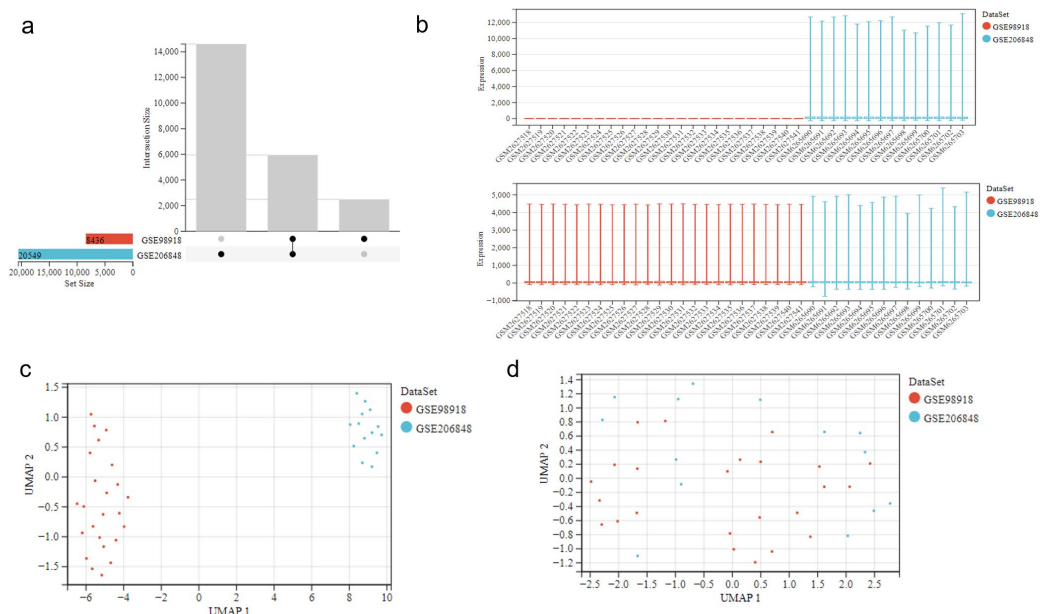


## Supplementary Figure S1. Data processing.



**S1.** (a-d) The GSE206848 and GSE98918 datasets were batch-effect corrected and then merged.

## Supplementary Table S1. Differentially expressed genes.

| Tag         | logFC    | AveExpr  | t        | P.Value  | adj.P.Val | B        |
|-------------|----------|----------|----------|----------|-----------|----------|
| CDADC1      | -0.7917  | 4.984212 | -6.37353 | 1.57E-07 | 0.000931  | 7.136615 |
| MIR4435-2HG | -0.9257  | 3.989227 | -5.69112 | 1.39E-06 | 0.004127  | 5.166891 |
| L3HYPDH     | -0.54547 | 5.477331 | -5.19103 | 6.83E-06 | 0.007216  | 3.723202 |
| ENO2        | -0.69959 | 5.301662 | -5.16657 | 7.38E-06 | 0.007216  | 3.652888 |
| DEFA4       | 0.456675 | 3.989964 | 5.152185 | 7.73E-06 | 0.007216  | 3.611528 |
| NCBP3       | -0.34179 | 5.099769 | -5.10913 | 8.86E-06 | 0.007216  | 3.487864 |
| LINC01089   | -0.49601 | 4.971397 | -5.08175 | 9.66E-06 | 0.007216  | 3.409283 |
| OR5L2       | 0.292886 | 4.334257 | 5.003346 | 1.24E-05 | 0.007216  | 3.184606 |
| TRIO        | -0.3797  | 5.650408 | -4.99342 | 1.28E-05 | 0.007216  | 3.156195 |
| ARHGAP33    | -0.32683 | 3.797365 | -4.98628 | 1.31E-05 | 0.007216  | 3.135775 |
| KRT2        | 0.514796 | 3.053215 | 4.979414 | 1.33E-05 | 0.007216  | 3.116129 |
| ZNF366      | 0.45169  | 2.805311 | 4.918505 | 1.62E-05 | 0.008014  | 2.942088 |
| SLC2A9      | 0.313388 | 4.326639 | 4.846384 | 2.03E-05 | 0.00928   | 2.73649  |
| HOGA1       | 0.700023 | 4.965786 | 4.776722 | 2.52E-05 | 0.009431  | 2.538441 |
| ZNF800      | -1.01042 | 4.447101 | -4.76525 | 2.62E-05 | 0.009431  | 2.505891 |
| SLC7A14-AS1 | 0.848446 | 3.129798 | 4.763704 | 2.63E-05 | 0.009431  | 2.501493 |
| MON2        | -0.6082  | 5.942654 | -4.75566 | 2.70E-05 | 0.009431  | 2.478671 |
| FAT3        | 0.388743 | 4.266507 | 4.69913  | 3.22E-05 | 0.010218  | 2.318534 |
| CNOT10      | -0.34785 | 4.988097 | -4.69444 | 3.26E-05 | 0.010218  | 2.305255 |
| RNF25       | -0.34503 | 5.187474 | -4.65981 | 3.64E-05 | 0.010384  | 2.207403 |

|           |          |          |          |          |          |          |
|-----------|----------|----------|----------|----------|----------|----------|
| CPLANE2   | 0.398126 | 4.126805 | 4.651438 | 3.73E-05 | 0.010384 | 2.183757 |
| TEX30     | -0.57569 | 5.408873 | -4.64222 | 3.84E-05 | 0.010384 | 2.157733 |
| LINC00471 | -0.38011 | 2.734488 | -4.58109 | 4.65E-05 | 0.011902 | 1.985537 |
| MGST2     | 0.40754  | 7.155585 | 4.546989 | 5.16E-05 | 0.011902 | 1.889718 |
| INPP5E    | -0.32505 | 6.279819 | -4.5451  | 5.19E-05 | 0.011902 | 1.884409 |
| METTL6    | -0.40054 | 3.833583 | -4.53824 | 5.31E-05 | 0.011902 | 1.86516  |
| PTCHD3P1  | -0.39863 | 4.228656 | -4.53235 | 5.40E-05 | 0.011902 | 1.848638 |
| PPP1R14B  | -0.47583 | 5.934565 | -4.49021 | 6.16E-05 | 0.012457 | 1.730568 |
| RBM6      | -0.35433 | 6.488425 | -4.48925 | 6.17E-05 | 0.012457 | 1.727897 |
| AGMAT     | 0.95766  | 4.685336 | 4.467187 | 6.61E-05 | 0.012457 | 1.666197 |
| ATP10B    | 0.291398 | 4.773856 | 4.464924 | 6.66E-05 | 0.012457 | 1.659875 |
| CEP83     | -0.68191 | 4.593996 | -4.46263 | 6.70E-05 | 0.012457 | 1.653461 |
| ABTB2     | -0.46992 | 4.647335 | -4.43126 | 7.38E-05 | 0.012854 | 1.565904 |
| INTS6L    | -0.95823 | 5.212314 | -4.43053 | 7.40E-05 | 0.012854 | 1.563894 |
| GPRC5D    | 0.338519 | 3.419957 | 4.423372 | 7.57E-05 | 0.012854 | 1.543929 |
| WDHD1     | -0.39671 | 3.173546 | -4.39226 | 8.32E-05 | 0.013067 | 1.457313 |
| GLS       | -0.5222  | 6.267483 | -4.38344 | 8.55E-05 | 0.013067 | 1.432781 |
| ILDR2     | 0.428533 | 3.567649 | 4.369956 | 8.92E-05 | 0.013067 | 1.395328 |
| DEFB119   | 0.52481  | 3.243969 | 4.356959 | 9.28E-05 | 0.013067 | 1.35925  |
| TRNT1     | -0.35272 | 4.956066 | -4.35593 | 9.31E-05 | 0.013067 | 1.356392 |
| CES1P1    | 0.40113  | 3.99641  | 4.355632 | 9.32E-05 | 0.013067 | 1.355567 |
| LMO2      | 0.59963  | 7.176167 | 4.350528 | 9.46E-05 | 0.013067 | 1.34141  |
| NPHP3     | -0.62923 | 6.225981 | -4.34372 | 9.66E-05 | 0.013067 | 1.322543 |
| KRIT1     | -0.44957 | 5.904269 | -4.34353 | 9.67E-05 | 0.013067 | 1.321993 |
| PPFIBP1   | -0.73997 | 5.618465 | -4.32371 | 0.000103 | 0.013404 | 1.267104 |
| PPP4R3A   | -0.49202 | 5.960453 | -4.31912 | 0.000104 | 0.013404 | 1.254394 |
| ZBTB21    | -1.17867 | 6.274888 | -4.30836 | 0.000108 | 0.013404 | 1.22463  |
| TMEM198B  | -0.40134 | 5.199724 | -4.30618 | 0.000108 | 0.013404 | 1.218614 |
| SLC25A14  | -0.4293  | 5.330745 | -4.29528 | 0.000112 | 0.013404 | 1.188484 |
| PPWD1     | -0.82229 | 5.690481 | -4.2866  | 0.000115 | 0.013404 | 1.16451  |
| SYAP1     | -0.73106 | 5.888107 | -4.28508 | 0.000116 | 0.013404 | 1.160318 |
| KRT8      | 0.397206 | 4.489498 | 4.277177 | 0.000118 | 0.013404 | 1.138494 |
| LINC00957 | 0.504293 | 4.938147 | 4.274335 | 0.000119 | 0.013404 | 1.130653 |
| THUMPD2   | -0.50344 | 5.474867 | -4.26506 | 0.000123 | 0.013533 | 1.105067 |
| NMNAT2    | 0.357263 | 3.307037 | 4.25491  | 0.000127 | 0.013704 | 1.077107 |
| KIAA2026  | -0.30391 | 5.338217 | -4.24517 | 0.000131 | 0.013865 | 1.050299 |
| USP35     | -0.33663 | 4.846837 | -4.21793 | 0.000142 | 0.014799 | 0.975373 |
| CYTOR     | -0.43972 | 5.832791 | -4.21167 | 0.000145 | 0.014823 | 0.95818  |
| SERPINB12 | 0.662314 | 3.087702 | 4.20437  | 0.000148 | 0.014898 | 0.938157 |
| BRIX1     | -0.55385 | 5.072477 | -4.19411 | 0.000152 | 0.014996 | 0.910008 |
| DACT2     | 0.71547  | 5.385025 | 4.187976 | 0.000155 | 0.014996 | 0.893201 |
| AHI1      | -0.8989  | 5.851841 | -4.18247 | 0.000158 | 0.014996 | 0.878105 |
| IDH1-AS1  | 0.711582 | 3.05389  | 4.18059  | 0.000159 | 0.014996 | 0.872966 |
| UBE2K     | -0.40565 | 6.760976 | -4.15706 | 0.000171 | 0.015853 | 0.808577 |

|              |          |          |          |          |          |          |
|--------------|----------|----------|----------|----------|----------|----------|
| TRAF3IP3     | 0.542312 | 3.722518 | 4.125735 | 0.000188 | 0.016747 | 0.723066 |
| GABRA6       | 0.481142 | 2.798915 | 4.125299 | 0.000188 | 0.016747 | 0.721876 |
| EPG5         | -0.32511 | 4.956863 | -4.12374 | 0.000189 | 0.016747 | 0.717628 |
| NSMCE4A      | -0.27498 | 5.896235 | -4.11524 | 0.000194 | 0.01693  | 0.69446  |
| WDR73        | -0.32013 | 6.924186 | -4.10768 | 0.000198 | 0.017069 | 0.67389  |
| LIF          | -2.12336 | 4.493225 | -4.13637 | 0.00021  | 0.017577 | 0.642691 |
| WASL         | -0.63236 | 6.41394  | -4.09543 | 0.000205 | 0.017459 | 0.640536 |
| MAPK8IP3     | -0.31351 | 5.456867 | -4.0749  | 0.000219 | 0.017957 | 0.584773 |
| ZNF569       | -0.45357 | 4.491195 | -4.07214 | 0.00022  | 0.017957 | 0.57728  |
| YTHDC2       | -0.57124 | 5.496194 | -4.06081 | 0.000228 | 0.018328 | 0.546537 |
| MZT1         | -0.6876  | 6.192554 | -4.05029 | 0.000235 | 0.018664 | 0.518045 |
| KLB          | 1.981079 | 3.934049 | 4.042773 | 0.000241 | 0.018839 | 0.49768  |
| CASK         | -0.45154 | 5.137834 | -4.0263  | 0.000253 | 0.019366 | 0.453132 |
| TMEM262      | 0.724634 | 3.451223 | 4.024908 | 0.000254 | 0.019366 | 0.449364 |
| OR2F1        | 0.31577  | 3.734599 | 4.020323 | 0.000258 | 0.019385 | 0.436976 |
| ANKRD12      | -1.05885 | 6.28542  | -4.02255 | 0.000264 | 0.019533 | 0.420839 |
| MBD1         | -0.21627 | 5.327487 | -4.00944 | 0.000266 | 0.019533 | 0.407581 |
| SQLE         | -0.52607 | 4.766501 | -3.99688 | 0.000276 | 0.019641 | 0.373725 |
| METTL2A      | -0.35559 | 6.406717 | -3.99582 | 0.000277 | 0.019641 | 0.37086  |
| LOC102724814 | -0.34741 | 5.238784 | -3.99476 | 0.000278 | 0.019641 | 0.367999 |
| PEX1         | -0.47069 | 5.91421  | -3.99147 | 0.000281 | 0.019641 | 0.359132 |
| LOC101928100 | 0.424101 | 4.043197 | 3.987038 | 0.000284 | 0.019672 | 0.347205 |
| EGLN3        | -0.94879 | 3.599789 | -3.99632 | 0.000295 | 0.019804 | 0.328112 |
| RBBP6        | -0.65246 | 6.029306 | -3.97566 | 0.000294 | 0.019804 | 0.316582 |
| TPR          | -0.58847 | 6.995802 | -3.97331 | 0.000296 | 0.019804 | 0.310249 |
| WDR70        | -0.35903 | 6.541623 | -3.96171 | 0.000307 | 0.01989  | 0.279095 |
| C12orf29     | -0.6981  | 5.652454 | -3.96133 | 0.000307 | 0.01989  | 0.27805  |
| TAS2R40      | 0.36293  | 3.455005 | 3.960746 | 0.000308 | 0.01989  | 0.276492 |
| SMIM7        | 0.258879 | 7.188639 | 3.955047 | 0.000313 | 0.019932 | 0.261189 |
| USP1         | -0.49085 | 7.414158 | -3.95279 | 0.000315 | 0.019932 | 0.255128 |
| MRO          | 0.781733 | 4.737462 | 3.946334 | 0.000321 | 0.019932 | 0.237809 |
| CEP120       | -0.64656 | 6.137608 | -3.94575 | 0.000322 | 0.019932 | 0.236234 |
| KLF8         | -0.52583 | 4.445774 | -3.93841 | 0.000329 | 0.019967 | 0.216558 |
| JPX          | -1.07644 | 5.766137 | -3.93243 | 0.000335 | 0.019967 | 0.200534 |
| SMC6         | -0.63093 | 4.895437 | -3.93185 | 0.000335 | 0.019967 | 0.198998 |
| SLC44A3-AS1  | 0.470392 | 3.479348 | 3.92702  | 0.00034  | 0.019967 | 0.186053 |
| SIRPG        | -0.33824 | 3.423677 | -3.9252  | 0.000342 | 0.019967 | 0.181178 |
| ANKEF1       | 0.220493 | 3.336948 | 3.916442 | 0.000351 | 0.019967 | 0.15775  |
| JMJD6        | -0.50759 | 5.404701 | -3.91523 | 0.000352 | 0.019967 | 0.154514 |
| TYSND1       | 0.287354 | 3.52826  | 3.914384 | 0.000353 | 0.019967 | 0.152245 |
| LINC01996    | 0.421098 | 3.181411 | 3.911195 | 0.000357 | 0.019967 | 0.14372  |
| FGF3         | -0.16347 | 3.580573 | -3.9101  | 0.000358 | 0.019967 | 0.140789 |
| SLAMF6       | 0.561227 | 3.628894 | 3.908661 | 0.000359 | 0.019967 | 0.136948 |
| RBM28        | -0.35467 | 6.028063 | -3.90552 | 0.000363 | 0.019967 | 0.128563 |

|              |          |          |          |          |          |          |
|--------------|----------|----------|----------|----------|----------|----------|
| FAS          | -0.46733 | 5.419134 | -3.8917  | 0.000378 | 0.020612 | 0.091656 |
| SBF2         | -0.65381 | 5.904129 | -3.88047 | 0.000391 | 0.021115 | 0.061734 |
| ROCK1        | -0.53623 | 6.639677 | -3.87171 | 0.000401 | 0.021228 | 0.038395 |
| RXYLT1       | -0.36615 | 5.913769 | -3.87126 | 0.000401 | 0.021228 | 0.0372   |
| DAP3         | 0.334087 | 7.27892  | 3.86953  | 0.000403 | 0.021228 | 0.032594 |
| KLHL7        | -0.42318 | 5.708449 | -3.86611 | 0.000408 | 0.021228 | 0.023487 |
| USP16        | -0.56137 | 7.335968 | -3.86364 | 0.00041  | 0.021228 | 0.016934 |
| MED31        | -0.34299 | 5.387993 | -3.85754 | 0.000418 | 0.021428 | 0.000703 |
| USP27X       | -0.33497 | 4.231591 | -3.84777 | 0.00043  | 0.021526 | -0.02524 |
| LOC100507006 | -0.53334 | 3.376498 | -3.84709 | 0.000431 | 0.021526 | -0.02706 |
| SENP6        | -0.67355 | 6.317658 | -3.84485 | 0.000434 | 0.021526 | -0.03301 |
| PTPN6        | 0.425863 | 7.179623 | 3.844511 | 0.000434 | 0.021526 | -0.0339  |
| PI4K2B       | -0.50827 | 5.391007 | -3.8408  | 0.000439 | 0.021583 | -0.04376 |
| IQCM         | 1.008688 | 3.085017 | 3.839631 | 0.000453 | 0.021672 | -0.06444 |
| DIS3L2       | -0.32014 | 4.781621 | -3.82741 | 0.000457 | 0.021672 | -0.07927 |
| TBC1D15      | -0.38212 | 6.463169 | -3.82641 | 0.000458 | 0.021672 | -0.0819  |
| MTREX        | -0.37196 | 6.716788 | -3.82625 | 0.000458 | 0.021672 | -0.08233 |
| ZNF836       | -0.49768 | 3.57998  | -3.82567 | 0.000459 | 0.021672 | -0.08386 |
| MORF4L2      | -0.21806 | 8.891095 | -3.81944 | 0.000468 | 0.021899 | -0.10036 |
| STEAP1       | -0.57838 | 7.887393 | -3.82983 | 0.000479 | 0.022092 | -0.10874 |
| CARF         | -0.46752 | 3.439515 | -3.81541 | 0.000473 | 0.021988 | -0.11104 |
| NOM1         | -0.37735 | 5.08413  | -3.80629 | 0.000486 | 0.022238 | -0.13515 |
| MPHOSPH10    | -0.71732 | 7.658983 | -3.79198 | 0.000507 | 0.023016 | -0.17294 |
| NBEAL1       | -0.21218 | 9.972522 | -3.78676 | 0.000515 | 0.023195 | -0.18673 |
| HDGFL2       | 0.488522 | 6.737812 | 3.77711  | 0.00053  | 0.023482 | -0.21216 |
| ZFAT         | 0.722745 | 4.315076 | 3.776869 | 0.00053  | 0.023482 | -0.21279 |
| PVT1         | -0.36075 | 4.397053 | -3.77489 | 0.000533 | 0.023482 | -0.218   |
| ATAD3B       | -0.43142 | 4.965373 | -3.77206 | 0.000538 | 0.023504 | -0.22546 |
| TUT7         | -0.3573  | 5.831926 | -3.76637 | 0.000547 | 0.023725 | -0.24044 |
| WRN          | -0.5401  | 5.270936 | -3.7573  | 0.000561 | 0.024036 | -0.2643  |
| C4orf45      | 0.557018 | 3.54745  | 3.756963 | 0.000562 | 0.024036 | -0.26518 |
| LOC257396    | 0.411602 | 3.594717 | 3.750762 | 0.000572 | 0.024302 | -0.28148 |
| ZNF26        | -0.37905 | 4.938607 | -3.74451 | 0.000583 | 0.024534 | -0.29788 |
| OR5111       | 0.519065 | 3.958366 | 3.74266  | 0.000586 | 0.024534 | -0.30275 |
| ETFB         | 0.475822 | 7.46231  | 3.740015 | 0.00059  | 0.024537 | -0.30969 |
| ATRNL1       | 0.290261 | 3.004072 | 3.737818 | 0.000594 | 0.024537 | -0.31545 |
| PAN2         | -0.31646 | 6.584251 | -3.7305  | 0.000607 | 0.024895 | -0.33465 |
| KLHDC4       | -0.43406 | 4.566318 | -3.72129 | 0.000624 | 0.025397 | -0.35875 |
| METTL21A     | -0.32673 | 4.869995 | -3.71741 | 0.000631 | 0.025512 | -0.36893 |
| MST1L        | 0.70829  | 3.369325 | 3.711037 | 0.000642 | 0.025539 | -0.38559 |
| PRKCI        | -0.44518 | 6.022984 | -3.71026 | 0.000644 | 0.025539 | -0.38763 |
| LINC02076    | -0.84868 | 4.706581 | -3.70818 | 0.000648 | 0.025539 | -0.39306 |
| TMEM126B     | -0.47183 | 6.905215 | -3.70715 | 0.00065  | 0.025539 | -0.39574 |
| GCSAM        | 0.420879 | 3.292089 | 3.705562 | 0.000653 | 0.025539 | -0.3999  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| PHF21B     | -0.18666 | 3.278095 | -3.69848 | 0.000666 | 0.025901 | -0.41839 |
| PSIP1      | -0.64769 | 6.508765 | -3.69383 | 0.000675 | 0.026083 | -0.43053 |
| RARS       | -0.27947 | 7.507188 | -3.68791 | 0.000687 | 0.026206 | -0.44598 |
| ARL6IP6    | -0.41834 | 5.990903 | -3.68478 | 0.000693 | 0.026206 | -0.45413 |
| HOXB-AS1   | -0.39666 | 4.057658 | -3.68346 | 0.000696 | 0.026206 | -0.45756 |
| RBFA       | -0.33444 | 4.629754 | -3.67708 | 0.000709 | 0.026206 | -0.4742  |
| LOC646736  | 0.852432 | 3.33902  | 3.681848 | 0.000716 | 0.026206 | -0.47572 |
| RIOK1      | -0.35735 | 6.011559 | -3.67481 | 0.000714 | 0.026206 | -0.48011 |
| PAXIP1-AS2 | -0.69024 | 4.876441 | -3.67321 | 0.000717 | 0.026206 | -0.48427 |
| KATNA1     | -0.25835 | 6.365504 | -3.6725  | 0.000719 | 0.026206 | -0.48612 |
| KNTC1      | -0.72555 | 4.632904 | -3.67068 | 0.000722 | 0.026206 | -0.49086 |
| GSK3B      | -0.2532  | 5.90819  | -3.67055 | 0.000723 | 0.026206 | -0.49118 |
| BBIP1      | -0.44787 | 5.771896 | -3.66664 | 0.000731 | 0.026345 | -0.50138 |
| TMEM87A    | -0.38593 | 7.295685 | -3.66294 | 0.000739 | 0.026468 | -0.51098 |
| VAMP4      | -0.40694 | 5.829249 | -3.65976 | 0.000746 | 0.026553 | -0.51924 |
| CDH24      | 0.445106 | 3.752756 | 3.647097 | 0.000774 | 0.027381 | -0.55213 |
| ZDHHC1     | -0.29944 | 3.612832 | -3.64457 | 0.000779 | 0.02742  | -0.55869 |
| DOCK11     | -0.62985 | 6.789603 | -3.63531 | 0.0008   | 0.027831 | -0.58269 |
| TET2       | -0.37912 | 5.218876 | -3.6327  | 0.000806 | 0.027831 | -0.58943 |
| NIPBL      | -0.47875 | 6.271124 | -3.63157 | 0.000809 | 0.027831 | -0.59236 |
| COQ8B      | -0.30424 | 4.706425 | -3.63132 | 0.00081  | 0.027831 | -0.59302 |
| ESPNL      | 0.469714 | 4.149507 | 3.627325 | 0.000819 | 0.027841 | -0.60336 |
| DNAJB8-AS1 | -0.26582 | 3.087149 | -3.62722 | 0.000819 | 0.027841 | -0.60364 |
| VTI1A      | -0.3517  | 4.429104 | -3.62523 | 0.000824 | 0.027843 | -0.60879 |
| ARID4B     | -0.53347 | 6.115045 | -3.61981 | 0.000837 | 0.028121 | -0.62279 |
| POLG2      | -0.6647  | 5.472141 | -3.60984 | 0.000861 | 0.028626 | -0.64856 |
| NLK        | -0.34934 | 4.865295 | -3.60975 | 0.000862 | 0.028626 | -0.64879 |
| AAAS       | -0.31475 | 5.427207 | -3.60596 | 0.000871 | 0.02878  | -0.65858 |
| MED12L     | 0.266574 | 3.143022 | 3.598913 | 0.000889 | 0.029208 | -0.67675 |
| SOS1       | -0.2698  | 5.913753 | -3.5952  | 0.000899 | 0.02936  | -0.68633 |
| DLX6-AS1   | 0.532245 | 3.260843 | 3.591691 | 0.000908 | 0.029496 | -0.69537 |
| EDC4       | -0.30668 | 5.032083 | -3.58904 | 0.000915 | 0.02956  | -0.70219 |
| RNGTT      | -0.30108 | 4.676831 | -3.58343 | 0.000929 | 0.029878 | -0.71664 |
| CHORDC1    | -0.36622 | 5.887925 | -3.57796 | 0.000944 | 0.030108 | -0.73069 |
| RPP30      | -0.26586 | 5.088271 | -3.57702 | 0.000947 | 0.030108 | -0.73312 |
| CCR2       | 0.709178 | 3.63199  | 3.57273  | 0.000958 | 0.030232 | -0.74415 |
| RPRD2      | 0.722133 | 6.368673 | 3.571888 | 0.000961 | 0.030232 | -0.74631 |
| STK38L     | -0.5127  | 7.341107 | -3.56479 | 0.000981 | 0.030692 | -0.76454 |
| GNRH1      | -0.56855 | 4.208046 | -3.55852 | 0.000998 | 0.030994 | -0.78063 |
| SLC25A36   | -0.44894 | 7.569112 | -3.55772 | 0.001001 | 0.030994 | -0.78268 |
| CEP55      | 0.913626 | 3.433906 | 3.553782 | 0.001012 | 0.031055 | -0.79278 |
| UBE2W      | -0.36281 | 5.246908 | -3.55321 | 0.001014 | 0.031055 | -0.79424 |
| ERGIC2     | -0.59716 | 6.915155 | -3.54864 | 0.001027 | 0.031055 | -0.80595 |
| BCDIN3D    | -0.46236 | 4.443932 | -3.54861 | 0.001027 | 0.031055 | -0.80604 |

|          |          |          |          |          |          |          |
|----------|----------|----------|----------|----------|----------|----------|
| KLHL20   | -0.44357 | 5.803302 | -3.54806 | 0.001029 | 0.031055 | -0.80745 |
| RFX3     | -0.45901 | 4.422575 | -3.54409 | 0.00104  | 0.031103 | -0.81759 |
| RAD50    | -0.35349 | 5.346991 | -3.54313 | 0.001043 | 0.031103 | -0.82006 |
| ECD      | -0.23033 | 6.438168 | -3.54094 | 0.00105  | 0.031103 | -0.82567 |
| CEBPZ    | -0.74791 | 7.56283  | -3.54237 | 0.001068 | 0.031103 | -0.83298 |
| C17orf80 | 0.277803 | 4.786503 | 3.536993 | 0.001062 | 0.031103 | -0.83576 |
| G2E3     | -0.53592 | 4.934523 | -3.53661 | 0.001063 | 0.031103 | -0.83673 |
| HCFC2    | -0.54932 | 5.909223 | -3.53517 | 0.001067 | 0.031103 | -0.84043 |
| CCDC12   | -0.28065 | 7.117646 | -3.53361 | 0.001072 | 0.031103 | -0.84442 |
| KCTD3    | -0.81844 | 6.921132 | -3.52884 | 0.001087 | 0.031372 | -0.8566  |
| C9orf85  | -0.33699 | 4.419696 | -3.52339 | 0.001104 | 0.031372 | -0.87052 |
| C2orf73  | 0.405941 | 3.591348 | 3.523058 | 0.001105 | 0.031372 | -0.87137 |
| ACIN1    | 0.260537 | 6.783704 | 3.521848 | 0.001109 | 0.031372 | -0.87446 |
| G6PC2    | 0.489664 | 4.578912 | 3.521658 | 0.001109 | 0.031372 | -0.87494 |
| NOL4L    | -0.31176 | 4.287209 | -3.51972 | 0.001116 | 0.031372 | -0.87988 |
| PNRC2    | -0.6859  | 8.204541 | -3.51804 | 0.001121 | 0.031372 | -0.88418 |
| CEP95    | -0.72546 | 5.391124 | -3.51719 | 0.001124 | 0.031372 | -0.88635 |
| FAM216A  | -0.43204 | 5.83612  | -3.51016 | 0.001146 | 0.031858 | -0.90425 |
| SOX18    | 1.213647 | 3.138742 | 3.507906 | 0.001154 | 0.031914 | -0.91    |
| ETV1     | -0.49815 | 3.713875 | -3.49978 | 0.001181 | 0.03251  | -0.93069 |
| ZC3H11A  | -0.2083  | 8.187679 | -3.49709 | 0.00119  | 0.032602 | -0.93753 |
| CCAR1    | -0.60315 | 7.694458 | -3.49556 | 0.001195 | 0.032602 | -0.94143 |
| CA12     | -1.09281 | 4.925623 | -3.49513 | 0.001221 | 0.032751 | -0.95252 |
| SAYSD1   | -0.40958 | 5.048567 | -3.48969 | 0.001215 | 0.032751 | -0.95635 |
| TPP2     | -0.31966 | 5.798739 | -3.48767 | 0.001222 | 0.032751 | -0.96148 |
| TERT     | 0.207056 | 3.934646 | 3.487557 | 0.001223 | 0.032751 | -0.96176 |
| CNTRL    | -0.64059 | 4.888284 | -3.47614 | 0.001263 | 0.033097 | -0.99073 |
| RPS12    | -0.17354 | 11.56099 | -3.47488 | 0.001267 | 0.033097 | -0.99394 |
| ARID3B   | -0.33858 | 3.931762 | -3.47471 | 0.001268 | 0.033097 | -0.99436 |
| COMMD2   | -0.43896 | 6.198091 | -3.47404 | 0.00127  | 0.033097 | -0.99607 |
| CEMP1    | 0.329453 | 3.602763 | 3.473321 | 0.001273 | 0.033097 | -0.99788 |
| ZNF321P  | 0.263147 | 3.179463 | 3.471773 | 0.001279 | 0.033097 | -1.00181 |
| GFM2     | -0.36147 | 5.04464  | -3.4693  | 0.001288 | 0.033097 | -1.00807 |
| ENTR1    | -0.22685 | 4.90299  | -3.46798 | 0.001293 | 0.033097 | -1.01143 |
| SRSF10   | -0.48176 | 6.863307 | -3.46587 | 0.0013   | 0.033097 | -1.01676 |
| TAF1A    | -0.46769 | 4.270027 | -3.46587 | 0.0013   | 0.033097 | -1.01676 |
| FOXRED2  | 0.358245 | 3.706979 | 3.465382 | 0.001302 | 0.033097 | -1.018   |
| MYO1C    | 0.403829 | 7.822301 | 3.464653 | 0.001305 | 0.033097 | -1.01984 |
| CROCC    | -0.27974 | 4.930223 | -3.46382 | 0.001308 | 0.033097 | -1.02194 |
| CSDC2    | -1.0711  | 3.309233 | -3.46098 | 0.001318 | 0.033223 | -1.02914 |
| SLCO5A1  | 0.842587 | 3.505527 | 3.467424 | 0.001348 | 0.033275 | -1.03222 |
| RPS6     | -0.16969 | 11.21725 | -3.45799 | 0.00133  | 0.033275 | -1.03672 |
| PPDPF    | 0.503529 | 6.162597 | 3.45706  | 0.001333 | 0.033275 | -1.03906 |
| DNAJB14  | -0.71606 | 7.043939 | -3.45355 | 0.001347 | 0.033275 | -1.04794 |

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|--------------|----------|----------|----------|----------|----------|----------|
| MRAP         | 0.410175 | 4.012514 | 3.453036 | 0.001348 | 0.033275 | -1.04923 |
| SUSD1        | 0.811434 | 5.188348 | 3.459337 | 0.001379 | 0.033361 | -1.05283 |
| RNF112       | -0.77617 | 3.868851 | -3.44774 | 0.001369 | 0.033361 | -1.06262 |
| WTAP         | -0.50554 | 7.154431 | -3.44626 | 0.001375 | 0.033361 | -1.06634 |
| TNFSF13      | 0.537292 | 7.004344 | 3.448911 | 0.001391 | 0.033361 | -1.06873 |
| DACT3-AS1    | 0.617131 | 3.4088   | 3.444426 | 0.001382 | 0.033361 | -1.07097 |
| CYP20A1      | -0.39637 | 5.218255 | -3.44408 | 0.001383 | 0.033361 | -1.07186 |
| STAG1        | -0.38574 | 6.827323 | -3.44246 | 0.001389 | 0.033361 | -1.07594 |
| MRPL27       | -0.28517 | 7.457407 | -3.43997 | 0.001399 | 0.033419 | -1.08222 |
| UCHL5        | -0.39106 | 4.799788 | -3.4314  | 0.001434 | 0.033937 | -1.10381 |
| SMG5         | 0.356559 | 5.808442 | 3.430741 | 0.001436 | 0.033937 | -1.10549 |
| GNA14-AS1    | 0.449577 | 3.593179 | 3.430267 | 0.001438 | 0.033937 | -1.10668 |
| FOSL1        | -1.06913 | 3.889303 | -3.43718 | 0.001467 | 0.033937 | -1.10741 |
| LOC101928535 | 0.46484  | 3.245942 | 3.426398 | 0.001454 | 0.033937 | -1.11642 |
| LGR5         | 0.975816 | 3.637521 | 3.426173 | 0.001455 | 0.033937 | -1.11699 |
| CYP4F30P     | 0.647129 | 3.093025 | 3.425962 | 0.001456 | 0.033937 | -1.11752 |
| RNF144A      | -0.87243 | 5.411906 | -3.42214 | 0.001472 | 0.033937 | -1.12714 |
| LOC202181    | -0.44817 | 4.484437 | -3.42196 | 0.001472 | 0.033937 | -1.1276  |
| FBXL12       | -0.17388 | 5.81981  | -3.41887 | 0.001485 | 0.033985 | -1.13537 |
| MED23        | -0.32096 | 5.366933 | -3.41816 | 0.001488 | 0.033985 | -1.13714 |
| TBK1         | -0.4892  | 6.12571  | -3.41735 | 0.001492 | 0.033985 | -1.13918 |
| TOP2B        | -0.32972 | 9.097883 | -3.41357 | 0.001508 | 0.034218 | -1.14869 |
| ANKRD36      | -1.0647  | 6.146408 | -3.41619 | 0.001525 | 0.034224 | -1.15054 |
| SPIRE1       | -0.30664 | 5.895486 | -3.40888 | 0.001528 | 0.034224 | -1.16047 |
| CDYL         | -0.37041 | 5.464226 | -3.40695 | 0.001536 | 0.034224 | -1.16531 |
| YWHAEP7      | 0.497764 | 3.628097 | 3.406883 | 0.001536 | 0.034224 | -1.16548 |
| SAP30BP      | -0.2233  | 6.092203 | -3.40576 | 0.001541 | 0.034224 | -1.16829 |
| LINC00470    | 0.205534 | 3.200017 | 3.40547  | 0.001542 | 0.034224 | -1.16903 |
| GPRC5B       | 1.013503 | 4.473037 | 3.40073  | 0.001563 | 0.034495 | -1.18092 |
| SCAF11       | -0.43537 | 7.350639 | -3.39944 | 0.001569 | 0.034495 | -1.18416 |
| UFM1         | -0.50609 | 7.602141 | -3.39872 | 0.001572 | 0.034495 | -1.18597 |
| IGF2         | 1.223989 | 5.007489 | 3.40814  | 0.001624 | 0.035084 | -1.18854 |
| EID2         | -0.34264 | 7.124171 | -3.39561 | 0.001586 | 0.03467  | -1.19376 |
| TASOR2       | -0.4088  | 5.612253 | -3.39223 | 0.001601 | 0.034873 | -1.20223 |
| ACR          | -0.55896 | 3.373262 | -3.39065 | 0.001608 | 0.0349   | -1.20617 |
| HNRNPA1      | -0.20342 | 9.934204 | -3.38619 | 0.001628 | 0.035084 | -1.21734 |
| ARID1A       | 0.289239 | 7.128735 | 3.383391 | 0.001641 | 0.035228 | -1.22435 |
| STK3         | -0.43633 | 6.292194 | -3.38217 | 0.001647 | 0.035228 | -1.22741 |
| RND3         | -1.06769 | 8.56954  | -3.3762  | 0.001675 | 0.03566  | -1.24233 |
| WFIKKN1      | -0.26788 | 2.840336 | -3.37369 | 0.001686 | 0.03566  | -1.2486  |
| DHRS4-AS1    | -0.34291 | 5.17345  | -3.37209 | 0.001694 | 0.03566  | -1.25259 |
| SDCBP2-AS1   | -0.35071 | 4.415244 | -3.37159 | 0.001696 | 0.03566  | -1.25385 |
| LOC283856    | 0.38547  | 3.29445  | 3.371468 | 0.001697 | 0.03566  | -1.25415 |
| LCP2         | 0.597593 | 5.415305 | 3.370637 | 0.001732 | 0.036021 | -1.2638  |

|           |          |          |          |          |          |          |
|-----------|----------|----------|----------|----------|----------|----------|
| PRDM15    | -0.2071  | 4.362545 | -3.36701 | 0.001718 | 0.035981 | -1.26528 |
| LOX       | -0.63071 | 5.872603 | -3.36743 | 0.001748 | 0.036021 | -1.27175 |
| CD4       | 0.755005 | 6.798144 | 3.370279 | 0.001767 | 0.036021 | -1.27317 |
| SLC9A7    | 0.324528 | 3.43595  | 3.363015 | 0.001738 | 0.036021 | -1.27524 |
| UHRF2     | -0.36249 | 7.450063 | -3.3604  | 0.00175  | 0.036021 | -1.28176 |
| BORCS5    | -0.27007 | 4.712054 | -3.35908 | 0.001757 | 0.036021 | -1.28506 |
| SERPINE2  | -0.93946 | 5.939319 | -3.35807 | 0.001762 | 0.036021 | -1.28758 |
| PRPF40A   | -0.32809 | 7.336838 | -3.3567  | 0.001769 | 0.036021 | -1.29098 |
| KLHDC8B   | 0.518762 | 6.55838  | 3.353863 | 0.001783 | 0.036184 | -1.29805 |
| CLIC2     | -0.73718 | 7.337996 | -3.35568 | 0.001806 | 0.036528 | -1.30082 |
| ESF1      | -0.97853 | 6.415532 | -3.34317 | 0.001837 | 0.036914 | -1.32464 |
| GSN-AS1   | -0.47958 | 2.771445 | -3.34308 | 0.001837 | 0.036914 | -1.32489 |
| EIF2B1    | -0.19363 | 7.732484 | -3.34063 | 0.00185  | 0.037041 | -1.33096 |
| ATRX      | -0.58686 | 6.496985 | -3.33921 | 0.001857 | 0.037064 | -1.3345  |
| SYNDIG1   | -0.60048 | 4.307391 | -3.33563 | 0.001876 | 0.037311 | -1.34337 |
| SNORA72   | -0.94276 | 3.55849  | -3.33183 | 0.001896 | 0.037583 | -1.35281 |
| HOXB1     | 0.506569 | 3.679185 | 3.329743 | 0.001907 | 0.037677 | -1.35799 |
| KCTD21    | 0.306341 | 4.866843 | 3.325199 | 0.001931 | 0.037815 | -1.36926 |
| C6orf201  | 0.425667 | 3.062119 | 3.324737 | 0.001934 | 0.037815 | -1.37041 |
| IGIP      | -0.44442 | 6.661614 | -3.32452 | 0.001935 | 0.037815 | -1.37094 |
| PRPF4B    | -0.33796 | 6.644    | -3.32322 | 0.001942 | 0.037815 | -1.37417 |
| HMGB3     | 0.408621 | 4.637747 | 3.322519 | 0.001946 | 0.037815 | -1.3759  |
| ATG5      | -0.39651 | 6.191293 | -3.32    | 0.001959 | 0.037943 | -1.38215 |
| SLITRK6   | 0.603492 | 3.235778 | 3.318501 | 0.001968 | 0.037943 | -1.38585 |
| RPL34     | -0.16156 | 11.30871 | -3.3178  | 0.001971 | 0.037943 | -1.38759 |
| PRRX1     | -0.53241 | 8.075029 | -3.31424 | 0.001991 | 0.038197 | -1.39639 |
| TARDBP    | -0.2543  | 8.077707 | -3.30958 | 0.002017 | 0.038572 | -1.40793 |
| TRAPPC11  | -0.37263 | 5.664634 | -3.30798 | 0.002026 | 0.038619 | -1.41188 |
| SLC7A1    | -0.62201 | 5.108674 | -3.31293 | 0.00207  | 0.038716 | -1.41354 |
| VPS54     | -0.38105 | 6.575253 | -3.30663 | 0.002034 | 0.038628 | -1.41522 |
| SLC25A32  | -0.37696 | 6.417999 | -3.30548 | 0.00204  | 0.038628 | -1.41807 |
| ZNF804B   | 0.395303 | 3.065634 | 3.30415  | 0.002048 | 0.038628 | -1.42135 |
| EIF1AD    | -0.22415 | 5.590105 | -3.30332 | 0.002053 | 0.038628 | -1.4234  |
| TMEM43    | -0.39065 | 6.756746 | -3.3014  | 0.002064 | 0.038712 | -1.42813 |
| KMT2E     | -0.50051 | 8.127875 | -3.29709 | 0.002088 | 0.038933 | -1.43878 |
| ZBTB5     | -0.25712 | 6.033156 | -3.29156 | 0.002121 | 0.039411 | -1.45242 |
| SLC11A2   | -0.4686  | 6.105825 | -3.28761 | 0.002144 | 0.039722 | -1.46215 |
| HERC2P7   | 0.300372 | 3.910748 | 3.286309 | 0.002152 | 0.039735 | -1.46536 |
| EMSY      | -0.34016 | 4.849209 | -3.28335 | 0.00217  | 0.039735 | -1.47265 |
| ITCH      | -0.529   | 4.650734 | -3.28331 | 0.00217  | 0.039735 | -1.47274 |
| DPH7      | -0.24189 | 5.69268  | -3.28225 | 0.002176 | 0.039735 | -1.47535 |
| PRELID3B  | -0.39633 | 6.431637 | -3.28067 | 0.002186 | 0.039735 | -1.47925 |
| ABHD13    | -0.52914 | 4.914733 | -3.27995 | 0.00219  | 0.039735 | -1.48102 |
| LINC02180 | 0.409186 | 2.638513 | 3.278953 | 0.002196 | 0.039735 | -1.48347 |



|           |          |          |          |          |          |          |
|-----------|----------|----------|----------|----------|----------|----------|
| CRADD     | -0.67928 | 6.104047 | -3.27834 | 0.0022   | 0.039735 | -1.48497 |
| CSTF3     | -0.25623 | 5.803744 | -3.2774  | 0.002206 | 0.039735 | -1.48728 |
| STRC      | 0.491827 | 3.918206 | 3.276423 | 0.002212 | 0.039735 | -1.48969 |
| LAD1      | 1.319261 | 3.21515  | 3.270168 | 0.00225  | 0.040279 | -1.50507 |
| IL6ST     | -0.40341 | 7.791367 | -3.26933 | 0.002255 | 0.040279 | -1.50713 |
| MIER1     | -0.53555 | 5.531245 | -3.26646 | 0.002273 | 0.040479 | -1.51417 |
| MEAK7     | -0.38754 | 4.267553 | -3.26376 | 0.00229  | 0.040545 | -1.52081 |
| RBM7      | -0.40822 | 6.682115 | -3.26371 | 0.002291 | 0.040545 | -1.52092 |
| CACNG5    | 0.348032 | 3.443255 | 3.259165 | 0.00232  | 0.040841 | -1.53208 |
| ZNF254    | -0.37795 | 4.993119 | -3.25894 | 0.002321 | 0.040841 | -1.53264 |
| WDR75     | -0.74625 | 6.949743 | -3.25662 | 0.002336 | 0.040945 | -1.53831 |
| OFD1      | -0.50762 | 6.012894 | -3.25587 | 0.002341 | 0.040945 | -1.54014 |
| NECTIN3   | -0.49978 | 4.993874 | -3.25455 | 0.002349 | 0.040975 | -1.54339 |
| MICALL2   | -0.42259 | 4.977948 | -3.25269 | 0.002362 | 0.041065 | -1.54794 |
| IL1F10    | 0.577235 | 3.475433 | 3.250673 | 0.002375 | 0.041174 | -1.55289 |
| XAF1      | -0.68296 | 6.891608 | -3.24877 | 0.002387 | 0.04127  | -1.55754 |
| MGA       | -0.29683 | 5.199137 | -3.24549 | 0.002409 | 0.041449 | -1.56558 |
| FOXM1     | -0.55406 | 3.87932  | -3.2451  | 0.002412 | 0.041449 | -1.56652 |
| B3GNT6    | -0.3302  | 3.528299 | -3.23855 | 0.002456 | 0.042083 | -1.58255 |
| HBG1      | 1.002612 | 5.351637 | 3.237808 | 0.0025   | 0.042729 | -1.58954 |
| ELOA      | -0.1869  | 5.444185 | -3.2285  | 0.002524 | 0.042809 | -1.60709 |
| BCKDHB    | -0.43394 | 4.556958 | -3.22813 | 0.002527 | 0.042809 | -1.60799 |
| LAS1L     | -0.32909 | 5.33781  | -3.22594 | 0.002542 | 0.042809 | -1.61334 |
| ORAI1     | 0.676177 | 5.905389 | 3.224194 | 0.002554 | 0.042809 | -1.61759 |
| ZNF485    | 0.305136 | 4.159505 | 3.224097 | 0.002555 | 0.042809 | -1.61782 |
| SLC37A4   | 0.488651 | 4.829301 | 3.222199 | 0.002569 | 0.042809 | -1.62245 |
| SMCHD1    | -0.60271 | 5.851569 | -3.22205 | 0.00257  | 0.042809 | -1.62281 |
| LINC00092 | -0.66495 | 5.928555 | -3.22193 | 0.00257  | 0.042809 | -1.62311 |
| GMNN      | -0.98009 | 5.633051 | -3.2217  | 0.002572 | 0.042809 | -1.62366 |
| DNAJC9    | -0.2464  | 5.438415 | -3.21836 | 0.002596 | 0.042809 | -1.63181 |
| SMAD2     | -0.2618  | 6.572201 | -3.21833 | 0.002596 | 0.042809 | -1.63187 |
| GPALPP1   | -0.25996 | 5.636751 | -3.21822 | 0.002597 | 0.042809 | -1.63216 |
| CELSR1    | -0.24274 | 4.033208 | -3.21796 | 0.002599 | 0.042809 | -1.63278 |
| C1QL1     | -0.28127 | 3.707087 | -3.21284 | 0.002635 | 0.043002 | -1.64524 |
| LINC02716 | 0.534985 | 4.223716 | 3.212754 | 0.002636 | 0.043002 | -1.64545 |
| EHBP1     | -0.34332 | 6.177735 | -3.21188 | 0.002642 | 0.043002 | -1.64757 |
| MAK16     | -0.3389  | 6.981269 | -3.21006 | 0.002656 | 0.043002 | -1.65199 |
| ZNF605    | -0.39044 | 4.584836 | -3.2091  | 0.002663 | 0.043002 | -1.65433 |
| EXOSC3    | -0.26885 | 4.322449 | -3.20865 | 0.002666 | 0.043002 | -1.65543 |
| CCDC78    | -0.21189 | 3.704108 | -3.20835 | 0.002668 | 0.043002 | -1.65617 |
| SP7       | 0.477837 | 3.274958 | 3.208338 | 0.002668 | 0.043002 | -1.65619 |
| HAUS2     | 0.382466 | 8.13817  | 3.206183 | 0.002684 | 0.04314  | -1.66143 |
| INVS      | -0.33086 | 4.096795 | -3.20415 | 0.002699 | 0.043164 | -1.66636 |
| TDRD7     | -0.3889  | 5.976863 | -3.20355 | 0.002703 | 0.043164 | -1.66782 |

|              |          |          |          |          |          |          |
|--------------|----------|----------|----------|----------|----------|----------|
| KIAA0586     | -0.34652 | 4.584682 | -3.20304 | 0.002707 | 0.043164 | -1.66907 |
| PIGU         | -0.26721 | 5.836459 | -3.20064 | 0.002725 | 0.043295 | -1.6749  |
| APOBEC3F     | 0.407206 | 4.151488 | 3.198675 | 0.00274  | 0.043295 | -1.67966 |
| CENPC        | -0.63168 | 6.049624 | -3.19735 | 0.00275  | 0.043295 | -1.68289 |
| ZBED5        | -0.48763 | 6.687075 | -3.19719 | 0.002751 | 0.043295 | -1.68327 |
| AMT          | -0.32463 | 5.752023 | -3.19707 | 0.002752 | 0.043295 | -1.68356 |
| CCDC186      | -0.98331 | 6.133211 | -3.1949  | 0.002768 | 0.043439 | -1.68883 |
| CHRNA1       | 1.087713 | 3.513049 | 3.19636  | 0.0028   | 0.04362  | -1.68975 |
| SRSF2        | -0.2919  | 8.993137 | -3.19233 | 0.002788 | 0.04362  | -1.69506 |
| WNT2         | 0.625228 | 3.493606 | 3.190492 | 0.002802 | 0.04362  | -1.69951 |
| ASL          | -0.47579 | 5.889285 | -3.18167 | 0.00287  | 0.044569 | -1.72088 |
| CORT         | -0.35527 | 4.199457 | -3.17558 | 0.002919 | 0.045131 | -1.73561 |
| TIMM9        | -0.35722 | 5.323258 | -3.17517 | 0.002922 | 0.045131 | -1.73659 |
| FBXO8        | -0.38141 | 6.463796 | -3.174   | 0.002931 | 0.045159 | -1.73942 |
| PCF11        | -0.56597 | 6.920067 | -3.17088 | 0.002956 | 0.045253 | -1.74696 |
| GPR162       | -0.3483  | 3.332878 | -3.17019 | 0.002962 | 0.045253 | -1.74864 |
| CCDC112      | -0.58757 | 5.183459 | -3.17008 | 0.002963 | 0.045253 | -1.74888 |
| WASIR2       | 0.454507 | 3.438835 | 3.169458 | 0.002968 | 0.045253 | -1.7504  |
| CD209        | 0.70898  | 5.00195  | 3.166533 | 0.002991 | 0.045499 | -1.75746 |
| GALNT7       | -0.53142 | 6.82774  | -3.16839 | 0.003069 | 0.046327 | -1.76178 |
| TYW3         | -0.34962 | 6.406708 | -3.15842 | 0.003058 | 0.046327 | -1.77703 |
| MLLT3        | -0.51485 | 4.686334 | -3.15771 | 0.003064 | 0.046327 | -1.77872 |
| ENPP4        | -0.66947 | 6.7176   | -3.15445 | 0.003138 | 0.046782 | -1.79037 |
| MAP3K6       | -0.44001 | 5.119135 | -3.15253 | 0.003108 | 0.046782 | -1.7912  |
| RABEPK       | -0.25029 | 5.784958 | -3.14915 | 0.003137 | 0.046782 | -1.79935 |
| SNRNP70      | -0.20001 | 7.583948 | -3.14809 | 0.003146 | 0.046782 | -1.8019  |
| ADAMTS5      | -0.8023  | 8.003459 | -3.14803 | 0.003146 | 0.046782 | -1.80204 |
| LINC00482    | -0.38818 | 4.160065 | -3.14797 | 0.003147 | 0.046782 | -1.80218 |
| KAT6B        | -0.3151  | 5.778983 | -3.14442 | 0.003177 | 0.047119 | -1.81073 |
| TUFT1        | -0.71417 | 6.128115 | -3.14164 | 0.003201 | 0.047358 | -1.81741 |
| CDK2         | -0.35972 | 4.599534 | -3.13964 | 0.003219 | 0.047498 | -1.82221 |
| HDGFL3       | -0.58434 | 6.048727 | -3.13841 | 0.003229 | 0.047538 | -1.82515 |
| AURKA        | 0.35862  | 3.779241 | 3.133479 | 0.003273 | 0.04798  | -1.837   |
| DNAJC8       | -0.23759 | 6.676947 | -3.13319 | 0.003276 | 0.04798  | -1.83769 |
| PHF11        | -0.48487 | 7.106578 | -3.12833 | 0.003319 | 0.048355 | -1.84933 |
| SLC5A7       | 0.25541  | 2.989859 | 3.127072 | 0.00333  | 0.048355 | -1.85236 |
| CCL25        | -0.58302 | 3.385147 | -3.12687 | 0.003332 | 0.048355 | -1.85284 |
| LOC101928896 | 0.269892 | 3.123975 | 3.126705 | 0.003334 | 0.048355 | -1.85324 |
| MITD1        | -0.82697 | 6.547075 | -3.12362 | 0.003362 | 0.048592 | -1.86062 |
| C5orf24      | -0.34774 | 6.180628 | -3.12237 | 0.003373 | 0.048592 | -1.86362 |
| ARL5B        | -0.58896 | 5.925579 | -3.12158 | 0.00338  | 0.048592 | -1.86552 |
| SRSF7        | -0.68514 | 7.813034 | -3.12056 | 0.00339  | 0.048592 | -1.86795 |
| CD160        | 0.328152 | 3.26424  | 3.120432 | 0.003391 | 0.048592 | -1.86826 |
| RNF19A       | -0.33809 | 6.366459 | -3.11688 | 0.003424 | 0.048944 | -1.87676 |

|              |          |          |          |          |          |          |
|--------------|----------|----------|----------|----------|----------|----------|
| PPP1R13L     | -0.28979 | 4.262071 | -3.11502 | 0.003441 | 0.049072 | -1.88121 |
| PDS5A        | -0.33002 | 6.563203 | -3.11306 | 0.003459 | 0.049191 | -1.8859  |
| BIRC7        | -0.40607 | 5.766387 | -3.11508 | 0.003542 | 0.049873 | -1.88809 |
| SORBS1       | 0.950834 | 6.912244 | 3.111615 | 0.003473 | 0.049191 | -1.88935 |
| DYNC111      | 0.437751 | 4.151099 | 3.111477 | 0.003474 | 0.049191 | -1.88968 |
| HBB          | 0.692481 | 8.835725 | 3.106161 | 0.003574 | 0.049873 | -1.90536 |
| GRID2        | 0.201754 | 3.265534 | 3.104351 | 0.003542 | 0.049873 | -1.90669 |
| AKAP13       | -0.2557  | 7.179015 | -3.10369 | 0.003548 | 0.049873 | -1.90828 |
| EPC2         | -0.37463 | 6.090533 | -3.10077 | 0.003576 | 0.049873 | -1.91523 |
| HS1BP3       | -0.22481 | 5.103252 | -3.09899 | 0.003593 | 0.049873 | -1.91949 |
| ATXN2L       | -0.26253 | 4.074751 | -3.09826 | 0.0036   | 0.049873 | -1.92123 |
| PIGH         | -0.30223 | 6.579923 | -3.09795 | 0.003603 | 0.049873 | -1.92195 |
| LOC101927502 | 0.371308 | 3.010777 | 3.094949 | 0.003633 | 0.049873 | -1.92911 |
| CR1L         | 0.319129 | 3.309451 | 3.09466  | 0.003636 | 0.049873 | -1.9298  |
| ZCCHC10      | -0.38537 | 5.937485 | -3.09438 | 0.003638 | 0.049873 | -1.93046 |
| CFAP36       | -0.68099 | 6.905325 | -3.09379 | 0.003644 | 0.049873 | -1.93186 |
| CAPZB        | 0.290504 | 8.661879 | 3.093641 | 0.003646 | 0.049873 | -1.93222 |
| SPPL2B       | -0.41479 | 4.417291 | -3.09322 | 0.00365  | 0.049873 | -1.93322 |
| HNRNPK       | -0.15757 | 9.981637 | -3.09274 | 0.003655 | 0.049873 | -1.93437 |
| TBCE         | -0.29878 | 5.730036 | -3.09188 | 0.003663 | 0.049873 | -1.93641 |
| RB1CC1       | -0.55805 | 7.335453 | -3.09169 | 0.003665 | 0.049873 | -1.93686 |
| EDRF1        | -0.36411 | 5.25124  | -3.09021 | 0.00368  | 0.049959 | -1.9404  |