**Supplementary Table 1: Whole genome CNA**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Copy Number Gains** | | | | | | | |
| **chromosome** | **arm** | **start** | **size** | **size/arm (%)** | **cytoband** | **number of genes** | **gene symbol** |
| 1 | p | 37888254 | 120807 | 0.10 | 1p34.3 | 3 | C1orf109, CDCA8, EPHA10 |
| 1 | p | 38728744 | 3008098 | 2.42 | 1p34.3-p34.2 | 44 | RRAGC, MYCBP, GJA9-MYCBP, GJA9, RHBDL2, AKIRIN1, NDUFS5, MACF1, KIAA0754, BMP8A, PPIEL, PABPC4, SNORA55, HEYL, NT5C1A, HPCAL4, PPIE, BMP8B, OXCT2, TRIT1, MYCL1, MFSD2A, CAP1, PPT1, RLF, TMCO2, ZMPSTE24, COL9A2, SMAP2, ZNF643, ZNF642, DEM1, ZNF684, RIMS3, LOC100130557, NFYC, MIR30E, MIR30C1, KCNQ4, CITED4, CTPS, SLFNL1, SCMH1, EDN2 |
| 1 | p | 110033018 | 8694 | 0.01 | 1p13.3 | 1 | GSTM1 |
| 1 | q | 143809389 | 13468627 | 10.98 | 1q21.1-q23.1 | 338 | SEC22B, NOTCH2NL, NBPF10, HFE2, TXNIP, POLR3GL, ANKRD34A, LIX1L, RBM8A, GNRHR2, PEX11B, ITGA10, ANKRD35, PIAS3, NUDT17, POLR3C, RNF115, CD160, PDZK1, GPR89A, GPR89C, PDZK1P1, NBPF11, NBPF24, LOC728989, PRKAB2, PDIA3P, FMO5, CHD1L, BCL9, ACP6, GJA5, GJA8, GPR89B, NBPF14, PPIAL4E, PPIAL4D, PPIAL4F, NBPF15, NBPF16, LOC645166, LOC388692, FCGR1C, HIST2H2BF, FCGR1A, HIST2H3D, HIST2H4B, HIST2H4A, HIST2H3C, HIST2H3A, HIST2H2AA4, HIST2H2AA3, HIST2H2BC, HIST2H2BE, HIST2H2AC, HIST2H2AB, BOLA1, SV2A, SF3B4, MTMR11, OTUD7B, VPS45, PLEKHO1, ANP32E, CA14, APH1A, C1orf54, C1orf51, MRPS21, PRPF3, RPRD2, TARS2, ECM1, ADAMTSL4, MIR4257, MCL1, ENSA, GOLPH3L, HORMAD1, CTSS, CTSK, ARNT, SETDB1, LASS2, ANXA9, FAM63A, PRUNE, BNIPL, C1orf56, CDC42SE1, MLLT11, GABPB2, SEMA6C, TNFAIP8L2, LYSMD1, SCNM1, TMOD4, VPS72, PIP5K1A, PSMD4, ZNF687, PI4KB, RFX5, SELENBP1, PSMB4, POGZ, CGN, TUFT1, MIR554, SNX27, CELF3, RIIAD1, MRPL9, OAZ3, TDRKH, LINGO4, RORC, C2CD4D, LOC100132111, THEM5, THEM4, S100A10, S100A11, TCHHL1, TCHH, RPTN, HRNR, FLG, FLG2, CRNN, LCE5A, CRCT1, LCE3E, LCE3D, LCE3C, LCE3B, LCE3A, LCE2D, LCE2C, LCE2B, LCE2A, LCE4A, C1orf68, KPRP, LCE1F, LCE1E, LCE1D, LCE1C, LCE1B, LCE1A, LCE6A, SMCP, IVL, SPRR4, SPRR1A, SPRR3, SPRR1B, SPRR2D, SPRR2A, SPRR2B, SPRR2E, SPRR2F, SPRR2C, SPRR2G, LELP1, PRR9, LOR, PGLYRP3, PGLYRP4, S100A9, S100A12, S100A8, S100A7A, S100A7L2, S100A7, S100A6, S100A5, S100A4, S100A3, S100A2, S100A16, S100A14, S100A13, S100A1, C1orf77, SNAPIN, ILF2, NPR1, INTS3, SLC27A3, GATAD2B, DENND4B, CRTC2, SLC39A1, CREB3L4, JTB, RAB13, RPS27, NUP210L, TPM3, MIR190B, C1orf189, C1orf43, UBAP2L, HAX1, AQP10, ATP8B2, IL6R, SHE, TDRD10, UBE2Q1, CHRNB2, ADAR, KCNN3, PMVK, PBXIP1, PYGO2, SHC1, CKS1B, MIR4258, FLAD1, LENEP, ZBTB7B, DCST2, DCST1, ADAM15, EFNA4, EFNA3, EFNA1, SLC50A1, DPM3, KRTCAP2, TRIM46, MUC1, MIR92B, THBS3, MTX1, GBAP1, GBA, FAM189B, SCAMP3, CLK2, HCN3, PKLR, FDPS, C1orf104, RUSC1, ASH1L, MIR555, POU5F1P4, LOC645676, MSTO1, YY1AP1, DAP3, MSTO2P, GON4L, SYT11, RIT1, KIAA0907, SNORA42, SCARNA4, RXFP4, ARHGEF2, SSR2, UBQLN4, ROBLD3, RAB25, MEX3A, LMNA, SEMA4A, SLC25A44, PMF1, PMF1-BGLAP, BGLAP, PAQR6, SMG5, TMEM79, C1orf85, VHLL, CCT3, C1orf182, RHBG, C1orf61, MIR9-1, MEF2D, IQGAP3, TTC24, APOA1BP, GPATCH4, HAPLN2, BCAN, NES, CRABP2, ISG20L2, RRNAD1, MRPL24, HDGF, PRCC, SH2D2A, NTRK1, INSRR, PEAR1, C1orf92, ARHGEF11, MIR765, ETV3L, ETV3, CYCSP52, FCRL5, FCRL4, FCRL3, FCRL2, FCRL1, CD5L, KIRREL, LOC646268, CD1D, CD1A, CD1C, CD1B, CD1E, OR10T2, OR10K2, OR10K1, OR10R2, OR6Y1, OR6P1, OR10X1, OR10Z1, SPTA1, OR6K2, OR6K3, OR6K6, OR6N1, OR6N2, MNDA, PYHIN1, IFI16 |
| 1 | q | 157287924 | 3811143 | 3.11 | 1q23.1-q23.3 | 89 | IFI16, AIM2, CADM3, DARC, FCER1A, OR10J3, OR10J1, OR10J5, APCS, CRP, DUSP23, FCRL6, SLAMF8, C1orf204, VSIG8, CCDC19, TAGLN2, IGSF9, SLAMF9, PIGM, KCNJ10, KCNJ9, IGSF8, ATP1A2, ATP1A4, CASQ1, PEA15, DCAF8, PEX19, COPA, SUMO1P3, NCSTN, NHLH1, VANGL2, SLAMF6, CD84, SLAMF1, CD48, SLAMF7, LY9, CD244, ITLN1, ITLN2, F11R, TSTD1, USF1, ARHGAP30, PVRL4, KLHDC9, PFDN2, NIT1, DEDD, UFC1, USP21, PPOX, B4GALT3, ADAMTS4, NDUFS2, FCER1G, APOA2, TOMM40L, NR1I3, PCP4L1, MPZ, SDHC, C1orf192, FCGR2A, HSPA6, FCGR3A, FCGR2C, HSPA7, FCGR3B, FCGR2B, RPL31P11, FCRLA, FCRLB, DUSP12, ATF6, OLFML2B, NOS1AP, MIR556, C1orf111, C1orf226, SH2D1B, UHMK1, UAP1, DDR2, HSD17B7, C1orf110 |
| 1 | q | 226200980 | 2625 | 0.00 | 1q42.13 | 1 | WNT9A |
| 1 | q | 228261810 | 1847426 | 1.51 | 1q42.13-q42.2 | 22 | GALNT2, PGBD5, COG2, AGT, CAPN9, C1orf198, TTC13, ARV1, FAM89A, MIR1182, TRIM67, C1orf131, GNPAT, EXOC8, C1orf124, EGLN1, SNRPD2P2, TSNAX, TSNAX-DISC1, LOC100287814, DISC1, DISC2 |
| 1 | q | 230118582 | 8427149 | 6.87 | 1q42.2-q43 | 38 | DISC1, SIPA1L2, KIAA1383, NTPCR, PCNXL2, KIAA1804, KCNK1, SLC35F3, C1orf31, TARBP1, IRF2BP2, NCRNA00184, TOMM20, SNORA14B, RBM34, ARID4B, GGPS1, TBCE, B3GALNT2, GNG4, LYST, MIR1537, NID1, GPR137B, ERO1LB, EDARADD, LGALS8, LOC100287902, HEATR1, ACTN2, MTR, RYR2, LOC100130331, ZP4, LOC339535, CHRM3, RPS7P5, FMN2 |
| 1 | q | 238553479 | 569652 | 0.46 | 1q43 | 3 | FMN2, GREM2, RGS7 |
| 1 | q | 239365946 | 878760 | 0.72 | 1q43 | 8 | RGS7, FH, KMO, OPN3, CHML, WDR64, EXO1, MAP1LC3C |
| 1 | q | 240263553 | 841298 | 0.69 | 1q43 | 1 | PLD5 |
| 1 | q | 241366280 | 1602740 | 1.31 | 1q43-q44 | 9 | CEP170, SDCCAG8, AKT3, LOC339529, ZNF238, C1orf100, ADSS, C1orf101, PPPDE1 |
| 1 | q | 242989278 | 2757076 | 2.25 | 1q44 | 22 | FAM36A, NCRNA00201, HNRNPU, EFCAB2, KIF26B, SMYD3, TFB2M, CNST, SCCPDH, LOC149134, AHCTF1, ZNF695, ZNF670, ZNF669, C1orf229, ZNF124, MIR3916, VN1R5, ZNF496, NLRP3, OR2B11, OR2W5 |
| 1 | q | 246176580 | 592438 | 0.48 | 1q44 | 22 | OR2L13, OR2L8, OR2AK2, OR2L1P, OR2L2, OR2L3, OR2M1P, OR2M5, OR2M2, OR2M3, OR2M4, OR2T33, OR2T12, OR2M7, OR14C36, OR2T4, OR2T6, OR2T1, OR2T2, OR2T3, OR2T5, OR2G6 |
| 1 | q | 246863179 | 323335 | 0.26 | 1q44 | 9 | OR2T35, OR2T27, OR14I1, LOC646627, SH3BP5L, MIR3124, ZNF672, ZNF692, PGBD2 |
| 2 | p | 33078005 | 2432 | 0.00 | 2p22.3 | 1 | LTBP1 |
| 2 | q | 154605621 | 1322 | 0.00 | 2q24.1 | 1 | GALNT13 |
| 2 | q | 179777850 | 1069 | 0.00 | 2q31.2 | 1 | SESTD1 |
| 3 | q | 133191877 | 2808 | 0.00 | 3q22.1 | 1 | CPNE4 |
| 3 | q | 133198618 | 66130974 | 61.06 | 3q22.1-q29 | 386 | CPNE4, ACPP, DNAJC13, ACAD11, NPHP3-ACAD11, CCRL1, UBA5, NPHP3, NCRNA00119, TMEM108, BFSP2, CDV3, TOPBP1, TF, SRPRB, RAB6B, C3orf36, SLCO2A1, RYK, AMOTL2, ANAPC13, CEP63, KY, EPHB1, PPP2R3A, MSL2, PCCB, STAG1, TMEM22, NCK1, IL20RB, SOX14, CLDN18, DZIP1L, A4GNT, DBR1, ARMC8, TXNDC6, MRAS, ESYT3, CEP70, FAIM, PIK3CB, FOXL2, C3orf72, PRR23A, PRR23B, PRR23C, BPESC1, PISRT1, MRPS22, COPB2, RBP2, RBP1, NMNAT3, CLSTN2, TRIM42, SLC25A36, SPSB4, ACPL2, ZBTB38, RASA2, RNF7, GRK7, ATP1B3, TFDP2, GK5, XRN1, ATR, PLS1, TRPC1, PCOLCE2, PAQR9, LOC100289361, U2SURP, CHST2, SLC9A9, C3orf58, PLOD2, PLSCR4, PLSCR2, PLSCR1, PLSCR5, ZIC4, ZIC1, AGTR1, CPB1, CPA3, GYG1, HLTF, HPS3, CP, TM4SF18, TM4SF1, TM4SF4, WWTR1, COMMD2, C3orf16, RNF13, PFN2, LOC646903, TSC22D2, SERP1, EIF2A, SELT, FAM194A, SIAH2, CLRN1, CLRN1OS, MED12L, GPR171, P2RY14, GPR87, P2RY13, P2RY12, IGSF10, MIR548H2, AADACL2, LOC201651, AADAC, SUCNR1, LOC401093, MBNL1, TMEM14E, P2RY1, RAP2B, C3orf79, ARHGEF26, DHX36, GPR149, MME, PLCH1, C3orf33, SLC33A1, GMPS, KCNAB1, SSR3, LOC100287227, TIPARP, PA2G4P4, LEKR1, LOC339894, LOC100498859, CCNL1, VEPH1, PTX3, C3orf55, SHOX2, RSRC1, MLF1, GFM1, LXN, RARRES1, MFSD1, IQCJ, IQCJ-SCHIP1, SCHIP1, MIR3919, IL12A, LOC401097, IFT80, SMC4, MIR15B, MIR16-2, TRIM59, KPNA4, SCARNA7, ARL14, PPM1L, B3GALNT1, NMD3, C3orf57, OTOL1, LOC647107, SI, SLITRK3, BCHE, ZBBX, SERPINI2, WDR49, PDCD10, SERPINI1, LOC646168, GOLIM4, EGFEM1P, MIR551B, MECOM, TERC, ARPM1, MYNN, LRRC34, LRRIQ4, LRRC31, SAMD7, LOC100128164, SEC62, GPR160, PHC3, PRKCI, SKIL, CLDN11, SLC7A14, RPL22L1, EIF5A2, SLC2A2, TNIK, MIR569, PLD1, TMEM212, FNDC3B, GHSR, TNFSF10, NCEH1, ECT2, SPATA16, NLGN1, NAALADL2, TBL1XR1, KCNMB2, ZMAT3, PIK3CA, KCNMB3, ZNF639, MFN1, GNB4, ACTL6A, MRPL47, NDUFB5, USP13, PEX5L, TTC14, CCDC39, FXR1, DNAJC19, SOX2OT, SOX2, ATP11B, DCUN1D1, MCCC1, LAMP3, MCF2L2, B3GNT5, KLHL6, KLHL24, YEATS2, MAP6D1, PARL, ABCC5, HTR3D, HTR3C, HTR3E, EIF2B5, DVL3, AP2M1, ABCF3, VWA5B2, MIR1224, ALG3, ECE2, CAMK2N2, PSMD2, EIF4G1, SNORD66, FAM131A, CLCN2, POLR2H, THPO, CHRD, EPHB3, MAGEF1, VPS8, C3orf70, EHHADH, MAP3K13, TMEM41A, LIPH, SENP2, IGF2BP2, C3orf65, TRA2B, LOC344887, ETV5, DGKG, LOC253573, CRYGS, TBCCD1, DNAJB11, AHSG, FETUB, HRG, KNG1, EIF4A2, SNORD2, MIR1248, SNORA81, SNORA63, SNORA4, RFC4, ADIPOQ, ST6GAL1, RPL39L, RTP1, MASP1, RTP4, SST, RTP2, LOC100131635, BCL6, LOC339929, LPP, FLJ42393, TPRG1, TP63, MIR944, LEPREL1, CLDN1, CLDN16, TMEM207, IL1RAP, GEMC1, SNAR-I, OSTN, UTS2D, CCDC50, PYDC2, FGF12, C3orf59, HRASLS, MGC2889, ATP13A5, ATP13A4, OPA1, LOC647323, LOC100128023, HES1, LOC100131551, CPN2, LRRC15, GP5, ATP13A3, FLJ34208, TMEM44, LSG1, FAM43A, C3orf21, ACAP2, PPP1R2, APOD, SDHAP2, MIR570, MUC20, MUC4, TNK2, SDHAP1, TFRC, LOC401109, ZDHHC19, OSTalpha, PCYT1A, TCTEX1D2, TM4SF19, UBXN7, RNF168, C3orf43, WDR53, FBXO45, LRRC33, C3orf34, PIGX, PAK2, SENP5, NCBP2, LOC152217, PIGZ, MFI2, DLG1, BDH1, LOC220729, KIAA0226, MIR922, FYTTD1, LRCH3, IQCG, RPL35A, LMLN, LOC348840 |
| 4 | p | 689619 | 1446 | 0.00 | 4p16.3 | 1 | PCGF3 |
| 4 | q | 173226562 | 2298 | 0.00 | 4q34.1 | 1 | GALNTL6 |
| 4 | q | 173663054 | 3018 | 0.00 | 4q34.1 | 1 | GALNTL6 |
| 4 | q | 186678729 | 1447 | 0.00 | 4q35.1 | 1 | PDLIM3 |
| 5 | p | 79142 | 40946878 | 85.84 | 5p15.33-p13.1 | 141 | PLEKHG4B, LRRC14B, CCDC127, SDHA, PDCD6, AHRR, LOC100310782, C5orf55, EXOC3, LOC25845, SLC9A3, CEP72, TPPP, ZDHHC11, BRD9, TRIP13, NKD2, SLC12A7, SLC6A19, SLC6A18, TERT, CLPTM1L, SLC6A3, LPCAT1, SDHAP3, LOC728613, MIR4277, MRPL36, NDUFS6, IRX4, IRX2, C5orf38, LOC285577, IRX1, LOC340094, ADAMTS16, KIAA0947, FLJ33360, MED10, UBE2QL1, LOC255167, NSUN2, SRD5A1, PAPD7, MIR4278, LOC442132, ADCY2, C5orf49, FASTKD3, MTRR, SEMA5A, SNORD123, TAS2R1, LOC285692, FAM173B, CCT5, CMBL, MARCH6, ROPN1L, ANKRD33B, DAP, CTNND2, TAG, DNAH5, TRIO, FAM105A, FAM105B, ANKH, FBXL7, MARCH11, ZNF622, FAM134B, MYO10, LOC285696, BASP1, LOC401177, CDH18, GUSBP1, CDH12, PMCHL1, PRDM9, CDH10, CDH9, LOC729862, CDH6, DROSHA, C5orf22, PDZD2, MIR4279, GOLPH3, MTMR12, ZFR, SUB1, NPR3, C5orf23, LOC340113, TARS, ADAMTS12, RXFP3, SLC45A2, AMACR, C1QTNF3, RAI14, TTC23L, RAD1, BRIX1, DNAJC21, AGXT2, PRLR, SPEF2, IL7R, CAPSL, UGT3A1, UGT3A2, LMBRD2, MIR580, SKP2, C5orf33, RANBP3L, SLC1A3, NIPBL, C5orf42, NUP155, WDR70, GDNF, EGFLAM, LIFR, MIR3650, OSMR, RICTOR, FYB, C9, DAB2, PTGER4, TTC33, PRKAA1, LOC100506548, RPL37, SNORD72, CARD6, C7 |
| 5 | q | 179430821 | 1116 | 0.00 | 5q35.3 | 1 | RNF130 |
| 6 | p | 329100 | 17916 | 0.03 | 6p25.3 | 1 | IRF4 |
| 6 | p | 430123 | 509626 | 0.84 | 6p25.3 | 3 | EXOC2, HUS1B, LOC285768 |
| 6 | p | 3957439 | 522867 | 0.86 | 6p25.2-p25.1 | 4 | PRPF4B, C6orf146, C6orf201, PECI |
| 6 | p | 4581707 | 4501800 | 7.44 | 6p25.1-p24.3 | 26 | CDYL, RPP40, PPP1R3G, LYRM4, MIR3691, FARS2, NRN1, F13A1, LY86-AS1, LY86, RREB1, SSR1, CAGE1, RIOK1, DSP, SNRNP48, BMP6, TXNDC5, MUTED-TXNDC5, PIP5K1P1, MUTED, EEF1E1-MUTED, EEF1E1, SCARNA27, SLC35B3, HULC |
| 6 | p | 9797279 | 7685593 | 12.70 | 6p24.3-p22.3 | 36 | TFAP2A, LOC100130275, C6orf218, GCNT2, C6orf52, PAK1IP1, TMEM14C, TMEM14B, MAK, GCM2, SYCP2L, ELOVL2, LOC221710, ERVFRDE1, NEDD9, TMEM170B, C6orf105, HIVEP1, EDN1, PHACTR1, TBC1D7, GFOD1, C6orf114, SIRT5, NOL7, RANBP9, CCDC90A, RNF182, CD83, JARID2, DTNBP1, MYLIP, GMPR, ATXN1, FLJ23152, RBM24 |
| 6 | p | 17490237 | 8310160 | 13.74 | 6p22.3-p22.2 | 34 | CAP2, FAM8A1, NUP153, KIF13A, NHLRC1, TPMT, KDM1B, DEK, RNF144B, MIR548A1, ID4, MBOAT1, E2F3, CDKAL1, SOX4, FLJ22536, LOC729177, PRL, HDGFL1, NRSN1, DCDC2, KAAG1, MRS2, GPLD1, ALDH5A1, KIAA0319, TDP2, ACOT13, C6orf62, GMNN, FAM65B, CMAH, LRRC16A, SCGN |
| 6 | p | 26125251 | 16061 | 0.03 | 6p22.1 | 6 | HIST1H1A, HIST1H3A, HIST1H4A, HIST1H4B, HIST1H3B, HIST1H2AB |
| 6 | p | 26863540 | 1843125 | 3.05 | 6p22.1 | 51 | GUSBL1, NCRNA00240, LOC100270746, HIST1H2BJ, HIST1H2AG, HIST1H2BK, HIST1H4I, HIST1H2AH, MIR3143, PRSS16, POM121L2, FKSG83, ZNF204P, ZNF391, ZNF184, HIST1H2BL, HIST1H2AI, HIST1H3H, HIST1H2AJ, HIST1H2BM, HIST1H4J, HIST1H4K, HIST1H2AK, HIST1H2BN, HIST1H2AL, HIST1H1B, HIST1H3I, HIST1H4L, HIST1H3J, HIST1H2AM, HIST1H2BO, OR2B2, OR2B6, ZNF165, ZSCAN12P1, ZSCAN16, ZNF192, ZNF389, LOC222699, ZNF193, ZKSCAN4, NKAPL, ZNF187, PGBD1, ZNF323, ZKSCAN3, ZSCAN12, ZSCAN23, GPX6, GPX5, SCAND3 |
| 6 | p | 29535783 | 291869 | 0.48 | 6p22.1 | 12 | OR2H1, MAS1L, LOC100507362, UBD, SNORD32B, OR2H2, GABBR1, MOG, ZFP57, HLA-F, LOC285830, IFITM4P |
| 6 | p | 29972382 | 20564 | 0.03 | 6p21.33 | 1 | HCG2P7 |
| 6 | p | 30000990 | 20918 | 0.03 | 6p21.33 | 2 | HCG4P6, HLA-A |
| 6 | p | 30653994 | 590781 | 0.98 | 6p21.33 | 28 | ABCF1, MIR877, PPP1R10, MRPS18B, ATAT1, C6orf136, DHX16, KIAA1949, NRM, MDC1, TUBB, FLOT1, IER3, DDR1, GTF2H4, VARS2, SFTA2, DPCR1, MUC21, PBMUCL1, HCG22, C6orf15, PSORS1C1, CDSN, PSORS1C2, CCHCR1, TCF19, POU5F1 |
| 6 | p | 31563829 | 1041471 | 1.72 | 6p21.33-p21.32 | 77 | MICB, MCCD1, DDX39B, ATP6V1G2-DDX39B, SNORD117, SNORD84, ATP6V1G2, NFKBIL1, LTA, TNF, LTB, LST1, NCR3, AIF1, PRRC2A, SNORA38, BAG6, APOM, C6orf47, GPANK1, CSNK2B, LY6G5B, LY6G5C, ABHD16A, LY6G6F, LY6G6E, LY6G6D, LY6G6C, C6orf25, DDAH2, CLIC1, MSH5, MSH5-C6ORF26, C6orf26, C6orf27, VARS, LSM2, HSPA1L, HSPA1A, HSPA1B, C6orf48, SNORD48, SNORD52, NEU1, SLC44A4, EHMT2, ZBTB12, C2, CFB, RDBP, MIR1236, SKIV2L, DOM3Z, STK19, C4B, C4A, TNXA, CYP21A2, TNXB, ATF6B, FKBPL, PRRT1, LOC100507547, PPT2, PPT2-EGFL8, EGFL8, AGPAT1, RNF5, RNF5P1, AGER, PBX2, GPSM3, NOTCH4, C6orf10, BTNL2, HLA-DRA, HLA-DRB5 |
| 6 | p | 32713363 | 15124 | 0.02 | 6p21.32 | 1 | HLA-DQA1 |
| 6 | p | 54037199 | 5535 | 0.01 | 6p12.1 | 1 | C6orf142 |
| 7 | q | 1047636 | 71 | 0.00 | 7p22.3 | 1 | C7orf50 |
| 7 | q | 127458264 | 1148 | 0.00 | 7q32.1 | 1 | SND1 |
| 7 | q | 127508735 | 3952 | 0.00 | 7q32.1 | 2 | SND1, MIR593 |
| 7 | q | 127633668 | 9801 | 0.01 | 7q32.1 | 1 | MIR129-1 |
| 7 | q | 128194352 | 30626911 | 30.66 | 7q32.1-q36.3 | 265 | CALU, OPN1SW, CCDC136, FLNC, ATP6V1F, LOC100130705, KCP, IRF5, TNPO3, TPI1P2, LOC407835, TSPAN33, SMO, AHCYL2, FAM40B, LOC100287482, NRF1, MIR182, MIR96, MIR183, UBE2H, ZC3HC1, KLHDC10, TMEM209, C7orf45, CPA2, CPA4, CPA5, CPA1, TSGA14, MEST, MESTIT1, MIR335, COPG2, TSGA13, KLF14, MIR29A, MIR29B1, LOC646329, FLJ43663, MKLN1, PODXL, PLXNA4, CHCHD3, EXOC4, LRGUK, SLC35B4, AKR1B1, AKR1B10, AKR1B15, BPGM, CALD1, AGBL3, TMEM140, C7orf49, WDR91, STRA8, CNOT4, NUP205, PL-5283, SLC13A4, FAM180A, LUZP6, MTPN, CHRM2, MIR490, PTN, DGKI, CREB3L2, AKR1D1, TRIM24, SVOPL, ATP6V0A4, TMEM213, KIAA1549, ZC3HAV1L, ZC3HAV1, TTC26, UBN2, C7orf55, LUC7L2, LOC100129148, KLRG2, CLEC2L, HIPK2, TBXAS1, PARP12, JHDM1D, LOC100134229, SLC37A3, RAB19, MKRN1, DENND2A, ADCK2, LOC100134713, NDUFB2, BRAF, MRPS33, LOC100131199, AGK, KIAA1147, FLJ40852, WEE2, SSBP1, TAS2R3, TAS2R4, TAS2R5, PRSS37, OR9A4, CLEC5A, TAS2R38, MGAM, LOC93432, LOC100124692, MOXD2P, TRYX3, LOC730441, MTRNR2L6, PRSS1, TRY6, PRSS2, EPHB6, TRPV6, TRPV5, C7orf34, KEL, OR9A2, OR6V1, OR6W1P, PIP, TAS2R39, TAS2R40, GSTK1, TMEM139, CASP2, CLCN1, FAM131B, ZYX, EPHA1, LOC285965, TAS2R60, TAS2R41, CTAGE15P, FAM115C, CTAGE6P, LOC154761, FAM115A, OR2F2, OR2F1, OR6B1, OR2A5, OR2A25, OR2A12, OR2A2, OR2A14, CTAGE4, ARHGEF35, OR2A42, OR2A1, OR2A9P, OR2A20P, OR2A7, LOC728377, ARHGEF5, NOBOX, TPK1, CNTNAP2, MIR548F4, MIR548T, C7orf33, CUL1, EZH2, PDIA4, ZNF786, ZNF425, ZNF398, ZNF282, ZNF212, ZNF783, LOC155060, ZNF777, ZNF746, ZNF767, KRBA1, ZNF467, SSPO, ZNF862, LOC401431, ATP6V0E2, ACTR3C, LRRC61, C7orf29, RARRES2, REPIN1, ZNF775, LOC728743, LOC285972, GIMAP8, GIMAP7, GIMAP4, GIMAP6, GIMAP2, GIMAP1, GIMAP1-GIMAP5, GIMAP5, LOC100128542, TMEM176B, TMEM176A, ABP1, KCNH2, NOS3, ATG9B, ABCB8, ACCN3, CDK5, SLC4A2, FASTK, TMUB1, AGAP3, GBX1, ASB10, ABCF2, CHPF2, MIR671, SMARCD3, NUB1, WDR86, LOC100131176, CRYGN, MIR3907, RHEB, PRKAG2, GALNTL5, GALNT11, MLL3, FABP5P3, LOC100128822, XRCC2, ACTR3B, DPP6, LOC100132707, PAXIP1, LOC202781, HTR5A, INSIG1, EN2, CNPY1, RBM33, SHH, NCRNA00244, C7orf13, RNF32, LMBR1, NOM1, MNX1, UBE3C, DNAJB6, PTPRN2, MIR153-2, MIR595, NCAPG2, ESYT2, WDR60, LOC154822, VIPR2 |
| 8 | p | 25123025 | 2675 | 0.01 | 8p21.2 | 1 | DOCK5 |
| 8 | p | 39352361 | 152895 | 0.34 | 8p11.23-p11.22 | 2 | ADAM5P, ADAM3A |
| 8 | p | 41244139 | 105020707 | 232.35 | 8p11.21-q24.3 | 492 | SFRP1, GOLGA7, GINS4, AGPAT6, NKX6-3, ANK1, MIR486, MYST3, AP3M2, PLAT, IKBKB, POLB, DKK4, VDAC3, SLC20A2, C8orf40, CHRNB3, CHRNA6, THAP1, RNF170, HOOK3, FNTA, SGK196, HGSNAT, POTEA, NCRNA00293, LOC100287846, KIAA0146, CEBPD, PRKDC, MCM4, UBE2V2, EFCAB1, SNAI2, C8orf22, SNTG1, PXDNL, PCMTD1, ST18, FAM150A, RB1CC1, NPBWR1, OPRK1, ATP6V1H, RGS20, TCEA1, LYPLA1, MRPL15, SOX17, RP1, XKR4, SBF1P1, TMEM68, TGS1, LYN, RPS20, SNORD54, MOS, PLAG1, CHCHD7, SDR16C5, PENK, IMPAD1, C8orf71, FAM110B, UBXN2B, CYP7A1, SDCBP, NSMAF, TOX, CA8, RAB2A, CHD7, LOC100130298, CLVS1, ASPH, NKAIN3, LOC643763, GGH, TTPA, YTHDF3, LOC100130155, MIR124-2, LOC401463, BHLHE22, CYP7B1, LOC286186, ARMC1, MTFR1, PDE7A, DNAJC5B, TRIM55, CRH, RRS1, ADHFE1, C8orf46, MYBL1, VCPIP1, C8orf44, SGK3, PTTG3P, C8orf45, SNHG6, SNORD87, TCF24, LRRC67, COPS5, CSPP1, ARFGEF1, CPA6, PREX2, C8orf34, SULF1, SLCO5A1, PRDM14, NCOA2, TRAM1, LACTB2, XKR9, EYA1, MSC, LOC100132891, TRPA1, LOC392232, KCNB2, TERF1, C8orf84, LOC100130301, RPL7, RDH10, STAU2, UBE2W, TCEB1, TMEM70, LY96, JPH1, GDAP1, FLJ39080, MIR2052, PI15, CRISPLD1, HNF4G, LOC100192378, ZFHX4, PEX2, PKIA, FAM164A, IL7, STMN2, HEY1, MRPS28, TPD52, ZBTB10, ZNF704, PAG1, FABP5, PMP2, FABP9, FABP4, FABP12, IMPA1, SLC10A5, ZFAND1, CHMP4C, SNX16, RALYL, LRRCC1, E2F5, C8orf59, CA13, CA1, CA3, CA2, REXO1L2P, REXO1L1, PSKH2, ATP6V0D2, SLC7A13, WWP1, FAM82B, CPNE3, CNGB3, CNBD1, DCAF4L2, MMP16, RIPK2, OSGIN2, NBN, DECR1, CALB1, TMEM64, NECAB1, LOC100127983, TMEM55A, OTUD6B, LRRC69, SLC26A7, RUNX1T1, C8orf83, LOC642924, FAM92A1, RBM12B, C8orf39, TMEM67, PDP1, CDH17, GEM, RAD54B, KIAA1429, LOC100288748, ESRP1, DPY19L4, INTS8, CCNE2, TP53INP1, C8orf38, MIR3150B, MIR3150, PLEKHF2, C8orf37, LOC100500773, GDF6, UQCRB, MTERFD1, PTDSS1, SDC2, PGCP, TSPYL5, MTDH, LAPTM4B, MATN2, RPL30, SNORA72, C8orf47, HRSP12, POP1, NIPAL2, KCNS2, STK3, OSR2, VPS13B, MIR599, MIR875, COX6C, RGS22, FBXO43, POLR2K, SPAG1, RNF19A, ANKRD46, SNX31, PABPC1, YWHAZ, FLJ42969, ZNF706, NACAP1, GRHL2, NCALD, RRM2B, UBR5, ODF1, KLF10, AZIN1, ATP6V1C1, C8orf56, BAALC, MIR3151, LOC100499183, FZD6, CTHRC1, SLC25A32, DCAF13, RIMS2, TM7SF4, DPYS, LRP12, ZFPM2, OXR1, ABRA, ANGPT1, RSPO2, EIF3E, TTC35, TMEM74, TRHR, NUDCD1, ENY2, PKHD1L1, EBAG9, SYBU, KCNV1, CSMD3, MIR2053, TRPS1, EIF3H, UTP23, RAD21, NCRNA00255, MIR3610, C8orf85, SLC30A8, MED30, EXT1, SAMD12, TNFRSF11B, COLEC10, MAL2, NOV, ENPP2, TAF2, DSCC1, DEPTOR, COL14A1, MRPL13, MTBP, SNTB1, HAS2, HAS2-AS1, ZHX2, DERL1, WDR67, FAM83A, LOC100131726, C8orf76, ZHX1, ATAD2, WDYHV1, FBXO32, KLHL38, ANXA13, FAM91A1, FER1L6, TMEM65, TRMT12, RNF139, TATDN1, NDUFB9, MTSS1, LOC157381, ZNF572, SQLE, KIAA0196, NSMCE2, TRIB1, FAM84B, POU5F1B, LOC727677, MYC, PVT1, MIR1204, MIR1205, MIR1206, MIR1207, MIR1208, LOC728724, GSDMC, FAM49B, ASAP1, ASAP1-IT, ADCY8, EFR3A, OC90, HHLA1, KCNQ3, HPYR1, LRRC6, TMEM71, PHF20L1, TG, SLA, WISP1, NDRG1, ST3GAL1, ZFAT, ZFAT-AS1, MIR30B, MIR30D, LOC286094, KHDRBS3, FAM135B, COL22A1, KCNK9, TRAPPC9, CHRAC1, EIF2C2, PTK2, DENND3, SLC45A4, LOC731779, GPR20, PTP4A3, FLJ43860, NCRNA00051, TSNARE1, BAI1, ARC, JRK, PSCA, LY6K, C8orf55, SLURP1, LYPD2, LYNX1, LY6D, GML, CYP11B1, CYP11B2, LOC100133669, LY6E, C8orf31, LY6H, GPIHBP1, ZFP41, GLI4, ZNF696, TOP1MT, C8orf51, RHPN1, MAFA, ZC3H3, GSDMD, C8orf73, NAPRT1, EEF1D, TIGD5, PYCRL, TSTA3, ZNF623, ZNF707, BREA2, LOC100130274, MAPK15, FAM83H, LOC100128338, SCRIB, MIR937, PUF60, NRBP2, EPPK1, PLEC, MIR661, PARP10, GRINA, SPATC1, OPLAH, EXOSC4, GPAA1, CYC1, SHARPIN, MAF1, KIAA1875, C8orf30A, HEATR7A, SCXA, SCXB, BOP1, HSF1, DGAT1, SCRT1, C8ORFK29, FBXL6, GPR172A, ADCK5, CPSF1, MIR939, MIR1234, SLC39A4, VPS28, TONSL, CYHR1, KIFC2, FOXH1, PPP1R16A, GPT, MFSD3, RECQL4, LRRC14, LRRC24, C8orf82, ARHGAP39, ZNF251, ZNF34, RPL8, ZNF517, ZNF7, COMMD5, ZNF250, ZNF16, ZNF252, TMED10P1, C8orf77, C8orf33 |
| 9 | p | 15805300 | 1823 | 0.00 | 9p22.3 | 1 | C9orf93 |
| 9 | q | 70928471 | 2057 | 0.00 | 9q21.11 | 1 | TJP2 |
| 10 | p | 27040181 | 1631 | 0.00 | 10p12.1 | 1 | PDSS1 |
| 10 | q | 77926390 | 2348 | 0.00 | 10q22.3 | 1 | C10orf11 |
| 11 | q | 76074403 | 2562103 | 3.16 | 11q13.5-q14.1 | 24 | GUCY2E, TSKU, ACER3, B3GNT6, CAPN5, OMP, MYO7A, GDPD4, PAK1, AQP11, CLNS1A, RSF1, C11orf67, INTS4, KCTD14, NDUFC2-KCTD14, THRSP, NDUFC2, ALG8, KCTD21, USP35, GAB2, NARS2, ODZ4 |
| 12 | p | 33854 | 32885882 | 92.90 | 12p13.33-p11.21 | 314 | IQSEC3, LOC574538, SLC6A12, SLC6A13, KDM5A, CCDC77, B4GALNT3, NINJ2, WNK1, RAD52, ERC1, LOC100292680, FBXL14, WNT5B, MIR3649, ADIPOR2, CACNA2D4, LRTM2, LOC100271702, DCP1B, CACNA1C, LOC283440, FKBP4, ITFG2, NRIP2, FOXM1, C12orf32, TULP3, TEAD4, TSPAN9, PRMT8, EFCAB4B, PARP11, CCND2, C12orf5, FGF23, FGF6, C12orf4, RAD51AP1, DYRK4, AKAP3, NDUFA9, GALNT8, KCNA6, KCNA1, KCNA5, NTF3, ANO2, VWF, CD9, PLEKHG6, TNFRSF1A, SCNN1A, LTBR, LOC678655, CD27, TAPBPL, VAMP1, MRPL51, NCAPD2, SCARNA10, GAPDH, IFFO1, NOP2, CHD4, SCARNA11, LPAR5, ACRBP, ING4, ZNF384, C12orf53, COPS7A, MLF2, PTMS, LAG3, CD4, GPR162, LEPREL2, GNB3, CDCA3, USP5, TPI1, SPSB2, RPL13P5, DSTNP2, LRRC23, ENO2, ATN1, C12orf57, PTPN6, MIR200C, MIR141, PHB2, SCARNA12, EMG1, LPCAT3, C1S, C1R, C1RL, LOC283314, RBP5, CLSTN3, PEX5, ACSM4, CD163L1, CD163, APOBEC1, GDF3, DPPA3, CLEC4C, NANOGNB, NANOG, SLC2A14, SLC2A3, FOXJ2, C3AR1, NECAP1, CLEC4A, POU5F1P3, ZNF705A, FAM66C, FAM90A1, LOC653113, LOC389634, CLEC6A, CLEC4D, CLEC4E, AICDA, MFAP5, RIMKLB, A2ML1, PHC1, M6PR, KLRG1, C12orf33, LOC144571, A2M, PZP, LOC100499405, LOC642846, DDX12, KLRB1, LOC374443, CLEC2D, CLECL1, CD69, KLRF1, CLEC2B, KLRF2, CLEC2A, CLEC12A, CLEC1B, CLEC12B, CLEC9A, CLEC1A, CLEC7A, OLR1, C12orf59, GABARAPL1, KLRD1, KLRK1, KLRC4-KLRK1, KLRC4, KLRC3, KLRC2, KLRC1, KLRAP1, MAGOHB, STYK1, CSDA, TAS2R7, TAS2R8, TAS2R9, TAS2R10, PRR4, PRH1, TAS2R13, PRH2, TAS2R14, TAS2R50, TAS2R20, TAS2R19, TAS2R31, TAS2R46, TAS2R43, TAS2R30, LOC100129361, TAS2R42, PRB3, PRB4, PRB1, PRB2, LOC338817, ETV6, BCL2L14, LRP6, MANSC1, LOH12CR2, LOH12CR1, DUSP16, CREBL2, GPR19, CDKN1B, APOLD1, MIR613, DDX47, RPL13AP20, GPRC5A, MIR614, GPRC5D, HEBP1, HTR7P1, KIAA1467, GSG1, EMP1, C12orf36, GRIN2B, ATF7IP, PLBD1, GUCY2C, HIST4H4, H2AFJ, WBP11, C12orf60, C12orf69, ART4, MGP, ERP27, ARHGDIB, PDE6H, RERG, PTPRO, EPS8, STRAP, DERA, SLC15A5, MGST1, LMO3, LOC728622, RERGL, PIK3C2G, PLCZ1, CAPZA3, PLEKHA5, AEBP2, PDE3A, SLCO1C1, SLCO1B3, LST-3TM12, SLCO1B1, SLCO1A2, IAPP, PYROXD1, RECQL, GOLT1B, C12orf39, GYS2, LDHB, KCNJ8, ABCC9, CMAS, ST8SIA1, KIAA0528, ETNK1, SOX5, MIR920, C12orf67, BCAT1, C12orf77, LRMP, CASC1, LYRM5, KRAS, IFLTD1, MIR4302, RASSF8, BHLHE41, SSPN, ITPR2, C12orf11, FGFR1OP2, TM7SF3, MED21, C12orf71, STK38L, ARNTL2, C12orf70, PPFIBP1, REP15, MRPS35, LOC100287284, KLHDC5, PTHLH, CCDC91, FAR2, ERGIC2, OVCH1, TMTC1, IPO8, CAPRIN2, TSPAN11, DDX11, FAM60A, FLJ13224, DENND5B, C12orf72, AMN1, H3F3C, C12orf35, BICD1, FGD4, DNM1L, YARS2, PKP2 |
| 12 | p | 130944468 | 1780 | 0.00 | 12q24.33 | 1 | ULK1 |
| 13 | q | 100692746 | 1146 | 0.00 | 13q33.1 | 1 | NALCN |
| 13 | q | 113792974 | 1695 | 0.00 | 13q34 | 1 | RASA3 |
| 14 | q | 34676390 | 7420 | 0.01 | 14q13.2 | 1 | KIAA0391 |
| 14 | q | 73072457 | 19655 | 0.02 | 14q24.3 | 2 | HEATR4, ACOT1 |
| 15 | q | 74678353 | 2086 | 0.00 | 15q24.3 | 1 | SCAPER |
| 15 | q | 99634434 | 1267 | 0.00 | 15q26.3 | 1 | SELS |
| 16 | p | 1299180 | 1161 | 0.00 | 16p13.3 | 1 | UBE2I |
| 16 | q | 57204859 | 1913 | 0.00 | 16q21 | 1 | CNOT1 |
| 16 | q | 75097331 | 3534 | 0.01 | 16q23.1 | 1 | CNTNAP4 |
| 16 | q | 76929598 | 10620 | 0.02 | 16q23.1 | 1 | WWOX |
| 17 | p | 1906319 | 72 | 0.00 | 17p13.3 | 1 | HIC1 |
| 19 | p | 241442 | 1584 | 0.01 | 19p13.3 | 1 | PPAP2C |
| 19 | p | 9351476 | 73900 | 0.26 | 19p13.2 | 3 | ZNF559-ZNF177, ZNF177, ZNF266 |
| 19 | p | 9457512 | 10236513 | 35.92 | 19p13.2-p13.11 | 323 | ZNF560, ZNF426, ZNF121, ZNF561, ZNF562, ZNF812, ZNF846, FBXL12, UBL5, PIN1, OLFM2, COL5A3, RDH8, C3P1, C19orf66, ANGPTL6, PPAN, PPAN-P2RY11, SNORD105, SNORD105B, P2RY11, EIF3G, DNMT1, S1PR2, MIR4322, MRPL4, ICAM1, ICAM4, ICAM5, ZGLP1, FDX1L, RAVER1, ICAM3, TYK2, CDC37, MIR1181, PDE4A, KEAP1, S1PR5, ATG4D, MIR1238, KRI1, CDKN2D, AP1M2, SLC44A2, LOC147727, ILF3, QTRT1, DNM2, MIR638, MIR199A1, TMED1, C19orf38, CARM1, YIPF2, C19orf52, SMARCA4, LDLR, SPC24, KANK2, DOCK6, LOC55908, TSPAN16, RAB3D, TMEM205, CCDC159, LPPR2, C19orf39, EPOR, RGL3, CCDC151, PRKCSH, ELAVL3, ZNF653, ECSIT, CNN1, ELOF1, ACP5, ZNF627, ZNF833P, ZNF823, ZNF441, ZNF491, ZNF440, ZNF439, ZNF69, ZNF700, ZNF763, ZNF433, ZNF878, ZNF844, ZNF788, ZNF20, ZNF625-ZNF20, ZNF625, ZNF136, ZNF44, ZNF563, ZNF442, ZNF799, ZNF443, ZNF709, ZNF564, ZNF490, ZNF791, MAN2B1, WDR83, C19orf56, DHPS, FBXW9, TNPO2, SNORD41, C19orf43, ASNA1, BEST2, HOOK2, JUNB, PRDX2, RNASEH2A, RTBDN, MAST1, DNASE2, KLF1, GCDH, SYCE2, FARSA, CALR, RAD23A, GADD45GIP1, DAND5, NFIX, LYL1, TRMT1, NACC1, STX10, IER2, CACNA1A, CCDC130, MRI1, C19orf53, ZSWIM4, LOC284454, MIR24-2, MIR27A, MIR23A, MIR181C, MIR181D, NANOS3, C19orf57, CC2D1A, PODNL1, DCAF15, RFX1, RLN3, IL27RA, PALM3, LOC113230, SAMD1, PRKACA, ASF1B, LPHN1, CD97, DDX39A, PKN1, PTGER1, GIPC1, LOC100130932, DNAJB1, MIR639, TECR, NDUFB7, CLEC17A, EMR3, ZNF333, EMR2, OR7C1, OR7A5, OR7A10, OR7A17, OR7C2, SLC1A6, CCDC105, CASP14, OR1I1, SYDE1, ILVBL, NOTCH3, EPHX3, BRD4, AKAP8, AKAP8L, WIZ, MIR1470, RASAL3, PGLYRP2, CYP4F22, CYP4F8, CYP4F3, CYP4F12, OR10H2, OR10H3, CYP4F24P, OR10H5, OR10H1, UCA1, CYP4F2, CYP4F11, OR10H4, LOC126536, FLJ25328, TPM4, RAB8A, HSH2D, CIB3, FAM32A, AP1M1, KLF2, EPS15L1, CALR3, C19orf44, CHERP, SLC35E1, MED26, C19orf42, TMEM38A, NWD1, SIN3B, F2RL3, CPAMD8, HAUS8, MYO9B, USE1, OCEL1, NR2F6, USHBP1, BABAM1, ANKLE1, ABHD8, MRPL34, DDA1, ANO8, GTPBP3, PLVAP, BST2, FAM125A, TMEM221, NXNL1, SLC27A1, PGLS, FAM129C, GLT25D1, UNC13A, MAP1S, FCHO1, B3GNT3, INSL3, JAK3, RPL18AP3, RPL18A, SNORA68, SLC5A5, CCDC124, KCNN1, ARRDC2, IL12RB1, MAST3, PIK3R2, IFI30, MPV17L2, RAB3A, PDE4C, LOC729966, KIAA1683, JUND, MIR3188, LSM4, PGPEP1, GDF15, MIR3189, LRRC25, SSBP4, ISYNA1, ELL, FKBP8, C19orf50, UBA52, C19orf60, CRLF1, TMEM59L, KLHL26, CRTC1, COMP, UPF1, GDF1, LASS1, COPE, DDX49, HOMER3, SUGP2, ARMC6, SLC25A42, TMEM161A, MEF2B, LOC729991-MEF2B, LOC729991, RFXANK, NR2C2AP, NCAN, HAPLN4, TM6SF2, SUGP1, MAU2, GATAD2A, TSSK6, NDUFA13, YJEFN3, CILP2, PBX4, LPAR2, GMIP, ATP13A1, ZNF101, ZNF14 |
| 19 | p | 19702214 | 2191477 | 7.69 | 19p13.11-p12 | 25 | ZNF14, LOC284440, ZNF506, ZNF253, ZNF93, ZNF682, ZNF90, ZNF486, ZNF826P, MIR1270-1, MIR1270-2, ZNF737, ZNF626, ZNF85, ZNF430, ZNF714, ZNF431, ZNF708, ZNF738, ZNF493, LOC400680, ZNF429, ZNF100, LOC641367, ZNF43 |
| 19 | q | 32545047 | 13265170 | 37.37 | 19q12-q13.2 | 219 | LOC148189, LOC148145, UQCRFS1, VSTM2B, POP4, PLEKHF1, C19orf12, CCNE1, C19orf2, ZNF536, DKFZp566F0947, TSHZ3, ZNF507, DPY19L3, PDCD5, ANKRD27, RGS9BP, NUDT19, TDRD12, SLC7A9, CCDC123, C19orf40, RHPN2, GPATCH1, WDR88, LRP3, SLC7A10, CEBPA, LOC80054, CEBPG, PEPD, CHST8, KCTD15, LSM14A, KIAA0355, GPI, PDCD2L, UBA2, WTIP, LOC643719, SCGBL, ZNF302, ZNF181, ZNF599, LOC400685, ZNF30, ZNF792, GRAMD1A, SCN1B, HPN, LOC100128675, FXYD3, LGI4, FXYD1, FXYD7, FXYD5, FAM187B, LSR, USF2, HAMP, MAG, CD22, FFAR1, FFAR3, FFAR2, KRTDAP, DMKN, SBSN, GAPDHS, TMEM147, ATP4A, HAUS5, RBM42, ETV2, COX6B1, UPK1A, ZBTB32, MLL4, TMEM149, U2AF1L4, PSENEN, LIN37, HSPB6, C19orf55, ARHGAP33, PRODH2, NPHS1, KIRREL2, APLP1, NFKBID, HCST, TYROBP, LRFN3, SDHAF1, C19orf46, ALKBH6, CLIP3, THAP8, WDR62, POLR2I, TBCB, CAPNS1, COX7A1, ZNF565, ZNF146, LOC100134317, ZFP14, ZFP82, LOC644189, ZNF566, LOC728752, ZNF260, ZNF529, ZNF382, ZNF461, ZNF567, ZNF850, ZNF790, ZNF345, ZNF829, ZNF568, ZNF420, ZNF585A, ZNF585B, ZNF383, LOC284412, HKR1, ZNF527, ZNF569, ZNF570, ZNF793, ZNF540, ZNF571, ZFP30, ZNF781, ZNF607, ZNF573, LOC728853, WDR87, SIPA1L3, DPF1, PPP1R14A, SPINT2, YIF1B, C19orf33, KCNK6, CATSPERG, PSMD8, GGN, SPRED3, FAM98C, RASGRP4, RYR1, MAP4K1, EIF3K, ACTN4, CAPN12, LGALS7, LGALS7B, LGALS4, ECH1, HNRNPL, RINL, SIRT2, NFKBIB, SARS2, MRPS12, FBXO17, FBXO27, PAPL, PAK4, NCCRP1, SYCN, IL28B, IL28A, IL29, LRFN1, GMFG, SAMD4B, PAF1, MED29, ZFP36, PLEKHG2, RPS16, SUPT5H, TIMM50, DLL3, SELV, EID2B, EID2, LGALS13, LOC100129935, LGALS16, LGALS17A, LGALS14, CLC, LEUTX, DYRK1B, FBL, FCGBP, PSMC4, ZNF546, ZNF780B, ZNF780A, MAP3K10, TTC9B, CNTD2, AKT2, MIR641, C19orf47, PLD3, HIPK4, PRX, SERTAD1, SERTAD3, BLVRB, SPTBN4, SHKBP1, LTBP4 |
| 20 | p | 12719 | 4947364 | 18.26 | 20p13 | 93 | DEFB125, DEFB126, DEFB127, DEFB128, DEFB129, DEFB132, C20orf96, ZCCHC3, SOX12, NRSN2, TRIB3, RBCK1, TBC1D20, CSNK2A1, TCF15, SRXN1, SCRT2, C20orf54, FAM110A, ANGPT4, RSPO4, PSMF1, C20orf46, C20orf202, RAD21L1, SNPH, SDCBP2, FKBP1A-SDCBP2, FKBP1A, NSFL1C, SIRPB2, SIRPD, SIRPB1, SIRPG, LOC100289473, SIRPA, PDYN, STK35, TGM3, TGM6, SNRPB, SNORD119, ZNF343, TMC2, NOP56, MIR1292, SNORD110, SNORA51, SNORD86, SNORD56, SNORD57, IDH3B, EBF4, CPXM1, C20orf141, LOC100288797, FAM113A, VPS16, PTPRA, GNRH2, MRPS26, OXT, AVP, UBOX5, FASTKD5, ProSAPiP1, DDRGK1, ITPA, SLC4A11, C20orf194, ATRN, GFRA4, ADAM33, SIGLEC1, HSPA12B, C20orf27, SPEF1, CENPB, CDC25B, C20orf29, MAVS, PANK2, MIR103-2, MIR103-2AS, RNF24, SMOX, LOC728228, ADRA1D, PRNP, PRND, PRNT, RASSF2, SLC23A2 |
| 20 | p | 5077551 | 18929 | 0.07 | 20p12.3 | 1 | CDS2 |
| 20 | p | 5113496 | 173891 | 0.64 | 20p12.3 | 2 | CDS2, PROKR2 |
| 20 | p | 8304958 | 61 | 0.00 | 20p12.3 | 1 | PLCB1 |
| 20 | p | 8998224 | 670202 | 2.47 | 20p12.3-p12.2 | 3 | PLCB4, C20orf103, PAK7 |
| 20 | p | 13205335 | 851297 | 3.14 | 20p12.1 | 6 | ISM1, TASP1, ESF1, C20orf7, SEL1L2, MACROD2 |
| 20 | p | 15446427 | 74185 | 0.27 | 20p12.1 | 1 | MACROD2 |
| 20 | p | 15838649 | 385096 | 1.42 | 20p12.1 | 2 | MACROD2, KIF16B |
| 20 | p | 17237945 | 773372 | 2.85 | 20p12.1-p11.23 | 9 | PCSK2, BFSP1, DSTN, RRBP1, BANF2, SNX5, SNORD17, C20orf72, OVOL2 |
| 20 | p | 25275725 | 199194 | 0.74 | 20p11.21 | 3 | ABHD12, GINS1, NINL |
| 20 | p | 26023784 | 28251 | 0.10 | 20p11.1 | 1 | C20orf191 |
| 20 | q | 29297270 | 33122264 | 94.91 | 20q11.21-q13.33 | 411 | DEFB115, DEFB116, DEFB118, DEFB119, DEFB121, DEFB122, DEFB123, DEFB124, REM1, NCRNA00028, HM13, PSIMCT-1, ID1, MIR3193, COX4I2, BCL2L1, TPX2, MYLK2, FOXS1, DUSP15, TTLL9, PDRG1, XKR7, C20orf160, HCK, TM9SF4, TSPY26P, PLAGL2, POFUT1, KIF3B, ASXL1, C20orf112, LOC149950, C20orf203, COMMD7, DNMT3B, MAPRE1, SUN5, BPIL1, BPIL3, C20orf185, C20orf186, C20orf70, BASE, C20orf71, PLUNC, C20orf114, CDK5RAP1, SNTA1, CBFA2T2, NECAB3, C20orf144, C20orf134, E2F1, PXMP4, ZNF341, CHMP4B, RALY, EIF2S2, ASIP, AHCY, ITCH, MIR644, DYNLRB1, MAP1LC3A, PIGU, TP53INP2, NCOA6, HMGB3P1, GGT7, ACSS2, GSS, MYH7B, MIR499, TRPC4AP, EDEM2, PROCR, MMP24, EIF6, FAM83C, UQCC, GDF5, CEP250, C20orf173, ERGIC3, FER1L4, SPAG4, CPNE1, RBM12, NFS1, ROMO1, RBM39, PHF20, SCAND1, C20orf152, LOC647979, EPB41L1, C20orf4, DLGAP4, MYL9, TGIF2, TGIF2-C20ORF24, C20orf24, SLA2, NDRG3, DSN1, C20orf117, C20orf118, SAMHD1, RBL1, C20orf132, RPN2, GHRH, MANBAL, SRC, BLCAP, NNAT, CTNNBL1, VSTM2L, TTI1, RPRD1B, TGM2, KIAA1755, BPI, LBP, LOC388796, SNORA71B, SNORA71A, SNORA71C, SNORA71D, SNHG11, SNORA39, SNORA60, RALGAPB, ADIG, ARHGAP40, SLC32A1, ACTR5, PPP1R16B, FAM83D, DHX35, LOC339568, MAFB, TOP1, PLCG1, ZHX3, LPIN3, EMILIN3, CHD6, PTPRT, SRSF6, L3MBTL1, SGK2, IFT52, MYBL2, GTSF1L, TOX2, JPH2, C20orf111, GDAP1L1, FITM2, R3HDML, HNF4A, MIR3646, TTPAL, SERINC3, PKIG, ADA, LOC79015, WISP2, KCNK15, RIMS4, YWHAB, PABPC1L, TOMM34, STK4, KCNS1, WFDC5, WFDC12, PI3, SEMG1, SEMG2, SLPI, MATN4, RBPJL, SDC4, SYS1, SYS1-DBNDD2, TP53TG5, DBNDD2, PIGT, WFDC2, SPINT3, WFDC6, SPINLW1-WFDC6, SPINLW1, WFDC8, WFDC9, WFDC10A, WFDC11, WFDC10B, WFDC13, SPINT4, WFDC3, DNTTIP1, UBE2C, TNNC2, SNX21, ACOT8, ZSWIM3, ZSWIM1, C20orf165, NEURL2, CTSA, PLTP, PCIF1, ZNF335, MMP9, SLC12A5, NCOA5, CD40, CDH22, SLC35C2, ELMO2, LOC100240726, ZNF334, C20orf123, SLC13A3, TP53RK, SLC2A10, EYA2, MIR3616, ZMYND8, LOC100131496, NCOA3, SULF2, LOC284749, PREX1, ARFGEF2, CSE1L, STAU1, DDX27, ZNFX1, NCRNA00275, SNORD12C, SNORD12B, SNORD12, KCNB1, PTGIS, B4GALT5, SLC9A8, SPATA2, RNF114, SNAI1, UBE2V1, TMEM189-UBE2V1, TMEM189, CEBPB, LOC284751, PTPN1, MIR645, FAM65C, PARD6B, BCAS4, ADNP, DPM1, MOCS3, KCNG1, NFATC2, MIR3194, ATP9A, SALL4, ZFP64, TSHZ2, ZNF217, SUMO1P1, BCAS1, CYP24A1, PFDN4, DOK5, CBLN4, MC3R, C20orf108, AURKA, CSTF1, CASS4, C20orf43, GCNT7, C20orf106, C20orf107, TFAP2C, BMP7, MIR4325, SPO11, RAE1, MTRNR2L3, RBM38, CTCFL, PCK1, ZBP1, PMEPA1, C20orf85, PPP4R1L, RAB22A, VAPB, APCDD1L, LOC149773, STX16, NPEPL1, MIR296, MIR298, GNAS-AS1, GNAS, TH1L, CTSZ, TUBB1, ATP5E, SLMO2, ZNF831, EDN3, PHACTR3, SYCP2, C20orf177, PPP1R3D, CDH26, C20orf197, MIR646, CDH4, MIR1257, TAF4, LSM14B, PSMA7, SS18L1, GTPBP5, HRH3, OSBPL2, ADRM1, LAMA5, RPS21, CABLES2, C20orf151, GATA5, C20orf200, C20orf166, MIR1-1, MIR133A2, SLCO4A1, LOC100127888, NTSR1, C20orf20, OGFR, COL9A3, TCFL5, DPH3P1, DIDO1, C20orf11, SLC17A9, BHLHE23, LOC63930, NCRNA00029, LOC100144597, HAR1B, HAR1A, MIR124-3, YTHDF1, BIRC7, MIR3196, NKAIN4, FLJ16779, ARFGAP1, MIR4326, COL20A1, CHRNA4, KCNQ2, EEF1A2, PPDPF, PTK6, SRMS, C20orf195, PRIC285, GMEB2, STMN3, RTEL1, TNFRSF6B, ARFRP1, ZGPAT, LIME1, SLC2A4RG, ZBTB46, ABHD16B, TPD52L2, DNAJC5, MIR941-1, MIR941-3, MIR941-2, UCKL1, MIR1914, MIR647, UCKL1-AS1, ZNF512B, SAMD10, PRPF6, NCRNA00176, SOX18, TCEA2, RGS19, OPRL1, C20orf201, NPBWR2, MYT1, PCMTD2 |
| 22 | q | 18127933 | 1261 | 0.00 | 22q11.21 | 1 | TBX1 |
| **Copy Number Losses** | | | | | | | |
| **chromosome** | **arm** | **start** | **size** | **size/arm (%)** | **cytoband** | **number of genes** | **gene symbol** |
| 1 | q | 161104752 | 39 | 0.00 | 1q23.3 | 1 | C1orf110 |
| 1 | p | 1652866 | 1160 | 0.00 | 1p36.33 | 1 | SLC35E2 |
| 1 | p | 109374790 | 1459 | 0.00 | 1p13.3 | 1 | WDR47 |
| 1 | p | 113847479 | 1506 | 0.00 | 1p13.2 | 1 | MAGI3 |
| 1 | p | 116031670 | 1732 | 0.00 | 1p13.1 | 1 | VANGL1 |
| 1 | p | 108535814 | 2848 | 0.00 | 1p13.3 | 1 | SLC25A24 |
| 1 | q | 173063537 | 3800 | 0.00 | 1q25.1 | 1 | RABGAP1L |
| 1 | p | 110033018 | 6370 | 0.01 | 1p13.3 | 1 | GSTM1 |
| 1 | q | 151028700 | 7735 | 0.01 | 1q21.3 | 1 | LCE1D |
| 1 | q | 167493768 | 14130 | 0.01 | 1q24.2 | 1 | NME7 |
| 1 | q | 150823073 | 28366 | 0.02 | 1q21.3 | 1 | LCE3C |
| 1 | q | 246805521 | 56508 | 0.05 | 1q44 | 2 | OR2T10, OR2T11 |
| 1 | q | 195009358 | 56509 | 0.05 | 1q31.3 | 2 | CFHR3, CFHR1 |
| 2 | q | 154605621 | 1322 | 0.00 | 2q24.1 | 1 | GALNT13 |
| 2 | q | 179777850 | 1069 | 0.00 | 2q31.2 | 1 | SESTD1 |
| 2 | p | 33078005 | 2432 | 0.00 | 2p22.3 | 1 | LTBP1 |
| 2 | q | 212892884 | 5991 | 0.00 | 2q34 | 1 | ERBB4 |
| 3 | p | 47466423 | 498 | 0.00 | 3p21.31 | 1 | SCAP |
| 3 | q | 191221758 | 1133 | 0.00 | 3q28 | 1 | LEPREL1 |
| 3 | p | 7375107 | 1410 | 0.00 | 3p26.1 | 1 | GRM7 |
| 3 | q | 133191877 | 2808 | 0.00 | 3q22.1 | 1 | CPNE4 |
| 3 | p | 11386892 | 2732 | 0.00 | 3p25.3 | 1 | ATG7 |
| 3 | q | 192548135 | 4599 | 0.00 | 3q28 | 1 | CCDC50 |
| 3 | p | 37954819 | 6291 | 0.01 | 3p22.2 | 1 | CTDSPL |
| 3 | p | 53003136 | 8749 | 0.01 | 3p21.1 | 1 | SFMBT1 |
| 4 | q | 72720228 | 118433385 | 84.47 | 4q13.3-q35.2 | 479 | GC, NPFFR2, ADAMTS3, COX18, ANKRD17, ALB, AFP, AFM, RASSF6, IL8, CXCL6, PF4V1, CXCL1, PF4, PPBP, CXCL5, CXCL3, PPBPL2, CXCL2, MTHFD2L, EPGN, EREG, AREG, BTC, PARM1, LOC441025, RCHY1, THAP6, C4orf26, CDKL2, G3BP2, USO1, PPEF2, NAAA, SDAD1, CXCL9, ART3, CXCL10, CXCL11, NUP54, SCARB2, FAM47E, STBD1, CCDC158, SHROOM3, ANKRD56, SEPT11, CCNI, CCNG2, CXCL13, CNOT6L, MRPL1, FRAS1, ANXA3, BMP2K, PAQR3, NAA11, GK2, GDEP, ANTXR2, PRDM8, FGF5, C4orf22, BMP3, PRKG2, RASGEF1B, HNRNPD, HNRPDL, ENOPH1, TMEM150C, C4orf11, SCD5, MIR575, SEC31A, LOC100499177, THAP9, LIN54, COPS4, PLAC8, COQ2, HPSE, HELQ, MRPS18C, FAM175A, AGPAT9, NKX6-1, CDS1, WDFY3, NCRNA00247, ARHGAP24, MAPK10, PTPN13, SLC10A6, C4orf36, AFF1, KLHL8, HSD17B13, HSD17B11, NUDT9, SPARCL1, DSPP, DMP1, IBSP, MEPE, HSP90AB3P, SPP1, PKD2, ABCG2, PPM1K, HERC6, HERC5, PIGY, HERC3, NAP1L5, FAM13AOS, FAM13A, TIGD2, GPRIN3, SNCA, MMRN1, FAM190A, TMSL3, GRID2, ATOH1, SMARCAD1, HPGDS, PDLIM5, BMPR1B, UNC5C, PDHA2, C4orf37, RAP1GDS1, TSPAN5, EIF4E, METAP1, MIR3684, ADH5, ADH4, PCNAP1, ADH6, ADH1A, ADH1B, ADH1C, ADH7, C4orf17, RG9MTD2, MTTP, DAPP1, MAPKSP1, DNAJB14, H2AFZ, LOC256880, DDIT4L, EMCN, PPP3CA, FLJ20021, BANK1, SLC39A8, NFKB1, MANBA, UBE2D3, CISD2, NHEDC1, NHEDC2, BDH2, CENPE, TACR3, CXXC4, TET2, PPA2, EEF1A1P9, ARHGEF38, INTS12, GSTCD, NPNT, TBCK, AIMP1, LOC100507096, DKK2, PAPSS1, SGMS2, CYP2U1, HADH, LEF1, LOC641518, LOC285456, RPL34, OSTC, AGXT2L1, COL25A1, SEC24B, CCDC109B, CASP6, PLA2G12A, CFI, GAR1, RRH, LRIT3, EGF, ELOVL6, ENPEP, PITX2, C4orf32, AP1AR, TIFA, ALPK1, NEUROG2, C4orf21, LARP7, MIR367, MIR302D, MIR302A, MIR302C, MIR302B, ANK2, MIR1243, CAMK2D, ARSJ, UGT8, MIR577, NDST4, MIR1973, TRAM1L1, NDST3, SNHG8, SNORA24, PRSS12, CEP170P1, METTL14, SEC24D, SYNPO2, MYOZ2, USP53, C4orf3, FABP2, FLJ14186, LOC645513, PDE5A, MAD2L1, PRDM5, C4orf31, TNIP3, QRFPR, ANXA5, TMEM155, LOC100192379, EXOSC9, CCNA2, BBS7, TRPC3, KIAA1109, ADAD1, IL2, IL21, CETN4P, BBS12, FGF2, NUDT6, SPATA5, SPRY1, LOC285419, ANKRD50, FAT4, INTU, SLC25A31, HSPA4L, PLK4, MFSD8, C4orf29, LARP1B, PGRMC2, PHF17, SCLT1, C4orf33, PCDH10, PABPC4L, PCDH18, SLC7A11, CCRN4L, ELF2, C4orf49, NDUFC1, NAA15, RAB33B, SETD7, MGST2, MAML3, SCOC, LOC100129858, CLGN, ELMOD2, UCP1, TBC1D9, RNF150, ZNF330, IL15, INPP4B, USP38, GAB1, MIR3139, SMARCA5, LOC441046, FREM3, GYPE, GYPB, GYPA, HHIP, ANAPC10, ABCE1, OTUD4, SMAD1, MMAA, C4orf51, ZNF827, LSM6, SLC10A7, POU4F2, TTC29, EDNRA, TMEM184C, PRMT10, ARHGAP10, NR3C2, DCLK2, LRBA, MAB21L2, RPS3A, SNORD73A, SH3D19, PRSS48, FAM160A1, PET112L, FBXW7, MIR3140, DKFZP434I0714, TMEM154, TIGD4, ARFIP1, FHDC1, TRIM2, ANXA2P1, MND1, KIAA0922, TLR2, RNF175, SFRP2, DCHS2, PLRG1, FGB, FGA, FGG, LRAT, RBM46, NPY2R, MAP9, GUCY1A3, GUCY1B3, ACCN5, TDO2, CTSO, PDGFC, GLRB, GRIA2, LOC340017, FAM198B, TMEM144, RXFP1, C4orf46, ETFDH, PPID, FNIP2, C4orf45, MIR3688, RAPGEF2, FSTL5, NAF1, NPY1R, NPY5R, TKTL2, C4orf43, MARCH1, ANP32C, TRIM61, C4orf39, TRIM60, TMEM192, KLHL2, GK3P, SC4MOL, CPE, MIR578, TLL1, SPOCK3, ANXA10, DDX60, DDX60L, PALLD, CBR4, SH3RF1, NEK1, CLCN3, C4orf27, MFAP3L, AADAT, HSP90AA6P, GALNTL6, GALNT7, HMGB2, SAP30, SCRG1, HAND2, NBLA00301, MORF4, FBXO8, KIAA1712, MIR4276, HPGD, GLRA3, ADAM29, GPM6A, MIR1267, WDR17, SPATA4, ASB5, SPCS3, VEGFC, NEIL3, AGA, LOC285501, NCRNA00290, MGC45800, MIR1305, ODZ3, DCTD, FAM92A3, C4orf38, WWC2, CLDN22, CLDN24, CDKN2AIP, LOC389247, ING2, RWDD4, C4orf41, STOX2, ENPP6, IRF2, CASP3, CCDC111, MLF1IP, ACSL1, SLED1, MIR3945, HELT, SLC25A4, KIAA1430, SNX25, LRP2BP, ANKRD37, UFSP2, C4orf47, CCDC110, PDLIM3, SORBS2, TLR3, FAM149A, CYP4V2, KLKB1, F11, LOC285441, MTNR1A, FAT1, ZFP42, TRIML2, TRIML1, LOC401164, HSP90AA4P, FRG1, TUBB4Q |
| 4 | q | 72518737 | 3272 | 0.00 | 4q13.3 | 1 | SLC4A4 |
| 4 | p | 38869796 | 2571 | 0.01 | 4p14 | 1 | WDR19 |
| 4 | p | 17199502 | 6065 | 0.01 | 4p15.32 | 1 | LAP3 |
| 4 | q | 69980080 | 18477 | 0.01 | 4q13.2 | 1 | UGT2B7 |
| 4 | q | 69720805 | 21644 | 0.02 | 4q13.2 | 1 | UGT2B10 |
| 4 | q | 70190682 | 103630 | 0.07 | 4q13.2 | 1 | UGT2B28 |
| 4 | q | 68905670 | 260144 | 0.19 | 4q13.2 | 2 | TMPRSS11E, UGT2B17 |
| 4 | p | 38360375 | 232761 | 0.46 | 4p14 | 6 | KLF3, TLR10, TLR1, TLR6, FAM114A1, MIR574 |
| 4 | p | 39382435 | 328209 | 0.65 | 4p14 | 2 | UBE2K, PDS5A |
| 4 | p | 39832665 | 525382 | 1.03 | 4p14 | 4 | N4BP2, RHOH, CHRNA9, RBM47 |
| 4 | p | 37374887 | 846993 | 1.67 | 4p14 | 3 | PGM2, TBC1D1, PTTG2 |
| 4 | p | 18653418 | 18702180 | 36.82 | 4p15.31-p14 | 31 | SLIT2, MIR218-1, PACRGL, KCNIP4, NCRNA00099, GPR125, GBA3, PPARGC1A, MIR573, DHX15, SOD3, CCDC149, LGI2, SEPSECS, PI4K2B, ZCCHC4, ANAPC4, SLC34A2, SEL1L3, C4orf52, RBPJ, CCKAR, TBC1D19, STIM2, MIR4275, PCDH7, ARAP2, DTHD1, KIAA1239, C4orf19, RELL1 |
| 5 | q | 51632554 | 47776009 | 35.84 | 5q11.2-q21.1 | 225 | PELO, ITGA1, ITGA2, MOCS2, LOC257396, FST, NDUFS4, ARL15, MIR581, HSPB3, SNX18, ESM1, GZMK, GZMA, CDC20B, GPX8, MIR449A, MIR449B, MIR449C, LOC345643, CCNO, DHX29, SKIV2L2, PPAP2A, RNF138P1, SLC38A9, DDX4, IL31RA, IL6ST, ANKRD55, MAP3K1, C5orf35, MIER3, GPBP1, ACTBL2, PLK2, GAPT, RAB3C, PDE4D, PART1, DEPDC1B, ELOVL7, ERCC8, NDUFAF2, C5orf43, ZSWIM6, FLJ37543, KIF2A, DIMT1L, IPO11, LRRC70, HTR1A, RNF180, RGS7BP, FAM159B, SREK1IP1, CWC27, ADAMTS6, CENPK, PPWD1, TRIM23, C5orf44, SGTB, NLN, ERBB2IP, LOC100303749, SREK1, MAST4, CD180, PIK3R1, SLC30A5, CCNB1, CENPH, MRPS36, CDK7, CCDC125, TAF9, RAD17, MARVELD2, OCLN, LOC647859, GTF2H2B, GTF2H2C, GTF2H2, GTF2H2D, LOC100272216, GUSBP3, LOC100049076, SERF1A, SERF1B, SMN2, SMN1, LOC100170939, SMA5, NAIP, PMCHL2, BDP1, MCCC2, CARTPT, MAP1B, MRPS27, PTCD2, ZNF366, TNPO1, FCHO2, TMEM171, TMEM174, FOXD1, BTF3, ANKRA2, UTP15, RGNEF, ENC1, HEXB, GFM2, NSA2, FAM169A, GCNT4, ANKRD31, HMGCR, COL4A3BP, POLK, POC5, SV2C, IQGAP2, F2RL2, NCRUPAR, F2R, F2RL1, S100Z, CRHBP, AGGF1, ZBED3, SNORA47, LOC728723, PDE8B, WDR41, OTP, TBCA, AP3B1, SCAMP1, LHFPL2, ARSB, DMGDH, BHMT2, BHMT, JMY, HOMER1, PAPD4, CMYA5, MTX3, THBS4, SERINC5, LOC644936, SPZ1, CRSP8P, ZFYVE16, FAM151B, ANKRD34B, DHFR, MTRNR2L2, MSH3, RASGRF2, CKMT2, LOC100131067, ZCCHC9, ACOT12, SSBP2, ATG10, RPS23, ATP6AP1L, TMEM167A, SCARNA18, XRCC4, VCAN, HAPLN1, EDIL3, NBPF22P, COX7C, MIR3607, MIR4280, RASA1, CCNH, TMEM161B, LOC645323, MIR9-2, MEF2C, MIR3660, CETN3, MBLAC2, POLR3G, LYSMD3, GPR98, ARRDC3, LOC100129716, FLJ42709, NR2F1, FAM172A, MIR2277, POU5F2, C5orf36, ANKRD32, MCTP1, FAM81B, TTC37, ARSK, GPR150, RFESD, SPATA9, RHOBTB3, GLRX, C5orf27, ELL2, MIR583, PCSK1, CAST, ERAP1, ERAP2, LNPEP, LIX1, RIOK2, RGMB, FLJ35946, CHD1, LOC100289230 |
| 5 | q | 172348216 | 1701 | 0.00 | 5q35.2 | 1 | ATP6V0E1 |
| 5 | q | 127436376 | 1742 | 0.00 | 5q23.3 | 1 | FLJ33630 |
| 5 | q | 126154159 | 2800 | 0.00 | 5q23.2 | 1 | LMNB1 |
| 5 | q | 140535820 | 2846 | 0.00 | 5q31.3 | 2 | PCDHB7, PCDHB8 |
| 5 | q | 140203440 | 13084 | 0.01 | 5q31.3 | 4 | PCDHA1, PCDHA8, PCDHA9, PCDHA10 |
| 5 | q | 180344964 | 14013 | 0.01 | 5q35.3 | 1 | BTNL3 |
| 5 | q | 122709757 | 955007 | 0.72 | 5q23.2 | 2 | CEP120, CSNK1G3 |
| 5 | q | 119396451 | 3250670 | 2.44 | 5q23.1-q23.2 | 11 | PRR16, FTMT, SRFBP1, LOX, ZNF474, LOC728460, SNCAIP, SNX2, SNX24, PPIC, PRDM6 |
| 5 | q | 99444081 | 19602695 | 14.71 | 5q21.1-q23.1 | 57 | LOC100133050, FAM174A, ST8SIA4, SLCO4C1, SLCO6A1, PAM, GIN1, PPIP5K2, C5orf30, NUDT12, RAB9BP1, EFNA5, FBXL17, FER, PJA2, MIR548C, MIR548Z, MAN2A1, LOC100289673, TMEM232, SLC25A46, TSLP, WDR36, CAMK4, STARD4, C5orf13, NCRNA00219, SNORA13, EPB41L4A, FLJ11235, APC, SRP19, REEP5, DCP2, MCC, TSSK1B, YTHDC2, KCNN2, TRIM36, PGGT1B, CCDC112, FEM1C, TICAM2, TMED7-TICAM2, TMED7, CDO1, ATG12, AP3S1, AQPEP, LOC644100, COMMD10, SEMA6A, DTWD2, DMXL1, TNFAIP8, HSD17B4, FAM170A |
| 6 | q | 90029071 | 80724035 | 73.05 | 6q15-q27 | 388 | GABRR2, UBE2J1, RRAGD, ANKRD6, LYRM2, MDN1, CASP8AP2, GJA10, BACH2, MAP3K7, EPHA7, TSG1, MANEA, FUT9, KIAA0776, FHL5, GPR63, NDUFAF4, KLHL32, MMS22L, MIR2113, POU3F2, FBXL4, C6orf168, COQ3, SFRS18, USP45, LOC100130890, CCNC, PRDM13, MCHR2, SIM1, ASCC3, GRIK2, HACE1, LIN28B, BVES, C6orf112, POPDC3, PREP, PRDM1, ATG5, AIM1, RTN4IP1, QRSL1, LOC100422737, C6orf203, BEND3, PDSS2, SOBP, SCML4, SEC63, OSTM1, NR2E1, SNX3, LACE1, FOXO3, NCRNA00222, ARMC2, SESN1, CEP57L1, CCDC162, CD164, PPIL6, SMPD2, MICAL1, ZBTB24, AKD1, FIG4, GPR6, WASF1, CDC40, C6orf186, DDO, SLC22A16, CDK19, AMD1, GTF3C6, RPF2, GSTM2P1, SLC16A10, KIAA1919, REV3L, LOC643749, TRAF3IP2, FYN, WISP3, TUBE1, C6orf225, LAMA4, RFPL4B, MARCKS, FLJ34503, HDAC2, HS3ST5, FRK, TPI1P3, NT5DC1, COL10A1, TSPYL4, TSPYL1, DSE, FAM26F, BET3L, FAM26E, FAM26D, RWDD1, RSPH4A, ZUFSP, KPNA5, FAM162B, GPRC6A, RFX6, VGLL2, ROS1, DCBLD1, GOPC, NUS1, SLC35F1, C6orf204, BRD7P3, PLN, LOC100287632, MCM9, ASF1A, FAM184A, MIR548B, MAN1A1, C6orf170, GJA1, HSF2, SERINC1, PKIB, FABP7, SMPDL3A, CLVS2, TRDN, NKAIN2, STL, RNF217, TPD52L1, HDDC2, HEY2, NCOA7, HINT3, TRMT11, CENPW, RSPO3, RNF146, ECHDC1, KIAA0408, C6orf174, C6orf58, THEMIS, PTPRK, LAMA2, ARHGAP18, C6orf191, L3MBTL3, SAMD3, TMEM200A, LOC285733, EPB41L2, AKAP7, ARG1, MED23, ENPP3, OR2A4, CTAGE9, ENPP1, CTGF, MOXD1, STX7, TAAR9, TAAR8, TAAR6, TAAR5, TAAR3, TAAR2, TAAR1, VNN1, VNN3, VNN2, C6orf192, RPS12, SNORD101, SNORD100, SNORA33, LOC285735, EYA4, MGC34034, TCF21, TBPL1, SLC2A12, SGK1, ALDH8A1, HBS1L, MIR3662, MYB, AHI1, MIR548H4, NCRNA00271, PDE7B, FAM54A, BCLAF1, MAP7, MAP3K5, PEX7, SLC35D3, NHEG1, IL20RA, IL22RA2, IFNGR1, OLIG3, TNFAIP3, PERP, KIAA1244, PBOV1, HEBP2, NHSL1, MIR3145, FLJ46906, CCDC28A, ECT2L, REPS1, C6orf115, HECA, TXLNB, CITED2, LOC645434, MIR3668, NMBR, VTA1, GPR126, LOC153910, HIVEP2, AIG1, ADAT2, PEX3, FUCA2, LOC285740, PHACTR2, LTV1, C6orf94, PLAGL1, HYMAI, SF3B5, STX11, UTRN, EPM2A, FBXO30, SHPRH, GRM1, RAB32, C6orf103, LOC729176, LOC729178, STXBP5, SAMD5, SASH1, UST, TAB2, SUMO4, ZC3H12D, PPIL4, C6orf72, KATNA1, LATS1, NUP43, PCMT1, LRP11, RAET1E, RAET1G, ULBP2, ULBP1, RAET1K, RAET1L, ULBP3, PPP1R14C, IYD, PLEKHG1, MTHFD1L, AKAP12, ZBTB2, RMND1, C6orf211, C6orf97, ESR1, SYNE1, MYCT1, VIP, FBXO5, MTRF1L, RGS17, OPRM1, IPCEF1, CNKSR3, SCAF8, TIAM2, TFB1M, CLDN20, NOX3, ARID1B, ZDHHC14, MIR3692, SNX9, SYNJ2, SERAC1, GTF2H5, TULP4, TMEM181, DYNLT1, SYTL3, MIR3918, EZR, OSTCL, C6orf99, RSPH3, TAGAP, FNDC1, SOD2, WTAP, LOC100129518, ACAT2, TCP1, SNORA20, SNORA29, MRPL18, PNLDC1, MAS1, IGF2R, LOC729603, SLC22A1, SLC22A2, SLC22A3, LPAL2, LPA, PLG, MAP3K4, AGPAT4, NCRNA00241, PARK2, PACRG, LOC285796, DKFZp451B082, LOC100526820, QKI, C6orf118, PDE10A, C6orf176, LOC441177, T, PRR18, SFT2D1, BRP44L, RPS6KA2, MIR1913, RNASET2, MIR3939, FGFR1OP, CCR6, GPR31, TCP10L2, UNC93A, TTLL2, TCP10, C6orf123, C6orf124, MLLT4, HGC6.3, KIF25, FRMD1, DACT2, SMOC2, THBS2, WDR27, C6orf120, PHF10, TCTE3, C6orf70, NCRNA00242, C6orf208, LOC154449, DLL1, FAM120B, PSMB1, TBP, PDCD2 |
| 6 | q | 72920894 | 3546 | 0.00 | 6q13 | 1 | RIMS1 |
| 6 | q | 66456250 | 4298 | 0.00 | 6q12 | 1 | EYS |
| 6 | p | 54037199 | 5535 | 0.01 | 6p12.1 | 1 | C6orf142 |
| 6 | p | 32716255 | 12232 | 0.02 | 6p21.32 | 1 | HLA-DQA1 |
| 6 | q | 89837987 | 27339 | 0.02 | 6q15 | 2 | PNRC1, SRSF12 |
| 6 | p | 29972382 | 28608 | 0.05 | 6p21.33 | 2 | HCG2P7, HCG4P6 |
| 6 | p | 32558677 | 75014 | 0.12 | 6p21.32 | 2 | HLA-DRB5, HLA-DRB6 |
| 6 | q | 89264233 | 549324 | 0.50 | 6q15 | 1 | RNGTT |
| 7 | q | 71911940 | 125 | 0.00 | 7q11.23 | 1 | TYW1B |
| 7 | p | 16138579 | 1439 | 0.00 | 7p21.1 | 1 | ISPD |
| 7 | q | 147704200 | 4182 | 0.00 | 7q36.1 | 1 | CNTNAP2 |
| 7 | q | 100166257 | 8734 | 0.01 | 7q22.1 | 1 | ZAN |
| 7 | q | 142159173 | 8735 | 0.01 | 7q34 | 1 | TRY6 |
| 7 | q | 141413352 | 26832 | 0.03 | 7q34 | 1 | MGAM |
| 8 | p | 151472 | 37851200 | 83.74 | 8p23.3-p12 | 249 | RPL23AP53, ZNF596, FBXO25, C8orf42, ERICH1, LOC286083, DLGAP2, CLN8, MIR596, ARHGEF10, KBTBD11, MYOM2, CSMD1, MCPH1, ANGPT2, AGPAT5, XKR5, DEFB1, DEFA6, DEFA4, DEFA10P, DEFA1B, DEFA1, DEFT1P, DEFT1P2, DEFA3, DEFA5, FAM90A14, FAM90A13, LOC349196, FAM90A5, FAM90A20, FAM66B, DEFB109P1B, ZNF705G, DEFB103B, DEFB103A, SPAG11B, DEFB104B, DEFB104A, DEFB106B, DEFB106A, DEFB105B, DEFB105A, DEFB107B, DEFB107A, FAM90A7, FAM90A19, FAM90A18, FAM90A8, FAM90A9, FAM90A10, SPAG11A, DEFB4A, LOC100132396, FAM66E, MIR548I3, FLJ10661, SGK223, CLDN23, MFHAS1, ERI1, PPP1R3B, TNKS, MIR597, LOC157627, MIR124-1, MSRA, PRSS55, RP1L1, MIR4286, C8orf74, SOX7, PINX1, MIR1322, XKR6, MIR598, MTMR9, AMAC1L2, TDH, C8orf12, FAM167A, BLK, GATA4, NEIL2, FDFT1, CTSB, DEFB136, DEFB135, DEFB134, DEFB130, LOC100133267, ZNF705D, FAM66D, LOC392196, USP17L2, FAM86B1, FAM66A, DEFB109P1, FAM90A25P, FAM86B2, LONRF1, MIR3926-1, MIR3926-2, LOC340357, C8orf79, DLC1, C8orf48, SGCZ, MIR383, TUSC3, MSR1, FGF20, EFHA2, ZDHHC2, CNOT7, VPS37A, MTMR7, SLC7A2, PDGFRL, MTUS1, FGL1, PCM1, ASAH1, NAT1, NAT2, PSD3, SH2D4A, CSGALNACT1, INTS10, LPL, SLC18A1, ATP6V1B2, LZTS1, LOC286114, GFRA2, DOK2, XPO7, NPM2, FGF17, EPB49, FAM160B2, NUDT18, HR, REEP4, LGI3, SFTPC, BMP1, PHYHIP, MIR320A, POLR3D, PIWIL2, SLC39A14, PPP3CC, SORBS3, PDLIM2, C8orf58, KIAA1967, BIN3, FLJ14107, EGR3, PEBP4, RHOBTB2, TNFRSF10B, TNFRSF10C, TNFRSF10D, TNFRSF10A, LOC389641, CHMP7, R3HCC1, LOXL2, ENTPD4, SLC25A37, NKX3-1, NKX2-6, STC1, ADAM28, ADAMDEC1, ADAM7, NEFM, NEFL, DOCK5, GNRH1, KCTD9, CDCA2, EBF2, PPP2R2A, BNIP3L, PNMA2, DPYSL2, ADRA1A, STMN4, TRIM35, PTK2B, CHRNA2, EPHX2, CLU, SCARA3, MIR3622B, MIR3622A, CCDC25, ESCO2, PBK, SCARA5, MIR4287, C8orf80, ELP3, PNOC, ZNF395, FBXO16, FZD3, MIR4288, EXTL3, INTS9, HMBOX1, KIF13B, DUSP4, C8orf75, LOC286135, MIR3148, TMEM66, LEPROTL1, MBOAT4, DCTN6, RBPMS, GTF2E2, GSR, UBXN8, PPP2CB, TEX15, PURG, WRN, NRG1, FUT10, MAK16, C8orf41, RNF122, DUSP26, UNC5D, KCNU1, ZNF703, ERLIN2, LOC728024, PROSC, GPR124, BRF2, RAB11FIP1, GOT1L1, ADRB3 |
| 8 | q | 51193977 | 6314 | 0.01 | 8q11.22 | 1 | SNTG1 |
| 8 | p | 39352361 | 152895 | 0.34 | 8p11.23-p11.22 | 2 | ADAM5P, ADAM3A |
| 9 | q | 107567321 | 94 | 0.00 | 9q31.2 | 1 | TMEM38B |
| 9 | q | 100349567 | 1247 | 0.00 | 9q22.33 | 1 | GABBR2 |
| 9 | q | 70928471 | 2057 | 0.00 | 9q21.11 | 1 | TJP2 |
| 9 | q | 111616410 | 2718 | 0.00 | 9q31.3 | 2 | PALM2, PALM2-AKAP2 |
| 9 | q | 93436073 | 3789 | 0.00 | 9q22.31 | 2 | MIR3910-1, MIR3910-2 |
| 9 | q | 116122595 | 7738 | 0.01 | 9q32 | 1 | ORM1 |
| 9 | p | 19557805 | 24476 | 0.05 | 9p22.1 | 1 | SLC24A2 |
| 9 | p | 16538881 | 27557 | 0.05 | 9p22.3 | 1 | BNC2 |
| 9 | p | 43445839 | 153610 | 0.30 | 9p11.2 | 1 | FAM75A6 |
| 9 | p | 17260655 | 247875 | 0.48 | 9p22.2 | 1 | CNTLN |
| 9 | p | 189055 | 3152840 | 6.09 | 9p24.3-p24.2 | 12 | C9orf66, DOCK8, KANK1, DMRT1, DMRT3, DMRT2, SMARCA2, FLJ35024, VLDLR, KCNV2, KIAA0020, RFX3 |
| 9 | p | 20072229 | 6260722 | 12.09 | 9p21.3-p21.2 | 32 | MLLT3, KIAA1797, MIR491, PTPLAD2, IFNB1, IFNW1, IFNA21, IFNA4, IFNA7, IFNA10, IFNA16, IFNA17, IFNA14, IFNA22P, IFNA5, KLHL9, IFNA6, IFNA13, IFNA2, IFNA8, IFNA1, LOC554202, IFNE, MIR31, MTAP, C9orf53, CDKN2A, CDKN2B-AS1, CDKN2B, DMRTA1, ELAVL2, TUSC1 |
| 9 | p | 3365495 | 12607455 | 24.34 | 9p24.2-p22.3 | 43 | RFX3, GLIS3, C9orf70, SLC1A1, C9orf68, PPAPDC2, CDC37L1, AK3, RCL1, MIR101-2, JAK2, INSL6, INSL4, RLN2, RLN1, C9orf46, CD274, PDCD1LG2, KIAA1432, ERMP1, MLANA, KIAA2026, RANBP6, IL33, TPD52L3, UHRF2, GLDC, KDM4C, C9orf123, PTPRD, TYRP1, C9orf150, MPDZ, FLJ41200, NFIB, ZDHHC21, CER1, FREM1, LOC389705, TTC39B, SNAPC3, PSIP1, C9orf93 |
| 10 | q | 89626684 | 0 | 0.00 | 10q23.31 | 1 | PTEN |
| 10 | q | 53686515 | 1365 | 0.00 | 10q21.1 | 1 | PRKG1 |
| 10 | q | 132799212 | 2251 | 0.00 | 10q26.3 | 1 | TCERG1L |
| 10 | q | 77926390 | 2348 | 0.00 | 10q22.3 | 1 | C10orf11 |
| 10 | q | 124337860 | 2496 | 0.00 | 10q26.13 | 1 | DMBT1 |
| 10 | q | 114103547 | 2913 | 0.00 | 10q25.2 | 1 | GUCY2GP |
| 10 | p | 27040181 | 1631 | 0.00 | 10p12.1 | 1 | PDSS1 |
| 10 | q | 100678817 | 7970 | 0.01 | 10q24.2 | 1 | HPSE2 |
| 10 | p | 31287101 | 4424 | 0.01 | 10p11.23 | 1 | ZNF438 |
| 11 | q | 106744337 | 3583 | 0.00 | 11q22.3 | 1 | CWF19L2 |
| 11 | p | 20801973 | 4121 | 0.01 | 11p15.1 | 1 | NELL1 |
| 11 | p | 5834025 | 5899 | 0.01 | 11p15.4 | 1 | OR52E8 |
| 11 | p | 18906505 | 10686 | 0.02 | 11p15.1 | 1 | MRGPRX1 |
| 11 | p | 7771593 | 11899 | 0.02 | 11p15.4 | 1 | OR5P2 |
| 11 | q | 55123719 | 85907 | 0.11 | 11q11 | 4 | OR4C11, OR4P4, OR4S2, OR4C6 |
| 11 | p | 4926583 | 838855 | 1.59 | 11p15.4 | 37 | OR51A2, MMP26, OR51L1, OR52J3, OR52E2, OR52A4, OR52A5, OR52A1, OR51V1, HBB, HBD, HBBP1, HBG1, HBG2, HBE1, OR51B4, OR51B2, OR51B5, OR51B6, OR51M1, OR51Q1, OR51I1, OR51I2, OR52D1, UBQLN3, UBQLNL, OR52H1, OR52B6, TRIM6, TRIM6-TRIM34, TRIM34, TRIM78P, TRIM5, TRIM22, OR56B1, OR52N4, OR52N5 |
| 12 | p | 738240 | 4983 | 0.01 | 12p13.33 | 1 | WNK1 |
| 12 | q | 80663923 | 2828 | 0.00 | 12q21.31 | 1 | PPFIA2 |
| 12 | q | 100626837 | 2995 | 0.00 | 12q23.2 | 1 | CHPT1 |
| 12 | p | 10474825 | 11023 | 0.03 | 12p13.2 | 1 | KLRC2 |
| 12 | p | 11121204 | 19217 | 0.05 | 12p13.2 | 2 | PRH1, TAS2R43 |
| 13 | q | 18194544 | 95928796 | 97.89 | 13q11-q34 | 382 | LOC284232, LOC348021, PHF2P1, TUBA3C, LOC100101938, LOC100287114, TPTE2, MPHOSPH8, PSPC1, ZMYM5, ZMYM2, GJA3, GJB2, GJB6, CRYL1, IFT88, IL17D, N6AMT2, XPO4, LATS2, SAP18, SKA3, MRP63, ZDHHC20, EFHA1, FGF9, BASP1P1, SGCG, SACS, TNFRSF19, MIPEP, PCOTH, C1QTNF9B, SPATA13, MIR2276, C1QTNF9, PARP4, LOC374491, ATP12A, RNF17, CENPJ, TPTE2P1, PABPC3, FAM123A, MTMR6, NUPL1, ATP8A2, SHISA2, RNF6, CDK8, WASF3, GPR12, USP12, RPL21, RPL21P28, SNORD102, SNORA27, RASL11A, GTF3A, MTIF3, LNX2, POLR1D, GSX1, PDX1, ATP5EP2, CDX2, PRHOXNB, FLT3, LOC100288730, PAN3, FLT1, POMP, SLC46A3, MTUS2, SLC7A1, UBL3, LOC440131, KATNAL1, LOC100188949, HMGB1, USPL1, ALOX5AP, C13orf33, C13orf26, HSPH1, B3GALTL, RXFP2, EEF1DP3, FRY, ZAR1L, BRCA2, N4BP2L1, N4BP2L2, CG030, PDS5B, KL, STARD13, RFC3, NBEA, MAB21L1, MIR548F5, DCLK1, SOHLH2, C13orf38-SOHLH2, C13orf38, SPG20, CCNA1, C13orf36, RFXAP, SMAD9, ALG5, EXOSC8, FAM48A, CSNK1A1L, POSTN, TRPC4, UFM1, FREM2, STOML3, C13orf23, NHLRC3, LHFP, COG6, MIR4305, FLJ42392, LOC646982, FOXO1, MIR320D1, MRPS31, SLC25A15, SUGT1P3, MIR621, ELF1, WBP4, KBTBD6, KBTBD7, MTRF1, NAA16, OR7E37P, C13orf15, KIAA0564, DGKH, AKAP11, TNFSF11, C13orf30, EPSTI1, DNAJC15, ENOX1, CCDC122, C13orf31, NCRNA00284, SERP2, TSC22D1, NUFIP1, KIAA1704, GTF2F2, KCTD4, TPT1, SNORA31, LOC100190939, SLC25A30, COG3, FAM194B, SPERT, SIAH3, ZC3H13, CPB2, LCP1, C13orf18, LRCH1, ESD, HTR2A, SUCLA2, NUDT15, MED4, ITM2B, RB1, LPAR6, RCBTB2, CYSLTR2, FNDC3A, MLNR, CDADC1, CAB39L, SETDB2, PHF11, RCBTB1, ARL11, EBPL, KPNA3, CTAGE10P, C13orf1, DLEU2, MIR3613, TRIM13, KCNRG, MIR16-1, MIR15A, DLEU1, ST13P4, DLEU7, RNASEH2B, GUCY1B2, FAM124A, SERPINE3, INTS6, WDFY2, DHRS12, NCRNA00282, CCDC70, ATP7B, ALG11, UTP14C, NEK5, NEK3, THSD1P1, TPTE2P2, THSD1, VPS36, CKAP2, TPTE2P3, HNRNPA1L2, SUGT1, LECT1, MIR759, PCDH8, OLFM4, MIR1297, PRR20B, PRR20C, PRR20D, PRR20E, PRR20A, PCDH17, DIAPH3, TDRD3, MIR3169, PCDH20, OR7E156P, PCDH9, KLHL1, ATXN8OS, DACH1, MIR548I4, MZT1, C13orf34, DIS3, PIBF1, KLF5, KLF12, LOC338864, CTAGE11P, TBC1D4, COMMD6, UCHL3, LMO7, KCTD12, BTF3P11, CLN5, FBXL3, MYCBP2, SCEL, MIR3665, SLAIN1, EDNRB, POU4F1, RNF219, MIR548A2, RBM26, NDFIP2, SPRY2, SLITRK1, MIR548F1, SLITRK6, LOC642345, SLITRK5, MIR622, LOC144776, MIR17HG, MIR17, MIR18A, MIR19A, MIR20A, MIR19B1, MIR92A1, GPC5, GPC6, DCT, TGDS, GPR180, SOX21, ABCC4, CLDN10, DZIP1, DNAJC3, UGGT2, HS6ST3, OXGR1, MBNL2, RAP2A, IPO5, FARP1, RNF113B, MIR3170, STK24, SLC15A1, DOCK9, LOC100289373, UBAC2, GPR18, GPR183, FKSG29, MIR623, TM9SF2, CLYBL, MIR4306, ZIC5, ZIC2, PCCA, A2LD1, TMTC4, NALCN, ITGBL1, FGF14, LOC283480, LOC283481, TPP2, C13orf39, C13orf40, C13orf27, KDELC1, BIVM, ERCC5, LOC121952, SLC10A2, DAOA, LOC728192, EFNB2, ARGLU1, FAM155A, LIG4, ABHD13, TNFSF13B, MYO16, IRS2, COL4A1, COL4A2, RAB20, CARKD, CARS2, ING1, C13orf29, ANKRD10, ARHGEF7, C13orf16, SOX1, C13orf28, TUBGCP3, C13orf35, ATP11A, LOC100289410, MCF2L, F7, F10, PROZ, PCID2, CUL4A, LAMP1, GRTP1, ADPRHL1, DCUN1D2, TMCO3, TFDP1, ATP4B, GRK1, FLJ44054, GAS6, FAM70B, RASA3, CDC16, UPF3A, ZNF828 |
| 14 | q | 65143023 | 2097 | 0.00 | 14q23.3 | 1 | FUT8 |
| 14 | q | 72597009 | 3722 | 0.00 | 14q24.2 | 1 | RBM25 |
| 14 | q | 79176037 | 7117 | 0.01 | 14q31.1 | 1 | NRXN3 |
| 14 | q | 34676390 | 7420 | 0.01 | 14q13.2 | 1 | KIAA0391 |
| 14 | q | 73071404 | 20708 | 0.02 | 14q24.3 | 2 | HEATR4, ACOT1 |
| 14 | q | 18544772 | 949644 | 1.05 | 14q11.1-q11.2 | 9 | POTEG, POTEM, OR11H2, OR4Q3, OR4M1, OR4N2, OR4K2, OR4K5, OR4K1 |
| 15 | q | 18362555 | 26590605 | 32.04 | 15q11.1-q21.1 | 311 | HERC2P3, GOLGA6L6, GOLGA8C, BCL8, LOC646214, CXADRP2, POTEB, NF1P1, LOC727924, OR4M2, OR4N4, OR4N3P, REREP3, GOLGA8DP, GOLGA6L1, TUBGCP5, CYFIP1, NIPA2, NIPA1, WHAMML1, GOLGA8IP, HERC2P2, HERC2P7, GOLGA8E, MKRN3, MAGEL2, NDN, PWRN2, PWRN1, C15orf2, SNRPN, SNURF, SNORD107, PAR-SN, PAR5, SNORD64, SNORD108, SNORD109B, SNORD109A, SNORD116-1, SNORD116-2, SNORD116-3, SNORD116-9, SNORD116-4, SNORD116-5, SNORD116-7, SNORD116-6, SNORD116-8, SNORD116-10, SNORD116-11, SNORD116-12, SNORD116-13, SNORD116-14, SNORD116-15, SNORD116-16, SNORD116-19, SNORD116-17, SNORD116-18, SNORD116-20, SNORD116-21, SNORD116-22, SNORD116-23, SNORD116-24, SNORD116-25, SNORD116-26, SNORD116-27, SNORD116-28, SNORD116-29, IPW, PAR1, SNORD115-1, SNORD115-2, SNORD115-3, SNORD115-4, SNORD115-5, SNORD115-9, SNORD115-10, SNORD115-12, SNORD115-6, SNORD115-7, SNORD115-8, SNORD115-11, SNORD115-29, SNORD115-36, SNORD115-43, SNORD115-13, SNORD115-14, SNORD115-15, SNORD115-16, SNORD115-17, SNORD115-18, SNORD115-19, SNORD115-20, SNORD115-21, SNORD115-22, PAR4, SNORD115-23, SNORD115-24, SNORD115-25, SNORD115-26, HBII-52-27, HBII-52-28, SNORD115-30, SNORD115-31, SNORD115-32, SNORD115-33, SNORD115-34, SNORD115-35, SNORD115-37, SNORD115-38, SNORD115-39, SNORD115-40, SNORD115-41, SNORD115-42, SNORD115-44, HBII-52-45, HBII-52-46, SNORD115-48, UBE3A, ATP10A, GABRB3, GABRA5, GABRG3, OCA2, HERC2, GOLGA8F, GOLGA8G, HERC2P9, WHAMML2, LOC100289656, LOC646278, APBA2, FAM189A1, NDNL2, TJP1, FAM7A1, FAM7A2, FAM7A3, LOC653075, DKFZP434L187, CHRFAM7A, ARHGAP11B, FAN1, MTMR10, TRPM1, MIR211, KLF13, OTUD7A, CHRNA7, LOC100288615, ARHGAP11A, SCG5, GREM1, FMN1, RYR3, AVEN, CHRM5, C15orf24, PGBD4, C15orf29, TMEM85, SLC12A6, NOP10, C15orf55, LPCAT4, GOLGA8A, MIR1233-1, MIR1233-2, GOLGA8B, GJD2, ACTC1, AQR, ZNF770, LOC723972, ATPBD4, MIR3942, C15orf41, CSNK1A1P1, LOC145845, MEIS2, TMCO5A, SPRED1, FAM98B, RASGRP1, C15orf53, C15orf54, THBS1, FSIP1, GPR176, EIF2AK4, SRP14, BMF, BUB1B, PAK6, C15orf56, LOC100131244, PLCB2, C15orf52, PHGR1, DISP2, C15orf23, IVD, BAHD1, CHST14, MRPL42P5, C15orf57, RPUSD2, CASC5, RAD51, FAM82A2, GCHFR, DNAJC17, C15orf62, ZFYVE19, PPP1R14D, SPINT1, RHOV, VPS18, DLL4, CHAC1, INO80, EXD1, CHP, LOC729082, OIP5, NUSAP1, NDUFAF1, RTF1, ITPKA, LTK, RPAP1, TYRO3, MGA, MIR626, MAPKBP1, JMJD7, JMJD7-PLA2G4B, PLA2G4B, SPTBN5, MIR4310, EHD4, PLA2G4E, PLA2G4D, PLA2G4F, VPS39, MIR627, TMEM87A, GANC, CAPN3, ZFP106, SNAP23, LRRC57, HAUS2, STARD9, CDAN1, TTBK2, UBR1, TMEM62, CCNDBP1, EPB42, TGM5, TGM7, LCMT2, ADAL, ZSCAN29, TUBGCP4, TP53BP1, MAP1A, PPIP5K1, CKMT1B, STRC, CATSPER2, CKMT1A, CATSPER2P1, PDIA3, ELL3, SERF2, SERF2-C15ORF63, MIR1282, SERINC4, C15orf63, MFAP1, WDR76, FRMD5, LOC728758, CASC4, CTDSPL2, LOC645212, EIF3J, SPG11, PATL2, B2M, TRIM69, C15orf43, SORD, DUOX2, DUOXA2, DUOXA1, DUOX1, SHF, SLC28A2, GATM, LOC145663, SPATA5L1, C15orf48, MIR147B, SLC30A4, HMGN2P46, PLDN, SQRDL, MIR548A3 |
| 15 | q | 53442883 | 859 | 0.00 | 15q21.3 | 1 | CCPG1 |
| 15 | q | 75519691 | 981 | 0.00 | 15q24.3 | 1 | HMG20A |
| 15 | q | 82333698 | 1006 | 0.00 | 15q25.2 | 1 | ADAMTSL3 |
| 15 | q | 48096758 | 1598 | 0.00 | 15q21.2 | 1 | ATP8B4 |
| 15 | q | 47609502 | 2798 | 0.00 | 15q21.2 | 1 | C15orf33 |
| 15 | q | 45303210 | 5532 | 0.01 | 15q21.1 | 1 | SEMA6D |
| 15 | q | 74671626 | 8813 | 0.01 | 15q24.3 | 1 | SCAPER |
| 15 | q | 52519074 | 14153 | 0.02 | 15q21.3 | 1 | UNC13C |
| 15 | q | 46199006 | 17431 | 0.02 | 15q21.1 | 1 | SLC24A5 |
| 16 | q | 54405667 | 34284904 | 67.49 | 16q12.2-q24.3 | 354 | CES1, CES5A, LOC283856, GNAO1, DKFZP434H168, MIR3935, AMFR, NUDT21, OGFOD1, BBS2, MT4, MT3, MT2A, MT1L, MT1E, MT1M, MT1JP, MT1A, MT1DP, MT1B, MT1F, MT1G, MT1H, MT1IP, MT1X, NUP93, MIR138-2, SLC12A3, HERPUD1, CETP, NLRC5, CPNE2, FAM192A, RSPRY1, ARL2BP, PLLP, CCL22, CX3CL1, CCL17, CIAPIN1, COQ9, POLR2C, DOK4, CCDC102A, GPR114, GPR56, GPR97, CCDC135, KATNB1, KIFC3, CNGB1, TEPP, ZNF319, C16orf57, MMP15, C16orf80, CSNK2A2, CCDC113, PRSS54, GINS3, NDRG4, SETD6, CNOT1, SNORA46, SNORA50, SLC38A7, GOT2, LOC644649, CDH8, CDH11, LOC283867, CDH5, BEAN1, TK2, CKLF, CKLF-CMTM1, CMTM1, CMTM2, CMTM3, CMTM4, DYNC1LI2, CCDC79, NAE1, CA7, PDP2, CDH16, RRAD, FAM96B, CES2, CES3, CES4A, CBFB, C16orf70, B3GNT9, TRADD, FBXL8, HSF4, NOL3, KIAA0895L, EXOC3L1, E2F4, ELMO3, MIR328, LRRC29, TMEM208, FHOD1, SLC9A5, PLEKHG4, KCTD19, LRRC36, TPPP3, ZDHHC1, HSD11B2, ATP6V0D1, AGRP, FAM65A, CTCF, RLTPR, ACD, PARD6A, C16orf48, C16orf86, GFOD2, RANBP10, TSNAXIP1, CENPT, THAP11, NUTF2, EDC4, NRN1L, PSKH1, CTRL, PSMB10, LCAT, SLC12A4, DPEP3, DPEP2, DDX28, DUS2L, NFATC3, ESRP2, PLA2G15, SLC7A6, SLC7A6OS, PRMT7, SMPD3, ZFP90, CDH3, CDH1, TMCO7, HAS3, CHTF8, CIRH1A, SNTB2, VPS4A, PDF, COG8, NIP7, TMED6, TERF2, CYB5B, NFAT5, MIR1538, NQO1, NOB1, WWP2, MIR140, CLEC18A, PDXDC2P, PDPR, CLEC18C, LOC729513, EXOSC6, AARS, DDX19B, DDX19A, ST3GAL2, FUK, COG4, SF3B3, MIR3647, SNORD111B, SNORD111, IL34, MTSS1L, VAC14, LOC100130894, HYDIN, FTSJD1, CALB2, ZNF23, ZNF19, CHST4, TAT, MARVELD3, PHLPP2, SNORA70D, AP1G1, SNORD71, ATXN1L, ZNF821, KIAA0174, PKD1L3, DHODH, HP, HPR, TXNL4B, DHX38, PMFBP1, ZFHX3, HTA, PSMD7, LOC283922, CLEC18B, GLG1, RFWD3, MLKL, FA2H, WDR59, ZNRF1, LDHD, ZFP1, CTRB2, CTRB1, BCAR1, CFDP1, TMEM170A, CHST6, CHST5, TMEM231, GABARAPL2, ADAT1, KARS, TERF2IP, CNTNAP4, MON1B, SYCE1L, ADAMTS18, NUDT7, VAT1L, CLEC3A, WWOX, MAF, DYNLRB2, CDYL2, C16orf61, CENPN, ATMIN, C16orf46, GCSH, LOC100329108, PKD1L2, BCMO1, GAN, CMIP, PLCG2, SDR42E1, HSD17B2, MPHOSPH6, CDH13, MIR3182, HSBP1, MLYCD, OSGIN1, NECAB2, SLC38A8, MBTPS1, HSDL1, LRRC50, TAF1C, ADAD2, KCNG4, WFDC1, ATP2C2, KIAA1609, COTL1, KLHL36, USP10, CRISPLD2, ZDHHC7, KIAA0513, FAM92B, LOC400548, KIAA0182, GINS2, C16orf74, MIR1910, COX4NB, COX4I1, IRF8, LOC732275, LOC400550, FOXF1, MTHFSD, FLJ30679, FOXC2, FOXL1, LOC100506581, FBXO31, MAP1LC3B, ZCCHC14, JPH3, LOC100129637, KLHDC4, SLC7A5, CA5A, BANP, ZNF469, ZFPM1, ZC3H18, IL17C, CYBA, MVD, MGC23284, SNAI3, RNF166, CTU2, FAM38A, CDT1, APRT, GALNS, TRAPPC2L, PABPN1L, CBFA2T3, ACSF3, C16orf81, CDH15, ZNF778, ANKRD11, SPG7, RPL13, SNORD68, CPNE7, DPEP1, CHMP1A, C16orf55, CDK10, SPATA2L, C16orf7, LOC100128881, ZNF276, FANCA, SPIRE2, TCF25, MC1R, TUBB3, DEF8, CENPBD1, AFG3L1P, DBNDD1, GAS8, C16orf3, LOC100130015, PRDM7 |
| 16 | q | 48374195 | 6015817 | 11.84 | 16q12.1-q12.2 | 28 | ZNF423, TMEM188, HEATR3, PAPD5, ADCY7, BRD7, NKD1, SNX20, NOD2, CYLD, SALL1, TOX3, LOC643714, CHD9, RBL2, AKTIP, RPGRIP1L, FTO, IRX3, CRNDE, IRX5, IRX6, MMP2, LPCAT2, CAPNS2, SLC6A2, CES1P2, CES1P1 |
| 17 | p | 1909371 | 34801218 | 156.76 | 17p13.3-q21.2 | 614 | HIC1, SMG6, SRR, TSR1, SNORD91B, SNORD91A, SGSM2, MNT, LOC284009, METT10D, PAFAH1B1, KIAA0664, MIR1253, RAP1GAP2, OR1D5, OR1D2, OR1G1, OR1A2, OR1A1, OR1D4, OR3A2, OR3A1, OR3A4, OR1E1, OR3A3, OR1E2, SPATA22, ASPA, TRPV3, TRPV1, SHPK, CTNS, TAX1BP3, TMEM93, P2RX5, ITGAE, GSG2, C17orf85, CAMKK1, P2RX1, ATP2A3, ZZEF1, CYB5D2, ANKFY1, UBE2G1, SPNS3, SPNS2, MYBBP1A, GGT6, SMTNL2, ALOX15, PELP1, ARRB2, MED11, CXCL16, ZMYND15, TM4SF5, VMO1, GLTPD2, PSMB6, PLD2, MINK1, CHRNE, C17orf107, GP1BA, SLC25A11, RNF167, PFN1, ENO3, SPAG7, CAMTA2, INCA1, KIF1C, GPR172B, ZFP3, ZNF232, USP6, ZNF594, LOC100130950, C17orf87, RABEP1, NUP88, RPAIN, C1QBP, DHX33, DERL2, MIS12, LOC728392, NLRP1, WSCD1, AIPL1, FAM64A, PITPNM3, KIAA0753, TXNDC17, MED31, C17orf100, SLC13A5, XAF1, FBXO39, TEKT1, ALOX12P2, ALOX12, RNASEK, RNASEK-C17ORF49, C17orf49, MIR195, MIR497, BCL6B, SLC16A13, SLC16A11, CLEC10A, ASGR2, ASGR1, DLG4, ACADVL, MIR324, DVL2, PHF23, GABARAP, CTDNEP1, C17orf81, CLDN7, SLC2A4, YBX2, EIF5A, GPS2, NEURL4, ACAP1, KCTD11, TMEM95, TNK1, PLSCR3, C17orf61-PLSCR3, C17orf61, NLGN2, SPEM1, C17orf74, TMEM102, FGF11, CHRNB1, ZBTB4, AMAC1L3, POLR2A, TNFSF12, TNFSF12-TNFSF13, TNFSF13, SENP3, EIF4A1, SNORA48, SNORD10, SNORA67, CD68, MPDU1, SOX15, FXR2, SHBG, SAT2, ATP1B2, TP53, WRAP53, EFNB3, DNAH2, RPL29P2, KDM6B, TMEM88, LSMD1, CYB5D1, CHD3, SCARNA21, LOC284023, KCNAB3, TRAPPC1, CNTROB, GUCY2D, ALOX15B, ALOX12B, MIR4314, ALOXE3, HES7, PER1, VAMP2, TMEM107, MIR3676, C17orf59, AURKB, C17orf44, C17orf68, PFAS, SLC25A35, RANGRF, ARHGEF15, ODF4, LOC100128288, KRBA2, RPL26, RNF222, NDEL1, MYH10, CCDC42, SPDYE4, MFSD6L, PIK3R6, PIK3R5, NTN1, STX8, WDR16, USP43, DHRS7C, GLP2R, RCVRN, GAS7, MYH13, MYH8, MYH4, MYH1, MYH2, MYH3, SCO1, C17orf48, TMEM220, LOC100289255, PIRT, SHISA6, DNAH9, ZNF18, MAP2K4, MIR744, FLJ34690, MYOCD, ARHGAP44, ELAC2, HS3ST3A1, CDRT15P, COX10, CDRT15, HS3ST3B1, MGC12916, CDRT7, PMP22, TEKT3, CDRT4, FAM18B2, CDRT1, TRIM16, ZNF286A, TBC1D26, CDRT15L1, MEIS3P1, ADORA2B, ZSWIM7, TTC19, NCOR1, PIGL, MIR1288, CENPV, UBB, TRPV2, NCRNA00188, SNORD49B, SNORD49A, SNORD65, C17orf76, ZNF287, ZNF624, CCDC144A, LOC162632, FAM106C, KRT16P2, TNFRSF13B, MPRIP, PLD6, FLCN, COPS3, NT5M, MED9, RASD1, PEMT, RAI1, SMCR5, SREBF1, MIR33B, TOM1L2, LRRC48, ATPAF2, C17orf39, DRG2, MYO15A, ALKBH5, LLGL1, FLII, SMCR7, TOP3A, SMCR8, SHMT1, EVPLL, LOC339240, LGALS9C, LOC220594, FAM106A, CCDC144B, TBC1D28, ZNF286B, FOXO3B, TRIM16L, FBXW10, FAM18B1, PRPSAP2, SLC5A10, FAM83G, GRAP, GRAPL, EPN2, B9D1, MIR1180, MAPK7, MFAP4, RNF112, SLC47A1, ALDH3A2, SLC47A2, ALDH3A1, ULK2, AKAP10, SPECC1, CCDC144C, LGALS9B, KRT16P3, CDRT15L2, CCDC144NL, USP22, DHRS7B, TMEM11, C17orf103, MAP2K3, KCNJ12, KCNJ18, C17orf51, FAM27L, FLJ36000, MTRNR2L1, WSB1, LOC440419, KSR1, LGALS9, NOS2, C17orf108, NLK, PYY2, PPY2, FLJ40504, TMEM97, IFT20, TNFAIP1, POLDIP2, TMEM199, SEBOX, VTN, SARM1, SLC46A1, SLC13A2, FOXN1, UNC119, PIGS, ALDOC, SPAG5, SGK494, KIAA0100, SDF2, SUPT6H, PROCA1, RAB34, RPL23A, SNORD42B, SNORD4A, SNORD42A, SNORD4B, TLCD1, NEK8, TRAF4, C17orf63, ERAL1, MIR451, MIR144, FLOT2, DHRS13, PHF12, SEZ6, PIPOX, MYO18A, TIAF1, CRYBA1, NUFIP2, TAOK1, ABHD15, TP53I13, GIT1, ANKRD13B, CORO6, SSH2, EFCAB5, CCDC55, MIR423, MIR3184, SLC6A4, BLMH, TMIGD1, CPD, GOSR1, TBC1D29, LRRC37BP1, SH3GL1P2, SUZ12P, CRLF3, ATAD5, C17orf42, ADAP2, RNF135, DPRXP4, NF1, OMG, EVI2B, EVI2A, RAB11FIP4, MIR193A, MIR365-2, C17orf79, UTP6, SUZ12, LRRC37B, SH3GL1P1, RHOT1, ARGFXP2, RHBDL3, C17orf75, MIR632, ZNF207, PSMD11, CDK5R1, MYO1D, TMEM98, SPACA3, ACCN1, AA06, CCL2, CCL7, CCL11, CCL8, CCL13, CCL1, C17orf102, TMEM132E, CCT6B, ZNF830, LIG3, RFFL, RAD51L3-RFFL, RAD51L3, FNDC8, NLE1, UNC45B, AMAC1, SLFN5, SLFN11, SLFN12, SLFN13, SLFN12L, SLFN14, SNORD7, PEX12, AP2B1, RASL10B, GAS2L2, C17orf50, MMP28, TAF15, C17orf66, CCL5, RDM1, LYZL6, CCL16, CCL14, CCL14-CCL15, CCL15, CCL23, CCL18, CCL3, CCL4, TBC1D3B, CCL3L3, CCL3L1, CCL4L2, CCL4L1, TBC1D3C, TBC1D3F, TBC1D3H, TBC1D3G, ZNHIT3, MYO19, PIGW, GGNBP2, DHRS11, MRM1, LHX1, AATF, MIR2909, ACACA, C17orf78, TADA2A, DUSP14, SYNRG, DDX52, HNF1B, LOC284100, TBC1D3, LOC440434, MRPL45, GPR179, SOCS7, ARHGAP23, SRCIN1, C17orf96, MLLT6, CISD3, PCGF2, PSMB3, PIP4K2B, CWC25, C17orf98, RPL23, SNORA21, LASP1, FBXO47, FLJ43826, LOC100131347, PLXDC1, ARL5C, CACNB1, RPL19, STAC2, FBXL20, MED1, CDK12, NEUROD2, PPP1R1B, STARD3, TCAP, PNMT, PGAP3, ERBB2, C17orf37, GRB7, IKZF3, ZPBP2, GSDMB, ORMDL3, LOC728129, GSDMA, PSMD3, CSF3, MED24, SNORD124, THRA, NR1D1, MSL1, CASC3, RAPGEFL1, WIPF2, CDC6, RARA, GJD3, TOP2A, IGFBP4, TNS4, CCR7, SMARCE1, KRT222, KRT24, KRT25, KRT26, KRT27, KRT28, KRT10, TMEM99, KRT12, KRT20, KRT23, KRT39, KRT40, KRTAP3-3, KRTAP3-2, KRTAP3-1, KRTAP1-5, KRTAP1-3, KRTAP1-1, KRTAP2-1, LOC730755, KRTAP2-4, KRTAP4-7, KRTAP4-8, KRTAP4-9, KRTAP4-11, KRTAP4-12, KRTAP4-5, KRTAP4-4, KRTAP4-3, KRTAP4-2, KRTAP4-1, KRTAP9-1, KRTAP9-2, KRTAP9-3, KRTAP9-8, KRTAP9-4, KRTAP9-9 |
| 17 | q | 38308109 | 0 | 0.00 | 17q21.31 | 1 | G6PC |
| 17 | q | 40245444 | 1434 | 0.00 | 17q21.31 | 1 | GJC1 |
| 17 | q | 38285577 | 1444 | 0.00 | 17q21.31 | 1 | LOC388387 |
| 17 | q | 37386398 | 2669 | 0.00 | 17q21.2 | 1 | DNAJC7 |
| 17 | q | 68327352 | 4277 | 0.01 | 17q24.3 | 1 | SLC39A11 |
| 17 | q | 38443231 | 7674 | 0.01 | 17q21.31 | 1 | BRCA1 |
| 17 | q | 37861340 | 9114 | 0.02 | 17q21.31 | 1 | ATP6V0A1 |
| 17 | q | 36726350 | 58936 | 0.10 | 17q21.2 | 2 | KRT33A, KRT33B |
| 17 | q | 41521544 | 188856 | 0.33 | 17q21.31 | 2 | KIAA1267, LOC644246 |
| 17 | p | 1031233 | 873218 | 3.93 | 17p13.3 | 25 | BHLHA9, TUSC5, YWHAE, CRK, MYO1C, INPP5K, LOC100306951, PITPNA, SLC43A2, SCARF1, RILP, PRPF8, TLCD2, C17orf91, MIR22, WDR81, SERPINF2, SERPINF1, SMYD4, RPA1, RTN4RL1, DPH1, OVCA2, MIR132, MIR212 |
| 17 | p | 47546 | 981433 | 4.42 | 17p13.3 | 13 | RPH3AL, C17orf97, FAM101B, VPS53, FAM57A, GEMIN4, DBIL5P, GLOD4, RNMTL1, NXN, TIMM22, ABR, MIR3183 |
| 18 | q | 33659862 | 42456164 | 70.88 | 18q12.2-q23 | 151 | LOC647946, KC6, PIK3C3, RIT2, SYT4, SETBP1, MIR4319, SLC14A2, SLC14A1, SIGLEC15, KIAA1632, PSTPIP2, ATP5A1, HAUS1, C18orf25, RNF165, LOXHD1, ST8SIA5, PIAS2, KATNAL2, TCEB3CL, TCEB3C, TCEB3B, HDHD2, IER3IP1, SMAD2, ZBTB7C, CTIF, SMAD7, DYM, C18orf32, RPL17-C18ORF32, MIR1539, RPL17, SNORD58C, U58, SNORD58A, SNORD58B, LIPG, ACAA2, SCARNA17, MYO5B, MIR4320, CCDC11, MBD1, CXXC1, SKA1, MAPK4, MRO, ME2, ELAC1, SMAD4, MEX3C, DCC, MBD2, SNORA37, POLI, STARD6, C18orf54, C18orf26, RAB27B, CCDC68, TCF4, TXNL1, WDR7, BOD1P, ST8SIA3, ONECUT2, FECH, NARS, ATP8B1, NEDD4L, MIR122, ALPK2, MALT1, ZNF532, LOC390858, SEC11C, GRP, RAX, CPLX4, LMAN1, CCBE1, PMAIP1, MC4R, CDH20, RNF152, PIGN, KIAA1468, TNFRSF11A, ZCCHC2, PHLPP1, BCL2, KDSR, VPS4B, SERPINB5, SERPINB12, SERPINB13, SERPINB4, SERPINB3, SERPINB11, SERPINB7, SERPINB2, SERPINB10, HMSD, SERPINB8, C18orf20, LOC284294, LOC400654, CDH7, CDH19, DSEL, LOC643542, TMX3, CCDC102B, DOK6, CD226, RTTN, SOCS6, CBLN2, NETO1, LOC400655, FBXO15, C18orf55, CYB5A, DKFZP781G0119, FAM69C, CNDP2, CNDP1, LOC400657, ZNF407, ZADH2, TSHZ1, C18orf62, ZNF516, LOC284276, ZNF236, MBP, GALR1, SALL3, ATP9B, NFATC1, CTDP1, KCNG2, PQLC1, HSBP1L1, TXNL4A, RBFA, ADNP2, LOC100130522, PARD6G |
| 18 | q | 32460718 | 1868 | 0.00 | 18q12.2 | 1 | FHOD3 |
| 18 | q | 32791206 | 7691 | 0.01 | 18q12.2 | 1 | KIAA1328 |
| 19 | p | 3592564 | 1082 | 0.00 | 19p13.3 | 1 | PIP5K1C |
| 19 | p | 19699024 | 1596 | 0.01 | 19p13.11 | 1 | ZNF14 |
| 19 | q | 59249279 | 2552 | 0.01 | 19q13.42 | 1 | VSTM1 |
| 19 | q | 59492650 | 4399 | 0.01 | 19q13.42 | 1 | LILRA3 |
| 19 | q | 41533405 | 5244 | 0.01 | 19q13.12 | 1 | ZFP14 |
| 19 | q | 59421197 | 13005 | 0.04 | 19q13.42 | 1 | LILRA6 |
| 19 | q | 56825794 | 14552 | 0.04 | 19q13.33 | 1 | SIGLEC14 |
| 20 | p | 1511632 | 20801 | 0.08 | 20p13 | 1 | SIRPB1 |
| 22 | q | 21579649 | 27991419 | 73.28 | 22q11.22-q13.33 | 402 | RTDR1, GNAZ, RAB36, BCR, FBXW4P1, CES5AP1, ZDHHC8P1, IGLL1, C22orf43, LOC91316, RGL4, ZNF70, VPREB3, C22orf15, CHCHD10, MMP11, SMARCB1, DERL3, SLC2A11, MIF, GSTT2B, GSTT2, DDTL, DDT, GSTTP1, LOC391322, GSTT1, GSTTP2, CABIN1, SUSD2, GGT5, POM121L9P, SPECC1L, ADORA2A, C22orf45, UPB1, C22orf13, SNRPD3, GGT1, C22orf36, BCRP3, POM121L10P, PIWIL3, TOP1P2, SGSM1, TMEM211, KIAA1671, CRYBB3, CRYBB2, IGLL3P, LRP5L, CRYBB2P1, ADRBK2, MYO18B, MIR1302-1, SEZ6L, ASPHD2, HPS4, SRRD, TFIP11, TPST2, MIR548J, CRYBB1, CRYBA4, MIAT, MN1, PITPNB, TTC28-AS1, MIR3199-1, MIR3199-2, TTC28, CHEK2, HSCB, CCDC117, XBP1, ZNRF3, C22orf31, KREMEN1, EMID1, RHBDD3, EWSR1, GAS2L1, RASL10A, AP1B1, MIR3653, SNORD125, RFPL1S, RFPL1, NEFH, THOC5, NIPSNAP1, NF2, CABP7, ZMAT5, UQCR10, ASCC2, MTMR3, HORMAD2, LIF, OSM, GATSL3, TBC1D10A, SF3A1, CCDC157, RNF215, SEC14L2, MTFP1, SEC14L3, SDC4P, SEC14L4, LOC730005, GAL3ST1, PES1, TCN2, SLC35E4, DUSP18, OSBP2, MIR3200, C22orf27, MORC2, TUG1, SMTN, SELM, INPP5J, PLA2G3, MIR3928, RNF185, LIMK2, PIK3IP1, PATZ1, DRG1, EIF4ENIF1, SFI1, PISD, PRR14L, DEPDC5, C22orf24, YWHAH, SLC5A1, C22orf42, RFPL2, SLC5A4, RFPL3, RFPL3S, C22orf28, BPIL2, FBXO7, SYN3, TIMP3, LARGE, ISX, HMGXB4, TOM1, MIR3909, HMOX1, MCM5, RASD2, MB, APOL6, APOL5, RBFOX2, APOL3, APOL4, APOL2, APOL1, MYH9, TXN2, FOXRED2, EIF3D, CACNG2, IFT27, PVALB, NCF4, CSF2RB, C22orf33, TST, MPST, KCTD17, TMPRSS6, IL2RB, C1QTNF6, SSTR3, RAC2, CYTH4, ELFN2, MFNG, CARD10, CDC42EP1, LGALS2, GGA1, SH3BP1, PDXP, LGALS1, NOL12, TRIOBP, H1F0, GCAT, GALR3, ANKRD54, MIR658, MIR659, EIF3L, MICALL1, C22orf23, POLR2F, SOX10, PICK1, SLC16A8, BAIAP2L2, PLA2G6, MAFF, TMEM184B, CSNK1E, LOC400927, KCNJ4, KDELR3, DDX17, DMC1, LOC646851, CBY1, TOMM22, JOSD1, GTPBP1, SUN2, DNAL4, NPTXR, CBX6, APOBEC3A, APOBEC3B, APOBEC3C, APOBEC3D, APOBEC3F, APOBEC3G, APOBEC3H, CBX7, PDGFB, RPL3, SNORD83B, SNORD83A, RNU86, SNORD43, SYNGR1, TAB1, MGAT3, SMCR7L, ATF4, RPS19BP1, CACNA1I, ENTHD1, GRAP2, FAM83F, TNRC6B, ADSL, SGSM3, MKL1, MCHR1, SLC25A17, ST13, XPNPEP3, DNAJB7, RBX1, MIR1281, EP300, L3MBTL2, CHADL, RANGAP1, ZC3H7B, TEF, TOB2, PHF5A, ACO2, POLR3H, CSDC2, PMM1, PPPDE2, XRCC6, NHP2L1, C22orf46, MEI1, CCDC134, SREBF2, MIR33A, TNFRSF13C, CENPM, LOC339674, SEPT3, WBP2NL, NAGA, FAM109B, C22orf32, NDUFA6, LOC100132273, CYP2D6, CYP2D7P1, TCF20, LOC388906, NFAM1, SERHL, RRP7A, SERHL2, RRP7B, POLDIP3, RNU12, CYB5R3, ATP5L2, A4GALT, ARFGAP3, PACSIN2, TTLL1, BIK, MCAT, TSPO, TTLL12, SCUBE1, MPPED1, EFCAB6, SULT4A1, PNPLA5, PNPLA3, SAMM50, PARVB, PARVG, KIAA1644, LDOC1L, NCRNA00207, PRR5, PRR5-ARHGAP8, ARHGAP8, PHF21B, NUP50, C22orf9, MIR1249, UPK3A, FAM118A, SMC1B, RIBC2, FBLN1, ATXN10, WNT7B, LOC730668, LOC100271722, C22orf26, LOC150381, LOC400931, MIR3619, MIRLET7A3, MIRLET7B, PPARA, C22orf40, PKDREJ, TTC38, CN5H6.4, GTSE1, TRMU, CELSR1, GRAMD4, CERK, TBC1D22A, FLJ46257, MIR3201, FAM19A5, C22orf34, BRD1, LOC90834, ZBED4, ALG12, CRELD2, PIM3, IL17REL, TTLL8, MLC1, MOV10L1, PANX2, TRABD, SELO, TUBGCP6, HDAC10, MAPK12, MAPK11, PLXNB2, FAM116B, PPP6R2, SBF1, ADM2, MIOX, LMF2, NCAPH2, SCO2, TYMP, ODF3B, KLHDC7B, C22orf41, CPT1B, CHKB-CPT1B, CHKB, LOC100144603, MAPK8IP2, ARSA, SHANK3, ACR, RPL23AP82, RABL2B |
| 22 | q | 20499305 | 31374 | 0.08 | 22q11.21-q11.22 | 1 | MAPK1 |
| 22 | q | 20542708 | 67001 | 0.18 | 22q11.22 | 2 | MAPK1, PPM1F |
| 22 | q | 20614323 | 957166 | 2.51 | 22q11.22 | 12 | PPM1F, TOP3B, VPREB1, LOC96610, ZNF280B, ZNF280A, PRAME, LOC648691, POM121L1P, GGTLC2, MIR650, IGLL5 |
| 22 | q | 14513474 | 2755565 | 7.21 | 22q11.1-q11.21 | 25 | POTEH, OR11H1, CCT8L2, psiTPTE22, XKR3, HSFY1P1, GAB4, CECR7, IL17RA, CECR6, CECR5, CECR4, CECR1, CECR2, SLC25A18, ATP6V1E1, BCL2L13, BID, MIR3198, MICAL3, FLJ41941, PEX26, TUBA8, USP18, GGT3P |

**Supplementary Table 2: Genes with significant correlation between copy number and gene expression**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Gene Symbol** | **Location** | **Correlation Coefficient** | **p-value** | **qFDR** |
| *AARS* | Chr16q | 0.4619 | <0.0001 | <0.0001 |
| *AATF* | Chr17q | 0.3449 | <0.0001 | <0.0001 |
| *ABCB8* | Chr7q | 0.3092 | <0.0001 | <0.0001 |
| *ABCC4* | Chr13q | 0.2712 | <0.0001 | <0.0001 |
| *ABCC5* | Chr3q | 0.3705 | <0.0001 | <0.0001 |
| *ABCE1* | Chr4q | 0.6457 | <0.0001 | <0.0001 |
| *ABCF2* | Chr7q | 0.6552 | <0.0001 | <0.0001 |
| *ABCF3* | Chr3q | 0.5184 | <0.0001 | <0.0001 |
| *ABHD8* | Chr19p | 0.3976 | <0.0001 | <0.0001 |
| *ACAA2* | Chr18q | 0.3178 | <0.0001 | <0.0001 |
| *ACACA* | Chr17q | 0.2391 | <0.0001 | <0.0001 |
| *ACADVL* | Chr17p | 0.4644 | <0.0001 | <0.0001 |
| *ACAP2* | Chr3q | 0.5527 | <0.0001 | <0.0001 |
| *ACAT2* | Chr6q | 0.3644 | <0.0001 | <0.0001 |
| *ACD* | Chr16q | 0.4438 | <0.0001 | <0.0001 |
| *ACO2* | Chr22q | 0.4073 | <0.0001 | <0.0001 |
| *ACOT8* | Chr20q | 0.4373 | <0.0001 | <0.0001 |
| *ACP5* | Chr19p | 0.214 | <0.0001 | <0.0001 |
| *ACP6* | Chr1q | 0.2179 | <0.0001 | <0.0001 |
| *ACPP* | Chr3q | 0.189 | <0.0001 | <0.0001 |
| *ACSL1* | Chr4q | 0.3251 | <0.0001 | <0.0001 |
| *ACTL6A* | Chr3q | 0.5644 | <0.0001 | <0.0001 |
| *ACTN4* | Chr19q | 0.52 | <0.0001 | <0.0001 |
| *ACTR3B* | Chr7q | 0.4442 | <0.0001 | <0.0001 |
| *ACTR5* | Chr20q | 0.4324 | <0.0001 | <0.0001 |
| *ADA* | Chr20q | 0.2801 | <0.0001 | <0.0001 |
| *ADAM28* | Chr8p | 0.2265 | <0.0001 | <0.0001 |
| *ADAMTS3* | Chr4q | 0.2091 | <0.0001 | <0.0001 |
| *ADAR* | Chr1q | 0.3479 | <0.0001 | <0.0001 |
| *ADAT1* | Chr16q | 0.5053 | <0.0001 | <0.0001 |
| *ADCK2* | Chr7q | 0.5075 | <0.0001 | <0.0001 |
| *ADH5* | Chr4q | 0.4747 | <0.0001 | <0.0001 |
| *ADIPOR2* | Chr12p | 0.6525 | <0.0001 | <0.0001 |
| *ADNP* | Chr20q | 0.4587 | <0.0001 | <0.0001 |
| *ADNP2* | Chr18q | 0.4196 | <0.0001 | <0.0001 |
| *ADRBK2* | Chr22q | 0.2857 | <0.0001 | <0.0001 |
| *ADRM1* | Chr20q | 0.448 | <0.0001 | <0.0001 |
| *ADSL* | Chr22q | 0.4728 | <0.0001 | <0.0001 |
| *AFF1* | Chr4q | 0.359 | <0.0001 | <0.0001 |
| *AGA* | Chr4q | 0.4572 | <0.0001 | <0.0001 |
| *AGGF1* | Chr5q | 0.5457 | <0.0001 | <0.0001 |
| *AGK* | Chr7q | 0.6475 | <0.0001 | <0.0001 |
| *AGPAT1* | Chr6p | 0.4683 | <0.0001 | <0.0001 |
| *AGPAT4* | Chr6q | 0.3856 | <0.0001 | <0.0001 |
| *AGPAT5* | Chr8p | 0.5659 | <0.0001 | <0.0001 |
| *AHCY* | Chr20q | 0.3404 | <0.0001 | <0.0001 |
| *AHCYL2* | Chr7q | 0.4234 | <0.0001 | <0.0001 |
| *AHI1* | Chr6q | 0.4554 | <0.0001 | <0.0001 |
| *AIM1* | Chr6q | 0.3584 | <0.0001 | <0.0001 |
| *AIMP1* | Chr4q | 0.5422 | <0.0001 | <0.0001 |
| *AKAP10* | Chr17p | 0.3294 | <0.0001 | <0.0001 |
| *AKAP11* | Chr13q | 0.5966 | <0.0001 | <0.0001 |
| *AKAP12* | Chr6q | 0.1851 | <0.0001 | <0.0001 |
| *AKAP3* | Chr12p | 0.2036 | <0.0001 | <0.0001 |
| *AKAP7* | Chr6q | 0.3398 | <0.0001 | <0.0001 |
| *AKAP8* | Chr19p | 0.605 | <0.0001 | <0.0001 |
| *AKAP8L* | Chr19p | 0.4093 | <0.0001 | <0.0001 |
| *AKR1B1* | Chr7q | 0.1769 | <0.0001 | <0.0001 |
| *AKT2* | Chr19q | 0.3224 | <0.0001 | <0.0001 |
| *ALDH3A2* | Chr17p | 0.3281 | <0.0001 | <0.0001 |
| *ALDH8A1* | Chr6q | 0.1714 | <0.0001 | <0.0001 |
| *ALG12* | Chr22q | 0.4343 | <0.0001 | <0.0001 |
| *ALG3* | Chr3q | 0.5702 | <0.0001 | <0.0001 |
| *ALG5* | Chr13q | 0.5157 | <0.0001 | <0.0001 |
| *ALG8* | Chr11q | 0.549 | <0.0001 | <0.0001 |
| *AMD1* | Chr6q | 0.4768 | <0.0001 | <0.0001 |
| *AMFR* | Chr16q | 0.4191 | <0.0001 | <0.0001 |
| *AMOTL2* | Chr3q | 0.2451 | <0.0001 | <0.0001 |
| *ANAPC10* | Chr4q | 0.5973 | <0.0001 | <0.0001 |
| *ANAPC13* | Chr3q | 0.218 | <0.0001 | <0.0001 |
| *ANKFY1* | Chr17p | 0.3135 | <0.0001 | <0.0001 |
| *ANKRA2* | Chr5q | 0.4791 | <0.0001 | <0.0001 |
| *ANKRD10* | Chr13q | 0.4811 | <0.0001 | <0.0001 |
| *ANKRD11* | Chr16q | 0.3372 | <0.0001 | <0.0001 |
| *ANKRD17* | Chr4q | 0.5592 | <0.0001 | <0.0001 |
| *ANKRD27* | Chr19q | 0.5348 | <0.0001 | <0.0001 |
| *ANKRD46* | Chr8q | 0.4272 | <0.0001 | <0.0001 |
| *ANKRD6* | Chr6q | 0.1939 | <0.0001 | <0.0001 |
| *ANO2* | Chr12p | 0.3104 | <0.0001 | <0.0001 |
| *ANP32E* | Chr1q | 0.2936 | <0.0001 | <0.0001 |
| *ANXA13* | Chr8q | 0.178 | <0.0001 | <0.0001 |
| *ANXA3* | Chr4q | 0.2619 | <0.0001 | <0.0001 |
| *ANXA5* | Chr4q | 0.3499 | <0.0001 | <0.0001 |
| *AP1AR* | Chr4q | 0.6057 | <0.0001 | <0.0001 |
| *AP1B1* | Chr22q | 0.5454 | <0.0001 | <0.0001 |
| *AP1G1* | Chr16q | 0.5115 | <0.0001 | <0.0001 |
| *AP1M2* | Chr19p | 0.5202 | <0.0001 | <0.0001 |
| *AP2B1* | Chr17q | 0.4048 | <0.0001 | <0.0001 |
| *AP2M1* | Chr3q | 0.557 | <0.0001 | <0.0001 |
| *AP3B1* | Chr5q | 0.4454 | <0.0001 | <0.0001 |
| *AP3M2* | Chr8p | 0.4095 | <0.0001 | <0.0001 |
| *APH1A* | Chr1q | 0.2978 | <0.0001 | <0.0001 |
| *APLP1* | Chr19q | 0.2344 | <0.0001 | <0.0001 |
| *APOBEC3B* | Chr22q | 0.1874 | <0.0001 | <0.0001 |
| *APOBEC3C* | Chr22q | 0.2078 | <0.0001 | <0.0001 |
| *APOBEC3F* | Chr22q | 0.2401 | <0.0001 | <0.0001 |
| *APOBEC3G* | Chr22q | 0.2554 | <0.0001 | <0.0001 |
| *APOL1* | Chr22q | 0.3459 | <0.0001 | <0.0001 |
| *APOL2* | Chr22q | 0.411 | <0.0001 | <0.0001 |
| *APOL3* | Chr22q | 0.2675 | <0.0001 | <0.0001 |
| *APOL6* | Chr22q | 0.3472 | <0.0001 | <0.0001 |
| *APOM* | Chr6p | 0.1936 | <0.0001 | <0.0001 |
| *APRT* | Chr16q | 0.5262 | <0.0001 | <0.0001 |
| *AQR* | Chr15q | 0.6553 | <0.0001 | <0.0001 |
| *AREG* | Chr4q | 0.2698 | <0.0001 | <0.0001 |
| *ARFGAP1* | Chr20q | 0.4174 | <0.0001 | <0.0001 |
| *ARFGAP3* | Chr22q | 0.5268 | <0.0001 | <0.0001 |
| *ARFGEF1* | Chr8q | 0.4584 | <0.0001 | <0.0001 |
| *ARFGEF2* | Chr20q | 0.4457 | <0.0001 | <0.0001 |
| *ARFIP1* | Chr4q | 0.5941 | <0.0001 | <0.0001 |
| *ARFRP1* | Chr20q | 0.3209 | <0.0001 | <0.0001 |
| *ARGLU1* | Chr13q | 0.5121 | <0.0001 | <0.0001 |
| *ARHGAP11A* | Chr15q | 0.2363 | <0.0001 | <0.0001 |
| *ARHGAP33* | Chr19q | 0.307 | <0.0001 | <0.0001 |
| *ARHGEF10* | Chr8p | 0.5529 | <0.0001 | <0.0001 |
| *ARHGEF11* | Chr1q | 0.4231 | <0.0001 | <0.0001 |
| *ARHGEF2* | Chr1q | 0.4052 | <0.0001 | <0.0001 |
| *ARHGEF5* | Chr7q | 0.51 | <0.0001 | <0.0001 |
| *ARHGEF7* | Chr13q | 0.6847 | <0.0001 | <0.0001 |
| *ARL15* | Chr5q | 0.2727 | <0.0001 | <0.0001 |
| *ARL2BP* | Chr16q | 0.5243 | <0.0001 | <0.0001 |
| *ARMC1* | Chr8q | 0.4766 | <0.0001 | <0.0001 |
| *ARMC6* | Chr19p | 0.4769 | <0.0001 | <0.0001 |
| *ARMC8* | Chr3q | 0.5123 | <0.0001 | <0.0001 |
| *ARNT* | Chr1q | 0.3439 | <0.0001 | <0.0001 |
| *ARNTL2* | Chr12p | 0.2835 | <0.0001 | <0.0001 |
| *ARRB2* | Chr17p | 0.3072 | <0.0001 | <0.0001 |
| *ARSA* | Chr22q | 0.3024 | <0.0001 | <0.0001 |
| *ASAH1* | Chr8p | 0.5582 | <0.0001 | <0.0001 |
| *ASAP1* | Chr8q | 0.4013 | <0.0001 | <0.0001 |
| *ASAP1-IT* | Chr8q | 0.1929 | <0.0001 | <0.0001 |
| *ASCC2* | Chr22q | 0.5655 | <0.0001 | <0.0001 |
| *ASCC3* | Chr6q | 0.5611 | <0.0001 | <0.0001 |
| *ASF1A* | Chr6q | 0.5883 | <0.0001 | <0.0001 |
| *ASF1B* | Chr19p | 0.4603 | <0.0001 | <0.0001 |
| *ASH1L* | Chr1q | 0.1813 | <0.0001 | <0.0001 |
| *ASNA1* | Chr19p | 0.4948 | <0.0001 | <0.0001 |
| *ASPH* | Chr8q | 0.2332 | <0.0001 | <0.0001 |
| *ASXL1* | Chr20q | 0.4453 | <0.0001 | <0.0001 |
| *ATAD2* | Chr8q | 0.4986 | <0.0001 | <0.0001 |
| *ATAD5* | Chr17q | 0.1969 | <0.0001 | <0.0001 |
| *ATF4* | Chr22q | 0.3676 | <0.0001 | <0.0001 |
| *ATF6* | Chr1q | 0.4663 | <0.0001 | <0.0001 |
| *ATF6B* | Chr6p | 0.3333 | <0.0001 | <0.0001 |
| *ATF7IP* | Chr12p | 0.3739 | <0.0001 | <0.0001 |
| *ATG5* | Chr6q | 0.6146 | <0.0001 | <0.0001 |
| *ATMIN* | Chr16q | 0.6514 | <0.0001 | <0.0001 |
| *ATN1* | Chr12p | 0.3697 | <0.0001 | <0.0001 |
| *ATP11A* | Chr13q | 0.2916 | <0.0001 | <0.0001 |
| *ATP11B* | Chr3q | 0.3486 | <0.0001 | <0.0001 |
| *ATP13A1* | Chr19p | 0.4966 | <0.0001 | <0.0001 |
| *ATP13A3* | Chr3q | 0.5146 | <0.0001 | <0.0001 |
| *ATP1B3* | Chr3q | 0.2494 | <0.0001 | <0.0001 |
| *ATP5A1* | Chr18q | 0.6072 | <0.0001 | <0.0001 |
| *ATP5E* | Chr20q | 0.484 | <0.0001 | <0.0001 |
| *ATP6V0D1* | Chr16q | 0.4633 | <0.0001 | <0.0001 |
| *ATP6V0E2* | Chr7q | 0.4478 | <0.0001 | <0.0001 |
| *ATP6V1B2* | Chr8p | 0.4713 | <0.0001 | <0.0001 |
| *ATP6V1C1* | Chr8q | 0.5859 | <0.0001 | <0.0001 |
| *ATP6V1F* | Chr7q | 0.5082 | <0.0001 | <0.0001 |
| *ATP6V1H* | Chr8q | 0.4899 | <0.0001 | <0.0001 |
| *ATP7B* | Chr13q | 0.2776 | <0.0001 | <0.0001 |
| *ATP8A2* | Chr13q | 0.1653 | <0.0001 | 1.00E-04 |
| *ATP9A* | Chr20q | 0.3725 | <0.0001 | <0.0001 |
| *ATP9B* | Chr18q | 0.5118 | <0.0001 | <0.0001 |
| *ATPAF2* | Chr17p | 0.4131 | <0.0001 | <0.0001 |
| *ATR* | Chr3q | 0.4911 | <0.0001 | <0.0001 |
| *ATRN* | Chr20p | 0.5045 | <0.0001 | <0.0001 |
| *ATXN1* | Chr6p | 0.2275 | <0.0001 | <0.0001 |
| *ATXN10* | Chr22q | 0.4536 | <0.0001 | <0.0001 |
| *AURKA* | Chr20q | 0.398 | <0.0001 | <0.0001 |
| *AURKB* | Chr17p | 0.2362 | <0.0001 | <0.0001 |
| *AVEN* | Chr15q | 0.4614 | <0.0001 | <0.0001 |
| *AZIN1* | Chr8q | 0.6147 | <0.0001 | <0.0001 |
| *B2M* | Chr15q | 0.2286 | <0.0001 | <0.0001 |
| *B3GALNT1* | Chr3q | 0.2928 | <0.0001 | <0.0001 |
| *B4GALT3* | Chr1q | 0.4241 | <0.0001 | <0.0001 |
| *B4GALT5* | Chr20q | 0.3738 | <0.0001 | <0.0001 |
| *BABAM1* | Chr19p | 0.6165 | <0.0001 | <0.0001 |
| *BACH2* | Chr6q | 0.3155 | <0.0001 | <0.0001 |
| *BAG6* | Chr6p | 0.5952 | <0.0001 | <0.0001 |
| *BAHD1* | Chr15q | 0.342 | <0.0001 | <0.0001 |
| *BANK1* | Chr4q | 0.2128 | <0.0001 | <0.0001 |
| *BANP* | Chr16q | 0.359 | <0.0001 | <0.0001 |
| *BBS7* | Chr4q | 0.2843 | <0.0001 | <0.0001 |
| *BCAS4* | Chr20q | 0.3379 | <0.0001 | <0.0001 |
| *BCL2* | Chr18q | 0.2084 | <0.0001 | <0.0001 |
| *BCL2L1* | Chr20q | 0.2521 | <0.0001 | <0.0001 |
| *BCL2L14* | Chr12p | 0.2227 | <0.0001 | <0.0001 |
| *BCL9* | Chr1q | 0.22 | <0.0001 | <0.0001 |
| *BCLAF1* | Chr6q | 0.3929 | <0.0001 | <0.0001 |
| *BCMO1* | Chr16q | 0.1986 | <0.0001 | <0.0001 |
| *BCR* | Chr22q | 0.5047 | <0.0001 | <0.0001 |
| *BDH1* | Chr3q | 0.399 | <0.0001 | <0.0001 |
| *BDH2* | Chr4q | 0.3594 | <0.0001 | <0.0001 |
| *BGLAP* | Chr1q | 0.2624 | <0.0001 | <0.0001 |
| *BHLHE41* | Chr12p | 0.2052 | <0.0001 | <0.0001 |
| *BICD1* | Chr12p | 0.2885 | <0.0001 | <0.0001 |
| *BIK* | Chr22q | 0.2217 | <0.0001 | <0.0001 |
| *BIN3* | Chr8p | 0.6667 | <0.0001 | <0.0001 |
| *BLCAP* | Chr20q | 0.3476 | <0.0001 | <0.0001 |
| *BLMH* | Chr17q | 0.4554 | <0.0001 | <0.0001 |
| *BLVRB* | Chr19q | 0.3552 | <0.0001 | <0.0001 |
| *BMP1* | Chr8p | 0.3439 | <0.0001 | <0.0001 |
| *BMP2K* | Chr4q | 0.4342 | <0.0001 | <0.0001 |
| *BMP7* | Chr20q | 0.213 | <0.0001 | <0.0001 |
| *BNIP3L* | Chr8p | 0.5836 | <0.0001 | <0.0001 |
| *BOLA1* | Chr1q | 0.2615 | <0.0001 | <0.0001 |
| *BOP1* | Chr8q | 0.6495 | <0.0001 | <0.0001 |
| *BPGM* | Chr7q | 0.4023 | <0.0001 | <0.0001 |
| *BRAF* | Chr7q | 0.3788 | <0.0001 | <0.0001 |
| *BRCA2* | Chr13q | 0.364 | <0.0001 | <0.0001 |
| *BRD1* | Chr22q | 0.4168 | <0.0001 | <0.0001 |
| *BRD4* | Chr19p | 0.5353 | <0.0001 | <0.0001 |
| *BRF2* | Chr8p | 0.5096 | <0.0001 | <0.0001 |
| *BRP44L* | Chr6q | 0.4235 | <0.0001 | <0.0001 |
| *BST2* | Chr19p | 0.1986 | <0.0001 | <0.0001 |
| *BTC* | Chr4q | 0.3195 | <0.0001 | <0.0001 |
| *BTF3* | Chr5q | 0.5007 | <0.0001 | <0.0001 |
| *BUB1B* | Chr15q | 0.2166 | <0.0001 | <0.0001 |
| *C11orf67* | Chr11q | 0.4625 | <0.0001 | <0.0001 |
| *C12orf11* | Chr12p | 0.4928 | <0.0001 | <0.0001 |
| *C12orf35* | Chr12p | 0.1851 | <0.0001 | <0.0001 |
| *C12orf4* | Chr12p | 0.5372 | <0.0001 | <0.0001 |
| *C12orf5* | Chr12p | 0.4429 | <0.0001 | <0.0001 |
| *C13orf1* | Chr13q | 0.3951 | <0.0001 | <0.0001 |
| *C13orf15* | Chr13q | 0.202 | <0.0001 | <0.0001 |
| *C13orf23* | Chr13q | 0.5443 | <0.0001 | <0.0001 |
| *C13orf27* | Chr13q | 0.506 | <0.0001 | <0.0001 |
| *C13orf34* | Chr13q | 0.4106 | <0.0001 | <0.0001 |
| *C15orf24* | Chr15q | 0.5746 | <0.0001 | <0.0001 |
| *C15orf29* | Chr15q | 0.3772 | <0.0001 | <0.0001 |
| *C16orf57* | Chr16q | 0.3723 | <0.0001 | <0.0001 |
| *C16orf61* | Chr16q | 0.4661 | <0.0001 | <0.0001 |
| *C16orf7* | Chr16q | 0.2716 | <0.0001 | <0.0001 |
| *C16orf80* | Chr16q | 0.492 | <0.0001 | <0.0001 |
| *C17orf108* | Chr17q | 0.2128 | <0.0001 | <0.0001 |
| *C17orf39* | Chr17p | 0.1908 | <0.0001 | <0.0001 |
| *C17orf42* | Chr17q | 0.3854 | <0.0001 | <0.0001 |
| *C17orf48* | Chr17p | 0.368 | <0.0001 | <0.0001 |
| *C17orf63* | Chr17q | 0.4661 | <0.0001 | <0.0001 |
| *C17orf75* | Chr17q | 0.2984 | <0.0001 | <0.0001 |
| *C17orf81* | Chr17p | 0.2249 | <0.0001 | <0.0001 |
| *C17orf85* | Chr17p | 0.4401 | <0.0001 | <0.0001 |
| *C18orf25* | Chr18q | 0.4242 | <0.0001 | <0.0001 |
| *C19orf2* | Chr19q | 0.5609 | <0.0001 | <0.0001 |
| *C19orf40* | Chr19q | 0.3101 | <0.0001 | <0.0001 |
| *C19orf42* | Chr19p | 0.5739 | <0.0001 | <0.0001 |
| *C19orf50* | Chr19p | 0.6062 | <0.0001 | <0.0001 |
| *C19orf53* | Chr19p | 0.5636 | <0.0001 | <0.0001 |
| *C19orf56* | Chr19p | 0.5699 | <0.0001 | <0.0001 |
| *C19orf57* | Chr19p | 0.3667 | <0.0001 | <0.0001 |
| *C19orf60* | Chr19p | 0.41 | <0.0001 | <0.0001 |
| *C19orf66* | Chr19p | 0.4162 | <0.0001 | <0.0001 |
| *C1orf56* | Chr1q | 0.2594 | <0.0001 | <0.0001 |
| *C1orf77* | Chr1q | 0.314 | <0.0001 | <0.0001 |
| *C1QBP* | Chr17p | 0.4791 | <0.0001 | <0.0001 |
| *C1RL* | Chr12p | 0.2799 | <0.0001 | <0.0001 |
| *C20orf11* | Chr20q | 0.4635 | <0.0001 | <0.0001 |
| *C20orf111* | Chr20q | 0.4252 | <0.0001 | <0.0001 |
| *C20orf20* | Chr20q | 0.5314 | <0.0001 | <0.0001 |
| *C20orf24* | Chr20q | 0.3478 | <0.0001 | <0.0001 |
| *C20orf27* | Chr20p | 0.4156 | <0.0001 | <0.0001 |
| *C20orf29* | Chr20p | 0.4113 | <0.0001 | <0.0001 |
| *C20orf4* | Chr20q | 0.5289 | <0.0001 | <0.0001 |
| *C20orf43* | Chr20q | 0.5479 | <0.0001 | <0.0001 |
| *C22orf28* | Chr22q | 0.6209 | <0.0001 | <0.0001 |
| *C22orf46* | Chr22q | 0.1866 | <0.0001 | <0.0001 |
| *C4orf27* | Chr4q | 0.4985 | <0.0001 | <0.0001 |
| *C4orf29* | Chr4q | 0.3127 | <0.0001 | <0.0001 |
| *C4orf41* | Chr4q | 0.6588 | <0.0001 | <0.0001 |
| *C4orf43* | Chr4q | 0.5388 | <0.0001 | <0.0001 |
| *C5orf44* | Chr5q | 0.3835 | <0.0001 | <0.0001 |
| *C6orf120* | Chr6q | 0.5876 | <0.0001 | <0.0001 |
| *C6orf124* | Chr6q | 0.2034 | <0.0001 | <0.0001 |
| *C6orf211* | Chr6q | 0.46 | <0.0001 | <0.0001 |
| *C6orf26* | Chr6p | 0.2344 | <0.0001 | <0.0001 |
| *C6orf47* | Chr6p | 0.3802 | <0.0001 | <0.0001 |
| *C6orf48* | Chr6p | 0.2824 | <0.0001 | <0.0001 |
| *C7orf49* | Chr7q | 0.4512 | <0.0001 | <0.0001 |
| *C8orf33* | Chr8q | 0.5673 | <0.0001 | <0.0001 |
| *C8orf41* | Chr8p | 0.5889 | <0.0001 | <0.0001 |
| *C8orf44* | Chr8q | 0.2471 | <0.0001 | <0.0001 |
| *C8orf51* | Chr8q | 0.3607 | <0.0001 | <0.0001 |
| *C8orf55* | Chr8q | 0.5902 | <0.0001 | <0.0001 |
| *C8orf84* | Chr8q | 0.2263 | <0.0001 | <0.0001 |
| *CA2* | Chr8q | 0.2057 | <0.0001 | <0.0001 |
| *CA8* | Chr8q | 0.2072 | <0.0001 | <0.0001 |
| *CAB39L* | Chr13q | 0.1703 | <0.0001 | <0.0001 |
| *CABIN1* | Chr22q | 0.52 | <0.0001 | <0.0001 |
| *CACNA1A* | Chr19p | 0.4293 | <0.0001 | <0.0001 |
| *CALR* | Chr19p | 0.4227 | <0.0001 | <0.0001 |
| *CALU* | Chr7q | 0.2851 | <0.0001 | <0.0001 |
| *CAMTA2* | Chr17p | 0.3765 | <0.0001 | <0.0001 |
| *CAPN3* | Chr15q | 0.2384 | <0.0001 | <0.0001 |
| *CAPN5* | Chr11q | 0.327 | <0.0001 | <0.0001 |
| *CAPNS1* | Chr19q | 0.5079 | <0.0001 | <0.0001 |
| *CAPRIN2* | Chr12p | 0.3512 | <0.0001 | <0.0001 |
| *CARD10* | Chr22q | 0.28 | <0.0001 | <0.0001 |
| *CARKD* | Chr13q | 0.7139 | <0.0001 | <0.0001 |
| *CARM1* | Chr19p | 0.613 | <0.0001 | <0.0001 |
| *CARS2* | Chr13q | 0.5911 | <0.0001 | <0.0001 |
| *CASC1* | Chr12p | 0.3348 | <0.0001 | <0.0001 |
| *CASC3* | Chr17q | 0.4183 | <0.0001 | <0.0001 |
| *CASP2* | Chr7q | 0.2678 | <0.0001 | <0.0001 |
| *CASP3* | Chr4q | 0.5403 | <0.0001 | <0.0001 |
| *CASP6* | Chr4q | 0.4481 | <0.0001 | <0.0001 |
| *CASP8AP2* | Chr6q | 0.6294 | <0.0001 | <0.0001 |
| *CAST* | Chr5q | 0.5568 | <0.0001 | <0.0001 |
| *CBFA2T2* | Chr20q | 0.4499 | <0.0001 | <0.0001 |
| *CBFB* | Chr16q | 0.5611 | <0.0001 | <0.0001 |
| *CBR4* | Chr4q | 0.4776 | <0.0001 | <0.0001 |
| *CBX6* | Chr22q | 0.2621 | <0.0001 | <0.0001 |
| *CBX7* | Chr22q | 0.3636 | <0.0001 | <0.0001 |
| *CBY1* | Chr22q | 0.4007 | <0.0001 | <0.0001 |
| *CC2D1A* | Chr19p | 0.513 | <0.0001 | <0.0001 |
| *CCDC109B* | Chr4q | 0.3906 | <0.0001 | <0.0001 |
| *CCDC130* | Chr19p | 0.6303 | <0.0001 | <0.0001 |
| *CCDC25* | Chr8p | 0.5875 | <0.0001 | <0.0001 |
| *CCDC28A* | Chr6q | 0.4722 | <0.0001 | <0.0001 |
| *CCDC68* | Chr18q | 0.2303 | <0.0001 | <0.0001 |
| *CCDC90A* | Chr6p | 0.526 | <0.0001 | <0.0001 |
| *CCDC91* | Chr12p | 0.4547 | <0.0001 | <0.0001 |
| *CCL11* | Chr17q | 0.1853 | <0.0001 | <0.0001 |
| *CCNA2* | Chr4q | 0.3178 | <0.0001 | <0.0001 |
| *CCNB1* | Chr5q | 0.253 | <0.0001 | <0.0001 |
| *CCNC* | Chr6q | 0.5992 | <0.0001 | <0.0001 |
| *CCNE1* | Chr19q | 0.5179 | <0.0001 | <0.0001 |
| *CCNE2* | Chr8q | 0.2902 | <0.0001 | <0.0001 |
| *CCNG2* | Chr4q | 0.4489 | <0.0001 | <0.0001 |
| *CCNH* | Chr5q | 0.5195 | <0.0001 | <0.0001 |
| *CCNI* | Chr4q | 0.419 | <0.0001 | <0.0001 |
| *CCNL1* | Chr3q | 0.3298 | <0.0001 | <0.0001 |
| *CCNO* | Chr5q | 0.1808 | <0.0001 | <0.0001 |
| *CCR7* | Chr17q | 0.1857 | <0.0001 | <0.0001 |
| *CCT3* | Chr1q | 0.4266 | <0.0001 | <0.0001 |
| *CD164* | Chr6q | 0.5646 | <0.0001 | <0.0001 |
| *CD83* | Chr6p | 0.2457 | <0.0001 | <0.0001 |
| *CD9* | Chr12p | 0.3511 | <0.0001 | <0.0001 |
| *CD97* | Chr19p | 0.247 | <0.0001 | <0.0001 |
| *CDADC1* | Chr13q | 0.2327 | <0.0001 | <0.0001 |
| *CDC16* | Chr13q | 0.6866 | <0.0001 | <0.0001 |
| *CDC25B* | Chr20p | 0.1951 | <0.0001 | <0.0001 |
| *CDC37* | Chr19p | 0.574 | <0.0001 | <0.0001 |
| *CDC40* | Chr6q | 0.6916 | <0.0001 | <0.0001 |
| *CDC42EP1* | Chr22q | 0.3071 | <0.0001 | <0.0001 |
| *CDC42SE1* | Chr1q | 0.1947 | <0.0001 | <0.0001 |
| *CDC6* | Chr17q | 0.2488 | <0.0001 | <0.0001 |
| *CDCA3* | Chr12p | 0.4058 | <0.0001 | <0.0001 |
| *CDH1* | Chr16q | 0.361 | <0.0001 | <0.0001 |
| *CDH3* | Chr16q | 0.1794 | <0.0001 | <0.0001 |
| *CDK10* | Chr16q | 0.3511 | <0.0001 | <0.0001 |
| *CDK12* | Chr17q | 0.4196 | <0.0001 | <0.0001 |
| *CDK19* | Chr6q | 0.6173 | <0.0001 | <0.0001 |
| *CDK5* | Chr7q | 0.5275 | <0.0001 | <0.0001 |
| *CDK5RAP1* | Chr20q | 0.4556 | <0.0001 | <0.0001 |
| *CDK7* | Chr5q | 0.469 | <0.0001 | <0.0001 |
| *CDK8* | Chr13q | 0.5222 | <0.0001 | <0.0001 |
| *CDKN1B* | Chr12p | 0.3696 | <0.0001 | <0.0001 |
| *CDKN2AIP* | Chr4q | 0.6029 | <0.0001 | <0.0001 |
| *CDKN2D* | Chr19p | 0.2916 | <0.0001 | <0.0001 |
| *CDS1* | Chr4q | 0.4064 | <0.0001 | <0.0001 |
| *CDT1* | Chr16q | 0.1682 | <0.0001 | <0.0001 |
| *CDV3* | Chr3q | 0.3856 | <0.0001 | <0.0001 |
| *CEBPA* | Chr19q | 0.176 | <0.0001 | <0.0001 |
| *CEBPB* | Chr20q | 0.2489 | <0.0001 | <0.0001 |
| *CEBPG* | Chr19q | 0.4618 | <0.0001 | <0.0001 |
| *CELSR1* | Chr22q | 0.3299 | <0.0001 | <0.0001 |
| *CENPB* | Chr20p | 0.2563 | <0.0001 | <0.0001 |
| *CENPE* | Chr4q | 0.231 | <0.0001 | <0.0001 |
| *CENPJ* | Chr13q | 0.4084 | <0.0001 | <0.0001 |
| *CENPM* | Chr22q | 0.2539 | <0.0001 | <0.0001 |
| *CENPN* | Chr16q | 0.2834 | <0.0001 | <0.0001 |
| *CENPT* | Chr16q | 0.3344 | <0.0001 | <0.0001 |
| *CEP250* | Chr20q | 0.2632 | <0.0001 | <0.0001 |
| *CEP63* | Chr3q | 0.4185 | <0.0001 | <0.0001 |
| *CEP70* | Chr3q | 0.3122 | <0.0001 | <0.0001 |
| *CERK* | Chr22q | 0.3222 | <0.0001 | <0.0001 |
| *CES2* | Chr16q | 0.4714 | <0.0001 | <0.0001 |
| *CETN3* | Chr5q | 0.4357 | <0.0001 | <0.0001 |
| *CFDP1* | Chr16q | 0.4743 | <0.0001 | <0.0001 |
| *CFI* | Chr4q | 0.2586 | <0.0001 | <0.0001 |
| *CHCHD3* | Chr7q | 0.4911 | <0.0001 | <0.0001 |
| *CHCHD7* | Chr8q | 0.4487 | <0.0001 | <0.0001 |
| *CHD1* | Chr5q | 0.6029 | <0.0001 | <0.0001 |
| *CHD1L* | Chr1q | 0.3067 | <0.0001 | <0.0001 |
| *CHD3* | Chr17p | 0.3144 | <0.0001 | <0.0001 |
| *CHD4* | Chr12p | 0.304 | <0.0001 | <0.0001 |
| *CHD7* | Chr8q | 0.3419 | <0.0001 | <0.0001 |
| *CHEK2* | Chr22q | 0.2965 | <0.0001 | <0.0001 |
| *CHERP* | Chr19p | 0.5588 | <0.0001 | <0.0001 |
| *CHKB* | Chr22q | 0.3477 | <0.0001 | <0.0001 |
| *CHMP1A* | Chr16q | 0.5452 | <0.0001 | <0.0001 |
| *CHMP7* | Chr8p | 0.6451 | <0.0001 | <0.0001 |
| *CHP* | Chr15q | 0.5027 | <0.0001 | <0.0001 |
| *CHPF2* | Chr7q | 0.5259 | <0.0001 | <0.0001 |
| *CHRNB1* | Chr17p | 0.4379 | <0.0001 | <0.0001 |
| *CHST4* | Chr16q | 0.195 | <0.0001 | <0.0001 |
| *CIAPIN1* | Chr16q | 0.5191 | <0.0001 | <0.0001 |
| *CITED2* | Chr6q | 0.3427 | <0.0001 | <0.0001 |
| *CKAP2* | Chr13q | 0.4677 | <0.0001 | <0.0001 |
| *CKLF* | Chr16q | 0.4366 | <0.0001 | <0.0001 |
| *CKMT2* | Chr5q | 0.2002 | <0.0001 | <0.0001 |
| *CKS1B* | Chr1q | 0.2033 | <0.0001 | <0.0001 |
| *CLCN2* | Chr3q | 0.2944 | <0.0001 | <0.0001 |
| *CLCN3* | Chr4q | 0.5822 | <0.0001 | <0.0001 |
| *CLDN7* | Chr17p | 0.2993 | <0.0001 | <0.0001 |
| *CLGN* | Chr4q | 0.2901 | <0.0001 | <0.0001 |
| *CLIC1* | Chr6p | 0.4104 | <0.0001 | <0.0001 |
| *CLIP3* | Chr19q | 0.3014 | <0.0001 | <0.0001 |
| *CLK2* | Chr1q | 0.442 | <0.0001 | <0.0001 |
| *CLN5* | Chr13q | 0.4799 | <0.0001 | <0.0001 |
| *CLN8* | Chr8p | 0.5411 | <0.0001 | <0.0001 |
| *CLNS1A* | Chr11q | 0.5216 | <0.0001 | <0.0001 |
| *CLSTN3* | Chr12p | 0.3028 | <0.0001 | <0.0001 |
| *CLU* | Chr8p | 0.237 | <0.0001 | <0.0001 |
| *CMAS* | Chr12p | 0.4467 | <0.0001 | <0.0001 |
| *CNDP2* | Chr18q | 0.4528 | <0.0001 | <0.0001 |
| *CNOT1* | Chr16q | 0.5126 | <0.0001 | <0.0001 |
| *CNOT4* | Chr7q | 0.5341 | <0.0001 | <0.0001 |
| *CNOT7* | Chr8p | 0.6982 | <0.0001 | <0.0001 |
| *COG4* | Chr16q | 0.4878 | <0.0001 | <0.0001 |
| *COL4A2* | Chr13q | 0.2366 | <0.0001 | <0.0001 |
| *COL4A3BP* | Chr5q | 0.3034 | <0.0001 | <0.0001 |
| *COL9A3* | Chr20q | 0.2194 | <0.0001 | <0.0001 |
| *COPA* | Chr1q | 0.3618 | <0.0001 | <0.0001 |
| *COPB2* | Chr3q | 0.4688 | <0.0001 | <0.0001 |
| *COPE* | Chr19p | 0.476 | <0.0001 | <0.0001 |
| *COPS3* | Chr17p | 0.3156 | <0.0001 | <0.0001 |
| *COPS4* | Chr4q | 0.4707 | <0.0001 | <0.0001 |
| *COPS5* | Chr8q | 0.5598 | <0.0001 | <0.0001 |
| *COPS7A* | Chr12p | 0.4816 | <0.0001 | <0.0001 |
| *COQ2* | Chr4q | 0.4046 | <0.0001 | <0.0001 |
| *COQ3* | Chr6q | 0.4972 | <0.0001 | <0.0001 |
| *COQ9* | Chr16q | 0.4997 | <0.0001 | <0.0001 |
| *COX10* | Chr17p | 0.3853 | <0.0001 | <0.0001 |
| *COX4I1* | Chr16q | 0.5402 | <0.0001 | <0.0001 |
| *COX4NB* | Chr16q | 0.5425 | <0.0001 | <0.0001 |
| *COX6B1* | Chr19q | 0.5543 | <0.0001 | <0.0001 |
| *COX6C* | Chr8q | 0.6505 | <0.0001 | <0.0001 |
| *COX7C* | Chr5q | 0.5379 | <0.0001 | <0.0001 |
| *CP* | Chr3q | 0.1767 | <0.0001 | <0.0001 |
| *CPD* | Chr17q | 0.1968 | <0.0001 | <0.0001 |
| *CPE* | Chr4q | 0.1857 | <0.0001 | <0.0001 |
| *CPNE1* | Chr20q | 0.4919 | <0.0001 | <0.0001 |
| *CPNE3* | Chr8q | 0.5044 | <0.0001 | <0.0001 |
| *CPSF1* | Chr8q | 0.5715 | <0.0001 | <0.0001 |
| *CREB3L2* | Chr7q | 0.2582 | <0.0001 | <0.0001 |
| *CREBL2* | Chr12p | 0.427 | <0.0001 | <0.0001 |
| *CRELD2* | Chr22q | 0.5261 | <0.0001 | <0.0001 |
| *CRLF3* | Chr17q | 0.4253 | <0.0001 | <0.0001 |
| *CRTC1* | Chr19p | 0.4058 | <0.0001 | <0.0001 |
| *CRYBB2P1* | Chr22q | 0.2516 | <0.0001 | <0.0001 |
| *CRYL1* | Chr13q | 0.2283 | <0.0001 | <0.0001 |
| *CSDA* | Chr12p | 0.4359 | <0.0001 | <0.0001 |
| *CSE1L* | Chr20q | 0.5525 | <0.0001 | <0.0001 |
| *CSF2RB* | Chr22q | 0.2506 | <0.0001 | <0.0001 |
| *CSGALNACT1* | Chr8p | 0.334 | <0.0001 | <0.0001 |
| *CSNK1E* | Chr22q | 0.4182 | <0.0001 | <0.0001 |
| *CSNK2A1* | Chr20p | 0.6334 | <0.0001 | <0.0001 |
| *CSNK2A2* | Chr16q | 0.4165 | <0.0001 | <0.0001 |
| *CSNK2B* | Chr6p | 0.6262 | <0.0001 | <0.0001 |
| *CSPP1* | Chr8q | 0.4515 | <0.0001 | <0.0001 |
| *CSTF1* | Chr20q | 0.5106 | <0.0001 | <0.0001 |
| *CTCF* | Chr16q | 0.4371 | <0.0001 | <0.0001 |
| *CTDNEP1* | Chr17p | 0.463 | <0.0001 | <0.0001 |
| *CTDP1* | Chr18q | 0.3984 | <0.0001 | <0.0001 |
| *CTIF* | Chr18q | 0.3249 | <0.0001 | <0.0001 |
| *CTNNBL1* | Chr20q | 0.513 | <0.0001 | <0.0001 |
| *CTNS* | Chr17p | 0.5192 | <0.0001 | <0.0001 |
| *CTSA* | Chr20q | 0.2807 | <0.0001 | <0.0001 |
| *CTSB* | Chr8p | 0.4214 | <0.0001 | <0.0001 |
| *CTSO* | Chr4q | 0.5636 | <0.0001 | <0.0001 |
| *CUL1* | Chr7q | 0.6023 | <0.0001 | <0.0001 |
| *CUL4A* | Chr13q | 0.6859 | <0.0001 | <0.0001 |
| *CWC25* | Chr17q | 0.4247 | <0.0001 | <0.0001 |
| *CX3CL1* | Chr16q | 0.2146 | <0.0001 | <0.0001 |
| *CXCL10* | Chr4q | 0.3034 | <0.0001 | <0.0001 |
| *CXCL11* | Chr4q | 0.274 | <0.0001 | <0.0001 |
| *CXCL9* | Chr4q | 0.1916 | <0.0001 | <0.0001 |
| *CXXC1* | Chr18q | 0.6706 | <0.0001 | <0.0001 |
| *CYB5A* | Chr18q | 0.4454 | <0.0001 | <0.0001 |
| *CYB5B* | Chr16q | 0.4584 | <0.0001 | <0.0001 |
| *CYB5R3* | Chr22q | 0.5343 | <0.0001 | <0.0001 |
| *CYBA* | Chr16q | 0.3409 | <0.0001 | <0.0001 |
| *CYC1* | Chr8q | 0.5986 | <0.0001 | <0.0001 |
| *CYFIP1* | Chr15q | 0.5566 | <0.0001 | <0.0001 |
| *CYHR1* | Chr8q | 0.5652 | <0.0001 | <0.0001 |
| *DACH1* | Chr13q | 0.1947 | <0.0001 | <0.0001 |
| *DAP3* | Chr1q | 0.3884 | <0.0001 | <0.0001 |
| *DAPP1* | Chr4q | 0.2043 | <0.0001 | <0.0001 |
| *DBNDD1* | Chr16q | 0.3126 | <0.0001 | <0.0001 |
| *DBR1* | Chr3q | 0.2861 | <0.0001 | <0.0001 |
| *DCAF13* | Chr8q | 0.2134 | <0.0001 | <0.0001 |
| *DCAF15* | Chr19p | 0.5484 | <0.0001 | <0.0001 |
| *DCAF8* | Chr1q | 0.3908 | <0.0001 | <0.0001 |
| *DCLK1* | Chr13q | 0.2099 | <0.0001 | <0.0001 |
| *DCTD* | Chr4q | 0.5704 | <0.0001 | <0.0001 |
| *DCTN6* | Chr8p | 0.6624 | <0.0001 | <0.0001 |
| *DCUN1D1* | Chr3q | 0.5656 | <0.0001 | <0.0001 |
| *DCUN1D2* | Chr13q | 0.5001 | <0.0001 | <0.0001 |
| *DDA1* | Chr19p | 0.4629 | <0.0001 | <0.0001 |
| *DDAH2* | Chr6p | 0.4276 | <0.0001 | <0.0001 |
| *DDRGK1* | Chr20p | 0.3355 | <0.0001 | <0.0001 |
| *DDT* | Chr22q | 0.5934 | <0.0001 | <0.0001 |
| *DDX11* | Chr12p | 0.3596 | <0.0001 | <0.0001 |
| *DDX17* | Chr22q | 0.3549 | <0.0001 | <0.0001 |
| *DDX19A* | Chr16q | 0.5416 | <0.0001 | <0.0001 |
| *DDX27* | Chr20q | 0.4758 | <0.0001 | <0.0001 |
| *DDX28* | Chr16q | 0.4311 | <0.0001 | <0.0001 |
| *DDX39A* | Chr19p | 0.5791 | <0.0001 | <0.0001 |
| *DDX39B* | Chr6p | 0.3962 | <0.0001 | <0.0001 |
| *DDX47* | Chr12p | 0.601 | <0.0001 | <0.0001 |
| *DDX49* | Chr19p | 0.5969 | <0.0001 | <0.0001 |
| *DDX52* | Chr17q | 0.4754 | <0.0001 | <0.0001 |
| *DDX60* | Chr4q | 0.3312 | <0.0001 | <0.0001 |
| *DECR1* | Chr8q | 0.3877 | <0.0001 | <0.0001 |
| *DEDD* | Chr1q | 0.403 | <0.0001 | <0.0001 |
| *DEF8* | Chr16q | 0.3803 | <0.0001 | <0.0001 |
| *DEFB1* | Chr8p | 0.1657 | <0.0001 | 1.00E-04 |
| *DENND3* | Chr8q | 0.255 | <0.0001 | <0.0001 |
| *DENND4B* | Chr1q | 0.3401 | <0.0001 | <0.0001 |
| *DENND5B* | Chr12p | 0.2385 | <0.0001 | <0.0001 |
| *DEPDC5* | Chr22q | 0.3877 | <0.0001 | <0.0001 |
| *DEPTOR* | Chr8q | 0.3214 | <0.0001 | <0.0001 |
| *DERA* | Chr12p | 0.4628 | <0.0001 | <0.0001 |
| *DERL1* | Chr8q | 0.6801 | <0.0001 | <0.0001 |
| *DERL2* | Chr17p | 0.5006 | <0.0001 | <0.0001 |
| *DGAT1* | Chr8q | 0.63 | <0.0001 | <0.0001 |
| *DHFR* | Chr5q | 0.3519 | <0.0001 | <0.0001 |
| *DHODH* | Chr16q | 0.2738 | <0.0001 | <0.0001 |
| *DHPS* | Chr19p | 0.5488 | <0.0001 | <0.0001 |
| *DHRS11* | Chr17q | 0.2244 | <0.0001 | <0.0001 |
| *DHRS12* | Chr13q | 0.3888 | <0.0001 | <0.0001 |
| *DHRS7B* | Chr17p | 0.2373 | <0.0001 | <0.0001 |
| *DHX29* | Chr5q | 0.5573 | <0.0001 | <0.0001 |
| *DHX35* | Chr20q | 0.522 | <0.0001 | <0.0001 |
| *DHX38* | Chr16q | 0.4367 | <0.0001 | <0.0001 |
| *DIDO1* | Chr20q | 0.3328 | <0.0001 | <0.0001 |
| *DIMT1L* | Chr5q | 0.4511 | <0.0001 | <0.0001 |
| *DIS3* | Chr13q | 0.5239 | <0.0001 | <0.0001 |
| *DLC1* | Chr8p | 0.1943 | <0.0001 | <0.0001 |
| *DLEU1* | Chr13q | 0.3349 | <0.0001 | <0.0001 |
| *DLEU2* | Chr13q | 0.1944 | <0.0001 | <0.0001 |
| *DLG1* | Chr3q | 0.6742 | <0.0001 | <0.0001 |
| *DLGAP4* | Chr20q | 0.383 | <0.0001 | <0.0001 |
| *DLL3* | Chr19q | 0.3029 | <0.0001 | <0.0001 |
| *DNAJB1* | Chr19p | 0.512 | <0.0001 | <0.0001 |
| *DNAJB14* | Chr4q | 0.5658 | <0.0001 | <0.0001 |
| *DNAJB6* | Chr7q | 0.4905 | <0.0001 | <0.0001 |
| *DNAJC13* | Chr3q | 0.4803 | <0.0001 | <0.0001 |
| *DNAJC15* | Chr13q | 0.1793 | <0.0001 | <0.0001 |
| *DNAJC17* | Chr15q | 0.3813 | <0.0001 | <0.0001 |
| *DNAJC3* | Chr13q | 0.4759 | <0.0001 | <0.0001 |
| *DNAL4* | Chr22q | 0.4045 | <0.0001 | <0.0001 |
| *DNASE2* | Chr19p | 0.4439 | <0.0001 | <0.0001 |
| *DNM1L* | Chr12p | 0.4038 | <0.0001 | <0.0001 |
| *DNM2* | Chr19p | 0.5525 | <0.0001 | <0.0001 |
| *DNMT1* | Chr19p | 0.4671 | <0.0001 | <0.0001 |
| *DNMT3B* | Chr20q | 0.259 | <0.0001 | <0.0001 |
| *DOCK6* | Chr19p | 0.3791 | <0.0001 | <0.0001 |
| *DOCK9* | Chr13q | 0.3754 | <0.0001 | <0.0001 |
| *DOK4* | Chr16q | 0.2997 | <0.0001 | <0.0001 |
| *DOM3Z* | Chr6p | 0.4571 | <0.0001 | <0.0001 |
| *DPM1* | Chr20q | 0.477 | <0.0001 | <0.0001 |
| *DPM3* | Chr1q | 0.1999 | <0.0001 | <0.0001 |
| *DPY19L4* | Chr8q | 0.4351 | <0.0001 | <0.0001 |
| *DPYSL2* | Chr8p | 0.3641 | <0.0001 | <0.0001 |
| *DRG1* | Chr22q | 0.6343 | <0.0001 | <0.0001 |
| *DRG2* | Chr17p | 0.3331 | <0.0001 | <0.0001 |
| *DSCC1* | Chr8q | 0.4489 | <0.0001 | <0.0001 |
| *DSE* | Chr6q | 0.2381 | <0.0001 | <0.0001 |
| *DSN1* | Chr20q | 0.3822 | <0.0001 | <0.0001 |
| *DSTNP2* | Chr12p | 0.1843 | <0.0001 | <0.0001 |
| *DUS2L* | Chr16q | 0.4259 | <0.0001 | <0.0001 |
| *DUSP12* | Chr1q | 0.3756 | <0.0001 | <0.0001 |
| *DUSP14* | Chr17q | 0.382 | <0.0001 | <0.0001 |
| *DUSP4* | Chr8p | 0.2214 | <0.0001 | <0.0001 |
| *DVL2* | Chr17p | 0.5142 | <0.0001 | <0.0001 |
| *DVL3* | Chr3q | 0.5462 | <0.0001 | <0.0001 |
| *DYM* | Chr18q | 0.2211 | <0.0001 | <0.0001 |
| *DYNC1LI2* | Chr16q | 0.4859 | <0.0001 | <0.0001 |
| *DYNLRB1* | Chr20q | 0.4663 | <0.0001 | <0.0001 |
| *DYNLT1* | Chr6q | 0.542 | <0.0001 | <0.0001 |
| *DYRK1B* | Chr19q | 0.2773 | <0.0001 | <0.0001 |
| *DYRK4* | Chr12p | 0.5228 | <0.0001 | <0.0001 |
| *DZIP1* | Chr13q | 0.2796 | <0.0001 | <0.0001 |
| *E2F1* | Chr20q | 0.2641 | <0.0001 | <0.0001 |
| *E2F4* | Chr16q | 0.2622 | <0.0001 | <0.0001 |
| *E2F5* | Chr8q | 0.355 | <0.0001 | <0.0001 |
| *EBAG9* | Chr8q | 0.7124 | <0.0001 | <0.0001 |
| *ECH1* | Chr19q | 0.5774 | <0.0001 | <0.0001 |
| *ECHDC1* | Chr6q | 0.537 | <0.0001 | <0.0001 |
| *ECSIT* | Chr19p | 0.5399 | <0.0001 | <0.0001 |
| *ECT2* | Chr3q | 0.5011 | <0.0001 | <0.0001 |
| *EDC4* | Chr16q | 0.4352 | <0.0001 | <0.0001 |
| *EDEM2* | Chr20q | 0.418 | <0.0001 | <0.0001 |
| *EDNRA* | Chr4q | 0.228 | <0.0001 | <0.0001 |
| *EEF1D* | Chr8q | 0.5553 | <0.0001 | <0.0001 |
| *EFHA1* | Chr13q | 0.6179 | <0.0001 | <0.0001 |
| *EFNA1* | Chr1q | 0.203 | <0.0001 | <0.0001 |
| *EFNA3* | Chr1q | 0.2427 | <0.0001 | <0.0001 |
| *EFNA4* | Chr1q | 0.2401 | <0.0001 | <0.0001 |
| *EFNB2* | Chr13q | 0.3861 | <0.0001 | <0.0001 |
| *EFNB3* | Chr17p | 0.2272 | <0.0001 | <0.0001 |
| *EFR3A* | Chr8q | 0.6146 | <0.0001 | <0.0001 |
| *EHD4* | Chr15q | 0.4402 | <0.0001 | <0.0001 |
| *EHHADH* | Chr3q | 0.3418 | <0.0001 | <0.0001 |
| *EHMT2* | Chr6p | 0.5652 | <0.0001 | <0.0001 |
| *EIF2B5* | Chr3q | 0.5671 | <0.0001 | <0.0001 |
| *EIF2C2* | Chr8q | 0.5696 | <0.0001 | <0.0001 |
| *EIF2S2* | Chr20q | 0.4058 | <0.0001 | <0.0001 |
| *EIF3D* | Chr22q | 0.4336 | <0.0001 | <0.0001 |
| *EIF3E* | Chr8q | 0.5294 | <0.0001 | <0.0001 |
| *EIF3G* | Chr19p | 0.5852 | <0.0001 | <0.0001 |
| *EIF3H* | Chr8q | 0.5936 | <0.0001 | <0.0001 |
| *EIF3J* | Chr15q | 0.6286 | <0.0001 | <0.0001 |
| *EIF3K* | Chr19q | 0.5546 | <0.0001 | <0.0001 |
| *EIF3L* | Chr22q | 0.423 | <0.0001 | <0.0001 |
| *EIF4A1* | Chr17p | 0.4765 | <0.0001 | <0.0001 |
| *EIF4A2* | Chr3q | 0.3811 | <0.0001 | <0.0001 |
| *EIF4E* | Chr4q | 0.5149 | <0.0001 | <0.0001 |
| *EIF4ENIF1* | Chr22q | 0.59 | <0.0001 | <0.0001 |
| *EIF4G1* | Chr3q | 0.4719 | <0.0001 | <0.0001 |
| *EIF5A* | Chr17p | 0.3975 | <0.0001 | <0.0001 |
| *EIF5A2* | Chr3q | 0.2075 | <0.0001 | <0.0001 |
| *EIF6* | Chr20q | 0.3821 | <0.0001 | <0.0001 |
| *ELAC1* | Chr18q | 0.3321 | <0.0001 | <0.0001 |
| *ELAC2* | Chr17p | 0.3446 | <0.0001 | <0.0001 |
| *ELF1* | Chr13q | 0.5919 | <0.0001 | <0.0001 |
| *ELF2* | Chr4q | 0.5671 | <0.0001 | <0.0001 |
| *ELL* | Chr19p | 0.3286 | <0.0001 | <0.0001 |
| *ELL2* | Chr5q | 0.1712 | <0.0001 | <0.0001 |
| *ELMO2* | Chr20q | 0.5534 | <0.0001 | <0.0001 |
| *ELMO3* | Chr16q | 0.394 | <0.0001 | <0.0001 |
| *ELOVL6* | Chr4q | 0.3053 | <0.0001 | <0.0001 |
| *ELP3* | Chr8p | 0.5416 | <0.0001 | <0.0001 |
| *EMG1* | Chr12p | 0.5385 | <0.0001 | <0.0001 |
| *ENC1* | Chr5q | 0.2045 | <0.0001 | <0.0001 |
| *ENO2* | Chr12p | 0.2828 | <0.0001 | <0.0001 |
| *ENO3* | Chr17p | 0.1903 | <0.0001 | <0.0001 |
| *ENOPH1* | Chr4q | 0.5631 | <0.0001 | <0.0001 |
| *ENOX1* | Chr13q | 0.1862 | <0.0001 | <0.0001 |
| *ENPEP* | Chr4q | 0.185 | <0.0001 | <0.0001 |
| *ENPP1* | Chr6q | 0.1911 | <0.0001 | <0.0001 |
| *ENSA* | Chr1q | 0.4234 | <0.0001 | <0.0001 |
| *ENTPD4* | Chr8p | 0.6046 | <0.0001 | <0.0001 |
| *ENY2* | Chr8q | 0.5903 | <0.0001 | <0.0001 |
| *EP300* | Chr22q | 0.3232 | <0.0001 | <0.0001 |
| *EPB41L1* | Chr20q | 0.185 | <0.0001 | <0.0001 |
| *EPB41L2* | Chr6q | 0.268 | <0.0001 | <0.0001 |
| *EPB49* | Chr8p | 0.3504 | <0.0001 | <0.0001 |
| *EPHA1* | Chr7q | 0.4344 | <0.0001 | <0.0001 |
| *EPHB3* | Chr3q | 0.3191 | <0.0001 | <0.0001 |
| *EPHB6* | Chr7q | 0.3347 | <0.0001 | <0.0001 |
| *EPHX2* | Chr8p | 0.5066 | <0.0001 | <0.0001 |
| *EPM2A* | Chr6q | 0.3632 | <0.0001 | <0.0001 |
| *EPN2* | Chr17p | 0.3657 | <0.0001 | <0.0001 |
| *EPOR* | Chr19p | 0.3587 | <0.0001 | <0.0001 |
| *EPPK1* | Chr8q | 0.3434 | <0.0001 | <0.0001 |
| *EPS15L1* | Chr19p | 0.4869 | <0.0001 | <0.0001 |
| *EPS8* | Chr12p | 0.1994 | <0.0001 | <0.0001 |
| *ERAL1* | Chr17q | 0.4568 | <0.0001 | <0.0001 |
| *ERAP1* | Chr5q | 0.4791 | <0.0001 | <0.0001 |
| *ERAP2* | Chr5q | 0.2217 | <0.0001 | <0.0001 |
| *ERBB2* | Chr17q | 0.3963 | <0.0001 | <0.0001 |
| *ERBB2IP* | Chr5q | 0.5111 | <0.0001 | <0.0001 |
| *ERC1* | Chr12p | 0.5116 | <0.0001 | <0.0001 |
| *ERCC5* | Chr13q | 0.5123 | <0.0001 | <0.0001 |
| *ERCC8* | Chr5q | 0.3312 | <0.0001 | <0.0001 |
| *ERGIC2* | Chr12p | 0.4145 | <0.0001 | <0.0001 |
| *ERGIC3* | Chr20q | 0.4536 | <0.0001 | <0.0001 |
| *ERICH1* | Chr8p | 0.1985 | <0.0001 | <0.0001 |
| *ERLIN2* | Chr8p | 0.4963 | <0.0001 | <0.0001 |
| *ESD* | Chr13q | 0.6589 | <0.0001 | <0.0001 |
| *ESR1* | Chr6q | 0.1684 | <0.0001 | 1.00E-04 |
| *ESRP1* | Chr8q | 0.583 | <0.0001 | <0.0001 |
| *ESRP2* | Chr16q | 0.3633 | <0.0001 | <0.0001 |
| *ETFDH* | Chr4q | 0.4412 | <0.0001 | <0.0001 |
| *ETNK1* | Chr12p | 0.4352 | <0.0001 | <0.0001 |
| *ETV6* | Chr12p | 0.3377 | <0.0001 | <0.0001 |
| *EVI2A* | Chr17q | 0.1749 | <0.0001 | <0.0001 |
| *EWSR1* | Chr22q | 0.2923 | <0.0001 | <0.0001 |
| *EXOSC4* | Chr8q | 0.6509 | <0.0001 | <0.0001 |
| *EXOSC8* | Chr13q | 0.4829 | <0.0001 | <0.0001 |
| *EXOSC9* | Chr4q | 0.4666 | <0.0001 | <0.0001 |
| *EXT1* | Chr8q | 0.4741 | <0.0001 | <0.0001 |
| *EXTL3* | Chr8p | 0.4047 | <0.0001 | <0.0001 |
| *EZH2* | Chr7q | 0.3574 | <0.0001 | <0.0001 |
| *EZR* | Chr6q | 0.5028 | <0.0001 | <0.0001 |
| *F10* | Chr13q | 0.1987 | <0.0001 | <0.0001 |
| *F11R* | Chr1q | 0.2586 | <0.0001 | <0.0001 |
| *F2R* | Chr5q | 0.2392 | <0.0001 | <0.0001 |
| *F2RL1* | Chr5q | 0.294 | <0.0001 | <0.0001 |
| *FAIM* | Chr3q | 0.3183 | <0.0001 | <0.0001 |
| *FAM115A* | Chr7q | 0.2192 | <0.0001 | <0.0001 |
| *FAM118A* | Chr22q | 0.2153 | <0.0001 | <0.0001 |
| *FAM131A* | Chr3q | 0.5027 | <0.0001 | <0.0001 |
| *FAM13A* | Chr4q | 0.2987 | <0.0001 | <0.0001 |
| *FAM149A* | Chr4q | 0.2415 | <0.0001 | <0.0001 |
| *FAM160B2* | Chr8p | 0.5373 | <0.0001 | <0.0001 |
| *FAM164A* | Chr8q | 0.2961 | <0.0001 | <0.0001 |
| *FAM172A* | Chr5q | 0.5272 | <0.0001 | <0.0001 |
| *FAM184A* | Chr6q | 0.2812 | <0.0001 | <0.0001 |
| *FAM189B* | Chr1q | 0.3715 | <0.0001 | <0.0001 |
| *FAM18B1* | Chr17p | 0.3734 | <0.0001 | <0.0001 |
| *FAM192A* | Chr16q | 0.5083 | <0.0001 | <0.0001 |
| *FAM32A* | Chr19p | 0.5955 | <0.0001 | <0.0001 |
| *FAM38A* | Chr16q | 0.186 | <0.0001 | <0.0001 |
| *FAM48A* | Chr13q | 0.5951 | <0.0001 | <0.0001 |
| *FAM49B* | Chr8q | 0.5404 | <0.0001 | <0.0001 |
| *FAM60A* | Chr12p | 0.3936 | <0.0001 | <0.0001 |
| *FAM63A* | Chr1q | 0.2222 | <0.0001 | <0.0001 |
| *FAM64A* | Chr17p | 0.2503 | <0.0001 | <0.0001 |
| *FAM65A* | Chr16q | 0.4441 | <0.0001 | <0.0001 |
| *FAM82A2* | Chr15q | 0.5989 | <0.0001 | <0.0001 |
| *FAM82B* | Chr8q | 0.4813 | <0.0001 | <0.0001 |
| *FAM86B1* | Chr8p | 0.1762 | <0.0001 | <0.0001 |
| *FAM90A1* | Chr12p | 0.4142 | <0.0001 | <0.0001 |
| *FAM96B* | Chr16q | 0.5365 | <0.0001 | <0.0001 |
| *FAN1* | Chr15q | 0.5254 | <0.0001 | <0.0001 |
| *FANCA* | Chr16q | 0.2324 | <0.0001 | <0.0001 |
| *FARP1* | Chr13q | 0.5648 | <0.0001 | <0.0001 |
| *FARSA* | Chr19p | 0.6027 | <0.0001 | <0.0001 |
| *FASTK* | Chr7q | 0.6162 | <0.0001 | <0.0001 |
| *FASTKD5* | Chr20p | 0.4914 | <0.0001 | <0.0001 |
| *FAT1* | Chr4q | 0.2951 | <0.0001 | <0.0001 |
| *FBL* | Chr19q | 0.536 | <0.0001 | <0.0001 |
| *FBLN1* | Chr22q | 0.186 | <0.0001 | <0.0001 |
| *FBXL12* | Chr19p | 0.6686 | <0.0001 | <0.0001 |
| *FBXL14* | Chr12p | 0.6397 | <0.0001 | <0.0001 |
| *FBXL4* | Chr6q | 0.5876 | <0.0001 | <0.0001 |
| *FBXL6* | Chr8q | 0.5281 | <0.0001 | <0.0001 |
| *FBXO31* | Chr16q | 0.3533 | <0.0001 | <0.0001 |
| *FBXO5* | Chr6q | 0.4162 | <0.0001 | <0.0001 |
| *FBXO7* | Chr22q | 0.6677 | <0.0001 | <0.0001 |
| *FBXW4P1* | Chr22q | 0.196 | <0.0001 | <0.0001 |
| *FBXW7* | Chr4q | 0.3558 | <0.0001 | <0.0001 |
| *FCHO1* | Chr19p | 0.2918 | <0.0001 | <0.0001 |
| *FDFT1* | Chr8p | 0.5497 | <0.0001 | <0.0001 |
| *FDPS* | Chr1q | 0.1841 | <0.0001 | <0.0001 |
| *FECH* | Chr18q | 0.5676 | <0.0001 | <0.0001 |
| *FGF12* | Chr3q | 0.1785 | <0.0001 | <0.0001 |
| *FGF9* | Chr13q | 0.2505 | <0.0001 | <0.0001 |
| *FGFR1OP* | Chr6q | 0.5684 | <0.0001 | <0.0001 |
| *FHOD1* | Chr16q | 0.2478 | <0.0001 | <0.0001 |
| *FIG4* | Chr6q | 0.6349 | <0.0001 | <0.0001 |
| *FKBP1A* | Chr20p | 0.479 | <0.0001 | <0.0001 |
| *FKBP4* | Chr12p | 0.5991 | <0.0001 | <0.0001 |
| *FKBP8* | Chr19p | 0.4521 | <0.0001 | <0.0001 |
| *FKBPL* | Chr6p | 0.4958 | <0.0001 | <0.0001 |
| *FLAD1* | Chr1q | 0.3663 | <0.0001 | <0.0001 |
| *FLCN* | Chr17p | 0.2018 | <0.0001 | <0.0001 |
| *FLII* | Chr17p | 0.4327 | <0.0001 | <0.0001 |
| *FLOT2* | Chr17q | 0.4146 | <0.0001 | <0.0001 |
| *FNDC3A* | Chr13q | 0.5577 | <0.0001 | <0.0001 |
| *FNDC3B* | Chr3q | 0.3804 | <0.0001 | <0.0001 |
| *FNTA* | Chr8p | 0.4589 | <0.0001 | <0.0001 |
| *FOXJ2* | Chr12p | 0.3441 | <0.0001 | <0.0001 |
| *FOXM1* | Chr12p | 0.3956 | <0.0001 | <0.0001 |
| *FOXO1* | Chr13q | 0.4523 | <0.0001 | <0.0001 |
| *FOXO3* | Chr6q | 0.5382 | <0.0001 | <0.0001 |
| *FOXRED2* | Chr22q | 0.2107 | <0.0001 | <0.0001 |
| *FRG1* | Chr4q | 0.541 | <0.0001 | <0.0001 |
| *FRK* | Chr6q | 0.4088 | <0.0001 | <0.0001 |
| *FRY* | Chr13q | 0.2748 | <0.0001 | <0.0001 |
| *FXR1* | Chr3q | 0.532 | <0.0001 | <0.0001 |
| *FXR2* | Chr17p | 0.4538 | <0.0001 | <0.0001 |
| *FXYD1* | Chr19q | 0.2057 | <0.0001 | <0.0001 |
| *FXYD3* | Chr19q | 0.1992 | <0.0001 | <0.0001 |
| *FXYD7* | Chr19q | 0.1935 | <0.0001 | <0.0001 |
| *FYN* | Chr6q | 0.2763 | <0.0001 | <0.0001 |
| *FZD3* | Chr8p | 0.4385 | <0.0001 | <0.0001 |
| *FZD6* | Chr8q | 0.3918 | <0.0001 | <0.0001 |
| *G3BP2* | Chr4q | 0.5735 | <0.0001 | <0.0001 |
| *GAB1* | Chr4q | 0.2851 | <0.0001 | <0.0001 |
| *GAB2* | Chr11q | 0.3766 | <0.0001 | <0.0001 |
| *GABARAP* | Chr17p | 0.5133 | <0.0001 | <0.0001 |
| *GABARAPL1* | Chr12p | 0.2994 | <0.0001 | <0.0001 |
| *GABARAPL2* | Chr16q | 0.5358 | <0.0001 | <0.0001 |
| *GADD45GIP1* | Chr19p | 0.5352 | <0.0001 | <0.0001 |
| *GALNS* | Chr16q | 0.377 | <0.0001 | <0.0001 |
| *GALNT11* | Chr7q | 0.5617 | <0.0001 | <0.0001 |
| *GALNT7* | Chr4q | 0.4663 | <0.0001 | <0.0001 |
| *GALNT8* | Chr12p | 0.1739 | <0.0001 | <0.0001 |
| *GAPDH* | Chr12p | 0.4911 | <0.0001 | <0.0001 |
| *GAR1* | Chr4q | 0.4956 | <0.0001 | <0.0001 |
| *GAS2L1* | Chr22q | 0.4669 | <0.0001 | <0.0001 |
| *GAS6* | Chr13q | 0.3141 | <0.0001 | <0.0001 |
| *GAS7* | Chr17p | 0.2428 | <0.0001 | <0.0001 |
| *GAS8* | Chr16q | 0.3694 | <0.0001 | <0.0001 |
| *GATAD2A* | Chr19p | 0.5069 | <0.0001 | <0.0001 |
| *GBAP1* | Chr1q | 0.3227 | <0.0001 | <0.0001 |
| *GCAT* | Chr22q | 0.3079 | <0.0001 | <0.0001 |
| *GCDH* | Chr19p | 0.5693 | <0.0001 | <0.0001 |
| *GCHFR* | Chr15q | 0.1847 | <0.0001 | <0.0001 |
| *GCNT2* | Chr6p | 0.1722 | <0.0001 | <0.0001 |
| *GDF15* | Chr19p | 0.182 | <0.0001 | <0.0001 |
| *GFOD2* | Chr16q | 0.4517 | <0.0001 | <0.0001 |
| *GGA1* | Chr22q | 0.4676 | <0.0001 | <0.0001 |
| *GGH* | Chr8q | 0.2593 | <0.0001 | <0.0001 |
| *GGNBP2* | Chr17q | 0.443 | <0.0001 | <0.0001 |
| *GGT1* | Chr22q | 0.2477 | <0.0001 | <0.0001 |
| *GGT5* | Chr22q | 0.2767 | <0.0001 | <0.0001 |
| *GINS2* | Chr16q | 0.2021 | <0.0001 | <0.0001 |
| *GINS3* | Chr16q | 0.2853 | <0.0001 | <0.0001 |
| *GINS4* | Chr8p | 0.24 | <0.0001 | <0.0001 |
| *GIPC1* | Chr19p | 0.5091 | <0.0001 | <0.0001 |
| *GJA1* | Chr6q | 0.294 | <0.0001 | <0.0001 |
| *GLG1* | Chr16q | 0.5272 | <0.0001 | <0.0001 |
| *GLRB* | Chr4q | 0.271 | <0.0001 | <0.0001 |
| *GLRX* | Chr5q | 0.166 | <0.0001 | 1.00E-04 |
| *GLT25D1* | Chr19p | 0.4504 | <0.0001 | <0.0001 |
| *GMEB2* | Chr20q | 0.4077 | <0.0001 | <0.0001 |
| *GMIP* | Chr19p | 0.3425 | <0.0001 | <0.0001 |
| *GMPR* | Chr6p | 0.2417 | <0.0001 | <0.0001 |
| *GMPS* | Chr3q | 0.4704 | <0.0001 | <0.0001 |
| *GNAS* | Chr20q | 0.4733 | <0.0001 | <0.0001 |
| *GNAZ* | Chr22q | 0.2359 | <0.0001 | <0.0001 |
| *GNRH1* | Chr8p | 0.2413 | <0.0001 | <0.0001 |
| *GOLGA7* | Chr8p | 0.3998 | <0.0001 | <0.0001 |
| *GOLGA8A* | Chr15q | 0.1975 | <0.0001 | <0.0001 |
| *GOLGA8B* | Chr15q | 0.2468 | <0.0001 | <0.0001 |
| *GOLIM4* | Chr3q | 0.2841 | <0.0001 | <0.0001 |
| *GOLPH3L* | Chr1q | 0.383 | <0.0001 | <0.0001 |
| *GOLT1B* | Chr12p | 0.3816 | <0.0001 | <0.0001 |
| *GON4L* | Chr1q | 0.3635 | <0.0001 | <0.0001 |
| *GOSR1* | Chr17q | 0.4657 | <0.0001 | <0.0001 |
| *GOT2* | Chr16q | 0.5558 | <0.0001 | <0.0001 |
| *GPAA1* | Chr8q | 0.6865 | <0.0001 | <0.0001 |
| *GPATCH1* | Chr19q | 0.5421 | <0.0001 | <0.0001 |
| *GPC5* | Chr13q | 0.1699 | <0.0001 | <0.0001 |
| *GPI* | Chr19q | 0.4389 | <0.0001 | <0.0001 |
| *GPR126* | Chr6q | 0.1647 | <0.0001 | 1.00E-04 |
| *GPR172A* | Chr8q | 0.6508 | <0.0001 | <0.0001 |
| *GPR19* | Chr12p | 0.3479 | <0.0001 | <0.0001 |
| *GPR56* | Chr16q | 0.3755 | <0.0001 | <0.0001 |
| *GPS2* | Chr17p | 0.5236 | <0.0001 | <0.0001 |
| *GPT* | Chr8q | 0.2303 | <0.0001 | <0.0001 |
| *GRAMD4* | Chr22q | 0.36 | <0.0001 | <0.0001 |
| *GRB7* | Chr17q | 0.3213 | <0.0001 | <0.0001 |
| *GRHL2* | Chr8q | 0.3554 | <0.0001 | <0.0001 |
| *GRINA* | Chr8q | 0.5955 | <0.0001 | <0.0001 |
| *GSDMB* | Chr17q | 0.1986 | <0.0001 | <0.0001 |
| *GSDMD* | Chr8q | 0.6047 | <0.0001 | <0.0001 |
| *GSR* | Chr8p | 0.4522 | <0.0001 | <0.0001 |
| *GSS* | Chr20q | 0.258 | <0.0001 | <0.0001 |
| *GSTK1* | Chr7q | 0.5749 | <0.0001 | <0.0001 |
| *GSTT1* | Chr22q | 0.7096 | <0.0001 | <0.0001 |
| *GSTT2* | Chr22q | 0.1658 | <0.0001 | 1.00E-04 |
| *GTF2E2* | Chr8p | 0.6764 | <0.0001 | <0.0001 |
| *GTF2F2* | Chr13q | 0.5724 | <0.0001 | <0.0001 |
| *GTF2H5* | Chr6q | 0.5314 | <0.0001 | <0.0001 |
| *GTF3A* | Chr13q | 0.5648 | <0.0001 | <0.0001 |
| *GTPBP1* | Chr22q | 0.3067 | <0.0001 | <0.0001 |
| *GTPBP3* | Chr19p | 0.485 | <0.0001 | <0.0001 |
| *GTSE1* | Chr22q | 0.2797 | <0.0001 | <0.0001 |
| *GUCY1A3* | Chr4q | 0.2947 | <0.0001 | <0.0001 |
| *GUCY1B2* | Chr13q | 0.2298 | <0.0001 | <0.0001 |
| *GUCY1B3* | Chr4q | 0.3651 | <0.0001 | <0.0001 |
| *GYG1* | Chr3q | 0.3483 | <0.0001 | <0.0001 |
| *H2AFJ* | Chr12p | 0.1999 | <0.0001 | <0.0001 |
| *H2AFZ* | Chr4q | 0.3817 | <0.0001 | <0.0001 |
| *HADH* | Chr4q | 0.4034 | <0.0001 | <0.0001 |
| *HAUS5* | Chr19q | 0.3978 | <0.0001 | <0.0001 |
| *HAX1* | Chr1q | 0.4164 | <0.0001 | <0.0001 |
| *HBS1L* | Chr6q | 0.6717 | <0.0001 | <0.0001 |
| *HDAC2* | Chr6q | 0.5867 | <0.0001 | <0.0001 |
| *HDDC2* | Chr6q | 0.5347 | <0.0001 | <0.0001 |
| *HDGF* | Chr1q | 0.4055 | <0.0001 | <0.0001 |
| *HEBP1* | Chr12p | 0.418 | <0.0001 | <0.0001 |
| *HEBP2* | Chr6q | 0.5081 | <0.0001 | <0.0001 |
| *HECA* | Chr6q | 0.5392 | <0.0001 | <0.0001 |
| *HERC2* | Chr15q | 0.5101 | <0.0001 | <0.0001 |
| *HERC3* | Chr4q | 0.1751 | <0.0001 | <0.0001 |
| *HERC5* | Chr4q | 0.2442 | <0.0001 | <0.0001 |
| *HERC6* | Chr4q | 0.2566 | <0.0001 | <0.0001 |
| *HERPUD1* | Chr16q | 0.5038 | <0.0001 | <0.0001 |
| *HEXB* | Chr5q | 0.45 | <0.0001 | <0.0001 |
| *HEY2* | Chr6q | 0.1954 | <0.0001 | <0.0001 |
| *HGSNAT* | Chr8p | 0.3347 | <0.0001 | <0.0001 |
| *HIPK2* | Chr7q | 0.2964 | <0.0001 | <0.0001 |
| *HIVEP1* | Chr6p | 0.4124 | <0.0001 | <0.0001 |
| *HIVEP2* | Chr6q | 0.362 | <0.0001 | <0.0001 |
| *HLTF* | Chr3q | 0.4849 | <0.0001 | <0.0001 |
| *HMBOX1* | Chr8p | 0.509 | <0.0001 | <0.0001 |
| *HMGB1* | Chr13q | 0.5749 | <0.0001 | <0.0001 |
| *HMGB2* | Chr4q | 0.3572 | <0.0001 | <0.0001 |
| *HMGCR* | Chr5q | 0.3982 | <0.0001 | <0.0001 |
| *HMGXB4* | Chr22q | 0.5626 | <0.0001 | <0.0001 |
| *HMOX1* | Chr22q | 0.2729 | <0.0001 | <0.0001 |
| *HNRNPD* | Chr4q | 0.364 | <0.0001 | <0.0001 |
| *HNRNPL* | Chr19q | 0.3598 | <0.0001 | <0.0001 |
| *HNRPDL* | Chr4q | 0.2078 | <0.0001 | <0.0001 |
| *HOMER1* | Chr5q | 0.2873 | <0.0001 | <0.0001 |
| *HOMER3* | Chr19p | 0.2606 | <0.0001 | <0.0001 |
| *HOOK2* | Chr19p | 0.4848 | <0.0001 | <0.0001 |
| *HPN* | Chr19q | 0.1899 | <0.0001 | <0.0001 |
| *HPS4* | Chr22q | 0.5675 | <0.0001 | <0.0001 |
| *HPSE* | Chr4q | 0.1794 | <0.0001 | <0.0001 |
| *HRASLS* | Chr3q | 0.401 | <0.0001 | <0.0001 |
| *HRSP12* | Chr8q | 0.4804 | <0.0001 | <0.0001 |
| *HSBP1* | Chr16q | 0.5543 | <0.0001 | <0.0001 |
| *HSD11B2* | Chr16q | 0.1841 | <0.0001 | <0.0001 |
| *HSD17B11* | Chr4q | 0.2413 | <0.0001 | <0.0001 |
| *HSD17B7* | Chr1q | 0.2058 | <0.0001 | <0.0001 |
| *HSF1* | Chr8q | 0.7013 | <0.0001 | <0.0001 |
| *HSF2* | Chr6q | 0.5726 | <0.0001 | <0.0001 |
| *HSPA1L* | Chr6p | 0.1782 | <0.0001 | <0.0001 |
| *HSPA4L* | Chr4q | 0.2203 | <0.0001 | <0.0001 |
| *HSPB6* | Chr19q | 0.215 | <0.0001 | <0.0001 |
| *HSPH1* | Chr13q | 0.4666 | <0.0001 | <0.0001 |
| *ICAM1* | Chr19p | 0.1813 | <0.0001 | <0.0001 |
| *ICAM3* | Chr19p | 0.4418 | <0.0001 | <0.0001 |
| *ICAM5* | Chr19p | 0.1772 | <0.0001 | <0.0001 |
| *IDH3B* | Chr20p | 0.4961 | <0.0001 | <0.0001 |
| *IER2* | Chr19p | 0.425 | <0.0001 | <0.0001 |
| *IER3IP1* | Chr18q | 0.5332 | <0.0001 | <0.0001 |
| *IFNGR1* | Chr6q | 0.3686 | <0.0001 | <0.0001 |
| *IFT20* | Chr17q | 0.419 | <0.0001 | <0.0001 |
| *IFT27* | Chr22q | 0.2794 | <0.0001 | <0.0001 |
| *IFT52* | Chr20q | 0.5429 | <0.0001 | <0.0001 |
| *IFT88* | Chr13q | 0.3929 | <0.0001 | <0.0001 |
| *IGF2BP2* | Chr3q | 0.2178 | <0.0001 | <0.0001 |
| *IGF2R* | Chr6q | 0.571 | <0.0001 | <0.0001 |
| *IGFBP4* | Chr17q | 0.3091 | <0.0001 | <0.0001 |
| *IGLL3P* | Chr22q | 0.1858 | <0.0001 | <0.0001 |
| *IKBKB* | Chr8p | 0.428 | <0.0001 | <0.0001 |
| *IL12A* | Chr3q | 0.2025 | <0.0001 | <0.0001 |
| *IL15* | Chr4q | 0.3995 | <0.0001 | <0.0001 |
| *IL1RAP* | Chr3q | 0.3068 | <0.0001 | <0.0001 |
| *IL27RA* | Chr19p | 0.2779 | <0.0001 | <0.0001 |
| *IL2RB* | Chr22q | 0.1933 | <0.0001 | <0.0001 |
| *IL6ST* | Chr5q | 0.4896 | <0.0001 | <0.0001 |
| *ILF2* | Chr1q | 0.3322 | <0.0001 | <0.0001 |
| *ILF3* | Chr19p | 0.457 | <0.0001 | <0.0001 |
| *ILVBL* | Chr19p | 0.5091 | <0.0001 | <0.0001 |
| *IMPA1* | Chr8q | 0.4294 | <0.0001 | <0.0001 |
| *IMPAD1* | Chr8q | 0.394 | <0.0001 | <0.0001 |
| *ING1* | Chr13q | 0.6201 | <0.0001 | <0.0001 |
| *ING2* | Chr4q | 0.4712 | <0.0001 | <0.0001 |
| *ING4* | Chr12p | 0.4296 | <0.0001 | <0.0001 |
| *INPP4B* | Chr4q | 0.3856 | <0.0001 | <0.0001 |
| *INPP5J* | Chr22q | 0.262 | <0.0001 | <0.0001 |
| *INSIG1* | Chr7q | 0.333 | <0.0001 | <0.0001 |
| *INTS12* | Chr4q | 0.5044 | <0.0001 | <0.0001 |
| *INTS3* | Chr1q | 0.1979 | <0.0001 | <0.0001 |
| *INTS6* | Chr13q | 0.5829 | <0.0001 | <0.0001 |
| *INTS8* | Chr8q | 0.6066 | <0.0001 | <0.0001 |
| *INTS9* | Chr8p | 0.6736 | <0.0001 | <0.0001 |
| *IPO5* | Chr13q | 0.6486 | <0.0001 | <0.0001 |
| *IPO8* | Chr12p | 0.2435 | <0.0001 | <0.0001 |
| *IPW* | Chr15q | 0.2072 | <0.0001 | <0.0001 |
| *IQCG* | Chr3q | 0.2155 | <0.0001 | <0.0001 |
| *IQSEC3* | Chr12p | 0.2449 | <0.0001 | <0.0001 |
| *IRF2* | Chr4q | 0.504 | <0.0001 | <0.0001 |
| *IRF5* | Chr7q | 0.1783 | <0.0001 | <0.0001 |
| *IRS2* | Chr13q | 0.4844 | <0.0001 | <0.0001 |
| *ISG20L2* | Chr1q | 0.46 | <0.0001 | <0.0001 |
| *ISYNA1* | Chr19p | 0.4197 | <0.0001 | <0.0001 |
| *ITCH* | Chr20q | 0.2973 | <0.0001 | <0.0001 |
| *ITFG2* | Chr12p | 0.3804 | <0.0001 | <0.0001 |
| *ITGA2* | Chr5q | 0.1898 | <0.0001 | <0.0001 |
| *ITGAE* | Chr17p | 0.3992 | <0.0001 | <0.0001 |
| *ITM2B* | Chr13q | 0.4627 | <0.0001 | <0.0001 |
| *ITPA* | Chr20p | 0.4528 | <0.0001 | <0.0001 |
| *ITPR2* | Chr12p | 0.261 | <0.0001 | <0.0001 |
| *IVD* | Chr15q | 0.5418 | <0.0001 | <0.0001 |
| *JARID2* | Chr6p | 0.5044 | <0.0001 | <0.0001 |
| *JHDM1D* | Chr7q | 0.3155 | <0.0001 | <0.0001 |
| *JOSD1* | Chr22q | 0.493 | <0.0001 | <0.0001 |
| *JRK* | Chr8q | 0.3548 | <0.0001 | <0.0001 |
| *JTB* | Chr1q | 0.3523 | <0.0001 | <0.0001 |
| *JUNB* | Chr19p | 0.2803 | <0.0001 | <0.0001 |
| *JUND* | Chr19p | 0.4545 | <0.0001 | <0.0001 |
| *KANK2* | Chr19p | 0.414 | <0.0001 | <0.0001 |
| *KARS* | Chr16q | 0.5892 | <0.0001 | <0.0001 |
| *KATNA1* | Chr6q | 0.5768 | <0.0001 | <0.0001 |
| *KATNB1* | Chr16q | 0.4498 | <0.0001 | <0.0001 |
| *KBTBD11* | Chr8p | 0.1752 | <0.0001 | <0.0001 |
| *KCNB2* | Chr8q | 0.1655 | <0.0001 | 1.00E-04 |
| *KCNG1* | Chr20q | 0.3416 | <0.0001 | <0.0001 |
| *KCNH2* | Chr7q | 0.2067 | <0.0001 | <0.0001 |
| *KCNMB3* | Chr3q | 0.334 | <0.0001 | <0.0001 |
| *KCNN3* | Chr1q | 0.1887 | <0.0001 | <0.0001 |
| *KCNS1* | Chr20q | 0.1931 | <0.0001 | <0.0001 |
| *KCTD12* | Chr13q | 0.264 | <0.0001 | <0.0001 |
| *KCTD14* | Chr11q | 0.2671 | <0.0001 | <0.0001 |
| *KCTD15* | Chr19q | 0.1928 | <0.0001 | <0.0001 |
| *KCTD9* | Chr8p | 0.5953 | <0.0001 | <0.0001 |
| *KDELC1* | Chr13q | 0.4151 | <0.0001 | <0.0001 |
| *KDELR3* | Chr22q | 0.3215 | <0.0001 | <0.0001 |
| *KDM5A* | Chr12p | 0.5949 | <0.0001 | <0.0001 |
| *KDM6B* | Chr17p | 0.3465 | <0.0001 | <0.0001 |
| *KDSR* | Chr18q | 0.6781 | <0.0001 | <0.0001 |
| *KEAP1* | Chr19p | 0.6473 | <0.0001 | <0.0001 |
| *KHDRBS3* | Chr8q | 0.2482 | <0.0001 | <0.0001 |
| *KIAA0100* | Chr17q | 0.5177 | <0.0001 | <0.0001 |
| *KIAA0146* | Chr8q | 0.314 | <0.0001 | <0.0001 |
| *KIAA0174* | Chr16q | 0.6032 | <0.0001 | <0.0001 |
| *KIAA0182* | Chr16q | 0.4242 | <0.0001 | <0.0001 |
| *KIAA0196* | Chr8q | 0.6256 | <0.0001 | <0.0001 |
| *KIAA0226* | Chr3q | 0.5622 | <0.0001 | <0.0001 |
| *KIAA0355* | Chr19q | 0.4918 | <0.0001 | <0.0001 |
| *KIAA0528* | Chr12p | 0.5195 | <0.0001 | <0.0001 |
| *KIAA0564* | Chr13q | 0.5885 | <0.0001 | <0.0001 |
| *KIAA0664* | Chr17p | 0.299 | <0.0001 | <0.0001 |
| *KIAA0753* | Chr17p | 0.3524 | <0.0001 | <0.0001 |
| *KIAA0776* | Chr6q | 0.6389 | <0.0001 | <0.0001 |
| *KIAA0907* | Chr1q | 0.3407 | <0.0001 | <0.0001 |
| *KIAA0922* | Chr4q | 0.293 | <0.0001 | <0.0001 |
| *KIAA1109* | Chr4q | 0.4828 | <0.0001 | <0.0001 |
| *KIAA1467* | Chr12p | 0.3422 | <0.0001 | <0.0001 |
| *KIAA1609* | Chr16q | 0.4801 | <0.0001 | <0.0001 |
| *KIAA1644* | Chr22q | 0.1792 | <0.0001 | <0.0001 |
| *KIAA1704* | Chr13q | 0.4745 | <0.0001 | <0.0001 |
| *KIF13B* | Chr8p | 0.4579 | <0.0001 | <0.0001 |
| *KIF1C* | Chr17p | 0.2837 | <0.0001 | <0.0001 |
| *KIF2A* | Chr5q | 0.4117 | <0.0001 | <0.0001 |
| *KIF3B* | Chr20q | 0.3392 | <0.0001 | <0.0001 |
| *KLF1* | Chr19p | 0.1729 | <0.0001 | <0.0001 |
| *KLF10* | Chr8q | 0.3744 | <0.0001 | <0.0001 |
| *KLF12* | Chr13q | 0.4141 | <0.0001 | <0.0001 |
| *KLF13* | Chr15q | 0.3322 | <0.0001 | <0.0001 |
| *KLF5* | Chr13q | 0.4469 | <0.0001 | <0.0001 |
| *KLHDC10* | Chr7q | 0.3959 | <0.0001 | <0.0001 |
| *KLHDC4* | Chr16q | 0.3758 | <0.0001 | <0.0001 |
| *KLHL2* | Chr4q | 0.3952 | <0.0001 | <0.0001 |
| *KLHL24* | Chr3q | 0.485 | <0.0001 | <0.0001 |
| *KLHL26* | Chr19p | 0.525 | <0.0001 | <0.0001 |
| *KLHL36* | Chr16q | 0.3179 | <0.0001 | <0.0001 |
| *KLRAP1* | Chr12p | 0.1827 | <0.0001 | <0.0001 |
| *KLRF1* | Chr12p | 0.3205 | <0.0001 | <0.0001 |
| *KLRG1* | Chr12p | 0.2491 | <0.0001 | <0.0001 |
| *KPNA3* | Chr13q | 0.62 | <0.0001 | <0.0001 |
| *KPNA4* | Chr3q | 0.3352 | <0.0001 | <0.0001 |
| *KPNA5* | Chr6q | 0.3726 | <0.0001 | <0.0001 |
| *KRAS* | Chr12p | 0.6034 | <0.0001 | <0.0001 |
| *KRI1* | Chr19p | 0.5895 | <0.0001 | <0.0001 |
| *KRT10* | Chr17q | 0.3625 | <0.0001 | <0.0001 |
| *L3MBTL1* | Chr20q | 0.2534 | <0.0001 | <0.0001 |
| *LACTB2* | Chr8q | 0.3328 | <0.0001 | <0.0001 |
| *LAMA5* | Chr20q | 0.3184 | <0.0001 | <0.0001 |
| *LAMP1* | Chr13q | 0.5399 | <0.0001 | <0.0001 |
| *LAMP3* | Chr3q | 0.2087 | <0.0001 | <0.0001 |
| *LAPTM4B* | Chr8q | 0.5908 | <0.0001 | <0.0001 |
| *LARGE* | Chr22q | 0.2917 | <0.0001 | <0.0001 |
| *LARP7* | Chr4q | 0.451 | <0.0001 | <0.0001 |
| *LASP1* | Chr17q | 0.4256 | <0.0001 | <0.0001 |
| *LASS2* | Chr1q | 0.2874 | <0.0001 | <0.0001 |
| *LCMT2* | Chr15q | 0.5582 | <0.0001 | <0.0001 |
| *LDHB* | Chr12p | 0.4754 | <0.0001 | <0.0001 |
| *LDLR* | Chr19p | 0.2458 | <0.0001 | <0.0001 |
| *LEPROTL1* | Chr8p | 0.6381 | <0.0001 | <0.0001 |
| *LGALS1* | Chr22q | 0.3035 | <0.0001 | <0.0001 |
| *LHFP* | Chr13q | 0.2077 | <0.0001 | <0.0001 |
| *LHFPL2* | Chr5q | 0.2289 | <0.0001 | <0.0001 |
| *LIF* | Chr22q | 0.2516 | <0.0001 | <0.0001 |
| *LIG3* | Chr17q | 0.3132 | <0.0001 | <0.0001 |
| *LIG4* | Chr13q | 0.2464 | <0.0001 | <0.0001 |
| *LIMK2* | Chr22q | 0.5815 | <0.0001 | <0.0001 |
| *LIN37* | Chr19q | 0.5696 | <0.0001 | <0.0001 |
| *LIPG* | Chr18q | 0.2441 | <0.0001 | <0.0001 |
| *LMAN1* | Chr18q | 0.3529 | <0.0001 | <0.0001 |
| *LMF2* | Chr22q | 0.4487 | <0.0001 | <0.0001 |
| *LMO7* | Chr13q | 0.3697 | <0.0001 | <0.0001 |
| *LNPEP* | Chr5q | 0.3639 | <0.0001 | <0.0001 |
| *LOC100129361* | Chr12p | 0.5527 | <0.0001 | <0.0001 |
| *LOC100134713* | Chr7q | 0.421 | <0.0001 | <0.0001 |
| *LOC100170939* | Chr5q | 0.2138 | <0.0001 | <0.0001 |
| *LOC100289410* | Chr13q | 0.2214 | <0.0001 | <0.0001 |
| *LOC155060* | Chr7q | 0.4553 | <0.0001 | <0.0001 |
| *LOC220594* | Chr17p | 0.1688 | <0.0001 | <0.0001 |
| *LOC388796* | Chr20q | 0.2112 | <0.0001 | <0.0001 |
| *LOC440434* | Chr17q | 0.2006 | <0.0001 | <0.0001 |
| *LOC729991* | Chr19p | 0.3522 | <0.0001 | <0.0001 |
| *LOC91316* | Chr22q | 0.2165 | <0.0001 | <0.0001 |
| *LPAR2* | Chr19p | 0.4331 | <0.0001 | <0.0001 |
| *LPCAT3* | Chr12p | 0.5614 | <0.0001 | <0.0001 |
| *LPCAT4* | Chr15q | 0.4685 | <0.0001 | <0.0001 |
| *LPHN1* | Chr19p | 0.2751 | <0.0001 | <0.0001 |
| *LPP* | Chr3q | 0.4005 | <0.0001 | <0.0001 |
| *LPPR2* | Chr19p | 0.2794 | <0.0001 | <0.0001 |
| *LRBA* | Chr4q | 0.5369 | <0.0001 | <0.0001 |
| *LRCH3* | Chr3q | 0.5211 | <0.0001 | <0.0001 |
| *LRFN3* | Chr19q | 0.357 | <0.0001 | <0.0001 |
| *LRP12* | Chr8q | 0.3029 | <0.0001 | <0.0001 |
| *LRP2BP* | Chr4q | 0.3148 | <0.0001 | <0.0001 |
| *LRP3* | Chr19q | 0.2789 | <0.0001 | <0.0001 |
| *LRP5L* | Chr22q | 0.2913 | <0.0001 | <0.0001 |
| *LRP6* | Chr12p | 0.5054 | <0.0001 | <0.0001 |
| *LRRC14* | Chr8q | 0.4561 | <0.0001 | <0.0001 |
| *LRRC23* | Chr12p | 0.3769 | <0.0001 | <0.0001 |
| *LRRC6* | Chr8q | 0.3806 | <0.0001 | <0.0001 |
| *LRRC61* | Chr7q | 0.3847 | <0.0001 | <0.0001 |
| *LSG1* | Chr3q | 0.6657 | <0.0001 | <0.0001 |
| *LSM14A* | Chr19q | 0.5469 | <0.0001 | <0.0001 |
| *LSM14B* | Chr20q | 0.445 | <0.0001 | <0.0001 |
| *LSM2* | Chr6p | 0.4774 | <0.0001 | <0.0001 |
| *LSM4* | Chr19p | 0.4973 | <0.0001 | <0.0001 |
| *LSM6* | Chr4q | 0.5652 | <0.0001 | <0.0001 |
| *LSR* | Chr19q | 0.4138 | <0.0001 | <0.0001 |
| *LTBP4* | Chr19q | 0.2069 | <0.0001 | <0.0001 |
| *LTBR* | Chr12p | 0.4216 | <0.0001 | <0.0001 |
| *LUC7L2* | Chr7q | 0.4573 | <0.0001 | <0.0001 |
| *LY6E* | Chr8q | 0.4615 | <0.0001 | <0.0001 |
| *LY6G5C* | Chr6p | 0.1885 | <0.0001 | <0.0001 |
| *LYN* | Chr8q | 0.2316 | <0.0001 | <0.0001 |
| *LYPLA1* | Chr8q | 0.3653 | <0.0001 | <0.0001 |
| *LYRM2* | Chr6q | 0.6427 | <0.0001 | <0.0001 |
| *M6PR* | Chr12p | 0.5859 | <0.0001 | <0.0001 |
| *MAD2L1* | Chr4q | 0.3642 | <0.0001 | <0.0001 |
| *MAF* | Chr16q | 0.1694 | <0.0001 | <0.0001 |
| *MAFF* | Chr22q | 0.3535 | <0.0001 | <0.0001 |
| *MAGEF1* | Chr3q | 0.4946 | <0.0001 | <0.0001 |
| *MAGOHB* | Chr12p | 0.4889 | <0.0001 | <0.0001 |
| *MAK* | Chr6p | 0.2356 | <0.0001 | <0.0001 |
| *MAK16* | Chr8p | 0.6691 | <0.0001 | <0.0001 |
| *MALT1* | Chr18q | 0.4562 | <0.0001 | <0.0001 |
| *MAN1A1* | Chr6q | 0.1789 | <0.0001 | <0.0001 |
| *MAN2B1* | Chr19p | 0.3983 | <0.0001 | <0.0001 |
| *MANBA* | Chr4q | 0.3787 | <0.0001 | <0.0001 |
| *MANEA* | Chr6q | 0.5058 | <0.0001 | <0.0001 |
| *MANSC1* | Chr12p | 0.3564 | <0.0001 | <0.0001 |
| *MAP1B* | Chr5q | 0.2231 | <0.0001 | <0.0001 |
| *MAP1LC3B* | Chr16q | 0.6239 | <0.0001 | <0.0001 |
| *MAP1S* | Chr19p | 0.5157 | <0.0001 | <0.0001 |
| *MAP2K3* | Chr17p | 0.2655 | <0.0001 | <0.0001 |
| *MAP2K4* | Chr17p | 0.4097 | <0.0001 | <0.0001 |
| *MAP3K1* | Chr5q | 0.2397 | <0.0001 | <0.0001 |
| *MAP3K13* | Chr3q | 0.1899 | <0.0001 | <0.0001 |
| *MAP3K4* | Chr6q | 0.5125 | <0.0001 | <0.0001 |
| *MAP3K5* | Chr6q | 0.336 | <0.0001 | <0.0001 |
| *MAP3K7* | Chr6q | 0.5956 | <0.0001 | <0.0001 |
| *MAP4K1* | Chr19q | 0.3068 | <0.0001 | <0.0001 |
| *MAP6D1* | Chr3q | 0.3095 | <0.0001 | <0.0001 |
| *MAP7* | Chr6q | 0.6255 | <0.0001 | <0.0001 |
| *MAP9* | Chr4q | 0.4715 | <0.0001 | <0.0001 |
| *MAPK11* | Chr22q | 0.1779 | <0.0001 | <0.0001 |
| *MAPK7* | Chr17p | 0.2955 | <0.0001 | <0.0001 |
| *MAPKBP1* | Chr15q | 0.4061 | <0.0001 | <0.0001 |
| *MAPRE1* | Chr20q | 0.4061 | <0.0001 | <0.0001 |
| *MARCKS* | Chr6q | 0.266 | <0.0001 | <0.0001 |
| *MAST1* | Chr19p | 0.2231 | <0.0001 | <0.0001 |
| *MAST3* | Chr19p | 0.4565 | <0.0001 | <0.0001 |
| *MAST4* | Chr5q | 0.2104 | <0.0001 | <0.0001 |
| *MATN2* | Chr8q | 0.2897 | <0.0001 | <0.0001 |
| *MAU2* | Chr19p | 0.5606 | <0.0001 | <0.0001 |
| *MAVS* | Chr20p | 0.32 | <0.0001 | <0.0001 |
| *MB* | Chr22q | 0.1633 | <0.0001 | 1.00E-04 |
| *MBD1* | Chr18q | 0.6503 | <0.0001 | <0.0001 |
| *MBD2* | Chr18q | 0.5684 | <0.0001 | <0.0001 |
| *MBNL1* | Chr3q | 0.3461 | <0.0001 | <0.0001 |
| *MBNL2* | Chr13q | 0.5378 | <0.0001 | <0.0001 |
| *MBP* | Chr18q | 0.4282 | <0.0001 | <0.0001 |
| *MBTPS1* | Chr16q | 0.5079 | <0.0001 | <0.0001 |
| *MC1R* | Chr16q | 0.1678 | <0.0001 | <0.0001 |
| *MCAT* | Chr22q | 0.3905 | <0.0001 | <0.0001 |
| *MCCC1* | Chr3q | 0.4982 | <0.0001 | <0.0001 |
| *MCCC2* | Chr5q | 0.4269 | <0.0001 | <0.0001 |
| *MCF2L* | Chr13q | 0.2584 | <0.0001 | <0.0001 |
| *MCL1* | Chr1q | 0.2254 | <0.0001 | <0.0001 |
| *MCM4* | Chr8q | 0.2814 | <0.0001 | <0.0001 |
| *MCM5* | Chr22q | 0.3577 | <0.0001 | <0.0001 |
| *MCM9* | Chr6q | 0.5497 | <0.0001 | <0.0001 |
| *MCPH1* | Chr8p | 0.3344 | <0.0001 | <0.0001 |
| *MCTP1* | Chr5q | 0.1679 | <0.0001 | 1.00E-04 |
| *MDN1* | Chr6q | 0.5448 | <0.0001 | <0.0001 |
| *ME2* | Chr18q | 0.4321 | <0.0001 | <0.0001 |
| *MECOM* | Chr3q | 0.286 | <0.0001 | <0.0001 |
| *MED1* | Chr17q | 0.3761 | <0.0001 | <0.0001 |
| *MED21* | Chr12p | 0.5062 | <0.0001 | <0.0001 |
| *MED23* | Chr6q | 0.5995 | <0.0001 | <0.0001 |
| *MED24* | Chr17q | 0.38 | <0.0001 | <0.0001 |
| *MED4* | Chr13q | 0.5222 | <0.0001 | <0.0001 |
| *MED9* | Chr17p | 0.2837 | <0.0001 | <0.0001 |
| *MEF2C* | Chr5q | 0.1701 | <0.0001 | <0.0001 |
| *MEF2D* | Chr1q | 0.3098 | <0.0001 | <0.0001 |
| *MEIS2* | Chr15q | 0.2329 | <0.0001 | <0.0001 |
| *MEIS3P1* | Chr17p | 0.3455 | <0.0001 | <0.0001 |
| *METAP1* | Chr4q | 0.568 | <0.0001 | <0.0001 |
| *MEX3C* | Chr18q | 0.586 | <0.0001 | <0.0001 |
| *MFAP1* | Chr15q | 0.5473 | <0.0001 | <0.0001 |
| *MFAP3L* | Chr4q | 0.1926 | <0.0001 | <0.0001 |
| *MFHAS1* | Chr8p | 0.4546 | <0.0001 | <0.0001 |
| *MFN1* | Chr3q | 0.5356 | <0.0001 | <0.0001 |
| *MFNG* | Chr22q | 0.2455 | <0.0001 | <0.0001 |
| *MFSD1* | Chr3q | 0.3033 | <0.0001 | <0.0001 |
| *MGA* | Chr15q | 0.3607 | <0.0001 | <0.0001 |
| *MGC2889* | Chr3q | 0.2359 | <0.0001 | <0.0001 |
| *MGST2* | Chr4q | 0.4789 | <0.0001 | <0.0001 |
| *MICAL1* | Chr6q | 0.2987 | <0.0001 | <0.0001 |
| *MICALL1* | Chr22q | 0.419 | <0.0001 | <0.0001 |
| *MIF* | Chr22q | 0.5178 | <0.0001 | <0.0001 |
| *MINK1* | Chr17p | 0.3177 | <0.0001 | <0.0001 |
| *MIPEP* | Chr13q | 0.5282 | <0.0001 | <0.0001 |
| *MIS12* | Chr17p | 0.4724 | <0.0001 | <0.0001 |
| *MKL1* | Chr22q | 0.4283 | <0.0001 | <0.0001 |
| *MKLN1* | Chr7q | 0.3791 | <0.0001 | <0.0001 |
| *MKRN1* | Chr7q | 0.6388 | <0.0001 | <0.0001 |
| *MLF1* | Chr3q | 0.3595 | <0.0001 | <0.0001 |
| *MLF1IP* | Chr4q | 0.2847 | <0.0001 | <0.0001 |
| *MLF2* | Chr12p | 0.6234 | <0.0001 | <0.0001 |
| *MLL4* | Chr19q | 0.3779 | <0.0001 | <0.0001 |
| *MLLT4* | Chr6q | 0.2156 | <0.0001 | <0.0001 |
| *MLYCD* | Chr16q | 0.477 | <0.0001 | <0.0001 |
| *MMP15* | Chr16q | 0.1753 | <0.0001 | <0.0001 |
| *MMP24* | Chr20q | 0.2293 | <0.0001 | <0.0001 |
| *MN1* | Chr22q | 0.1927 | <0.0001 | <0.0001 |
| *MNT* | Chr17p | 0.3635 | <0.0001 | <0.0001 |
| *MNX1* | Chr7q | 0.2357 | <0.0001 | <0.0001 |
| *MOCS2* | Chr5q | 0.5717 | <0.0001 | <0.0001 |
| *MOCS3* | Chr20q | 0.3225 | <0.0001 | <0.0001 |
| *MON1B* | Chr16q | 0.5206 | <0.0001 | <0.0001 |
| *MORC2* | Chr22q | 0.2869 | <0.0001 | <0.0001 |
| *MPDU1* | Chr17p | 0.3452 | <0.0001 | <0.0001 |
| *MPHOSPH6* | Chr16q | 0.5197 | <0.0001 | <0.0001 |
| *MPHOSPH8* | Chr13q | 0.5718 | <0.0001 | <0.0001 |
| *MPRIP* | Chr17p | 0.3257 | <0.0001 | <0.0001 |
| *MPST* | Chr22q | 0.3444 | <0.0001 | <0.0001 |
| *MRAS* | Chr3q | 0.2037 | <0.0001 | <0.0001 |
| *MRP63* | Chr13q | 0.4371 | <0.0001 | <0.0001 |
| *MRPL13* | Chr8q | 0.5403 | <0.0001 | <0.0001 |
| *MRPL15* | Chr8q | 0.487 | <0.0001 | <0.0001 |
| *MRPL18* | Chr6q | 0.6017 | <0.0001 | <0.0001 |
| *MRPL24* | Chr1q | 0.2716 | <0.0001 | <0.0001 |
| *MRPL34* | Chr19p | 0.4989 | <0.0001 | <0.0001 |
| *MRPL4* | Chr19p | 0.5953 | <0.0001 | <0.0001 |
| *MRPL9* | Chr1q | 0.4282 | <0.0001 | <0.0001 |
| *MRPS12* | Chr19q | 0.5446 | <0.0001 | <0.0001 |
| *MRPS18C* | Chr4q | 0.2901 | <0.0001 | <0.0001 |
| *MRPS22* | Chr3q | 0.502 | <0.0001 | <0.0001 |
| *MRPS27* | Chr5q | 0.458 | <0.0001 | <0.0001 |
| *MRPS28* | Chr8q | 0.4486 | <0.0001 | <0.0001 |
| *MRPS31* | Chr13q | 0.683 | <0.0001 | <0.0001 |
| *MRPS33* | Chr7q | 0.4989 | <0.0001 | <0.0001 |
| *MRPS35* | Chr12p | 0.4822 | <0.0001 | <0.0001 |
| *MSH3* | Chr5q | 0.5298 | <0.0001 | <0.0001 |
| *MSL1* | Chr17q | 0.3725 | <0.0001 | <0.0001 |
| *MSL2* | Chr3q | 0.3431 | <0.0001 | <0.0001 |
| *MSRA* | Chr8p | 0.43 | <0.0001 | <0.0001 |
| *MT1E* | Chr16q | 0.1644 | <0.0001 | 1.00E-04 |
| *MT1X* | Chr16q | 0.1923 | <0.0001 | <0.0001 |
| *MT2A* | Chr16q | 0.1952 | <0.0001 | <0.0001 |
| *MTDH* | Chr8q | 0.6719 | <0.0001 | <0.0001 |
| *MTERFD1* | Chr8q | 0.5966 | <0.0001 | <0.0001 |
| *MTFR1* | Chr8q | 0.3825 | <0.0001 | <0.0001 |
| *MTHFD2L* | Chr4q | 0.4244 | <0.0001 | <0.0001 |
| *MTHFSD* | Chr16q | 0.4354 | <0.0001 | <0.0001 |
| *MTMR3* | Chr22q | 0.5415 | <0.0001 | <0.0001 |
| *MTMR6* | Chr13q | 0.4877 | <0.0001 | <0.0001 |
| *MTMR9* | Chr8p | 0.6372 | <0.0001 | <0.0001 |
| *MTRF1* | Chr13q | 0.5222 | <0.0001 | <0.0001 |
| *MTSS1* | Chr8q | 0.1983 | <0.0001 | <0.0001 |
| *MTUS1* | Chr8p | 0.4115 | <0.0001 | <0.0001 |
| *MTX1* | Chr1q | 0.4113 | <0.0001 | <0.0001 |
| *MVD* | Chr16q | 0.1699 | <0.0001 | <0.0001 |
| *MYB* | Chr6q | 0.2285 | <0.0001 | <0.0001 |
| *MYBBP1A* | Chr17p | 0.3502 | <0.0001 | <0.0001 |
| *MYBL1* | Chr8q | 0.2934 | <0.0001 | <0.0001 |
| *MYBL2* | Chr20q | 0.3004 | <0.0001 | <0.0001 |
| *MYC* | Chr8q | 0.2347 | <0.0001 | <0.0001 |
| *MYCBP2* | Chr13q | 0.5478 | <0.0001 | <0.0001 |
| *MYH10* | Chr17p | 0.2754 | <0.0001 | <0.0001 |
| *MYH9* | Chr22q | 0.4428 | <0.0001 | <0.0001 |
| *MYLIP* | Chr6p | 0.3906 | <0.0001 | <0.0001 |
| *MYNN* | Chr3q | 0.5063 | <0.0001 | <0.0001 |
| *MYO1D* | Chr17q | 0.2864 | <0.0001 | <0.0001 |
| *MYO7A* | Chr11q | 0.2286 | <0.0001 | <0.0001 |
| *MYO9B* | Chr19p | 0.5137 | <0.0001 | <0.0001 |
| *MYST3* | Chr8p | 0.4292 | <0.0001 | <0.0001 |
| *N4BP2L1* | Chr13q | 0.3118 | <0.0001 | <0.0001 |
| *N4BP2L2* | Chr13q | 0.5826 | <0.0001 | <0.0001 |
| *NAA15* | Chr4q | 0.5664 | <0.0001 | <0.0001 |
| *NAA16* | Chr13q | 0.4969 | <0.0001 | <0.0001 |
| *NAAA* | Chr4q | 0.3155 | <0.0001 | <0.0001 |
| *NAE1* | Chr16q | 0.486 | <0.0001 | <0.0001 |
| *NAGA* | Chr22q | 0.5233 | <0.0001 | <0.0001 |
| *NAIP* | Chr5q | 0.2677 | <0.0001 | <0.0001 |
| *NARS* | Chr18q | 0.6997 | <0.0001 | <0.0001 |
| *NARS2* | Chr11q | 0.5305 | <0.0001 | <0.0001 |
| *NAT1* | Chr8p | 0.4568 | <0.0001 | <0.0001 |
| *NBEA* | Chr13q | 0.218 | <0.0001 | <0.0001 |
| *NBN* | Chr8q | 0.5347 | <0.0001 | <0.0001 |
| *NCALD* | Chr8q | 0.3617 | <0.0001 | <0.0001 |
| *NCAPD2* | Chr12p | 0.4966 | <0.0001 | <0.0001 |
| *NCAPG2* | Chr7q | 0.4213 | <0.0001 | <0.0001 |
| *NCAPH2* | Chr22q | 0.303 | <0.0001 | <0.0001 |
| *NCBP2* | Chr3q | 0.6609 | <0.0001 | <0.0001 |
| *NCF4* | Chr22q | 0.2155 | <0.0001 | <0.0001 |
| *NCK1* | Chr3q | 0.3178 | <0.0001 | <0.0001 |
| *NCOA2* | Chr8q | 0.4563 | <0.0001 | <0.0001 |
| *NCOA3* | Chr20q | 0.3563 | <0.0001 | <0.0001 |
| *NCOA6* | Chr20q | 0.4313 | <0.0001 | <0.0001 |
| *NCOR1* | Chr17p | 0.4443 | <0.0001 | <0.0001 |
| *NCSTN* | Chr1q | 0.4239 | <0.0001 | <0.0001 |
| *NDEL1* | Chr17p | 0.5236 | <0.0001 | <0.0001 |
| *NDRG1* | Chr8q | 0.423 | <0.0001 | <0.0001 |
| *NDRG3* | Chr20q | 0.5229 | <0.0001 | <0.0001 |
| *NDUFA6* | Chr22q | 0.4273 | <0.0001 | <0.0001 |
| *NDUFA9* | Chr12p | 0.6021 | <0.0001 | <0.0001 |
| *NDUFAF1* | Chr15q | 0.5392 | <0.0001 | <0.0001 |
| *NDUFAF4* | Chr6q | 0.5275 | <0.0001 | <0.0001 |
| *NDUFB2* | Chr7q | 0.5247 | <0.0001 | <0.0001 |
| *NDUFB5* | Chr3q | 0.4277 | <0.0001 | <0.0001 |
| *NDUFB7* | Chr19p | 0.4955 | <0.0001 | <0.0001 |
| *NDUFC1* | Chr4q | 0.5791 | <0.0001 | <0.0001 |
| *NDUFC2* | Chr11q | 0.5126 | <0.0001 | <0.0001 |
| *NDUFS2* | Chr1q | 0.4123 | <0.0001 | <0.0001 |
| *NDUFS4* | Chr5q | 0.5438 | <0.0001 | <0.0001 |
| *NECAB3* | Chr20q | 0.3341 | <0.0001 | <0.0001 |
| *NECAP1* | Chr12p | 0.5573 | <0.0001 | <0.0001 |
| *NEDD4L* | Chr18q | 0.5003 | <0.0001 | <0.0001 |
| *NEDD9* | Chr6p | 0.1977 | <0.0001 | <0.0001 |
| *NEIL3* | Chr4q | 0.2607 | <0.0001 | <0.0001 |
| *NEK1* | Chr4q | 0.5092 | <0.0001 | <0.0001 |
| *NEK3* | Chr13q | 0.4717 | <0.0001 | <0.0001 |
| *NEU1* | Chr6p | 0.2601 | <0.0001 | <0.0001 |
| *NF1* | Chr17q | 0.4698 | <0.0001 | <0.0001 |
| *NF2* | Chr22q | 0.5446 | <0.0001 | <0.0001 |
| *NFAT5* | Chr16q | 0.3348 | <0.0001 | <0.0001 |
| *NFATC1* | Chr18q | 0.2294 | <0.0001 | <0.0001 |
| *NFATC3* | Chr16q | 0.4407 | <0.0001 | <0.0001 |
| *NFIX* | Chr19p | 0.2706 | <0.0001 | <0.0001 |
| *NFKB1* | Chr4q | 0.4023 | <0.0001 | <0.0001 |
| *NFKBIB* | Chr19q | 0.4687 | <0.0001 | <0.0001 |
| *NFKBIL1* | Chr6p | 0.4655 | <0.0001 | <0.0001 |
| *NFS1* | Chr20q | 0.4368 | <0.0001 | <0.0001 |
| *NHP2L1* | Chr22q | 0.378 | <0.0001 | <0.0001 |
| *NINJ2* | Chr12p | 0.1642 | <0.0001 | 1.00E-04 |
| *NIP7* | Chr16q | 0.4864 | <0.0001 | <0.0001 |
| *NIPA2* | Chr15q | 0.5702 | <0.0001 | <0.0001 |
| *NIPAL2* | Chr8q | 0.2797 | <0.0001 | <0.0001 |
| *NIPSNAP1* | Chr22q | 0.5072 | <0.0001 | <0.0001 |
| *NIT1* | Chr1q | 0.4125 | <0.0001 | <0.0001 |
| *NKX3-1* | Chr8p | 0.1982 | <0.0001 | <0.0001 |
| *NLE1* | Chr17q | 0.2939 | <0.0001 | <0.0001 |
| *NLK* | Chr17q | 0.4133 | <0.0001 | <0.0001 |
| *NMD3* | Chr3q | 0.2533 | <0.0001 | <0.0001 |
| *NOL12* | Chr22q | 0.1828 | <0.0001 | <0.0001 |
| *NOL3* | Chr16q | 0.3555 | <0.0001 | <0.0001 |
| *NOL7* | Chr6p | 0.5984 | <0.0001 | <0.0001 |
| *NOP10* | Chr15q | 0.4931 | <0.0001 | <0.0001 |
| *NOP2* | Chr12p | 0.5794 | <0.0001 | <0.0001 |
| *NOP56* | Chr20p | 0.4519 | <0.0001 | <0.0001 |
| *NOTCH3* | Chr19p | 0.3908 | <0.0001 | <0.0001 |
| *NOTCH4* | Chr6p | 0.2214 | <0.0001 | <0.0001 |
| *NOV* | Chr8q | 0.2 | <0.0001 | <0.0001 |
| *NPTXR* | Chr22q | 0.2704 | <0.0001 | <0.0001 |
| *NQO1* | Chr16q | 0.1917 | <0.0001 | <0.0001 |
| *NR2F6* | Chr19p | 0.5169 | <0.0001 | <0.0001 |
| *NR3C2* | Chr4q | 0.2504 | <0.0001 | <0.0001 |
| *NRF1* | Chr7q | 0.2064 | <0.0001 | <0.0001 |
| *NRSN2* | Chr20p | 0.3873 | <0.0001 | <0.0001 |
| *NSA2* | Chr5q | 0.5155 | <0.0001 | <0.0001 |
| *NSFL1C* | Chr20p | 0.6112 | <0.0001 | <0.0001 |
| *NSMAF* | Chr8q | 0.3423 | <0.0001 | <0.0001 |
| *NTF3* | Chr12p | 0.2922 | <0.0001 | <0.0001 |
| *NUDT15* | Chr13q | 0.5109 | <0.0001 | <0.0001 |
| *NUDT18* | Chr8p | 0.3274 | <0.0001 | <0.0001 |
| *NUDT21* | Chr16q | 0.4768 | <0.0001 | <0.0001 |
| *NUDT6* | Chr4q | 0.3954 | <0.0001 | <0.0001 |
| *NUDT9* | Chr4q | 0.5363 | <0.0001 | <0.0001 |
| *NUFIP1* | Chr13q | 0.6523 | <0.0001 | <0.0001 |
| *NUP205* | Chr7q | 0.5086 | <0.0001 | <0.0001 |
| *NUP43* | Chr6q | 0.6423 | <0.0001 | <0.0001 |
| *NUP50* | Chr22q | 0.4373 | <0.0001 | <0.0001 |
| *NUP54* | Chr4q | 0.5797 | <0.0001 | <0.0001 |
| *NUP88* | Chr17p | 0.471 | <0.0001 | <0.0001 |
| *NUP93* | Chr16q | 0.4523 | <0.0001 | <0.0001 |
| *NUPL1* | Chr13q | 0.4098 | <0.0001 | <0.0001 |
| *NUSAP1* | Chr15q | 0.1756 | <0.0001 | <0.0001 |
| *NUTF2* | Chr16q | 0.3861 | <0.0001 | <0.0001 |
| *OCEL1* | Chr19p | 0.4679 | <0.0001 | <0.0001 |
| *OCLN* | Chr5q | 0.2971 | <0.0001 | <0.0001 |
| *OGFOD1* | Chr16q | 0.4935 | <0.0001 | <0.0001 |
| *OGFR* | Chr20q | 0.2052 | <0.0001 | <0.0001 |
| *OIP5* | Chr15q | 0.2293 | <0.0001 | <0.0001 |
| *OPA1* | Chr3q | 0.5467 | <0.0001 | <0.0001 |
| *OPLAH* | Chr8q | 0.4851 | <0.0001 | <0.0001 |
| *OR7C2* | Chr19p | 0.172 | <0.0001 | <0.0001 |
| *OSBPL2* | Chr20q | 0.5344 | <0.0001 | <0.0001 |
| *OSGIN2* | Chr8q | 0.4125 | <0.0001 | <0.0001 |
| *OSTM1* | Chr6q | 0.3232 | <0.0001 | <0.0001 |
| *OTUD4* | Chr4q | 0.5934 | <0.0001 | <0.0001 |
| *OXR1* | Chr8q | 0.5207 | <0.0001 | <0.0001 |
| *PABPC1* | Chr8q | 0.584 | <0.0001 | <0.0001 |
| *PACSIN2* | Chr22q | 0.4948 | <0.0001 | <0.0001 |
| *PAF1* | Chr19q | 0.6163 | <0.0001 | <0.0001 |
| *PAFAH1B1* | Chr17p | 0.5739 | <0.0001 | <0.0001 |
| *PAK1* | Chr11q | 0.4015 | <0.0001 | <0.0001 |
| *PAK1IP1* | Chr6p | 0.613 | <0.0001 | <0.0001 |
| *PAK2* | Chr3q | 0.6687 | <0.0001 | <0.0001 |
| *PAK4* | Chr19q | 0.5868 | <0.0001 | <0.0001 |
| *PAK6* | Chr15q | 0.2328 | <0.0001 | <0.0001 |
| *PALLD* | Chr4q | 0.2971 | <0.0001 | <0.0001 |
| *PANK2* | Chr20p | 0.4834 | <0.0001 | <0.0001 |
| *PAPSS1* | Chr4q | 0.4092 | <0.0001 | <0.0001 |
| *PAQR3* | Chr4q | 0.3434 | <0.0001 | <0.0001 |
| *PAQR6* | Chr1q | 0.1887 | <0.0001 | <0.0001 |
| *PAR5* | Chr15q | 0.1884 | <0.0001 | <0.0001 |
| *PARD6A* | Chr16q | 0.2481 | <0.0001 | <0.0001 |
| *PARL* | Chr3q | 0.6202 | <0.0001 | <0.0001 |
| *PARP11* | Chr12p | 0.3047 | <0.0001 | <0.0001 |
| *PARP12* | Chr7q | 0.3003 | <0.0001 | <0.0001 |
| *PARP4* | Chr13q | 0.5499 | <0.0001 | <0.0001 |
| *PART1* | Chr5q | 0.2126 | <0.0001 | <0.0001 |
| *PARVB* | Chr22q | 0.228 | <0.0001 | <0.0001 |
| *PATZ1* | Chr22q | 0.4561 | <0.0001 | <0.0001 |
| *PAXIP1* | Chr7q | 0.5303 | <0.0001 | <0.0001 |
| *PBK* | Chr8p | 0.3669 | <0.0001 | <0.0001 |
| *PBX2* | Chr6p | 0.4954 | <0.0001 | <0.0001 |
| *PBXIP1* | Chr1q | 0.3255 | <0.0001 | <0.0001 |
| *PCCA* | Chr13q | 0.5204 | <0.0001 | <0.0001 |
| *PCCB* | Chr3q | 0.3071 | <0.0001 | <0.0001 |
| *PCDH9* | Chr13q | 0.2601 | <0.0001 | <0.0001 |
| *PCGF2* | Chr17q | 0.2286 | <0.0001 | <0.0001 |
| *PCID2* | Chr13q | 0.5809 | <0.0001 | <0.0001 |
| *PCIF1* | Chr20q | 0.3466 | <0.0001 | <0.0001 |
| *PCM1* | Chr8p | 0.6643 | <0.0001 | <0.0001 |
| *PCMT1* | Chr6q | 0.5975 | <0.0001 | <0.0001 |
| *PCMTD2* | Chr20q | 0.5092 | <0.0001 | <0.0001 |
| *PCOTH* | Chr13q | 0.2276 | <0.0001 | <0.0001 |
| *PCYT1A* | Chr3q | 0.5117 | <0.0001 | <0.0001 |
| *PDCD10* | Chr3q | 0.5108 | <0.0001 | <0.0001 |
| *PDCD2* | Chr6q | 0.5869 | <0.0001 | <0.0001 |
| *PDCD5* | Chr19q | 0.5066 | <0.0001 | <0.0001 |
| *PDE3A* | Chr12p | 0.215 | <0.0001 | <0.0001 |
| *PDE4A* | Chr19p | 0.2731 | <0.0001 | <0.0001 |
| *PDE4D* | Chr5q | 0.2416 | <0.0001 | <0.0001 |
| *PDGFB* | Chr22q | 0.2367 | <0.0001 | <0.0001 |
| *PDGFC* | Chr4q | 0.3737 | <0.0001 | <0.0001 |
| *PDGFRL* | Chr8p | 0.2992 | <0.0001 | <0.0001 |
| *PDIA3* | Chr15q | 0.4991 | <0.0001 | <0.0001 |
| *PDIA4* | Chr7q | 0.4305 | <0.0001 | <0.0001 |
| *PDLIM2* | Chr8p | 0.2972 | <0.0001 | <0.0001 |
| *PDLIM3* | Chr4q | 0.263 | <0.0001 | <0.0001 |
| *PDLIM5* | Chr4q | 0.3398 | <0.0001 | <0.0001 |
| *PDP1* | Chr8q | 0.482 | <0.0001 | <0.0001 |
| *PDPR* | Chr16q | 0.1871 | <0.0001 | <0.0001 |
| *PDS5B* | Chr13q | 0.5414 | <0.0001 | <0.0001 |
| *PDSS2* | Chr6q | 0.5887 | <0.0001 | <0.0001 |
| *PEA15* | Chr1q | 0.1847 | <0.0001 | <0.0001 |
| *PELO* | Chr5q | 0.4872 | <0.0001 | <0.0001 |
| *PELP1* | Chr17p | 0.4458 | <0.0001 | <0.0001 |
| *PEMT* | Chr17p | 0.2927 | <0.0001 | <0.0001 |
| *PEPD* | Chr19q | 0.4458 | <0.0001 | <0.0001 |
| *PER1* | Chr17p | 0.221 | <0.0001 | <0.0001 |
| *PERP* | Chr6q | 0.3544 | <0.0001 | <0.0001 |
| *PES1* | Chr22q | 0.5859 | <0.0001 | <0.0001 |
| *PET112L* | Chr4q | 0.5586 | <0.0001 | <0.0001 |
| *PEX11B* | Chr1q | 0.2717 | <0.0001 | <0.0001 |
| *PEX12* | Chr17q | 0.2733 | <0.0001 | <0.0001 |
| *PEX19* | Chr1q | 0.3862 | <0.0001 | <0.0001 |
| *PEX2* | Chr8q | 0.3574 | <0.0001 | <0.0001 |
| *PEX3* | Chr6q | 0.6144 | <0.0001 | <0.0001 |
| *PEX5* | Chr12p | 0.6405 | <0.0001 | <0.0001 |
| *PEX7* | Chr6q | 0.5015 | <0.0001 | <0.0001 |
| *PFAS* | Chr17p | 0.3757 | <0.0001 | <0.0001 |
| *PFDN2* | Chr1q | 0.44 | <0.0001 | <0.0001 |
| *PFDN4* | Chr20q | 0.3499 | <0.0001 | <0.0001 |
| *PFN1* | Chr17p | 0.4471 | <0.0001 | <0.0001 |
| *PGAP3* | Chr17q | 0.3799 | <0.0001 | <0.0001 |
| *PGCP* | Chr8q | 0.3561 | <0.0001 | <0.0001 |
| *PGLS* | Chr19p | 0.5396 | <0.0001 | <0.0001 |
| *PGPEP1* | Chr19p | 0.1986 | <0.0001 | <0.0001 |
| *PGRMC2* | Chr4q | 0.5956 | <0.0001 | <0.0001 |
| *PHACTR2* | Chr6q | 0.4431 | <0.0001 | <0.0001 |
| *PHB2* | Chr12p | 0.5572 | <0.0001 | <0.0001 |
| *PHC1* | Chr12p | 0.4728 | <0.0001 | <0.0001 |
| *PHC3* | Chr3q | 0.2055 | <0.0001 | <0.0001 |
| *PHF10* | Chr6q | 0.5571 | <0.0001 | <0.0001 |
| *PHF11* | Chr13q | 0.3687 | <0.0001 | <0.0001 |
| *PHF17* | Chr4q | 0.3956 | <0.0001 | <0.0001 |
| *PHF20* | Chr20q | 0.3294 | <0.0001 | <0.0001 |
| *PHF20L1* | Chr8q | 0.4719 | <0.0001 | <0.0001 |
| *PHLPP1* | Chr18q | 0.4403 | <0.0001 | <0.0001 |
| *PHLPP2* | Chr16q | 0.2697 | <0.0001 | <0.0001 |
| *PI3* | Chr20q | 0.1689 | <0.0001 | <0.0001 |
| *PI4KB* | Chr1q | 0.4086 | <0.0001 | <0.0001 |
| *PIAS2* | Chr18q | 0.4887 | <0.0001 | <0.0001 |
| *PIAS3* | Chr1q | 0.2558 | <0.0001 | <0.0001 |
| *PIBF1* | Chr13q | 0.6359 | <0.0001 | <0.0001 |
| *PICK1* | Chr22q | 0.1756 | <0.0001 | <0.0001 |
| *PIGN* | Chr18q | 0.5365 | <0.0001 | <0.0001 |
| *PIGT* | Chr20q | 0.5742 | <0.0001 | <0.0001 |
| *PIGZ* | Chr3q | 0.2805 | <0.0001 | <0.0001 |
| *PIK3C3* | Chr18q | 0.6232 | <0.0001 | <0.0001 |
| *PIK3CA* | Chr3q | 0.4862 | <0.0001 | <0.0001 |
| *PIK3CB* | Chr3q | 0.3858 | <0.0001 | <0.0001 |
| *PIK3IP1* | Chr22q | 0.436 | <0.0001 | <0.0001 |
| *PIK3R1* | Chr5q | 0.1709 | <0.0001 | <0.0001 |
| *PIK3R2* | Chr19p | 0.3736 | <0.0001 | <0.0001 |
| *PIN1* | Chr19p | 0.6191 | <0.0001 | <0.0001 |
| *PIP4K2B* | Chr17q | 0.368 | <0.0001 | <0.0001 |
| *PIP5K1A* | Chr1q | 0.3314 | <0.0001 | <0.0001 |
| *PISD* | Chr22q | 0.4917 | <0.0001 | <0.0001 |
| *PITPNB* | Chr22q | 0.6746 | <0.0001 | <0.0001 |
| *PKD2* | Chr4q | 0.3412 | <0.0001 | <0.0001 |
| *PKIG* | Chr20q | 0.4412 | <0.0001 | <0.0001 |
| *PKN1* | Chr19p | 0.4088 | <0.0001 | <0.0001 |
| *PKP2* | Chr12p | 0.3477 | <0.0001 | <0.0001 |
| *PLA2G12A* | Chr4q | 0.3509 | <0.0001 | <0.0001 |
| *PLA2G15* | Chr16q | 0.369 | <0.0001 | <0.0001 |
| *PLAC8* | Chr4q | 0.192 | <0.0001 | <0.0001 |
| *PLAG1* | Chr8q | 0.2759 | <0.0001 | <0.0001 |
| *PLAGL1* | Chr6q | 0.2608 | <0.0001 | <0.0001 |
| *PLAGL2* | Chr20q | 0.2792 | <0.0001 | <0.0001 |
| *PLBD1* | Chr12p | 0.2177 | <0.0001 | <0.0001 |
| *PLCG1* | Chr20q | 0.4128 | <0.0001 | <0.0001 |
| *PLCG2* | Chr16q | 0.3445 | <0.0001 | <0.0001 |
| *PLD1* | Chr3q | 0.2967 | <0.0001 | <0.0001 |
| *PLD2* | Chr17p | 0.2316 | <0.0001 | <0.0001 |
| *PLD3* | Chr19q | 0.3334 | <0.0001 | <0.0001 |
| *PLEC* | Chr8q | 0.4556 | <0.0001 | <0.0001 |
| *PLEKHA5* | Chr12p | 0.4615 | <0.0001 | <0.0001 |
| *PLEKHF1* | Chr19q | 0.3238 | <0.0001 | <0.0001 |
| *PLEKHF2* | Chr8q | 0.5203 | <0.0001 | <0.0001 |
| *PLEKHG6* | Chr12p | 0.3319 | <0.0001 | <0.0001 |
| *PLK2* | Chr5q | 0.2727 | <0.0001 | <0.0001 |
| *PLK4* | Chr4q | 0.2914 | <0.0001 | <0.0001 |
| *PLLP* | Chr16q | 0.21 | <0.0001 | <0.0001 |
| *PLOD2* | Chr3q | 0.1902 | <0.0001 | <0.0001 |
| *PLS1* | Chr3q | 0.1751 | <0.0001 | <0.0001 |
| *PLSCR1* | Chr3q | 0.2072 | <0.0001 | <0.0001 |
| *PLSCR2* | Chr3q | 0.1853 | <0.0001 | <0.0001 |
| *PLSCR3* | Chr17p | 0.4591 | <0.0001 | <0.0001 |
| *PLTP* | Chr20q | 0.273 | <0.0001 | <0.0001 |
| *PLXNB2* | Chr22q | 0.4677 | <0.0001 | <0.0001 |
| *PMAIP1* | Chr18q | 0.3016 | <0.0001 | <0.0001 |
| *PMF1* | Chr1q | 0.3549 | <0.0001 | <0.0001 |
| *PMM1* | Chr22q | 0.2863 | <0.0001 | <0.0001 |
| *PMP22* | Chr17p | 0.213 | <0.0001 | <0.0001 |
| *PMVK* | Chr1q | 0.2621 | <0.0001 | <0.0001 |
| *PNMA2* | Chr8p | 0.2172 | <0.0001 | <0.0001 |
| *PNPLA3* | Chr22q | 0.2027 | <0.0001 | <0.0001 |
| *PODXL* | Chr7q | 0.2659 | <0.0001 | <0.0001 |
| *POFUT1* | Chr20q | 0.3039 | <0.0001 | <0.0001 |
| *POGZ* | Chr1q | 0.2692 | <0.0001 | <0.0001 |
| *POLB* | Chr8p | 0.4381 | <0.0001 | <0.0001 |
| *POLDIP2* | Chr17q | 0.4253 | <0.0001 | <0.0001 |
| *POLDIP3* | Chr22q | 0.4131 | <0.0001 | <0.0001 |
| *POLI* | Chr18q | 0.491 | <0.0001 | <0.0001 |
| *POLR1D* | Chr13q | 0.455 | <0.0001 | <0.0001 |
| *POLR2A* | Chr17p | 0.181 | <0.0001 | <0.0001 |
| *POLR2C* | Chr16q | 0.5767 | <0.0001 | <0.0001 |
| *POLR2F* | Chr22q | 0.4554 | <0.0001 | <0.0001 |
| *POLR2H* | Chr3q | 0.6037 | <0.0001 | <0.0001 |
| *POLR2I* | Chr19q | 0.5519 | <0.0001 | <0.0001 |
| *POLR2K* | Chr8q | 0.6035 | <0.0001 | <0.0001 |
| *POLR3C* | Chr1q | 0.4397 | <0.0001 | <0.0001 |
| *POLR3D* | Chr8p | 0.5014 | <0.0001 | <0.0001 |
| *POLR3G* | Chr5q | 0.2161 | <0.0001 | <0.0001 |
| *POMP* | Chr13q | 0.6219 | <0.0001 | <0.0001 |
| *POP1* | Chr8q | 0.2701 | <0.0001 | <0.0001 |
| *POP4* | Chr19q | 0.5135 | <0.0001 | <0.0001 |
| *PPA2* | Chr4q | 0.447 | <0.0001 | <0.0001 |
| *PPAN* | Chr19p | 0.5684 | <0.0001 | <0.0001 |
| *PPAP2A* | Chr5q | 0.2339 | <0.0001 | <0.0001 |
| *PPARA* | Chr22q | 0.2413 | <0.0001 | <0.0001 |
| *PPDPF* | Chr20q | 0.2461 | <0.0001 | <0.0001 |
| *PPFIBP1* | Chr12p | 0.297 | <0.0001 | <0.0001 |
| *PPID* | Chr4q | 0.5028 | <0.0001 | <0.0001 |
| *PPIP5K1* | Chr15q | 0.391 | <0.0001 | <0.0001 |
| *PPOX* | Chr1q | 0.3716 | <0.0001 | <0.0001 |
| *PPP1R2* | Chr3q | 0.6213 | <0.0001 | <0.0001 |
| *PPP1R3D* | Chr20q | 0.3767 | <0.0001 | <0.0001 |
| *PPP2CB* | Chr8p | 0.5779 | <0.0001 | <0.0001 |
| *PPP2R2A* | Chr8p | 0.6874 | <0.0001 | <0.0001 |
| *PPP2R3A* | Chr3q | 0.3955 | <0.0001 | <0.0001 |
| *PPP3CA* | Chr4q | 0.4033 | <0.0001 | <0.0001 |
| *PPP3CC* | Chr8p | 0.4056 | <0.0001 | <0.0001 |
| *PPP6R2* | Chr22q | 0.3953 | <0.0001 | <0.0001 |
| *PPPDE2* | Chr22q | 0.5186 | <0.0001 | <0.0001 |
| *PPT2* | Chr6p | 0.3421 | <0.0001 | <0.0001 |
| *PPWD1* | Chr5q | 0.52 | <0.0001 | <0.0001 |
| *PQLC1* | Chr18q | 0.5789 | <0.0001 | <0.0001 |
| *PRCC* | Chr1q | 0.4194 | <0.0001 | <0.0001 |
| *PRDX2* | Chr19p | 0.5604 | <0.0001 | <0.0001 |
| *PREP* | Chr6q | 0.6296 | <0.0001 | <0.0001 |
| *PRKAB2* | Chr1q | 0.2975 | <0.0001 | <0.0001 |
| *PRKACA* | Chr19p | 0.5489 | <0.0001 | <0.0001 |
| *PRKAG2* | Chr7q | 0.4727 | <0.0001 | <0.0001 |
| *PRKCI* | Chr3q | 0.3183 | <0.0001 | <0.0001 |
| *PRKCSH* | Chr19p | 0.5832 | <0.0001 | <0.0001 |
| *PRKDC* | Chr8q | 0.2949 | <0.0001 | <0.0001 |
| *PRMT7* | Chr16q | 0.3688 | <0.0001 | <0.0001 |
| *PRNP* | Chr20p | 0.1804 | <0.0001 | <0.0001 |
| *ProSAPiP1* | Chr20p | 0.3245 | <0.0001 | <0.0001 |
| *PROSC* | Chr8p | 0.5566 | <0.0001 | <0.0001 |
| *PRPF3* | Chr1q | 0.2934 | <0.0001 | <0.0001 |
| *PRPF6* | Chr20q | 0.3761 | <0.0001 | <0.0001 |
| *PRPSAP2* | Chr17p | 0.3221 | <0.0001 | <0.0001 |
| *PRR14L* | Chr22q | 0.306 | <0.0001 | <0.0001 |
| *PRR4* | Chr12p | 0.3574 | <0.0001 | <0.0001 |
| *PRR5* | Chr22q | 0.3416 | <0.0001 | <0.0001 |
| *PRRC2A* | Chr6p | 0.3463 | <0.0001 | <0.0001 |
| *PRSS1* | Chr7q | 0.2403 | <0.0001 | <0.0001 |
| *PRSS2* | Chr7q | 0.2671 | <0.0001 | <0.0001 |
| *PRUNE* | Chr1q | 0.4089 | <0.0001 | <0.0001 |
| *PSCA* | Chr8q | 0.2344 | <0.0001 | <0.0001 |
| *PSD3* | Chr8p | 0.3984 | <0.0001 | <0.0001 |
| *PSENEN* | Chr19q | 0.4657 | <0.0001 | <0.0001 |
| *PSKH1* | Chr16q | 0.3659 | <0.0001 | <0.0001 |
| *PSMA7* | Chr20q | 0.4618 | <0.0001 | <0.0001 |
| *PSMB1* | Chr6q | 0.6927 | <0.0001 | <0.0001 |
| *PSMB10* | Chr16q | 0.2965 | <0.0001 | <0.0001 |
| *PSMB3* | Chr17q | 0.4113 | <0.0001 | <0.0001 |
| *PSMB4* | Chr1q | 0.422 | <0.0001 | <0.0001 |
| *PSMB6* | Chr17p | 0.5424 | <0.0001 | <0.0001 |
| *PSMC4* | Chr19q | 0.5732 | <0.0001 | <0.0001 |
| *PSMD11* | Chr17q | 0.3926 | <0.0001 | <0.0001 |
| *PSMD2* | Chr3q | 0.6598 | <0.0001 | <0.0001 |
| *PSMD3* | Chr17q | 0.4035 | <0.0001 | <0.0001 |
| *PSMD4* | Chr1q | 0.453 | <0.0001 | <0.0001 |
| *PSMD7* | Chr16q | 0.5401 | <0.0001 | <0.0001 |
| *PSMD8* | Chr19q | 0.5579 | <0.0001 | <0.0001 |
| *PSMF1* | Chr20p | 0.6065 | <0.0001 | <0.0001 |
| *PSPC1* | Chr13q | 0.5517 | <0.0001 | <0.0001 |
| *PSTPIP2* | Chr18q | 0.2677 | <0.0001 | <0.0001 |
| *PTCD2* | Chr5q | 0.3798 | <0.0001 | <0.0001 |
| *PTDSS1* | Chr8q | 0.5292 | <0.0001 | <0.0001 |
| *PTGER1* | Chr19p | 0.1889 | <0.0001 | <0.0001 |
| *PTK2* | Chr8q | 0.5862 | <0.0001 | <0.0001 |
| *PTK2B* | Chr8p | 0.2723 | <0.0001 | <0.0001 |
| *PTMS* | Chr12p | 0.4117 | <0.0001 | <0.0001 |
| *PTP4A3* | Chr8q | 0.4293 | <0.0001 | <0.0001 |
| *PTPN1* | Chr20q | 0.3784 | <0.0001 | <0.0001 |
| *PTPN6* | Chr12p | 0.3178 | <0.0001 | <0.0001 |
| *PTPRA* | Chr20p | 0.5384 | <0.0001 | <0.0001 |
| *PTPRK* | Chr6q | 0.4337 | <0.0001 | <0.0001 |
| *PTX3* | Chr3q | 0.192 | <0.0001 | <0.0001 |
| *PUF60* | Chr8q | 0.6827 | <0.0001 | <0.0001 |
| *PVT1* | Chr8q | 0.1707 | <0.0001 | <0.0001 |
| *PYCRL* | Chr8q | 0.6345 | <0.0001 | <0.0001 |
| *PYROXD1* | Chr12p | 0.4272 | <0.0001 | <0.0001 |
| *QKI* | Chr6q | 0.4397 | <0.0001 | <0.0001 |
| *QRSL1* | Chr6q | 0.517 | <0.0001 | <0.0001 |
| *QTRT1* | Chr19p | 0.5272 | <0.0001 | <0.0001 |
| *R3HCC1* | Chr8p | 0.648 | <0.0001 | <0.0001 |
| *RAB11FIP1* | Chr8p | 0.425 | <0.0001 | <0.0001 |
| *RAB13* | Chr1q | 0.2663 | <0.0001 | <0.0001 |
| *RAB20* | Chr13q | 0.4296 | <0.0001 | <0.0001 |
| *RAB22A* | Chr20q | 0.5608 | <0.0001 | <0.0001 |
| *RAB2A* | Chr8q | 0.5461 | <0.0001 | <0.0001 |
| *RAB32* | Chr6q | 0.315 | <0.0001 | <0.0001 |
| *RAB33B* | Chr4q | 0.4031 | <0.0001 | <0.0001 |
| *RAB36* | Chr22q | 0.2992 | <0.0001 | <0.0001 |
| *RAB3A* | Chr19p | 0.2698 | <0.0001 | <0.0001 |
| *RAB3D* | Chr19p | 0.1771 | <0.0001 | <0.0001 |
| *RAB8A* | Chr19p | 0.484 | <0.0001 | <0.0001 |
| *RABEP1* | Chr17p | 0.3126 | <0.0001 | <0.0001 |
| *RAC2* | Chr22q | 0.2385 | <0.0001 | <0.0001 |
| *RAD17* | Chr5q | 0.4909 | <0.0001 | <0.0001 |
| *RAD21* | Chr8q | 0.6355 | <0.0001 | <0.0001 |
| *RAD23A* | Chr19p | 0.6252 | <0.0001 | <0.0001 |
| *RAD51* | Chr15q | 0.2075 | <0.0001 | <0.0001 |
| *RAD51AP1* | Chr12p | 0.4472 | <0.0001 | <0.0001 |
| *RAD51L3* | Chr17q | 0.287 | <0.0001 | <0.0001 |
| *RAD52* | Chr12p | 0.4306 | <0.0001 | <0.0001 |
| *RAD54B* | Chr8q | 0.2613 | <0.0001 | <0.0001 |
| *RAE1* | Chr20q | 0.5473 | <0.0001 | <0.0001 |
| *RALGAPB* | Chr20q | 0.5567 | <0.0001 | <0.0001 |
| *RALY* | Chr20q | 0.3873 | <0.0001 | <0.0001 |
| *RANBP10* | Chr16q | 0.4811 | <0.0001 | <0.0001 |
| *RANBP9* | Chr6p | 0.4725 | <0.0001 | <0.0001 |
| *RANGAP1* | Chr22q | 0.3139 | <0.0001 | <0.0001 |
| *RANGRF* | Chr17p | 0.4173 | <0.0001 | <0.0001 |
| *RAP1GAP2* | Chr17p | 0.2793 | <0.0001 | <0.0001 |
| *RAP1GDS1* | Chr4q | 0.3906 | <0.0001 | <0.0001 |
| *RAP2A* | Chr13q | 0.5808 | <0.0001 | <0.0001 |
| *RAP2B* | Chr3q | 0.3138 | <0.0001 | <0.0001 |
| *RAPGEF2* | Chr4q | 0.449 | <0.0001 | <0.0001 |
| *RARA* | Chr17q | 0.205 | <0.0001 | <0.0001 |
| *RARRES1* | Chr3q | 0.18 | <0.0001 | <0.0001 |
| *RASA1* | Chr5q | 0.4912 | <0.0001 | <0.0001 |
| *RASA2* | Chr3q | 0.2207 | <0.0001 | <0.0001 |
| *RASGRP1* | Chr15q | 0.3082 | <0.0001 | <0.0001 |
| *RB1* | Chr13q | 0.4121 | <0.0001 | <0.0001 |
| *RB1CC1* | Chr8q | 0.491 | <0.0001 | <0.0001 |
| *RBCK1* | Chr20p | 0.4608 | <0.0001 | <0.0001 |
| *RBFA* | Chr18q | 0.4752 | <0.0001 | <0.0001 |
| *RBFOX2* | Chr22q | 0.3369 | <0.0001 | <0.0001 |
| *RBL1* | Chr20q | 0.2381 | <0.0001 | <0.0001 |
| *RBM12* | Chr20q | 0.2859 | <0.0001 | <0.0001 |
| *RBM12B* | Chr8q | 0.3514 | <0.0001 | <0.0001 |
| *RBM26* | Chr13q | 0.6122 | <0.0001 | <0.0001 |
| *RBM38* | Chr20q | 0.3392 | <0.0001 | <0.0001 |
| *RBM39* | Chr20q | 0.3352 | <0.0001 | <0.0001 |
| *RBM42* | Chr19q | 0.5622 | <0.0001 | <0.0001 |
| *RBM8A* | Chr1q | 0.2456 | <0.0001 | <0.0001 |
| *RBPMS* | Chr8p | 0.3678 | <0.0001 | <0.0001 |
| *RBX1* | Chr22q | 0.3919 | <0.0001 | <0.0001 |
| *RCBTB1* | Chr13q | 0.4438 | <0.0001 | <0.0001 |
| *RCBTB2* | Chr13q | 0.428 | <0.0001 | <0.0001 |
| *RCHY1* | Chr4q | 0.4641 | <0.0001 | <0.0001 |
| *RDBP* | Chr6p | 0.5771 | <0.0001 | <0.0001 |
| *RECQL* | Chr12p | 0.5072 | <0.0001 | <0.0001 |
| *RECQL4* | Chr8q | 0.4156 | <0.0001 | <0.0001 |
| *REEP4* | Chr8p | 0.4368 | <0.0001 | <0.0001 |
| *REPIN1* | Chr7q | 0.5943 | <0.0001 | <0.0001 |
| *REPS1* | Chr6q | 0.3229 | <0.0001 | <0.0001 |
| *REV3L* | Chr6q | 0.4972 | <0.0001 | <0.0001 |
| *RFC3* | Chr13q | 0.4125 | <0.0001 | <0.0001 |
| *RFC4* | Chr3q | 0.5576 | <0.0001 | <0.0001 |
| *RFWD3* | Chr16q | 0.3707 | <0.0001 | <0.0001 |
| *RFX5* | Chr1q | 0.1891 | <0.0001 | <0.0001 |
| *RFXANK* | Chr19p | 0.4644 | <0.0001 | <0.0001 |
| *RFXAP* | Chr13q | 0.1905 | <0.0001 | <0.0001 |
| *RGNEF* | Chr5q | 0.2476 | <0.0001 | <0.0001 |
| *RGS19* | Chr20q | 0.2891 | <0.0001 | <0.0001 |
| *RHBDD3* | Chr22q | 0.3797 | <0.0001 | <0.0001 |
| *RHEB* | Chr7q | 0.5809 | <0.0001 | <0.0001 |
| *RHOBTB2* | Chr8p | 0.4091 | <0.0001 | <0.0001 |
| *RHOBTB3* | Chr5q | 0.1812 | <0.0001 | <0.0001 |
| *RHOT1* | Chr17q | 0.5077 | <0.0001 | <0.0001 |
| *RIOK2* | Chr5q | 0.5894 | <0.0001 | <0.0001 |
| *RIPK2* | Chr8q | 0.4828 | <0.0001 | <0.0001 |
| *RIT1* | Chr1q | 0.2473 | <0.0001 | <0.0001 |
| *RMND1* | Chr6q | 0.4773 | <0.0001 | <0.0001 |
| *RNASEH2A* | Chr19p | 0.531 | <0.0001 | <0.0001 |
| *RNASEH2B* | Chr13q | 0.4045 | <0.0001 | <0.0001 |
| *RNASET2* | Chr6q | 0.3358 | <0.0001 | <0.0001 |
| *RNF114* | Chr20q | 0.4057 | <0.0001 | <0.0001 |
| *RNF115* | Chr1q | 0.4053 | <0.0001 | <0.0001 |
| *RNF122* | Chr8p | 0.2803 | <0.0001 | <0.0001 |
| *RNF13* | Chr3q | 0.2854 | <0.0001 | <0.0001 |
| *RNF139* | Chr8q | 0.6463 | <0.0001 | <0.0001 |
| *RNF146* | Chr6q | 0.4386 | <0.0001 | <0.0001 |
| *RNF167* | Chr17p | 0.342 | <0.0001 | <0.0001 |
| *RNF170* | Chr8p | 0.3713 | <0.0001 | <0.0001 |
| *RNF19A* | Chr8q | 0.4788 | <0.0001 | <0.0001 |
| *RNF219* | Chr13q | 0.6383 | <0.0001 | <0.0001 |
| *RNF24* | Chr20p | 0.3461 | <0.0001 | <0.0001 |
| *RNF32* | Chr7q | 0.1839 | <0.0001 | <0.0001 |
| *RNF5* | Chr6p | 0.4786 | <0.0001 | <0.0001 |
| *RNF6* | Chr13q | 0.5814 | <0.0001 | <0.0001 |
| *RNF7* | Chr3q | 0.4496 | <0.0001 | <0.0001 |
| *RPAIN* | Chr17p | 0.3027 | <0.0001 | <0.0001 |
| *RPAP1* | Chr15q | 0.4597 | <0.0001 | <0.0001 |
| *RPL13* | Chr16q | 0.4828 | <0.0001 | <0.0001 |
| *RPL13P5* | Chr12p | 0.3327 | <0.0001 | <0.0001 |
| *RPL17* | Chr18q | 0.5407 | <0.0001 | <0.0001 |
| *RPL19* | Chr17q | 0.4444 | <0.0001 | <0.0001 |
| *RPL21* | Chr13q | 0.5377 | <0.0001 | <0.0001 |
| *RPL23* | Chr17q | 0.2893 | <0.0001 | <0.0001 |
| *RPL23A* | Chr17q | 0.3906 | <0.0001 | <0.0001 |
| *RPL26* | Chr17p | 0.3744 | <0.0001 | <0.0001 |
| *RPL3* | Chr22q | 0.3196 | <0.0001 | <0.0001 |
| *RPL30* | Chr8q | 0.6326 | <0.0001 | <0.0001 |
| *RPL34* | Chr4q | 0.4588 | <0.0001 | <0.0001 |
| *RPL35A* | Chr3q | 0.2784 | <0.0001 | <0.0001 |
| *RPL39L* | Chr3q | 0.5212 | <0.0001 | <0.0001 |
| *RPL7* | Chr8q | 0.4097 | <0.0001 | <0.0001 |
| *RPL8* | Chr8q | 0.6422 | <0.0001 | <0.0001 |
| *RPN2* | Chr20q | 0.5579 | <0.0001 | <0.0001 |
| *RPRD2* | Chr1q | 0.3094 | <0.0001 | <0.0001 |
| *RPS12* | Chr6q | 0.2583 | <0.0001 | <0.0001 |
| *RPS16* | Chr19q | 0.543 | <0.0001 | <0.0001 |
| *RPS20* | Chr8q | 0.4247 | <0.0001 | <0.0001 |
| *RPS21* | Chr20q | 0.2093 | <0.0001 | <0.0001 |
| *RPS23* | Chr5q | 0.4948 | <0.0001 | <0.0001 |
| *RPS27* | Chr1q | 0.274 | <0.0001 | <0.0001 |
| *RPS3A* | Chr4q | 0.3823 | <0.0001 | <0.0001 |
| *RPS6KA2* | Chr6q | 0.3177 | <0.0001 | <0.0001 |
| *RPUSD2* | Chr15q | 0.4659 | <0.0001 | <0.0001 |
| *RRAGD* | Chr6q | 0.2328 | <0.0001 | <0.0001 |
| *RRNAD1* | Chr1q | 0.2282 | <0.0001 | <0.0001 |
| *RRP7A* | Chr22q | 0.418 | <0.0001 | <0.0001 |
| *RRS1* | Chr8q | 0.4558 | <0.0001 | <0.0001 |
| *RSF1* | Chr11q | 0.4383 | <0.0001 | <0.0001 |
| *RSRC1* | Chr3q | 0.4851 | <0.0001 | <0.0001 |
| *RTF1* | Chr15q | 0.577 | <0.0001 | <0.0001 |
| *RUSC1* | Chr1q | 0.3775 | <0.0001 | <0.0001 |
| *RWDD1* | Chr6q | 0.5977 | <0.0001 | <0.0001 |
| *RYK* | Chr3q | 0.2999 | <0.0001 | <0.0001 |
| *RYR1* | Chr19q | 0.3503 | <0.0001 | <0.0001 |
| *SACS* | Chr13q | 0.4176 | <0.0001 | <0.0001 |
| *SAMM50* | Chr22q | 0.3696 | <0.0001 | <0.0001 |
| *SAP18* | Chr13q | 0.6132 | <0.0001 | <0.0001 |
| *SAP30* | Chr4q | 0.3867 | <0.0001 | <0.0001 |
| *SARS2* | Chr19q | 0.479 | <0.0001 | <0.0001 |
| *SASH1* | Chr6q | 0.4877 | <0.0001 | <0.0001 |
| *SBF1* | Chr22q | 0.3577 | <0.0001 | <0.0001 |
| *SC4MOL* | Chr4q | 0.505 | <0.0001 | <0.0001 |
| *SCAF8* | Chr6q | 0.5308 | <0.0001 | <0.0001 |
| *SCAMP1* | Chr5q | 0.4996 | <0.0001 | <0.0001 |
| *SCAMP3* | Chr1q | 0.4209 | <0.0001 | <0.0001 |
| *SCAND1* | Chr20q | 0.3348 | <0.0001 | <0.0001 |
| *SCARA3* | Chr8p | 0.3152 | <0.0001 | <0.0001 |
| *SCARB2* | Chr4q | 0.4387 | <0.0001 | <0.0001 |
| *SCEL* | Chr13q | 0.2592 | <0.0001 | <0.0001 |
| *SCHIP1* | Chr3q | 0.1982 | <0.0001 | <0.0001 |
| *SCNM1* | Chr1q | 0.4216 | <0.0001 | <0.0001 |
| *SCNN1A* | Chr12p | 0.3397 | <0.0001 | <0.0001 |
| *SCO2* | Chr22q | 0.4486 | <0.0001 | <0.0001 |
| *SCRIB* | Chr8q | 0.5093 | <0.0001 | <0.0001 |
| *SDAD1* | Chr4q | 0.4856 | <0.0001 | <0.0001 |
| *SDCBP* | Chr8q | 0.3303 | <0.0001 | <0.0001 |
| *SDF2* | Chr17q | 0.4009 | <0.0001 | <0.0001 |
| *SDHAF1* | Chr19q | 0.5516 | <0.0001 | <0.0001 |
| *SDHC* | Chr1q | 0.3728 | <0.0001 | <0.0001 |
| *SEC14L2* | Chr22q | 0.2714 | <0.0001 | <0.0001 |
| *SEC22B* | Chr1q | 0.2603 | <0.0001 | <0.0001 |
| *SEC24B* | Chr4q | 0.6527 | <0.0001 | <0.0001 |
| *SEC24D* | Chr4q | 0.3888 | <0.0001 | <0.0001 |
| *SEC31A* | Chr4q | 0.4701 | <0.0001 | <0.0001 |
| *SEC62* | Chr3q | 0.5459 | <0.0001 | <0.0001 |
| *SEC63* | Chr6q | 0.602 | <0.0001 | <0.0001 |
| *SELENBP1* | Chr1q | 0.1639 | <0.0001 | 1.00E-04 |
| *SELT* | Chr3q | 0.2675 | <0.0001 | <0.0001 |
| *SENP2* | Chr3q | 0.3501 | <0.0001 | <0.0001 |
| *SENP3* | Chr17p | 0.5339 | <0.0001 | <0.0001 |
| *SENP5* | Chr3q | 0.6995 | <0.0001 | <0.0001 |
| *SERF2* | Chr15q | 0.5255 | <0.0001 | <0.0001 |
| *SERHL2* | Chr22q | 0.1918 | <0.0001 | <0.0001 |
| *SERINC1* | Chr6q | 0.5068 | <0.0001 | <0.0001 |
| *SERINC3* | Chr20q | 0.3845 | <0.0001 | <0.0001 |
| *SERINC5* | Chr5q | 0.3101 | <0.0001 | <0.0001 |
| *SERP1* | Chr3q | 0.4251 | <0.0001 | <0.0001 |
| *SERPINB7* | Chr18q | 0.1789 | <0.0001 | <0.0001 |
| *SERPINB8* | Chr18q | 0.3425 | <0.0001 | <0.0001 |
| *SERPINI1* | Chr3q | 0.237 | <0.0001 | <0.0001 |
| *SERTAD3* | Chr19q | 0.3632 | <0.0001 | <0.0001 |
| *SESN1* | Chr6q | 0.3684 | <0.0001 | <0.0001 |
| *SETBP1* | Chr18q | 0.2786 | <0.0001 | <0.0001 |
| *SETD6* | Chr16q | 0.3705 | <0.0001 | <0.0001 |
| *SETDB1* | Chr1q | 0.4283 | <0.0001 | <0.0001 |
| *SF3A1* | Chr22q | 0.5057 | <0.0001 | <0.0001 |
| *SF3B3* | Chr16q | 0.4744 | <0.0001 | <0.0001 |
| *SF3B4* | Chr1q | 0.3794 | <0.0001 | <0.0001 |
| *SF3B5* | Chr6q | 0.5703 | <0.0001 | <0.0001 |
| *SFI1* | Chr22q | 0.2366 | <0.0001 | <0.0001 |
| *SFRS18* | Chr6q | 0.4672 | <0.0001 | <0.0001 |
| *SGCG* | Chr13q | 0.1822 | <0.0001 | <0.0001 |
| *SGK1* | Chr6q | 0.2347 | <0.0001 | <0.0001 |
| *SGSM2* | Chr17p | 0.3649 | <0.0001 | <0.0001 |
| *SGSM3* | Chr22q | 0.3757 | <0.0001 | <0.0001 |
| *SH2D2A* | Chr1q | 0.2049 | <0.0001 | <0.0001 |
| *SH2D4A* | Chr8p | 0.4151 | <0.0001 | <0.0001 |
| *SHARPIN* | Chr8q | 0.6747 | <0.0001 | <0.0001 |
| *SHC1* | Chr1q | 0.3089 | <0.0001 | <0.0001 |
| *SHPK* | Chr17p | 0.2919 | <0.0001 | <0.0001 |
| *SIAH2* | Chr3q | 0.3963 | <0.0001 | <0.0001 |
| *SIN3B* | Chr19p | 0.5201 | <0.0001 | <0.0001 |
| *SIPA1L3* | Chr19q | 0.4616 | <0.0001 | <0.0001 |
| *SIRT2* | Chr19q | 0.4577 | <0.0001 | <0.0001 |
| *SIRT5* | Chr6p | 0.4706 | <0.0001 | <0.0001 |
| *SKA1* | Chr18q | 0.2406 | <0.0001 | <0.0001 |
| *SKIL* | Chr3q | 0.2695 | <0.0001 | <0.0001 |
| *SKIV2L* | Chr6p | 0.4902 | <0.0001 | <0.0001 |
| *SKIV2L2* | Chr5q | 0.5952 | <0.0001 | <0.0001 |
| *SLC16A10* | Chr6q | 0.2886 | <0.0001 | <0.0001 |
| *SLC20A2* | Chr8p | 0.2887 | <0.0001 | <0.0001 |
| *SLC23A2* | Chr20p | 0.3019 | <0.0001 | <0.0001 |
| *SLC25A11* | Chr17p | 0.4561 | <0.0001 | <0.0001 |
| *SLC25A15* | Chr13q | 0.4455 | <0.0001 | <0.0001 |
| *SLC25A17* | Chr22q | 0.4656 | <0.0001 | <0.0001 |
| *SLC25A32* | Chr8q | 0.6547 | <0.0001 | <0.0001 |
| *SLC25A36* | Chr3q | 0.4725 | <0.0001 | <0.0001 |
| *SLC25A37* | Chr8p | 0.4503 | <0.0001 | <0.0001 |
| *SLC25A4* | Chr4q | 0.4397 | <0.0001 | <0.0001 |
| *SLC25A44* | Chr1q | 0.4557 | <0.0001 | <0.0001 |
| *SLC27A3* | Chr1q | 0.224 | <0.0001 | <0.0001 |
| *SLC2A10* | Chr20q | 0.3114 | <0.0001 | <0.0001 |
| *SLC2A11* | Chr22q | 0.2735 | <0.0001 | <0.0001 |
| *SLC2A4RG* | Chr20q | 0.3451 | <0.0001 | <0.0001 |
| *SLC30A5* | Chr5q | 0.5077 | <0.0001 | <0.0001 |
| *SLC33A1* | Chr3q | 0.4596 | <0.0001 | <0.0001 |
| *SLC35C2* | Chr20q | 0.3718 | <0.0001 | <0.0001 |
| *SLC35E1* | Chr19p | 0.4198 | <0.0001 | <0.0001 |
| *SLC38A7* | Chr16q | 0.4306 | <0.0001 | <0.0001 |
| *SLC39A1* | Chr1q | 0.261 | <0.0001 | <0.0001 |
| *SLC39A14* | Chr8p | 0.4207 | <0.0001 | <0.0001 |
| *SLC39A4* | Chr8q | 0.5691 | <0.0001 | <0.0001 |
| *SLC39A8* | Chr4q | 0.1953 | <0.0001 | <0.0001 |
| *SLC46A3* | Chr13q | 0.3656 | <0.0001 | <0.0001 |
| *SLC4A2* | Chr7q | 0.4475 | <0.0001 | <0.0001 |
| *SLC50A1* | Chr1q | 0.2467 | <0.0001 | <0.0001 |
| *SLC5A5* | Chr19p | 0.2004 | <0.0001 | <0.0001 |
| *SLC6A12* | Chr12p | 0.2397 | <0.0001 | <0.0001 |
| *SLC6A13* | Chr12p | 0.1739 | <0.0001 | <0.0001 |
| *SLC7A1* | Chr13q | 0.5129 | <0.0001 | <0.0001 |
| *SLC7A11* | Chr4q | 0.3082 | <0.0001 | <0.0001 |
| *SLC7A5* | Chr16q | 0.2818 | <0.0001 | <0.0001 |
| *SLC7A6* | Chr16q | 0.3674 | <0.0001 | <0.0001 |
| *SLC7A9* | Chr19q | 0.3615 | <0.0001 | <0.0001 |
| *SLC9A8* | Chr20q | 0.2062 | <0.0001 | <0.0001 |
| *SLCO1A2* | Chr12p | 0.3173 | <0.0001 | <0.0001 |
| *SLFN12* | Chr17q | 0.1658 | <0.0001 | 1.00E-04 |
| *SLMO2* | Chr20q | 0.4337 | <0.0001 | <0.0001 |
| *SLPI* | Chr20q | 0.1677 | <0.0001 | <0.0001 |
| *SMAD1* | Chr4q | 0.5348 | <0.0001 | <0.0001 |
| *SMAD2* | Chr18q | 0.6769 | <0.0001 | <0.0001 |
| *SMAD4* | Chr18q | 0.5534 | <0.0001 | <0.0001 |
| *SMAD7* | Chr18q | 0.3308 | <0.0001 | <0.0001 |
| *SMARCA4* | Chr19p | 0.5559 | <0.0001 | <0.0001 |
| *SMARCA5* | Chr4q | 0.6295 | <0.0001 | <0.0001 |
| *SMARCB1* | Chr22q | 0.51 | <0.0001 | <0.0001 |
| *SMARCD3* | Chr7q | 0.1731 | <0.0001 | <0.0001 |
| *SMARCE1* | Chr17q | 0.5252 | <0.0001 | <0.0001 |
| *SMC4* | Chr3q | 0.4608 | <0.0001 | <0.0001 |
| *SMCR7L* | Chr22q | 0.5027 | <0.0001 | <0.0001 |
| *SMG5* | Chr1q | 0.3243 | <0.0001 | <0.0001 |
| *SMG6* | Chr17p | 0.197 | <0.0001 | <0.0001 |
| *SMO* | Chr7q | 0.2386 | <0.0001 | <0.0001 |
| *SMPD2* | Chr6q | 0.3585 | <0.0001 | <0.0001 |
| *SMPDL3A* | Chr6q | 0.1687 | <0.0001 | <0.0001 |
| *SMTN* | Chr22q | 0.3341 | <0.0001 | <0.0001 |
| *SNAP23* | Chr15q | 0.4726 | <0.0001 | <0.0001 |
| *SNCA* | Chr4q | 0.1689 | <0.0001 | <0.0001 |
| *SNORA21* | Chr17q | 0.2278 | <0.0001 | <0.0001 |
| *SNPH* | Chr20p | 0.1754 | <0.0001 | <0.0001 |
| *SNRPB* | Chr20p | 0.4415 | <0.0001 | <0.0001 |
| *SNRPD3* | Chr22q | 0.6616 | <0.0001 | <0.0001 |
| *SNTA1* | Chr20q | 0.2126 | <0.0001 | <0.0001 |
| *SNTB1* | Chr8q | 0.344 | <0.0001 | <0.0001 |
| *SNTB2* | Chr16q | 0.4131 | <0.0001 | <0.0001 |
| *SNX16* | Chr8q | 0.4068 | <0.0001 | <0.0001 |
| *SNX27* | Chr1q | 0.3688 | <0.0001 | <0.0001 |
| *SNX3* | Chr6q | 0.5593 | <0.0001 | <0.0001 |
| *SOCS6* | Chr18q | 0.4631 | <0.0001 | <0.0001 |
| *SOD2* | Chr6q | 0.2216 | <0.0001 | <0.0001 |
| *SORBS3* | Chr8p | 0.3661 | <0.0001 | <0.0001 |
| *SORD* | Chr15q | 0.4457 | <0.0001 | <0.0001 |
| *SOX12* | Chr20p | 0.443 | <0.0001 | <0.0001 |
| *SPAG1* | Chr8q | 0.3432 | <0.0001 | <0.0001 |
| *SPAG5* | Chr17q | 0.2657 | <0.0001 | <0.0001 |
| *SPAG7* | Chr17p | 0.4111 | <0.0001 | <0.0001 |
| *SPATA2* | Chr20q | 0.5022 | <0.0001 | <0.0001 |
| *SPATA2L* | Chr16q | 0.4331 | <0.0001 | <0.0001 |
| *SPATA5L1* | Chr15q | 0.5685 | <0.0001 | <0.0001 |
| *SPCS3* | Chr4q | 0.4887 | <0.0001 | <0.0001 |
| *SPECC1L* | Chr22q | 0.5335 | <0.0001 | <0.0001 |
| *SPG11* | Chr15q | 0.6094 | <0.0001 | <0.0001 |
| *SPG20* | Chr13q | 0.3605 | <0.0001 | <0.0001 |
| *SPG7* | Chr16q | 0.5101 | <0.0001 | <0.0001 |
| *SPINT1* | Chr15q | 0.5413 | <0.0001 | <0.0001 |
| *SPINT2* | Chr19q | 0.5441 | <0.0001 | <0.0001 |
| *SPRY1* | Chr4q | 0.2088 | <0.0001 | <0.0001 |
| *SPRY2* | Chr13q | 0.2585 | <0.0001 | <0.0001 |
| *SQLE* | Chr8q | 0.5045 | <0.0001 | <0.0001 |
| *SQRDL* | Chr15q | 0.2797 | <0.0001 | <0.0001 |
| *SRC* | Chr20q | 0.3333 | <0.0001 | <0.0001 |
| *SREBF1* | Chr17p | 0.1733 | <0.0001 | <0.0001 |
| *SREBF2* | Chr22q | 0.4597 | <0.0001 | <0.0001 |
| *SREK1* | Chr5q | 0.4719 | <0.0001 | <0.0001 |
| *SREK1IP1* | Chr5q | 0.3893 | <0.0001 | <0.0001 |
| *SRP14* | Chr15q | 0.5167 | <0.0001 | <0.0001 |
| *SRPRB* | Chr3q | 0.2837 | <0.0001 | <0.0001 |
| *SRR* | Chr17p | 0.237 | <0.0001 | <0.0001 |
| *SRRD* | Chr22q | 0.5683 | <0.0001 | <0.0001 |
| *SRSF6* | Chr20q | 0.2344 | <0.0001 | <0.0001 |
| *SS18L1* | Chr20q | 0.4892 | <0.0001 | <0.0001 |
| *SSBP1* | Chr7q | 0.5541 | <0.0001 | <0.0001 |
| *SSBP2* | Chr5q | 0.3386 | <0.0001 | <0.0001 |
| *SSPN* | Chr12p | 0.2931 | <0.0001 | <0.0001 |
| *SSR2* | Chr1q | 0.3827 | <0.0001 | <0.0001 |
| *SSR3* | Chr3q | 0.2957 | <0.0001 | <0.0001 |
| *ST13* | Chr22q | 0.4269 | <0.0001 | <0.0001 |
| *ST3GAL1* | Chr8q | 0.2989 | <0.0001 | <0.0001 |
| *ST3GAL2* | Chr16q | 0.2278 | <0.0001 | <0.0001 |
| *ST6GAL1* | Chr3q | 0.2896 | <0.0001 | <0.0001 |
| *STAG1* | Chr3q | 0.3391 | <0.0001 | <0.0001 |
| *STARD13* | Chr13q | 0.2874 | <0.0001 | <0.0001 |
| *STARD3* | Chr17q | 0.293 | <0.0001 | <0.0001 |
| *STAU1* | Chr20q | 0.5549 | <0.0001 | <0.0001 |
| *STAU2* | Chr8q | 0.3636 | <0.0001 | <0.0001 |
| *STBD1* | Chr4q | 0.3611 | <0.0001 | <0.0001 |
| *STC1* | Chr8p | 0.2001 | <0.0001 | <0.0001 |
| *STK19* | Chr6p | 0.3834 | <0.0001 | <0.0001 |
| *STK24* | Chr13q | 0.6656 | <0.0001 | <0.0001 |
| *STK3* | Chr8q | 0.6555 | <0.0001 | <0.0001 |
| *STK38L* | Chr12p | 0.4266 | <0.0001 | <0.0001 |
| *STK4* | Chr20q | 0.3925 | <0.0001 | <0.0001 |
| *STRAP* | Chr12p | 0.6159 | <0.0001 | <0.0001 |
| *STX10* | Chr19p | 0.57 | <0.0001 | <0.0001 |
| *STX16* | Chr20q | 0.3686 | <0.0001 | <0.0001 |
| *STX7* | Chr6q | 0.5655 | <0.0001 | <0.0001 |
| *STX8* | Chr17p | 0.413 | <0.0001 | <0.0001 |
| *SUCLA2* | Chr13q | 0.5857 | <0.0001 | <0.0001 |
| *SUGP1* | Chr19p | 0.5438 | <0.0001 | <0.0001 |
| *SUGP2* | Chr19p | 0.3807 | <0.0001 | <0.0001 |
| *SUN2* | Chr22q | 0.4059 | <0.0001 | <0.0001 |
| *SUPT5H* | Chr19q | 0.5707 | <0.0001 | <0.0001 |
| *SUPT6H* | Chr17q | 0.4849 | <0.0001 | <0.0001 |
| *SUZ12* | Chr17q | 0.4699 | <0.0001 | <0.0001 |
| *SYBU* | Chr8q | 0.3181 | <0.0001 | <0.0001 |
| *SYCP2* | Chr20q | 0.1842 | <0.0001 | <0.0001 |
| *SYDE1* | Chr19p | 0.2761 | <0.0001 | <0.0001 |
| *SYNE1* | Chr6q | 0.1649 | <0.0001 | 1.00E-04 |
| *SYNGR1* | Chr22q | 0.2984 | <0.0001 | <0.0001 |
| *SYNJ2* | Chr6q | 0.3259 | <0.0001 | <0.0001 |
| *SYNRG* | Chr17q | 0.4966 | <0.0001 | <0.0001 |
| *SYT11* | Chr1q | 0.2827 | <0.0001 | <0.0001 |
| *TAB1* | Chr22q | 0.2654 | <0.0001 | <0.0001 |
| *TAB2* | Chr6q | 0.5887 | <0.0001 | <0.0001 |
| *TADA2A* | Chr17q | 0.2745 | <0.0001 | <0.0001 |
| *TAF1C* | Chr16q | 0.3625 | <0.0001 | <0.0001 |
| *TAF2* | Chr8q | 0.6289 | <0.0001 | <0.0001 |
| *TAF4* | Chr20q | 0.4811 | <0.0001 | <0.0001 |
| *TAF9* | Chr5q | 0.5125 | <0.0001 | <0.0001 |
| *TAGLN2* | Chr1q | 0.1832 | <0.0001 | <0.0001 |
| *TAPBPL* | Chr12p | 0.1723 | <0.0001 | <0.0001 |
| *TARS2* | Chr1q | 0.3789 | <0.0001 | <0.0001 |
| *TAS2R14* | Chr12p | 0.1847 | <0.0001 | <0.0001 |
| *TAX1BP3* | Chr17p | 0.4722 | <0.0001 | <0.0001 |
| *TBC1D22A* | Chr22q | 0.5641 | <0.0001 | <0.0001 |
| *TBC1D4* | Chr13q | 0.2713 | <0.0001 | <0.0001 |
| *TBC1D9* | Chr4q | 0.5069 | <0.0001 | <0.0001 |
| *TBCA* | Chr5q | 0.54 | <0.0001 | <0.0001 |
| *TBCB* | Chr19q | 0.5864 | <0.0001 | <0.0001 |
| *TBCCD1* | Chr3q | 0.5179 | <0.0001 | <0.0001 |
| *TBL1XR1* | Chr3q | 0.3401 | <0.0001 | <0.0001 |
| *TBP* | Chr6q | 0.5954 | <0.0001 | <0.0001 |
| *TBPL1* | Chr6q | 0.5711 | <0.0001 | <0.0001 |
| *TCEA1* | Chr8q | 0.4624 | <0.0001 | <0.0001 |
| *TCEA2* | Chr20q | 0.3342 | <0.0001 | <0.0001 |
| *TCEB1* | Chr8q | 0.5089 | <0.0001 | <0.0001 |
| *TCF20* | Chr22q | 0.3651 | <0.0001 | <0.0001 |
| *TCF25* | Chr16q | 0.5792 | <0.0001 | <0.0001 |
| *TCF4* | Chr18q | 0.1753 | <0.0001 | <0.0001 |
| *TCFL5* | Chr20q | 0.3502 | <0.0001 | <0.0001 |
| *TCN2* | Chr22q | 0.396 | <0.0001 | <0.0001 |
| *TCP1* | Chr6q | 0.6722 | <0.0001 | <0.0001 |
| *TDO2* | Chr4q | 0.2535 | <0.0001 | <0.0001 |
| *TDRD12* | Chr19q | 0.2319 | <0.0001 | <0.0001 |
| *TDRD3* | Chr13q | 0.6046 | <0.0001 | <0.0001 |
| *TDRKH* | Chr1q | 0.2803 | <0.0001 | <0.0001 |
| *TEAD4* | Chr12p | 0.4707 | <0.0001 | <0.0001 |
| *TECR* | Chr19p | 0.5819 | <0.0001 | <0.0001 |
| *TERF1* | Chr8q | 0.5711 | <0.0001 | <0.0001 |
| *TERF2* | Chr16q | 0.4386 | <0.0001 | <0.0001 |
| *TERF2IP* | Chr16q | 0.5911 | <0.0001 | <0.0001 |
| *TFB1M* | Chr6q | 0.495 | <0.0001 | <0.0001 |
| *TFDP1* | Chr13q | 0.5316 | <0.0001 | <0.0001 |
| *TFDP2* | Chr3q | 0.4275 | <0.0001 | <0.0001 |
| *TFIP11* | Chr22q | 0.6042 | <0.0001 | <0.0001 |
| *TFRC* | Chr3q | 0.3511 | <0.0001 | <0.0001 |
| *TGDS* | Chr13q | 0.6193 | <0.0001 | <0.0001 |
| *TGIF2* | Chr20q | 0.389 | <0.0001 | <0.0001 |
| *TGS1* | Chr8q | 0.4724 | <0.0001 | <0.0001 |
| *TH1L* | Chr20q | 0.4961 | <0.0001 | <0.0001 |
| *THAP1* | Chr8p | 0.2837 | <0.0001 | <0.0001 |
| *THAP11* | Chr16q | 0.4764 | <0.0001 | <0.0001 |
| *THAP9* | Chr4q | 0.2191 | <0.0001 | <0.0001 |
| *THBS1* | Chr15q | 0.1816 | <0.0001 | <0.0001 |
| *THBS3* | Chr1q | 0.2483 | <0.0001 | <0.0001 |
| *THOC5* | Chr22q | 0.5266 | <0.0001 | <0.0001 |
| *THRA* | Chr17q | 0.1955 | <0.0001 | <0.0001 |
| *TIAM2* | Chr6q | 0.2276 | <0.0001 | <0.0001 |
| *TIMM50* | Chr19q | 0.3635 | <0.0001 | <0.0001 |
| *TIMP3* | Chr22q | 0.1931 | <0.0001 | <0.0001 |
| *TIPARP* | Chr3q | 0.2814 | <0.0001 | <0.0001 |
| *TJP1* | Chr15q | 0.3839 | <0.0001 | <0.0001 |
| *TK2* | Chr16q | 0.3971 | <0.0001 | <0.0001 |
| *TLR2* | Chr4q | 0.2371 | <0.0001 | <0.0001 |
| *TLR3* | Chr4q | 0.3835 | <0.0001 | <0.0001 |
| *TM4SF1* | Chr3q | 0.1944 | <0.0001 | <0.0001 |
| *TM7SF3* | Chr12p | 0.4011 | <0.0001 | <0.0001 |
| *TM7SF4* | Chr8q | 0.1678 | <0.0001 | 1.00E-04 |
| *TM9SF2* | Chr13q | 0.5657 | <0.0001 | <0.0001 |
| *TM9SF4* | Chr20q | 0.3308 | <0.0001 | <0.0001 |
| *TMCO3* | Chr13q | 0.4782 | <0.0001 | <0.0001 |
| *TMED1* | Chr19p | 0.5378 | <0.0001 | <0.0001 |
| *TMEM11* | Chr17p | 0.37 | <0.0001 | <0.0001 |
| *TMEM144* | Chr4q | 0.2082 | <0.0001 | <0.0001 |
| *TMEM147* | Chr19q | 0.5776 | <0.0001 | <0.0001 |
| *TMEM149* | Chr19q | 0.2408 | <0.0001 | <0.0001 |
| *TMEM14B* | Chr6p | 0.4981 | <0.0001 | <0.0001 |
| *TMEM161A* | Chr19p | 0.5463 | <0.0001 | <0.0001 |
| *TMEM184B* | Chr22q | 0.492 | <0.0001 | <0.0001 |
| *TMEM184C* | Chr4q | 0.5373 | <0.0001 | <0.0001 |
| *TMEM208* | Chr16q | 0.5175 | <0.0001 | <0.0001 |
| *TMEM209* | Chr7q | 0.4157 | <0.0001 | <0.0001 |
| *TMEM231* | Chr16q | 0.3354 | <0.0001 | <0.0001 |
| *TMEM62* | Chr15q | 0.3595 | <0.0001 | <0.0001 |
| *TMEM66* | Chr8p | 0.5704 | <0.0001 | <0.0001 |
| *TMEM70* | Chr8q | 0.4634 | <0.0001 | <0.0001 |
| *TMEM87A* | Chr15q | 0.5831 | <0.0001 | <0.0001 |
| *TMEM93* | Chr17p | 0.518 | <0.0001 | <0.0001 |
| *TMEM97* | Chr17q | 0.2023 | <0.0001 | <0.0001 |
| *TNFAIP1* | Chr17q | 0.5425 | <0.0001 | <0.0001 |
| *TNFRSF10B* | Chr8p | 0.5735 | <0.0001 | <0.0001 |
| *TNFRSF11B* | Chr8q | 0.319 | <0.0001 | <0.0001 |
| *TNFRSF1A* | Chr12p | 0.3109 | <0.0001 | <0.0001 |
| *TNFSF10* | Chr3q | 0.24 | <0.0001 | <0.0001 |
| *TNFSF12* | Chr17p | 0.233 | <0.0001 | <0.0001 |
| *TNFSF13* | Chr17p | 0.2252 | <0.0001 | <0.0001 |
| *TNK1* | Chr17p | 0.2838 | <0.0001 | <0.0001 |
| *TNK2* | Chr3q | 0.3202 | <0.0001 | <0.0001 |
| *TNKS* | Chr8p | 0.6283 | <0.0001 | <0.0001 |
| *TNPO1* | Chr5q | 0.4776 | <0.0001 | <0.0001 |
| *TNPO2* | Chr19p | 0.5516 | <0.0001 | <0.0001 |
| *TNPO3* | Chr7q | 0.5213 | <0.0001 | <0.0001 |
| *TNRC6B* | Chr22q | 0.4574 | <0.0001 | <0.0001 |
| *TOB2* | Chr22q | 0.3377 | <0.0001 | <0.0001 |
| *TOM1* | Chr22q | 0.4228 | <0.0001 | <0.0001 |
| *TOMM22* | Chr22q | 0.3727 | <0.0001 | <0.0001 |
| *TOMM34* | Chr20q | 0.4463 | <0.0001 | <0.0001 |
| *TOP1* | Chr20q | 0.3582 | <0.0001 | <0.0001 |
| *TOP2A* | Chr17q | 0.2327 | <0.0001 | <0.0001 |
| *TOP3A* | Chr17p | 0.1664 | <0.0001 | 1.00E-04 |
| *TOPBP1* | Chr3q | 0.4965 | <0.0001 | <0.0001 |
| *TOX* | Chr8q | 0.1697 | <0.0001 | <0.0001 |
| *TP53* | Chr17p | 0.1719 | <0.0001 | <0.0001 |
| *TP53BP1* | Chr15q | 0.4204 | <0.0001 | <0.0001 |
| *TPD52* | Chr8q | 0.5477 | <0.0001 | <0.0001 |
| *TPD52L1* | Chr6q | 0.4086 | <0.0001 | <0.0001 |
| *TPD52L2* | Chr20q | 0.4955 | <0.0001 | <0.0001 |
| *TPI1* | Chr12p | 0.5523 | <0.0001 | <0.0001 |
| *TPM4* | Chr19p | 0.3406 | <0.0001 | <0.0001 |
| *TPP2* | Chr13q | 0.6531 | <0.0001 | <0.0001 |
| *TPPP3* | Chr16q | 0.1695 | <0.0001 | <0.0001 |
| *TPST2* | Chr22q | 0.4795 | <0.0001 | <0.0001 |
| *TPT1* | Chr13q | 0.5543 | <0.0001 | <0.0001 |
| *TPX2* | Chr20q | 0.3211 | <0.0001 | <0.0001 |
| *TRA2B* | Chr3q | 0.4576 | <0.0001 | <0.0001 |
| *TRABD* | Chr22q | 0.3889 | <0.0001 | <0.0001 |
| *TRADD* | Chr16q | 0.4826 | <0.0001 | <0.0001 |
| *TRAF3IP2* | Chr6q | 0.3462 | <0.0001 | <0.0001 |
| *TRAF4* | Chr17q | 0.2908 | <0.0001 | <0.0001 |
| *TRAM1* | Chr8q | 0.4474 | <0.0001 | <0.0001 |
| *TRAPPC2L* | Chr16q | 0.4988 | <0.0001 | <0.0001 |
| *TRAPPC9* | Chr8q | 0.533 | <0.0001 | <0.0001 |
| *TRIB1* | Chr8q | 0.3517 | <0.0001 | <0.0001 |
| *TRIB3* | Chr20p | 0.2215 | <0.0001 | <0.0001 |
| *TRIM13* | Chr13q | 0.4754 | <0.0001 | <0.0001 |
| *TRIM16* | Chr17p | 0.2626 | <0.0001 | <0.0001 |
| *TRIM2* | Chr4q | 0.2882 | <0.0001 | <0.0001 |
| *TRIM23* | Chr5q | 0.5109 | <0.0001 | <0.0001 |
| *TRIM24* | Chr7q | 0.4512 | <0.0001 | <0.0001 |
| *TRIOBP* | Chr22q | 0.4292 | <0.0001 | <0.0001 |
| *TRMT1* | Chr19p | 0.5993 | <0.0001 | <0.0001 |
| *TRMT11* | Chr6q | 0.4649 | <0.0001 | <0.0001 |
| *TRMT12* | Chr8q | 0.6408 | <0.0001 | <0.0001 |
| *TRMU* | Chr22q | 0.2429 | <0.0001 | <0.0001 |
| *TRPC4AP* | Chr20q | 0.4372 | <0.0001 | <0.0001 |
| *TRPS1* | Chr8q | 0.3923 | <0.0001 | <0.0001 |
| *TRPV1* | Chr17p | 0.226 | <0.0001 | <0.0001 |
| *TSC22D1* | Chr13q | 0.3893 | <0.0001 | <0.0001 |
| *TSC22D2* | Chr3q | 0.2996 | <0.0001 | <0.0001 |
| *TSGA14* | Chr7q | 0.178 | <0.0001 | <0.0001 |
| *TSKU* | Chr11q | 0.2154 | <0.0001 | <0.0001 |
| *TSPAN9* | Chr12p | 0.2785 | <0.0001 | <0.0001 |
| *TSPO* | Chr22q | 0.4371 | <0.0001 | <0.0001 |
| *TSPYL1* | Chr6q | 0.495 | <0.0001 | <0.0001 |
| *TSPYL4* | Chr6q | 0.4703 | <0.0001 | <0.0001 |
| *TSPYL5* | Chr8q | 0.1833 | <0.0001 | <0.0001 |
| *TSR1* | Chr17p | 0.4834 | <0.0001 | <0.0001 |
| *TST* | Chr22q | 0.2846 | <0.0001 | <0.0001 |
| *TSTA3* | Chr8q | 0.5699 | <0.0001 | <0.0001 |
| *TTBK2* | Chr15q | 0.3696 | <0.0001 | <0.0001 |
| *TTC19* | Chr17p | 0.2931 | <0.0001 | <0.0001 |
| *TTC26* | Chr7q | 0.2629 | <0.0001 | <0.0001 |
| *TTC28* | Chr22q | 0.2718 | <0.0001 | <0.0001 |
| *TTC35* | Chr8q | 0.6547 | <0.0001 | <0.0001 |
| *TTC37* | Chr5q | 0.5828 | <0.0001 | <0.0001 |
| *TTC38* | Chr22q | 0.2814 | <0.0001 | <0.0001 |
| *TTI1* | Chr20q | 0.5227 | <0.0001 | <0.0001 |
| *TTLL1* | Chr22q | 0.3494 | <0.0001 | <0.0001 |
| *TTLL12* | Chr22q | 0.3514 | <0.0001 | <0.0001 |
| *TTPAL* | Chr20q | 0.4204 | <0.0001 | <0.0001 |
| *TUBGCP3* | Chr13q | 0.6454 | <0.0001 | <0.0001 |
| *TUBGCP4* | Chr15q | 0.4712 | <0.0001 | <0.0001 |
| *TUBGCP5* | Chr15q | 0.3681 | <0.0001 | <0.0001 |
| *TUFT1* | Chr1q | 0.314 | <0.0001 | <0.0001 |
| *TUG1* | Chr22q | 0.4867 | <0.0001 | <0.0001 |
| *TULP3* | Chr12p | 0.62 | <0.0001 | <0.0001 |
| *TULP4* | Chr6q | 0.5068 | <0.0001 | <0.0001 |
| *TUSC3* | Chr8p | 0.5272 | <0.0001 | <0.0001 |
| *TXN2* | Chr22q | 0.5151 | <0.0001 | <0.0001 |
| *TXNL1* | Chr18q | 0.7011 | <0.0001 | <0.0001 |
| *TXNL4A* | Chr18q | 0.574 | <0.0001 | <0.0001 |
| *TXNL4B* | Chr16q | 0.3329 | <0.0001 | <0.0001 |
| *TYK2* | Chr19p | 0.6295 | <0.0001 | <0.0001 |
| *TYMP* | Chr22q | 0.2915 | <0.0001 | <0.0001 |
| *TYRO3* | Chr15q | 0.2821 | <0.0001 | <0.0001 |
| *U2SURP* | Chr3q | 0.3552 | <0.0001 | <0.0001 |
| *UAP1* | Chr1q | 0.4456 | <0.0001 | <0.0001 |
| *UBA2* | Chr19q | 0.5027 | <0.0001 | <0.0001 |
| *UBA5* | Chr3q | 0.3834 | <0.0001 | <0.0001 |
| *UBA52* | Chr19p | 0.5947 | <0.0001 | <0.0001 |
| *UBAP2L* | Chr1q | 0.4148 | <0.0001 | <0.0001 |
| *UBE2C* | Chr20q | 0.4077 | <0.0001 | <0.0001 |
| *UBE2D3* | Chr4q | 0.6164 | <0.0001 | <0.0001 |
| *UBE2G1* | Chr17p | 0.5241 | <0.0001 | <0.0001 |
| *UBE2H* | Chr7q | 0.3398 | <0.0001 | <0.0001 |
| *UBE2J1* | Chr6q | 0.5624 | <0.0001 | <0.0001 |
| *UBE2Q1* | Chr1q | 0.5289 | <0.0001 | <0.0001 |
| *UBE2V2* | Chr8q | 0.4185 | <0.0001 | <0.0001 |
| *UBE2W* | Chr8q | 0.5539 | <0.0001 | <0.0001 |
| *UBE3A* | Chr15q | 0.6126 | <0.0001 | <0.0001 |
| *UBE3C* | Chr7q | 0.6314 | <0.0001 | <0.0001 |
| *UBL3* | Chr13q | 0.5944 | <0.0001 | <0.0001 |
| *UBL5* | Chr19p | 0.583 | <0.0001 | <0.0001 |
| *UBOX5* | Chr20p | 0.3959 | <0.0001 | <0.0001 |
| *UBR5* | Chr8q | 0.6444 | <0.0001 | <0.0001 |
| *UBXN2B* | Chr8q | 0.4613 | <0.0001 | <0.0001 |
| *UBXN7* | Chr3q | 0.5464 | <0.0001 | <0.0001 |
| *UBXN8* | Chr8p | 0.4402 | <0.0001 | <0.0001 |
| *UCHL3* | Chr13q | 0.5361 | <0.0001 | <0.0001 |
| *UCKL1* | Chr20q | 0.4794 | <0.0001 | <0.0001 |
| *UFC1* | Chr1q | 0.4207 | <0.0001 | <0.0001 |
| *UFM1* | Chr13q | 0.6254 | <0.0001 | <0.0001 |
| *UFSP2* | Chr4q | 0.5945 | <0.0001 | <0.0001 |
| *UGGT2* | Chr13q | 0.5486 | <0.0001 | <0.0001 |
| *UGT8* | Chr4q | 0.2328 | <0.0001 | <0.0001 |
| *ULK2* | Chr17p | 0.2465 | <0.0001 | <0.0001 |
| *UNC119* | Chr17q | 0.3329 | <0.0001 | <0.0001 |
| *UPF1* | Chr19p | 0.4698 | <0.0001 | <0.0001 |
| *UPF3A* | Chr13q | 0.5867 | <0.0001 | <0.0001 |
| *UQCC* | Chr20q | 0.4656 | <0.0001 | <0.0001 |
| *UQCR10* | Chr22q | 0.5748 | <0.0001 | <0.0001 |
| *UQCRB* | Chr8q | 0.5379 | <0.0001 | <0.0001 |
| *UQCRFS1* | Chr19q | 0.4455 | <0.0001 | <0.0001 |
| *USE1* | Chr19p | 0.5385 | <0.0001 | <0.0001 |
| *USF2* | Chr19q | 0.5393 | <0.0001 | <0.0001 |
| *USO1* | Chr4q | 0.5988 | <0.0001 | <0.0001 |
| *USP10* | Chr16q | 0.6084 | <0.0001 | <0.0001 |
| *USP12* | Chr13q | 0.4944 | <0.0001 | <0.0001 |
| *USP13* | Chr3q | 0.2438 | <0.0001 | <0.0001 |
| *USP21* | Chr1q | 0.4071 | <0.0001 | <0.0001 |
| *USP22* | Chr17p | 0.3176 | <0.0001 | <0.0001 |
| *USP5* | Chr12p | 0.485 | <0.0001 | <0.0001 |
| *USP53* | Chr4q | 0.2087 | <0.0001 | <0.0001 |
| *USPL1* | Chr13q | 0.5707 | <0.0001 | <0.0001 |
| *UTP14C* | Chr13q | 0.6694 | <0.0001 | <0.0001 |
| *UTP6* | Chr17q | 0.4574 | <0.0001 | <0.0001 |
| *UTRN* | Chr6q | 0.3347 | <0.0001 | <0.0001 |
| *VAC14* | Chr16q | 0.3979 | <0.0001 | <0.0001 |
| *VAMP1* | Chr12p | 0.2838 | <0.0001 | <0.0001 |
| *VAMP2* | Chr17p | 0.32 | <0.0001 | <0.0001 |
| *VAPB* | Chr20q | 0.4928 | <0.0001 | <0.0001 |
| *VARS* | Chr6p | 0.4842 | <0.0001 | <0.0001 |
| *VCAN* | Chr5q | 0.1802 | <0.0001 | <0.0001 |
| *VCPIP1* | Chr8q | 0.3168 | <0.0001 | <0.0001 |
| *VDAC3* | Chr8p | 0.4275 | <0.0001 | <0.0001 |
| *VEGFC* | Chr4q | 0.1867 | <0.0001 | <0.0001 |
| *VPS13B* | Chr8q | 0.5452 | <0.0001 | <0.0001 |
| *VPS16* | Chr20p | 0.478 | <0.0001 | <0.0001 |
| *VPS28* | Chr8q | 0.6385 | <0.0001 | <0.0001 |
| *VPS39* | Chr15q | 0.5146 | <0.0001 | <0.0001 |
| *VPS45* | Chr1q | 0.3814 | <0.0001 | <0.0001 |
| *VPS4A* | Chr16q | 0.5448 | <0.0001 | <0.0001 |
| *VPS4B* | Chr18q | 0.6674 | <0.0001 | <0.0001 |
| *VPS72* | Chr1q | 0.4783 | <0.0001 | <0.0001 |
| *VPS8* | Chr3q | 0.5814 | <0.0001 | <0.0001 |
| *WASF1* | Chr6q | 0.4607 | <0.0001 | <0.0001 |
| *WASF3* | Chr13q | 0.2951 | <0.0001 | <0.0001 |
| *WBP11* | Chr12p | 0.6238 | <0.0001 | <0.0001 |
| *WBP4* | Chr13q | 0.6713 | <0.0001 | <0.0001 |
| *WDFY3* | Chr4q | 0.4924 | <0.0001 | <0.0001 |
| *WDR41* | Chr5q | 0.3739 | <0.0001 | <0.0001 |
| *WDR59* | Chr16q | 0.5045 | <0.0001 | <0.0001 |
| *WDR60* | Chr7q | 0.4442 | <0.0001 | <0.0001 |
| *WDR62* | Chr19q | 0.2129 | <0.0001 | <0.0001 |
| *WDR67* | Chr8q | 0.461 | <0.0001 | <0.0001 |
| *WDR7* | Chr18q | 0.6214 | <0.0001 | <0.0001 |
| *WDR76* | Chr15q | 0.1773 | <0.0001 | <0.0001 |
| *WDR91* | Chr7q | 0.4291 | <0.0001 | <0.0001 |
| *WDYHV1* | Chr8q | 0.5211 | <0.0001 | <0.0001 |
| *WFDC2* | Chr20q | 0.2589 | <0.0001 | <0.0001 |
| *WIPF2* | Chr17q | 0.4474 | <0.0001 | <0.0001 |
| *WISP3* | Chr6q | 0.1667 | <0.0001 | 1.00E-04 |
| *WIZ* | Chr19p | 0.6238 | <0.0001 | <0.0001 |
| *WNK1* | Chr12p | 0.4556 | <0.0001 | <0.0001 |
| *WNT5B* | Chr12p | 0.1935 | <0.0001 | <0.0001 |
| *WRAP53* | Chr17p | 0.3466 | <0.0001 | <0.0001 |
| *WRN* | Chr8p | 0.5364 | <0.0001 | <0.0001 |
| *WSB1* | Chr17q | 0.3452 | <0.0001 | <0.0001 |
| *WTAP* | Chr6q | 0.5334 | <0.0001 | <0.0001 |
| *WWC2* | Chr4q | 0.2881 | <0.0001 | <0.0001 |
| *WWOX* | Chr16q | 0.3208 | <0.0001 | <0.0001 |
| *WWP1* | Chr8q | 0.5381 | <0.0001 | <0.0001 |
| *WWP2* | Chr16q | 0.4782 | <0.0001 | <0.0001 |
| *WWTR1* | Chr3q | 0.3898 | <0.0001 | <0.0001 |
| *XBP1* | Chr22q | 0.432 | <0.0001 | <0.0001 |
| *XPNPEP3* | Chr22q | 0.3516 | <0.0001 | <0.0001 |
| *XPO4* | Chr13q | 0.2953 | <0.0001 | <0.0001 |
| *XPO7* | Chr8p | 0.5924 | <0.0001 | <0.0001 |
| *XRCC2* | Chr7q | 0.2351 | <0.0001 | <0.0001 |
| *XRCC4* | Chr5q | 0.4534 | <0.0001 | <0.0001 |
| *XRCC6* | Chr22q | 0.5122 | <0.0001 | <0.0001 |
| *YARS2* | Chr12p | 0.4505 | <0.0001 | <0.0001 |
| *YEATS2* | Chr3q | 0.5349 | <0.0001 | <0.0001 |
| *YIPF2* | Chr19p | 0.4891 | <0.0001 | <0.0001 |
| *YTHDF1* | Chr20q | 0.5344 | <0.0001 | <0.0001 |
| *YTHDF3* | Chr8q | 0.5712 | <0.0001 | <0.0001 |
| *YWHAB* | Chr20q | 0.502 | <0.0001 | <0.0001 |
| *YWHAH* | Chr22q | 0.4971 | <0.0001 | <0.0001 |
| *YWHAZ* | Chr8q | 0.559 | <0.0001 | <0.0001 |
| *YY1AP1* | Chr1q | 0.4193 | <0.0001 | <0.0001 |
| *ZBED4* | Chr22q | 0.2944 | <0.0001 | <0.0001 |
| *ZBTB10* | Chr8q | 0.4354 | <0.0001 | <0.0001 |
| *ZBTB24* | Chr6q | 0.5802 | <0.0001 | <0.0001 |
| *ZBTB38* | Chr3q | 0.3691 | <0.0001 | <0.0001 |
| *ZC3H13* | Chr13q | 0.5899 | <0.0001 | <0.0001 |
| *ZC3H3* | Chr8q | 0.6158 | <0.0001 | <0.0001 |
| *ZC3HAV1* | Chr7q | 0.2625 | <0.0001 | <0.0001 |
| *ZCCHC14* | Chr16q | 0.4267 | <0.0001 | <0.0001 |
| *ZCCHC2* | Chr18q | 0.5389 | <0.0001 | <0.0001 |
| *ZDHHC14* | Chr6q | 0.2474 | <0.0001 | <0.0001 |
| *ZDHHC7* | Chr16q | 0.5933 | <0.0001 | <0.0001 |
| *ZFAND1* | Chr8q | 0.4245 | <0.0001 | <0.0001 |
| *ZFHX3* | Chr16q | 0.294 | <0.0001 | <0.0001 |
| *ZFP106* | Chr15q | 0.5551 | <0.0001 | <0.0001 |
| *ZFP30* | Chr19q | 0.4802 | <0.0001 | <0.0001 |
| *ZFP64* | Chr20q | 0.4918 | <0.0001 | <0.0001 |
| *ZFPM2* | Chr8q | 0.1689 | <0.0001 | <0.0001 |
| *ZFYVE16* | Chr5q | 0.4906 | <0.0001 | <0.0001 |
| *ZGPAT* | Chr20q | 0.4484 | <0.0001 | <0.0001 |
| *ZHX3* | Chr20q | 0.1827 | <0.0001 | <0.0001 |
| *ZMAT5* | Chr22q | 0.4939 | <0.0001 | <0.0001 |
| *ZMYM2* | Chr13q | 0.4452 | <0.0001 | <0.0001 |
| *ZMYM5* | Chr13q | 0.5217 | <0.0001 | <0.0001 |
| *ZMYND8* | Chr20q | 0.2691 | <0.0001 | <0.0001 |
| *ZNF136* | Chr19p | 0.5829 | <0.0001 | <0.0001 |
| *ZNF14* | Chr19p | 0.4582 | <0.0001 | <0.0001 |
| *ZNF146* | Chr19q | 0.4841 | <0.0001 | <0.0001 |
| *ZNF16* | Chr8q | 0.6829 | <0.0001 | <0.0001 |
| *ZNF207* | Chr17q | 0.2614 | <0.0001 | <0.0001 |
| *ZNF212* | Chr7q | 0.5951 | <0.0001 | <0.0001 |
| *ZNF23* | Chr16q | 0.5098 | <0.0001 | <0.0001 |
| *ZNF232* | Chr17p | 0.3628 | <0.0001 | <0.0001 |
| *ZNF236* | Chr18q | 0.4293 | <0.0001 | <0.0001 |
| *ZNF250* | Chr8q | 0.5683 | <0.0001 | <0.0001 |
| *ZNF276* | Chr16q | 0.3657 | <0.0001 | <0.0001 |
| *ZNF282* | Chr7q | 0.5685 | <0.0001 | <0.0001 |
| *ZNF302* | Chr19q | 0.4301 | <0.0001 | <0.0001 |
| *ZNF330* | Chr4q | 0.5836 | <0.0001 | <0.0001 |
| *ZNF334* | Chr20q | 0.22 | <0.0001 | <0.0001 |
| *ZNF335* | Chr20q | 0.1821 | <0.0001 | <0.0001 |
| *ZNF34* | Chr8q | 0.6149 | <0.0001 | <0.0001 |
| *ZNF345* | Chr19q | 0.3625 | <0.0001 | <0.0001 |
| *ZNF384* | Chr12p | 0.567 | <0.0001 | <0.0001 |
| *ZNF395* | Chr8p | 0.5423 | <0.0001 | <0.0001 |
| *ZNF426* | Chr19p | 0.5451 | <0.0001 | <0.0001 |
| *ZNF44* | Chr19p | 0.4874 | <0.0001 | <0.0001 |
| *ZNF440* | Chr19p | 0.257 | <0.0001 | <0.0001 |
| *ZNF442* | Chr19p | 0.2641 | <0.0001 | <0.0001 |
| *ZNF443* | Chr19p | 0.4554 | <0.0001 | <0.0001 |
| *ZNF467* | Chr7q | 0.3142 | <0.0001 | <0.0001 |
| *ZNF512B* | Chr20q | 0.3907 | <0.0001 | <0.0001 |
| *ZNF516* | Chr18q | 0.333 | <0.0001 | <0.0001 |
| *ZNF529* | Chr19q | 0.388 | <0.0001 | <0.0001 |
| *ZNF532* | Chr18q | 0.3647 | <0.0001 | <0.0001 |
| *ZNF562* | Chr19p | 0.5805 | <0.0001 | <0.0001 |
| *ZNF571* | Chr19q | 0.5094 | <0.0001 | <0.0001 |
| *ZNF573* | Chr19q | 0.3888 | <0.0001 | <0.0001 |
| *ZNF623* | Chr8q | 0.6133 | <0.0001 | <0.0001 |
| *ZNF639* | Chr3q | 0.316 | <0.0001 | <0.0001 |
| *ZNF696* | Chr8q | 0.4866 | <0.0001 | <0.0001 |
| *ZNF7* | Chr8q | 0.6699 | <0.0001 | <0.0001 |
| *ZNF706* | Chr8q | 0.66 | <0.0001 | <0.0001 |
| *ZNF767* | Chr7q | 0.3539 | <0.0001 | <0.0001 |
| *ZNF770* | Chr15q | 0.2485 | <0.0001 | <0.0001 |
| *ZNF778* | Chr16q | 0.172 | <0.0001 | <0.0001 |
| *ZNF821* | Chr16q | 0.2157 | <0.0001 | <0.0001 |
| *ZNF862* | Chr7q | 0.3799 | <0.0001 | <0.0001 |
| *ZNHIT3* | Chr17q | 0.3299 | <0.0001 | <0.0001 |
| *ZSWIM1* | Chr20q | 0.2247 | <0.0001 | <0.0001 |
| *ZYX* | Chr7q | 0.36 | <0.0001 | <0.0001 |
| *ZZEF1* | Chr17p | 0.3768 | <0.0001 | <0.0001 |

**Supplementary Table 3: Gene expression signature predictive of complete response (CR) versus incomplete response (IR) using the CNA-Correlated-Pathway (CCP) gene subset.**

|  |  |  |  |
| --- | --- | --- | --- |
| **p-value** | **Fold-change** | **Symbol** | **Name** |
| 1.91E-05 | 0.88 | *RHOT1* | ras homolog gene family, member T1 |
| 1.92E-04 | 0.67 | *TIMP3* | TIMP metallopeptidase inhibitor 3 |
| 1.92E-04 | 0.82 | *PPP3CA* | protein phosphatase 3, catalytic subunit, alpha isozyme |
| 4.41E-04 | 0.87 | *DNAJB14* | DnaJ (Hsp40) homolog, subfamily B, member 14 |
| 6.88E-04 | 0.88 | *PKD2* | polycystic kidney disease 2 (autosomal dominant) |
| 7.41E-04 | 0.85 | *UBL3* | ubiquitin-like 3 |
| 9.45E-04 | 0.84 | *WDR41* | WD repeat domain 41 |
| 1.16E-03 | 0.88 | *NUDT9* | nudix (nucleoside diphosphate linked moiety X)-type motif 9 |
| 1.51E-03 | 0.84 | *PGCP* | plasma glutamate carboxypeptidase |
| 1.64E-03 | 0.87 | *RASA1* | RAS p21 protein activator (GTPase activating protein) 1 |
| 2.12E-03 | 0.87 | *COPS4* | COP9 constitutive photomorphogenic homolog subunit 4 (Arabidopsis) |
| 2.51E-03 | 0.77 | *PDLIM3* | PDZ and LIM domain 3 |
| 2.62E-03 | 0.89 | *AGGF1* | angiogenic factor with G patch and FHA domains 1 |
| 2.74E-03 | 0.94 | *RPL34* | ribosomal protein L34 |
| 2.76E-03 | 0.93 | *RPL23* | ribosomal protein L23 |
| 2.80E-03 | 0.91 | *UBE2D3* | ubiquitin-conjugating enzyme E2D 3 (UBC4/5 homolog, yeast) |
| 3.00E-03 | 0.91 | *EIF3E* | eukaryotic translation initiation factor 3, subunit E |
| 3.09E-03 | 0.89 | *SLC30A5* | solute carrier family 30 (zinc transporter), member 5 |
| 3.23E-03 | 0.9 | *DUSP14* | dual specificity phosphatase 14 |
| 3.37E-03 | 0.84 | *KDELC1* | KDEL (Lys-Asp-Glu-Leu) containing 1 |
| 3.44E-03 | 0.89 | *NSA2* | NSA2 ribosome biogenesis homolog (S. cerevisiae) |
| 3.44E-03 | 0.88 | *SLC25A32* | solute carrier family 25, member 32 |
| 3.62E-03 | 0.91 | *RPL26* | ribosomal protein L26 |
| 3.80E-03 | 0.93 | *TTBK2* | tau tubulin kinase 2 |
| 3.95E-03 | 0.85 | *RB1* | retinoblastoma 1 |
| 4.08E-03 | 0.92 | *SCAMP3* | secretory carrier membrane protein 3 |
| 4.48E-03 | 0.88 | *THAP1* | THAP domain containing, apoptosis associated protein 1 |
| 4.53E-03 | 0.93 | *SLC25A44* | solute carrier family 25, member 44 |
| 4.89E-03 | 0.87 | *FAM18B1* | family with sequence similarity 18, member B1 |
| 5.20E-03 | 0.8 | *SNCA* | synuclein, alpha (non A4 component of amyloid precursor) |
| 5.26E-03 | 0.9 | *MANBA* | mannosidase, beta A, lysosomal |
| 5.30E-03 | 0.89 | *CCNH* | cyclin H |
| 5.81E-03 | 0.88 | *FECH* | ferrochelatase |
| 5.85E-03 | 0.89 | *PGRMC2* | progesterone receptor membrane component 2 |
| 5.85E-03 | 0.92 | *TBCA* | tubulin folding cofactor A |
| 6.18E-03 | 0.83 | *HSD17B11* | hydroxysteroid (17-beta) dehydrogenase 11 |
| 6.44E-03 | 0.84 | *ERLIN2* | ER lipid raft associated 2 |
| 6.45E-03 | 0.91 | *MAPKBP1* | mitogen-activated protein kinase binding protein 1 |
| 7.28E-03 | 0.9 | *SERINC3* | serine incorporator 3 |
| 7.39E-03 | 0.91 | *ENOPH1* | enolase-phosphatase 1 |
| 7.65E-03 | 0.89 | *SLFN12* | schlafen family member 12 |
| 7.74E-03 | 0.96 | *RPS23* | ribosomal protein S23 |
| 7.96E-03 | 0.93 | *C20orf4* | chromosome 20 open reading frame 4 |
| 8.34E-03 | 0.9 | *HEXB* | hexosaminidase B (beta polypeptide) |
| 8.93E-03 | 0.89 | *USP22* | ubiquitin specific peptidase 22 |
| 9.02E-03 | 0.92 | *SEC31A* | SEC31 homolog A (S. cerevisiae) |
| 9.79E-03 | 0.89 | *SERINC1* | serine incorporator 1 |
| 9.96E-03 | 1.11 | *MRPL15* | mitochondrial ribosomal protein L15 |
| 9.53E-03 | 1.15 | *SARS2* | seryl-tRNA synthetase 2, mitochondrial |
| 9.34E-03 | 1.23 | *CDH3* | cadherin 3, type 1, P-cadherin (placental) |
| 8.50E-03 | 1.18 | *RNASEH2A* | ribonuclease H2, subunit A |
| 8.49E-03 | 1.14 | *SPINT2* | serine peptidase inhibitor, Kunitz type, 2 |
| 8.26E-03 | 1.08 | *NOTCH4* | notch 4 |
| 8.17E-03 | 1.1 | *U2SURP* | U2 snRNP-associated SURP domain containing |
| 7.82E-03 | 1.08 | *E2F1* | E2F transcription factor 1 |
| 6.76E-03 | 1.14 | *NUDT15* | nudix (nucleoside diphosphate linked moiety X)-type motif 15 |
| 6.19E-03 | 1.12 | *AARS* | alanyl-tRNA synthetase |
| 5.30E-03 | 1.19 | *GPR19* | G protein-coupled receptor 19 |
| 5.16E-03 | 1.21 | *EZH2* | enhancer of zeste homolog 2 (Drosophila) |
| 5.10E-03 | 1.13 | *DDX11* | DEAD/H (Asp-Glu-Ala-Asp/His) box polypeptide 11 |
| 4.86E-03 | 1.16 | *HIPK2* | homeodomain interacting protein kinase 2 |
| 4.85E-03 | 1.39 | *PRSS2* | protease, serine, 2 (trypsin 2) |
| 4.78E-03 | 1.11 | *GINS3* | GINS complex subunit 3 (Psf3 homolog) |
| 4.71E-03 | 1.13 | *PAK4* | p21 protein (Cdc42/Rac)-activated kinase 4 |
| 3.61E-03 | 1.21 | *PARP12* | poly (ADP-ribose) polymerase family, member 12 |
| 3.58E-03 | 1.22 | *MECOM* | MDS1 and EVI1 complex locus |
| 2.86E-03 | 1.19 | *EPHA1* | EPH receptor A1 |
| 2.75E-03 | 1.14 | *ZNF767* | zinc finger family member 767 |
| 2.43E-03 | 1.19 | *SLC27A3* | solute carrier family 27 (fatty acid transporter), member 3 |
| 2.30E-03 | 1.21 | *RAD54B* | RAD54 homolog B (S. cerevisiae) |
| 1.58E-03 | 1.17 | *NCAPG2* | non-SMC condensin II complex, subunit G2 |
| 3.69E-04 | 1.16 | *WDR91* | WD repeat domain 91 |
| 3.13E-04 | 1.36 | *PRSS1* | protease, serine, 1 (trypsin 1) |
| 1.83E-04 | 1.21 | *MCM5* | minichromosome maintenance complex component 5 |
| 1.15E-04 | 1.23 | *MCM4* | minichromosome maintenance complex component 4 |

**Supplementary Table 4: Differentially methylated genes between the CR and IR groups**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parametric p-value** | **Fold-change** | **Unique-ID** | **Accession** | **Symbol** |
| 3.10E-06 | 0.74 | cg26873164 | NM\_005985 | *SNAI1* |
| 9.40E-06 | 1.24 | cg06006444 | NM\_003340 | *UBE2D3* |
| 1.93E-05 | 1.24 | cg12411068 | NM\_003072 | *SMARCA4* |
| 3.02E-05 | 1.21 | cg02832245 | NM\_005033 | *EXOSC9* |
| 3.71E-05 | 1.2 | cg02675896 | NM\_033211 | *LOC90355* |
| 4.65E-05 | 1.19 | cg22968727 | NM\_000975 | *RPL11* |
| 4.85E-05 | 1.2 | cg02782630 | NM\_139076 | *FLJ13614* |
| 5.54E-05 | 0.77 | cg11086066 | NM\_173091 | *NFATC2* |
| 6.18E-05 | 1.2 | cg03761560 | NM\_017626 | *DNAJB12* |
| 7.54E-05 | 1.15 | cg26413355 | NM\_205548 | *UNQ9217* |
| 8.75E-05 | 1.25 | cg01620569 | NM\_001625 | *AK2* |
| 1.07E-04 | 1.16 | cg21559783 | NM\_152571 | *FLJ36779* |
| 1.12E-04 | 0.78 | cg09017174 | NM\_004171 | *SLC1A2* |
| 1.15E-04 | 1.22 | cg01254459 | NM\_002806 | *PSMC6* |
| 1.24E-04 | 1.17 | cg24974477 | NM\_030821 | *PLA2G12A* |
| 1.72E-04 | 1.23 | cg24323434 | NM\_001018108 | *SERF2* |
| 1.81E-04 | 0.8 | cg06911113 | NM\_152376 | *UBXD3* |
| 2.06E-04 | 1.25 | cg23248587 | NM\_003401 | *XRCC4* |
| 2.40E-04 | 1.23 | cg17506742 | NM\_000628 | *IL10RB* |
| 2.55E-04 | 1.21 | cg12099357 | NM\_152660 | *FAM76A* |
| 2.69E-04 | 1.23 | cg11821147 | NM\_031435 | *THAP2* |
| 2.71E-04 | 1.19 | cg12477119 | NM\_016507 | *CRKRS* |
| 2.78E-04 | 1.19 | cg15507817 | NM\_058238 | *WNT7B* |
| 3.23E-04 | 0.82 | cg00564163 | NM\_024636 | *STEAP4* |
| 3.28E-04 | 1.19 | cg17881637 | NM\_003776 | *MRPL40* |
| 3.31E-04 | 1.18 | cg15757271 | NM\_003392 | *WNT5A* |
| 3.42E-04 | 1.21 | cg21284880 | NM\_005780 | *LHFP* |
| 3.60E-04 | 0.82 | cg25457331 | NM\_006877 | *GMPR* |
| 3.79E-04 | 1.15 | cg18497960 | NM\_006047 | *RBM12* |
| 3.83E-04 | 1.18 | cg00948524 | NM\_032322 | *RNF135* |
| 3.94E-04 | 1.13 | cg00763679 | NM\_001008491 | *SEPT2* |
| 3.98E-04 | 1.17 | cg18042079 | NM\_018428 | *C17orf40* |
| 3.98E-04 | 0.75 | cg06038133 | NM\_032854 | *CORO6* |
| 4.04E-04 | 1.21 | cg27441551 | NM\_005700 | *DPP3* |
| 4.07E-04 | 1.2 | cg01522721 | NM\_007065 | *CDC37* |
| 4.22E-04 | 1.19 | cg15785580 | NM\_005881 | *BCKDK* |
| 4.74E-04 | 1.19 | cg01222684 | NM\_003314 | *TTC1* |
| 4.86E-04 | 1.2 | cg01990225 | NM\_030805 | *LMAN2L* |
| 4.99E-04 | 1.18 | cg22816171 | NM\_024045 | *DDX50* |
| 5.17E-04 | 1.21 | cg17895873 | NM\_006062 | *SMYD5* |
| 6.00E-04 | 1.15 | cg15484019 | NM\_014673 | *KIAA0103* |
| 6.12E-04 | 1.19 | cg11603096 | NM\_003753 | *EIF3S7* |
| 6.23E-04 | 0.78 | cg06834875 | NM\_032425 | *KIAA1822* |
| 6.28E-04 | 0.77 | cg11521965 | NM\_002825 | *PTN* |
| 6.30E-04 | 1.2 | cg06470552 | NM\_005445 | *CSPG6* |
| 6.50E-04 | 1.2 | cg11220635 | NM\_016026 | *RDH11* |
| 6.62E-04 | 1.18 | cg06999776 | NM\_004263 | *SEMA4F* |
| 6.64E-04 | 1.21 | cg05401645 | NM\_178126 | *LOC162427* |
| 6.77E-04 | 1.19 | cg27323780 | NM\_152912 | *MTIF3* |
| 7.04E-04 | 0.79 | cg25947945 | NM\_005558 | *LAD1* |
| 7.12E-04 | 1.17 | cg25853833 | NM\_017546 | *C2orf29* |
| 7.47E-04 | 1.16 | cg18181070 | NM\_013247 | *HTRA2* |
| 7.49E-04 | 1.18 | cg01618083 | NM\_021117 | *CRY2* |
| 7.56E-04 | 1.13 | cg12448934 | NM\_014718 | *CLSTN3* |
| 7.67E-04 | 1.21 | cg16091845 | NM\_003601 | *SMARCA5* |
| 7.70E-04 | 1.17 | cg05389183 | NM\_000943 | *PPIC* |
| 7.98E-04 | 1.14 | cg03805364 | NM\_002572 | *PAFAH1B2* |
| 8.01E-04 | 1.2 | cg00636639 | NM\_138777 | *MRRF* |
| 8.01E-04 | 1.16 | cg06242000 | NM\_032331 | *MGC2408* |
| 8.24E-04 | 1.19 | cg01634119 | NM\_003875 | *GMPS* |
| 8.67E-04 | 1.2 | cg25232934 | NM\_153332 | *THEX1* |
| 8.90E-04 | 1.21 | cg24403722 | NM\_004430 | *EGR3* |
| 9.01E-04 | 0.82 | cg04219321 | NM\_002126 | *HLF* |
| 9.08E-04 | 1.25 | cg02147791 | NM\_005870 | *SAP18* |
| 9.18E-04 | 0.88 | cg17009433 | NM\_000170 | *GLDC* |
| 9.26E-04 | 1.15 | cg01465641 | NM\_003024 | *ITSN1* |
| 9.44E-04 | 1.16 | cg06565684 | NM\_001033025 | *EXTL2* |
| 9.54E-04 | 1.17 | cg24587268 | NM\_014835 | *OSBPL2* |
| 9.84E-04 | 1.16 | cg11108432 | NM\_017884 | *PINX1* |

**Supplementary Table 5: Differentially expressed miRNA between the CR and IR groups**

|  |  |  |  |
| --- | --- | --- | --- |
| **Parametric**  **p-value** | **Fold-change** | **Symbol** | **Chromosomal Location** |
| 1.72E-04 | 1.35 | hsa-miR-10b\* | chr2:176723363-176723345 |
| 7.92E-04 | 1.36 | hsa-miR-10b | chr2:176723325-176723305 |
| 3.43E-03 | 1.4 | hsa-miR-592 | chr7:126485438-126485457 |
| 4.61E-03 | 1.24 | hsa-miR-129-3p | chr11:043559597-043559579 |
| 7.42E-03 | 1.19 | hsa-miR-424 | chrX:133508376-133508397 |
| 8.27E-03 | 1.24 | hsa-miR-302b | chr4:113789094-113789113 |
| 8.32E-03 | 1.22 | hsa-miR-135b | chr1:203684112-203684134 |
| 8.91E-03 | 1.22 | hsa-miR-182 | chr7:129197523-129197539 |
| 9.45E-03 | 1.3 | ebv-miR-BART15 | unmapped |
| 1.06E-02 | 1.68 | hsa-miR-509-3-5p | chrX:146148906-146148922 |
| 1.15E-02 | 1.38 | hsa-miR-488 | chr1:175265133-175265152 |
| 1.30E-02 | 1.15 | hsa-miR-371-5p | chr19:058982765-058982755 |
| 1.87E-02 | 1.26 | hsa-miR-34b | chr11:110888943-110888927 |
| 1.94E-02 | 1.22 | hsa-miR-641 | chr19:045480350-045480368 |
| 2.04E-02 | 1.16 | hsa-miR-498 | chr19:058869318-058869303 |
| 2.07E-02 | 1.25 | hsa-miR-431\* | chr14:100417180-100417167 |
| 2.14E-02 | 0.93 | hsa-miR-193a-3p | chr17:026911203-026911187 |
| 2.18E-02 | 0.8 | hsa-miR-22 | chr17:001563958-001563976 |
| 2.45E-02 | 1.15 | hsa-miR-148a | chr7:025956067-025956086 |
| 2.64E-02 | 1.19 | hsa-miR-513a-5p | chrX:146102748-146102763 |
| 2.64E-02 | 1.31 | hsa-miR-517b | chr19:058907409-058907390 |
| 2.68E-02 | 1.17 | hsa-miR-7 | chr15:086956113-086956092 |
| 2.79E-02 | 1.17 | hsa-miR-96 | chr7:129201815-129201836 |
| 2.88E-02 | 1.22 | hsa-miR-200b | chr1:001092424-001092408 |
| 3.01E-02 | 1.2 | hsa-miR-708 | chr11:078790769-078790784 |
| 3.27E-02 | 0.78 | hsa-miR-1233 | chr15:032461562-032461574 |
| 3.30E-02 | 1.09 | hsa-miR-30a\* | chr6:072169978-072169994 |
| 3.37E-02 | 1.16 | hsa-miR-491-5p | chr9:020706140-020706125 |
| 3.40E-02 | 0.87 | NC2\_00092197 |  |
| 3.53E-02 | 1.16 | hsa-miR-7-1\* | chr9:085774506-085774524 |
| 3.57E-02 | 1.14 | hsa-miR-625\* | chr14:065007645-065007627 |
| 3.61E-02 | 1.13 | hsa-miR-545 | chrX:073423686-073423707 |
| 3.91E-02 | 1.16 | hsa-miR-628-5p | chr15:053452481-053452501 |
| 3.92E-02 | 1.15 | hsa-miR-183 | chr7:129202043-129202062 |
| 3.99E-02 | 0.83 | hsa-miR-33b | chr17:017657936-017657955 |
| 4.69E-02 | 1.17 | hsa-miR-597 | chr8:009636628-009636612 |
| 4.78E-02 | 1.16 | hsa-miR-492 | chr12:093752356-093752339 |
| 4.89E-02 | 1.11 | hsa-miR-629\* | chr15:068158780-068158795 |

**Supplementary Table 6: Differentially expressed genes (CR versus IR) from the 1,772 genes identified to have TF binding sites within the CNA-Correlated-Pathway (CCP) gene subset**

|  |  |  |  |
| --- | --- | --- | --- |
| **Parametric p-value** | **Fold-change** | **Symbol** | **Name** |
| 1.00E-06 | 0.87 | RHOT1 | ras homolog gene family, member T1 |
| 1.81E-04 | 0.75 | OLFML3 | olfactomedin-like 3 |
| 2.17E-04 | 0.81 | OLFML1 | olfactomedin-like 1 |
| 2.98E-04 | 0.88 | DUSP14 | dual specificity phosphatase 14 |
| 3.43E-04 | 1.20 | MCM4 | minichromosome maintenance complex component 4 |
| 3.55E-04 | 1.34 | PRSS1 | protease, serine, 1 (trypsin 1) |
| 4.73E-04 | 0.70 | TIMP3 | TIMP metallopeptidase inhibitor 3 |
| 4.88E-04 | 0.88 | RIN2 | Ras and Rab interactor 2 |
| 5.99E-04 | 1.18 | C19orf54 | chromosome 19 open reading frame 54 |
| 6.21E-04 | 1.15 | MCM7 | minichromosome maintenance complex component 7 |
| 6.93E-04 | 0.86 | PGAP3 | post-GPI attachment to proteins 3 |
| 7.65E-04 | 0.83 | KDELC1 | KDEL (Lys-Asp-Glu-Leu) containing 1 |
| 7.69E-04 | 0.85 | PPP3CA | protein phosphatase 3, catalytic subunit, alpha isozyme |
| 7.89E-04 | 0.86 | UBL3 | ubiquitin-like 3 |
| 1.10E-03 | 1.17 | HIPK2 | homeodomain interacting protein kinase 2 |
| 1.56E-03 | 1.16 | NCAPG2 | non-SMC condensin II complex, subunit G2 |
| 1.77E-03 | 1.21 | ZBTB10 | zinc finger and BTB domain containing 10 |
| 1.83E-03 | 0.78 | PDLIM3 | PDZ and LIM domain 3 |
| 2.84E-03 | 0.91 | RPL26 | ribosomal protein L26 |
| 2.93E-03 | 1.26 | CDH3 | cadherin 3, type 1, P-cadherin (placental) |
| 3.12E-03 | 0.95 | RPL19 | ribosomal protein L19 |
| 3.22E-03 | 0.93 | RPL23 | ribosomal protein L23 |
| 3.35E-03 | 0.90 | YTHDF1 | YTH domain family, member 1 |
| 3.62E-03 | 1.12 | AARS | alanyl-tRNA synthetase |
| 4.19E-03 | 0.88 | FECH | ferrochelatase |
| 4.83E-03 | 1.08 | NOTCH4 | notch 4 |
| 4.91E-03 | 0.90 | SYNRG | synergin, gamma |
| 5.57E-03 | 0.92 | TNFSF12 | tumor necrosis factor (ligand) superfamily, member 12 |
| 5.67E-03 | 0.91 | TPD52L2 | tumor protein D52-like 2 |
| 5.73E-03 | 0.90 | NDRG3 | NDRG family member 3 |
| 6.02E-03 | 1.04 | PDPR | pyruvate dehydrogenase phosphatase regulatory subunit |
| 6.07E-03 | 0.88 | BGLAP | bone gamma-carboxyglutamate (gla) protein |
| 6.24E-03 | 0.88 | SLMO2 | slowmo homolog 2 (Drosophila) |
| 6.31E-03 | 0.89 | RASA1 | RAS p21 protein activator (GTPase activating protein) 1 |
| 6.42E-03 | 0.89 | STX8 | syntaxin 8 |
| 6.44E-03 | 1.19 | PARP12 | poly (ADP-ribose) polymerase family, member 12 |
| 6.76E-03 | 0.88 | BLMH | bleomycin hydrolase |
| 6.83E-03 | 1.19 | MECOM | MDS1 and EVI1 complex locus |
| 6.94E-03 | 0.89 | COPS4 | COP9 constitutive photomorphogenic homolog subunit 4 (Arabidopsis) |
| 6.94E-03 | 0.90 | DNAJB14 | DnaJ (Hsp40) homolog, subfamily B, member 14 |
| 7.01E-03 | 1.09 | COG4 | component of oligomeric golgi complex 4 |
| 7.12E-03 | 1.36 | PRSS2 | protease, serine, 2 (trypsin 2) |
| 7.37E-03 | 0.96 | RPS23 | ribosomal protein S23 |
| 7.50E-03 | 0.90 | KRT10 | keratin 10 |
| 7.57E-03 | 0.89 | ALG5 | asparagine-linked glycosylation 5, dolichyl-phosphate beta-glucosyltransferase homolog (S. cerevisiae) |
| 7.65E-03 | 0.88 | FAM172A | family with sequence similarity 172, member A |
| 7.83E-03 | 1.10 | GINS3 | GINS complex subunit 3 (Psf3 homolog) |
| 8.16E-03 | 0.93 | C20orf4 | chromosome 20 open reading frame 4 |
| 8.18E-03 | 0.90 | PPP1R3D | protein phosphatase 1, regulatory (inhibitor) subunit 3D |
| 8.30E-03 | 1.11 | TRIM24 | tripartite motif containing 24 |
| 8.39E-03 | 0.88 | PPAP2A | phosphatidic acid phosphatase type 2A |
| 8.41E-03 | 1.08 | MYO7A | myosin VIIA |
| 8.41E-03 | 1.07 | GAS8 | growth arrest-specific 8 |
| 8.43E-03 | 0.92 | PTPN1 | protein tyrosine phosphatase, non-receptor type 1 |
| 8.51E-03 | 1.19 | EZH2 | enhancer of zeste homolog 2 (Drosophila) |
| 9.15E-03 | 1.23 | SLC7A11 | solute carrier family 7, (cationic amino acid transporter, y+ system) member 11 |
| 9.41E-03 | 0.87 | ENPP1 | ectonucleotide pyrophosphatase/phosphodiesterase 1 |
| 9.75E-03 | 0.91 | RWDD1 | RWD domain containing 1 |
| 9.96E-03 | 0.93 | TDRKH | tudor and KH domain containing |

**Supplementary Table 7: 422 significant genes included in the final model or signature**

|  |  |  |  |
| --- | --- | --- | --- |
| **Symbol** | **CR/IR** | **Name** | **Entrez ID** |
| PRSS2 | 1.34 | protease, serine, 2 (trypsin 2) | 5645 |
| PRSS1 | 1.32 | protease, serine, 1 (trypsin 1) | 5644 |
| CDH3 | 1.26 | cadherin 3, type 1, P-cadherin (placental) | 1001 |
| SLC7A11 | 1.21 | solute carrier family 7, (cationic amino acid transporter, y+ system) member 11 | 23657 |
| MCM4 | 1.2 | minichromosome maintenance complex component 4 | 4173 |
| ZBTB10 | 1.2 | zinc finger and BTB domain containing 10 | 65986 |
| MECOM | 1.2 | MDS1 and EVI1 complex locus | 2122 |
| PART1 | 1.2 | prostate androgen-regulated transcript 1 (non-protein coding) | 25859 |
| KIAA0020 | 1.19 | KIAA0020 | 9933 |
| MCM5 | 1.19 | minichromosome maintenance complex component 5 | 4174 |
| EZH2 | 1.19 | enhancer of zeste homolog 2 (Drosophila) | 2146 |
| GMPR | 1.19 | guanosine monophosphate reductase | 2766 |
| TRIO | 1.18 | triple functional domain (PTPRF interacting) | 7204 |
| C19orf54 | 1.18 | chromosome 19 open reading frame 54 | 284325 |
| HIPK2 | 1.18 | homeodomain interacting protein kinase 2 | 28996 |
| PARP12 | 1.18 | poly (ADP-ribose) polymerase family, member 12 | 64761 |
| GCNT1 | 1.17 | glucosaminyl (N-acetyl) transferase 1, core 2 | 2650 |
| C9orf82 | 1.17 | chromosome 9 open reading frame 82 | 79886 |
| NCAPG2 | 1.17 | non-SMC condensin II complex, subunit G2 | 54892 |
| SIRT5 | 1.17 | sirtuin 5 | 23408 |
| MYB | 1.17 | v-myb myeloblastosis viral oncogene homolog (avian) | 4602 |
| DROSHA | 1.16 | drosha, ribonuclease type III | 29102 |
| MCM7 | 1.16 | minichromosome maintenance complex component 7 | 4176 |
| ZNF85 | 1.16 | zinc finger protein 85 | 7639 |
| GPR19 | 1.16 | G protein-coupled receptor 19 | 2842 |
| PTN | 1.16 | pleiotrophin | 5764 |
| MARCH6 | 1.15 | membrane-associated ring finger (C3HC4) 6 | 10299 |
| ISYNA1 | 1.15 | inositol-3-phosphate synthase 1 | 51477 |
| POLE | 1.14 | polymerase (DNA directed), epsilon | 5426 |
| PLAGL2 | 1.14 | pleiomorphic adenoma gene-like 2 | 5326 |
| ENTPD5 | 1.13 | ectonucleoside triphosphate diphosphohydrolase 5 | 957 |
| LRRC8D | 1.13 | leucine rich repeat containing 8 family, member D | 55144 |
| BRD9 | 1.13 | bromodomain containing 9 | 65980 |
| WDR91 | 1.13 | WD repeat domain 91 | 29062 |
| MTAP | 1.12 | methylthioadenosine phosphorylase | 4507 |
| TRIM24 | 1.12 | tripartite motif containing 24 | 8805 |
| AARS | 1.12 | alanyl-tRNA synthetase | 16 |
| ZNF467 | 1.12 | zinc finger protein 467 | 168544 |
| CHD7 | 1.12 | chromodomain helicase DNA binding protein 7 | 55636 |
| STX17 | 1.11 | syntaxin 17 | 55014 |
| RFWD3 | 1.11 | ring finger and WD repeat domain 3 | 55159 |
| ZNF767 | 1.11 | zinc finger family member 767 | 79970 |
| PRRC2A | 1.11 | proline-rich coiled-coil 2A | 7916 |
| C11orf67 | 1.11 | chromosome 11 open reading frame 67 | 28971 |
| NARS2 | 1.11 | asparaginyl-tRNA synthetase 2, mitochondrial (putative) | 79731 |
| JARID2 | 1.11 | jumonji, AT rich interactive domain 2 | 3720 |
| GINS3 | 1.1 | GINS complex subunit 3 (Psf3 homolog) | 64785 |
| AKAP8L | 1.1 | A kinase (PRKA) anchor protein 8-like | 26993 |
| MAK | 1.1 | male germ cell-associated kinase | 4117 |
| COG4 | 1.09 | component of oligomeric golgi complex 4 | 25839 |
| UBAP2L | 1.09 | ubiquitin associated protein 2-like | 9898 |
| PAK4 | 1.09 | p21 protein (Cdc42/Rac)-activated kinase 4 | 10298 |
| DDX11 | 1.09 | DEAD/H (Asp-Glu-Ala-Asp/His) box polypeptide 11 | 1663 |
| ODZ1 | 1.09 | odz, odd Oz/ten-m homolog 1(Drosophila) | 10178 |
| C6orf26 | 1.09 | chromosome 6 open reading frame 26 | 401251 |
| RBM38 | 1.09 | RNA binding motif protein 38 | 55544 |
| MYBL2 | 1.09 | v-myb myeloblastosis viral oncogene homolog (avian)-like 2 | 4605 |
| TPX2 | 1.09 | TPX2, microtubule-associated, homolog (Xenopus laevis) | 22974 |
| PLSCR1 | 1.09 | phospholipid scramblase 1 | 5359 |
| NOTCH4 | 1.08 | notch 4 | 4855 |
| MYO7A | 1.08 | myosin VIIA | 4647 |
| WIZ | 1.08 | widely interspaced zinc finger motifs | 58525 |
| EHMT2 | 1.08 | euchromatic histone-lysine N-methyltransferase 2 | 10919 |
| ZC3HAV1 | 1.08 | zinc finger CCCH-type, antiviral 1 | 56829 |
| BRAF | 1.08 | v-raf murine sarcoma viral oncogene homolog B1 | 673 |
| WDR59 | 1.08 | WD repeat domain 59 | 79726 |
| PBX2 | 1.08 | pre-B-cell leukemia homeobox 2 | 5089 |
| ZNF395 | 1.08 | zinc finger protein 395 | 55893 |
| CEBPA | 1.08 | CCAAT/enhancer binding protein (C/EBP), alpha | 1050 |
| FXYD1 | 1.08 | FXYD domain containing ion transport regulator 1 | 5348 |
| TP53 | 1.08 | tumor protein p53 | 7157 |
| GAS8 | 1.07 | growth arrest-specific 8 | 2622 |
| MMP15 | 1.07 | matrix metallopeptidase 15 (membrane-inserted) | 4324 |
| FASTK | 1.07 | Fas-activated serine/threonine kinase | 10922 |
| FAM86B1 | 1.07 | family with sequence similarity 86, member B1 | 85002 |
| SPAG5 | 1.07 | sperm associated antigen 5 | 10615 |
| TAF1C | 1.06 | TATA box binding protein (TBP)-associated factor, RNA polymerase I, C, 110kDa | 9013 |
| LIPG | 1.06 | lipase, endothelial | 9388 |
| CASP2 | 1.06 | caspase 2, apoptosis-related cysteine peptidase | 835 |
| ZNF282 | 1.06 | zinc finger protein 282 | 8427 |
| DNASE2 | 1.06 | deoxyribonuclease II, lysosomal | 1777 |
| TCN2 | 1.06 | transcobalamin II | 6948 |
| HIVEP2 | 1.06 | human immunodeficiency virus type I enhancer binding protein 2 | 3097 |
| DPM3 | 1.06 | dolichyl-phosphate mannosyltransferase polypeptide 3 | 54344 |
| WNT5A | 1.06 | wingless-type MMTV integration site family, member 5A | 7474 |
| CLSTN3 | 1.05 | calsyntenin 3 | 9746 |
| LRRC61 | 1.05 | leucine rich repeat containing 61 | 65999 |
| RAD52 | 1.05 | RAD52 homolog (S. cerevisiae) | 5893 |
| CHD4 | 1.05 | chromodomain helicase DNA binding protein 4 | 1108 |
| PTMS | 1.05 | parathymosin | 5763 |
| KIAA0753 | 1.05 | KIAA0753 | 9851 |
| YWHAH | 1.05 | tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, eta polypeptide | 7533 |
| LAD1 | 1.05 | ladinin 1 | 3898 |
| ARGLU1 | 1.05 | arginine and glutamate rich 1 | 55082 |
| SETBP1 | 1.05 | SET binding protein 1 | 26040 |
| LSR | 1.05 | lipolysis stimulated lipoprotein receptor | 51599 |
| ZNF334 | 1.05 | zinc finger protein 334 | 55713 |
| BCL2 | 1.05 | B-cell CLL/lymphoma 2 | 596 |
| CASC1 | 1.05 | cancer susceptibility candidate 1 | 55259 |
| WISP3 | 1.05 | WNT1 inducible signaling pathway protein 3 | 8838 |
| CXCL9 | 1.05 | chemokine (C-X-C motif) ligand 9 | 4283 |
| ZNF695 | 1.04 | zinc finger protein 695 | 57116 |
| PDPR | 1.04 | pyruvate dehydrogenase phosphatase regulatory subunit | 55066 |
| E2F1 | 1.04 | E2F transcription factor 1 | 1869 |
| PLD1 | 1.04 | phospholipase D1, phosphatidylcholine-specific | 5337 |
| AKT2 | 1.04 | v-akt murine thymoma viral oncogene homolog 2 | 208 |
| NRF1 | 1.04 | nuclear respiratory factor 1 | 4899 |
| ZNF384 | 1.04 | zinc finger protein 384 | 171017 |
| BANP | 1.04 | BTG3 associated nuclear protein | 54971 |
| MDN1 | 1.04 | MDN1, midasin homolog (yeast) | 23195 |
| GTPBP3 | 1.04 | GTP binding protein 3 (mitochondrial) | 84705 |
| PRPF3 | 1.04 | PRP3 pre-mRNA processing factor 3 homolog (S. cerevisiae) | 9129 |
| KIAA0907 | 1.04 | KIAA0907 | 22889 |
| POGZ | 1.04 | pogo transposable element with ZNF domain | 23126 |
| ECH1 | 1.04 | enoyl CoA hydratase 1, peroxisomal | 1891 |
| CHERP | 1.04 | calcium homeostasis endoplasmic reticulum protein | 10523 |
| DENND5B | 1.04 | DENN/MADD domain containing 5B | 160518 |
| NAA16 | 1.04 | N(alpha)-acetyltransferase 16, NatA auxiliary subunit | 79612 |
| SIAH2 | 1.04 | seven in absentia homolog 2 (Drosophila) | 6478 |
| PSTPIP2 | 1.04 | proline-serine-threonine phosphatase interacting protein 2 | 9050 |
| TYRO3 | 1.04 | TYRO3 protein tyrosine kinase | 7301 |
| SMARCA4 | 1.04 | SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 4 | 6597 |
| SPRY2 | 1.04 | sprouty homolog 2 (Drosophila) | 10253 |
| FAM76A | 1.03 | family with sequence similarity 76, member A | 199870 |
| ZNF778 | 1.03 | zinc finger protein 778 | 197320 |
| SLC1A2 | 1.03 | solute carrier family 1 (glial high affinity glutamate transporter), member 2 | 6506 |
| CRTC1 | 1.03 | CREB regulated transcription coactivator 1 | 23373 |
| TMEM209 | 1.03 | transmembrane protein 209 | 84928 |
| SLCO1A2 | 1.03 | solute carrier organic anion transporter family, member 1A2 | 6579 |
| SMO | 1.03 | smoothened homolog (Drosophila) | 6608 |
| PAFAH1B2 | 1.03 | platelet-activating factor acetylhydrolase 1b, catalytic subunit 2 (30kDa) | 5049 |
| RALY | 1.03 | RNA binding protein, autoantigenic (hnRNP-associated with lethal yellow homolog (mouse)) | 22913 |
| AKAP3 | 1.03 | A kinase (PRKA) anchor protein 3 | 10566 |
| COX4I1 | 1.03 | cytochrome c oxidase subunit IV isoform 1 | 1327 |
| TARS2 | 1.03 | threonyl-tRNA synthetase 2, mitochondrial (putative) | 80222 |
| MICAL1 | 1.03 | microtubule associated monoxygenase, calponin and LIM domain containing 1 | 64780 |
| DPP3 | 1.03 | dipeptidyl-peptidase 3 | 10072 |
| USP21 | 1.03 | ubiquitin specific peptidase 21 | 27005 |
| SETDB1 | 1.03 | SET domain, bifurcated 1 | 9869 |
| WDR60 | 1.03 | WD repeat domain 60 | 55112 |
| VPS72 | 1.03 | vacuolar protein sorting 72 homolog (S. cerevisiae) | 6944 |
| MYH9 | 1.03 | myosin, heavy chain 9, non-muscle | 4627 |
| PTK2 | 1.03 | PTK2 protein tyrosine kinase 2 | 5747 |
| PGLS | 1.03 | 6-phosphogluconolactonase | 25796 |
| DCAF15 | 1.03 | DDB1 and CUL4 associated factor 15 | 90379 |
| APOL2 | 1.03 | apolipoprotein L, 2 | 23780 |
| ZNF44 | 1.03 | zinc finger protein 44 | 51710 |
| TRMT1 | 1.03 | TRM1 tRNA methyltransferase 1 homolog (S. cerevisiae) | 55621 |
| AURKB | 1.03 | aurora kinase B | 9212 |
| ADAMTS3 | 1.03 | ADAM metallopeptidase with thrombospondin type 1 motif, 3 | 9508 |
| TMEM231 | 1.03 | transmembrane protein 231 | 79583 |
| APOL1 | 1.03 | apolipoprotein L, 1 | 8542 |
| KLRAP1 | 1.02 | killer cell lectin-like receptor subfamily A pseudogene 1 | 10748 |
| RPS20 | 1.02 | ribosomal protein S20 | 6224 |
| PIP5K1A | 1.02 | phosphatidylinositol-4-phosphate 5-kinase, type I, alpha | 8394 |
| RBM12 | 1.02 | RNA binding motif protein 12 | 10137 |
| SEC62 | 1.02 | SEC62 homolog (S. cerevisiae) | 7095 |
| ZNF212 | 1.02 | zinc finger protein 212 | 7988 |
| CLK2 | 1.02 | CDC-like kinase 2 | 1196 |
| PFDN2 | 1.02 | prefoldin subunit 2 | 5202 |
| ACTR3B | 1.02 | ARP3 actin-related protein 3 homolog B (yeast) | 57180 |
| PCM1 | 1.02 | pericentriolar material 1 | 5108 |
| SYNE1 | 1.02 | spectrin repeat containing, nuclear envelope 1 | 23345 |
| LIF | 1.02 | leukemia inhibitory factor (cholinergic differentiation factor) | 3976 |
| JUNB | 1.02 | jun B proto-oncogene | 3726 |
| HMBOX1 | 1.02 | homeobox containing 1 | 79618 |
| AURKA | 1.02 | aurora kinase A | 6790 |
| DERL1 | 1.02 | Der1-like domain family, member 1 | 79139 |
| LRRC23 | 1.02 | leucine rich repeat containing 23 | 10233 |
| DUSP4 | 1.02 | dual specificity phosphatase 4 | 1846 |
| SNAI1 | 1.01 | snail homolog 1 (Drosophila) | 6615 |
| OR7C2 | 1.01 | olfactory receptor, family 7, subfamily C, member 2 | 26658 |
| TSGA14 | 1.01 | testis specific, 14 | 95681 |
| HAUS5 | 1.01 | HAUS augmin-like complex, subunit 5 | 23354 |
| APOM | 1.01 | apolipoprotein M | 55937 |
| JRK | 1.01 | jerky homolog (mouse) | 8629 |
| LPPR2 | 1.01 | lipid phosphate phosphatase-related protein type 2 | 64748 |
| ZNF236 | 1.01 | zinc finger protein 236 | 7776 |
| SUGP2 | 1.01 | SURP and G patch domain containing 2 | 10147 |
| NFIX | 1.01 | nuclear factor I/X (CCAAT-binding transcription factor) | 4784 |
| MGA | 1.01 | MAX gene associated | 23269 |
| HLF | 1.01 | hepatic leukemia factor | 3131 |
| AKAP8 | 1.01 | A kinase (PRKA) anchor protein 8 | 10270 |
| RAP2B | 1.01 | RAP2B, member of RAS oncogene family | 5912 |
| TYMP | 1.01 | thymidine phosphorylase | 1890 |
| CCDC130 | 1.01 | coiled-coil domain containing 130 | 81576 |
| SIN3B | 1.01 | SIN3 homolog B, transcription regulator (yeast) | 23309 |
| MARCH6 | 1.01 | membrane-associated ring finger (C3HC4) 7 | 64844 |
| ATF6B | 1.01 | activating transcription factor 6 beta | 1388 |
| DLGAP4 | 1.01 | discs, large (Drosophila) homolog-associated protein 4 | 22839 |
| DCLK1 | 1.01 | doublecortin-like kinase 1 | 9201 |
| SFRS18 | 1.01 | splicing factor, arginine/serine-rich 18 | 25957 |
| LHFPL2 | 1.01 | lipoma HMGIC fusion partner-like 2 | 10184 |
| PHC1 | 1.01 | polyhomeotic homolog 1 (Drosophila) | 1911 |
| MTERFD1 | 1.01 | MTERF domain containing 1 | 51001 |
| MRPL40 | 1.01 | mitochondrial ribosomal protein L40 | 64976 |
| CCDC109B | 1.01 | coiled-coil domain containing 109B | 55013 |
| WRAP53 | 1 | WD repeat containing, antisense to TP53 | 55135 |
| UBOX5 | 1 | U-box domain containing 5 | 22888 |
| AP1B1 | 1 | adaptor-related protein complex 1, beta 1 subunit | 162 |
| GNAZ | 1 | guanine nucleotide binding protein (G protein), alpha z polypeptide | 2781 |
| MAU2 | 1 | MAU2 chromatid cohesion factor homolog (C. elegans) | 23383 |
| RNF13 | 1 | ring finger protein 13 | 11342 |
| EFNA3 | 1 | ephrin-A3 | 1944 |
| PPP3CC | 1 | protein phosphatase 3, catalytic subunit, gamma isozyme | 5533 |
| GGT5 | 1 | gamma-glutamyltransferase 5 | 2687 |
| ZNF516 | 1 | zinc finger protein 516 | 9658 |
| PEPD | 1 | peptidase D | 5184 |
| HMOX1 | 1 | heme oxygenase (decycling) 1 | 3162 |
| CAPRIN2 | 1 | caprin family member 2 | 65981 |
| LRP6 | 1 | low density lipoprotein receptor-related protein 6 | 4040 |
| ANO2 | 1 | anoctamin 2 | 57101 |
| CCR7 | 1 | chemokine (C-C motif) receptor 7 | 1236 |
| DCUN1D2 | 1 | DCN1, defective in cullin neddylation 1, domain containing 2 (S. cerevisiae) | 55208 |
| MFAP3L | 1 | microfibrillar-associated protein 3-like | 9848 |
| TULP3 | 1 | tubby like protein 3 | 7289 |
| NCF4 | 1 | neutrophil cytosolic factor 4, 40kDa | 4689 |
| SMARCA5 | 1 | SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 5 | 8467 |
| FAM65A | 1 | family with sequence similarity 65, member A | 79567 |
| DNAJC3 | 1 | DnaJ (Hsp40) homolog, subfamily C, member 3 | 5611 |
| TPT1 | 0.99 | tumor protein, translationally-controlled 1 | 7178 |
| ELL2 | 0.99 | elongation factor, RNA polymerase II, 2 | 22936 |
| SERF2 | 0.99 | small EDRK-rich factor 2 | 10169 |
| PDGFB | 0.99 | platelet-derived growth factor beta polypeptide (simian sarcoma viral (v-sis) oncogene homolog) | 5155 |
| SCNM1 | 0.99 | sodium channel modifier 1 | 79005 |
| L3MBTL1 | 0.99 | l(3)mbt-like 1 (Drosophila) | 26013 |
| LAPTM4B | 0.99 | lysosomal protein transmembrane 4 beta | 55353 |
| TOMM22 | 0.99 | translocase of outer mitochondrial membrane 22 homolog (yeast) | 56993 |
| CHD1 | 0.99 | chromodomain helicase DNA binding protein 1 | 1105 |
| MRAS | 0.99 | muscle RAS oncogene homolog | 22808 |
| BCKDK | 0.99 | branched chain ketoacid dehydrogenase kinase | 10295 |
| SMYD5 | 0.99 | SMYD family member 5 | 10322 |
| NSFL1C | 0.99 | NSFL1 (p97) cofactor (p47) | 55968 |
| PPOX | 0.99 | protoporphyrinogen oxidase | 5498 |
| IL2RB | 0.99 | interleukin 2 receptor, beta | 3560 |
| QTRT1 | 0.99 | queuine tRNA-ribosyltransferase 1 | 81890 |
| PSD3 | 0.99 | pleckstrin and Sec7 domain containing 3 | 23362 |
| NAGA | 0.99 | N-acetylgalactosaminidase, alpha- | 4668 |
| KIAA0528 | 0.99 | KIAA0528 | 9847 |
| INPP4B | 0.99 | inositol polyphosphate-4-phosphatase, type II, 105kDa | 8821 |
| SCHIP1 | 0.99 | schwannomin interacting protein 1 | 29970 |
| PEX5 | 0.99 | peroxisomal biogenesis factor 5 | 5830 |
| LOC91316 | 0.99 | glucuronidase, beta/immunoglobulin lambda-like polypeptide 1 pseudogene | 91316 |
| ZSWIM1 | 0.98 | zinc finger, SWIM-type containing 1 | 90204 |
| LOC729991 | 0.98 | hypothetical protein LOC729991 | 729991 |
| PTCD2 | 0.98 | pentatricopeptide repeat domain 2 | 79810 |
| KLHL26 | 0.98 | kelch-like 26 (Drosophila) | 55295 |
| ASXL1 | 0.98 | additional sex combs like 1 (Drosophila) | 171023 |
| OSBPL2 | 0.98 | oxysterol binding protein-like 2 | 9885 |
| TBC1D22A | 0.98 | TBC1 domain family, member 22A | 25771 |
| SYDE1 | 0.98 | synapse defective 1, Rho GTPase, homolog 1 (C. elegans) | 85360 |
| EFNA4 | 0.98 | ephrin-A4 | 1945 |
| CBFA2T2 | 0.98 | core-binding factor, runt domain, alpha subunit 2; translocated to, 2 | 9139 |
| SC4MOL | 0.98 | sterol-C4-methyl oxidase-like | 6307 |
| CTSO | 0.98 | cathepsin O | 1519 |
| EPS8 | 0.98 | epidermal growth factor receptor pathway substrate 8 | 2059 |
| C6orf124 | 0.98 | chromosome 6 open reading frame 124 | 653483 |
| PLLP | 0.98 | plasmolipin | 51090 |
| CSF2RB | 0.98 | colony stimulating factor 2 receptor, beta, low-affinity (granulocyte-macrophage) | 1439 |
| SLC39A8 | 0.98 | solute carrier family 39 (zinc transporter), member 8 | 64116 |
| ST18 | 0.97 | suppression of tumorigenicity 18 (breast carcinoma) (zinc finger protein) | 9705 |
| STEAP4 | 0.97 | STEAP family member 4 | 79689 |
| ARL15 | 0.97 | ADP-ribosylation factor-like 15 | 54622 |
| SIRT2 | 0.97 | sirtuin 2 | 22933 |
| SERHL2 | 0.97 | serine hydrolase-like 2 | 253190 |
| RGNEF | 0.97 | 190 kDa guanine nucleotide exchange factor | 64283 |
| DNAJC13 | 0.97 | DnaJ (Hsp40) homolog, subfamily C, member 13 | 23317 |
| PSMD3 | 0.97 | proteasome (prosome, macropain) 26S subunit, non-ATPase, 3 | 5709 |
| ANKRD27 | 0.97 | ankyrin repeat domain 27 (VPS9 domain) | 84079 |
| SYNGR1 | 0.97 | synaptogyrin 1 | 9145 |
| ARFGAP3 | 0.97 | ADP-ribosylation factor GTPase activating protein 3 | 26286 |
| CDC40 | 0.97 | cell division cycle 40 homolog (S. cerevisiae) | 51362 |
| MEF2C | 0.97 | myocyte enhancer factor 2C | 4208 |
| GOLT1B | 0.97 | golgi transport 1B | 51026 |
| GAS2L1 | 0.97 | growth arrest-specific 2 like 1 | 10634 |
| SPRY1 | 0.97 | sprouty homolog 1, antagonist of FGF signaling (Drosophila) | 10252 |
| SMPDL3A | 0.97 | sphingomyelin phosphodiesterase, acid-like 3A | 10924 |
| DLC1 | 0.97 | deleted in liver cancer 1 | 10395 |
| KDELR3 | 0.97 | KDEL (Lys-Asp-Glu-Leu) endoplasmic reticulum protein retention receptor 3 | 11015 |
| RPS23 | 0.96 | ribosomal protein S23 | 6228 |
| ENOX1 | 0.96 | ecto-NOX disulfide-thiol exchanger 1 | 55068 |
| EIF2B5 | 0.96 | eukaryotic translation initiation factor 2B, subunit 5 epsilon, 82kDa | 8893 |
| B2M | 0.96 | beta-2-microglobulin | 567 |
| C1orf77 | 0.96 | chromosome 1 open reading frame 77 | 26097 |
| ARL2BP | 0.96 | ADP-ribosylation factor-like 2 binding protein | 23568 |
| AP3M2 | 0.96 | adaptor-related protein complex 3, mu 2 subunit | 10947 |
| TUBGCP4 | 0.96 | tubulin, gamma complex associated protein 4 | 27229 |
| MAVS | 0.96 | mitochondrial antiviral signaling protein | 57506 |
| NQO1 | 0.96 | NAD(P)H dehydrogenase, quinone 1 | 1728 |
| ZFPM2 | 0.96 | zinc finger protein, multitype 2 | 23414 |
| RPL19 | 0.95 | ribosomal protein L19 | 6143 |
| SHC1 | 0.95 | SHC (Src homology 2 domain containing) transforming protein 1 | 6464 |
| EIF3J | 0.95 | eukaryotic translation initiation factor 3, subunit J | 8669 |
| FGFR1OP | 0.95 | FGFR1 oncogene partner | 11116 |
| ARFGEF2 | 0.95 | ADP-ribosylation factor guanine nucleotide-exchange factor 2 (brefeldin A-inhibited) | 10564 |
| ITM2B | 0.95 | integral membrane protein 2B | 9445 |
| TRIM13 | 0.95 | tripartite motif containing 13 | 10206 |
| MSL1 | 0.95 | male-specific lethal 1 homolog (Drosophila) | 339287 |
| SRSF6 | 0.95 | serine/arginine-rich splicing factor 6 | 6431 |
| SREBF1 | 0.95 | sterol regulatory element binding transcription factor 1 | 6720 |
| CSNK2A2 | 0.95 | casein kinase 2, alpha prime polypeptide | 1459 |
| TTC37 | 0.95 | tetratricopeptide repeat domain 37 | 9652 |
| MARCKS | 0.95 | myristoylated alanine-rich protein kinase C substrate | 4082 |
| PLOD2 | 0.95 | procollagen-lysine, 2-oxoglutarate 5-dioxygenase 2 | 5352 |
| TOM1 | 0.94 | target of myb1 (chicken) | 10043 |
| TDRKH | 0.94 | tudor and KH domain containing | 11022 |
| MCTP1 | 0.94 | multiple C2 domains, transmembrane 1 | 79772 |
| CTSA | 0.94 | cathepsin A | 5476 |
| IFT52 | 0.94 | intraflagellar transport 52 homolog (Chlamydomonas) | 51098 |
| SSR3 | 0.94 | signal sequence receptor, gamma (translocon-associated protein gamma) | 6747 |
| GAS7 | 0.94 | growth arrest-specific 7 | 8522 |
| GLRX | 0.94 | glutaredoxin (thioltransferase) | 2745 |
| GUCY1A3 | 0.94 | guanylate cyclase 1, soluble, alpha 3 | 2982 |
| PDGFRL | 0.94 | platelet-derived growth factor receptor-like | 5157 |
| MATK | 0.93 | megakaryocyte-associated tyrosine kinase | 4145 |
| RPL23 | 0.93 | ribosomal protein L23 | 9349 |
| TNFSF12 | 0.93 | tumor necrosis factor (ligand) superfamily, member 12 | 8742 |
| C20orf4 | 0.93 | chromosome 20 open reading frame 4 | 25980 |
| C15orf24 | 0.93 | chromosome 15 open reading frame 24 | 56851 |
| PEX11B | 0.93 | peroxisomal biogenesis factor 11 beta | 8799 |
| MN1 | 0.93 | meningioma (disrupted in balanced translocation) 1 | 4330 |
| C6orf120 | 0.93 | chromosome 6 open reading frame 120 | 387263 |
| ANAPC10 | 0.93 | anaphase promoting complex subunit 10 | 10393 |
| AP1M2 | 0.93 | adaptor-related protein complex 1, mu 2 subunit | 10053 |
| SLC46A3 | 0.93 | solute carrier family 46, member 3 | 283537 |
| MEIS3P1 | 0.93 | Meis homeobox 3 pseudogene 1 | 4213 |
| ICAM1 | 0.93 | intercellular adhesion molecule 1 | 3383 |
| AKAP12 | 0.93 | A kinase (PRKA) anchor protein 12 | 9590 |
| IGLL3P | 0.93 | immunoglobulin lambda-like polypeptide 3, pseudogene | 91353 |
| PTPN1 | 0.92 | protein tyrosine phosphatase, non-receptor type 1 | 5770 |
| SNAP23 | 0.92 | synaptosomal-associated protein, 23kDa | 8773 |
| DNAJB12 | 0.92 | DnaJ (Hsp40) homolog, subfamily B, member 12 | 54788 |
| HEXB | 0.92 | hexosaminidase B (beta polypeptide) | 3074 |
| UFM1 | 0.92 | ubiquitin-fold modifier 1 | 51569 |
| ATP6V1B2 | 0.92 | ATPase, H+ transporting, lysosomal 56/58kDa, V1 subunit B2 | 526 |
| SEC24D | 0.92 | SEC24 family, member D (S. cerevisiae) | 9871 |
| PDLIM5 | 0.92 | PDZ and LIM domain 5 | 10611 |
| OSTM1 | 0.92 | osteopetrosis associated transmembrane protein 1 | 28962 |
| PDLIM2 | 0.92 | PDZ and LIM domain 2 (mystique) | 64236 |
| TSPO | 0.92 | translocator protein (18kDa) | 706 |
| NAAA | 0.92 | N-acylethanolamine acid amidase | 27163 |
| ATP6V1C1 | 0.92 | ATPase, H+ transporting, lysosomal 42kDa, V1 subunit C1 | 528 |
| TLR2 | 0.92 | toll-like receptor 2 | 7097 |
| LHFP | 0.92 | lipoma HMGIC fusion partner | 10186 |
| DSE | 0.92 | dermatan sulfate epimerase | 29940 |
| ATP6V1A | 0.91 | ATPase, H+ transporting, lysosomal 70kDa, V1 subunit A | 523 |
| RPL26 | 0.91 | ribosomal protein L26 | 6154 |
| MAPKBP1 | 0.91 | mitogen-activated protein kinase binding protein 1 | 23005 |
| TPD52L2 | 0.91 | tumor protein D52-like 2 | 7165 |
| NDUFAF1 | 0.91 | NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, assembly factor 1 | 51103 |
| AGGF1 | 0.91 | angiogenic factor with G patch and FHA domains 1 | 55109 |
| NDRG3 | 0.91 | NDRG family member 3 | 57446 |
| PDE4A | 0.91 | phosphodiesterase 4A, cAMP-specific | 5141 |
| RWDD1 | 0.91 | RWD domain containing 1 | 51389 |
| PPP1R3D | 0.91 | protein phosphatase 1, regulatory (inhibitor) subunit 3D | 5509 |
| PGRMC2 | 0.91 | progesterone receptor membrane component 2 | 10424 |
| MFSD1 | 0.91 | major facilitator superfamily domain containing 1 | 64747 |
| SERINC1 | 0.91 | serine incorporator 1 | 57515 |
| IL6ST | 0.91 | interleukin 6 signal transducer (gp130, oncostatin M receptor) | 3572 |
| SUCLA2 | 0.91 | succinate-CoA ligase, ADP-forming, beta subunit | 8803 |
| PLK2 | 0.91 | polo-like kinase 2 | 10769 |
| DPT | 0.9 | dermatopontin | 1805 |
| PKD2 | 0.9 | polycystic kidney disease 2 (autosomal dominant) | 5311 |
| YTHDF1 | 0.9 | YTH domain family, member 1 | 54915 |
| SYNRG | 0.9 | synergin, gamma | 11276 |
| NSA2 | 0.9 | NSA2 ribosome biogenesis homolog (S. cerevisiae) | 10412 |
| DNAJB14 | 0.9 | DnaJ (Hsp40) homolog, subfamily B, member 14 | 79982 |
| STX8 | 0.9 | syntaxin 8 | 9482 |
| KRT10 | 0.9 | keratin 10 | 3858 |
| PGCP | 0.9 | plasma glutamate carboxypeptidase | 10404 |
| RAC2 | 0.9 | ras-related C3 botulinum toxin substrate 2 (rho family, small GTP binding protein Rac2) | 5880 |
| F2R | 0.9 | coagulation factor II (thrombin) receptor | 2149 |
| MAN1A1 | 0.9 | mannosidase, alpha, class 1A, member 1 | 4121 |
| CCNH | 0.89 | cyclin H | 902 |
| FECH | 0.89 | ferrochelatase | 2235 |
| RASA1 | 0.89 | RAS p21 protein activator (GTPase activating protein) 1 | 5921 |
| ALG5 | 0.89 | asparagine-linked glycosylation 5, dolichyl-phosphate beta-glucosyltransferase homolog (S. cerevisiae) | 29880 |
| COPS4 | 0.89 | COP9 constitutive photomorphogenic homolog subunit 4 (Arabidopsis) | 51138 |
| BGLAP | 0.89 | bone gamma-carboxyglutamate (gla) protein | 632 |
| WTAP | 0.89 | Wilms tumor 1 associated protein | 9589 |
| MLX | 0.88 | MAX-like protein X | 6945 |
| DUSP14 | 0.88 | dual specificity phosphatase 14 | 11072 |
| RIN2 | 0.88 | Ras and Rab interactor 2 | 54453 |
| MFAP3 | 0.88 | microfibrillar-associated protein 3 | 4238 |
| SLMO2 | 0.88 | slowmo homolog 2 (Drosophila) | 51012 |
| PPAP2A | 0.88 | phosphatidic acid phosphatase type 2A | 8611 |
| FAM172A | 0.88 | family with sequence similarity 172, member A | 83989 |
| TPST2 | 0.88 | tyrosylprotein sulfotransferase 2 | 8459 |
| MAF | 0.88 | v-maf musculoaponeurotic fibrosarcoma oncogene homolog (avian) | 4094 |
| IGFBP4 | 0.88 | insulin-like growth factor binding protein 4 | 3487 |
| ACSL1 | 0.88 | acyl-CoA synthetase long-chain family member 1 | 2180 |
| C13orf15 | 0.88 | chromosome 13 open reading frame 15 | 28984 |
| RHOBTB3 | 0.88 | Rho-related BTB domain containing 3 | 22836 |
| THBS1 | 0.88 | thrombospondin 1 | 7057 |
| RHOT1 | 0.87 | ras homolog gene family, member T1 | 55288 |
| C10orf26 | 0.87 | chromosome 10 open reading frame 26 | 54838 |
| BLMH | 0.87 | bleomycin hydrolase | 642 |
| RAB32 | 0.87 | RAB32, member RAS oncogene family | 10981 |
| UBL3 | 0.86 | ubiquitin-like 3 | 5412 |
| PGAP3 | 0.86 | post-GPI attachment to proteins 3 | 93210 |
| ENPP1 | 0.86 | ectonucleotide pyrophosphatase/phosphodiesterase 1 | 5167 |
| EVI2A | 0.86 | ecotropic viral integration site 2A | 2123 |
| FBLN1 | 0.86 | fibulin 1 | 2192 |
| PPP3CA | 0.85 | protein phosphatase 3, catalytic subunit, alpha isozyme | 5530 |
| CCL11 | 0.85 | chemokine (C-C motif) ligand 11 | 6356 |
| TDO2 | 0.85 | tryptophan 2,3-dioxygenase | 6999 |
| CCPG1 | 0.84 | cell cycle progression 1 | 9236 |
| RB1 | 0.84 | retinoblastoma 1 | 5925 |
| PPIC | 0.84 | peptidylprolyl isomerase C (cyclophilin C) | 5480 |
| PMP22 | 0.84 | peripheral myelin protein 22 | 5376 |
| KDELC1 | 0.83 | KDEL (Lys-Asp-Glu-Leu) containing 1 | 79070 |
| EDNRA | 0.83 | endothelin receptor type A | 1909 |
| OLFML1 | 0.82 | olfactomedin-like 1 | 283298 |
| FZD1 | 0.81 | frizzled homolog 1 (Drosophila) | 8321 |
| OMD | 0.79 | osteomodulin | 4958 |
| COPZ2 | 0.78 | coatomer protein complex, subunit zeta 2 | 51226 |
| PDLIM3 | 0.78 | PDZ and LIM domain 3 | 27295 |
| OLFML3 | 0.76 | olfactomedin-like 3 | 56944 |
| PDGFD | 0.76 | platelet derived growth factor D | 80310 |
| NUAK1 | 0.75 | NUAK family, SNF1-like kinase, 1 | 9891 |
| TIMP3 | 0.7 | TIMP metallopeptidase inhibitor 3 | 7078 |
| FAP | 0.7 | fibroblast activation protein, alpha | 2191 |

**Supplementary Table 8: Pathways and biological processes identified with the software for enrichment analysis GeneGo. These pathways were overrepresented in cluster #1 of the NMF consensus clustering**

|  |  |  |  |
| --- | --- | --- | --- |
| **Maps** | **p-value** | **FDR** | **Network Objects** |
| [Immune response\_Oncostatin M signaling via JAK-Stat in human cells](http://portal.genego.com/cgi/imagemap.cgi?id=2207) | 3.755E-05 | 6.709E-03 | Eotaxin, LIFR, gp130, LIF receptor |
| [NF-AT signaling in cardiac hypertrophy](http://portal.genego.com/cgi/imagemap.cgi?id=2235) | 3.946E-05 | 6.709E-03 | Shc, MEF2C, LIF, Calcineurin A (catalytic), gp130, LIF receptor |
| [Immune response\_Function of MEF2 in T lymphocytes](http://portal.genego.com/cgi/imagemap.cgi?id=541) | 1.350E-04 | 1.530E-02 | PKC, MEF2C, Calcineurin A (catalytic), MEF2, 14-3-3 |
| [Signal transduction\_Erk Interactions: Inhibition of Erk](http://portal.genego.com/cgi/imagemap.cgi?id=447) | 3.236E-04 | 2.751E-02 | MKP-2, PKC, Calcineurin A (catalytic), MKP-4 |
| [Immune response\_Oncostatin M signaling via MAPK in human cells](http://portal.genego.com/cgi/imagemap.cgi?id=2204) | 4.506E-04 | 3.064E-02 | Shc, LIFR, gp130, LIF receptor |
| [Regulation of lipid metabolism\_Regulation of fatty acid synthase activity in hepatocytes](http://portal.genego.com/cgi/imagemap.cgi?id=143) | 7.958E-04 | 4.510E-02 | SREBP1 (Golgi membrane), SREBP1 precursor, SREBP1 (nuclear) |
| [Some pathways of EMT in cancer cells](http://portal.genego.com/cgi/imagemap.cgi?id=3017) | 1.536E-03 | 6.020E-02 | Shc, EDNRA, PDGF-D, PDGF-B |
| [Regulation of lipid metabolism\_Insulin regulation of fatty acid methabolism](http://portal.genego.com/cgi/imagemap.cgi?id=726) | 1.781E-03 | 6.020E-02 | SREBP1 (Golgi membrane), Shc, SREBP1 precursor, ACSL1, SREBP1 (nuclear) |
| [Transcription\_Transcription regulation of aminoacid metabolism](http://portal.genego.com/cgi/imagemap.cgi?id=470) | 1.810E-03 | 6.020E-02 | c-Maf, PKC, Rb protein |
| [Development\_Role of HDAC and calcium/calmodulin-dependent kinase (CaMK) in control of skeletal myogenesis](http://portal.genego.com/cgi/imagemap.cgi?id=440) | 1.901E-03 | 6.020E-02 | MEF2C, Calcineurin A (catalytic), MEF2, 14-3-3 |
| [G-protein signaling\_Rap2B regulation pathway](http://portal.genego.com/cgi/imagemap.cgi?id=395) | 1.948E-03 | 6.020E-02 | RAP-2B, M-Ras |
| [Triacylglycerol metabolism p.2](http://portal.genego.com/cgi/imagemap.cgi?id=839) | 2.524E-03 | 7.152E-02 | LPP1, CEL, LIPE |
| [Development\_Regulation of epithelial-to-mesenchymal transition (EMT)](http://portal.genego.com/cgi/imagemap.cgi?id=3018) | 3.545E-03 | 9.272E-02 | Frizzled, EDNRA, PDGF-D, PDGF-B |

**Supplementary Table 9: Pathways and biological processes identified with the software for enrichment analysis GeneGo. These pathways overrepresented in cluster #2 of the NMF consensus clustering**

|  |  |  |  |
| --- | --- | --- | --- |
| **Maps** | **p-value** | **FDR** | **Network Objects from Active Data** |
| [Cell cycle\_Chromosome condensation in prometaphase](http://portal.genego.com/cgi/imagemap.cgi?id=709) | 3.101E-05 | 8.735E-03 | Aurora-B, AKAP8, CAP-G/G2, Aurora-A |
| [G-protein signaling\_Cross-talk between Ras-family GTPases](http://portal.genego.com/cgi/imagemap.cgi?id=408) | 4.526E-05 | 8.735E-03 | B-Raf, PLD1, AKT(PKB), p120GAP |
| [Immune response\_C5a signaling](http://portal.genego.com/cgi/imagemap.cgi?id=6453) | 7.605E-05 | 9.785E-03 | G-protein alpha-i family, B-Raf, Bcl-2, PLD1, AKT(PKB) |
| [Cell adhesion\_Ephrin signaling](http://portal.genego.com/cgi/imagemap.cgi?id=649) | 6.566E-04 | 4.989E-02 | Ephrin-A, G-protein alpha-i family, FAK1, p120GAP |
| [DNA damage\_Inhibition of telomerase activity and cellular senescence](http://portal.genego.com/cgi/imagemap.cgi?id=4862) | 6.941E-04 | 4.989E-02 | p53, AKT(PKB), E2F1 |
| [Development\_Leptin signaling via PI3K-dependent pathway](http://portal.genego.com/cgi/imagemap.cgi?id=719) | 7.755E-04 | 4.989E-02 | PTP-1B, C/EBPalpha, AKT(PKB), AKT2 |
| [Chemotaxis\_Inhibitory action of lipoxins on IL-8- and Leukotriene B4-induced neutrophil migration](http://portal.genego.com/cgi/imagemap.cgi?id=2731) | 1.058E-03 | 5.346E-02 | G-protein alpha-i family, PIP5KI, PLD1, AKT(PKB) |
| [Development\_WNT signaling pathway. Part 2](http://portal.genego.com/cgi/imagemap.cgi?id=516) | 1.223E-03 | 5.346E-02 | Casein kinase II, alpha chains, SNAIL1, BRG1, WNT |
| [Apoptosis and survival\_Apoptotic Activin A signaling](http://portal.genego.com/cgi/imagemap.cgi?id=2476) | 1.356E-03 | 5.346E-02 | p53, AKT(PKB), p120GAP |
| [Impaired inhibitory action of lipoxins on neutrophil migration in CF](http://portal.genego.com/cgi/imagemap.cgi?id=2692) | 1.503E-03 | 5.346E-02 | G-protein alpha-i family, PIP5KI, PLD1, AKT(PKB) |
| [Cell adhesion\_Cadherin-mediated cell adhesion](http://portal.genego.com/cgi/imagemap.cgi?id=2122) | 1.524E-03 | 5.346E-02 | P-cadherin, M-cadherin, FAK1 |
| [Cell adhesion\_Chemokines and adhesion](http://portal.genego.com/cgi/imagemap.cgi?id=716) | 1.913E-03 | 5.846E-02 | TRIO, G-protein alpha-i family, B-Raf, AKT(PKB), FAK1 |
| [Apoptosis and survival\_p53-dependent apoptosis](http://portal.genego.com/cgi/imagemap.cgi?id=428) | 2.101E-03 | 5.846E-02 | p53, Bcl-2, E2F1 |
| [Immune response\_IL-15 signaling](http://portal.genego.com/cgi/imagemap.cgi?id=3054) | 2.465E-03 | 5.846E-02 | Bcl-2, c-Myb, AKT(PKB), FAK1 |
| [Development\_Regulation of epithelial-to-mesenchymal transition (EMT)](http://portal.genego.com/cgi/imagemap.cgi?id=3018) | 2.465E-03 | 5.846E-02 | SNAIL1, NOTCH4, Bcl-2, WNT |
| [Development\_Transcription regulation of granulocyte development](http://portal.genego.com/cgi/imagemap.cgi?id=458) | 2.797E-03 | 5.846E-02 | c-Myb, C/EBPalpha, E2F1 |
| [Cell cycle\_Start of DNA replication in early S phase](http://portal.genego.com/cgi/imagemap.cgi?id=705) | 2.797E-03 | 5.846E-02 | MCM4, MCM5, E2F1 |
| [Cytoskeleton remodeling\_TGF, WNT and cytoskeletal remodeling](http://portal.genego.com/cgi/imagemap.cgi?id=715) | 3.019E-03 | 5.846E-02 | Casein kinase II, alpha chains, p53, AKT(PKB), FAK1, WNT |
| [Cell cycle\_Spindle assembly and chromosome separation](http://portal.genego.com/cgi/imagemap.cgi?id=712) | 3.057E-03 | 5.846E-02 | Aurora-B, TPX2, Aurora-A |
| [Apoptosis and survival\_Role of CDK5 in neuronal death and survival](http://portal.genego.com/cgi/imagemap.cgi?id=2374) | 3.332E-03 | 5.846E-02 | p53, Bcl-2, AKT(PKB) |
| [G-protein signaling\_RhoA regulation pathway](http://portal.genego.com/cgi/imagemap.cgi?id=380) | 3.332E-03 | 5.846E-02 | Ephrin-A, PLD1, FAK1 |
| [Chemotaxis\_CXCR4 signaling pathway](http://portal.genego.com/cgi/imagemap.cgi?id=617) | 3.332E-03 | 5.846E-02 | G-protein alpha-i family, FAK1, p120GAP |
| [G-protein signaling\_S1P2 receptor signaling](http://portal.genego.com/cgi/imagemap.cgi?id=2814) | 3.621E-03 | 6.077E-02 | G-protein alpha-i family, AKT(PKB), FAK1 |
| [Development\_SSTR2 in regulation of cell proliferation](http://portal.genego.com/cgi/imagemap.cgi?id=3131) | 3.925E-03 | 6.313E-02 | G-protein alpha-i family, B-Raf, AKT(PKB) |
| [Chemotaxis\_Leukocyte chemotaxis](http://portal.genego.com/cgi/imagemap.cgi?id=452) | 4.381E-03 | 6.561E-02 | G-protein alpha-i family, PIP5KI, PLD1, PIP5K1A |
| [Transcription\_Sin3 and NuRD in transcription regulation](http://portal.genego.com/cgi/imagemap.cgi?id=672) | 4.579E-03 | 6.561E-02 | Sin3B, Mi-2 beta, Mi-2 alpha |
| [Transcription\_P53 signaling pathway](http://portal.genego.com/cgi/imagemap.cgi?id=412) | 4.929E-03 | 6.561E-02 | p53, Bcl-2, E2F1 |
| [Translation \_Regulation of EIF2 activity](http://portal.genego.com/cgi/imagemap.cgi?id=497) | 4.929E-03 | 6.561E-02 | Casein kinase II, alpha chains, eIF2B5, AKT(PKB) |
| [Cell adhesion\_PLAU signaling](http://portal.genego.com/cgi/imagemap.cgi?id=677) | 4.929E-03 | 6.561E-02 | Casein kinase II, alpha chains, AKT(PKB), FAK1 |
| [G-protein signaling\_Rap1A regulation pathway](http://portal.genego.com/cgi/imagemap.cgi?id=392) | 5.295E-03 | 6.593E-02 | G-protein alpha-i family, B-Raf, p120GAP |
| [Development\_Neurotrophin family signaling](http://portal.genego.com/cgi/imagemap.cgi?id=636) | 5.295E-03 | 6.593E-02 | B-Raf, p53, AKT(PKB) |
| [Apoptosis and survival\_Anti-apoptotic action of Gastrin](http://portal.genego.com/cgi/imagemap.cgi?id=3142) | 6.489E-03 | 7.367E-02 | Bcl-2, AKT(PKB), FAK1 |
| [Apoptosis and survival\_TNF-alpha-induced Caspase-8 signaling](http://portal.genego.com/cgi/imagemap.cgi?id=6668) | 6.489E-03 | 7.367E-02 | Caspase-2, AKT(PKB), AKT2 |
| [Chemotaxis\_C5a-induced chemotaxis](http://portal.genego.com/cgi/imagemap.cgi?id=6454) | 6.489E-03 | 7.367E-02 | G-protein alpha-i family, B-Raf, PLD1 |
| [Neurophysiological process\_Receptor-mediated axon growth repulsion](http://portal.genego.com/cgi/imagemap.cgi?id=527) | 7.368E-03 | 7.751E-02 | Ephrin-A, Pleiotrophin (OSF1), B-Raf |
| [Apoptosis and survival\_DNA-damage-induced apoptosis](http://portal.genego.com/cgi/imagemap.cgi?id=542) | 7.626E-03 | 7.751E-02 | p53, E2F1 |
| [Development\_G-Proteins mediated regulation MAPK-ERK signaling](http://portal.genego.com/cgi/imagemap.cgi?id=463) | 7.832E-03 | 7.751E-02 | SynGAP, G-protein alpha-i family, B-Raf |
| [Chemotaxis\_Lipoxin inhibitory action on fMLP-induced neutrophil chemotaxis](http://portal.genego.com/cgi/imagemap.cgi?id=2728) | 7.832E-03 | 7.751E-02 | G-protein alpha-i family, PLD1, AKT(PKB) |
| [Signal transduction\_PTEN pathway](http://portal.genego.com/cgi/imagemap.cgi?id=676) | 7.832E-03 | 7.751E-02 | p53, AKT(PKB), FAK1 |
| [Regulation of lipid metabolism\_Insulin signaling:generic cascades](http://portal.genego.com/cgi/imagemap.cgi?id=724) | 8.313E-03 | 8.022E-02 | eIF2B5, AKT(PKB), AKT2 |
| [Muscle contraction\_Relaxin signaling pathway](http://portal.genego.com/cgi/imagemap.cgi?id=3095) | 8.811E-03 | 8.273E-02 | G-protein alpha-i family, B-Raf, AKT(PKB) |
| [Development\_Thromboxane A2 pathway signaling](http://portal.genego.com/cgi/imagemap.cgi?id=6691) | 9.326E-03 | 8.273E-02 | G-protein alpha-i family, B-Raf, AKT(PKB) |
| [Cytoskeleton remodeling\_Integrin outside-in signaling](http://portal.genego.com/cgi/imagemap.cgi?id=664) | 9.326E-03 | 8.273E-02 | TRIO, AKT(PKB), FAK1 |
| [DNA damage\_Role of SUMO in p53 regulation](http://portal.genego.com/cgi/imagemap.cgi?id=648) | 9.765E-03 | 8.273E-02 | p53, AKT(PKB) |
| [Apoptosis and survival\_HTR1A signaling](http://portal.genego.com/cgi/imagemap.cgi?id=2947) | 9.859E-03 | 8.273E-02 | G-protein alpha-i family, Bcl-2, AKT(PKB) |
| [Development\_EDNRB signaling](http://portal.genego.com/cgi/imagemap.cgi?id=2273) | 9.859E-03 | 8.273E-02 | G-protein alpha-i family, B-Raf, AKT(PKB) |
| [Signal transduction\_PKA signaling](http://portal.genego.com/cgi/imagemap.cgi?id=675) | 1.041E-02 | 8.371E-02 | G-protein alpha-i family, AKAP3, AKAP8 |
| [Some pathways of EMT in cancer cells](http://portal.genego.com/cgi/imagemap.cgi?id=3017) | 1.041E-02 | 8.371E-02 | SNAIL1, Bcl-2, AKT(PKB) |
| [G-protein signaling\_Proinsulin C-peptide signaling](http://portal.genego.com/cgi/imagemap.cgi?id=2815) | 1.098E-02 | 8.647E-02 | G-protein alpha-i family, Bcl-2, AKT(PKB) |
| [Cell cycle\_Influence of Ras and Rho proteins on G1/S Transition](http://portal.genego.com/cgi/imagemap.cgi?id=4583) | 1.156E-02 | 8.926E-02 | AKT(PKB), FAK1, E2F1 |
| [DNA damage\_NHEJ mechanisms of DSBs repair](http://portal.genego.com/cgi/imagemap.cgi?id=524) | 1.214E-02 | 9.010E-02 | Casein kinase II, alpha chains, Sirtuin |
| [Development\_NOTCH-induced EMT](http://portal.genego.com/cgi/imagemap.cgi?id=3023) | 1.214E-02 | 9.010E-02 | SNAIL1, NOTCH4 |
| [Neurophysiological process\_Olfactory transduction](http://portal.genego.com/cgi/imagemap.cgi?id=3200) | 1.341E-02 | 9.766E-02 | ANO2, Olfactory receptor |