6.67085604  | -3.011045932 | 0.006533071 | 0.047605679 | -2.818267916 | down |
| ECSIT     | -1.335290367 | 4.843687465 | -3.009303018 | 0.006559362 | 0.047741805 | -2.822051479 | down |
| UGCG      | -1.131511214 | 7.721828851 | -2.981582171 | 0.006991438 | 0.049987785 | -2.882111198 | down |
| DUSP4     | -1.275856958 | 4.455708424 | -2.960080079 | 0.007345283 | 0.05197965  | -2.928542932 | down |
| PUS1      | -1.048636997 | 5.183469983 | -2.955188239 | 0.007428152 | 0.05230553  | -2.939087239 | down |
| AF090939  | -1.115659995 | 4.444013037 | -2.945163656 | 0.007600782 | 0.053281909 | -2.960672693 | down |
| CHRM3     | -1.000049714 | 5.321153136 | -2.934388848 | 0.00779062  | 0.054098146 | -2.983839695 | down |
| BATF      | -1.096377798 | 4.785969887 | -2.928863397 | 0.007889725 | 0.054536543 | -2.995706294 | down |
| LINC0095  | -1.139637059 | 5.01763094  | -2.924831833 | 0.007962797 | 0.054899545 | -3.004358678 | down |
| STATH     | -1.370168297 | 4.191258152 | -2.924092675 | 0.007976264 | 0.054962196 | -3.005944488 | down |
| CLTC-IT1  | -1.211351848 | 2.942672508 | -2.910810082 | 0.00822202  | 0.056009723 | -3.034412549 | down |
| RP11-286F | -1.015798205 | 3.81752976  | -2.895998915 | 0.008504604 | 0.057374067 | -3.0660919   | down |
| ARID5A    | -1.08047596  | 6.016333263 | -2.88944449  | 0.0086326   | 0.057901927 | -3.080089004 | down |
| PTDSS2    | -1.057324487 | 4.468058062 | -2.876654852 | 0.008887682 | 0.059046928 | -3.107362199 | down |
| SELE      | -1.887989788 | 5.80679085  | -2.872348072 | 0.008975187 | 0.059399077 | -3.116534386 | down |
| DPP4      | -1.255798629 | 5.914448468 | -2.856539238 | 0.0093035   | 0.060707395 | -3.150151213 | down |
| C1orf21   | -1.649080053 | 4.698194299 | -2.845606402 | 0.009537222 | 0.061582726 | -3.173351783 | down |
| S100P     | -1.324489865 | 3.453610267 | -2.841939808 | 0.009616852 | 0.061935886 | -3.18112386  | down |
| TMEM255   | -1.519260707 | 4.054836883 | -2.841586595 | 0.009624557 | 0.061935886 | -3.181872331 | down |
| ENO2      | -1.029779053 | 6.411359745 | -2.838755129 | 0.009686531 | 0.06223584  | -3.187870817 | down |
| USP53     | -1.425136257 | 2.601722516 | -2.833564831 | 0.009801125 | 0.062811293 | -3.198859607 | down |
| FOXD2     | -1.009768225 | 4.464506255 | -2.829723358 | 0.009886769 | 0.063198766 | -3.206986922 | down |
| NUPL1     | -1.294227085 | 5.257239752 | -2.82139552  | 0.010074891 | 0.064074877 | -3.224588993 | down |
| KDM5D     | -2.157201254 | 5.8253772   | -2.817908141 | 0.010154678 | 0.064256631 | -3.231953147 | down |
| NAA15     | -1.246312653 | 5.810609135 | -2.78400926  | 0.010962231 | 0.067794023 | -3.30332051  | down |
| TEAD1     | -1.170541507 | 4.833286164 | -2.742770939 | 0.012027016 | 0.072104631 | -3.389601237 | down |
| EREG      | -1.31372525  | 5.624995842 | -2.732987838 | 0.012293646 | 0.073074691 | -3.409981152 | down |
| RARRES1   | -1.255828291 | 8.057449833 | -2.731188095 | 0.012343303 | 0.073265737 | -3.413726574 | down |
| PCK1      | -1.5018133   | 6.466919965 | -2.726588588 | 0.012471073 | 0.073733877 | -3.423293219 | down |

|          |              |             |              |             |             |              |      |
|----------|--------------|-------------|--------------|-------------|-------------|--------------|------|
| FHOD3    | -1.224352634 | 4.307911673 | -2.710460902 | 0.012929055 | 0.075492684 | -3.456776748 | down |
| PDK4     | -1.994895217 | 7.031609119 | -2.697246058 | 0.013316139 | 0.077071454 | -3.484141497 | down |
| FOSL1    | -2.260249477 | 4.920356672 | -2.664147407 | 0.014334297 | 0.0811307   | -3.552394397 | down |
| KLHL36   | -1.124513376 | 4.349630054 | -2.659150647 | 0.014494246 | 0.081484555 | -3.562662197 | down |
| AC007292 | -1.204702063 | 4.582923767 | -2.641051126 | 0.015087825 | 0.083796255 | -3.599774454 | down |
| PELI2    | -1.011183856 | 6.167426687 | -2.640913999 | 0.015092408 | 0.083796255 | -3.600055144 | down |
| LBP      | -1.126004821 | 6.884090284 | -2.625044747 | 0.015631774 | 0.085616542 | -3.632488897 | down |
| SYCP2    | -1.057056275 | 2.990345484 | -2.622313147 | 0.015726427 | 0.085937432 | -3.63806182  | down |
| USP9Y    | -1.508194244 | 3.958161085 | -2.584702434 | 0.017085728 | 0.091445918 | -3.714492606 | down |
| SAP30L   | -1.167326643 | 5.284402859 | -2.570522651 | 0.017626268 | 0.093440814 | -3.743160247 | down |
| BCCIP    | -1.093211268 | 4.975114368 | -2.564103355 | 0.017876212 | 0.094406864 | -3.756111295 | down |
| ANKRD1   | -1.163021893 | 2.98134885  | -2.550207851 | 0.018428675 | 0.096771743 | -3.784087582 | down |
| MCM3AP   | -1.006657076 | 4.389124886 | -2.549664046 | 0.018450618 | 0.096829091 | -3.785180816 | down |
| PRR16    | -1.739074421 | 3.796931171 | -2.532307398 | 0.019163947 | 0.099162562 | -3.820008821 | down |
| KLF13    | -1.378246954 | 3.258606439 | -2.516330905 | 0.019843277 | 0.101505684 | -3.851955361 | down |
| NLGN4Y   | -1.355551108 | 4.224472623 | -2.478829475 | 0.021527198 | 0.107575977 | -3.926513962 | down |
| FBXO5    | -1.114878693 | 4.132191131 | -2.443790509 | 0.023219975 | 0.113327206 | -3.995621425 | down |
| ANKRD11  | -1.114062147 | 6.121358418 | -2.437571685 | 0.023533046 | 0.114632247 | -4.00782973  | down |
| SBNO2    | -1.562579946 | 5.329800618 | -2.435735876 | 0.023626212 | 0.114829165 | -4.011430321 | down |
| FOXD1    | -1.503065886 | 4.864146592 | -2.412270637 | 0.024847598 | 0.118866816 | -4.057318524 | down |
| SERPINE2 | -1.059585662 | 8.393509391 | -2.404733868 | 0.025252147 | 0.120297622 | -4.072003992 | down |
| DNAJB14  | -1.135540018 | 6.574405295 | -2.396043856 | 0.025726165 | 0.121678071 | -4.088904109 | down |
| PFAS     | -1.038430217 | 5.268521688 | -2.392136588 | 0.02594197  | 0.12246796  | -4.096491485 | down |
| FANCE    | -1.361341312 | 4.823253542 | -2.371817976 | 0.02709144  | 0.126185371 | -4.135832756 | down |
| MUC6     | -1.047961737 | 3.25013488  | -2.336771932 | 0.029185191 | 0.13273497  | -4.203231524 | down |
| RUFY2    | -1.057716426 | 6.225787804 | -2.323743279 | 0.030000854 | 0.135073813 | -4.22813746  | down |
| TUT1     | -1.014624474 | 4.142876666 | -2.283970002 | 0.032622262 | 0.142628621 | -4.303656109 | down |
| TNF      | -1.216025201 | 5.03737773  | -2.23575822  | 0.036080608 | 0.152652278 | -4.39413814  | down |
| TRPM1    | -1.004551205 | 2.535013109 | -2.201382905 | 0.03874732  | 0.160993831 | -4.457925092 | down |
| LRP5L    | -1.091234426 | 3.466362774 | -2.188533455 | 0.039789322 | 0.163912152 | -4.481610005 | down |
| STX11    | -1.020638746 | 2.656483263 | -2.14303862  | 0.043686252 | 0.174420258 | -4.564762061 | down |
| RERGL    | -1.173663946 | 5.13785346  | -2.125399123 | 0.045287815 | 0.178309226 | -4.596701061 | down |
| LSR      | -1.043599995 | 3.771050279 | -2.080357989 | 0.049620126 | 0.188848451 | -4.677474915 | down |

**Table S3 The ferroptosis-related genes from the FerrDb database.**

RPL8  
IREB2  
ATP5MC3  
CS  
EMC2  
ACSF2  
NOX1  
CYBB  
NOX3  
NOX4  
NOX5  
DUOX1  
DUOX2  
G6PD  
PGD  
VDAC2  
ACSL4  
LPCAT3  
NRAS  
KRAS  
HRAS  
TP53  
NCOA4  
TF  
ALOX5  
ALOX12  
ALOX12B  
ALOX15  
ALOX15B  
ALOXE3  
PHKG2  
EGFR  
MAPK3  
MAPK1  
ZEB1  
SOCS1  
CDO1  
MYB  
HMOX1  
SLC1A5  
CHAC1  
LINC00472  
GOT1  
PRKAA2  
PRKAA1  
BAP1  
ABCC1  
MIR6852  
ACVR1B  
TGFB1  
TNFAIP3  
ATF3  
ATM  
IDH1

TAFAZZIN  
BECN1  
LONP1  
CD82  
CYB5R1  
ELOVL5  
FADS1  
FBXW7  
PTEN  
MT1DP  
KEAP1  
AGPAT3  
PEX12  
CHP1  
GPAT4  
BRPF1  
OSBPL9  
INTS2  
MMD  
CYP4F8  
MLLT1  
TTPA  
GRIA3  
EPT1  
POM121L12  
AEBP2  
AGPS  
CDCA3  
PEX2  
PEX6  
TIMM9  
DCAF7  
LCE2C  
FAR1  
PHF21A  
SMAD7  
LYRM1  
AMN  
PEX3  
MTCH1  
ACADSB  
hsa\_circ\_0008367  
GSK3B  
MAPK8  
SLC11A2  
PEBP1  
TGFB1  
SNCA  
TFRC  
CGAS  
STING1  
HDDC3  
MIR761  
MDM2  
MDM4

POR  
MIR214  
DLD  
DNAJB6  
WWTR1  
PRKCA  
IFNG  
SMPD1  
MYCN  
SMG9  
IL6  
PAQR3  
MICU1  
TOR2A  
MIR375  
SIRT3  
MIR324  
QSOX1  
CLTRN  
KLF2  
MIR5096  
H19  
ELAVL1  
YTHDC2  
DDR2  
SLC39A7  
TRIM46  
ACSL1  
KDM5A  
CYGB  
GSTZ1  
ACO1  
SLC7A11  
CIRBP  
circPSEN1  
YAP1  
TRIM26  
NDRG1  
MIR302A  
ASMTL-AS1  
FADS2  
LIFR  
PTPN6  
ADAM23  
ARHGEF26-AS1  
CPEB1  
MIR15A  
MIB1  
MIR539  
ATG5  
ATG7  
SAT1  
DPP4  
CDKN2A  
ANO6



HMGB1  
YY1AP1  
EGLN2  
MIOX  
MTDH  
PANX1  
IL1B  
CTSB  
ATF4  
LINC00618  
PEX10  
LIG3  
SIRT1  
PVT1  
BRD7  
SLC25A28  
TSC1  
IFNA1  
IFNA2  
IFNA4  
IFNA5  
IFNA6  
IFNA7  
IFNA8  
IFNA10  
IFNA13  
IFNA14  
IFNA16  
IFNA17  
IFNA21  
CircKDM4C  
GJA1  
PIEZO1  
KDM6B  
KDM5C  
CCDC6  
CARS1  
miR-182-5p  
miR-378a-3p  
ZFAS1  
SLC38A1  
TLR4  
METTL14  
AKR1C1  
AKR1C2  
AKR1C3  
MUC1  
SLC40A1  
GPX4  
CISD1  
SCD  
SRC  
STAT3  
PML  
NFS1

TP63  
CDKN1A  
FH  
CISD2  
MIR9-1  
MIR9-2  
MIR9-3  
SQSTM1  
ISCU  
FTH1  
ACSL3  
CD44  
LINC00336  
BRD4  
PRDX6  
MIR17  
CA9  
LAMP2  
PROM2  
CBS  
NFE2L2  
GCH1  
GCLC  
RRM2  
SREBF1  
SREBF2  
BCAT2  
MIR424  
FXN  
SUV39H1  
ATF2  
STK11  
CircIL4R  
NEDD4L  
FTMT  
DECR1  
PANX2  
TFAP2A  
CP  
ARF6  
GDF15  
ABHD12  
TFAM  
KDM3B  
RNF113A  
PARK7  
circ-TTBK2  
MIR522  
PPARA  
SIAH2  
NEDD4  
AIFM2  
AR  
CHMP5  
CHMP6

MTF1  
COPZ1  
NUPR1  
USP35  
HSF1  
PLA2G6  
HIF1A  
NEAT1  
PDSS2  
OIP5-AS1  
MIR190A  
MIR130B  
BEX1  
FABP4  
CDH1  
SIRT6  
KIF20A  
circRHOT1  
ETV4  
MEG8  
VCP  
circ\_0007142  
RBMS1  
KDM4A  
MGST1  
circKIF4A  
miR-7-5p  
circ\_0067934  
MPC1  
CAMKK2  
SRSF9  
MIR4443  
MIR27A  
MIR670  
MEF2C  
NF2  
HSPB1  
EZH2  
PEDS1  
CDC25A  
CAV1  
LCN2  
TRIB2  
DHODH  
MIR545  
OTUB1  
PDK4  
CircPVT1  
circDTL  
PTPN18  
FTL  
ABCC5  
CISD3  
circRHBG  
GALNT14

KLHDC3  
LINC01833  
GSTM1  
circ0097009  
TMEM161B-DT  
circEPSTI1  
RARRES2  
USP11  
RB1  
NQO1  
MT1G  
HSPA5  
HELLS  
MIR137  
SESN2  
ARNTL  
TMBIM4  
ZFP36  
PIR  
HCAR1  
SLC16A1  
FZD7  
GLRX5  
RHEBP1  
IDH2  
TYRO3  
ECH1  
SOX2  
circGFRA1  
PLIN2  
NR4A1  
PIK3CA  
RPTOR  
P4HB  
BRD2  
BRD3  
BRDT  
NCOA3  
NR5A2  
MTOR  
AHCY  
PRDX1  
PARP1  
PARP2  
PARP3  
PARP4  
PARP6  
PARP8  
PARP9  
PARP10  
PARP11  
PARP12  
PARP14  
PARP15  
PARP16

CREB1  
CREB3  
CREB5  
AKT1S1  
MLST8  
MIR18A  
JUN  
FNDC5  
FURIN  
TMSB4X  
TMSB4Y  
PTGS2

**Table S4 The signature genes-associated miRNAs and lncRNAs predicted by software.  
-miRNAs corresponding to signature genes**

| Gene   | miRNA             | miRanda | miRDB | TargetScan | Sum |
|--------|-------------------|---------|-------|------------|-----|
| ATF3   | hsa-miR-513a-5p   | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-miR-3180-3p   | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-miR-455-3p    | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-miR-505-5p    | 1       | 1     | 1          | 3   |
| JUN    | hsa-miR-522-3p    | 1       | 1     | 1          | 3   |
| ATF3   | hsa-miR-637       | 1       | 1     | 1          | 3   |
| ATF3   | hsa-miR-367-5p    | 1       | 1     | 1          | 3   |
| ATF3   | hsa-miR-1267      | 1       | 1     | 1          | 3   |
| JUN    | hsa-miR-633       | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-let-7d-5p     | 1       | 1     | 1          | 3   |
| ATF3   | hsa-miR-1289      | 1       | 1     | 1          | 3   |
| JUN    | hsa-miR-139-5p    | 1       | 1     | 1          | 3   |
| JUN    | hsa-miR-34a-3p    | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-miR-558       | 1       | 1     | 1          | 3   |
| ATF3   | hsa-miR-600       | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-miR-106b-5p   | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-miR-1207-3p   | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-miR-4283      | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-miR-3121-3p   | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-miR-345-5p    | 1       | 1     | 1          | 3   |
| ATF3   | hsa-miR-4303      | 1       | 1     | 1          | 3   |
| JUN    | hsa-miR-524-5p    | 1       | 1     | 1          | 3   |
| JUN    | hsa-miR-637       | 1       | 1     | 1          | 3   |
| ATF3   | hsa-miR-1258      | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-miR-1255a     | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-miR-15b-3p    | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-let-7b-5p     | 1       | 1     | 1          | 3   |
| ATF3   | hsa-miR-1185-5p   | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-miR-665       | 1       | 1     | 1          | 3   |
| JUN    | hsa-miR-501-5p    | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-miR-20b-5p    | 1       | 1     | 1          | 3   |
| ATF3   | hsa-miR-3127-5p   | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-let-7a-5p     | 1       | 1     | 1          | 3   |
| ATF3   | hsa-miR-4329      | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-let-7g-5p     | 1       | 1     | 1          | 3   |
| ATF3   | hsa-miR-181a-2-3p | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-miR-602       | 1       | 1     | 1          | 3   |
| ATF3   | hsa-miR-661       | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-miR-4310      | 1       | 1     | 1          | 3   |
| ATF3   | hsa-miR-1290      | 1       | 1     | 1          | 3   |
| ATF3   | hsa-miR-4318      | 1       | 1     | 1          | 3   |
| JUN    | hsa-miR-298       | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-let-7i-5p     | 1       | 1     | 1          | 3   |
| JUN    | hsa-miR-495-3p    | 1       | 1     | 1          | 3   |
| JUN    | hsa-miR-200c-3p   | 1       | 1     | 1          | 3   |
| JUN    | hsa-miR-513c-5p   | 1       | 1     | 1          | 3   |
| ATF3   | hsa-miR-1261      | 1       | 1     | 1          | 3   |
| JUN    | hsa-miR-200b-3p   | 1       | 1     | 1          | 3   |
| JUN    | hsa-miR-1972      | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-miR-4329      | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-let-7f-5p     | 1       | 1     | 1          | 3   |
| ATF3   | hsa-miR-4251      | 1       | 1     | 1          | 3   |
| ATF3   | hsa-miR-1299      | 1       | 1     | 1          | 3   |
| ATF3   | hsa-miR-4254      | 1       | 1     | 1          | 3   |
| ATF3   | hsa-miR-218-1-3p  | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-miR-423-5p    | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-miR-1255b-5p  | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-miR-939-5p    | 1       | 1     | 1          | 3   |
| JUN    | hsa-miR-514b-5p   | 1       | 1     | 1          | 3   |
| ATF3   | hsa-miR-3163      | 1       | 1     | 1          | 3   |
| CDKN1A | hsa-miR-3125      | 1       | 1     | 1          | 3   |

|        |                  |   |   |   |   |
|--------|------------------|---|---|---|---|
| CDKN1A | hsa-miR-30b-3p   | 1 | 1 | 1 | 3 |
| CDKN1A | hsa-miR-608      | 1 | 1 | 1 | 3 |
| JUN    | hsa-miR-1299     | 1 | 1 | 1 | 3 |
| JUN    | hsa-miR-542-3p   | 1 | 1 | 1 | 3 |
| CDKN1A | hsa-miR-765      | 1 | 1 | 1 | 3 |
| JUN    | hsa-miR-429      | 1 | 1 | 1 | 3 |
| ATF3   | hsa-miR-542-3p   | 1 | 1 | 1 | 3 |
| CDKN1A | hsa-miR-106a-5p  | 1 | 1 | 1 | 3 |
| JUN    | hsa-miR-758-3p   | 1 | 1 | 1 | 3 |
| CDKN1A | hsa-miR-3150a-3p | 1 | 1 | 1 | 3 |
| ATF3   | hsa-miR-486-3p   | 1 | 1 | 1 | 3 |
| CDKN1A | hsa-miR-298      | 1 | 1 | 1 | 3 |
| ATF3   | hsa-miR-2115-3p  | 1 | 1 | 1 | 3 |
| JUN    | hsa-miR-1258     | 1 | 1 | 1 | 3 |
| CDKN1A | hsa-miR-93-5p    | 1 | 1 | 1 | 3 |
| CDKN1A | hsa-miR-149-3p   | 1 | 1 | 1 | 3 |
| ATF3   | hsa-miR-760      | 1 | 1 | 1 | 3 |
| ATF3   | hsa-miR-641      | 1 | 1 | 1 | 3 |
| ATF3   | hsa-miR-27a-3p   | 1 | 1 | 1 | 3 |
| CDKN1A | hsa-let-7e-5p    | 1 | 1 | 1 | 3 |
| CDKN1A | hsa-miR-98-5p    | 1 | 1 | 1 | 3 |
| ATF3   | hsa-miR-1225-5p  | 1 | 1 | 1 | 3 |
| CDKN1A | hsa-miR-2277-3p  | 1 | 1 | 1 | 3 |
| ATF3   | hsa-miR-27b-3p   | 1 | 1 | 1 | 3 |
| CDKN1A | hsa-miR-4286     | 1 | 1 | 1 | 3 |
| JUN    | hsa-miR-2116-5p  | 1 | 1 | 1 | 3 |
| JUN    | hsa-miR-940      | 1 | 1 | 1 | 3 |
| ATF3   | hsa-miR-1248     | 1 | 1 | 1 | 3 |

**Table S4 The signature genes-associated miRNAs and lncRNAs predicted by software.  
-lncRNAs corresponding to miRNAs**

| miRNA             | lncRNA         |
|-------------------|----------------|
| hsa-miR-765       | GAS6-AS1       |
| hsa-miR-1207-3p   | MUC19          |
| hsa-miR-27a-3p    | RP11-10J21.4   |
| hsa-miR-665       | RP5-894D12.5   |
| hsa-miR-30b-3p    | C10orf91       |
| hsa-miR-149-3p    | C10orf91       |
| hsa-miR-423-5p    | C10orf91       |
| hsa-miR-1972      | AC079779.7     |
| hsa-miR-486-3p    | C10orf91       |
| hsa-miR-1972      | RP11-102K13.5  |
| hsa-miR-665       | RP11-627G23.1  |
| hsa-miR-1972      | RP5-894D12.5   |
| hsa-miR-1972      | RP13-580B18.4  |
| hsa-miR-765       | RP11-138B4.1   |
| hsa-miR-939-5p    | AATBC          |
| hsa-miR-423-5p    | PAX8-AS1       |
| hsa-miR-1207-3p   | RP11-326C3.10  |
| hsa-miR-1207-3p   | RP11-326C3.14  |
| hsa-miR-1207-3p   | TP73-AS1       |
| hsa-miR-1972      | FAM182A        |
| hsa-miR-15b-3p    | AC011284.3     |
| hsa-miR-939-5p    | RP11-627G23.1  |
| hsa-miR-765       | RP11-627G23.1  |
| hsa-miR-1972      | LINC01002      |
| hsa-miR-1972      | RP11-1228E12.1 |
| hsa-miR-423-5p    | RP11-627G23.1  |
| hsa-miR-1972      | LINC01001      |
| hsa-miR-149-3p    | CTA-941F9.10   |
| hsa-miR-30b-3p    | MUC2           |
| hsa-miR-1972      | LINC00174      |
| hsa-miR-558       | RP11-458F8.4   |
| hsa-miR-149-3p    | AIRN           |
| hsa-miR-181a-2-3p | RP3-470B24.5   |
| hsa-miR-505-5p    | CTB-51J22.1    |
| hsa-miR-181a-2-3p | FLJ16779       |
| hsa-miR-665       | CTB-51J22.1    |
| hsa-miR-939-5p    | HP09025        |
| hsa-miR-558       | RP11-384K6.6   |
| hsa-let-7a-5p     | RP11-94C24.13  |
| hsa-miR-486-3p    | RP11-94C24.13  |
| hsa-miR-542-3p    | RP4-671O14.7   |
| hsa-miR-542-3p    | AC079586.1     |
| hsa-miR-558       | RP5-991B18.1   |
| hsa-miR-149-3p    | LINC00265      |
| hsa-miR-149-3p    | RP11-311F12.1  |
| hsa-miR-939-5p    | LINC00173      |
| hsa-miR-558       | LINC00265      |
| hsa-miR-542-3p    | RP11-157B13.7  |
| hsa-miR-149-3p    | LINC00689      |
| hsa-miR-218-1-3p  | LINC01043      |
| hsa-miR-106a-5p   | LINC01106      |
| hsa-miR-455-3p    | AC137934.1     |



|                   |                |
|-------------------|----------------|
| hsa-miR-423-5p    | FLJ35934       |
| hsa-miR-27a-3p    | RP11-449D8.5   |
| hsa-miR-542-3p    | LINC00917      |
| hsa-miR-1972      | CH507-216K13.2 |
| hsa-miR-106a-5p   | RP11-369C8.1   |
| hsa-miR-30b-3p    | LINCMD1        |
| hsa-miR-181a-2-3p | RP11-368I7.4   |
| hsa-miR-30b-3p    | RP11-153F5.7   |
| hsa-miR-505-5p    | AC016682.1     |
| hsa-miR-345-5p    | RP11-423H2.5   |
| hsa-miR-1972      | CTD-2330K9.2   |
| hsa-miR-1972      | LINC00905      |
| hsa-miR-181a-2-3p | RP11-830F9.5   |
| hsa-miR-1207-3p   | CTD-2006K23.1  |
| hsa-miR-30b-3p    | AC011284.3     |
| hsa-miR-27a-3p    | LINC01123      |
| hsa-miR-765       | ST20-AS1       |
| hsa-miR-181a-2-3p | FAM95B1        |
| hsa-miR-939-5p    | VPS9D1-AS1     |
| hsa-miR-149-3p    | CTA-315H11.2   |
| hsa-miR-149-3p    | RP11-153F5.7   |
| hsa-miR-149-3p    | LINC00173      |
| hsa-miR-758-3p    | AC079586.1     |
| hsa-miR-939-5p    | CTA-941F9.10   |
| hsa-miR-665       | RP13-895J2.3   |
| hsa-miR-139-5p    | AC015849.16    |
| hsa-miR-1207-3p   | KCNQ1OT1       |
| hsa-miR-939-5p    | RP11-311F12.1  |
| hsa-miR-423-5p    | SRRM2-AS1      |
| hsa-miR-149-3p    | TMEM191A       |
| hsa-miR-1207-3p   | LINC00588      |
| hsa-miR-423-5p    | RP11-14P20.1   |
| hsa-miR-149-3p    | RP11-186N15.3  |
| hsa-miR-665       | RP13-582L3.4   |
| hsa-miR-1972      | RP11-142C4.6   |
| hsa-miR-542-3p    | LINC01224      |
| hsa-miR-423-5p    | RP11-186N15.3  |
| hsa-miR-939-5p    | RP11-278A23.4  |
| hsa-miR-558       | CITF22-24E5.1  |
| hsa-miR-558       | RP11-503N18.1  |
| hsa-miR-1972      | RP11-504P24.8  |
| hsa-miR-1972      | RP11-849H4.4   |
| hsa-miR-760       | AC006019.3     |
| hsa-miR-455-3p    | RP11-394A14.2  |
| hsa-miR-218-1-3p  | RP11-211G23.2  |
| hsa-miR-139-5p    | RP11-231D20.2  |
| hsa-miR-30b-3p    | TTLL10-AS1     |
| hsa-miR-665       | SNHG14         |
| hsa-miR-765       | AC005324.6     |
| hsa-miR-939-5p    | RP5-1171I10.5  |
| hsa-miR-149-3p    | CTD-3193O13.1  |
| hsa-miR-758-3p    | LINC01224      |
| hsa-miR-558       | RP11-638I8.1   |
| hsa-miR-665       | CH17-360D5.1   |
| hsa-miR-30b-3p    | RP11-94C24.13  |

|                 |                |
|-----------------|----------------|
| hsa-miR-34a-3p  | CTD-2619J13.19 |
| hsa-miR-760     | RP11-394A14.2  |
| hsa-miR-34a-3p  | GS1-279B7.1    |
| hsa-miR-27a-3p  | CTD-2281E23.1  |
| hsa-miR-149-3p  | MAFG-AS1       |
| hsa-miR-1207-3p | AC005481.5     |
| hsa-miR-939-5p  | AP001469.9     |
| hsa-miR-765     | ATP2A1-AS1     |
| hsa-miR-939-5p  | RP11-186N15.3  |
| hsa-miR-665     | AC114808.3     |
| hsa-miR-1972    | RP11-1191J2.2  |
| hsa-miR-30b-3p  | RP11-244B22.11 |
| hsa-miR-367-5p  | LINCR-0001     |
| hsa-miR-149-3p  | RP11-148K1.12  |
| hsa-miR-149-3p  | RP11-430G17.3  |
| hsa-miR-149-3p  | RP11-1348G14.8 |
| hsa-miR-1972    | LINC00661      |
| hsa-miR-149-3p  | PAX8-AS1       |
| hsa-miR-423-5p  | RP11-394A14.2  |
| hsa-miR-30b-3p  | RP11-480I12.10 |
| hsa-miR-665     | RASSF8-AS1     |
| hsa-miR-1207-3p | RP4-751H13.7   |
| hsa-miR-149-3p  | RP11-630C16.2  |
| hsa-miR-758-3p  | RP11-157B13.7  |
| hsa-miR-486-3p  | RP4-539M6.22   |
| hsa-miR-758-3p  | RP11-15H20.6   |
| hsa-miR-1972    | FAM95B1        |
| hsa-miR-27a-3p  | AC078942.1     |
| hsa-miR-939-5p  | LINC00599      |
| hsa-miR-149-3p  | CTD-2369P2.8   |
| hsa-miR-765     | RP11-570L14.2  |
| hsa-miR-423-5p  | HP09025        |
| hsa-miR-940     | RP11-458F8.4   |
| hsa-miR-940     | AP001476.4     |
| hsa-miR-940     | LINC00265      |