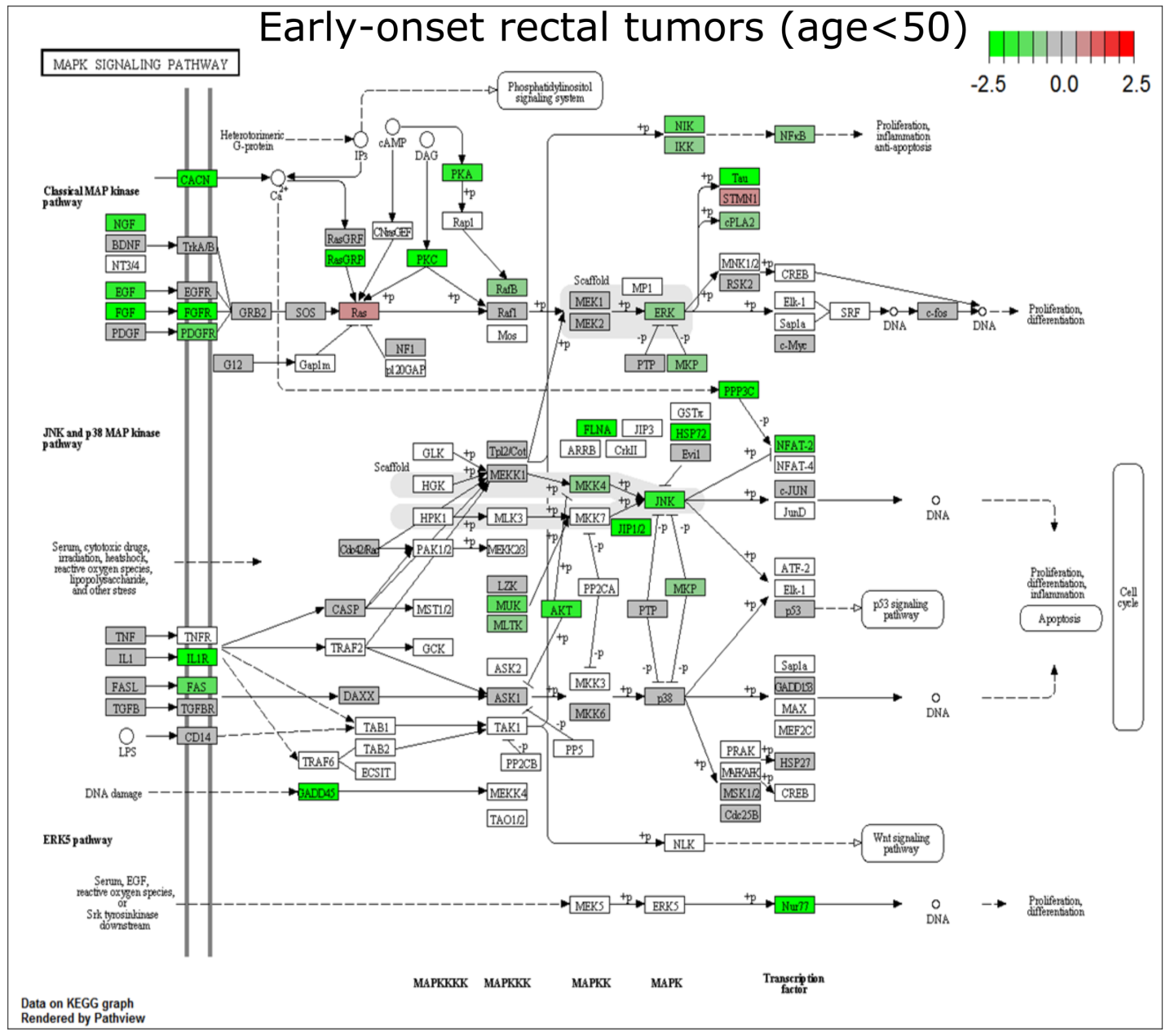
|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Log fold change** | **Lower confidence limit** | **Upper confidence limit** | **P-value** | **FDR** | **Pathways** |
| PIK3R2 | 0.059294 | -0.6845 | 0.803093 | 0.880963 | 1 | STAT, PI3K, RAS, Apop |
| IL11RA | -1.998 | -2.89466 | -1.10134 | 0.004732 | 0.197269 | STAT |
| BAMBI | 1.596512 | 0.291186 | 2.901838 | 0.053497 | 0.852328 | Wnt, TGFB |
| PLA2G10 | -2.8926 | -3.70932 | -2.07588 | 0.000443 | 0.058061 | RAS |
| ETV1 | 0.646839 | -0.15974 | 1.453414 | 0.167047 | 1 | TXmisReg |
| POLD4 | -0.68531 | -1.6494 | 0.278773 | 0.21297 | 1 | DNARepair |
| NFKBIZ | -0.26248 | -1.19271 | 0.667746 | 0.600209 | 1 | TXmisReg |
| SMAD2 | -0.87688 | -1.29897 | -0.4548 | 0.006562 | 0.226659 | TGFB, CC |
| TNFRSF10C | -0.99522 | -1.64187 | -0.34857 | 0.023502 | 0.492173 | Apop |
| AKT2 | 0.031632 | -0.22542 | 0.288687 | 0.817441 | 1 | MAPK, STAT, PI3K, RAS, Apop |
| KITLG | -1.10096 | -3.02426 | 0.822351 | 0.304762 | 1 | PI3K, RAS |
| ALKBH3 | -0.18165 | -1.19234 | 0.829043 | 0.736683 | 1 | DNARepair |
| JAK1 | 0.022849 | -0.32209 | 0.367792 | 0.900945 | 1 | STAT, PI3K |
| BCL2A1 | -0.1882 | -1.36115 | 0.984754 | 0.763807 | 1 | TXmisReg |
| CCR7 | -0.80921 | -2.0377 | 0.41928 | 0.244192 | 1 | TXmisReg |
| FGF11 | 0.307652 | -0.49184 | 1.107139 | 0.479255 | 1 | MAPK, PI3K, RAS |
| HSPA6 | -1.20374 | -2.49262 | 0.085143 | 0.116903 | 1 | MAPK |
| ZBTB16 | -4.18888 | -6.09251 | -2.28525 | 0.005021 | 0.204073 | TXmisReg |
| INHBA | 2.878309 | 1.820196 | 3.936422 | 0.001775 | 0.120531 | TGFB |
| NRAS | 0.518884 | 0.310267 | 0.727501 | 0.00278 | 0.14343 | MAPK, PI3K, RAS |
| MEN1 | 0.058278 | -0.47083 | 0.587381 | 0.836231 | 1 | TXmisReg |
| ITGB8 | 0.633507 | -0.27838 | 1.545389 | 0.222214 | 1 | PI3K |
| CDC14B | 0.378037 | -0.08827 | 0.844345 | 0.163167 | 1 | CC |
| SETBP1 | -2.5486 | -3.11478 | -1.98242 | 0.000118 | 0.03542 |  |
| CASP12 | -1.34658 | -2.32807 | -0.36508 | 0.036098 | 0.667249 | Apop |
| KAT2B | -1.67125 | -2.1719 | -1.17059 | 0.000609 | 0.062189 | Notch |
| GNG4 | 1.398974 | -0.92568 | 3.723626 | 0.282834 | 1 | PI3K, RAS |
| BMP6 | -2.25453 | -2.92276 | -1.58629 | 0.000576 | 0.062189 | TGFB |
| PPARG | -0.18026 | -0.70586 | 0.345343 | 0.526482 | 1 | TXmisReg |
| PBX1 | -1.25768 | -1.93719 | -0.57817 | 0.010996 | 0.297917 | TXmisReg |
| PRKACA | -0.86217 | -1.04359 | -0.68074 | 8.67E-05 | 0.034653 | Wnt, HH, MAPK, RAS, Apop |
| IL2RA | 0.774149 | -0.27146 | 1.819757 | 0.196935 | 1 | STAT, PI3K |
| PRL | -0.7946 | -1.17653 | -0.41267 | 0.006518 | 0.226659 | STAT, PI3K |
| BIRC3 | -1.52017 | -2.70875 | -0.33158 | 0.046104 | 0.7802 | TXmisReg, Apop |
| PRKAA2 | -2.67482 | -5.08776 | -0.26188 | 0.072789 | 1 | PI3K |
| PRKCG | -0.84921 | -1.39203 | -0.30638 | 0.022047 | 0.469171 | Wnt, MAPK, RAS |
| UBB | -0.74546 | -1.14658 | -0.34435 | 0.0108 | 0.29429 | DNARepair |
| HDAC6 | -0.26028 | -0.82013 | 0.299561 | 0.397297 | 1 | ChromMod |
| FZD9 | -0.66253 | -1.31634 | -0.00873 | 0.094216 | 1 | Wnt |
| PIK3CA | -0.29955 | -0.70944 | 0.110344 | 0.202012 | 1 | STAT, PI3K, RAS, Apop |
| SMARCA4 | 0.521657 | 0.14431 | 0.899004 | 0.035126 | 0.655458 |  |
| ABL1 | -1.21629 | -1.57775 | -0.85482 | 0.000584 | 0.062189 | RAS, CC |
| COL24A1 | -1.69596 | -2.59799 | -0.79392 | 0.010268 | 0.286301 | PI3K |
| TSLP | -1.33843 | -2.18689 | -0.48997 | 0.021337 | 0.460327 | STAT |
| RASA4 | -1.40651 | -1.71918 | -1.09385 | 0.000118 | 0.03542 | RAS |
| STAT1 | 0.832956 | -0.78996 | 2.455876 | 0.353266 | 1 | STAT |
| IKBKG | -0.33082 | -0.92956 | 0.267921 | 0.320419 | 1 | MAPK, PI3K, RAS, Apop |
| MAPT | -2.42343 | -3.97093 | -0.87592 | 0.021959 | 0.469171 | MAPK |
| LAMA3 | 0.225192 | -1.32265 | 1.773036 | 0.785113 | 1 | PI3K |
| CDK4 | 1.53889 | 1.112494 | 1.965287 | 0.0004 | 0.058061 | PI3K, CC |
| PPP3CA | -0.534 | -0.8997 | -0.1683 | 0.028727 | 0.57163 | Wnt, MAPK, Apop |
| ITGA2 | 2.167695 | 1.723432 | 2.611958 | 7.47E-05 | 0.034653 | PI3K |
| FIGF | -2.73614 | -3.56793 | -1.90435 | 0.000659 | 0.063665 | PI3K, RAS |
| MMP9 | 1.099902 | -0.23032 | 2.43012 | 0.156222 | 1 | TXmisReg |
| CACNA1D | 0.484388 | -1.44451 | 2.413291 | 0.640069 | 1 | MAPK |
| HELLS | 1.173975 | 0.109943 | 2.238007 | 0.07382 | 1 | ChromMod |
| TNC | -2.50153 | -3.73331 | -1.26974 | 0.00728 | 0.235514 | PI3K |
| COL4A6 | -2.63031 | -3.29034 | -1.97028 | 0.000232 | 0.05196 | PI3K |
| MFNG | -0.76838 | -1.43817 | -0.0986 | 0.065573 | 0.988881 | Notch |
| HDAC2 | 1.018871 | 0.698035 | 1.339706 | 0.000795 | 0.071734 | Notch, ChromMod, TXmisReg, CC |
| BMP7 | 2.089415 | 1.02957 | 3.14926 | 0.008323 | 0.252635 | TGFB |
| IL11 | 2.224325 | 0.64656 | 3.802089 | 0.032715 | 0.628925 | STAT |
| RASGRF1 | -0.07001 | -1.49281 | 1.352783 | 0.926304 | 1 | MAPK, RAS |
| PRKDC | 1.098798 | 0.494793 | 1.702804 | 0.011847 | 0.317392 | DNARepair, CC |
| PRKX | -0.55074 | -1.17 | 0.068514 | 0.131935 | 1 | Wnt, HH, MAPK, RAS, Apop |
| TGFB1 | -0.02354 | -1.05143 | 1.004356 | 0.965656 | 1 | TGFB, MAPK, CC |
| KDM6A | -0.69125 | -1.43253 | 0.050033 | 0.11736 | 1 | TXmisReg |
| ETV7 | 1.441126 | 0.391459 | 2.490793 | 0.036007 | 0.667249 | TXmisReg |
| TMPRSS2 | -1.25141 | -1.79399 | -0.70882 | 0.004015 | 0.185159 | TXmisReg |
| RAC3 | 0.614345 | -0.20911 | 1.437797 | 0.193984 | 1 | Wnt, MAPK, RAS |
| LAT | -1.23529 | -1.73654 | -0.73404 | 0.00291 | 0.147203 | RAS |
| RUNX1T1 | -1.6408 | -2.46564 | -0.81595 | 0.007994 | 0.247345 | TXmisReg |
| HRAS | 0.264568 | -0.19711 | 0.726241 | 0.304273 | 1 | MAPK, PI3K, RAS |
| ITGA7 | -3.29553 | -4.29866 | -2.29239 | 0.000664 | 0.063665 | PI3K |
| HDAC1 | 0.238736 | -0.07153 | 0.549001 | 0.182248 | 1 | Notch, ChromMod, TXmisReg, CC |
| CCNE1 | 0.25724 | -0.41917 | 0.933654 | 0.484202 | 1 | PI3K, CC |
| IRAK2 | 0.630276 | -0.37656 | 1.637115 | 0.265798 | 1 | Apop |
| CASP3 | -0.10448 | -0.76165 | 0.552687 | 0.765879 | 1 | MAPK, Apop |
| HHEX | -0.86415 | -1.82711 | 0.098819 | 0.129098 | 1 | TXmisReg |
| SMO | -0.42604 | -1.35784 | 0.505764 | 0.40469 | 1 | HH |
| MYC | 0.825463 | 0.114396 | 1.53653 | 0.063204 | 0.974613 | Wnt, TXmisReg, TGFB, MAPK, STAT, PI3K, CC |
| RPS27A | 0.798235 | 0.168729 | 1.42774 | 0.04746 | 0.784836 | DNARepair |
| COL2A1 | -0.40893 | -1.1783 | 0.360436 | 0.337663 | 1 | PI3K |
| IL10 | -0.68103 | -1.59981 | 0.237762 | 0.196496 | 1 | STAT |
| AR | -2.03909 | -3.0092 | -1.06897 | 0.006218 | 0.226659 |  |
| RAD50 | -0.09954 | -0.78401 | 0.584933 | 0.785204 | 1 | DNARepair |
| IGFBP3 | -0.10528 | -1.41126 | 1.200692 | 0.879633 | 1 | TXmisReg |
| JAG1 | -0.84865 | -1.76107 | 0.063777 | 0.118128 | 1 | Notch |
| OSM | 0.354049 | -1.24247 | 1.950563 | 0.679009 | 1 | STAT, PI3K |
| JAK2 | -0.78683 | -1.48923 | -0.08442 | 0.070532 | 1 | STAT, PI3K |
| TLR2 | -0.25887 | -0.98647 | 0.468736 | 0.511697 | 1 | PI3K |
| IL3 | -0.6794 | -1.2127 | -0.1461 | 0.046722 | 0.783427 | TXmisReg, STAT, PI3K, Apop |
| BRCA1 | 1.178529 | 0.710119 | 1.646939 | 0.002627 | 0.14343 | DNARepair, PI3K |
| HSP90B1 | -0.07467 | -0.65183 | 0.502489 | 0.808286 | 1 | PI3K |
| BRCA2 | 1.422167 | 0.738526 | 2.105808 | 0.006522 | 0.226659 | DNARepair |
| CDKN1C | -0.06157 | -0.61573 | 0.492596 | 0.834838 | 1 | CC |
| ETV4 | 4.666383 | 2.97615 | 6.356616 | 0.001646 | 0.120531 | TXmisReg |
| TRAF7 | 0.156222 | -0.26531 | 0.577753 | 0.494951 | 1 |  |
| PRLR | -0.57937 | -3.01228 | 1.853542 | 0.657145 | 1 | STAT, PI3K |
| TFDP1 | 0.759182 | 0.337735 | 1.180629 | 0.012357 | 0.325615 | TGFB, CC |
| LEP | -1.38506 | -2.27818 | -0.49195 | 0.022814 | 0.479865 | STAT |
| HSPA1A | -2.08746 | -4.25566 | 0.080738 | 0.108099 | 1 | MAPK |
| UBE2T | 1.28818 | 0.506214 | 2.070147 | 0.017937 | 0.405751 | DNARepair |
| IL23A | 1.276942 | 0.602891 | 1.950993 | 0.009933 | 0.281118 | STAT |
| TGFB3 | -1.22548 | -2.40362 | -0.04734 | 0.087594 | 1 | TGFB, MAPK, CC |
| EYA1 | 1.356728 | -1.20607 | 3.919528 | 0.339447 | 1 | TXmisReg |
| IL1A | 0.329241 | -0.9919 | 1.650383 | 0.642569 | 1 | MAPK, Apop |
| SMC1A | -0.20062 | -0.6626 | 0.261367 | 0.427353 | 1 | CC |
| CACNB2 | -2.68419 | -3.96516 | -1.40322 | 0.006307 | 0.226659 | MAPK |
| IL6R | -2.38016 | -3.25021 | -1.5101 | 0.001725 | 0.120531 | STAT, PI3K |
| NCOR1 | -0.72973 | -0.9372 | -0.52225 | 0.00046 | 0.058061 | TXmisReg |
| BMP8A | 0.638093 | -0.57703 | 1.853215 | 0.343055 | 1 | TGFB |
| CACNA1G | -1.62152 | -2.47801 | -0.76503 | 0.009961 | 0.281118 | MAPK |
| MYCN | -0.31935 | -1.26651 | 0.627816 | 0.533254 | 1 | TXmisReg |
| HPGD | -1.94445 | -2.73382 | -1.15508 | 0.002916 | 0.147203 | TXmisReg |
| CDK2 | 0.793082 | 0.18566 | 1.400504 | 0.042962 | 0.739938 | PI3K, CC |
| GZMB | 2.705359 | 0.99401 | 4.416707 | 0.021159 | 0.460293 | TXmisReg |
| NOTCH3 | 0.473063 | -0.42445 | 1.370581 | 0.341399 | 1 | Notch |
| LIG4 | 0.19008 | -0.71167 | 1.091835 | 0.693858 | 1 | DNARepair |
| ATR | 0.317464 | -0.06099 | 0.695919 | 0.151254 | 1 | CC |
| WNT4 | -1.06791 | -2.44081 | 0.304997 | 0.178205 | 1 | Wnt, HH |
| RELN | -2.11476 | -3.41775 | -0.81176 | 0.01905 | 0.426908 | PI3K |
| JAG2 | 1.815265 | 0.57402 | 3.056509 | 0.028561 | 0.570699 | Notch |
| BAIAP3 | -0.19518 | -1.38331 | 0.992947 | 0.758391 | 1 | TXmisReg |
| PPP2R2C | 1.737232 | -1.21021 | 4.684674 | 0.29192 | 1 | PI3K |
| AMH | 0.544493 | -0.59354 | 1.682524 | 0.384561 | 1 | TGFB |
| DTX4 | -0.01492 | -0.57801 | 0.548173 | 0.960272 | 1 | Notch |
| RB1 | 0.967191 | 0.524141 | 1.410241 | 0.005213 | 0.207721 | CC |
| CCNA2 | 1.891989 | 1.048849 | 2.73513 | 0.004577 | 0.195412 | CC |
| CREB3L3 | -1.74762 | -3.01087 | -0.48436 | 0.035036 | 0.655458 | PI3K |
| WNT5B | -1.58165 | -2.71406 | -0.44924 | 0.033845 | 0.644091 | Wnt, HH |
| LEFTY2 | -0.91263 | -1.8846 | 0.059332 | 0.115321 | 1 | TGFB |
| BMP2 | -2.5684 | -3.38493 | -1.75187 | 0.000836 | 0.071734 | HH, TGFB |
| EZH2 | 1.609757 | 1.013061 | 2.206453 | 0.001852 | 0.120531 |  |
| PBRM1 | -0.34576 | -0.79939 | 0.107856 | 0.185799 | 1 |  |
| HDAC4 | -1.31001 | -1.82511 | -0.79491 | 0.00249 | 0.14343 | ChromMod |
| CD14 | -0.87994 | -1.89051 | 0.13064 | 0.138764 | 1 | TXmisReg, MAPK |
| NGF | -1.99479 | -2.96945 | -1.02014 | 0.007027 | 0.231326 | MAPK, PI3K, RAS, Apop |
| AKT1 | -0.43563 | -0.98348 | 0.112209 | 0.170115 | 1 | MAPK, STAT, PI3K, RAS, Apop |
| TET2 | -0.97229 | -1.33502 | -0.60956 | 0.001913 | 0.120701 |  |
| CACNA2D2 | -2.80612 | -3.30698 | -2.30526 | 3.39E-05 | 0.027085 | MAPK |
| DNMT1 | 0.661964 | 0.264999 | 1.058928 | 0.017068 | 0.395486 |  |
| PRKAR2A | -0.39977 | -1.05984 | 0.260297 | 0.280061 | 1 | Apop |
| KRAS | -0.39892 | -0.80636 | 0.008531 | 0.103415 | 1 | MAPK, PI3K, RAS |
| EFNA5 | -2.39744 | -2.81612 | -1.97876 | 2.99E-05 | 0.027085 | PI3K, RAS |
| PIK3CG | 0.069752 | -0.59327 | 0.732773 | 0.843456 | 1 | STAT, PI3K, RAS, Apop |
| WNT7B | 0.194606 | -2.16701 | 2.556225 | 0.876992 | 1 | Wnt, HH |
| E2F1 | 1.384515 | 0.791112 | 1.977919 | 0.003798 | 0.180351 | CC |
| PAK3 | -1.21469 | -2.03549 | -0.39389 | 0.027314 | 0.550377 | RAS |
| MAP3K1 | 0.153801 | -0.54495 | 0.852553 | 0.681239 | 1 | MAPK |
| FOXO4 | -0.49779 | -0.97747 | -0.01812 | 0.088169 | 1 | RAS |
| NOTCH1 | 0.115982 | -0.75902 | 0.990982 | 0.803702 | 1 | Notch |
| PML | -0.15066 | -1.01477 | 0.713445 | 0.7442 | 1 | TXmisReg |
| COL5A1 | 0.808689 | 0.195109 | 1.422269 | 0.041587 | 0.725229 | PI3K |
| SMARCB1 | -0.29692 | -0.71998 | 0.126146 | 0.218097 | 1 |  |
| PLA2G4A | -0.71756 | -2.12679 | 0.691676 | 0.356811 | 1 | MAPK, RAS |
| RET | -1.63472 | -2.58937 | -0.68008 | 0.0153 | 0.370571 |  |
| HSPB1 | -1.38366 | -2.50681 | -0.26052 | 0.052244 | 0.843575 | MAPK |
| RBX1 | -0.33091 | -0.5898 | -0.07201 | 0.046204 | 0.7802 | Wnt, TGFB, CC |
| SOCS1 | -0.00228 | -1.17331 | 1.168745 | 0.997076 | 1 | STAT |
| PLCB4 | -1.14824 | -4.01701 | 1.720531 | 0.462586 | 1 | Wnt |
| ANGPT1 | -1.37005 | -2.60484 | -0.13525 | 0.072591 | 1 | PI3K, RAS |
| FZD2 | 0.203601 | -0.48507 | 0.892272 | 0.583365 | 1 | Wnt |
| GNAQ | -1.1913 | -1.51605 | -0.86656 | 0.000366 | 0.058061 |  |
| BCL2 | -1.96163 | -2.88299 | -1.04027 | 0.005859 | 0.221252 | PI3K, Apop |
| COMP | 3.018673 | -0.39734 | 6.43469 | 0.133981 | 1 | PI3K |
| FLNA | -2.84931 | -3.88993 | -1.80869 | 0.001717 | 0.120531 | MAPK |
| RAD51 | 0.924335 | 0.23904 | 1.609631 | 0.038352 | 0.68372 | DNARepair |
| PLA2G4C | -0.98591 | -1.50671 | -0.4651 | 0.009965 | 0.281118 | MAPK, RAS |
| NR4A3 | -1.7243 | -3.33567 | -0.11293 | 0.080772 | 1 | TXmisReg |
| CIC | -0.61838 | -0.94684 | -0.28991 | 0.01021 | 0.286301 |  |
| RELA | -0.79809 | -1.18314 | -0.41305 | 0.006631 | 0.226659 | TXmisReg, MAPK, PI3K, RAS, Apop |
| SP1 | -0.18713 | -0.43157 | 0.05732 | 0.18418 | 1 | TXmisReg, TGFB |
| PLCE1 | -2.63908 | -3.36655 | -1.9116 | 0.000389 | 0.058061 | RAS |
| ACVR1C | -0.97534 | -2.36314 | 0.412455 | 0.217539 | 1 | TGFB |
| IL20RA | 1.326038 | 0.675854 | 1.976221 | 0.00714 | 0.232939 | STAT |
| SHC2 | -0.27503 | -1.23245 | 0.682391 | 0.593813 | 1 | RAS |
| TGFB2 | -0.83186 | -1.77194 | 0.108215 | 0.133544 | 1 | TGFB, MAPK, CC |
| VEGFC | -0.45365 | -1.56002 | 0.652709 | 0.452238 | 1 | PI3K, RAS |
| SFRP4 | 1.900393 | -1.51774 | 5.318521 | 0.31766 | 1 | Wnt |
| CCND2 | 0.069653 | -1.04034 | 1.179651 | 0.90613 | 1 | Wnt, TXmisReg, STAT, PI3K, CC |
| GNG12 | -0.07929 | -0.5001 | 0.341529 | 0.724595 | 1 | MAPK, PI3K, RAS |
| MAP2K1 | -0.02693 | -0.58333 | 0.529482 | 0.927522 | 1 | MAPK, PI3K, RAS |
| SHC1 | -0.17939 | -0.59215 | 0.233372 | 0.426991 | 1 | RAS |
| PLCB1 | -2.07067 | -3.75323 | -0.38811 | 0.052424 | 0.843642 | Wnt |
| GRIN2B | 2.578421 | 0.839522 | 4.31732 | 0.027112 | 0.548606 | RAS |
| FANCA | 1.489834 | 0.941097 | 2.038572 | 0.001793 | 0.120531 | DNARepair |
| FLNC | -4.49497 | -5.41055 | -3.5794 | 7.21E-05 | 0.034653 | MAPK |
| HIST1H3H | 1.958176 | 1.549714 | 2.366638 | 8.25E-05 | 0.034653 | TXmisReg |
| SOX9 | 1.508026 | 0.434073 | 2.58198 | 0.033195 | 0.634229 |  |
| LIF | 0.805585 | -0.28121 | 1.892384 | 0.196484 | 1 | STAT |
| DTX1 | -1.50509 | -1.88453 | -1.12565 | 0.000238 | 0.05196 | Notch |
| NASP | -0.48098 | -1.06225 | 0.100298 | 0.155972 | 1 | ChromMod |
| FOSL1 | -0.46666 | -3.22667 | 2.293352 | 0.751616 | 1 | Wnt |
| ERCC6 | -0.24501 | -0.66546 | 0.17545 | 0.296924 | 1 | DNARepair |
| WNT6 | -1.31556 | -1.67438 | -0.95674 | 0.000367 | 0.058061 | Wnt, HH |
| GNG7 | -2.78301 | -3.24733 | -2.31869 | 2.30E-05 | 0.027085 | PI3K, RAS |
| ID2 | -0.8481 | -1.7041 | 0.007908 | 0.100179 | 1 | TXmisReg, TGFB |
| MAP2K6 | 0.163266 | -1.10705 | 1.433583 | 0.80952 | 1 | MAPK |
| TP53 | 0.576093 | -0.59848 | 1.750661 | 0.373513 | 1 | Wnt, TXmisReg, MAPK, PI3K, Apop, CC |
| WNT10B | -0.94792 | -1.63951 | -0.25633 | 0.036223 | 0.667249 | Wnt, HH |
| CREB3L1 | -1.51448 | -2.46799 | -0.56096 | 0.020767 | 0.454753 | PI3K |
| PDGFRA | -1.37903 | -2.23678 | -0.52127 | 0.019786 | 0.44134 | MAPK, PI3K, RAS |
| AMER1 | 0.425049 | 0.049385 | 0.800714 | 0.068418 | 1 |  |
| SOS2 | -0.60327 | -1.12485 | -0.0817 | 0.063928 | 0.979483 | MAPK, STAT, PI3K, RAS |
| PTPRR | 0.592729 | -0.92239 | 2.107849 | 0.4723 | 1 | MAPK |
| PAX5 | -0.00046 | -0.70174 | 0.700825 | 0.99902 | 1 | TXmisReg |
| TNF | -0.48411 | -1.41508 | 0.446863 | 0.347429 | 1 | TGFB, MAPK, Apop |
| NGFR | -3.01508 | -4.34249 | -1.68767 | 0.00432 | 0.193241 | TXmisReg, PI3K, RAS |
| RAD52 | 0.125399 | -0.22614 | 0.476938 | 0.510633 | 1 | DNARepair |
| PIK3R1 | -1.2705 | -1.90906 | -0.63195 | 0.007987 | 0.247345 | STAT, PI3K, RAS, Apop |
| DLL1 | -1.06251 | -1.74218 | -0.38285 | 0.02211 | 0.469171 | Notch |
| TLX1 | 1.725041 | 0.768438 | 2.681643 | 0.012301 | 0.325615 | TXmisReg |
| GLI1 | -0.5662 | -1.72774 | 0.595342 | 0.376262 | 1 | HH |
| GADD45G | -1.29154 | -2.06655 | -0.51653 | 0.017113 | 0.395486 | MAPK, CC |
| THBS4 | -3.88304 | -6.22744 | -1.53865 | 0.017546 | 0.401823 | PI3K |
| IFNA17 | -0.73442 | -1.11308 | -0.35577 | 0.008952 | 0.260183 | STAT, PI3K |
| MAPK9 | -0.47782 | -0.86785 | -0.0878 | 0.053208 | 0.852328 | Wnt, MAPK, RAS |
| DUSP6 | 0.428392 | -0.38129 | 1.238079 | 0.339707 | 1 | TXmisReg, MAPK |
| CACNA2D1 | -2.75184 | -3.62126 | -1.88242 | 0.000809 | 0.071734 | MAPK |
| PPP3R1 | -0.04441 | -0.43249 | 0.343676 | 0.829977 | 1 | Wnt, MAPK, Apop |
| TNFSF10 | -0.83825 | -2.18546 | 0.508957 | 0.268401 | 1 | Apop |
| ITGB7 | -0.72591 | -1.36935 | -0.08247 | 0.069027 | 1 | TXmisReg, PI3K |
| ITGA6 | 0.128633 | -0.28582 | 0.543089 | 0.565279 | 1 | PI3K |
| FOS | -2.60028 | -5.17098 | -0.02957 | 0.09469 | 1 | MAPK |
| WNT3 | 0.777518 | -0.19479 | 1.74983 | 0.168082 | 1 | Wnt, HH |
| DKK1 | 0.124039 | -3.62058 | 3.868662 | 0.950343 | 1 | Wnt |
| GSK3B | 0.247756 | 0.017182 | 0.47833 | 0.079807 | 1 | Wnt, HH, PI3K, CC |
| DUSP10 | -0.76559 | -1.29149 | -0.23968 | 0.029057 | 0.575805 | MAPK |
| HDAC11 | -0.70431 | -1.38763 | -0.021 | 0.08987 | 1 | ChromMod |
| FGF1 | -1.06059 | -1.96704 | -0.15413 | 0.061666 | 0.957051 | MAPK, PI3K, RAS |
| CHEK1 | 0.880521 | 0.356215 | 1.404827 | 0.01658 | 0.389765 | CC |
| RAF1 | -0.4384 | -0.69814 | -0.17867 | 0.01624 | 0.383645 | MAPK, PI3K, RAS |
| CACNB3 | -0.58725 | -1.19495 | 0.020453 | 0.107052 | 1 | MAPK |
| CDC6 | 1.76403 | 0.857631 | 2.670429 | 0.008817 | 0.259397 | CC |
| CDKN2D | -0.43318 | -0.88747 | 0.021107 | 0.110842 | 1 | CC |
| IL1B | 0.238454 | -1.13392 | 1.610824 | 0.745045 | 1 | MAPK, Apop |
| IGF1R | -0.89632 | -1.2923 | -0.50034 | 0.004392 | 0.193241 | TXmisReg, PI3K, RAS |
| H2AFX | 0.951559 | 0.097701 | 1.805417 | 0.071638 | 1 | DNARepair |
| IDH1 | 0.073939 | -0.37711 | 0.524987 | 0.758882 | 1 |  |
| PIK3CD | -0.55184 | -1.46664 | 0.362955 | 0.281794 | 1 | STAT, PI3K, RAS, Apop |
| ENDOG | -0.54493 | -0.93168 | -0.15817 | 0.032786 | 0.628925 | Apop |
| THEM4 | 0.164884 | -0.35834 | 0.688105 | 0.559498 | 1 | PI3K |
| TBL1XR1 | 0.599271 | -0.01126 | 1.209807 | 0.102718 | 1 | Wnt |
| ATM | -0.536 | -1.12629 | 0.054295 | 0.125425 | 1 | TXmisReg, DNARepair, Apop, CC |
| MLH1 | -0.50615 | -0.75614 | -0.25617 | 0.00738 | 0.235514 |  |
| RXRG | -3.08162 | -3.61878 | -2.54447 | 2.96E-05 | 0.027085 | TXmisReg |
| FEN1 | 0.957596 | 0.252038 | 1.663154 | 0.037517 | 0.680924 | DNARepair |
| MYB | -0.1588 | -0.83023 | 0.512632 | 0.659308 | 1 | PI3K |
| MAPK10 | -1.85387 | -2.61881 | -1.08893 | 0.003158 | 0.156143 | Wnt, MAPK, RAS |
| MAP3K12 | -1.1668 | -1.7941 | -0.53949 | 0.010762 | 0.29429 | ChromMod, MAPK |
| DDIT4 | 0.725465 | -0.48363 | 1.934562 | 0.284134 | 1 | PI3K |
| CHUK | -0.66887 | -1.15249 | -0.18524 | 0.035072 | 0.655458 | MAPK, PI3K, RAS, Apop |
| IL8 | 2.270836 | 0.596298 | 3.945373 | 0.037627 | 0.680924 | TXmisReg |
| MGMT | -0.44361 | -1.47105 | 0.583825 | 0.429861 | 1 | DNARepair |
| MAPK12 | -0.66855 | -1.39522 | 0.058119 | 0.121407 | 1 | MAPK |
| SOX17 | -1.49913 | -2.27066 | -0.72759 | 0.00888 | 0.259676 | Wnt |
| MLF1 | -1.00283 | -2.77172 | 0.766059 | 0.309025 | 1 | TXmisReg |
| ALK | -1.70408 | -2.13784 | -1.27033 | 0.000251 | 0.052408 |  |
| ARNT2 | -2.03355 | -2.77988 | -1.28722 | 0.00176 | 0.120531 | TXmisReg |
| MET | 1.862531 | 1.024927 | 2.700135 | 0.004779 | 0.197269 | TXmisReg, PI3K, RAS |
| HOXA10 | 0.638434 | 0.237325 | 1.039544 | 0.020593 | 0.454753 | TXmisReg |
| SIN3A | -0.40787 | -0.73543 | -0.08031 | 0.050435 | 0.825484 | TXmisReg |
| CTNNB1 | 0.746042 | 0.077952 | 1.414131 | 0.071203 | 1 | Wnt |
| CDKN2A | 0.797008 | -1.26646 | 2.860476 | 0.477688 | 1 | CC |
| ARID1A | -0.21444 | -0.69195 | 0.263068 | 0.412611 | 1 | ChromMod |
| FGF2 | -2.32155 | -3.90095 | -0.74216 | 0.028021 | 0.562251 | MAPK, PI3K, RAS |
| PLA2G2A | -3.84098 | -5.63167 | -2.05029 | 0.00566 | 0.215416 | RAS |
| MLLT3 | 0.32 | -0.27998 | 0.919976 | 0.336125 | 1 | TXmisReg |
| HIST1H3B | 1.292789 | 0.531831 | 2.053746 | 0.01581 | 0.375339 | TXmisReg |
| CHAD | -1.56889 | -2.55588 | -0.5819 | 0.020701 | 0.454753 | PI3K |
| PDGFA | -0.53717 | -1.58152 | 0.507185 | 0.352302 | 1 | TXmisReg, MAPK, PI3K, RAS |
| NOTCH2 | -0.7087 | -1.27389 | -0.1435 | 0.049276 | 0.809285 | Notch |
| PPP2CB | -0.69731 | -1.20641 | -0.1882 | 0.036315 | 0.667249 | TGFB, PI3K |
| SFRP2 | -1.64715 | -5.18751 | 1.893222 | 0.396987 | 1 | Wnt |
| IKBKB | -0.49679 | -1.18987 | 0.196304 | 0.20966 | 1 | MAPK, PI3K, RAS, Apop |
| FGF12 | -1.48322 | -2.0335 | -0.93294 | 0.00186 | 0.120531 | MAPK, PI3K, RAS |
| RIN1 | -0.27715 | -0.84025 | 0.285941 | 0.371949 | 1 | RAS |
| WNT5A | 1.083109 | 0.064697 | 2.101521 | 0.08222 | 1 | Wnt, HH |
| MAP2K4 | -0.89932 | -1.08535 | -0.71329 | 7.87E-05 | 0.034653 | MAPK |
| GNGT1 | -0.16668 | -0.82556 | 0.492211 | 0.637661 | 1 | PI3K, RAS |
| CCND3 | -0.7874 | -1.19189 | -0.38292 | 0.008806 | 0.259397 | Wnt, STAT, PI3K, CC |
| FST | -1.47897 | -2.76659 | -0.19134 | 0.065328 | 0.988881 | TGFB |
| NR4A1 | -2.50794 | -4.44085 | -0.57503 | 0.043898 | 0.749173 | MAPK, PI3K |
| MCM2 | 1.340006 | 0.677481 | 2.00253 | 0.007416 | 0.235514 | CC |
| PRDM1 | -0.37693 | -0.89493 | 0.141066 | 0.203695 | 1 |  |
| APH1B | -0.75794 | -1.37732 | -0.13857 | 0.053405 | 0.852328 | Notch |
| SPP1 | 2.248185 | 0.228389 | 4.267981 | 0.0719 | 1 | PI3K |
| ACVR1B | 0.246068 | -0.02668 | 0.518819 | 0.127431 | 1 | TGFB |
| SHC3 | -1.18053 | -2.05555 | -0.3055 | 0.03832 | 0.68372 | RAS |
| IL7 | 0.604148 | 0.003456 | 1.20484 | 0.09618 | 1 | STAT, PI3K |
| WEE1 | -0.60516 | -1.25749 | 0.047179 | 0.118909 | 1 | CC |
| FANCE | 0.014432 | -0.42925 | 0.458112 | 0.951238 | 1 | DNARepair |
| ALKBH2 | -0.05402 | -0.69131 | 0.583263 | 0.873499 | 1 | DNARepair |
| FN1 | -0.82134 | -3.32457 | 1.681884 | 0.543937 | 1 | PI3K |
| EIF4EBP1 | 0.473903 | -0.00441 | 0.952216 | 0.100174 | 1 | PI3K |
| GNA11 | -1.41259 | -1.73062 | -1.09456 | 0.000127 | 0.035804 |  |
| CDC7 | 0.658511 | -0.06498 | 1.382004 | 0.124691 | 1 | CC |
| CSF1R | -1.15103 | -2.12012 | -0.18194 | 0.058804 | 0.921573 | TXmisReg, PI3K, RAS |
| LIFR | -3.24469 | -4.04999 | -2.43939 | 0.000219 | 0.05196 | STAT |
| MSH6 | 0.453612 | -0.07299 | 0.980218 | 0.142315 | 1 |  |
| CDC25A | 0.606304 | -0.10974 | 1.322353 | 0.148064 | 1 | CC |
| CYLD | -0.87394 | -1.2769 | -0.47098 | 0.005375 | 0.211295 |  |
| FZD7 | -1.64268 | -2.5878 | -0.69755 | 0.014379 | 0.360377 | Wnt |
| SOCS3 | -1.91163 | -3.03674 | -0.78652 | 0.015804 | 0.375339 | STAT |
| FGF10 | -2.63104 | -3.34205 | -1.92003 | 0.000349 | 0.058061 | MAPK, PI3K, RAS |
| DLL4 | 0.080661 | -0.78782 | 0.949138 | 0.861548 | 1 | Notch |
| TCF3 | 0.577375 | -0.1131 | 1.267849 | 0.152335 | 1 | TXmisReg |
| WNT16 | -1.48328 | -2.77136 | -0.1952 | 0.064813 | 0.986726 | Wnt, HH, TXmisReg |
| POLD1 | 1.030873 | 0.573245 | 1.488501 | 0.004494 | 0.195412 | DNARepair |
| FANCL | 0.338633 | 0.018242 | 0.659024 | 0.083702 | 1 | DNARepair |
| HOXA11 | 0.550412 | -0.4342 | 1.535028 | 0.315245 | 1 | TXmisReg |
| MNAT1 | 0.365974 | -0.72291 | 1.454854 | 0.534499 | 1 | DNARepair |
| COL4A5 | -2.62099 | -3.62643 | -1.61555 | 0.002201 | 0.133616 | PI3K |
| CARD11 | -0.63157 | -1.41822 | 0.155077 | 0.166641 | 1 |  |
| WHSC1L1 | -0.44827 | -0.83317 | -0.06336 | 0.062572 | 0.967977 | ChromMod |
| RASAL1 | -0.85023 | -2.437 | 0.736541 | 0.334068 | 1 | RAS |
| IRAK3 | -1.34621 | -2.21145 | -0.48097 | 0.022525 | 0.475874 | Apop |
| FLT3 | -1.08374 | -2.65731 | 0.489834 | 0.225754 | 1 | TXmisReg |
| SETD2 | -0.40607 | -0.63989 | -0.17224 | 0.014428 | 0.360377 |  |
| PITX2 | 1.230082 | 0.420944 | 2.03922 | 0.024647 | 0.50948 | TGFB |
| MYD88 | -0.28873 | -0.72924 | 0.151787 | 0.246281 | 1 | Apop |
| GNAS | -0.0604 | -0.59498 | 0.474188 | 0.832097 | 1 |  |
| TCF7L1 | -2.1266 | -2.71068 | -1.54252 | 0.000381 | 0.058061 | Wnt |
| BRAF | -0.59716 | -0.8607 | -0.33362 | 0.00437 | 0.193241 | MAPK |
| IL2RB | 0.084473 | -1.0585 | 1.227445 | 0.889567 | 1 | TXmisReg, STAT, PI3K |
| NTHL1 | 0.364579 | -0.22197 | 0.951129 | 0.26885 | 1 | DNARepair |
| NSD1 | -0.14442 | -0.53 | 0.241157 | 0.490552 | 1 | ChromMod |
| PDGFC | -1.04658 | -1.93574 | -0.15741 | 0.060518 | 0.942282 | PI3K, RAS |
| FGFR3 | -1.12419 | -2.43388 | 0.18551 | 0.143487 | 1 | MAPK, PI3K, RAS |
| NPM2 | 0.363835 | -0.44021 | 1.167878 | 0.409265 | 1 | ChromMod |
| SKP2 | 0.463789 | -0.53819 | 1.465769 | 0.399255 | 1 | CC |
| SYK | 0.921147 | 0.202019 | 1.640276 | 0.045866 | 0.779983 | PI3K |
| MAML2 | -0.48211 | -0.71747 | -0.24675 | 0.007 | 0.231326 | Notch |
| NODAL | 0.062373 | -0.87301 | 0.997759 | 0.900288 | 1 | TGFB |
| PRKACG | -0.65756 | -1.1779 | -0.13722 | 0.048008 | 0.791161 | Wnt, HH, MAPK, RAS, Apop |
| EPOR | -1.42397 | -2.02613 | -0.8218 | 0.003559 | 0.17242 | STAT, PI3K |
| HGF | -0.85325 | -1.83386 | 0.127358 | 0.138991 | 1 | PI3K, RAS |
| MMP7 | 3.557299 | 0.053451 | 7.061147 | 0.093729 | 1 | Wnt |
| LEPR | -1.62096 | -2.54032 | -0.7016 | 0.013537 | 0.345318 | STAT |
| VEGFA | 0.817245 | 0.173953 | 1.460537 | 0.047162 | 0.784037 | PI3K, RAS |
| SRSF2 | -0.24262 | -0.7926 | 0.307368 | 0.420466 | 1 |  |
| KMT2C | -0.26838 | -0.43052 | -0.10623 | 0.017596 | 0.401823 |  |
| CACNA1E | -0.86935 | -1.38963 | -0.34907 | 0.016928 | 0.395486 | MAPK |
| XPA | -0.82469 | -1.05433 | -0.59505 | 0.000411 | 0.058061 | DNARepair |
| FGF16 | -0.97698 | -1.41372 | -0.54025 | 0.004645 | 0.195412 | MAPK, PI3K, RAS |
| CDKN1A | -0.99174 | -1.53218 | -0.4513 | 0.011411 | 0.307439 | TXmisReg, PI3K, CC |
| SPRY2 | 0.202715 | -0.82219 | 1.227618 | 0.711641 | 1 | STAT |
| HMGA1 | 1.863378 | 0.614762 | 3.111994 | 0.026458 | 0.537641 | ChromMod |
| EFNA3 | 0.366738 | -0.5864 | 1.319874 | 0.479301 | 1 | PI3K, RAS |
| EFNA1 | 0.493032 | -0.61693 | 1.602998 | 0.417436 | 1 | PI3K, RAS |
| CDC14A | -0.81614 | -1.17496 | -0.45732 | 0.004292 | 0.193241 | CC |
| ZAK | -0.72284 | -1.2522 | -0.19348 | 0.036713 | 0.672003 | MAPK |
| RAD21 | 0.866912 | 0.212169 | 1.521655 | 0.040929 | 0.719559 | CC |
| ITGA3 | 0.026904 | -1.34883 | 1.402633 | 0.970668 | 1 | PI3K |
| TTK | 1.93541 | 1.37472 | 2.496101 | 0.000509 | 0.06104 | CC |
| GATA2 | -0.97801 | -1.97961 | 0.023601 | 0.104155 | 1 |  |
| PLAT | -1.03464 | -2.22462 | 0.155334 | 0.139239 | 1 | TXmisReg |
| FGF7 | -1.56425 | -3.23792 | 0.109412 | 0.116685 | 1 | MAPK, PI3K, RAS |
| TLR4 | 0.757373 | -0.05293 | 1.567675 | 0.116669 | 1 | PI3K |
| WIF1 | 0.94558 | -3.11052 | 5.00168 | 0.6638 | 1 | Wnt |
| WNT2B | -1.75218 | -3.09155 | -0.41281 | 0.042673 | 0.738781 | Wnt, HH |
| ERBB2 | 0.596725 | 0.017627 | 1.175823 | 0.089943 | 1 |  |
| DDIT3 | 0.325051 | -0.36121 | 1.011317 | 0.389043 | 1 | TXmisReg, MAPK |
| U2AF1 | -0.05771 | -0.50126 | 0.385854 | 0.807248 | 1 |  |
| FBXW7 | -0.28632 | -0.76246 | 0.189809 | 0.283157 | 1 |  |
| ARID2 | -0.3619 | -0.59097 | -0.13282 | 0.021212 | 0.460293 |  |
| CREBBP | -0.66337 | -1.10492 | -0.22181 | 0.025793 | 0.526362 | Notch, Wnt, ChromMod, TGFB, STAT, CC |
| CHEK2 | 0.78498 | 0.183061 | 1.386899 | 0.043135 | 0.739938 | CC |
| CCNA1 | -1.33094 | -1.75422 | -0.90766 | 0.000838 | 0.071734 | TXmisReg, CC |
| IL1R1 | -1.06403 | -1.87269 | -0.25536 | 0.04183 | 0.726813 | MAPK, Apop |
| CASP8 | 0.33032 | 0.158409 | 0.502231 | 0.009332 | 0.267974 | Apop |
| SF3B1 | -0.33871 | -0.68655 | 0.009126 | 0.104915 | 1 |  |
| NBN | 0.510789 | 0.08812 | 0.933457 | 0.055624 | 0.881069 | DNARepair |
| MAPK8IP1 | -1.11493 | -1.64429 | -0.58558 | 0.00616 | 0.226659 | MAPK |
| WNT2 | 2.095714 | 1.160272 | 3.031157 | 0.004613 | 0.195412 | Wnt, HH |
| SFN | -0.19096 | -2.41607 | 2.034155 | 0.871949 | 1 | CC |
| IRS1 | 0.050427 | -1.1134 | 1.214256 | 0.935084 | 1 | PI3K |
| PAX8 | -1.21183 | -1.80072 | -0.62294 | 0.006855 | 0.231326 | TXmisReg |
| EFNA2 | -0.89046 | -1.43198 | -0.34893 | 0.01807 | 0.406853 | PI3K, RAS |
| FGF22 | -0.84157 | -1.17895 | -0.50419 | 0.002741 | 0.14343 | MAPK, PI3K, RAS |
| CALML5 | -1.20255 | -1.76165 | -0.64345 | 0.005588 | 0.215416 | RAS |
| MCM7 | 1.170264 | 0.824835 | 1.515693 | 0.000563 | 0.062189 | CC |
| GRIN2A | -2.09966 | -2.71148 | -1.48784 | 0.000525 | 0.061446 | RAS |
| BMP5 | -2.05248 | -2.86471 | -1.24024 | 0.002571 | 0.14343 | TGFB |
| CDKN1B | 0.087422 | -0.35522 | 0.530067 | 0.71204 | 1 | TXmisReg, PI3K, CC |
| CAMK2B | -1.43858 | -1.89577 | -0.98139 | 0.000835 | 0.071734 | Wnt |
| KIT | -2.07167 | -3.22371 | -0.91963 | 0.012449 | 0.326231 | PI3K, RAS |
| IL7R | 0.058899 | -0.68532 | 0.803121 | 0.881815 | 1 | STAT, PI3K |
| LAMA1 | -0.58964 | -1.17544 | -0.00384 | 0.095969 | 1 | PI3K |
| SPOP | -1.43948 | -1.99727 | -0.88169 | 0.002315 | 0.137819 |  |
| TIAM1 | -1.22508 | -2.39537 | -0.0548 | 0.08603 | 1 | RAS |
| SFRP1 | -3.19 | -4.59357 | -1.78644 | 0.004307 | 0.193241 | Wnt |
| RFC3 | 1.256672 | 0.69069 | 1.822654 | 0.004813 | 0.197269 | DNARepair |
| LEFTY1 | -3.1244 | -5.82341 | -0.4254 | 0.063762 | 0.979483 | TGFB |
| TNFRSF10A | -0.21848 | -0.59431 | 0.157338 | 0.297954 | 1 | Apop |
| CCNE2 | 0.284216 | -0.24037 | 0.8088 | 0.329136 | 1 | PI3K, CC |
| CSF3R | -1.40687 | -2.03493 | -0.77882 | 0.004616 | 0.195412 | STAT, PI3K |
| IGF1 | -1.77302 | -2.78724 | -0.75881 | 0.014033 | 0.356062 | TXmisReg, PI3K, RAS |
| ATRX | -0.08622 | -0.41863 | 0.246187 | 0.629328 | 1 |  |
| PLAU | 1.623678 | 0.315049 | 2.932307 | 0.051033 | 0.829612 | TXmisReg |
| B2M | -0.80202 | -1.95437 | 0.350324 | 0.221475 | 1 |  |
| PIK3R5 | -0.8757 | -1.65911 | -0.09228 | 0.07099 | 1 | STAT, PI3K, RAS, Apop |
| SOS1 | -0.34556 | -0.51626 | -0.17486 | 0.007385 | 0.235514 | MAPK, STAT, PI3K, RAS |
| CREB5 | -0.88921 | -2.38451 | 0.606087 | 0.288028 | 1 | PI3K |
| FGF21 | -0.88575 | -1.23872 | -0.53279 | 0.002661 | 0.14343 | MAPK, PI3K, RAS |
| PPP2R1A | 0.114158 | 0.000263 | 0.228054 | 0.097084 | 1 | TGFB, PI3K |
| PIK3R3 | -0.87219 | -1.34136 | -0.40303 | 0.010787 | 0.29429 | STAT, PI3K, RAS, Apop |
| PBX3 | -1.72238 | -2.40517 | -1.0396 | 0.002593 | 0.14343 | TXmisReg |
| GLI3 | -2.17196 | -3.04447 | -1.29945 | 0.002769 | 0.14343 | HH |
| PPARGC1A | -2.16388 | -3.69651 | -0.63124 | 0.03254 | 0.628925 | ChromMod |
| BAD | -1.3884 | -1.7192 | -1.0576 | 0.000174 | 0.043976 | PI3K, RAS, Apop |
| FGF20 | -0.22753 | -1.43751 | 0.982438 | 0.725099 | 1 | MAPK, PI3K, RAS |
| PPP3CC | -1.1581 | -1.50922 | -0.80697 | 0.00065 | 0.063665 | Wnt, MAPK, Apop |
| HOXA9 | 1.458116 | 0.705042 | 2.21119 | 0.009021 | 0.260598 | TXmisReg |
| BMPR1B | -1.44141 | -2.17391 | -0.70891 | 0.008393 | 0.253133 | TGFB |
| THBS1 | -1.68329 | -3.15044 | -0.21613 | 0.065555 | 0.988881 | TGFB, PI3K |
| CACNA1H | -2.6847 | -3.76418 | -1.60522 | 0.002781 | 0.14343 | MAPK |
| SOCS2 | -1.90234 | -2.81479 | -0.98988 | 0.006456 | 0.226659 | STAT |
| HSPA2 | -3.32743 | -3.6767 | -2.97816 | 1.52E-06 | 0.007302 | MAPK |
| ITGA8 | -2.0943 | -2.85955 | -1.32904 | 0.001722 | 0.120531 | PI3K |
| CACNA1C | -2.13629 | -2.83318 | -1.43939 | 0.000958 | 0.076539 | MAPK |
| APC | -0.75511 | -1.53427 | 0.024056 | 0.106245 | 1 | Wnt |
| ERCC2 | 0.254573 | -0.11431 | 0.623459 | 0.224924 | 1 | DNARepair |
| NF2 | -0.24191 | -0.97368 | 0.489861 | 0.54101 | 1 |  |
| PGF | 0.226064 | -0.61721 | 1.069336 | 0.618124 | 1 | PI3K, RAS |
| PTPN11 | -0.0713 | -0.58962 | 0.447014 | 0.796477 | 1 | STAT, RAS |
| IL20RB | -0.69537 | -1.47663 | 0.085879 | 0.13168 | 1 | STAT |
| RAC1 | 0.472107 | 0.146707 | 0.797507 | 0.029425 | 0.57851 | Wnt, MAPK, PI3K, RAS |
| PLD1 | -1.33388 | -1.73248 | -0.93528 | 0.000601 | 0.062189 | RAS |
| FZD3 | -0.51934 | -1.19971 | 0.161021 | 0.185255 | 1 | Wnt |
| FGF13 | -2.25888 | -3.32787 | -1.18989 | 0.006067 | 0.225557 | MAPK, PI3K, RAS |
| AKT3 | -1.94708 | -2.88536 | -1.00881 | 0.006595 | 0.226659 | MAPK, STAT, PI3K, RAS, Apop |
| C19orf40 | 0.226647 | 0.039055 | 0.414238 | 0.055668 | 0.881069 | DNARepair |
| NKD1 | 2.333294 | -0.6852 | 5.35179 | 0.180531 | 1 | Wnt |
| CREB3L4 | -0.6953 | -1.04679 | -0.34382 | 0.008197 | 0.251978 | PI3K |
| BID | 0.291062 | -0.05078 | 0.6329 | 0.146187 | 1 | Apop |
| TNFRSF10D | -0.7588 | -1.42523 | -0.09237 | 0.067113 | 1 | Apop |
| CDKN2B | -0.90614 | -2.33894 | 0.526652 | 0.261419 | 1 | TGFB, CC |
| FGF4 | -0.9733 | -1.4715 | -0.47511 | 0.008668 | 0.258179 | MAPK, PI3K, RAS |
| RRAS2 | -0.52554 | -1.23226 | 0.181193 | 0.195248 | 1 | MAPK, RAS |
| EGFR | -0.45762 | -1.31604 | 0.400788 | 0.336333 | 1 | MAPK, PI3K, RAS |
| STAT4 | -0.81366 | -1.53012 | -0.09721 | 0.067644 | 1 | STAT |
| DAXX | 0.292091 | 0.154313 | 0.429868 | 0.005976 | 0.223898 | MAPK |
| PROM1 | -2.0143 | -3.18412 | -0.84448 | 0.014951 | 0.3677 | TXmisReg |
| FGFR2 | -3.24832 | -4.27097 | -2.22567 | 0.000794 | 0.071734 | MAPK, PI3K, RAS |
| CDK6 | 0.071945 | -0.4196 | 0.563489 | 0.783858 | 1 | PI3K, CC |
| MPO | -0.97198 | -1.51396 | -0.43 | 0.012594 | 0.328238 | TXmisReg |
| CACNG1 | -1.16222 | -1.69522 | -0.62922 | 0.005241 | 0.207721 | MAPK |
| MECOM | -0.38504 | -0.88551 | 0.115425 | 0.182293 | 1 | MAPK |
| GPC4 | -0.13616 | -0.55447 | 0.282143 | 0.547035 | 1 | Wnt |
| HDAC10 | 0.197615 | -0.34755 | 0.742776 | 0.504072 | 1 | ChromMod |
| GRIA3 | -2.22471 | -2.68193 | -1.7675 | 7.58E-05 | 0.034653 | TXmisReg |
| SMC3 | 0.14805 | -0.32772 | 0.623821 | 0.564289 | 1 | CC |
| IL23R | -0.85042 | -1.64474 | -0.0561 | 0.080652 | 1 | STAT |
| PIK3CB | -0.05373 | -0.52108 | 0.41363 | 0.829212 | 1 | STAT, PI3K, RAS, Apop |
| ITGB6 | 0.679648 | 0.039081 | 1.320215 | 0.082783 | 1 | PI3K |
| KMT2D | 0.062285 | -0.09707 | 0.22164 | 0.472684 | 1 |  |
| FOXL2 | -0.89117 | -1.14166 | -0.64069 | 0.000432 | 0.058061 |  |
| FANCF | 0.888216 | 0.373162 | 1.403271 | 0.014857 | 0.367265 | DNARepair |
| CASP10 | -1.44351 | -2.05874 | -0.82828 | 0.003697 | 0.177292 | Apop |
| PPP2R2B | -1.36914 | -1.75772 | -0.98057 | 0.000456 | 0.058061 | PI3K |
| STK11 | -0.08534 | -0.33143 | 0.160748 | 0.522044 | 1 | PI3K |
| MAP3K14 | -1.27165 | -1.75413 | -0.78917 | 0.002083 | 0.128057 | MAPK, Apop |
| ETS2 | 0.123288 | -1.09149 | 1.338067 | 0.848894 | 1 | RAS |
| DKK4 | 1.956485 | -0.33799 | 4.250961 | 0.1457 | 1 | Wnt |
| H3F3A | -0.00251 | -0.36724 | 0.362224 | 0.989686 | 1 | TXmisReg |
| FASLG | -0.86887 | -1.67599 | -0.06175 | 0.079379 | 1 | MAPK, PI3K, RAS, Apop |
| POLR2D | 0.715867 | 0.473273 | 0.958462 | 0.001168 | 0.091046 | DNARepair |
| BDNF | -0.71386 | -1.40841 | -0.01932 | 0.090586 | 1 | MAPK |
| CD40 | -0.53792 | -1.53698 | 0.461154 | 0.331918 | 1 | TXmisReg |
| SUV39H2 | 0.74165 | 0.310355 | 1.172945 | 0.015035 | 0.367874 | ChromMod |
| SPRY4 | 0.548889 | 0.057973 | 1.039804 | 0.070932 | 1 | STAT |
| HMGA2 | 0.821743 | -0.14258 | 1.786064 | 0.145915 | 1 | TXmisReg |
| LAMC3 | -1.4814 | -1.95517 | -1.00763 | 0.000863 | 0.072135 | PI3K |
| NPM1 | -0.53545 | -1.04979 | -0.0211 | 0.087394 | 1 |  |
| ID4 | -1.16661 | -2.23228 | -0.10094 | 0.075559 | 1 | TGFB |
| IL22RA2 | -1.02335 | -1.37063 | -0.67606 | 0.001177 | 0.091046 | STAT |
| PKMYT1 | 1.13921 | 0.593194 | 1.685225 | 0.006434 | 0.226659 | CC |
| EP300 | -0.48475 | -0.8451 | -0.1244 | 0.038713 | 0.687613 | Notch, Wnt, TGFB, STAT, CC |
| FGF23 | -1.08034 | -1.37802 | -0.78267 | 0.000388 | 0.058061 | MAPK, PI3K, RAS |
| CUL1 | 0.140379 | -0.1808 | 0.461554 | 0.42451 | 1 | Wnt, TGFB, CC |
| TNR | -1.16341 | -1.5784 | -0.74843 | 0.001522 | 0.11406 | PI3K |
| DKK2 | -0.56214 | -1.96649 | 0.842198 | 0.462549 | 1 | Wnt |
| MAPK3 | -0.78032 | -1.36137 | -0.19926 | 0.038947 | 0.689215 | TGFB, MAPK, PI3K, RAS |
| BCOR | 0.01796 | -0.36634 | 0.402261 | 0.93 | 1 |  |
| IL3RA | -0.8386 | -1.22928 | -0.44793 | 0.00564 | 0.215416 | STAT, PI3K, Apop |
| GTF2H3 | 0.567255 | -0.03244 | 1.166945 | 0.113163 | 1 | DNARepair |
| DLL3 | -0.26312 | -1.42823 | 0.90199 | 0.673543 | 1 | Notch |
| HNF1A | 1.268259 | 0.901716 | 1.634803 | 0.000503 | 0.06104 |  |
| CXXC4 | 0.15341 | -0.89154 | 1.198364 | 0.78322 | 1 | Wnt |
| MED12 | 0.400287 | 0.104387 | 0.696187 | 0.037955 | 0.68372 |  |
| RNF43 | 2.429768 | 0.219421 | 4.640116 | 0.074634 | 1 |  |
| WNT10A | -0.47284 | -2.2201 | 1.274417 | 0.614872 | 1 | Wnt, HH |
| MAP3K8 | 0.022109 | -0.64741 | 0.691629 | 0.950496 | 1 | MAPK |
| STAT3 | -0.43906 | -0.90138 | 0.023269 | 0.112014 | 1 | STAT |
| ARID1B | 0.145825 | -0.06751 | 0.359161 | 0.228839 | 1 |  |
| POLR2J | -0.25813 | -0.49927 | -0.01698 | 0.080697 | 1 | DNARepair |
| HES5 | -1.02417 | -2.31266 | 0.264332 | 0.170264 | 1 | Notch |
| IL1R2 | -3.43747 | -5.03391 | -1.84103 | 0.005559 | 0.215416 | TXmisReg, MAPK |
| COL27A1 | -0.46834 | -1.52073 | 0.584055 | 0.416611 | 1 | PI3K |
| H3F3C | -0.18323 | -0.64343 | 0.276964 | 0.464821 | 1 | TXmisReg |
| CNTFR | -2.97968 | -3.68731 | -2.27204 | 0.000171 | 0.043976 | STAT |
| ACVR2A | -0.17079 | -0.79849 | 0.456906 | 0.612992 | 1 | TGFB |
| HIST1H3G | 0.519816 | -1.7474 | 2.787033 | 0.668935 | 1 | TXmisReg |
| RASGRP2 | -2.01211 | -2.31712 | -1.70711 | 1.32E-05 | 0.027085 | MAPK, RAS |
| TSPAN7 | -2.09331 | -3.30514 | -0.88148 | 0.014754 | 0.366597 | TXmisReg |
| LFNG | 0.079661 | -0.82609 | 0.985409 | 0.868804 | 1 | Notch |
| BRIP1 | 1.380686 | 0.693437 | 2.067935 | 0.007645 | 0.239634 | DNARepair |
| CLCF1 | -0.49276 | -2.53082 | 1.545304 | 0.652334 | 1 | STAT |
| HHIP | -3.17282 | -4.96947 | -1.37616 | 0.013446 | 0.344831 | HH |
| POLR2H | -0.05761 | -0.35313 | 0.237901 | 0.715538 | 1 | DNARepair |
| MAPK8IP2 | -1.23155 | -1.66906 | -0.79404 | 0.001491 | 0.113476 | MAPK |
| STMN1 | 0.980279 | 0.480991 | 1.479568 | 0.008478 | 0.254108 | MAPK |
| RASGRP1 | 0.243183 | -1.03624 | 1.52261 | 0.722295 | 1 | MAPK, RAS |
| PTCH1 | 0.072292 | -1.89517 | 2.039751 | 0.944928 | 1 | HH |
| SMAD4 | -0.99099 | -1.59208 | -0.3899 | 0.01788 | 0.405751 | Wnt, TGFB, CC |
| DUSP5 | -1.15798 | -2.27428 | -0.04168 | 0.088275 | 1 | MAPK |
| GADD45B | -2.5588 | -3.51075 | -1.60685 | 0.001886 | 0.120602 | MAPK, CC |
| PDGFD | -1.58477 | -2.26685 | -0.90269 | 0.003876 | 0.180445 | PI3K, RAS |
| RPS6KA6 | -0.85743 | -2.90296 | 1.188091 | 0.442728 | 1 | MAPK |
| MDM2 | 0.102295 | -0.64493 | 0.84952 | 0.797437 | 1 | TXmisReg, PI3K, CC |
| ITGB4 | 0.438561 | -0.35762 | 1.234747 | 0.321786 | 1 | PI3K |
| IL24 | 2.065985 | 0.628617 | 3.503352 | 0.030467 | 0.596358 | STAT |
| CDC25C | 1.537389 | 0.933503 | 2.141274 | 0.002477 | 0.14343 | CC |
| FGFR1 | -2.4043 | -3.50139 | -1.30721 | 0.005119 | 0.206276 | MAPK, PI3K, RAS |
| PTTG2 | 1.17325 | 0.857489 | 1.489012 | 0.000341 | 0.058061 | CC |
| PLA2G4F | -1.09674 | -2.53541 | 0.341923 | 0.185749 | 1 | MAPK, RAS |
| KLF4 | -2.83329 | -3.93239 | -1.73419 | 0.002328 | 0.137819 |  |
| IL1RAP | -0.16694 | -1.10972 | 0.775835 | 0.740388 | 1 | Apop |
| CACNG4 | -0.06933 | -1.62004 | 1.481389 | 0.933028 | 1 | MAPK |
| CDKN2C | -0.96385 | -1.34891 | -0.57879 | 0.002694 | 0.14343 | TXmisReg, CC |
| NUMBL | -1.01322 | -1.8282 | -0.19824 | 0.050695 | 0.826917 | Notch |
| TPO | -2.28609 | -3.44377 | -1.12842 | 0.008261 | 0.252348 | STAT |
| NOS3 | -0.60427 | -1.2322 | 0.023667 | 0.108232 | 1 | PI3K |
| COL11A2 | -0.69374 | -1.41036 | 0.022889 | 0.106554 | 1 | PI3K |
| TNFAIP3 | -0.30297 | -0.86328 | 0.257335 | 0.330015 | 1 |  |
| JAK3 | 0.488074 | -0.45523 | 1.431377 | 0.349659 | 1 | STAT, PI3K |
| MAP3K13 | -0.14841 | -1.46206 | 1.165243 | 0.8321 | 1 | MAPK |
| BIRC7 | 0.815602 | 0.008661 | 1.622542 | 0.094887 | 1 | Apop |
| FGF9 | -1.33977 | -2.51575 | -0.1638 | 0.066989 | 1 | MAPK, PI3K, RAS |
| SGK2 | -1.57049 | -2.44139 | -0.6996 | 0.012301 | 0.325615 | PI3K |
| GADD45A | -0.68956 | -1.17655 | -0.20258 | 0.032195 | 0.625079 | MAPK, CC |
| SMAD9 | -1.11612 | -2.7437 | 0.511464 | 0.227515 | 1 | TGFB |
| AXIN2 | 2.072356 | -0.47219 | 4.616898 | 0.161538 | 1 | Wnt |
| CEBPA | 0.076088 | -0.5296 | 0.681773 | 0.813719 | 1 | TXmisReg |
| PRKCA | -1.61576 | -2.14062 | -1.0909 | 0.000937 | 0.076123 | Wnt, MAPK, PI3K, RAS |
| COL1A1 | 2.109366 | 1.203114 | 3.015619 | 0.003843 | 0.180445 | PI3K |
| DNMT3A | -0.0509 | -0.3574 | 0.255601 | 0.755864 | 1 |  |
| GAS1 | -1.64266 | -3.77732 | 0.491988 | 0.182216 | 1 | HH |
| LAMC2 | 1.470502 | 0.196693 | 2.744311 | 0.064314 | 0.982246 | PI3K |
| PDGFB | -0.82434 | -1.51067 | -0.13801 | 0.056737 | 0.895028 | MAPK, PI3K, RAS |
| PRKACB | -1.54884 | -2.90351 | -0.19417 | 0.066262 | 0.99614 | Wnt, HH, MAPK, RAS, Apop |
| NF1 | 0.375537 | -0.12684 | 0.877912 | 0.19323 | 1 | MAPK, RAS |
| MTOR | -0.47103 | -0.95389 | 0.011837 | 0.104425 | 1 | PI3K |
| RHOA | -0.55508 | -0.82623 | -0.28393 | 0.00702 | 0.231326 | Wnt, TGFB, RAS |
| FUBP1 | 0.1487 | -0.17547 | 0.472874 | 0.403257 | 1 |  |
| WHSC1 | -0.18439 | -0.57039 | 0.201612 | 0.385269 | 1 | TXmisReg |
| TNFRSF10B | 0.27043 | -0.21343 | 0.754294 | 0.315337 | 1 | Apop |
| JUN | -0.40095 | -1.6475 | 0.845609 | 0.551658 | 1 | Wnt, MAPK |
| NFKBIA | -0.97208 | -1.65405 | -0.29011 | 0.031421 | 0.612529 | Apop |
| BAX | 0.351595 | -0.14152 | 0.844707 | 0.211753 | 1 | Apop |
| CDH1 | 0.339418 | -0.27327 | 0.952102 | 0.31925 | 1 |  |
| FGFR4 | 0.344027 | -0.47132 | 1.159374 | 0.439879 | 1 | MAPK, PI3K, RAS |
| WNT11 | 0.768236 | -1.37095 | 2.907426 | 0.507888 | 1 | Wnt, HH |
| MCM5 | 0.413306 | -0.30297 | 1.129582 | 0.301242 | 1 | CC |
| DTX3 | -2.02587 | -2.82683 | -1.22491 | 0.002559 | 0.14343 | Notch |
| IL13RA2 | 0.14163 | -1.18585 | 1.469106 | 0.841277 | 1 | STAT |
| SKP1 | -0.26344 | -0.6829 | 0.156018 | 0.264393 | 1 | Wnt, TGFB, CC |
| DDB2 | -0.45902 | -1.20166 | 0.283617 | 0.27126 | 1 | DNARepair |
| PLA1A | 0.70021 | -0.86603 | 2.266448 | 0.414596 | 1 | RAS |
| RAC2 | -0.40135 | -1.54274 | 0.740039 | 0.516449 | 1 | Wnt, MAPK, RAS |
| EGF | -1.55122 | -2.32087 | -0.78158 | 0.007534 | 0.237708 | MAPK, PI3K, RAS |
| VHL | 0.252449 | 0.06174 | 0.443159 | 0.040962 | 0.719559 |  |
| FGF18 | 1.006473 | -0.59432 | 2.607269 | 0.263927 | 1 | MAPK, PI3K, RAS |
| POLB | 0.209178 | -0.41062 | 0.828973 | 0.532863 | 1 | DNARepair |
| FUT8 | 0.372924 | -0.47797 | 1.22382 | 0.423319 | 1 | TXmisReg |
| SHC4 | -1.53163 | -2.16533 | -0.89794 | 0.0032 | 0.156609 | RAS |
| FZD8 | -1.12292 | -2.21355 | -0.03229 | 0.090146 | 1 | Wnt |
| BAP1 | -0.52188 | -0.89838 | -0.14538 | 0.034789 | 0.655458 |  |
| RFC4 | 1.108506 | 0.473111 | 1.7439 | 0.014154 | 0.357252 | DNARepair |
| ZBTB32 | -0.48877 | -1.2046 | 0.227072 | 0.229291 | 1 | DNARepair |
| SIRT4 | -0.86891 | -1.42017 | -0.31764 | 0.021405 | 0.460327 | ChromMod |
| MAP3K5 | 0.021354 | -0.43241 | 0.475118 | 0.929512 | 1 | MAPK |
| PRKAR1B | 0.175376 | -1.13539 | 1.486144 | 0.801906 | 1 | Apop |
| CBL | -0.55557 | -1.18884 | 0.077708 | 0.13632 | 1 | STAT |
| PDGFRB | 0.565956 | -0.63938 | 1.771295 | 0.392913 | 1 | MAPK, PI3K, RAS |
| TGFBR2 | -0.3026 | -0.77636 | 0.171161 | 0.257202 | 1 | TXmisReg, TGFB, MAPK |
| DUSP4 | 0.945783 | 0.182276 | 1.70929 | 0.051307 | 0.831255 | MAPK |
| BMP4 | 2.08341 | 0.58289 | 3.58393 | 0.034579 | 0.655456 | HH, TGFB |
| FANCC | 0.360588 | 0.112032 | 0.609145 | 0.029434 | 0.57851 | DNARepair |
| ITGB3 | -2.47243 | -3.20625 | -1.73861 | 0.00058 | 0.062189 | PI3K |
| ITGA9 | -1.0247 | -1.69807 | -0.35134 | 0.024552 | 0.50948 | PI3K |
| COL4A4 | -0.92967 | -1.79651 | -0.06284 | 0.080245 | 1 | PI3K |
| NUPR1 | -1.47583 | -3.21945 | 0.267795 | 0.148193 | 1 | TXmisReg |
| COL3A1 | 0.746972 | -0.27548 | 1.769427 | 0.202136 | 1 | PI3K |
| PRKCB | -2.45006 | -3.37281 | -1.52731 | 0.002007 | 0.124982 | Wnt, MAPK, RAS |
| CDC25B | 1.500148 | 0.150279 | 2.850017 | 0.07224 | 1 | MAPK, CC |
| PTEN | -0.65189 | -1.15198 | -0.1518 | 0.043202 | 0.739938 | PI3K |
| MAD2L2 | 0.392103 | -0.17472 | 0.958928 | 0.223957 | 1 | DNARepair, CC |
| POLE2 | 0.719833 | -0.05809 | 1.497757 | 0.11967 | 1 | DNARepair |
| MAPK1 | 0.014576 | -0.42059 | 0.449738 | 0.949788 | 1 | TGFB, MAPK, PI3K, RAS |
| ZIC2 | 2.28528 | -1.03892 | 5.609476 | 0.226493 | 1 | HH |
| MLLT4 | 0.134436 | -0.08775 | 0.356619 | 0.280477 | 1 | RAS |
| CBLC | 0.392534 | -0.09626 | 0.881331 | 0.166553 | 1 | STAT |
| NFATC1 | -1.72478 | -2.69182 | -0.75774 | 0.012892 | 0.334194 | Wnt, MAPK |
| NFE2L2 | 0.089764 | -0.27751 | 0.457038 | 0.648872 | 1 |  |
| BNIP3 | -1.38869 | -2.86163 | 0.084247 | 0.114123 | 1 | ChromMod |
| COL5A2 | 0.519671 | -0.39982 | 1.439164 | 0.310396 | 1 | PI3K |
| ASXL1 | 0.095027 | -0.37173 | 0.561785 | 0.703681 | 1 |  |
| MUTYH | 0.316604 | -0.11369 | 0.746899 | 0.199356 | 1 | DNARepair |
| DUSP2 | -0.48143 | -2.01499 | 1.052129 | 0.560953 | 1 | MAPK |
| SPRY1 | -0.2471 | -1.21113 | 0.716927 | 0.633294 | 1 | STAT |
| INHBB | 0.29524 | -1.13034 | 1.720819 | 0.698881 | 1 | TGFB |
| COL11A1 | 3.470204 | 1.517057 | 5.423352 | 0.013104 | 0.337872 | PI3K |
| AXIN1 | 0.039227 | -0.27576 | 0.354213 | 0.815293 | 1 | Wnt |
| MMP3 | 1.839836 | -0.63989 | 4.31956 | 0.196115 | 1 | TXmisReg |
| FGF19 | 0.577829 | -1.03214 | 2.187795 | 0.508134 | 1 | MAPK, PI3K, RAS |
| MCM4 | 1.691711 | 1.149532 | 2.233889 | 0.000872 | 0.072135 | CC |
| FANCB | 1.142212 | 0.529279 | 1.755146 | 0.010675 | 0.29429 | DNARepair |
| EPHA2 | 0.182294 | -1.37405 | 1.738642 | 0.826049 | 1 | PI3K, RAS |
| E2F5 | 1.459659 | 0.543964 | 2.375354 | 0.020472 | 0.454516 | TGFB, CC |
| PCK1 | -4.00827 | -6.41488 | -1.60166 | 0.017153 | 0.395486 | PI3K |
| COL1A2 | 0.859823 | -0.07339 | 1.793038 | 0.120967 | 1 | PI3K |
| MAP2K2 | -0.28232 | -0.69086 | 0.126224 | 0.224378 | 1 | MAPK, PI3K, RAS |
| RPS6KA5 | -0.8728 | -1.67816 | -0.06744 | 0.077838 | 1 | ChromMod, MAPK |
| XRCC4 | 1.065808 | 0.55105 | 1.580566 | 0.006664 | 0.226659 | DNARepair |
| NTRK2 | -1.53016 | -3.83101 | 0.770703 | 0.240192 | 1 | MAPK |
| HES1 | -0.31847 | -1.09274 | 0.455806 | 0.450906 | 1 | Notch |
| CCND1 | 0.664866 | 0.274641 | 1.05509 | 0.015622 | 0.374594 | Wnt, STAT, PI3K, CC |
| WT1 | 0.322304 | -1.06443 | 1.709035 | 0.664739 | 1 | TXmisReg |
| HDAC5 | 0.031655 | -0.26536 | 0.328671 | 0.841445 | 1 | ChromMod |
| FANCG | 0.489421 | 0.106004 | 0.872839 | 0.04641 | 0.78093 | DNARepair |
| PRKAR2B | -2.62305 | -3.3579 | -1.8882 | 0.000425 | 0.058061 | Apop |
| IDH2 | -0.75305 | -1.42654 | -0.07956 | 0.070925 | 1 |  |
| CASP7 | -1.23074 | -2.03384 | -0.42763 | 0.023896 | 0.498246 | Apop |
| LAMB3 | 0.615332 | -0.43796 | 1.668622 | 0.295807 | 1 | PI3K |
| FGF3 | -0.36541 | -1.37552 | 0.644702 | 0.504909 | 1 | MAPK, PI3K, RAS |
| BCL2L1 | 0.857372 | 0.228609 | 1.486136 | 0.036897 | 0.672796 | TXmisReg, STAT, PI3K, RAS, Apop |
| IL6 | -1.24646 | -3.60917 | 1.116242 | 0.340995 | 1 | TXmisReg, STAT, PI3K |
| COL4A3 | -1.94113 | -2.89004 | -0.99223 | 0.007043 | 0.231326 | PI3K |
| LEF1 | 3.028938 | 1.580799 | 4.477077 | 0.006361 | 0.226659 | Wnt |
| IL22RA1 | 0.37915 | -0.1452 | 0.903502 | 0.206186 | 1 | STAT |
| MAPK8 | -0.01099 | -0.48526 | 0.463275 | 0.965238 | 1 | Wnt, MAPK, RAS |
| FLT1 | 0.000811 | -1.27443 | 1.276057 | 0.999046 | 1 | TXmisReg, PI3K, RAS |
| CD19 | -1.44135 | -2.57463 | -0.30807 | 0.046983 | 0.784037 | PI3K |
| CACNA2D3 | -2.6789 | -3.26732 | -2.09048 | 0.00011 | 0.03542 | MAPK |
| MSH2 | 0.831761 | 0.343882 | 1.31964 | 0.015583 | 0.374594 |  |
| CAPN2 | -0.99882 | -1.78547 | -0.21217 | 0.047248 | 0.784037 | Apop |
| STAG2 | 0.5846 | 0.142222 | 1.026978 | 0.041205 | 0.721182 | CC |
| PHF6 | 0.691209 | 0.232898 | 1.149521 | 0.025414 | 0.521574 |  |
| KDM5C | -0.10088 | -0.71639 | 0.514622 | 0.758918 | 1 |  |
| NFKB1 | -0.29038 | -1.12689 | 0.54614 | 0.521646 | 1 | TXmisReg, MAPK, PI3K, RAS, Apop |
| LTBP1 | -0.67481 | -1.90438 | 0.554767 | 0.323413 | 1 | TGFB |
| GRB2 | -0.03584 | -0.52496 | 0.453283 | 0.890504 | 1 | MAPK, STAT, PI3K, RAS |
| RASGRF2 | 0.401762 | -0.5972 | 1.400722 | 0.460538 | 1 | MAPK, RAS |
| IL12A | -0.81557 | -2.07685 | 0.445721 | 0.251991 | 1 | STAT |
| CCNB1 | 2.115007 | 1.65994 | 2.570074 | 9.83E-05 | 0.03542 | CC |
| SMAD3 | -0.24304 | -0.99408 | 0.508 | 0.549314 | 1 | Wnt, TGFB, CC |
| RUNX1 | 1.381872 | 0.871597 | 1.892146 | 0.001816 | 0.120531 | TXmisReg |
| MDC1 | 0.144814 | -0.01887 | 0.308499 | 0.133609 | 1 | DNARepair |
| LAMA5 | -1.72959 | -3.01149 | -0.4477 | 0.038308 | 0.68372 | PI3K |
| TSC1 | -0.03703 | -0.30454 | 0.230474 | 0.795227 | 1 | PI3K |
| PIM1 | -1.16788 | -2.14797 | -0.1878 | 0.058196 | 0.915038 | STAT |
| CSF2 | 0.822349 | -0.01905 | 1.663751 | 0.103895 | 1 | TXmisReg, STAT |
| CCNB3 | -1.04888 | -1.74461 | -0.35316 | 0.02545 | 0.521574 | CC |
| FAS | -1.35217 | -2.14136 | -0.56298 | 0.015264 | 0.370571 | MAPK, Apop |
| PCNA | 0.685219 | -0.22033 | 1.590769 | 0.188568 | 1 | DNARepair, CC |
| IL15 | -0.62079 | -1.17595 | -0.06564 | 0.070906 | 1 | STAT |
| DUSP8 | -0.6955 | -1.48079 | 0.089796 | 0.133267 | 1 | MAPK |
| PPP3CB | -1.78892 | -2.25647 | -1.32137 | 0.000291 | 0.058061 | Wnt, MAPK, Apop |
| IL12RB2 | -0.78357 | -1.44528 | -0.12186 | 0.059371 | 0.927429 | STAT |
| GHR | -2.40184 | -3.38703 | -1.41665 | 0.003068 | 0.153256 | STAT, PI3K |
| PLCG2 | -0.85764 | -2.128 | 0.412729 | 0.233951 | 1 | RAS |
| ID1 | 0.239864 | -0.58772 | 1.067446 | 0.59059 | 1 | TGFB |
| CASP9 | -0.43213 | -1.15087 | 0.286599 | 0.283235 | 1 | PI3K, Apop |

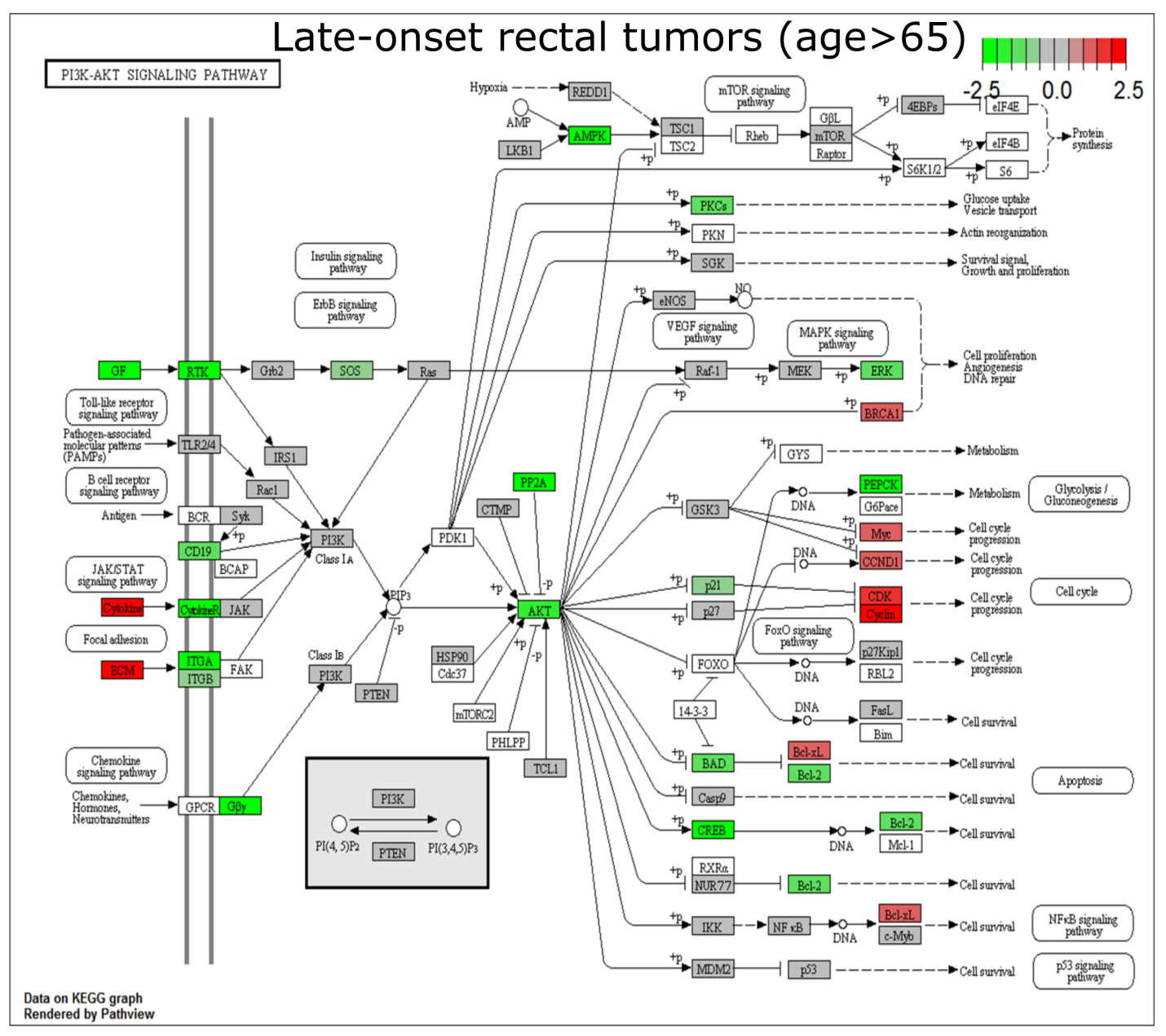
**Supplemental Table 1:** A full list of differentially expressed genes in early-onset rectal tumors.A list of differentially expressed genes between tumor and matching non-involved rectal tissues in patients 50 years old or younger. A gene is estimated to have 2^(log fold change) times its expression in baseline samples (non-involved rectal tissue). The 95% confidence interval for the log fold change is also presented, along with p-values and false discovery rates (FDR).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Log fold change | Lower confidence limit | Upper confidence limit | P-value | FDR | Pathways |
| CALML3 | -0.2023 | -0.99248 | 0.587866 | 0.631195 | 1 | RAS |
| PIK3R2 | 0.369813 | -0.10599 | 0.845615 | 0.17148 | 1 | STAT, PI3K, RAS, Apop |
| IL11RA | -1.16508 | -1.8068 | -0.52335 | 0.009238 | 0.330652 | STAT |
| BAMBI | 1.127623 | -0.8833 | 3.138543 | 0.308095 | 1 | Wnt, TGFB |
| PLA2G10 | -2.81409 | -4.74989 | -0.87829 | 0.024714 | 0.610219 | RAS |
| ETV1 | 0.150965 | -0.64876 | 0.950694 | 0.72233 | 1 | TXmisReg |
| POLD4 | -0.87835 | -1.63866 | -0.11804 | 0.057964 | 1 | DNARepair |
| NFKBIZ | 0.00267 | -0.56335 | 0.568692 | 0.992882 | 1 | TXmisReg |
| SMAD2 | -0.55414 | -0.95517 | -0.1531 | 0.030275 | 0.692061 | TGFB, CC |
| IFNG | 0.852998 | -0.76157 | 2.467567 | 0.33488 | 1 | TGFB, STAT |
| TNFRSF10C | 0.749532 | -0.63473 | 2.133789 | 0.323801 | 1 | Apop |
| AKT2 | 0.116206 | -0.14902 | 0.381433 | 0.418912 | 1 | MAPK, STAT, PI3K, RAS, Apop |
| KITLG | -1.74944 | -2.35235 | -1.14654 | 0.000745 | 0.08869 | PI3K, RAS |
| ALKBH3 | 0.020712 | -0.31535 | 0.356773 | 0.907246 | 1 | DNARepair |
| JAK1 | 0.041436 | -0.15198 | 0.234852 | 0.687151 | 1 | STAT, PI3K |
| BCL2A1 | 1.079016 | -0.23333 | 2.391361 | 0.151101 | 1 | TXmisReg |
| CCR7 | -0.05641 | -1.43387 | 1.321049 | 0.938269 | 1 | TXmisReg |
| FGF11 | 0.430689 | -0.32138 | 1.182761 | 0.298697 | 1 | MAPK, PI3K, RAS |
| HSPA6 | 0.861832 | -0.25794 | 1.981599 | 0.175159 | 1 | MAPK |
| ZBTB16 | -3.39388 | -4.8637 | -1.92407 | 0.002713 | 0.161188 | TXmisReg |
| INHBA | 4.101377 | 3.146501 | 5.056253 | 6.57E-05 | 0.026979 | TGFB |
| NRAS | 0.300933 | -0.41253 | 1.014394 | 0.43567 | 1 | MAPK, PI3K, RAS |
| MEN1 | 0.544117 | -0.0037 | 1.091935 | 0.092609 | 1 | TXmisReg |
| EPO | -0.18811 | -1.05082 | 0.674604 | 0.681951 | 1 | STAT, PI3K |
| ITGB8 | 0.921344 | 0.309995 | 1.532693 | 0.02129 | 0.543653 | PI3K |
| CDC14B | 0.459175 | -0.09494 | 1.013294 | 0.148368 | 1 | CC |
| SETBP1 | -1.74113 | -2.37247 | -1.10979 | 0.001003 | 0.099035 |  |
| CASP12 | -0.45291 | -1.27835 | 0.372541 | 0.317854 | 1 | Apop |
| IL13 | -0.25864 | -1.0733 | 0.556015 | 0.553485 | 1 | STAT |
| KAT2B | -1.3211 | -1.781 | -0.8612 | 0.000791 | 0.089969 | Notch |
| GNG4 | 0.42113 | -1.83482 | 2.677081 | 0.725259 | 1 | PI3K, RAS |
| BMP6 | -1.59718 | -2.63905 | -0.55531 | 0.019811 | 0.534755 | TGFB |
| PPARG | -0.22816 | -1.30233 | 0.846004 | 0.689644 | 1 | TXmisReg |
| PBX1 | -1.13968 | -2.11373 | -0.16563 | 0.055538 | 1 | TXmisReg |
| PRKACA | -0.71398 | -1.05845 | -0.3695 | 0.004795 | 0.236812 | Wnt, HH, MAPK, RAS, Apop |
| IL2RA | 1.225152 | -0.13111 | 2.581418 | 0.119945 | 1 | STAT, PI3K |
| PRL | -0.56762 | -1.2312 | 0.095961 | 0.137532 | 1 | STAT, PI3K |
| PAX3 | -0.10951 | -1.76237 | 1.543359 | 0.900333 | 1 | TXmisReg |
| BIRC3 | -0.78551 | -1.89644 | 0.325419 | 0.208331 | 1 | TXmisReg, Apop |
| PRKAA2 | -2.61476 | -4.15607 | -1.07345 | 0.012677 | 0.392672 | PI3K |
| PRKCG | 1.293712 | 0.032916 | 2.554508 | 0.08422 | 1 | Wnt, MAPK, RAS |
| UBB | -0.64597 | -1.28128 | -0.01066 | 0.086522 | 1 | DNARepair |
| HDAC6 | -0.07997 | -0.43468 | 0.274746 | 0.671909 | 1 | ChromMod |
| FZD9 | 0.121836 | -0.79975 | 1.043418 | 0.802999 | 1 | Wnt |
| PIK3CA | -0.44372 | -0.81743 | -0.07 | 0.052838 | 1 | STAT, PI3K, RAS, Apop |
| SMARCA4 | 0.428596 | 0.096527 | 0.760665 | 0.039248 | 0.8318 |  |
| ABL1 | -0.70535 | -1.25486 | -0.15583 | 0.040055 | 0.845475 | RAS, CC |
| COL24A1 | -0.81585 | -1.71369 | 0.081992 | 0.11812 | 1 | PI3K |
| TSLP | -1.45662 | -2.09501 | -0.81822 | 0.002894 | 0.1683 | STAT |
| RASA4 | -1.28351 | -1.95382 | -0.61319 | 0.00714 | 0.30025 | RAS |
| STAT1 | 1.180529 | 0.018941 | 2.342117 | 0.08664 | 1 | STAT |
| IKBKG | 0.274033 | -0.32594 | 0.874008 | 0.400408 | 1 | MAPK, PI3K, RAS, Apop |
| MAPT | -2.20938 | -2.97185 | -1.44691 | 0.000751 | 0.08869 | MAPK |
| LAMA3 | -0.80522 | -2.36004 | 0.749606 | 0.343874 | 1 | PI3K |
| CDK4 | 1.202575 | 0.720904 | 1.684247 | 0.001766 | 0.13359 | PI3K, CC |
| PPP3CA | -0.88231 | -1.44963 | -0.31498 | 0.018631 | 0.516017 | Wnt, MAPK, Apop |
| ITGA2 | 1.83151 | 0.957752 | 2.705268 | 0.004525 | 0.22776 | PI3K |
| FIGF | -1.90541 | -2.5119 | -1.29893 | 0.000464 | 0.075903 | PI3K, RAS |
| MMP9 | 2.797191 | 1.320253 | 4.274129 | 0.007534 | 0.304852 | TXmisReg |
| CACNA1D | 1.247606 | 0.236074 | 2.259138 | 0.046266 | 0.935117 | MAPK |
| SSX1 | -0.07744 | -0.79984 | 0.644967 | 0.839571 | 1 | TXmisReg |
| HELLS | 1.371612 | 0.557465 | 2.185759 | 0.013084 | 0.395897 | ChromMod |
| TNC | -0.99916 | -2.0693 | 0.070977 | 0.109945 | 1 | PI3K |
| COL4A6 | -2.06173 | -2.8913 | -1.23215 | 0.001812 | 0.13359 | PI3K |
| MFNG | 0.252701 | -0.49846 | 1.003861 | 0.530742 | 1 | Notch |
| HDAC2 | 0.823683 | 0.58637 | 1.060996 | 0.000253 | 0.053794 | Notch, ChromMod, TXmisReg, CC |
| BMP7 | 2.216888 | 0.564152 | 3.869623 | 0.03396 | 0.756487 | TGFB |
| IL11 | 2.000476 | 0.264875 | 3.736077 | 0.058407 | 1 | STAT |
| RASGRF1 | -0.3424 | -1.70834 | 1.023544 | 0.638237 | 1 | MAPK, RAS |
| PRKDC | 0.649521 | -0.01776 | 1.3168 | 0.098069 | 1 | DNARepair, CC |
| GRIN1 | -1.17658 | -1.69627 | -0.65688 | 0.003017 | 0.171678 | RAS |
| PRKX | 0.865503 | -0.30072 | 2.031725 | 0.189106 | 1 | Wnt, HH, MAPK, RAS, Apop |
| TGFB1 | 0.244501 | -0.3171 | 0.806101 | 0.42172 | 1 | TGFB, MAPK, CC |
| KDM6A | 0.020933 | -0.80454 | 0.846407 | 0.961748 | 1 | TXmisReg |
| ETV7 | 1.866912 | 0.927914 | 2.80591 | 0.005923 | 0.27383 | TXmisReg |
| SOST | -0.55534 | -1.35064 | 0.23997 | 0.213425 | 1 | Wnt |
| TMPRSS2 | -1.46616 | -2.2652 | -0.66712 | 0.008782 | 0.328926 | TXmisReg |
| RAC3 | 0.345856 | -0.44438 | 1.136089 | 0.41939 | 1 | Wnt, MAPK, RAS |
| LAT | -0.81064 | -1.57476 | -0.04653 | 0.076159 | 1 | RAS |
| RUNX1T1 | -1.05409 | -2.11949 | 0.011317 | 0.093648 | 1 | TXmisReg |
| HRAS | -0.10295 | -0.3675 | 0.161599 | 0.470537 | 1 | MAPK, PI3K, RAS |
| ITGA7 | -2.56401 | -3.96069 | -1.16733 | 0.008761 | 0.328926 | PI3K |
| HDAC1 | -0.24412 | -0.88776 | 0.399511 | 0.481435 | 1 | Notch, ChromMod, TXmisReg, CC |
| CCNE1 | 1.187436 | 0.293604 | 2.081268 | 0.035229 | 0.778126 | PI3K, CC |
| IRAK2 | 0.71635 | 0.006869 | 1.425832 | 0.088315 | 1 | Apop |
| CASP3 | -0.20299 | -0.87719 | 0.471205 | 0.57365 | 1 | MAPK, Apop |
| HHEX | -1.0071 | -1.51433 | -0.49987 | 0.005963 | 0.27383 | TXmisReg |
| SMO | -0.07414 | -0.91817 | 0.769886 | 0.868174 | 1 | HH |
| MYC | 1.342915 | 0.322736 | 2.363094 | 0.03647 | 0.7946 | Wnt, TXmisReg, TGFB, MAPK, STAT, PI3K, CC |
| RPS27A | 0.389054 | 0.095192 | 0.682917 | 0.035689 | 0.781684 | DNARepair |
| COL2A1 | 0.035943 | -1.73326 | 1.805142 | 0.969349 | 1 | PI3K |
| IL10 | 0.074983 | -0.82775 | 0.977715 | 0.875274 | 1 | STAT |
| AR | -2.16252 | -2.90464 | -1.42041 | 0.000727 | 0.08869 |  |
| RAD50 | -0.0852 | -0.64305 | 0.472646 | 0.773366 | 1 | DNARepair |
| IGFBP3 | 0.140484 | -0.873 | 1.153964 | 0.793702 | 1 | TXmisReg |
| JAG1 | -0.23654 | -0.63838 | 0.165296 | 0.286467 | 1 | Notch |
| OSM | 2.565392 | 1.164704 | 3.96608 | 0.00886 | 0.328926 | STAT, PI3K |
| JAK2 | -0.30845 | -0.96713 | 0.350218 | 0.389221 | 1 | STAT, PI3K |
| TLR2 | 1.044951 | -0.01932 | 2.109223 | 0.095705 | 1 | PI3K |
| IL3 | -0.24918 | -0.84959 | 0.351231 | 0.442756 | 1 | TXmisReg, STAT, PI3K, Apop |
| BRCA1 | 1.06269 | 0.503118 | 1.622262 | 0.007434 | 0.304852 | DNARepair, PI3K |
| HSP90B1 | 0.50994 | 0.002424 | 1.017456 | 0.089576 | 1 | PI3K |
| BRCA2 | 2.035345 | 1.209289 | 2.861401 | 0.001901 | 0.135972 | DNARepair |
| CDKN1C | -0.31634 | -0.94905 | 0.316376 | 0.359763 | 1 | CC |
| ETV4 | 3.574319 | 2.428203 | 4.720436 | 0.000485 | 0.076945 | TXmisReg |
| TRAF7 | 0.201094 | -0.18506 | 0.58725 | 0.341375 | 1 |  |
| PRLR | -0.15292 | -1.19207 | 0.886239 | 0.781376 | 1 | STAT, PI3K |
| TFDP1 | 0.832833 | 0.306424 | 1.359242 | 0.0173 | 0.486889 | TGFB, CC |
| LEP | -0.52913 | -1.37955 | 0.321284 | 0.262139 | 1 | STAT |
| HSPA1A | -0.59101 | -2.36251 | 1.180487 | 0.534061 | 1 | MAPK |
| UBE2T | 1.623049 | 0.980401 | 2.265696 | 0.001656 | 0.13359 | DNARepair |
| IL23A | 1.776855 | 0.444417 | 3.109294 | 0.034724 | 0.770232 | STAT |
| TGFB3 | 0.291147 | -0.53648 | 1.118775 | 0.512711 | 1 | TGFB, MAPK, CC |
| EYA1 | -0.0807 | -1.53141 | 1.370002 | 0.916233 | 1 | TXmisReg |
| IL1A | 0.457006 | -0.9315 | 1.845512 | 0.539419 | 1 | MAPK, Apop |
| SMC1A | 0.579663 | 0.059135 | 1.10019 | 0.065383 | 1 | CC |
| CACNB2 | -1.97928 | -2.75094 | -1.20762 | 0.001518 | 0.126128 | MAPK |
| IL6R | -1.78859 | -2.39089 | -1.18629 | 0.00065 | 0.087845 | STAT, PI3K |
| NCOR1 | -0.65214 | -1.03229 | -0.27198 | 0.012047 | 0.389284 | TXmisReg |
| BMP8A | 1.332999 | 0.539186 | 2.126812 | 0.013279 | 0.399491 | TGFB |
| TNN | 0.331203 | -0.58925 | 1.251659 | 0.503436 | 1 | PI3K |
| CACNA1G | -1.31909 | -2.07834 | -0.55983 | 0.011362 | 0.376435 | MAPK |
| MYCN | 1.443543 | 0.353375 | 2.533711 | 0.035667 | 0.781684 | TXmisReg |
| HPGD | -2.40618 | -2.8871 | -1.92526 | 2.43E-05 | 0.025476 | TXmisReg |
| CDK2 | 0.626045 | 0.309803 | 0.942287 | 0.006052 | 0.275497 | PI3K, CC |
| GZMB | 2.671616 | 0.799188 | 4.544044 | 0.026656 | 0.634254 | TXmisReg |
| NOTCH3 | 0.608882 | 0.111092 | 1.106672 | 0.047647 | 0.955635 | Notch |
| LIG4 | -0.21757 | -1.0214 | 0.586252 | 0.612163 | 1 | DNARepair |
| ATR | 0.767592 | 0.369345 | 1.165839 | 0.006913 | 0.299055 | CC |
| WNT4 | -0.5827 | -2.04356 | 0.878162 | 0.459959 | 1 | Wnt, HH |
| CRLF2 | -0.74114 | -1.76069 | 0.278406 | 0.19724 | 1 | STAT |
| RELN | -1.87854 | -2.66151 | -1.09557 | 0.002202 | 0.1497 | PI3K |
| CCNO | 0.603985 | -0.3814 | 1.589375 | 0.268676 | 1 | DNARepair |
| JAG2 | 1.058512 | 0.517542 | 1.599482 | 0.006415 | 0.28702 | Notch |
| BAIAP3 | -0.73733 | -1.25222 | -0.22243 | 0.026269 | 0.627921 | TXmisReg |
| PPP2R2C | 0.210259 | -1.30532 | 1.725837 | 0.793533 | 1 | PI3K |
| AMH | 0.637428 | -0.85878 | 2.133632 | 0.43128 | 1 | TGFB |
| DTX4 | 0.272444 | -0.70746 | 1.252347 | 0.602714 | 1 | Notch |
| RB1 | 0.726582 | 0.286041 | 1.167122 | 0.014399 | 0.423851 | CC |
| CCNA2 | 1.647484 | 0.941734 | 2.353233 | 0.002558 | 0.157625 | CC |
| CREB3L3 | -0.49339 | -0.88729 | -0.0995 | 0.043777 | 0.898682 | PI3K |
| WNT5B | -1.51883 | -3.4012 | 0.363533 | 0.157783 | 1 | Wnt, HH |
| LEFTY2 | -0.56097 | -1.80585 | 0.683908 | 0.406426 | 1 | TGFB |
| BMP2 | -1.90649 | -2.64209 | -1.1709 | 0.001431 | 0.122826 | HH, TGFB |
| EZH2 | 1.64593 | 1.041848 | 2.250011 | 0.001075 | 0.104242 |  |
| PBRM1 | -0.39783 | -0.75004 | -0.04563 | 0.062436 | 1 |  |
| HDAC4 | -1.60254 | -2.21255 | -0.99254 | 0.001325 | 0.117586 | ChromMod |
| CD14 | 0.171045 | -0.71821 | 1.060297 | 0.717342 | 1 | TXmisReg, MAPK |
| NGF | -1.11442 | -1.72689 | -0.50196 | 0.009141 | 0.330652 | MAPK, PI3K, RAS, Apop |
| AKT1 | -0.26921 | -0.46877 | -0.06964 | 0.033233 | 0.746642 | MAPK, STAT, PI3K, RAS, Apop |
| IFNA2 | -0.49222 | -1.18615 | 0.201709 | 0.207047 | 1 | STAT, PI3K |
| TET2 | -0.72967 | -0.93337 | -0.52597 | 0.000208 | 0.047264 |  |
| CACNA2D2 | -1.61253 | -2.35776 | -0.8673 | 0.003835 | 0.206986 | MAPK |
| DNMT1 | 0.621588 | 0.111207 | 1.131969 | 0.048377 | 0.966578 |  |
| PRKAR2A | -0.15156 | -0.5836 | 0.280469 | 0.513837 | 1 | Apop |
| KRAS | -0.33377 | -0.78388 | 0.116351 | 0.189438 | 1 | MAPK, PI3K, RAS |
| EFNA5 | -2.28337 | -2.91084 | -1.65591 | 0.000188 | 0.044786 | PI3K, RAS |
| CACNB4 | -0.63803 | -1.42649 | 0.150435 | 0.15675 | 1 | MAPK |
| CACNA2D4 | -1.11591 | -2.0519 | -0.17992 | 0.052093 | 1 | MAPK |
| PIK3CG | -0.17818 | -0.99176 | 0.635395 | 0.680632 | 1 | STAT, PI3K, RAS, Apop |
| WNT7B | -0.24506 | -0.93647 | 0.446343 | 0.509632 | 1 | Wnt, HH |
| E2F1 | 1.47287 | 0.772632 | 2.173108 | 0.004445 | 0.22776 | CC |
| PAK3 | -0.64079 | -1.01565 | -0.26593 | 0.012243 | 0.390775 | RAS |
| MAP3K1 | 0.386874 | -0.04184 | 0.815584 | 0.120258 | 1 | MAPK |
| FOXO4 | -1.0224 | -1.49476 | -0.55004 | 0.003829 | 0.206986 | RAS |
| NOTCH1 | 0.600079 | -0.07297 | 1.273127 | 0.124043 | 1 | Notch |
| PML | 0.74094 | 0.14554 | 1.336341 | 0.044818 | 0.916092 | TXmisReg |
| COL5A1 | 1.100146 | 0.663731 | 1.53656 | 0.001673 | 0.13359 | PI3K |
| SMARCB1 | -0.0498 | -0.7996 | 0.699993 | 0.900083 | 1 |  |
| PLA2G4A | -1.53724 | -3.0987 | 0.024229 | 0.09498 | 1 | MAPK, RAS |
| SIX1 | 0.148714 | -0.5367 | 0.834126 | 0.683414 | 1 | TXmisReg |
| RET | -0.95073 | -2.04944 | 0.147982 | 0.133701 | 1 |  |
| HSPB1 | -0.89087 | -2.0966 | 0.314857 | 0.190832 | 1 | MAPK |
| RBX1 | -0.02037 | -0.35829 | 0.317536 | 0.909245 | 1 | Wnt, TGFB, CC |
| SOCS1 | 0.322365 | -0.63558 | 1.280305 | 0.53062 | 1 | STAT |
| TSHR | -0.0988 | -1.29491 | 1.097316 | 0.875964 | 1 |  |
| PLCB4 | 1.612906 | 0.544927 | 2.680886 | 0.021103 | 0.541938 | Wnt |
| ANGPT1 | -1.4302 | -2.23527 | -0.62514 | 0.010239 | 0.350331 | PI3K, RAS |
| FZD2 | 0.45771 | -0.10082 | 1.01624 | 0.152265 | 1 | Wnt |
| GNAQ | -1.22883 | -1.5216 | -0.93606 | 7.62E-05 | 0.026979 |  |
| BCL2 | -1.32777 | -2.33727 | -0.31827 | 0.036582 | 0.7946 | PI3K, Apop |
| COMP | 4.875201 | 3.71608 | 6.034322 | 7.52E-05 | 0.026979 | PI3K |
| FLNA | -2.36716 | -3.55808 | -1.17625 | 0.00593 | 0.27383 | MAPK |
| IL19 | -0.82229 | -2.09706 | 0.452468 | 0.246587 | 1 | STAT |
| RAD51 | 0.776303 | -0.01335 | 1.565951 | 0.09536 | 1 | DNARepair |
| PLA2G5 | -0.84394 | -1.7516 | 0.063716 | 0.111175 | 1 | RAS |
| PLA2G4C | -0.94928 | -1.94516 | 0.046604 | 0.10394 | 1 | MAPK, RAS |
| NR4A3 | -0.6807 | -2.29686 | 0.935465 | 0.436306 | 1 | TXmisReg |
| CIC | -0.23652 | -0.56861 | 0.095571 | 0.205408 | 1 |  |
| RELA | -0.25465 | -0.67997 | 0.17067 | 0.278972 | 1 | TXmisReg, MAPK, PI3K, RAS, Apop |
| TCL1B | 0.181705 | -0.7217 | 1.085113 | 0.705153 | 1 | PI3K |
| SP1 | -0.06982 | -0.30694 | 0.167301 | 0.581942 | 1 | TXmisReg, TGFB |
| PLCE1 | -2.27233 | -2.95432 | -1.59033 | 0.000325 | 0.060704 | RAS |
| ACVR1C | -0.60591 | -1.78719 | 0.575368 | 0.348214 | 1 | TGFB |
| IL20RA | 0.976789 | 0.304094 | 1.649484 | 0.024829 | 0.610219 | STAT |
| SHC2 | -0.53277 | -1.42302 | 0.35748 | 0.279176 | 1 | RAS |
| IL5RA | -0.80002 | -2.11501 | 0.514969 | 0.27194 | 1 | STAT |
| TGFB2 | -0.62957 | -1.7798 | 0.520667 | 0.318954 | 1 | TGFB, MAPK, CC |
| VEGFC | -0.1365 | -0.57237 | 0.299364 | 0.558745 | 1 | PI3K, RAS |
| SFRP4 | 4.358556 | 3.434189 | 5.282923 | 3.59E-05 | 0.02684 | Wnt |
| CCND2 | -0.11298 | -0.93771 | 0.711743 | 0.796046 | 1 | Wnt, TXmisReg, STAT, PI3K, CC |
| GNG12 | -0.56175 | -1.27766 | 0.154161 | 0.16795 | 1 | MAPK, PI3K, RAS |
| MAP2K1 | 0.117653 | -0.10334 | 0.338645 | 0.331415 | 1 | MAPK, PI3K, RAS |
| SHC1 | 0.030482 | -0.36236 | 0.423328 | 0.883412 | 1 | RAS |
| PLCB1 | -0.92614 | -2.38965 | 0.537375 | 0.254815 | 1 | Wnt |
| GRIN2B | 3.266123 | 2.273097 | 4.25915 | 0.000351 | 0.063433 | RAS |
| FANCA | 1.667603 | 0.822793 | 2.512414 | 0.00614 | 0.277095 | DNARepair |
| FLNC | -3.26687 | -4.95876 | -1.57498 | 0.006851 | 0.298878 | MAPK |
| HIST1H3H | 1.648699 | 0.568981 | 2.728416 | 0.020144 | 0.534755 | TXmisReg |
| SOX9 | 2.26638 | 1.303015 | 3.229745 | 0.002452 | 0.154665 |  |
| LIF | 2.136675 | 1.121359 | 3.151991 | 0.004433 | 0.22776 | STAT |
| DTX1 | -0.80719 | -1.18943 | -0.42496 | 0.004354 | 0.22776 | Notch |
| NASP | -0.71924 | -0.96808 | -0.4704 | 0.000762 | 0.08869 | ChromMod |
| FOSL1 | 1.050401 | -0.20651 | 2.307308 | 0.145437 | 1 | Wnt |
| ERCC6 | 0.050739 | -0.28225 | 0.383727 | 0.773874 | 1 | DNARepair |
| WNT6 | -0.67688 | -1.31117 | -0.04259 | 0.074791 | 1 | Wnt, HH |
| GNG7 | -2.44397 | -2.81057 | -2.07737 | 3.58E-06 | 0.007089 | PI3K, RAS |
| CACNG6 | -0.13821 | -1.10034 | 0.823917 | 0.786422 | 1 | MAPK |
| ID2 | -1.32738 | -1.8323 | -0.82246 | 0.00132 | 0.117586 | TXmisReg, TGFB |
| MAP2K6 | -0.44063 | -1.76768 | 0.886406 | 0.535943 | 1 | MAPK |
| TP53 | 0.463247 | -0.71302 | 1.639514 | 0.465427 | 1 | Wnt, TXmisReg, MAPK, PI3K, Apop, CC |
| WNT10B | -0.08113 | -1.06192 | 0.899657 | 0.875784 | 1 | Wnt, HH |
| CREB3L1 | -1.52471 | -2.33184 | -0.71759 | 0.007629 | 0.304852 | PI3K |
| PDGFRA | -0.92761 | -1.38884 | -0.46637 | 0.00559 | 0.26392 | MAPK, PI3K, RAS |
| AMER1 | 0.778181 | -0.06662 | 1.622985 | 0.113975 | 1 |  |
| SOS2 | -0.57097 | -0.87005 | -0.27189 | 0.007246 | 0.301022 | MAPK, STAT, PI3K, RAS |
| PTPRR | -0.46903 | -2.40381 | 1.465741 | 0.649149 | 1 | MAPK |
| PAX5 | 0.230256 | -0.25684 | 0.717352 | 0.38501 | 1 | TXmisReg |
| TNF | 0.11656 | -0.72848 | 0.961599 | 0.794687 | 1 | TGFB, MAPK, Apop |
| NGFR | -1.8347 | -3.09737 | -0.57202 | 0.024762 | 0.610219 | TXmisReg, PI3K, RAS |
| RAD52 | -0.00176 | -0.32476 | 0.321244 | 0.991791 | 1 | DNARepair |
| PIK3R1 | -0.4214 | -1.01571 | 0.172908 | 0.207197 | 1 | STAT, PI3K, RAS, Apop |
| DLL1 | -0.60689 | -1.31864 | 0.104873 | 0.138604 | 1 | Notch |
| TLX1 | 2.685684 | 1.467837 | 3.903531 | 0.00347 | 0.195334 | TXmisReg |
| CSF3 | -0.53853 | -1.22236 | 0.145291 | 0.166604 | 1 | STAT, PI3K |
| GLI1 | 0.562159 | -0.49051 | 1.614831 | 0.330028 | 1 | HH |
| GADD45G | -0.68441 | -1.5979 | 0.229077 | 0.18542 | 1 | MAPK, CC |
| THBS4 | -1.52321 | -3.39425 | 0.347822 | 0.1546 | 1 | PI3K |
| IFNA17 | -0.07028 | -0.57871 | 0.438161 | 0.794276 | 1 | STAT, PI3K |
| MAPK9 | -0.33939 | -0.77095 | 0.092164 | 0.167117 | 1 | Wnt, MAPK, RAS |
| DUSP6 | -0.23076 | -1.31735 | 0.855832 | 0.689697 | 1 | TXmisReg, MAPK |
| CACNA2D1 | -1.64502 | -2.65221 | -0.63783 | 0.015041 | 0.437411 | MAPK |
| PPP3R1 | -0.01018 | -0.25084 | 0.230476 | 0.936239 | 1 | Wnt, MAPK, Apop |
| TNFSF10 | -0.44013 | -1.56521 | 0.684956 | 0.468299 | 1 | Apop |
| ITGB7 | -0.6718 | -1.80979 | 0.466177 | 0.285194 | 1 | TXmisReg, PI3K |
| ITGA6 | 0.587899 | -0.3242 | 1.499998 | 0.246919 | 1 | PI3K |
| FOS | -1.71337 | -2.83433 | -0.59241 | 0.02006 | 0.534755 | MAPK |
| IL12B | -0.60787 | -1.48458 | 0.268831 | 0.21631 | 1 | STAT |
| WNT3 | 1.508769 | 0.698621 | 2.318918 | 0.008176 | 0.3194 | Wnt, HH |
| DKK1 | 0.657281 | -0.59292 | 1.90748 | 0.337081 | 1 | Wnt |
| GSK3B | -0.00027 | -0.22056 | 0.220017 | 0.998152 | 1 | Wnt, HH, PI3K, CC |
| DUSP10 | 0.311018 | -0.29941 | 0.921449 | 0.351235 | 1 | MAPK |
| HDAC11 | -0.55835 | -1.31559 | 0.19888 | 0.191631 | 1 | ChromMod |
| FGF1 | -0.02527 | -0.86877 | 0.818231 | 0.95482 | 1 | MAPK, PI3K, RAS |
| CHEK1 | 1.256948 | 0.768173 | 1.745723 | 0.001496 | 0.126128 | CC |
| RAF1 | -0.36678 | -0.54796 | -0.1856 | 0.005407 | 0.259687 | MAPK, PI3K, RAS |
| CACNB3 | 0.056981 | -0.41468 | 0.528645 | 0.819603 | 1 | MAPK |
| CDC6 | 1.925399 | 0.861496 | 2.989302 | 0.00938 | 0.331772 | CC |
| CDKN2D | 0.005111 | -0.53395 | 0.544168 | 0.985693 | 1 | CC |
| IL1B | 1.416361 | -0.63565 | 3.468372 | 0.218169 | 1 | MAPK, Apop |
| IGF1R | -0.58691 | -1.03391 | -0.13992 | 0.036819 | 0.796444 | TXmisReg, PI3K, RAS |
| H2AFX | 1.163504 | 0.521967 | 1.805041 | 0.009285 | 0.330652 | DNARepair |
| IDH1 | 0.386513 | -0.33229 | 1.105316 | 0.326931 | 1 |  |
| PIK3CD | -0.38171 | -1.19 | 0.426582 | 0.385454 | 1 | STAT, PI3K, RAS, Apop |
| ENDOG | 0.160057 | -0.58162 | 0.901728 | 0.685002 | 1 | Apop |
| IBSP | 0.708169 | -0.47871 | 1.895044 | 0.280491 | 1 | PI3K |
| THEM4 | 0.244518 | -0.27051 | 0.759546 | 0.383062 | 1 | PI3K |
| LAMB4 | -0.52927 | -1.31676 | 0.258224 | 0.229216 | 1 | PI3K |
| TBL1XR1 | -0.08282 | -0.4204 | 0.254761 | 0.645294 | 1 | Wnt |
| ATM | -0.30915 | -0.81243 | 0.194131 | 0.26773 | 1 | TXmisReg, DNARepair, Apop, CC |
| MLH1 | -0.26214 | -0.52657 | 0.00228 | 0.093109 | 1 |  |
| RXRG | -3.22027 | -3.71237 | -2.72817 | 4.06E-06 | 0.007089 | TXmisReg |
| FEN1 | 1.114594 | 0.42666 | 1.802529 | 0.015586 | 0.450765 | DNARepair |
| MYB | 0.915976 | -0.1862 | 2.018151 | 0.147362 | 1 | PI3K |
| MAPK10 | -1.49326 | -2.1344 | -0.85212 | 0.00259 | 0.157625 | Wnt, MAPK, RAS |
| MAP3K12 | -0.55037 | -1.13203 | 0.031293 | 0.106056 | 1 | ChromMod, MAPK |
| DDIT4 | 1.136753 | -0.24685 | 2.52036 | 0.151365 | 1 | PI3K |
| CHUK | -0.21684 | -0.62581 | 0.192142 | 0.333282 | 1 | MAPK, PI3K, RAS, Apop |
| IL8 | 4.575854 | 2.394924 | 6.756784 | 0.004503 | 0.22776 | TXmisReg |
| MGMT | -0.17198 | -1.30942 | 0.965464 | 0.775563 | 1 | DNARepair |
| MAPK12 | -0.1033 | -0.96206 | 0.755457 | 0.820359 | 1 | MAPK |
| SOX17 | -1.06048 | -1.36687 | -0.7541 | 0.000257 | 0.053794 | Wnt |
| MLF1 | -1.46082 | -2.60594 | -0.3157 | 0.04097 | 0.861329 | TXmisReg |
| FGF8 | -0.21888 | -1.55606 | 1.118297 | 0.757704 | 1 | MAPK, PI3K, RAS |
| ALK | -0.99268 | -1.53953 | -0.44583 | 0.009245 | 0.330652 |  |
| ARNT2 | -1.13879 | -1.80083 | -0.47675 | 0.011897 | 0.389241 | TXmisReg |
| MET | 1.493083 | 0.595643 | 2.390524 | 0.013848 | 0.414225 | TXmisReg, PI3K, RAS |
| HOXA10 | -0.48378 | -1.70996 | 0.74241 | 0.464656 | 1 | TXmisReg |
| SIN3A | -0.45879 | -0.71579 | -0.20178 | 0.010009 | 0.346972 | TXmisReg |
| CTNNB1 | 0.72156 | 0.306856 | 1.136265 | 0.011284 | 0.376222 | Wnt |
| WNT7A | -0.07073 | -1.1947 | 1.053248 | 0.905308 | 1 | Wnt, HH |
| CDKN2A | 0.502417 | -0.36118 | 1.366018 | 0.291682 | 1 | CC |
| ARID1A | -0.60901 | -1.06303 | -0.15499 | 0.033958 | 0.756487 | ChromMod |
| FGF2 | -1.92399 | -2.73448 | -1.1135 | 0.002334 | 0.152747 | MAPK, PI3K, RAS |
| PLA2G2A | -2.3896 | -4.89957 | 0.120374 | 0.104288 | 1 | RAS |
| MLLT3 | -0.14158 | -0.86131 | 0.57816 | 0.711285 | 1 | TXmisReg |
| PLA2G3 | 0.533267 | -0.90819 | 1.974725 | 0.491912 | 1 | RAS |
| HIST1H3B | 1.065093 | 0.142989 | 1.987196 | 0.057994 | 1 | TXmisReg |
| CHAD | -2.07349 | -3.30237 | -0.84461 | 0.012993 | 0.395897 | PI3K |
| PDGFA | -0.90102 | -1.55077 | -0.25127 | 0.029853 | 0.685404 | TXmisReg, MAPK, PI3K, RAS |
| NOTCH2 | -0.34331 | -0.69735 | 0.01072 | 0.099111 | 1 | Notch |
| PPP2CB | -1.07689 | -1.45977 | -0.69401 | 0.000894 | 0.095331 | TGFB, PI3K |
| SFRP2 | -0.19162 | -1.18304 | 0.799806 | 0.716052 | 1 | Wnt |
| IKBKB | 0.268985 | -0.18137 | 0.719335 | 0.280039 | 1 | MAPK, PI3K, RAS, Apop |
| FGF12 | -1.62422 | -2.49192 | -0.75653 | 0.007976 | 0.314686 | MAPK, PI3K, RAS |
| RIN1 | 0.72858 | 0.08889 | 1.36827 | 0.060759 | 1 | RAS |
| WNT5A | 1.053651 | -0.2024 | 2.309706 | 0.144142 | 1 | Wnt, HH |
| MAP2K4 | -0.60043 | -0.93756 | -0.2633 | 0.010118 | 0.348463 | MAPK |
| GNGT1 | 0.535693 | -0.29979 | 1.371181 | 0.249172 | 1 | PI3K, RAS |
| FGF6 | -0.55158 | -1.41366 | 0.310498 | 0.250075 | 1 | MAPK, PI3K, RAS |
| CCND3 | -0.4054 | -0.9298 | 0.119005 | 0.173495 | 1 | Wnt, STAT, PI3K, CC |
| FST | -0.94845 | -1.47872 | -0.41817 | 0.009917 | 0.346102 | TGFB |
| UTY | -0.10818 | -1.07065 | 0.854287 | 0.831924 | 1 | TXmisReg |
| NR4A1 | -0.72943 | -1.95748 | 0.498624 | 0.282488 | 1 | MAPK, PI3K |
| MCM2 | 1.502766 | 0.675386 | 2.330146 | 0.00922 | 0.330652 | CC |
| PRDM1 | 0.566945 | -0.86748 | 2.001368 | 0.46389 | 1 |  |
| APH1B | -0.43449 | -0.97815 | 0.109174 | 0.161236 | 1 | Notch |
| SPP1 | 3.823143 | 2.459308 | 5.186978 | 0.000912 | 0.095331 | PI3K |
| ACVR1B | -0.09285 | -0.99711 | 0.811411 | 0.846221 | 1 | TGFB |
| SHC3 | -0.89773 | -1.65403 | -0.14143 | 0.052883 | 1 | RAS |
| IL7 | -0.01099 | -1.03003 | 1.008053 | 0.983731 | 1 | STAT, PI3K |
| WEE1 | -0.31329 | -0.63409 | 0.007513 | 0.09717 | 1 | CC |
| FANCE | 0.331244 | -0.07786 | 0.740343 | 0.156536 | 1 | DNARepair |
| ALKBH2 | 0.35098 | -0.11041 | 0.812365 | 0.179588 | 1 | DNARepair |
| FN1 | 0.51881 | -0.46333 | 1.500948 | 0.334938 | 1 | PI3K |
| EIF4EBP1 | 0.619038 | -0.49935 | 1.737422 | 0.313918 | 1 | PI3K |
| GNA11 | -1.2517 | -1.66384 | -0.83956 | 0.000569 | 0.082675 |  |
| CDC7 | 0.750107 | 0.221249 | 1.278965 | 0.027299 | 0.643722 | CC |
| CSF1R | -0.35574 | -1.2032 | 0.491715 | 0.437768 | 1 | TXmisReg, PI3K, RAS |
| LIFR | -2.63711 | -3.18114 | -2.09308 | 3.00E-05 | 0.026133 | STAT |
| MSH6 | 0.343124 | -0.05832 | 0.744564 | 0.137788 | 1 |  |
| CDC25A | 1.299129 | 0.673692 | 1.924565 | 0.004742 | 0.236407 | CC |
| CYLD | -0.51914 | -0.98 | -0.05829 | 0.062994 | 1 |  |
| FZD7 | -1.37955 | -2.19199 | -0.56711 | 0.012623 | 0.392672 | Wnt |
| SOCS3 | -0.76381 | -2.19062 | 0.663013 | 0.328942 | 1 | STAT |
| FGF17 | -0.56927 | -1.54702 | 0.40848 | 0.291335 | 1 | MAPK, PI3K, RAS |
| FGF10 | -1.51932 | -2.26892 | -0.76971 | 0.005375 | 0.259687 | MAPK, PI3K, RAS |
| DLL4 | 0.731824 | 0.021767 | 1.44188 | 0.08312 | 1 | Notch |
| TCF3 | 0.493309 | 0.146885 | 0.839732 | 0.026868 | 0.636414 | TXmisReg |
| WNT16 | -0.23945 | -1.40495 | 0.926044 | 0.699195 | 1 | Wnt, HH, TXmisReg |
| POLD1 | 0.748798 | 0.297606 | 1.19999 | 0.014003 | 0.416483 | DNARepair |
| FANCL | -0.08331 | -0.3485 | 0.18189 | 0.557578 | 1 | DNARepair |
| HOXA11 | -0.47329 | -1.76232 | 0.815739 | 0.49506 | 1 | TXmisReg |
| IFNA7 | 0.289735 | -0.29955 | 0.879022 | 0.367312 | 1 | STAT, PI3K |
| MNAT1 | -0.09469 | -0.55132 | 0.361949 | 0.696575 | 1 | DNARepair |
| COL4A5 | -2.40418 | -3.59987 | -1.20849 | 0.005596 | 0.26392 | PI3K |
| CARD11 | 0.744048 | -0.87122 | 2.359315 | 0.396612 | 1 |  |
| GDF6 | -0.92492 | -1.89013 | 0.040277 | 0.102435 | 1 | TGFB |
| WHSC1L1 | -0.32844 | -0.78437 | 0.127482 | 0.200835 | 1 | ChromMod |
| RASAL1 | 0.022716 | -3.26054 | 3.305969 | 0.989559 | 1 | RAS |
| IRAK3 | 0.05066 | -0.73207 | 0.833393 | 0.902622 | 1 | Apop |
| FLT3 | -0.56558 | -1.82423 | 0.693064 | 0.407678 | 1 | TXmisReg |
| SETD2 | -0.08444 | -0.26277 | 0.093888 | 0.384245 | 1 |  |
| PITX2 | 1.811483 | 0.505387 | 3.11758 | 0.029834 | 0.685404 | TGFB |
| MYD88 | -0.04095 | -0.66601 | 0.58411 | 0.901441 | 1 | Apop |
| GNAS | -0.00457 | -0.64672 | 0.637577 | 0.989258 | 1 |  |
| TCF7L1 | -1.64941 | -2.16106 | -1.13776 | 0.000397 | 0.067044 | Wnt |
| BRAF | -0.52048 | -0.79868 | -0.24229 | 0.007995 | 0.314686 | MAPK |
| PTPN5 | -0.61321 | -1.82443 | 0.598018 | 0.354111 | 1 | MAPK |
| IL2RB | 1.081016 | -0.36662 | 2.528647 | 0.186703 | 1 | TXmisReg, STAT, PI3K |
| NTHL1 | 0.553038 | 0.227681 | 0.878394 | 0.012564 | 0.392672 | DNARepair |
| NSD1 | -0.0657 | -0.46325 | 0.331847 | 0.755464 | 1 | ChromMod |
| LRP2 | -0.48928 | -1.14284 | 0.164276 | 0.185723 | 1 | HH |
| PDGFC | -0.42087 | -1.10311 | 0.261375 | 0.265873 | 1 | PI3K, RAS |
| FGFR3 | -0.19564 | -1.42113 | 1.029851 | 0.763476 | 1 | MAPK, PI3K, RAS |
| NPM2 | 0.72759 | -1.09569 | 2.550871 | 0.459762 | 1 | ChromMod |
| SKP2 | 0.990171 | 0.466591 | 1.513751 | 0.007588 | 0.304852 | CC |
| SYK | 0.972994 | -0.16045 | 2.106441 | 0.136344 | 1 | PI3K |
| MAML2 | -0.14653 | -0.79084 | 0.497784 | 0.669249 | 1 | Notch |
| NODAL | 0.767197 | -0.78267 | 2.317059 | 0.364259 | 1 | TGFB |
| PRKACG | -0.39552 | -1.21642 | 0.425386 | 0.376441 | 1 | Wnt, HH, MAPK, RAS, Apop |
| EPOR | -0.69069 | -1.36637 | -0.015 | 0.085176 | 1 | STAT, PI3K |
| HGF | -0.0738 | -0.98785 | 0.840255 | 0.878732 | 1 | PI3K, RAS |
| MMP7 | 3.903814 | 1.739357 | 6.068271 | 0.009533 | 0.334918 | Wnt |
| LEPR | -0.94232 | -1.31841 | -0.56623 | 0.001731 | 0.13359 | STAT |
| VEGFA | 1.772069 | 1.342298 | 2.201839 | 8.54E-05 | 0.026979 | PI3K, RAS |
| SRSF2 | 0.094685 | -0.53443 | 0.723799 | 0.776559 | 1 |  |
| KMT2C | -0.05405 | -0.27553 | 0.167438 | 0.647028 | 1 |  |
| CACNA1E | 0.154459 | -0.71589 | 1.024806 | 0.738187 | 1 | MAPK |
| XPA | -0.58431 | -0.97054 | -0.19809 | 0.020948 | 0.541938 | DNARepair |
| FGF16 | -0.08029 | -0.49567 | 0.335103 | 0.716046 | 1 | MAPK, PI3K, RAS |
| CDKN1A | -0.90277 | -1.45359 | -0.35195 | 0.01481 | 0.433101 | TXmisReg, PI3K, CC |
| SPRY2 | 0.004671 | -1.08983 | 1.099175 | 0.993559 | 1 | STAT |
| HMGA1 | 1.802762 | 1.082888 | 2.522636 | 0.001736 | 0.13359 | ChromMod |
| EFNA3 | 1.036298 | 0.000816 | 2.071781 | 0.090613 | 1 | PI3K, RAS |
| EFNA1 | 0.89275 | 0.049869 | 1.735631 | 0.07654 | 1 | PI3K, RAS |
| CDC14A | -0.8407 | -1.39222 | -0.28918 | 0.020292 | 0.534755 | CC |
| ZAK | -0.20208 | -1.08444 | 0.680271 | 0.667075 | 1 | MAPK |
| RAD21 | -0.03082 | -0.23488 | 0.173239 | 0.775784 | 1 | CC |
| ITGA3 | -0.63329 | -1.08236 | -0.18423 | 0.027931 | 0.65566 | PI3K |
| TTK | 2.004775 | 1.199894 | 2.809656 | 0.00179 | 0.13359 | CC |
| GATA2 | -0.9527 | -1.56022 | -0.34518 | 0.017976 | 0.500524 |  |
| PLAT | -0.70627 | -1.70028 | 0.287733 | 0.206361 | 1 | TXmisReg |
| FGF7 | -1.09541 | -1.96086 | -0.22996 | 0.042161 | 0.872357 | MAPK, PI3K, RAS |
| TLR4 | 0.985941 | -0.01191 | 1.983788 | 0.094003 | 1 | PI3K |
| WIF1 | 1.068603 | -2.26656 | 4.403768 | 0.549939 | 1 | Wnt |
| WNT2B | -1.04097 | -2.01467 | -0.06727 | 0.074373 | 1 | Wnt, HH |
| ERBB2 | 0.017552 | -0.6014 | 0.6365 | 0.957229 | 1 |  |
| DDIT3 | 0.350663 | -0.04537 | 0.746696 | 0.126242 | 1 | TXmisReg, MAPK |
| U2AF1 | -0.14314 | -0.64899 | 0.362711 | 0.596422 | 1 |  |
| FBXW7 | -0.09198 | -0.46375 | 0.279797 | 0.642545 | 1 |  |
| ARID2 | -0.02751 | -0.35681 | 0.301794 | 0.874567 | 1 |  |
| CREBBP | -0.56903 | -0.87611 | -0.26194 | 0.008377 | 0.3242 | Notch, Wnt, ChromMod, TGFB, STAT, CC |
| CHEK2 | 1.1129 | 0.604957 | 1.620844 | 0.003591 | 0.200006 | CC |
| CCNA1 | -0.36509 | -1.04298 | 0.312797 | 0.326216 | 1 | TXmisReg, CC |
| IL1R1 | -0.17485 | -0.5603 | 0.210612 | 0.403482 | 1 | MAPK, Apop |
| CASP8 | 0.666253 | 0.038899 | 1.293607 | 0.075913 | 1 | Apop |
| SF3B1 | -0.31554 | -0.60186 | -0.02921 | 0.067612 | 1 |  |
| NBN | 0.297069 | -0.07577 | 0.669912 | 0.162337 | 1 | DNARepair |
| FGF14 | -1.35702 | -1.62797 | -1.08608 | 2.42E-05 | 0.025476 | MAPK, PI3K, RAS |
| MAPK8IP1 | -0.58955 | -1.24256 | 0.063452 | 0.120116 | 1 | MAPK |
| WNT2 | 2.486369 | 1.479259 | 3.493478 | 0.00188 | 0.135972 | Wnt, HH |
| SFN | -0.95545 | -1.45431 | -0.45658 | 0.007132 | 0.30025 | CC |
| IRS1 | -0.75129 | -1.73188 | 0.229288 | 0.176871 | 1 | PI3K |
| PAX8 | 0.008123 | -0.80973 | 0.825972 | 0.985012 | 1 | TXmisReg |
| EFNA2 | -1.07051 | -2.33861 | 0.197603 | 0.141984 | 1 | PI3K, RAS |
| FGF22 | 0.034236 | -0.66563 | 0.734099 | 0.926304 | 1 | MAPK, PI3K, RAS |
| CALML5 | -0.24199 | -0.66338 | 0.179407 | 0.297467 | 1 | RAS |
| MCM7 | 1.43344 | 1.084414 | 1.782466 | 8.76E-05 | 0.026979 | CC |
| GRIN2A | -2.04449 | -2.53084 | -1.55814 | 7.55E-05 | 0.026979 | RAS |
| BMP5 | -1.84305 | -2.96075 | -0.72535 | 0.014412 | 0.423851 | TGFB |
| CDKN1B | 0.022144 | -0.51406 | 0.558345 | 0.937753 | 1 | TXmisReg, PI3K, CC |
| CAMK2B | -0.75627 | -1.43323 | -0.07932 | 0.064713 | 1 | Wnt |
| KIT | -1.96989 | -2.42438 | -1.5154 | 6.20E-05 | 0.026979 | PI3K, RAS |
| IL7R | 0.371071 | -1.16022 | 1.902362 | 0.649279 | 1 | STAT, PI3K |
| LAMA1 | 0.084172 | -0.48506 | 0.653407 | 0.780348 | 1 | PI3K |
| SPOP | -1.52456 | -1.93487 | -1.11425 | 0.000165 | 0.041185 |  |
| TIAM1 | -0.43627 | -1.21303 | 0.340486 | 0.307371 | 1 | RAS |
| SFRP1 | -2.91158 | -4.14094 | -1.68221 | 0.002364 | 0.152784 | Wnt |
| RFC3 | 1.57892 | 1.163849 | 1.993991 | 0.000143 | 0.037303 | DNARepair |
| LEFTY1 | -0.91742 | -4.04718 | 2.212338 | 0.583592 | 1 | TGFB |
| TNFRSF10A | 0.759477 | -0.01635 | 1.535307 | 0.096516 | 1 | Apop |
| CCNE2 | 0.408664 | -0.23977 | 1.057098 | 0.256583 | 1 | PI3K, CC |
| CSF3R | 0.579151 | -0.52988 | 1.68818 | 0.340117 | 1 | STAT, PI3K |
| IGF1 | -1.04296 | -1.84307 | -0.24285 | 0.037832 | 0.808331 | TXmisReg, PI3K, RAS |
| ATRX | 0.170102 | -0.23885 | 0.579058 | 0.441784 | 1 |  |
| PLAU | 2.060601 | 1.348785 | 2.772418 | 0.000755 | 0.08869 | TXmisReg |
| B2M | -0.23963 | -1.12423 | 0.644969 | 0.61188 | 1 |  |
| PIK3R5 | 0.183812 | -1.06478 | 1.432407 | 0.781289 | 1 | STAT, PI3K, RAS, Apop |
| SOS1 | -0.10308 | -0.30595 | 0.099789 | 0.352467 | 1 | MAPK, STAT, PI3K, RAS |
| CREB5 | -0.17268 | -0.99266 | 0.647295 | 0.69213 | 1 | PI3K |
| FGF21 | -0.57962 | -1.24827 | 0.089033 | 0.133118 | 1 | MAPK, PI3K, RAS |
| PPP2R1A | -0.03742 | -0.42707 | 0.352238 | 0.856053 | 1 | TGFB, PI3K |
| PIK3R3 | -0.32479 | -0.58114 | -0.06844 | 0.04201 | 0.872357 | STAT, PI3K, RAS, Apop |
| PBX3 | -1.30273 | -2.13158 | -0.47387 | 0.017801 | 0.498317 | TXmisReg |
| GLI3 | -1.57324 | -2.29369 | -0.85278 | 0.003656 | 0.201431 | HH |
| PPARGC1A | -2.34099 | -3.92986 | -0.75213 | 0.023389 | 0.594147 | ChromMod |
| BAD | -1.11385 | -1.65312 | -0.57458 | 0.004881 | 0.238801 | PI3K, RAS, Apop |
| FGF20 | 0.775449 | -1.16686 | 2.717755 | 0.459561 | 1 | MAPK, PI3K, RAS |
| PPP3CC | -0.33434 | -0.61876 | -0.04993 | 0.054658 | 1 | Wnt, MAPK, Apop |
| HOXA9 | 0.221538 | -1.62372 | 2.066795 | 0.820701 | 1 | TXmisReg |
| BMPR1B | -0.23669 | -0.65756 | 0.184182 | 0.306794 | 1 | TGFB |
| THBS1 | -0.25929 | -1.22712 | 0.708542 | 0.615732 | 1 | TGFB, PI3K |
| CACNA1H | -2.25807 | -3.80911 | -0.70703 | 0.024567 | 0.610219 | MAPK |
| SOCS2 | -1.49022 | -1.8253 | -1.15513 | 5.25E-05 | 0.026979 | STAT |
| HSPA2 | -2.52084 | -3.26837 | -1.77331 | 0.000302 | 0.060704 | MAPK |
| ITGA8 | -1.66833 | -2.38405 | -0.95262 | 0.002578 | 0.157625 | PI3K |
| CACNA1C | -1.44848 | -2.92319 | 0.026235 | 0.095605 | 1 | MAPK |
| APC | -0.93668 | -1.17711 | -0.69625 | 0.000123 | 0.03377 | Wnt |
| GATA1 | -0.46977 | -1.22652 | 0.286983 | 0.263142 | 1 |  |
| ERCC2 | 0.09741 | -0.27143 | 0.466253 | 0.620671 | 1 | DNARepair |
| NF2 | -0.03307 | -0.3185 | 0.252366 | 0.826853 | 1 |  |
| PGF | 0.656967 | -0.05869 | 1.37262 | 0.115007 | 1 | PI3K, RAS |
| PTPN11 | -0.09454 | -0.43237 | 0.243302 | 0.600423 | 1 | STAT, RAS |
| IL20RB | -0.35075 | -1.06428 | 0.362793 | 0.367414 | 1 | STAT |
| RAC1 | 0.007497 | -0.50683 | 0.521824 | 0.978006 | 1 | Wnt, MAPK, PI3K, RAS |
| PLD1 | -0.8918 | -1.64627 | -0.13733 | 0.05365 | 1 | RAS |
| FZD3 | 0.22177 | -0.6123 | 1.055839 | 0.618343 | 1 | Wnt |
| FGF13 | -1.12792 | -2.95961 | 0.70377 | 0.266657 | 1 | MAPK, PI3K, RAS |
| AKT3 | -1.39821 | -2.00485 | -0.79156 | 0.00274 | 0.161188 | MAPK, STAT, PI3K, RAS, Apop |
| C19orf40 | 0.218334 | -0.2052 | 0.641871 | 0.345955 | 1 | DNARepair |
| NKD1 | 2.489056 | -0.10174 | 5.07985 | 0.101712 | 1 | Wnt |
| CREB3L4 | -0.13234 | -0.78238 | 0.517695 | 0.701761 | 1 | PI3K |
| BID | 0.446523 | -0.14295 | 1.035993 | 0.1812 | 1 | Apop |
| TNFRSF10D | -0.50971 | -1.19589 | 0.176475 | 0.188752 | 1 | Apop |
| CDKN2B | -1.44033 | -2.47656 | -0.4041 | 0.02958 | 0.685404 | TGFB, CC |
| FGF4 | -0.11092 | -0.91944 | 0.697596 | 0.795759 | 1 | MAPK, PI3K, RAS |
| RRAS2 | -0.91846 | -1.66688 | -0.17004 | 0.047097 | 0.948245 | MAPK, RAS |
| EGFR | -1.17241 | -1.64919 | -0.69563 | 0.001922 | 0.135972 | MAPK, PI3K, RAS |
| STAT4 | 0.157331 | -0.92125 | 1.235915 | 0.78323 | 1 | STAT |
| DAXX | 0.286958 | 0.120638 | 0.453278 | 0.011732 | 0.386254 | MAPK |
| PROM1 | -0.48353 | -2.43036 | 1.463303 | 0.641274 | 1 | TXmisReg |
| FGFR2 | -2.82556 | -3.90875 | -1.74237 | 0.00138 | 0.120379 | MAPK, PI3K, RAS |
| CDK6 | 0.311795 | -0.42088 | 1.044467 | 0.431767 | 1 | PI3K, CC |
| MPO | -0.23564 | -0.99851 | 0.52723 | 0.564006 | 1 | TXmisReg |
| CACNG1 | -0.81963 | -1.86395 | 0.224695 | 0.167867 | 1 | MAPK |
| MECOM | 0.287802 | -0.44392 | 1.019526 | 0.465981 | 1 | MAPK |
| GPC4 | 0.339443 | -0.3134 | 0.992283 | 0.342079 | 1 | Wnt |
| HDAC10 | 0.723039 | -0.06654 | 1.512621 | 0.115759 | 1 | ChromMod |
| GRIA3 | -1.79305 | -2.53025 | -1.05586 | 0.002042 | 0.142544 | TXmisReg |
| SMC3 | 0.075428 | -0.25769 | 0.408547 | 0.670582 | 1 | CC |
| IL23R | -0.43377 | -1.24925 | 0.381721 | 0.331822 | 1 | STAT |
| PIK3CB | -0.29112 | -0.71443 | 0.132198 | 0.219677 | 1 | STAT, PI3K, RAS, Apop |
| ITGB6 | -0.09645 | -1.34664 | 1.153737 | 0.884075 | 1 | PI3K |
| KMT2D | 0.157906 | -0.1782 | 0.494016 | 0.387778 | 1 |  |
| FOXL2 | -0.65227 | -1.44083 | 0.136289 | 0.148995 | 1 |  |
| FANCF | 0.786545 | 0.271193 | 1.301897 | 0.020186 | 0.534755 | DNARepair |
| CASP10 | -0.42472 | -0.91828 | 0.068843 | 0.135539 | 1 | Apop |
| PPP2R2B | -1.36761 | -1.97035 | -0.76487 | 0.002982 | 0.171516 | PI3K |
| STK11 | -0.048 | -0.26415 | 0.168158 | 0.676505 | 1 | PI3K |
| MAP3K14 | -0.89092 | -1.50757 | -0.27428 | 0.025341 | 0.612731 | MAPK, Apop |
| ETS2 | 1.089626 | 0.488918 | 1.690334 | 0.009278 | 0.330652 | RAS |
| DKK4 | 1.850231 | -0.46236 | 4.162821 | 0.160837 | 1 | Wnt |
| H3F3A | 0.259758 | -0.35921 | 0.878726 | 0.437887 | 1 | TXmisReg |
| FASLG | 0.553036 | -0.34095 | 1.44702 | 0.264652 | 1 | MAPK, PI3K, RAS, Apop |
| POLR2D | 0.764615 | 0.367042 | 1.162188 | 0.006988 | 0.299827 | DNARepair |
| BDNF | -0.21368 | -0.72885 | 0.301488 | 0.443007 | 1 | MAPK |
| CD40 | 0.007519 | -0.70485 | 0.719888 | 0.984071 | 1 | TXmisReg |
| SUV39H2 | 1.080703 | 0.621321 | 1.540085 | 0.002452 | 0.154665 | ChromMod |
| SPRY4 | 0.802928 | -0.03895 | 1.644809 | 0.103782 | 1 | STAT |
| HMGA2 | 0.574041 | -0.2609 | 1.408985 | 0.21979 | 1 | TXmisReg |
| LAMC3 | -0.68063 | -1.41405 | 0.052785 | 0.111743 | 1 | PI3K |
| NPM1 | -0.3949 | -0.8919 | 0.102093 | 0.163338 | 1 |  |
| ID4 | -0.56956 | -1.31912 | 0.179993 | 0.180009 | 1 | TGFB |
| IL22RA2 | -0.51292 | -1.09256 | 0.066725 | 0.126441 | 1 | STAT |
| PKMYT1 | 1.753384 | 0.722023 | 2.784746 | 0.012554 | 0.392672 | CC |
| EP300 | -0.31287 | -0.49507 | -0.13068 | 0.011989 | 0.389284 | Notch, Wnt, TGFB, STAT, CC |
| FGF23 | -0.16923 | -0.7781 | 0.439636 | 0.602828 | 1 | MAPK, PI3K, RAS |
| CUL1 | 0.152751 | -0.29014 | 0.595643 | 0.520746 | 1 | Wnt, TGFB, CC |
| TNR | -0.78284 | -1.51655 | -0.04912 | 0.074835 | 1 | PI3K |
| DKK2 | -0.42431 | -1.30255 | 0.453936 | 0.375204 | 1 | Wnt |
| MAPK3 | -1.07821 | -1.81638 | -0.34004 | 0.024238 | 0.607574 | TGFB, MAPK, PI3K, RAS |
| BCOR | 0.198779 | -0.16232 | 0.559879 | 0.316382 | 1 |  |
| IL3RA | -0.6973 | -1.30719 | -0.08741 | 0.059997 | 1 | STAT, PI3K, Apop |
| GTF2H3 | 0.429197 | 0.032679 | 0.825716 | 0.07156 | 1 | DNARepair |
| DLL3 | -0.22586 | -1.51403 | 1.062314 | 0.741199 | 1 | Notch |
| HNF1A | 1.174354 | 0.240855 | 2.107853 | 0.043103 | 0.888335 |  |
| CXXC4 | 0.200959 | -0.98052 | 1.382435 | 0.748612 | 1 | Wnt |
| MED12 | 0.240813 | -0.06497 | 0.546592 | 0.1666 | 1 |  |
| RNF43 | 3.000401 | 2.273503 | 3.727298 | 8.48E-05 | 0.026979 |  |
| WNT10A | 0.30943 | -0.65953 | 1.278388 | 0.551227 | 1 | Wnt, HH |
| MAP3K8 | 0.341374 | -0.42536 | 1.108112 | 0.411786 | 1 | MAPK |
| STAT3 | -0.17831 | -0.54283 | 0.186206 | 0.36961 | 1 | STAT |
| ARID1B | -0.03539 | -0.40334 | 0.332556 | 0.855804 | 1 |  |
| POLR2J | -0.00729 | -0.3457 | 0.331122 | 0.967507 | 1 | DNARepair |
| HES5 | -1.43213 | -2.27325 | -0.59102 | 0.012467 | 0.392672 | Notch |
| IL1R2 | -2.10334 | -3.64821 | -0.55846 | 0.032068 | 0.723582 | TXmisReg, MAPK |
| COL27A1 | 1.015952 | 0.193936 | 1.837967 | 0.045929 | 0.931891 | PI3K |
| H3F3C | -0.30436 | -0.66047 | 0.05175 | 0.137809 | 1 | TXmisReg |
| CNTFR | -2.50486 | -3.40123 | -1.6085 | 0.000929 | 0.095331 | STAT |
| ACVR2A | -0.51945 | -1.16423 | 0.125324 | 0.158337 | 1 | TGFB |
| HIST1H3G | 0.86586 | -0.99049 | 2.722214 | 0.391012 | 1 | TXmisReg |
| RASGRP2 | -1.7677 | -2.50866 | -1.02674 | 0.002272 | 0.152114 | MAPK, RAS |
| TSPAN7 | -2.0925 | -3.39952 | -0.78547 | 0.016428 | 0.469922 | TXmisReg |
| LFNG | 1.422109 | 0.653777 | 2.190441 | 0.008423 | 0.3242 | Notch |
| BRIP1 | 1.286458 | 0.45631 | 2.116606 | 0.018917 | 0.519411 | DNARepair |
| CLCF1 | -0.52598 | -1.66124 | 0.609274 | 0.394014 | 1 | STAT |
| HHIP | -1.68755 | -4.06717 | 0.692068 | 0.207136 | 1 | HH |
| POLR2H | 0.077557 | -0.45606 | 0.611171 | 0.783987 | 1 | DNARepair |
| MAPK8IP2 | -0.67968 | -2.61683 | 1.257477 | 0.513779 | 1 | MAPK |
| STMN1 | 0.72525 | 0.024756 | 1.425743 | 0.082001 | 1 | MAPK |
| RASGRP1 | 0.808693 | -0.56757 | 2.184959 | 0.287259 | 1 | MAPK, RAS |
| PTCH1 | 0.226836 | -1.03206 | 1.48573 | 0.73436 | 1 | HH |
| SMAD4 | -0.86184 | -1.2069 | -0.51678 | 0.001762 | 0.13359 | Wnt, TGFB, CC |
| DUSP5 | -0.75682 | -1.83855 | 0.324903 | 0.212621 | 1 | MAPK |
| GADD45B | -1.14567 | -2.62252 | 0.331175 | 0.172195 | 1 | MAPK, CC |
| PDGFD | -1.51077 | -2.40302 | -0.61852 | 0.012788 | 0.39378 | PI3K, RAS |
| RPS6KA6 | -1.00607 | -2.16146 | 0.149322 | 0.131642 | 1 | MAPK |
| MDM2 | 0.398919 | -0.23692 | 1.034759 | 0.25854 | 1 | TXmisReg, PI3K, CC |
| ITGB4 | 0.059732 | -0.76503 | 0.884489 | 0.891119 | 1 | PI3K |
| IL24 | 1.266176 | -0.61548 | 3.147835 | 0.228712 | 1 | STAT |
| CDC25C | 1.451805 | 0.763417 | 2.140193 | 0.004384 | 0.22776 | CC |
| FGFR1 | -1.39537 | -2.12472 | -0.66603 | 0.00717 | 0.30025 | MAPK, PI3K, RAS |
| PTTG2 | 0.993869 | 0.635411 | 1.352328 | 0.000972 | 0.097861 | CC |
| PLA2G4F | -0.68761 | -2.51536 | 1.140142 | 0.484878 | 1 | MAPK, RAS |
| KLF4 | -3.0938 | -3.87325 | -2.31436 | 0.000109 | 0.031669 |  |
| IL1RAP | 0.408946 | -0.24563 | 1.063524 | 0.260368 | 1 | Apop |
| CACNG4 | -0.24191 | -0.94996 | 0.466138 | 0.524547 | 1 | MAPK |
| CDKN2C | -0.89427 | -1.47703 | -0.31151 | 0.019726 | 0.534755 | TXmisReg, CC |
| NUMBL | -0.42094 | -1.28511 | 0.443231 | 0.371516 | 1 | Notch |
| TPO | -1.58048 | -2.17418 | -0.98677 | 0.001229 | 0.112866 | STAT |
| NOS3 | 0.089742 | -0.84893 | 1.028414 | 0.856673 | 1 | PI3K |
| COL11A2 | -0.52023 | -1.09712 | 0.056671 | 0.120482 | 1 | PI3K |
| TNFAIP3 | 0.949301 | -0.13623 | 2.034836 | 0.130245 | 1 |  |
| JAK3 | 1.183423 | 0.171215 | 2.195631 | 0.055681 | 1 | STAT, PI3K |
| MAP3K13 | 0.024957 | -0.5021 | 0.552012 | 0.928654 | 1 | MAPK |
| BIRC7 | 0.941347 | -0.28708 | 2.169773 | 0.176805 | 1 | Apop |
| FGF9 | -1.17034 | -2.74914 | 0.408465 | 0.189558 | 1 | MAPK, PI3K, RAS |
| SGK2 | -0.96361 | -1.92237 | -0.00486 | 0.0895 | 1 | PI3K |
| GADD45A | 0.100599 | -0.2235 | 0.424699 | 0.56215 | 1 | MAPK, CC |
| SMAD9 | -1.76033 | -2.76306 | -0.75761 | 0.010824 | 0.365571 | TGFB |
| AXIN2 | 2.323554 | 1.347728 | 3.29938 | 0.002296 | 0.152114 | Wnt |
| CEBPA | 0.544838 | -0.12891 | 1.218585 | 0.156988 | 1 | TXmisReg |
| PRKCA | -1.35234 | -2.15494 | -0.54974 | 0.013075 | 0.395897 | Wnt, MAPK, PI3K, RAS |
| COL1A1 | 3.021921 | 2.117831 | 3.92601 | 0.000318 | 0.060704 | PI3K |
| DNMT3A | 0.226627 | -0.10788 | 0.561133 | 0.225875 | 1 |  |
| GAS1 | -0.42057 | -1.65718 | 0.816037 | 0.526384 | 1 | HH |
| LAMC2 | 0.625013 | -0.78701 | 2.037039 | 0.414381 | 1 | PI3K |
| PDGFB | 0.034237 | -0.66715 | 0.735626 | 0.926461 | 1 | MAPK, PI3K, RAS |
| MPL | 0.36822 | -0.52611 | 1.262549 | 0.446222 | 1 | STAT |
| PRKACB | -1.59162 | -2.41357 | -0.76966 | 0.006756 | 0.297193 | Wnt, HH, MAPK, RAS, Apop |
| NF1 | -0.10447 | -0.42909 | 0.220146 | 0.548212 | 1 | MAPK, RAS |
| GATA3 | -0.5495 | -1.90391 | 0.804921 | 0.452621 | 1 |  |
| MTOR | -0.2326 | -0.63172 | 0.166512 | 0.290899 | 1 | PI3K |
| RHOA | -0.47656 | -0.87768 | -0.07544 | 0.05272 | 1 | Wnt, TGFB, RAS |
| FUBP1 | 0.384709 | 0.056166 | 0.713251 | 0.055392 | 1 |  |
| WHSC1 | 0.052263 | -0.25655 | 0.361075 | 0.74982 | 1 | TXmisReg |
| TNFRSF10B | 0.711479 | -0.07143 | 1.494388 | 0.118092 | 1 | Apop |
| RPA3 | -0.29253 | -1.0471 | 0.462046 | 0.472163 | 1 | DNARepair |
| JUN | -0.65532 | -1.06702 | -0.24361 | 0.01685 | 0.476788 | Wnt, MAPK |
| NFKBIA | -0.32346 | -1.2186 | 0.571683 | 0.501689 | 1 | Apop |
| BAX | 0.287076 | -0.34156 | 0.915711 | 0.400481 | 1 | Apop |
| CDH1 | 0.352307 | -0.69658 | 1.401196 | 0.53137 | 1 |  |
| FGFR4 | 1.442255 | 0.120732 | 2.763779 | 0.069731 | 1 | MAPK, PI3K, RAS |
| WNT11 | 1.140483 | -0.28545 | 2.566412 | 0.16095 | 1 | Wnt, HH |
| MCM5 | 0.453198 | -0.1659 | 1.072299 | 0.194482 | 1 | CC |
| DTX3 | -1.21734 | -1.97581 | -0.45887 | 0.016247 | 0.467315 | Notch |
| PLA2G4E | -0.02635 | -1.00579 | 0.953088 | 0.959418 | 1 | MAPK, RAS |
| IL13RA2 | 0.214315 | -0.48887 | 0.917502 | 0.569077 | 1 | STAT |
| SKP1 | -0.39508 | -0.86417 | 0.074013 | 0.142774 | 1 | Wnt, TGFB, CC |
| FZD10 | 0.726561 | -1.96707 | 3.42019 | 0.613371 | 1 | Wnt |
| DDB2 | -0.27752 | -0.98029 | 0.425245 | 0.464262 | 1 | DNARepair |
| PLA1A | 1.251566 | 0.424443 | 2.078689 | 0.020933 | 0.541938 | RAS |
| RAC2 | 0.468804 | -0.7427 | 1.680311 | 0.472946 | 1 | Wnt, MAPK, RAS |
| EGF | -1.04745 | -1.72365 | -0.37125 | 0.018952 | 0.519411 | MAPK, PI3K, RAS |
| VHL | 0.341142 | 0.04456 | 0.637724 | 0.058808 | 1 |  |
| FGF18 | 0.721741 | -1.14057 | 2.584049 | 0.472294 | 1 | MAPK, PI3K, RAS |
| POLB | 0.446361 | -0.21161 | 1.104328 | 0.225325 | 1 | DNARepair |
| FUT8 | 0.331879 | -0.46096 | 1.124723 | 0.439005 | 1 | TXmisReg |
| SHC4 | -1.05109 | -1.8565 | -0.24568 | 0.037669 | 0.808153 | RAS |
| FZD8 | -0.22682 | -1.06384 | 0.61019 | 0.61175 | 1 | Wnt |
| BAP1 | -0.27495 | -0.71766 | 0.167773 | 0.262953 | 1 |  |
| RFC4 | 0.846293 | 0.351222 | 1.341364 | 0.012242 | 0.390775 | DNARepair |
| ZBTB32 | 0.19128 | -0.72416 | 1.10672 | 0.694386 | 1 | DNARepair |
| SIRT4 | -0.79605 | -1.57384 | -0.01826 | 0.084864 | 1 | ChromMod |
| MAP3K5 | 0.192187 | -0.43601 | 0.820382 | 0.567644 | 1 | MAPK |
| PRKAR1B | 0.186123 | -0.2098 | 0.582047 | 0.387498 | 1 | Apop |
| CEBPE | -0.25201 | -1.32363 | 0.819609 | 0.65883 | 1 | TXmisReg |
| CBL | -0.20107 | -0.74348 | 0.341329 | 0.491054 | 1 | STAT |
| PDGFRB | 0.792004 | 0.180247 | 1.40376 | 0.038806 | 0.825775 | MAPK, PI3K, RAS |
| TGFBR2 | -0.51788 | -1.06671 | 0.030954 | 0.106852 | 1 | TXmisReg, TGFB, MAPK |
| DUSP4 | 1.651797 | 0.461661 | 2.841934 | 0.029753 | 0.685404 | MAPK |
| BMP4 | 0.782212 | -1.19618 | 2.760603 | 0.463743 | 1 | HH, TGFB |
| FANCC | 0.25688 | -0.36486 | 0.878623 | 0.444709 | 1 | DNARepair |
| ITGB3 | -1.83278 | -2.77421 | -0.89134 | 0.006579 | 0.291853 | PI3K |
| ITGA9 | -0.41726 | -1.21923 | 0.384705 | 0.341774 | 1 | PI3K |
| COL4A4 | -0.11003 | -0.69833 | 0.478273 | 0.724767 | 1 | PI3K |
| NUPR1 | -0.78879 | -1.97735 | 0.399764 | 0.23452 | 1 | TXmisReg |
| COL3A1 | 1.513806 | 1.003432 | 2.02418 | 0.000654 | 0.087845 | PI3K |
| PRKCB | -1.7603 | -2.86161 | -0.65899 | 0.016545 | 0.470694 | Wnt, MAPK, RAS |
| CDC25B | 1.938554 | 1.258193 | 2.618916 | 0.000829 | 0.092354 | MAPK, CC |
| PTEN | -0.41945 | -0.69724 | -0.14166 | 0.021119 | 0.541938 | PI3K |
| MAD2L2 | 0.533704 | -0.13391 | 1.201317 | 0.161129 | 1 | DNARepair, CC |
| POLE2 | 0.705894 | 0.081944 | 1.329844 | 0.062114 | 1 | DNARepair |
| MAPK1 | -0.40518 | -0.70276 | -0.1076 | 0.032059 | 0.723582 | TGFB, MAPK, PI3K, RAS |
| ZIC2 | 2.153522 | -0.74539 | 5.052436 | 0.188723 | 1 | HH |
| MLLT4 | -0.08621 | -0.7711 | 0.598675 | 0.812199 | 1 | RAS |
| NTF3 | -0.80263 | -1.47043 | -0.13482 | 0.050661 | 1 | MAPK |
| CBLC | 0.557738 | -0.32191 | 1.437381 | 0.253976 | 1 | STAT |
| NFATC1 | -1.03242 | -1.94135 | -0.12348 | 0.061308 | 1 | Wnt, MAPK |
| NFE2L2 | -0.14368 | -0.38035 | 0.092987 | 0.272866 | 1 |  |
| BNIP3 | -0.83881 | -1.84061 | 0.162983 | 0.144776 | 1 | ChromMod |
| COL5A2 | 1.204182 | 0.811871 | 1.596494 | 0.000534 | 0.080174 | PI3K |
| ASXL1 | 0.250425 | -0.25403 | 0.75488 | 0.362969 | 1 |  |
| MUTYH | -0.23235 | -0.76177 | 0.297069 | 0.418161 | 1 | DNARepair |
| DUSP2 | 1.045752 | -0.81976 | 2.91126 | 0.308237 | 1 | MAPK |
| SPRY1 | -0.25228 | -0.62862 | 0.124058 | 0.2303 | 1 | STAT |
| INHBB | 1.189239 | -0.07414 | 2.452618 | 0.107556 | 1 | TGFB |
| COL11A1 | 4.928074 | 4.321706 | 5.534441 | 9.32E-07 | 0.004881 | PI3K |
| AXIN1 | 0.441659 | 0.136919 | 0.746399 | 0.025022 | 0.612083 | Wnt |
| MMP3 | 3.156764 | 1.069242 | 5.244287 | 0.020988 | 0.541938 | TXmisReg |
| FGF19 | 1.118908 | -1.51883 | 3.756642 | 0.433179 | 1 | MAPK, PI3K, RAS |
| MCM4 | 1.258988 | 0.539817 | 1.97816 | 0.010967 | 0.368027 | CC |
| FANCB | 1.424681 | 0.648073 | 2.20129 | 0.008791 | 0.328926 | DNARepair |
| EPHA2 | 0.345954 | -0.30649 | 0.998401 | 0.333238 | 1 | PI3K, RAS |
| E2F5 | 0.794691 | 0.530579 | 1.058802 | 0.000601 | 0.085031 | TGFB, CC |
| PCK1 | -3.27204 | -4.81456 | -1.72952 | 0.004254 | 0.227258 | PI3K |
| COL1A2 | 1.958216 | 1.319762 | 2.59667 | 0.000536 | 0.080174 | PI3K |
| MAP2K2 | -0.33243 | -0.86308 | 0.198225 | 0.259187 | 1 | MAPK, PI3K, RAS |
| RPS6KA5 | -1.29596 | -2.1465 | -0.44542 | 0.020329 | 0.534755 | ChromMod, MAPK |
| XRCC4 | 0.798053 | 0.140402 | 1.455705 | 0.048994 | 0.975191 | DNARepair |
| NTRK2 | -1.16855 | -2.64689 | 0.309785 | 0.165245 | 1 | MAPK |
| NOG | 0.05236 | -0.50705 | 0.611774 | 0.859643 | 1 | TGFB |
| HES1 | 0.352505 | -0.47588 | 1.180893 | 0.431795 | 1 | Notch |
| CCND1 | 1.147906 | 0.541605 | 1.754208 | 0.007546 | 0.304852 | Wnt, STAT, PI3K, CC |
| WT1 | 1.931845 | 0.608989 | 3.254701 | 0.024257 | 0.607574 | TXmisReg |
| HDAC5 | -0.52622 | -0.94077 | -0.11166 | 0.041722 | 0.870137 | ChromMod |
| FANCG | 0.732265 | 0.197574 | 1.266956 | 0.031346 | 0.713434 | DNARepair |
| PRKAR2B | -2.15047 | -2.91023 | -1.39071 | 0.000862 | 0.094007 | Apop |
| IDH2 | 0.159153 | -0.39406 | 0.712364 | 0.59044 | 1 |  |
| CASP7 | -1.15698 | -2.08761 | -0.22635 | 0.044975 | 0.916092 | Apop |
| LAMB3 | 0.359766 | -0.77642 | 1.495957 | 0.55451 | 1 | PI3K |
| FGF3 | 1.585757 | -0.83791 | 4.009425 | 0.240538 | 1 | MAPK, PI3K, RAS |
| BCL2L1 | 1.244708 | 0.729079 | 1.760336 | 0.002129 | 0.146654 | TXmisReg, STAT, PI3K, RAS, Apop |
| PTCRA | -0.11583 | -1.28136 | 1.049696 | 0.851089 | 1 | Notch, TXmisReg |
| IL6 | 0.001117 | -1.90787 | 1.910103 | 0.999117 | 1 | TXmisReg, STAT, PI3K |
| COL4A3 | -2.0207 | -2.64601 | -1.3954 | 0.000391 | 0.067044 | PI3K |
| LEF1 | 2.398815 | 0.737548 | 4.060083 | 0.0254 | 0.612731 | Wnt |
| IL22RA1 | -0.14691 | -1.3952 | 1.101375 | 0.824166 | 1 | STAT |
| MAPK8 | -0.11551 | -0.34509 | 0.114078 | 0.356936 | 1 | Wnt, MAPK, RAS |
| FLT1 | 0.426536 | -0.25982 | 1.112888 | 0.262663 | 1 | TXmisReg, PI3K, RAS |
| CD19 | -1.45757 | -2.46529 | -0.44985 | 0.025226 | 0.612731 | PI3K |
| CACNA2D3 | -2.67738 | -3.67088 | -1.68389 | 0.001146 | 0.109029 | MAPK |
| MSH2 | 0.72804 | 0.455634 | 1.000446 | 0.001201 | 0.112307 |  |
| PPP3R2 | -0.44784 | -1.81001 | 0.914333 | 0.539859 | 1 | Wnt, MAPK, Apop |
| CAPN2 | -0.89599 | -1.38466 | -0.40732 | 0.008814 | 0.328926 | Apop |
| STAG2 | 0.117331 | -0.22416 | 0.458819 | 0.522278 | 1 | CC |
| PAK7 | -0.2918 | -0.89677 | 0.313181 | 0.375956 | 1 | RAS |
| PHF6 | 0.382578 | -0.10211 | 0.867261 | 0.165763 | 1 |  |
| KDM5C | 0.575253 | -0.01504 | 1.165542 | 0.097747 | 1 |  |
| NFKB1 | -0.12013 | -0.50231 | 0.262055 | 0.557343 | 1 | TXmisReg, MAPK, PI3K, RAS, Apop |
| LTBP1 | -0.06638 | -0.74174 | 0.608979 | 0.852702 | 1 | TGFB |
| GRB2 | -0.21088 | -0.58256 | 0.160809 | 0.302859 | 1 | MAPK, STAT, PI3K, RAS |
| COL6A6 | -0.26124 | -1.2836 | 0.761114 | 0.631848 | 1 | PI3K |
| SMC1B | -0.0587 | -0.65985 | 0.542447 | 0.85365 | 1 | CC |
| RASGRF2 | 0.136221 | -0.34346 | 0.615906 | 0.595137 | 1 | MAPK, RAS |
| IL12A | -0.0608 | -0.95746 | 0.835858 | 0.898007 | 1 | STAT |
| CCNB1 | 2.24401 | 1.479107 | 3.008914 | 0.000698 | 0.08869 | CC |
| SMAD3 | 0.048492 | -0.43803 | 0.535018 | 0.850665 | 1 | Wnt, TGFB, CC |
| RUNX1 | 1.713617 | 0.971311 | 2.455923 | 0.002717 | 0.161188 | TXmisReg |
| PRMT8 | 0.419243 | -0.89046 | 1.728942 | 0.550301 | 1 | ChromMod |
| CALML6 | -0.07258 | -0.73852 | 0.593362 | 0.836932 | 1 | RAS |
| MDC1 | 0.44479 | 0.063027 | 0.826553 | 0.056338 | 1 | DNARepair |
| LAMA5 | -0.83687 | -2.65051 | 0.976763 | 0.395836 | 1 | PI3K |
| TSC1 | -0.26366 | -0.45244 | -0.07487 | 0.029028 | 0.678372 | PI3K |
| NTRK1 | -1.14916 | -2.10518 | -0.19315 | 0.050639 | 1 | TXmisReg, MAPK, Apop |
| PIM1 | -0.51826 | -0.99932 | -0.03719 | 0.072626 | 1 | STAT |
| CSF2 | 0.434551 | -0.52974 | 1.398842 | 0.406406 | 1 | TXmisReg, STAT |
| CCNB3 | -0.77888 | -1.32005 | -0.23771 | 0.025739 | 0.618076 | CC |
| FAS | -0.99232 | -1.64154 | -0.34309 | 0.020062 | 0.534755 | MAPK, Apop |
| PCNA | 1.413587 | 0.611729 | 2.215446 | 0.010615 | 0.36084 | DNARepair, CC |
| IL15 | -0.62185 | -1.09746 | -0.14623 | 0.037409 | 0.805878 | STAT |
| DUSP8 | -0.70428 | -1.25787 | -0.1507 | 0.041379 | 0.866442 | MAPK |
| PPP3CB | -1.00027 | -1.67991 | -0.32063 | 0.023494 | 0.594147 | Wnt, MAPK, Apop |
| FGF5 | -1.81322 | -3.98674 | 0.360312 | 0.146046 | 1 | MAPK, PI3K, RAS |
| IL12RB2 | 0.215097 | -0.85083 | 1.28102 | 0.704238 | 1 | STAT |
| GHR | -2.36407 | -2.88564 | -1.84249 | 4.64E-05 | 0.026979 | STAT, PI3K |
| PLCG2 | -0.63798 | -1.49187 | 0.215911 | 0.186497 | 1 | RAS |
| ID1 | -0.65574 | -2.28877 | 0.977291 | 0.457077 | 1 | TGFB |
| CASP9 | -0.60656 | -1.50907 | 0.295946 | 0.229222 | 1 | PI3K, Apop |

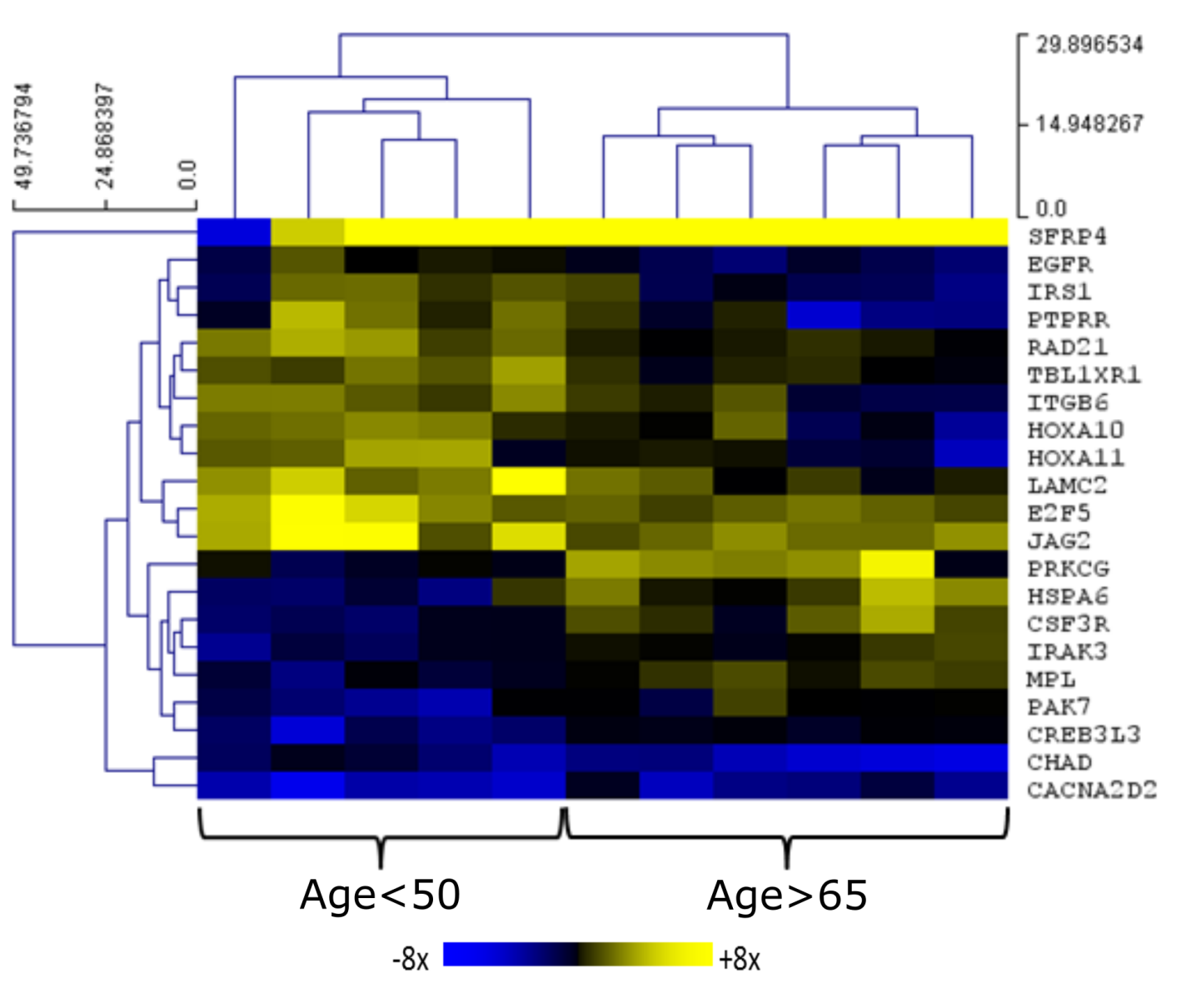
**Supplemental Table 2:** A full list of differentially expressed genes in late-onset rectal tumors. A list of all genes differentially expressed between tumor and matching non-involved rectal tissues in patients 65 years old or older. A gene is estimated to have 2^(log fold change) times its expression in baseline samples (non-involved rectal tissue). The 95% confidence interval for the log fold change is also presented, along with p-values and false discovery rates.



**Supplemental Figure 1:** Representative Path view graph for regulation of MAPK signaling in early-onset rectal cancer. Each node represents a protein; node colors are derived from the differential expression of all genes corresponding to the protein. White indicates a pathway gene not present in the data. Red indicates a high log fold-change (up-regulation); green indicates a low log fold-change (down-regulation).



**Supplemental Figure 2:** Representative Path view graph for regulation of PI3K-AKT signaling in late-onset rectal cancer.Each node represents a protein; node colors are derived from the differential expression of all genes corresponding to the protein. White indicates a pathway gene not present in the data. Red indicates a high log fold-change (up-regulation); green indicates a low log fold-change (down-regulation).



**Supplemental Figure 3:** Age-dependent statistically significant gene expression changes in rectal tumors.Heat map showing21 significantly different expression changes in rectal tumors between the two age groups out of 770 genes assayed. Significance is defined by difference of mean gene expression changes >2 fold and a p-value <0.05. Multi-experiment viewer 4.9 was used to cluster both samples and genes based on similarity in expression patterns.