

Gene name	number of high cc chromosome	
FAM19A5	14	chr22
FAM19A5	10	chr22
ANKMY1	10	chr2
PTPRN2	9	chr7
CDH4	8	chr20
SORCS2	6	chr4
CEP170B	6	chr14
KDM4B	6	chr19
PDLIM2	5	chr8
ELFN1	5	chr7
RBFOX1	5	chr16
FIBCD1	5	chr9
PRKXP1	5	chr15
ZNF467	5	chr7
PHF21B	5	chr22
CCDC113	4	chr16
TACC3	4	chr4
CAMTA1	4	chr1
GALNT9	4	chr12
PDXK	4	chr21
PEX14	4	chr1
PGS1	4	chr17
COL18A1	4	chr21
CDH4	4	chr20
B3GNT3	4	chr19
TBC1D22A	4	chr22
APCDD1L-AS1	4	chr20
AGAP1	4	chr2
MACF1	4	chr1
CACNA1H	4	chr16
HIVEP3	4	chr1
NXN	4	chr17
COL23A1	4	chr5
RPRD2	4	chr1
LPGAT1	3	chr1
MYO9B	3	chr19
SSTR5	3	chr16
SDK2	3	chr17
CDH6	3	chr5
TMEM132C	3	chr12
IFNL4	3	chr19
KIAA1671	3	chr22

PTN	3	chr7
ADARB2	3	chr10
TXNRD1	3	chr12
SLC44A1	3	chr9
TONSL	3	chr8
ZBTB46	3	chr20
SLC25A25	3	chr9
FBLN1	3	chr22
MIR548G	3	chr3
DLGAP2	3	chr8
SURF6	3	chr9
VPRBP	3	chr3
CDH4	3	chr20
ZNF423	3	chr16
EPPK1	3	chr8
DNAH8	3	chr6
ARHGEF18	3	chr19
CNPY1	3	chr7
FZR1	3	chr19
MACROD1	3	chr11
EPHA3	3	chr3
CCDC85C	3	chr14
ENTPD6	3	chr20
PRKAR1B	3	chr7
DMD	3	chrX
RC3H1	3	chr1
RPTOR	3	chr17
GPC5	3	chr13
GPHN	3	chr14
ISY1-RAB43	3	chr3
DOCK1	3	chr10
AP3M1	3	chr10
MYO7A	3	chr11
RAB43	3	chr3
MEGF6	3	chr1
DNAL1	3	chr14
SFMBT1	3	chr3
FLG	3	chr1
PPP2R5C	3	chr14
NGEF	3	chr2
PRKAG2	3	chr7
NCOR2	3	chr12
COL8A1	3	chr3

PRDM16	3	chr1
GAS7	3	chr17
TSNARE1	2	chr8
GRAMD3	2	chr5
MLXIP	2	chr12
LAPTM4B	2	chr8
TBC1D8	2	chr2
GRIN3A	2	chr9
PRKAR1B	2	chr7
PNLIPRP2	2	chr10
EFCAB6	2	chr22
TMCO3	2	chr13
CDC42BPA	2	chr1
ERLEC1	2	chr2
MINK1	2	chr17
AHRR	2	chr5
CACNA1I	2	chr22
RNPEP	2	chr1
LARGE	2	chr22
CRISPLD2	2	chr16
AMZ1	2	chr7
WDR31	2	chr9
SUGP1	2	chr19
HOTAIR	2	chr12
PCDHGB1	2	chr5
B4GALT1	2	chr9
CNBD2	2	chr20
OSBPL5	2	chr11
BICD1	2	chr12
GPR75-ASB3	2	chr2
ABR	2	chr17
PPP1R26	2	chr9
PCDHGA4	2	chr5
CTBP2	2	chr10
AP3D1	2	chr19
MAEA	2	chr4
PHF2	2	chr9
PCDHGB4	2	chr5
MAN2A2	2	chr15
TTI2	2	chr8
CSMD1	2	chr8
LINGO2	2	chr9
RBL1	2	chr20

HLCS	2	chr21
PDSS2	2	chr6
RYR1	2	chr19
LOC100873065	2	chrX
GNB1L	2	chr22
NUP210	2	chr3
CBS	2	chr21
PHOSPHO2-KLHL23	2	chr2
ZNF707	2	chr8
PAPLN	2	chr14
KIRREL2	2	chr19
ITSN1	2	chr21
TIMM17A	2	chr1
CHST15	2	chr10
LIN54	2	chr4
TMEM201	2	chr1
STK32C	2	chr10
SDK1	2	chr7
PCDH9	2	chr13
C9orf171	2	chr9
FAM189A1	2	chr15
XKR6	2	chr8
LIMK2	2	chr22
RGS9BP	2	chr19
TRIO	2	chr5
PCDHGA6	2	chr5
AASDH	2	chr4
KDM2B	2	chr12
B3GNTL1	2	chr17
DIAPH2	2	chrX
PCDHGA2	2	chr5
GRAMD1A	2	chr19
SCRIB	2	chr8
TP73	2	chr1
FAM213B	2	chr1
PCDHGB5	2	chr5
DMD	2	chrX
LAMA5	2	chr20
NEK6	2	chr9
SAMD3	2	chr6
SUN1	2	chr7
PLEKHG1	2	chr6
DPYSL4	2	chr10

WDR16	2	chr17
ATP9B	2	chr18
CSNK1A1L	2	chr13
PPM1L	2	chr3
TPPP	2	chr5
IGF1R	2	chr15
PCDHGB6	2	chr5
BUB1B	2	chr15
ZNF664-FAM101A	2	chr12
LOC285577	2	chr5
SYMPK	2	chr19
PPP2R2C	2	chr4
MOB2	2	chr11
SUMF1	2	chr3
SLC6A12	2	chr12
SOX3	2	chrX
ARHGAP6	2	chrX
CUX2	2	chr12
STMN3	2	chr20
GPR98	2	chr5
SLC27A1	2	chr19
KIF16B	2	chr20
DDX31	2	chr9
OTUD7A	2	chr15
PCDHGB2	2	chr5
ZNF208	2	chr19
KCNQ2	2	chr20
GREM1	2	chr15
CCDC94	2	chr19
ADAMTS17	2	chr15
PRKAG2	2	chr7
AK5	2	chr1
GOLGA8A	2	chr15
WDR37	2	chr10
CHP1	2	chr15
PLEKHH1	2	chr14
AUTS2	2	chr7
ITGB4	2	chr17
PCDHGA8	2	chr5
TMC6	2	chr17
GRK5	2	chr10
MRPL45P2	2	chr17
CSMD3	2	chr8

OSBPL10	2	chr3
FAM196A	2	chr10
GAS7	2	chr17
FAM86HP	2	chr3
ATP11A	2	chr13
EVC2	2	chr4
VMP1	2	chr17
MCF2L	2	chr13
GLB1L2	2	chr11
PCDHGA7	2	chr5
KLHL29	2	chr2
CCL25	2	chr19
RXRA	2	chr9
TBC1D3P5	2	chr17
VASH1	2	chr14
RAB11FIP3	2	chr16
ARHGEF10	2	chr8
EXD3	2	chr9
PCDHGB3	2	chr5
GABBR2	2	chr9
MMEL1	2	chr1
ANP32E	2	chr1
VAV2	2	chr9
BNC2	2	chr9
PIK3C2B	2	chr1
EGFR	2	chr7
PXDN	2	chr2
INO80	2	chr15
TNS3	2	chr7
PCDHGA5	2	chr5
LOC286238	2	chr9
EVC	2	chr4
SIRT1	2	chr10
SPNS2	2	chr17
MYCBPAP	2	chr17
ARR3	2	chrX
DAPK1	2	chr9
JAG2	2	chr14
DLGAP1	2	chr18
PCDHGA1	2	chr5
OPCML	2	chr11
CDKL2	2	chr4
ZC3HAV1	2	chr7

PCDHGA3	2	chr5
APOBEC3H	2	chr22
RNF166	2	chr16
NFATC1	2	chr18
PNPLA7	2	chr9
NINL	2	chr20
SLC47A1	2	chr17
MLLT1	2	chr19
PYGB	2	chr20
PCDHGA9	2	chr5
ZIC5	2	chr13
AGAP1	2	chr2
FRMD8	1	chr11
WARS2	1	chr1
CAMKMT	1	chr2
SNTG2	1	chr2
ZMAT5	1	chr22
DPP6	1	chr7
GPR137B	1	chr1
WTIP	1	chr19
ZNF699	1	chr19
RPS6KB1	1	chr17
FCHSD2	1	chr11
OPRL1	1	chr20
NAGPA	1	chr16
TMC2	1	chr20
PLCL1	1	chr2
LOC200772	1	chr2
ZNF529	1	chr19
ZFR2	1	chr19
PPP2R5E	1	chr14
C1QTNF3-AMACR	1	chr5
GET4	1	chr7
FUT10	1	chr8
SMURF1	1	chr7
NCKAP5	1	chr2
FLYWCH2	1	chr16
RFX7	1	chr15
MAGIX	1	chrX
CAMK1D	1	chr10
PPM1D	1	chr17
RAB40C	1	chr16
LRP1B	1	chr2

LOC284757	1	chr20
RBM25	1	chr14
GPR123	1	chr10
ACAD9	1	chr3
EFCAB12	1	chr3
KLHL25	1	chr15
NEBL	1	chr10
USH2A	1	chr1
AKT3	1	chr1
PHGDH	1	chr1
KCNJ15	1	chr21
FARP1	1	chr13
FES	1	chr15
UBE3C	1	chr7
RAB11FIP1	1	chr8
TRAF3IP2	1	chr6
PRSS57	1	chr19
RIN3	1	chr14
FAM184A	1	chr6
CDC123	1	chr10
SLC7A6	1	chr16
MICAL3	1	chr22
PCDHA4	1	chr5
PDZD2	1	chr5
THOP1	1	chr19
CLIP2	1	chr7
RNF175	1	chr4
KATNBL1	1	chr15
LDB3	1	chr10
TRIM26	1	chr6
ARHGAP1	1	chr11
CCDC146	1	chr7
CDH13	1	chr16
PARD3	1	chr10
ATF7	1	chr12
FAM58A	1	chrX
UNC45A	1	chr15
VIPR1	1	chr3
SPI1	1	chr11
TMED10	1	chr14
MCF2L	1	chr13
C1QL3	1	chr10
OCLN	1	chr5

SNAPC4	1	chr9
CLCNKB	1	chr1
C1orf159	1	chr1
LEPREL1	1	chr3
GFRA1	1	chr10
MAML3	1	chr4
C18orf25	1	chr18
SHB	1	chr9
HID1	1	chr17
KATNB1	1	chr16
PCDHB18	1	chr5
LOC642846	1	chr12
RNF26	1	chr11
FGGY	1	chr1
RPS6KA1	1	chr1
CAMK2B	1	chr7
RASIP1	1	chr19
CCM2	1	chr7
PUM1	1	chr1
C19orf55	1	chr19
ZNF385B	1	chr2
ARHGAP32	1	chr11
PITPNA	1	chr17
SMAD3	1	chr15
FLJ45974	1	chr7
C9orf135	1	chr9
TTLL1	1	chr22
DUSP13	1	chr10
CPNE5	1	chr6
EFHA1	1	chr13
TBC1D20	1	chr20
NNT	1	chr5
MKLN1	1	chr7
LINGO2	1	chr9
SLC22A11	1	chr11
C5orf64	1	chr5
MSI2	1	chr17
GPR107	1	chr9
ZDHHC14	1	chr6
LHPP	1	chr10
UBE2U	1	chr1
RRP7A	1	chr22
TGFBR2	1	chr3

LIG1	1	chr19
ADAMTS7	1	chr15
RASL12	1	chr15
PDE6C	1	chr10
FILIP1	1	chr6
KLF16	1	chr19
WNT4	1	chr1
FBXL17	1	chr5
METRN	1	chr16
PTK7	1	chr6
SYBU	1	chr8
PPP6R3	1	chr11
MSRA	1	chr8
TSPAN9	1	chr12
SLIT2	1	chr4
ADARB2-AS1	1	chr10
SLIT1	1	chr10
KSR2	1	chr12
LPHN3	1	chr4
FANCA	1	chr16
ADAP1	1	chr7
SLC3A2	1	chr11
SOX5	1	chr12
PCDHGB8P	1	chr5
FAN1	1	chr15
ALS2CL	1	chr3
SQSTM1	1	chr5
PCDHA3	1	chr5
SLC25A37	1	chr8
LOC100505817	1	chr18
ACACB	1	chr12
CCDC40	1	chr17
KAZN	1	chr1
PTPRT	1	chr20
HSPG2	1	chr1
SEZ6L2	1	chr16
TXNRD1	1	chr12
PKD1L2	1	chr16
LOXL2	1	chr8
MFSD12	1	chr19
BDP1	1	chr5
NEK6	1	chr9
TTC40	1	chr10

SRCAP	1	chr16
PCDHA8	1	chr5
MTMR14	1	chr3
TRIM65	1	chr17
PLIN4	1	chr19
MIR5694	1	chr10
GRM4	1	chr6
IPO11	1	chr5
SYNE2	1	chr14
ITPKB	1	chr1
TBL1X	1	chrX
NLRP5	1	chr19
PACRG-AS1	1	chr6
TMC7	1	chr16
CDH12	1	chr5
ZMYM5	1	chr13
ZNF346	1	chr5
DNMT1	1	chr19
M1AP	1	chr2
KIAA0586	1	chr14
SMARCC1	1	chr3
C1QTNF3	1	chr5
SLC7A9	1	chr19
WSB2	1	chr12
MIR548H2	1	chr3
MGLL	1	chr3
CUEDC1	1	chr17
RBFOX1	1	chr16
FLJ40194	1	chr17
SIPA1L3	1	chr19
GALNS	1	chr16
GLB1L3	1	chr11
CDK19	1	chr6
DENND5B	1	chr12
CACNA1B	1	chr9
SOX6	1	chr11
LRPAP1	1	chr4
CHD9	1	chr16
ST3GAL3	1	chr1
LHX9	1	chr1
SBNO1	1	chr12
KCNK13	1	chr14
MURC	1	chr9

WDR45	1	chrX
RHBDL2	1	chr1
RIMBP2	1	chr12
ADAMTS2	1	chr5
TTC12	1	chr11
NLRC3	1	chr16
TSHZ2	1	chr20
C14orf166B	1	chr14
ABCA13	1	chr7
FBLN7	1	chr2
MYL9	1	chr20
COPS4	1	chr4
ST6GAL2	1	chr2
14-Sep	1	chr7
SOLH	1	chr16
PPP2R2C	1	chr4
CELA3A	1	chr1
TRAF3	1	chr14
ANO9	1	chr11
CYTH4	1	chr22
ERMAP	1	chr1
CHID1	1	chr11
ZNF787	1	chr19
USP15	1	chr12
TEN1	1	chr17
IL17RE	1	chr3
FAM129B	1	chr9
SAFB2	1	chr19
PCDHGB7	1	chr5
KAL1	1	chrX
AK8	1	chr9
RFX1	1	chr19
BAIAP2	1	chr17
ATG14	1	chr14
PPP1R2	1	chr3
PACRG	1	chr6
DPYS	1	chr8
PGD	1	chr1
ZBBX	1	chr3
CYP4Z2P	1	chr1
OR2C1	1	chr16
CCDC178	1	chr18
LOC100132831	1	chrX

FAM86B3P	1	chr8
USP37	1	chr2
DTX2P1-UPK3BP1-PMS2P11	1	chr7
CRMP1	1	chr4
LOC100507424	1	chr12
MAD2L2	1	chr1
RGS10	1	chr10
WDR1	1	chr4
SF3B3	1	chr16
AXDND1	1	chr1
FYCO1	1	chr3
AFAP1L2	1	chr10
NTNG1	1	chr1
CUL2	1	chr10
PDZRN4	1	chr12
GAS6-AS1	1	chr13
SH2B1	1	chr16
CTPS2	1	chrX
FLJ33581	1	chr20
PPM1F	1	chr22
CPQ	1	chr8
MRGPRF	1	chr11
GLTSCR1	1	chr19
RTN4RL1	1	chr17
PRKG1	1	chr10
PHRF1	1	chr11
TEAD4	1	chr12
POU2AF1	1	chr11
CACNA2D4	1	chr12
DNAH11	1	chr7
BABAM1	1	chr19
IGFBP5	1	chr2
CNOT2	1	chr12
LOC100130855	1	chr15
ATXN3	1	chr14
LRCOL1	1	chr12
PHIP	1	chr6
LYRM4	1	chr6
METTL15	1	chr11
BCAP29	1	chr7
LTBP1	1	chr2
SLC1A7	1	chr1
GOLGA3	1	chr12

IGSF11	1	chr3
LOC100652770	1	chr18
PPP2R2A	1	chr8
ACSF3	1	chr16
SENP6	1	chr6
CRELD2	1	chr22
CCT6P3	1	chr7
MERTK	1	chr2
CCDC170	1	chr6
STEAP3	1	chr2
SLC14A2	1	chr18
RNU6-66	1	chr19
CCDC175	1	chr14
PARK2	1	chr6
TTC7B	1	chr14
PCDHA5	1	chr5
MIR5009	1	chr21
GALNT9	1	chr12
FAM182B	1	chr20
SHANK1	1	chr19
CTBP1	1	chr4
FAM78A	1	chr9
LRFN3	1	chr19
LOC728716	1	chr1
TOB2	1	chr22
FLJ39080	1	chr8
SMARCA4	1	chr19
PITPNM3	1	chr17
FA2H	1	chr16
LMNA	1	chr1
FLJ42102	1	chr11
MGAT5B	1	chr17
TBCD	1	chr17
MCTP1	1	chr5
RAB6B	1	chr3
CSH1	1	chr17
SORBS2	1	chr4
B4GALNT4	1	chr11
ALPL	1	chr1
ARHGAP19-SLIT1	1	chr10
PCDHGA10	1	chr5
CNN2	1	chr19
CASP8AP2	1	chr6

KCNK4	1	chr11
CPXM2	1	chr10
ZFP82	1	chr19
PCSK2	1	chr20
TUFT1	1	chr1
ABL1	1	chr9
RNF103-CHMP3	1	chr2
FBXL7	1	chr5
LINC00674	1	chr17
RIMS2	1	chr8
ARHGAP33	1	chr19
UCK2	1	chr1
KCND2	1	chr7
EPHA2	1	chr1
TRPV3	1	chr17
TRMU	1	chr22
ZC3H7B	1	chr22
CDH19	1	chr18
ZNF471	1	chr19
HS6ST1	1	chr2
FER1L6	1	chr8
KIF17	1	chr1
C14orf132	1	chr14
TUBB3	1	chr16
MUC4	1	chr3
KRAS	1	chr12
CAMKK1	1	chr17
CELF4	1	chr18
PIEZO1	1	chr16
TRABD2B	1	chr1
RAB11FIP3	1	chr16
KIF26B	1	chr1
CRY2	1	chr11
ASB18	1	chr2
GRID2	1	chr4
ZNF284	1	chr19
RPL3L	1	chr16
TENM2	1	chr5
HMX1	1	chr4
SHROOM2	1	chrX
SNX29P2	1	chr16
TERT	1	chr5
ATP6V0A1	1	chr17

GPR125	1	chr4
SYAP1	1	chrX
COL21A1	1	chr6
WDR27	1	chr6
IGSF23	1	chr19
SBK2	1	chr19
MORN1	1	chr1
IQGAP1	1	chr15
HPD	1	chr12
SEC16A	1	chr9
CADM2	1	chr3
STRN4	1	chr19
HRNR	1	chr1
COL5A3	1	chr19
MCAT	1	chr22
LRRC47	1	chr1
FGD4	1	chr12
PITPNM2	1	chr12
GPR32	1	chr19
ABR	1	chr17
DPP10	1	chr2
FRMD5	1	chr15
FAM101A	1	chr12
LSAMP	1	chr3
FRY	1	chr13
FBXL18	1	chr7
MOK	1	chr14
GRIN2A	1	chr16
ENPP3	1	chr6
TRAF3IP2-AS1	1	chr6
HEATR4	1	chr14
ELL	1	chr19
PHF17	1	chr4
GFOD1	1	chr6
C16orf55	1	chr16
PCDHB19P	1	chr5
HHAT	1	chr1
CA1	1	chr8
CCDC154	1	chr16
C2orf83	1	chr2
LSM12	1	chr17
PTGFRN	1	chr1
RFC2	1	chr7

GPM6B	1	chrX
MARK2	1	chr11
CCDC166	1	chr8
SNX14	1	chr6
ARHGEF4	1	chr2
SH3TC2	1	chr5
DENND6B	1	chr22
PRMT10	1	chr4
PCNT	1	chr21
TBC1D30	1	chr12
ARSG	1	chr17
BCAR3	1	chr1
CILP2	1	chr19
GATAD2B	1	chr1
FXN	1	chr9
FAM188B	1	chr7
BIRC7	1	chr20
PLXNB3	1	chrX
VPS53	1	chr17
ATP2B2	1	chr3
FAM71E2	1	chr19
FLT4	1	chr5
TYW1	1	chr7
RTEL1	1	chr20
NIPA2	1	chr15
COL11A1	1	chr1
PCDHA2	1	chr5
DNAH17	1	chr17
SRGAP1	1	chr12
DLGAP1	1	chr18
NEGR1	1	chr1
MYOM2	1	chr8
COBLL1	1	chr2
B3GAT1	1	chr11
SLC9A7	1	chrX
MIR548AN	1	chr13
SYNM	1	chr15
BCYRN1	1	chrX
ACAN	1	chr15
ITPK1	1	chr14
GPR151	1	chr5
GPIHBP1	1	chr8
CFDP1	1	chr16

EEF1A2	1	chr20
CPLX2	1	chr5
XYL1	1	chr16
TRIM67	1	chr1
POC1B	1	chr12
PDE1C	1	chr7
CDH22	1	chr20
MECOM	1	chr3
TRABD	1	chr22
TBC1D16	1	chr17
SEMA3D	1	chr7
GATAD2A	1	chr19
ACYP1	1	chr14
SCAI	1	chr9
NPHP4	1	chr1
SNN	1	chr16
GTF3C1	1	chr16
CDHR2	1	chr5
KDM6A	1	chrX
SLCO5A1	1	chr8
COL26A1	1	chr7
MYH16	1	chr7
MRTO4	1	chr1
HPS3	1	chr3
PIGG	1	chr4
RECK	1	chr9
DOCK8	1	chr9
DYM	1	chr18
MGRN1	1	chr16
ERCC6	1	chr10
ZMYND8	1	chr20
HEATR2	1	chr7
PDE9A	1	chr21
TMEM132A	1	chr11
PKD1	1	chr16
AKAP10	1	chr17
CHRNA9	1	chr4
SH3RF3	1	chr2
LRRC27	1	chr10
RGN	1	chrX
UBR3	1	chr2
AFMID	1	chr17
RMDN2	1	chr2

ARAP1	1	chr11
ACOX2	1	chr3
LAMA3	1	chr18
ZNF550	1	chr19
DOCK4	1	chr7
HSD17B14	1	chr19
TMC1	1	chr9
LINC00340	1	chr6
EGFR	1	chr7
LOC100506207	1	chr6
ZNF77	1	chr19
ASTN2	1	chr9
PIK3C2G	1	chr12
CDK16	1	chrX
KCNMB2	1	chr3
CMTM8	1	chr3
INMT-FAM188B	1	chr7
ERMP1	1	chr9
SPTBN5	1	chr15
CEP120	1	chr5
ADAMTSL1	1	chr9
CNKSR3	1	chr6
RTN4	1	chr2
MYT1L	1	chr2
NELFB	1	chr9
PNPLA1	1	chr6
POU6F1	1	chr12
LOC338651	1	chr11
GPR133	1	chr12
EMP1	1	chr12
KIFC1	1	chr6
SLC47A2	1	chr17
RFX2	1	chr19
POU6F2	1	chr7
GUCY1A2	1	chr11
PCDHA6	1	chr5
TM7SF3	1	chr12
LRRTM4	1	chr2
RREB1	1	chr6
TBL1XR1	1	chr3
MYO18A	1	chr17
CDH23	1	chr10
USP49	1	chr6

CTNNA3	1	chr10
DNMT3B	1	chr20
FBP2	1	chr9
PPCS	1	chr1
POU4F1-AS1	1	chr13
KIAA2022	1	chrX
EPN2	1	chr17
ARHGAP22	1	chr10
PCDHA7	1	chr5
MYO1E	1	chr15
RCOR2	1	chr11
TMEM255B	1	chr13
LOC284009	1	chr17
MAGEE1	1	chrX
AGPAT4	1	chr6
TTLL6	1	chr17
DDX1	1	chr2
SPIRE1	1	chr18
SART3	1	chr12
ERICH1-AS1	1	chr8
9-Sep	1	chr17
SLAMF8	1	chr1
RTEL1-TNFRSF6B	1	chr20
RCL1	1	chr9
PHC2	1	chr1
PTPRE	1	chr10
ZNF275	1	chrX
CASZ1	1	chr1
NHSL1	1	chr6
CDK14	1	chr7
RIN1	1	chr11
SCN5A	1	chr3
LOC729732	1	chr8
LAMC1	1	chr1
HELZ2	1	chr20
ASIC3	1	chr7
IL2RA	1	chr10
CTSD	1	chr11
YPEL1	1	chr22
SH3BP2	1	chr4
KCNIP4	1	chr4
KIF1A	1	chr2
PRPSAP2	1	chr17

PDCD1	1	chr2
SCFD2	1	chr4
MRPS35	1	chr12
COX10-AS1	1	chr17
C19orf71	1	chr19
CACNB2	1	chr10
LMAN2	1	chr5
NDUFS4	1	chr5
TMEM104	1	chr17
MPHOSPH9	1	chr12
BCL11B	1	chr14
RIT2	1	chr18
GALM	1	chr2
INTS8	1	chr8
TIAM2	1	chr6
THEM6	1	chr8
CHMP6	1	chr17
HHIPL2	1	chr1
KPNA1	1	chr3
RASA3	1	chr13
IFT27	1	chr22
GMEB1	1	chr1
GSTM3	1	chr1
XXYLT1	1	chr3
FAM21A	1	chr10
ITSN1	1	chr21
PFDN1	1	chr5
CTNNA2	1	chr2
MPRIP	1	chr17
FGF1	1	chr5
IGSF9B	1	chr11
TPP2	1	chr13
STAB2	1	chr12
ASIC2	1	chr17
USP34	1	chr2
NCAM2	1	chr21
PIP5K1C	1	chr19
HPCAL1	1	chr2
ABCB9	1	chr12
SLC22A20	1	chr11
PRDM6	1	chr5
RIBC2	1	chr22
LOC285441	1	chr4

TRPM5	1	chr11
DVL3	1	chr3
XRN2	1	chr20
TLL2	1	chr10
MRPL4	1	chr19
ANKRD29	1	chr18
CPNE7	1	chr16
LRP1	1	chr12
GAS6	1	chr13
ZFPM2	1	chr8
WBSCR17	1	chr7
LOC389634	1	chr12
CCDC109B	1	chr4
UBR1	1	chr15
PEPD	1	chr19
ZNF536	1	chr19
CUX1	1	chr7
DPYSL5	1	chr2
RNU6-81	1	chr2
MCOLN1	1	chr19
EEF2K	1	chr16
DAB1	1	chr1
SLC6A5	1	chr11
PRELP	1	chr1
C1orf86	1	chr1
JAZF1	1	chr7
LRRC4C	1	chr11
ERCC2	1	chr19
PQLC1	1	chr18
ZFP30	1	chr19
LINC00635	1	chr3
BAIAP2L2	1	chr22
CD3G	1	chr11
SLC12A3	1	chr16
LOC441666	1	chr10
IMPDH1	1	chr7
FLRT1	1	chr11
KCNA1	1	chr12
INPP5A	1	chr10
BLOC1S5-TXNDC5	1	chr6
TRIM71	1	chr3
UBP1	1	chr3
C14orf159	1	chr14

TBX5	1	chr12
VSTM1	1	chr19
ZNF765	1	chr19
ASB13	1	chr10
SIK3	1	chr11
ABCG1	1	chr21
CHMP2A	1	chr19
EBF2	1	chr8
ZNF236	1	chr18
GABRA3	1	chrX
GYPE	1	chr2
UHRF2	1	chr9
ANKRD30BL	1	chr2
FLJ46300	1	chr10
GPR56	1	chr16
ZNF362	1	chr1
ZC3H6	1	chr2
DGKE	1	chr17
HGFAC	1	chr4
DNAH9	1	chr17
PRTG	1	chr15
OR6N1	1	chr1
LONP1	1	chr19
RGS6	1	chr14
C6orf118	1	chr6
PREX1	1	chr20
CDAN1	1	chr15
GPR124	1	chr8
HERC1	1	chr15
FLJ22447	1	chr14
PCDHGB6	1	chr5
PNPLA6	1	chr19
CATSPERD	1	chr19
CCDC63	1	chr12
UBAC2	1	chr13
STARD4-AS1	1	chr5
POM121L1P	1	chr22
SLC25A33	1	chr1
RORA	1	chr15
TRAPPC9	1	chr8
CABLES2	1	chr20
PCDHA1	1	chr5
ST8SIA1	1	chr12

GRWD1	1	chr19
TP73	1	chr1
ATP2A3	1	chr17
GPR108	1	chr19
SGTA	1	chr19
LPPR3	1	chr19
PTGDR2	1	chr11
IGFBP2	1	chr2
HCN1	1	chr5
PI4KAP1	1	chr22
RBFOX3	1	chr17
CD82	1	chr11
PRR14	1	chr16
ARNT2	1	chr15
R3HDM4	1	chr19
LAMA1	1	chr18
CCDC129	1	chr7
PPAT	1	chr4
ISM1	1	chr20
UVSSA	1	chr4
GLTPD1	1	chr1
PIBF1	1	chr13
EOGT	1	chr3
MYO7B	1	chr2
LINC00598	1	chr13
HMG20B	1	chr19
RPSA	1	chr3
JARID2	1	chr6
DLEU7	1	chr13
TPGS1	1	chr19
PDE10A	1	chr6
PRELID2	1	chr5
GABRB3	1	chr15
DPYD	1	chr1
PODXL	1	chr7
GCC2	1	chr2
MMACHC	1	chr1
RGS7	1	chr1
AATK	1	chr17
DOK7	1	chr4
PCDHGA11	1	chr5
PRKCZ	1	chr1
ENTPD8	1	chr9

AUTS2	1	chr7
AJAP1	1	chr1
SLC35D2	1	chr9
SHROOM3	1	chr4
GATA5	1	chr20
AGT	1	chr1
LCLAT1	1	chr2
MAPK8IP2	1	chr22
C1orf151-NBL1	1	chr1
TLE2	1	chr19
RABEP1	1	chr17
DLEC1	1	chr3
GLB1	1	chr3
DOK6	1	chr18
SETBP1	1	chr18
COL4A1	1	chr13
DGKQ	1	chr4
SLCO3A1	1	chr15
TMEM51-AS1	1	chr1
COL6A1	1	chr21
PPARD	1	chr6
YAE1D1	1	chr7
ZNF229	1	chr19
STX8	1	chr17
MROH1	1	chr8
SPATA2L	1	chr16
MED16	1	chr19
ROBO1	1	chr3
SCAMP4	1	chr19
KCNAB1-AS2	1	chr3
DMD	1	chrX
SLC16A6	1	chr17
DHRS4L1	1	chr14
CARD9	1	chr9
SCTR	1	chr2
VSX2	1	chr14
UTP6	1	chr17
FSTL4	1	chr5
TXLNA	1	chr1
DENND6A	1	chr3
USP2	1	chr11
PDZRN3	1	chr3
FCGRT	1	chr19

PEMT	1	chr17
TRPC2	1	chr11
TEN1-CDK3	1	chr17
ATP2C2	1	chr16
KIAA1551	1	chr12
ADAM5	1	chr8
CABP7	1	chr22
C7orf50	1	chr7
LAMC3	1	chr9
PDPN	1	chr1
ANKFY1	1	chr17
LRRC20	1	chr10
ADAMTS12	1	chr5
CNTNAP5	1	chr2
MYO16	1	chr13
TRAPPC10	1	chr21
ZNF333	1	chr19
OCEL1	1	chr19
ACOT9	1	chrX
NDUFA7	1	chr19
PITPNC1	1	chr17
CORIN	1	chr4
FBXL22	1	chr15
CCDC47	1	chr17
TMEM63C	1	chr14
LRIT1	1	chr10
TMEM175	1	chr4
KCNAB1	1	chr3
SGCD	1	chr5
TPO	1	chr2
SNX25	1	chr4
RAB3GAP1	1	chr2
SOAT1	1	chr1
RIPK4	1	chr21
TLN2	1	chr15
PCNXL2	1	chr1

site locations

48911785,48958730,48958739,48982763,48985828,48990018,48999195,49027302,4913892
48982763,48985828,48990018,48999195,49027302,49138921,49146195,49146358,4914636
241497322,241497338,241497358,241497362,241497366,241497368,241497374,241497379
157496416,157496434,157578073,157579942,157818754,158240253,158240257,158240270
59897399,59971800,60055607,60097995,60175223,60175237,59875598,60450432
7218718,7218745,7218749,7428386,7484966,7494167
105335048,105337802,105344316,105344603,105344761,105359658
4981632,5055995,5081230,5107851,5127897,5133464
22441821,22441851,22441889,22441890,22441924
1786170,1786179,1786181,1786193,1786266
6799428,6799457,6799461,6507637,7013945
133785745,133787347,133794455,133800092,133800093
101094460,101094461,101094520,101094534,101096584
149463191,149463193,149463218,149463220,149463242
45277552,45331418,45338855,45338941,45339593
58299811,58299812,58299910,58300770
1731696,1731711,1731956,1737403
6965401,7290879,7700594,7765495
132688049,132699913,132823444,132898445
45152879,45157126,45157127,45159997
10561558,10620238,10631814,10640437
76386449,76386457,76386524,76386538
46907084,46907093,46909514,46912946
60097995,60175223,60175237,60450432
17906289,17906308,17906316,17906398
47508572,47320509,47548187,47557636
57155391,57155397,57155404,57171961
236613477,236847317,236944858,236724860
39621551,39803565,39940222,39940223
1206630,1252139,1252231,1254368
42193265,42193270,42193273,42193276
725432,741559,763518,743920
177761376,177808675,177968358,177968359
150375271,150410977,150423966,150423967
211933745,211979398,211979399
17283402,17298891,17301704
1129461,1129485,1129502
71387220,71387221,71524887
31317785,31317788,31317802
129084728,129084816,129084821
39737844,39737861,39737920
25426949,25448652,25549869

136968874,136968948,136968953
1438422,1590616,1774958
104670845,104670846,104728336
108134968,108135001,108135012
145658369,145658525,145658526
62379444,62432152,62432177
130841923,130842141,130845150
45978046,45981384,45981447
99514627,99376747,99376748
1522683,1478277,1496555
136199464,136199465,136199502
51531473,51531495,51531517
60175223,60175237,60450432
49533382,49544818,49724869
144941419,144946817,144946818
38803489,38803490,38865442
7474953,7480194,7480362
155302486,155302850,155302867
3526496,3526784,3533273
63827642,63836680,63885704
89440427,89180075,89180077
100019739,100020623,100026843
25186115,25195018,25202891
598729,631037,752449
31693693,32248521,33114382
173944474,173944478,173944511
78597523,78683458,78793474
92638597,93503882,92577315
67139912,67142112,67142113
128838177,128838228,128838489
128944079,128944080,129049534
75880423,75893632,75893633
76862024,76862025,76840405
128838177,128838228,128838489
3437665,3450684,3457896
74114837,74136351,74145938
52999787,52999788,53000104
152276614,152276624,152276670
102247753,102247767,102247785
233760414,233760457,233770144
151439827,151488536,151518005
124860830,124986517,125032798
99514627,99376747,99376748

3158641,3286077,3286078
9918198,9820694,9820695
143373004,143373212
125804281,125804303
122626379,122626380
98827209,98832214
101654460,101761168
104481465,104481466
598729,631037
118387225,118387237
43950405,44039859
114200379,114200412
227463696,227332148
54036817,54036818
4767973,4795306
355048,429380
40082534,40082538
201953292,201953293
34225416,34285345
84903207,84872049
2742449,2742484
116086817,116086818
19390747,19410480
54362455,54362496
140788372,140807269
33132490,33132491
34610181,34610253
3140627,3175308
32429119,32476989
54036817,54036818
990952,1071503
138377842,138377899
140788372,140807269
126741727,126840272
2131565,2131578
1316894,1324480
96362048,96362235
140788372,140807269
91459473,91459474
33366032,33366043
4584683,3113336
28476462,29110627
35661806,35661836

38128534,38128554
107759664,107759665
38956838,39003131
22527641,22527642
19787307,19796766
13448093,13453494
44486763,44486917
170581807,170580614
144767565,144768531
73720684,73720685
36353881,36353927
35043780,35246558
201925854,201925855
125804048,125836294
83856659,83896149
9670833,9672089
134110853,134111481
4134106,4136614
67196342,67197164
135386172,135393720
29745471,29848976
10820620,10966290
31661289,31661290
33168604,33168000
14218867,14454982
140788372,140807269
57248956,57249091
121881846,121881847
80988582,80988416
96353642,96353674
140788372,140807269
35509160,35514577
144887733,144877834
3650014,3607518
2522390,2522391
140788372,140807269
31693693,32248521
60926221,60930091
127064945,127041643
130581876,130608855
893295,902764
151083585,151102302
134010311,134014621

9533988,9533997
76833113,76910759
37679533,37679729
160672427,160609898
664322,677974
99206152,99206834
140788372,140807269
40501478,40507830
124590414,124786052
3491049,3491070
46350446,46350450
6395295,6550037
1783831,1605075
4480981,4480982
313285,313304
139586875,139586877
11445874,11446047
111758321,111758395
62272710,62275844
89896778,89896790
17597619,17597680
16534807,16541659
135488850,135488851
31847859,31877801
140788372,140807269
22160708,22160709
62037969,62051639
33021466,33021467
4255008,4268340
100538092,100819625
151439827,151488536
77963146,77927325
34728930,34728972
1151618,1151619
41570300,41570301
68038697,68045840
69205759,70252488
73717919,73717930
140788372,140807269
76113870,76118451
121191208,121213135
45565093,45565384
114421601,114421603

31712393,32003768
128944079,128944080
9820694,9820695
129822490,129822550
113432010,113493183
5570219,5570220
57823683,57877048
113641483,113705683
134202850,134203177
140788372,140807269
23673127,23780424
8120507,8124738
137288499,137308241
25757326,25757327
77241309,77241355
504920,536685
1829088,1790861
140262339,140296614
140788372,140807269
101151382,101226215
2522390,2522391
150194484,150202102
136654651,136690328
16787669,16787670
204417023,204435089
55136397,55233088
1663742,1664033
41400561,41400562
47469946,47469947
140788372,140807269
91265664,91265665
5772602,5806852
69656327,69656328
4419898,4426377
48597192,48589244
69493317,69493318
90229685,90143574
105622189,105622204
4106009,3544294
140788372,140807269
133096969,133098433
76533188,76533216
138731842,138731967

140788372,140807269
39496742,39496901
88763894,88763956
77246977,77249039
140414409,140414410
25441432,25441935
19440536,19440537
6224779,6224826
25262289,25274317
140788372,140807269
100621403,100621419
236613477,236724860
65157855
119594662
44812007
952271
30161133
154149462
236361171
34989161
9410990
57986974
72614418
62729677
5079239
2581250
198820472
241902718
37035922
3841541
63907397
34038644
918504
33323126
98650049
133541575
2938160
56465885
49022891
12599343
58716019
673429
141721306

58713589
73580257
134942004
128619357
129145448
86318399
21337794
215867783
243837047
120270180
39631463
98907527
91428778
156935591
37737033
111901451
687110
93154380
119291420
12268535
68311865
18274134
140222350
32018563
2803226
73752970
154674748
34444494
88443652
30173543
46715539
76762264
83137010
35084200
53922182
152859642
91486304
42568439
47399600
75639854
113705683
16561951
68831858

139273402
16376190
1023891
189763772
117978303
140682400
43766753
37935946
72956122
57777008
140615827
9447487
119206373
59938978
26899124
44277261
49232224
45068112
31429353
36254490
180540908
128916713
1422709
67409909
53770814
72472674
43457167
76859102
36789201
22069818
432779
43620580
131077590
28476462
64331566
60955209
55521935
132884828
157913475
126225822
64680773
42910374
30649907

48645334
79070181
65347404
95375286
76160100
1861492
22456323
107288930
767105
43101270
110685597
68231843
10278677
3209132
20255943
1590616
98929283
118311097
62574746
89832847
979672
62627695
24678571
140807269
31217110
46718264
179243791
140222350
23403376
71010391
109644356
78032915
15127628
41755837
22168216
29882489
104728336
81192339
23155335
3543396
70793980
127064945
134681693

30747191
140222350
9722333
73888095
4512512
122683532
34006768
61721930
64579832
226900342
9480685
56538930
163731500
18997664
22641335
20408076
176484225
10258158
74834623
58914418
47813211
34038644
33355891
118477650
151523711
127510897
56015672
7013945
47328930
38440492
88916849
134162865
111125932
31546903
140983143
16249658
3508341
53350837
44299780
197887465
123784929
90651140
103346178

48944756
39400107
130935502
178557292
113186774
3615255
51602748
77329076
48494366
112899507
35176265
83977812
107459431
55874316
602593
6395295
22328279
103354182
433963
37705532
43296117
888631
56621183
62782795
73985072
9956277
130313341
5618072
140807269
8592201
135716507
14085185
79066807
55874093
195255815
163731500
105439493
10478725
166962928
47311929
3406158
30647663
40692303

8094724
219328681
76617529
5841576
2949569
11749457
121301342
10081758
70570289
179336995
46008789
116080559
108011588
35310696
41655391
114521627
28884473
16643798
24201542
22287860
97903605
68773801
48192159
1871883
53649062
609067
3147079
111249995
1955747
21871934
17388936
217547580
70698846
63892510
92562824
133186770
79701971
5152786
28301339
107243558
33366102
53579582
133378706

118633321
29129929
26192088
89203992
76382861
50318505
64516736
112770132
151850684
120012170
42950345
46784615
60018852
162947410
91024464
140222350
28720328
132688049
25755379
51189914
1222300
134136246
36430558
4008050
41839713
75556982
11166825
6440655
74759030
156105927
71118582
74944932
80829706
94580212
133608347
61973910
186697926
373029
21872002
98929283
140807269
1036442
90558962

64066998
125593092
36893856
17461532
151550229
133593354
86792328
15722674
66130534
105167585
36276085
165819656
120282340
16467522
3458178
46751994
41752746
64212416
57037918
129050105
124922447
21001667
96517838
90001561
195535322
25399473
3774936
34941955
88797567
48444200
536685
245393901
45878121
237119116
94532063
44585591
1998462
166866088
8869271
9880690
29344689
1270631
40624656

22499723
16746656
55963884
170060146
45123954
56041151
2257490
90958169
122282514
139361082
85579680
47225789
152193232
10090322
43529312
3705115
32677157
123536724
51274704
990952
115810349
44305058
124786052
115928020
32696485
5544317
102733210
10205325
131977644
111901451
73981568
18563878
129743452
13430489
89732964
140621746
210575775
86288655
1484931
228491298
42129924
117487268
73650292

13898560
63627263
144789020
86280873
131749076
148407893
50754654
148591549
47753493
65269045
66282150
94032576
19656225
153883975
71703497
30824169
61869501
153033059
581193
10370470
55870060
180043387
66606894
62301969
23018551
103417023
140222350
76562258
64281902
3544294
71896671
2048994
165567324
134252876
46557820
99879495
99656046
70882884
89418325
93413384
145895077
144297310
75444572

62125889
175265168
17228366
231318322
89897387
32299595
44844590
169362200
50636964
77943467
84687730
19606632
75528578
127794978
5937167
11764920
27491291
176011887
44770845
70622410
101120187
98885556
19583733
148866434
531139
36062862
274107
46917064
4714138
50700334
45970468
796429
44152788
60704417
2160493
19816727
40338642
110021005
134169431
46948159
170698346
76185796
38283294

72411996
58516382
21526087
58060536
111565937
49331268
75175652
21687649
55136397
8449259
2942171
119617173
18735411
47086345
178294555
32403722
30824169
5817337
42174224
122737256
18725048
154805692
55220020
2090468
140160085
36260913
51593265
1605075
131521885
13350430
33368549
19617234
6063386
39169388
106878735
140222350
27138950
77714245
7223662
176830177
27423226
73408419
41817493

68277200
31353415
97353470
42923485
78969375
74102054
19239431
49801057
140222350
59558945
63680719
114496429
2318693
75649357
161624564
46872414
15756328
12617688
108953166
974048
75484000
159797248
62301969
4793989
33833761
129827032
152613111
10765091
138745176
90808933
66099987
38590138
12507917
183101302
62193018
150746310
6095983
1783831
22079226
2829476
21010306
241663687
18785125

242793508
54198305
27867706
13943913
3543396
18565703
176765393
52947803
72784649
123678613
99640948
40380587
38935856
95845082
155552218
143810693
78971536
222704637
122181796
114888534
37159436
29003195
110282391
194846096
51834536
35043780
139652104
79862481
16987255
141995076
133788407
103269465
104027332
31430008
61470544
22851631
3670879
10513220
123409692
64986648
122430537
45827018
187246888

2428172
183888585
21330991
98131430
10368148
21233958
89657290
57593100
114555065
106500939
71178224
8541602
110600567
43368571
33906883
30936612
101464829
27152130
132222754
7594158
22240852
57969591
20672356
203457476
2128343
27895885
40629129
45858245
77674633
38135045
107591673
38503968
118219848
56947979
42837883
128048976
63885704
5020748
134406067
7917074
32906450
33474740
91666017

114834256
54544926
53906925
5683649
116730736
43689840
59064635
25793412
74657603
151510622
127439661
6451750
133014095
133618368
57697568
33743120
113066405
54933103
3446132
11648225
55917965
158735594
5696960
72796787
165715903
47242311
43017917
37696914
64103745
62106264
140788372
7619327
5750693
111321250
99879495
110867863
22985150
9637960
61489619
140930848
60969884
140222350
22385728

48950880
3650014
3839683
6735929
2776981
812667
60620514
217505468
45281758
20394006
77333576
44639920
30666367
80855968
902246
7023986
31557150
57283261
13213728
1354210
1262966
73406357
69061737
128340901
41020166
3578581
39450360
15263009
51336091
509895
166057748
145200513
26790062
98251544
131195162
109066797
45968603
241402331
79118601
3473314
140807269
2089525
140330322

69205759
4817150
99094068
77662247
61041905
230848701
30760231
51045155
19964097
3032180
5263713
38157013
33122180
67361031
42296341
110862302
960712
92531461
15445059
47406934
35391786
39609804
44937379
9449977
145252482
89764547
887433
79444248
1917127
155939304
31693693
66282150
24507010
139265732
120251508
74723439
30215667
132798399
32647982
57677894
119236750
73669104
50015965

17474143
3649499
73985072
84463851
32134240
39193336
30122278
1100693
133906248
13934492
4083219
72083976
33887335
125243050
109793152
45443289
14829748
17339225
23741514
8379486
65679047
47611546
63892510
61825764
77707454
85997810
943538
155939304
155893119
1482680
186208714
135813566
179267474
43161803
62990409
233151171

:1,49146195,49146358,49146361,49146370,48943431
i1,49146370
9,241497398,241497404
3,158281485

Gene name	number of high covari	chromosome	site locations
LOC286467	11	chrX	130854398,130854407
PIEZO1	10	chr16	88804190,88811168,8
PTPRN2	9	chr7	157606110,157641939
FAM19A5	9	chr22	49146297,49146298,4
ANTXR2	8	chr4	80885897,80885910,8
FAM19A5	8	chr22	49146297,49146298,4
PARD6G-AS1	8	chr18	77918010,77918012,7
LARGE	7	chr22	33834610,33834624,3
PRKCZ	7	chr1	2040761,2040776,204
CSMD1	7	chr8	4441842,3828373,382
PARD6G	7	chr18	77918010,77918012,7
RPL23AP53	7	chr8	179561,179588,17961
FGF13	6	chrX	138054754,138085209
CUX1	5	chr7	101464829,101694275
CACNA1H	5	chr16	1207514,1211221,121
SLC36A1	5	chr5	150834304,150834312
OPLAH	5	chr8	145106687,145106712
ZNF664-FAM101A	5	chr12	124590414,124642802
WDSUB1	5	chr2	160101991,160102680
JAG2	5	chr14	105622204,105622216
COL23A1	5	chr5	177741111,177808674
RBFOX1	5	chr16	6459345,7307250,712
ANO2	5	chr12	5998343,5998344,599
CDH4	5	chr20	60422230,60450242,5
SH2B2	5	chr7	101944202,101944208
KIF26B	5	chr1	245381025,245681000
VAV2	5	chr9	136778878,136789528
NXN	4	chr17	743982,846798,81306
CTBP1	4	chr4	1222301,1224540,122
LAMA5	4	chr20	60907895,60926221,6
FBRSL1	4	chr12	133144691,133072654
MACROD2	4	chr20	14423493,14634110,1
CARD11	4	chr7	2953432,2962751,296
DAGLA	4	chr11	61511261,61456424,6
ME1	4	chr6	84140723,84140735,8
C1orf65	4	chr1	223566798,223566800
ZIC3	4	chrX	136648350,136648374
RBFOX1	4	chr16	7307250,7126103,741
LMF1	4	chr16	1012567,945450,9665
SHANK2	4	chr11	70438054,70425842,7
MAGIX	4	chrX	49022855,49022886,4
CDH4	4	chr20	60422230,60450242,6

BCL11B	4	chr14	99679658,99680040,9
GPR133	3	chr12	131519660,131521885
UGT1A8	3	chr2	234633332,234663626
GABRB3	3	chr15	26915571,26915677,2
UGT1A4	3	chr2	234633332,234663626
CCDC154	3	chr16	1493030,1493097,149
UGT1A6	3	chr2	234633332,234663626
RPGR	3	chrX	38157241,38157285,3
ZNF282	3	chr7	148904623,148904794
KANSL1	3	chr17	44220941,44286088,4
ATP10A	3	chr15	25978503,25978810,2
COLEC11	3	chr2	3644890,3645428,364
SYNPR	3	chr3	63269640,63269641,6
KIF1A	3	chr2	241661551,241687530
COTL1	3	chr16	84608934,84615224,8
SMOC2	3	chr6	168928224,168842930
DLEU7-AS1	3	chr13	51417534,51417569,5
HDGFRP2	3	chr19	4490302,4490332,449
CNOT1	3	chr16	58560322,58610256,5
AKAP14	3	chrX	119046140,119046173
NFATC1	3	chr18	77202644,77202645,7
MCF2L	3	chr13	113739124,113693327
CLASP1	3	chr2	122106474,122350965
SLITRK2	3	chrX	144902902,144902965
BAIAP2	3	chr17	79042974,79063592,7
RBFOX3	3	chr17	77295082,77295090,7
DMD	3	chrX	31912609,32603677,3
SURF6	3	chr9	136199464,136199465
CDC42BPB	3	chr14	103477426,103477432
CEP112	3	chr17	63904583,63904587,6
PCSK6	3	chr15	101903335,101915394
UGT1A10	3	chr2	234633332,234663626
CLCN7	3	chr16	1497136,1505429,150
ARHGEF10L	3	chr1	17958855,17958868,1
NTM	3	chr11	131638085,132058408
PRKAR1B	3	chr7	752407,752449,75246
GPHN	3	chr14	67139912,67142112,6
UGT1A9	3	chr2	234633332,234663626
DLEU7	3	chr13	51417534,51417569,5
PGS1	3	chr17	76400505,76400506,7
PIK3R5	3	chr17	8789358,8812825,881
ATP11A	3	chr13	113362104,113398928
ADAMTS17	3	chr15	100514524,100562966

MOB2	3	chr11	1523346,1777815,177
UGT1A5	3	chr2	234633332,234663626
KIAA1755	3	chr20	36849007,36849086,3
AGAP1	3	chr2	236754256,236847317
RPS6KA2	3	chr6	166843822,166946143
ADARB2	3	chr10	1382459,1643950,159
EYS	3	chr6	65216632,66134639,6
GALNTL6	3	chr4	173103159,173030020
LRP3	3	chr19	33696342,33696372,3
CBFA2T3	3	chr16	89042615,88953882,8
UGT1A7	3	chr2	234633332,234663626
PRKAG2	3	chr7	151393353,151398709
GAS7	3	chr17	9820694,9820695,100
RPTOR	3	chr17	78847067,78884949,7
HDAC4	3	chr2	240170032,240170078
DIP2C	3	chr10	444996,418675,64496
RYR1	3	chr19	38949505,38956801,3
SORCS1	3	chr10	108370663,108554540
TMEM184A	3	chr7	1585243,1587041,158
PXDN	2	chr2	1681482,1664033
NOTCH1	2	chr9	139389767,139424016
PRKX	2	chrX	3570186,3621933
GNAZ	2	chr22	23438616,23441116
SULF2	2	chr20	46317257,46317267
FRMPD4	2	chrX	12368726,12602043
PCDHA1	2	chr5	140222356,140233651
CSNK1G2	2	chr19	1953636,1954126
PHKA2	2	chrX	18934349,18934350
KIAA1217	2	chr10	24516752,24832885
ZFR2	2	chr19	3819891,3827732
HIPK3	2	chr11	33304906,33304907
SGMS1	2	chr10	52131940,52131991
ABCC5	2	chr3	183713815,183713816
HRAS	2	chr11	533035,533036
RBFOX1	2	chr16	7418191,7660583
ANO1	2	chr11	69971133,69979164
CACNA1I	2	chr22	40082534,40082538
CAMTA1	2	chr1	7633798,7742833
ITPR2	2	chr12	26924516,26511135
REEP1	2	chr2	86545739,86545740
TMEM132C	2	chr12	129028623,129084727
C3orf33	2	chr3	155505796,155505807
TRPC5	2	chrX	111149356,111149440

SLC12A5	2	chr20	44686590,44686635
TTL6	2	chr17	46855467,46879962
RYR3	2	chr15	33609541,33652116
TBC1D8	2	chr2	101654460,101761168
SNX8	2	chr7	2291790,2293508
CACNA1D	2	chr3	53534199,53784558
PCDHA3	2	chr5	140222356,140233651
AP3D1	2	chr19	2131565,2131578
LOC100873065	2	chrX	22352538,22825509
SNX29	2	chr16	12174662,12184064
NPRL3	2	chr16	177853,178051
ZRANB3	2	chr2	136030518,136213285
LOC100132273	2	chr22	42492062,42492104
PARK2	2	chr6	162441931,162693582
STARD8	2	chrX	67937492,67942325
CAPG	2	chr2	85640633,85640650
MYO7B	2	chr2	128340901,128367090
BTBD9	2	chr6	38520370,38520371
NCOR2	2	chr12	124826676,124860830
ONECUT2	2	chr18	55138245,55105945
CTBP2	2	chr10	126719831,126719832
CRISPLD2	2	chr16	84872049,84887563
MMEL1	2	chr1	2522201,2522203
FLJ12825	2	chr12	54500278,54500355
PRDM16	2	chr1	3320520,3110954
BRSK2	2	chr11	1435516,1447686
IL1RAP	2	chr3	190352746,190352783
SH2D4B	2	chr10	82360631,82360632
FRMD1	2	chr6	168474308,168479602
LMX1B	2	chr9	129379371,129379379
EMR1	2	chr19	6899501,6899521
SH3BGR	2	chr21	40823879,40823888
RNF128	2	chrX	106007255,106007285
RBKS	2	chr2	28063222,28063226
PNKD	2	chr2	219186591,219146078
EIF4G3	2	chr1	21134595,21134596
SLC7A5	2	chr16	87867223,87871580
ZFPM2	2	chr8	106488511,106488515
MRPL48	2	chr11	73508796,73523222
LHPP	2	chr10	126208561,126290561
CEP68	2	chr2	65289622,65289948
CRLF1	2	chr19	18706287,18706503
NTM	2	chr11	132058408,132058411

ATP2C2	2	chr16	84468325,84469995
DSCAML1	2	chr11	117544836,117566161
PIK3C2B	2	chr1	204417023,204436065
RNU6-71	2	chr6	56173941,56174087
CTSD	2	chr11	1777815,1778321
TTC40	2	chr10	134681693,134623694
KCND3	2	chr1	112525024,112525031
AP2A2	2	chr11	984420,1001560
ARFGEF1	2	chr8	68118794,68223105
CYFIP1	2	chr15	22896102,22912140
LRCOL1	2	chr12	133186812,133186827
SLC24A3	2	chr20	19222060,19222104
DAPK3	2	chr19	3966518,3960019
MICAL3	2	chr22	18281728,18398207
CSNK1G2-AS1	2	chr19	1953636,1954126
PCNXL2	2	chr1	233399443,233399444
HELB	2	chr12	66733266,66733338
MIR548AN	2	chr13	99977592,100043086
GPR132	2	chr14	105518054,105518091
PCDHA8	2	chr5	140222356,140233651
ZNF579	2	chr19	56090276,56090305
CLYBL	2	chr13	100260559,100260560
OSBPL5	2	chr11	3167118,3172171
TSNARE1	2	chr8	143313650,143358298
PCDHA5	2	chr5	140222356,140233651
C2orf83	2	chr2	228491298,228491315
VDR	2	chr12	48257325,48257326
RPF2	2	chr6	111342297,111313236
CNTNAP5	2	chr2	125119759,125398121
FAM83A	2	chr8	124219472,124219544
MSRA	2	chr8	10225240,9949277
MCPH1	2	chr8	6365738,6465694
RXRA	2	chr9	137225217,137288499
THAP4	2	chr2	242547301,242555315
SNF8	2	chr17	47009568,47010007
LOC100286922	2	chr2	234663626,234663653
DOK6	2	chr18	67361019,67361031
TAF1C	2	chr16	84212777,84212710
BCOR	2	chrX	39933047,39938587
MYOM2	2	chr8	2024656,2045514
LOC732275	2	chr16	86368525,86369306
STK40	2	chr1	36807480,36810010
CNOT1	2	chr16	58610256,58610257

C1QL3	2	chr10	16561939,16561955
STIM1	2	chr11	3936650,3982840
CACNA1G	2	chr17	48677083,48689799
TYW1	2	chr7	66479904,66479905
TMEM132D	2	chr12	130342963,129888938
ZMAT4	2	chr8	40707694,40518778
ARHGEF10	2	chr8	1790861,1813891
PCDHA7	2	chr5	140222356,140233651
FBLN1	2	chr22	45978046,45981447
ERICH1-AS1	2	chr8	872324,1042396
ASAP1	2	chr8	131069818,131427223
ZNF76	2	chr6	35260502,35260529
ADCY9	2	chr16	4027604,4027605
PCDHA4	2	chr5	140222356,140233651
HAUS7	2	chrX	152746484,152746485
VPRBP	2	chr3	51531473,51531495
NLRP2	2	chr19	55494187,55495378
DLGAP2	2	chr8	1455439,1478196
KCNK17	2	chr6	39271537,39271538
SBNO2	2	chr19	1122146,1164139
KAZN	2	chr1	15127623,15294191
UGT1A3	2	chr2	234663626,234663653
MRPL45P2	2	chr17	45565093,45565384
CBFA2T3	2	chr16	88953882,88962816
RTDR1	2	chr22	23438616,23441116
C20orf85	2	chr20	56732799,56733571
ATG4B	2	chr2	242584161,242610500
LOC100505817	2	chr18	71010480,71010484
INPP5A	2	chr10	134372679,134372680
GAS7	2	chr17	9820694,9820695
XKR6	2	chr8	10910862,10966569
ARHGAP19-SLIT1	2	chr10	99047710,99047711
RASA3	2	chr13	114802859,114880846
FAM86HP	2	chr3	129822490,129822550
PLXNA4	2	chr7	131815652,132187312
IL6R	2	chr1	154416933,154416934
EYS	2	chr6	66134639,66166067
ZDHHC19	2	chr3	195925355,195933370
PCDHA2	2	chr5	140222356,140233651
ELP6	2	chr3	47547663,47547664
TRPM7	2	chr15	50935282,50935283
FAM213B	2	chr1	2522201,2522203
KIF17	2	chr1	21035108,21043852

PLEKHA6	2	chr1	204219848,204219849
ZBTB46	2	chr20	62380327,62432152
KIAA1751	2	chr1	1886588,1898937
PCSK6	2	chr15	101915394,101924537
WDR4	2	chr21	44280703,44290375
LRP1B	2	chr2	141294992,142022629
BIN1	2	chr2	127860879,127861446
ANP32E	2	chr1	150194484,150202102
TPST2	2	chr22	26948220,26982357
NEK6	2	chr9	127105254,127048907
GRM3	2	chr7	86323612,86457243
FTSJ1	2	chrX	48339984,48339985
EPB41L4A	2	chr5	111696502,111696538
RTL1	2	chr14	101349763,101349172
SIPA1L3	2	chr19	38617389,38627237
PLOD3	2	chr7	100851242,100851243
ASPG	2	chr14	104562750,104562791
C16orf45	2	chr16	15528789,15636155
LOC100129138	2	chr1	104615880,104615885
MMRN2	2	chr10	88703284,88703316
MLLT1	2	chr19	6213311,6213321
FLI1	2	chr11	128611281,128611282
PDZD4	2	chrX	153068854,153073318
C14orf159	2	chr14	91609462,91609532
LCMT1	2	chr16	25187609,25144907
PCDHA6	2	chr5	140222356,140233651
KDM4C	2	chr9	6793789,7147974
YWHAE	2	chr17	1252535,1252536
AHRR	2	chr5	355048,407802
ELFN1	2	chr7	1784084,1784838
USP8	2	chr15	50731843,50752566
RBM19	2	chr12	114255319,114255320
CACNB4	2	chr2	152864956,152874593
ARHGAP19	2	chr10	99047710,99047711
MND1	2	chr4	154300829,154302293
PXDNL	2	chr8	52317473,52317474
LEMD2	2	chr6	33742192,33742193
ZSCAN1	2	chr19	58552731,58545712
DYSF	2	chr2	71797711,71692546
PACSIN2	2	chr22	43274720,43324183
DCHS2	2	chr4	155410665,155410924
CTNNA2	2	chr2	80286635,79914706
POLR2A	2	chr17	7405073,7411770

TRAPPC9	2	chr8	141200417,141269708
AUNIP	1	chr1	26180431
KDM1B	1	chr6	18158286
NR1H4	1	chr12	100953546
GRAMD1A	1	chr19	35502532
SPTBN4	1	chr19	41050290
SNRPN	1	chr15	25196084
CYP11B1	1	chr8	143957579
GPR137B	1	chr1	236361171
RPS6KB1	1	chr17	57986974
TMBIM6	1	chr12	50153676
ARRB2	1	chr17	4622638
CCNG1	1	chr5	162870234
DOT1L	1	chr19	2187851
EPG5	1	chr18	43522083
BCL2	1	chr18	60816889
CANX	1	chr5	179145862
TEAD4	1	chr12	3128415
KLHL13	1	chrX	117245441
CCT5	1	chr5	10253162
PDE6B	1	chr4	619634
UBAC1	1	chr9	138831135
MTRF1L	1	chr6	153311755
FUT10	1	chr8	33323126
HCN2	1	chr19	607040
C20orf196	1	chr20	5741195
DGKG	1	chr3	186077900
N4BP3	1	chr5	177546160
WDR59	1	chr16	74993426
SLC29A1	1	chr6	44198397
CD97	1	chr19	14506631
DHTKD1	1	chr10	12156554
ERI3	1	chr1	44780321
KCNAB2	1	chr1	6143145
LINC00661	1	chr19	16126820
GRK1	1	chr13	114432861
ZFP57	1	chr6	29644039
KLF11	1	chr2	10191713
SORL1	1	chr11	121357434
LRP5	1	chr11	68201295
IGSF23	1	chr19	45124734
MYH7	1	chr14	23896981
CCDC85C	1	chr14	100026843

GMPR	1	chr6	16251571
NUGGC	1	chr8	27886902
CALCOCO2	1	chr17	46936153
ZNF812	1	chr19	9804096
CDC123	1	chr10	12268535
TACC2	1	chr10	123814472
GTPBP3	1	chr19	17452744
HSPB2-C11orf52	1	chr11	111784923
FOXF1	1	chr16	86547385
PRICKLE2	1	chr3	64183682
BOLA3	1	chr2	74368577
SDCCAG8	1	chr1	243600962
IL1RAPL1	1	chrX	29547567
UGGT2	1	chr13	96580857
ALDH1A3	1	chr15	101436140
STOX2	1	chr4	184848069
POLR3K	1	chr16	102638
IQSEC2	1	chrX	53272073
PREX1	1	chr20	47325314
TM9SF4	1	chr20	30729523
FAM133A	1	chrX	92952059
ZNF213	1	chr16	3192535
SRCIN1	1	chr17	36718828
CRB2	1	chr9	126129406
C6orf123	1	chr6	168185593
ELOVL6	1	chr4	111114534
WAC	1	chr10	28899099
MLL3	1	chr7	151998404
NTSR2	1	chr2	11809846
PLA2G4B	1	chr15	42135988
OCLN	1	chr5	68831858
ALPL	1	chr1	21892980
FLG	1	chr1	152286040
C1QTNF6	1	chr22	37578578
CNTN2	1	chr1	205018621
PKNOX2	1	chr11	125169732
DHX38	1	chr16	72137560
NOL4	1	chr18	31767641
ANKS1B	1	chr12	100040303
EP400	1	chr12	132558689
GPC3	1	chrX	132763656
BOC	1	chr3	112991312
COL6A1	1	chr21	47421793

PI4KA	1	chr22	21196897
GRIN1	1	chr9	140059456
CAMK2B	1	chr7	44259325
UPK1A	1	chr19	36168150
ZNF516	1	chr18	74097118
CNOT6	1	chr5	179962178
CNTN4	1	chr3	2348890
CDK16	1	chrX	47086345
SSTR5-AS1	1	chr16	1124965
KIAA1609	1	chr16	84514963
TECRL	1	chr4	65221244
AGPAT3	1	chr21	45386749
LOC440335	1	chr16	4846334
ST3GAL1	1	chr8	134494941
FZR1	1	chr19	3533273
PRSS42	1	chr3	46875041
TSHZ1	1	chr18	72949954
SHISA9	1	chr16	13166315
GFRA1	1	chr10	117883900
THBS3	1	chr1	155174105
MRGPRX2	1	chr11	19077819
KDM2B	1	chr12	121891696
TTLL1	1	chr22	43457167
MFRP	1	chr11	119216504
9-Sep	1	chr17	75348109
MICAL3	1	chr22	18398207
TLL2	1	chr10	98132016
HDAC11	1	chr3	13528297
COMMD10	1	chr5	115444798
DSCAM	1	chr21	41654239
APOBEC3H	1	chr22	39496742
RAB11FIP4	1	chr17	29834071
KCNQ1	1	chr11	2495420
DNAH9	1	chr17	11579945
RCOR1	1	chr14	103128775
PLXNA4	1	chr7	132187312
NT5DC3	1	chr12	104185494
YIF1B	1	chr19	38794450
SPEG	1	chr2	220354384
DGKQ	1	chr4	960712
TUBB3	1	chr16	90001902
RAB1A	1	chr2	65345703
GABRA5	1	chr15	27128821

TBL1XR1	1	chr3	176889359
LOC442459	1	chrX	99036839
FILIP1	1	chr6	76160100
ATPBD4-AS1	1	chr15	35970622
CCDC134	1	chr22	42220489
SEC14L4	1	chr22	30899353
NTN1	1	chr17	8993970
LOC100287314	1	chr12	30948769
MIR548AO	1	chr5	92934607
KCNK13	1	chr14	90564920
ADARB2-AS1	1	chr10	1590616
CDC7	1	chr1	91983472
C1QTNF5	1	chr11	119216504
ADH5	1	chr4	100007865
MAP2K3	1	chr17	21195047
CUL3	1	chr2	225394812
RAB35	1	chr12	120538685
NKD2	1	chr5	1033924
IL12RB1	1	chr19	18183527
TBC1D9	1	chr4	141675541
PRKAG3	1	chr2	219691758
UBAC2	1	chr13	99977592
LOC200772	1	chr2	241906186
MMP25	1	chr16	3102462
PPP4R1L	1	chr20	56845938
MIR548F5	1	chr13	36227031
ACE	1	chr17	61562922
TMBIM1	1	chr2	219146078
DNMT3A	1	chr2	25465487
SMOC1	1	chr14	70397475
RNGTT	1	chr6	89498970
MEI1	1	chr22	42143536
UNC13C	1	chr15	54316941
LOXL2	1	chr8	23155335
WNK1	1	chr12	917009
MFSD12	1	chr19	3543396
CDON	1	chr11	125854390
TNFRSF19	1	chr13	24199623
PCDHA8	1	chr5	140222356
SETD8	1	chr12	123881894
CACNA1A	1	chr19	13593094
LOC653712	1	chr3	128587817
SRCAP	1	chr16	30747191

RAPGEF3	1	chr12	48134634
ISM1	1	chr20	13213728
CPPED1	1	chr16	12795662
ST20-MTHFS	1	chr15	80179495
DPP6	1	chr7	154384180
LINC00620	1	chr3	13694628
RASIP1	1	chr19	49233333
IARS2	1	chr1	220313851
PEAR1	1	chr1	156883491
ADAM8	1	chr10	135078760
CELF5	1	chr19	3252242
PTDSS2	1	chr11	472525
MAGI1	1	chr3	65412778
LDLRAD3	1	chr11	36060708
FRMD1	1	chr6	168474308
MAP3K15	1	chrX	19490198
LRRK1	1	chr15	101504495
PPIL4	1	chr6	149846961
ZNF346	1	chr5	176484225
FAM208B	1	chr10	5731339
RNF103-CHMP3	1	chr2	86829355
SEC24D	1	chr4	119713046
HCK	1	chr20	30642232
KANSL1	1	chr17	44220941
POP1	1	chr8	99137831
CMC1	1	chr3	28296877
CTNNA3	1	chr10	67854284
ZFP42	1	chr4	188918166
AKIRIN1	1	chr1	39468217
C1orf216	1	chr1	36181446
MAGEL2	1	chr15	23891602
STK11	1	chr19	1219701
LOC285577	1	chr5	3491300
KIAA1671	1	chr22	25567235
NME4	1	chr16	448131
C16orf45	1	chr16	15636155
JRK	1	chr8	143747271
SLC4A7	1	chr3	27421654
CNTRL	1	chr9	123926393
MRPL28	1	chr16	419921
RGS12	1	chr4	3374161
MAGEB3	1	chrX	30250321
LDLRAD4	1	chr18	13571929

RGCC	1	chr13	42043265
TREH	1	chr11	118529125
TCF7L1	1	chr2	85517291
CNPY1	1	chr7	155323907
JMJD7-PLA2G4B	1	chr15	42135988
ZNF517	1	chr8	146030084
CNR2	1	chr1	24204072
LINC00689	1	chr7	158816261
SARM1	1	chr17	26708335
PQLC1	1	chr18	77683125
LYRM7	1	chr5	130529475
SNTG2	1	chr2	1357789
BCYRN1	1	chrX	70882202
SYS1-DBNDD2	1	chr20	44023473
FHDC1	1	chr4	153896358
DDX49	1	chr19	19035368
CDC42SE2	1	chr5	130638028
HMHA1	1	chr19	1071946
MECOM	1	chr3	168827493
NRXN3	1	chr14	79562574
ATP8B1	1	chr18	55315437
ATP6V1C2	1	chr2	10918531
SCAI	1	chr9	127801355
CPLX2	1	chr5	175280608
ERBB4	1	chr2	212566718
VPS52	1	chr6	33223425
TENM2	1	chr5	167011860
RTF1	1	chr15	41729232
ALX4	1	chr11	44330555
WNK4	1	chr17	40934275
RANBP17	1	chr5	170504170
SH3PXD2A	1	chr10	105584366
EEF2K	1	chr16	22240790
PIGN	1	chr18	59803822
DNAJB13	1	chr11	73681089
GCH1	1	chr14	55363590
TNS3	1	chr7	47534646
SSBP3	1	chr1	54869839
WDR1	1	chr4	10114811
ADCY3	1	chr2	25064191
INPP5D	1	chr2	234080746
CATSPERD	1	chr19	5744912
QSOX2	1	chr9	139101770

PPWD1	1	chr5	64861269
FIBP	1	chr11	65655077
LOC150935	1	chr2	240698235
PRKCA	1	chr17	64479342
COL22A1	1	chr8	139883644
OTOP1	1	chr4	4221165
IQCA1	1	chr2	237370989
RUFY2	1	chr10	70118541
PPP2CB	1	chr8	30667309
MIR548AI	1	chr14	29968344
CXorf49B	1	chrX	70987013
MYH14	1	chr19	50752376
ITIH6	1	chrX	54785262
TLR8-AS1	1	chrX	12924035
PPM1G	1	chr2	27605982
AGAP1	1	chr2	236754256
ONECUT1	1	chr15	53081116
ZNF578	1	chr19	52985695
FAR1	1	chr11	13695712
LOC100505549	1	chr18	55315437
SEPHS1	1	chr10	13377716
CDK11B	1	chr1	1576635
SCARA3	1	chr8	27494605
KIF25	1	chr6	168419593
MACROD2	1	chr20	15984559
GYG2	1	chrX	2771538
TTC7B	1	chr14	91268771
HPN	1	chr19	35537771
LONRF3	1	chrX	118143818
KIF26A	1	chr14	104613056
COL4A4	1	chr2	227892708
RNF175	1	chr4	154674748
DET1	1	chr15	89067474
ITGA9	1	chr3	37572577
KLF13	1	chr15	31658668
MAFK	1	chr7	1574811
CDH15	1	chr16	89261144
CASZ1	1	chr1	10828178
EFHA1	1	chr13	22069818
GABRD	1	chr1	1956361
SYNGR1	1	chr22	39746803
CRELD2	1	chr22	50318505
CCT6P3	1	chr7	64516736

GRID1	1	chr10	88028472
SEC14L5	1	chr16	5047168
CELF4	1	chr18	34988706
DAB1	1	chr1	58566803
MUC5B	1	chr11	1271429
FLJ37505	1	chr12	128375623
C1orf106	1	chr1	200863771
COL8A1	1	chr3	99376747
NT5M	1	chr17	17210459
LRP12	1	chr8	105540724
FAM219A	1	chr9	34400580
CUL1	1	chr7	148480233
DRAM1	1	chr12	102277334
ACAP3	1	chr1	1229850
CHAF1B	1	chr21	37761362
PM20D1	1	chr1	205819038
IL2RA	1	chr10	6096005
NCF2	1	chr1	183549851
MOB3B	1	chr9	27355326
SOX3	1	chrX	139586813
MAPT	1	chr17	44022067
TRPM8	1	chr2	234908509
PEX6	1	chr6	42934500
CERS1	1	chr19	19004173
PRR5-ARHGAP8	1	chr22	45151454
UCK1	1	chr9	134405414
S1PR3	1	chr9	91612882
BCAS4	1	chr20	49427252
DHX37	1	chr12	125448959
FAM189A2	1	chr9	71951803
LRP2	1	chr2	170105268
GPC1	1	chr2	241387018
SPN	1	chr16	29675927
BAHCC1	1	chr17	79395033
SPAG16	1	chr2	214629889
ANO9	1	chr11	433903
CORO2B	1	chr15	69011119
C14orf132	1	chr14	96523939
TRAK1	1	chr3	42242685
FBLN2	1	chr3	13608943
CDH9	1	chr5	26896115
DAG1	1	chr3	49517215
RAB36	1	chr22	23505575

DRD4	1	chr11	639552
LCLAT1	1	chr2	30822053
HPSE2	1	chr10	100587254
MCM3AP	1	chr21	47691729
ZFP82	1	chr19	36893856
PTPRT	1	chr20	41042717
DLGAP3	1	chr1	35369244
SP2	1	chr17	45988531
ITGAL	1	chr16	30503727
SLC2A6	1	chr9	136340458
MIR5009	1	chr21	29036527
TNFRSF1B	1	chr1	12249019
LIPT2	1	chr11	74203582
PTPRD	1	chr9	10362794
TBL1X	1	chrX	9494077
PDZD7	1	chr10	102771571
TMEM151B	1	chr6	44243190
LOC100128675	1	chr19	35570306
PI16	1	chr6	36917094
GNAT1	1	chr3	50231058
GYPA	1	chr4	145053198
PTCHD2	1	chr1	11591735
INPP5J	1	chr22	31523685
ZNF280C	1	chrX	129385813
BMP15	1	chrX	50659488
LZTS2	1	chr10	102764820
FAM47A	1	chrX	34148956
COL15A1	1	chr9	101737047
MAD1L1	1	chr7	2164994
ITPR1	1	chr3	4825829
ZNF284	1	chr19	44585591
EXD3	1	chr9	140241360
STK32C	1	chr10	134119998
R3HDM4	1	chr19	897518
CCDC88C	1	chr14	91881920
TAF4	1	chr20	60598912
PI4K2B	1	chr4	25248474
SFRP1	1	chr8	41122515
SLC25A29	1	chr14	100764469
CDR2L	1	chr17	72999772
PTPRH	1	chr19	55704213
DCAF12L2	1	chrX	125299550
CDH23	1	chr10	73521730

FLJ13197	1	chr4	38616757
EMR3	1	chr19	14751290
TMEM8A	1	chr16	427782
LEPR	1	chr1	65985735
KCNG2	1	chr18	77624266
TMEM44	1	chr3	194324731
SRSF4	1	chr1	29485475
MRC2	1	chr17	60728953
DNAH17	1	chr17	76565604
WNT9A	1	chr1	228110732
EVC2	1	chr4	5596076
LOC100132354	1	chr6	43878654
NRF1	1	chr7	129265545
RIMS2	1	chr8	105081884
BTBD2	1	chr19	2000129
IKBIP	1	chr12	99013627
GRIN2B	1	chr12	13917683
NFAT5	1	chr16	69662907
DTNB	1	chr2	25638407
PHF21B	1	chr22	45339200
ZAP70	1	chr2	98351851
PKP4	1	chr2	159519478
B4GALT1	1	chr9	33132490
LOC100288637	1	chr15	31059158
RBP7	1	chr1	10064649
DCDC2	1	chr6	24301369
PAPLN	1	chr14	73719984
PCGF2	1	chr17	36894037
ATCAY	1	chr19	3913959
PIP5K1P1	1	chr6	7986670
LRRTM4	1	chr2	77379705
TRPM5	1	chr11	2434036
ME3	1	chr11	86267676
COL25A1	1	chr4	109933638
RGS7	1	chr1	241227281
WWP2	1	chr16	69812703
PRICKLE2-AS3	1	chr3	64183682
TFDP2	1	chr3	141846292
FAM207A	1	chr21	46387352
LRRC15	1	chr3	194077617
PCBP3	1	chr21	47308320
MDGA2	1	chr14	47631349
GFOD1	1	chr6	13430489

PLIN3	1	chr19	4854735
ATP9A	1	chr20	50382048
STON1-GTF2A1L	1	chr2	48841796
DENND2C	1	chr1	115174199
APBA2	1	chr15	29227420
MSRA	1	chr8	10225240
BEND2	1	chrX	18236885
PEBP4	1	chr8	22770137
LINC00673	1	chr17	70526843
IFNAR1	1	chr21	34711337
F10	1	chr13	113778484
ATRNL1	1	chr10	116999175
CCDC113	1	chr16	58300770
RAB40B	1	chr17	80617214
SAFB2	1	chr19	5591280
EPHA3	1	chr3	89252688
CTSH	1	chr15	79224683
AR	1	chrX	66766196
ATP6V0CP3	1	chr6	42695529
NACC2	1	chr9	138966820
ANKRD24	1	chr19	4190586
CELSR1	1	chr22	46908054
TMEM145	1	chr19	42828238
PSMA8	1	chr18	23764533
DCUN1D5	1	chr11	102958119
HDAC9	1	chr7	18547111
CDX2	1	chr13	28541503
KDELR3	1	chr22	38872469
ALOX5AP	1	chr13	31306311
GOLGB1	1	chr3	121407725
DBF4B	1	chr17	42827672
TOM1L1	1	chr17	53013356
SLITRK4	1	chrX	142721761
ZNF831	1	chr20	57780553
ANKFY1	1	chr17	4165347
WDR88	1	chr19	33653408
C15orf38-AP3S2	1	chr15	90425672
SLC35F5	1	chr2	114505405
SGCG	1	chr13	23872175
ITPR3	1	chr6	33606522
LOC100131691	1	chr19	59082605
GPR151	1	chr5	145895164
C20orf78	1	chr20	18795558

KIF21B	1	chr1	200969919
SUV420H2	1	chr19	55856850
HLX	1	chr1	221057645
VWA3A	1	chr16	22136995
SELM	1	chr22	31503149
KANK1	1	chr9	580997
EFCAB6	1	chr22	44182208
HAGHL	1	chr16	779687
TMPRSS15	1	chr21	19693947
NEBL	1	chr10	21183608
LAMA4	1	chr6	112505108
STX16-NPEPL1	1	chr20	57274149
NEK6	1	chr9	127105254
PROS1	1	chr3	93683979
SVIL	1	chr10	29780291
FBXL18	1	chr7	5541655
STX2	1	chr12	131276761
BTNL9	1	chr5	180482539
PHACTR4	1	chr1	28756657
SNRPA	1	chr19	41259867
CCDC130	1	chr19	13866135
POC1B	1	chr12	89897387
CDH1	1	chr16	68787529
PDE9A	1	chr21	44152788
BRI3BP	1	chr12	125503520
ANGPT2	1	chr8	6365738
HRH1	1	chr3	11210314
HOXD3	1	chr2	177036642
HTR2C	1	chrX	113981251
WDR83	1	chr19	12782089
CSNK1D	1	chr17	80209233
SPEN	1	chr1	16184131
DNAH11	1	chr7	21871891
BTBD16	1	chr10	124089034
MUC17	1	chr7	100684925
MLF1	1	chr3	158319418
GRIK3	1	chr1	37380385
ZIC5	1	chr13	100621419
CDHR2	1	chr5	176011887
BICD1	1	chr12	32528150
UBE2H	1	chr7	129534618
MORN1	1	chr1	2310576
AKT1	1	chr14	105249322

ASCL3	1	chr11	8959545
COL5A3	1	chr19	10102490
TMED10	1	chr14	75621019
KCNQ1DN	1	chr11	2891269
PPP1R14C	1	chr6	150501103
ADNP2	1	chr18	77879657
ATF7IP	1	chr12	14594740
KIRREL3	1	chr11	126453648
SLC26A5	1	chr7	103016782
MYO18B	1	chr22	26323726
PPP1R37	1	chr19	45618958
MAEA	1	chr4	1310925
RAB11B	1	chr19	8468337
AP3S2	1	chr15	90425672
SSTR5	1	chr16	1124965
RGN	1	chrX	46948159
BPTF	1	chr17	65867128
PNMA3	1	chrX	152225031
PDXDC1	1	chr16	15083515
PVRL1	1	chr11	119574608
JPH3	1	chr16	87702494
IQSEC1	1	chr3	12946689
TNNI3K	1	chr1	74712951
PROM1	1	chr4	16011211
GEMIN7	1	chr19	45587004
CC2D1A	1	chr19	14041481
RNU6-81	1	chr2	132203010
NXN	1	chr17	743982
MED24	1	chr17	38179288
NRP2	1	chr2	206551978
ZNF398	1	chr7	148864851
MUC4	1	chr3	195474368
CXorf49	1	chrX	70987013
SNORD115-21	1	chr15	25455720
VGLL4	1	chr3	11611732
AGPS	1	chr2	178331204
ZFYVE1	1	chr14	73477261
MTHFS	1	chr15	80179495
PTPRS	1	chr19	5238770
CLEC17A	1	chr19	14712697
MEGF6	1	chr1	3450637
LINC00200	1	chr10	1206496
WNT3A	1	chr1	228206934

SAMD3	1	chr6	130581876
CHST8	1	chr19	34188708
EML1	1	chr14	100402814
SYT2	1	chr1	202638789
LYZL2	1	chr10	30916944
PLEKHA5	1	chr12	19383370
IGSF21	1	chr1	18527092
TSPAN9	1	chr12	3227502
DHDH	1	chr19	49440851
SNTG1	1	chr8	51382942
MIPEP	1	chr13	24341072
SYNGR3	1	chr16	2041493
ALDH3B2	1	chr11	67438801
ICOSLG	1	chr21	45648880
BCORL1	1	chrX	129159505
SPON1	1	chr11	14099081
TNRC18	1	chr7	5427651
SACS	1	chr13	23966201
MLLT10	1	chr10	21883429
ABCG2	1	chr4	89021640
POU4F1-AS1	1	chr13	78969375
PCNT	1	chr21	47836653
RAB40C	1	chr16	651516
TNNT1	1	chr19	55652270
KIAA0825	1	chr5	93869138
CNIH3	1	chr1	224874744
SORCS2	1	chr4	7451442
ENOX2	1	chrX	129987599
EPHA2	1	chr1	16455051
WDR19	1	chr4	39233975
PLA2G3	1	chr22	31533965
SLC12A3	1	chr16	56926792
CCNY	1	chr10	35558831
TBC1D30	1	chr12	65269045
GSG1L	1	chr16	27802755
EPHA1-AS1	1	chr7	143111464
ACSL4	1	chrX	108943360
FAM160B1	1	chr10	116636620
LINC00251	1	chr8	66078831
C9orf96	1	chr9	136247289
ARMC2	1	chr6	109276551
LOC100128946	1	chr22	49290652
PFKFB3	1	chr10	6265203

THBS2	1	chr6	169652497
RAI1	1	chr17	17700234
LIMS2	1	chr2	128429090
ENPP6	1	chr4	185037323
MYO9B	1	chr19	17188322
SMAD6	1	chr15	66998856
EPB41L2	1	chr6	131245620
ZEB1	1	chr10	31659276
ZNF846	1	chr19	9877935
SLC17A2	1	chr6	25925633
WDR65	1	chr1	43702360
GRM5	1	chr11	88619806
TSC22D3	1	chrX	106959465
CNNM4	1	chr2	97442817
ZNF524	1	chr19	56113828
POMT1	1	chr9	134397624
EPB41L1	1	chr20	34783506
ZNF329	1	chr19	58658691
C19orf71	1	chr19	3543396
TMCO3	1	chr13	114166775
KCNK5	1	chr6	39167605
MCC	1	chr5	112579417
AK5	1	chr1	77927325
KLHL29	1	chr2	23773096
SDK2	1	chr17	71453731
PCDHA9	1	chr5	140233651
ARL2-SNX15	1	chr11	64790137
SCN4B	1	chr11	118023118
MGMT	1	chr10	131536574
CHMP6	1	chr17	78971536
SLC27A1	1	chr19	17611259
ANXA11	1	chr10	81921078
NBEA	1	chr13	36227031
MGA	1	chr15	42024577
TACC3	1	chr4	1737502
LINC00174	1	chr7	65852199
SCARB1	1	chr12	125341870
CABP1	1	chr12	121088884
CCT3	1	chr1	156293490
EYA2	1	chr20	45543675
MDGA1	1	chr6	37616899
NCAM2	1	chr21	22385757
MYO1D	1	chr17	30831244

HOMER3	1	chr19	19041551
PRR12	1	chr19	50105239
SCAMP5	1	chr15	75293407
GALNT14	1	chr2	31149648
B4GALNT4	1	chr11	372156
SLC1A7	1	chr1	53588498
CD58	1	chr1	117059978
ERC1	1	chr12	1421739
KNDC1	1	chr10	134979519
CCDC36	1	chr3	49238668
MZF1	1	chr19	59082605
SERPINH1	1	chr11	75279846
UHRF1BP1L	1	chr12	100518917
TTLL6	1	chr17	46855467
CLPTM1L	1	chr5	1331692
DUSP27	1	chr1	167075205
PCSK6	1	chr15	101924537
EED	1	chr11	85964886
HMMR	1	chr5	162896152
DGCR5	1	chr22	18961797
CHRNA4	1	chr20	61987340
TNFAIP2	1	chr14	103595564
CAPN13	1	chr2	30955476
TBATA	1	chr10	72542669
CHTF18	1	chr16	841965
PCDHB4	1	chr5	140503914
ITGBL1	1	chr13	102277204
MRTO4	1	chr1	19583733
AKAP9	1	chr7	91733664
CA6	1	chr1	9024551
FANCC	1	chr9	97979533
DEF8	1	chr16	90020861
QSOX1	1	chr1	180157189
FAM19A1	1	chr3	68574113
FGF2	1	chr4	123787320
FPGT-TNNI3K	1	chr1	74712951
KCNA2	1	chr1	111144026
PPP5D1	1	chr19	46988945
DENND4C	1	chr9	19274447
SPATA2	1	chr20	48526703
GAK	1	chr4	878078
CHRNA1	1	chr17	7353235
SERPINI1	1	chr3	167535541

SGTA	1	chr19	2754809
SEPSECS	1	chr4	25158222
NDP	1	chrX	43829064
IGF1R	1	chr15	99206152
SEC14L1	1	chr17	75170673
GSK3B	1	chr3	119689587
CLUH	1	chr17	2593661
LOC100652739	1	chr6	150226492
PIEZO2	1	chr18	11023984
CIITA	1	chr16	11006702
RHPN1-AS1	1	chr8	144449706
ITGB2	1	chr21	46339178
C7orf50	1	chr7	1100693
TSPEAR	1	chr21	46101348
WIPI1	1	chr17	66430512
SYN3	1	chr22	32955541
MPND	1	chr19	4351596
CABP7	1	chr22	30122279
SIK3	1	chr11	116730736
GLB1L3	1	chr11	134151819
PPP2R2B	1	chr5	146387464
GLI3	1	chr7	42060051
FGFRL1	1	chr4	1017233
IL32	1	chr16	3117519
CTNS	1	chr17	3561310
GOLGA8A	1	chr15	34702884
SLC39A11	1	chr17	71031784
FHIT	1	chr3	60004440
LINC00294	1	chr11	33097876
NAV1	1	chr1	201708421
BSN	1	chr3	49701981
TAOK2	1	chr16	29994922
MYO15A	1	chr17	18023872
DMD	1	chrX	31912609
COLQ	1	chr3	15562510
SLK	1	chr10	105735726
RBM47	1	chr4	40599002
PODN	1	chr1	53537264
HERC1	1	chr15	64103745
DSEL	1	chr18	65176221
TRAPPC8	1	chr18	29457371
SPATS2	1	chr12	49897385
NADK	1	chr1	1684471

C10orf54	1	chr10	73521730
RNF149	1	chr2	101894221
MIR548G	1	chr3	99376747
BLOC1S5-TXNDC5	1	chr6	7986670
C4orf45	1	chr4	159893282
UBR3	1	chr2	170721309
TAZ	1	chrX	153648928
GNG7	1	chr19	2601809
FGD4	1	chr12	32677157
NPEPL1	1	chr20	57274149
FCHO1	1	chr19	17899267
ZNF7	1	chr8	146068321
KAT2B	1	chr3	20111266
ZSWIM4	1	chr19	13914971
TGM5	1	chr15	43554709
SGCZ	1	chr8	14722273
ECE1	1	chr1	21630582
TUFT1	1	chr1	151527035
ASB18	1	chr2	237125778
NXPH1	1	chr7	8621760
PDE1A	1	chr2	183363989
SLC13A5	1	chr17	6600139
PLGRKT	1	chr9	5433404
KDM4B	1	chr19	5013610
WDR26	1	chr1	224616740
NOV	1	chr8	120433500
PIK3R6	1	chr17	8740075
CACNA1B	1	chr9	141002309
PCCA	1	chr13	101106210
C15orf27	1	chr15	76448776
DYSF	1	chr2	71797711
POLRMT	1	chr19	626237
AGPAT2	1	chr9	139578879
KIF19	1	chr17	72350966
ARHGEF6	1	chrX	135776463
CHMP5	1	chr9	33269800
ANKRD10	1	chr13	111559451
IQGAP2	1	chr5	75897896
KLHL6	1	chr3	183260073
SLC51A	1	chr3	195955761
MAD2L2	1	chr1	11737881
SMPDL3B	1	chr1	28282206
JARID2	1	chr6	15263009

WDR24	1	chr16	737791
SLC22A23	1	chr6	3369681
ABCB10	1	chr1	229683263
SLC44A4	1	chr6	31846535
PACSIN1	1	chr6	34466126
ST3GAL2	1	chr16	70444447
COL20A1	1	chr20	61938481
ATP2B3	1	chrX	152815799
UXS1	1	chr2	106755171
FAM101A	1	chr12	124799642
HTT	1	chr4	3234979
ACSL6	1	chr5	131327896
FBXO31	1	chr16	87421343
HS6ST3	1	chr13	96760623
TIAM1	1	chr21	32831129
MAN2B2	1	chr4	6592474
ZCCHC14	1	chr16	87496161
TMEM63A	1	chr1	226057690
HELZ2	1	chr20	62200870
HPS5	1	chr11	18338734
DENND1C	1	chr19	6471896
AFMID	1	chr17	76198457
SLC25A21	1	chr14	37297745
TENM1	1	chrX	123863938
C1orf151-NBL1	1	chr1	19964097
MSN	1	chrX	64904455
MIA3	1	chr1	222829548
GLCCI1	1	chr7	8079441
ABR	1	chr17	1075766
OCA2	1	chr15	28256783
PLIN4	1	chr19	4509493
LRRC4C	1	chr11	40316205
SBNO2	1	chr19	1122146
TMEM87A	1	chr15	42513280
MAP2K2	1	chr19	4094774
POR	1	chr7	75611354
MYO15B	1	chr17	73602079
CREB5	1	chr7	28571385
SBF1	1	chr22	50894847
BID	1	chr22	18226805
GDF1	1	chr19	19004173
SNORD115-15	1	chr15	25455720
PDSS1	1	chr10	27015761

CDH13	1	chr16	83679983
IDO2	1	chr8	39835886
RIMBP2	1	chr12	130911205
WDR45	1	chrX	48944817
FUT7	1	chr9	139925243
ENGASE	1	chr17	77084652
TUB	1	chr11	8088757
C9orf139	1	chr9	139925243
ALG12	1	chr22	50305634
PLXNC1	1	chr12	94620569
EIF4A3	1	chr17	78114653
HTRA3	1	chr4	8278123
OPRD1	1	chr1	29190137
TANGO6	1	chr16	68983447
NAALADL2	1	chr3	175460474
CDH24	1	chr14	23517172
PCP4	1	chr21	41297673
ALDH1L1	1	chr3	125834605
LINC00616	1	chr4	138973585
TBC1D1	1	chr4	38066446
ZNF687	1	chr1	151257739
KCNJ15	1	chr21	39631463
HSF1	1	chr8	145525404
PDK3	1	chrX	24556724
EPS15L1	1	chr19	16475386
GNE	1	chr9	36260796
CUX2	1	chr12	111737846
ADAMTS20	1	chr12	43864935
PIP5K1B	1	chr9	71477604
MUC6	1	chr11	1014987
ARHGAP8	1	chr22	45151454
ARHGEF3	1	chr3	56863300
NEO1	1	chr15	73427047
FRRS1L	1	chr9	111926896
WNK2	1	chr9	96020487
PIP5K1C	1	chr19	3656067
LOC643201	1	chr5	175619319
COL6A2	1	chr21	47546166
TMC6	1	chr17	76118451
ABCC6	1	chr16	16280872
DDX11L2	1	chr2	114359994
SEMA6A	1	chr5	115801836
THOP1	1	chr19	2807373

KLRD1	1	chr12	10465363
TNFRSF8	1	chr1	12188481
KAZN	1	chr1	15294191
GUCY1A2	1	chr11	106878919
HOXD9	1	chr2	176989431
RPRD2	1	chr1	150423967
LOC388796	1	chr20	37059349
HIBCH	1	chr2	191150856
SH3GL1	1	chr19	4399114
TPST2	1	chr22	26948220
MAP7	1	chr6	136864644
KDM4C	1	chr9	6793789

7,130863889,130863893,130863895,130863905,130863933,130863942,130863951,13
8811169,88793822,88793842,88797567,88799286,88801024,88807203,88810978
,157700218,157959879,157959895,158031992,158031994,158240238,158240243
8891673,49035765,49057277,49057291,49091920,49114824,49146962
0885924,80885930,80885952,80885978,80885996,80886112
9035765,49057277,49057291,49091920,49114824,49146962
7918019,77918027,77918046,77918052,77906595,77906650
3877744,33911677,34060801,34060819,34194134
1154,2048727,2063148,2081517,2089525
8434,4256117,4256137,4256138,4850011
7918019,77918027,77918046,77918052,77970489
4,179623,179642,179644,179653
,138136408,138136474,138192626,138277156
5,101858142,101892327,101771662
4678,1235322,1261456
2,150834334,150834342,150834359
2,145106721,145106730,145106740
2,124651974,124799642,124568638
,160102724,160102738,160102739
,105622243,105622249,105622272
4,177808675,177968358,177968359
6103,7418191,7660583
8328,5998366,5998367
9877218,60280268,60438319
3,101944228,101944241,101944275
,245858320,245362168,245715801
3,136809115,136809118,136816939
7,813073
4647,1238521
0930091,60938308
4,133102460,133118296
4759025,15984559
2752,3062322
1458594,61494325
4140753,84140777
,223567064,223567075
4,136648840,136648854
8191,7660583
70,973432
0425843,70437604
9022891,49022902
0280268,60438319

9680051,99702574

5,131549814

3,234663653

6915681

3,234663653

3159

3,234663653

8157349

4,148909758

4286196

5981366

8757

3328784

),241703299

4650181

),168895630

1417575

0333

8610257

3,119046195

7220878

7,113705141

5,122350966

5,144902969

9068407

7395375

2603689

5,136199502

2,103477438

3915389

4,101924537

3,234663653

6489

7966700

3,132058411

2

7142113

3,234663653

1417575

6414300

2899

3,113409943

3,100667714

8321
3,234663653
6849087
7,236944858
3,167040005
0616
6166067
,173748345
3696395
8962816
3,234663653
,151406005
31481
8898787
3,240270095
9
9071020
,108715748
7042

3

1

3

7

7

)

3

1

5

2

0

0

2

3

2

0

5

3

5

1

1

1
5

4
1

7

4

1
1

0

3
1
5

3
1
4

3
5

3

3

1

3

1
5

3

)

)

3
)
2
4

)
1

9

7

3

3

2

7

3

2

3

1

5

2

3

1

0

3

3

4

.0888135,130888156

Gene name	number of high covarian	chromosome
ANTXR2	19	chr4
WDR72	15	chr15
LOC441666	12	chr10
RBFOX1	11	chr16
LOC441601	11	chr11
ACOT7	11	chr1
WDR86	9	chr7
ME1	9	chr6
PTPRN2	9	chr7
TMEM240	8	chr1
RPL23AP53	8	chr8
RAP1GAP2	7	chr17
FGFR3	7	chr4
PSD3	7	chr8
PARK2	7	chr6
LINGO2	6	chr9
CUX1	6	chr7
ROBO1	6	chr3
CEP112	6	chr17
ADAMTSL3	6	chr15
SORCS2	6	chr4
RNU6-81	6	chr2
TBC1D22A	6	chr22
CDH4	6	chr20
SBNO2	6	chr19
LAPTM4B	6	chr8
ONECUT2	6	chr18
RPS6KA2	6	chr6
LDLRAD4	5	chr18
ADARB2	5	chr10
GTF3C1	5	chr16
CYP2E1	5	chr10
FAM53A	5	chr4
DHX37	5	chr12
DLEU7-AS1	5	chr13
CYP2J2	5	chr1
RBFOX1	5	chr16
MLLT1	5	chr19
LAMA5	5	chr20
KIF26B	5	chr1
DCDC2	5	chr6
SHANK2	5	chr11

CBFA2T3	5	chr16
MACROD2	5	chr20
AES	5	chr19
DLEU7	5	chr13
FRMD1	4	chr6
CACNA1H	4	chr16
SLC12A7	4	chr5
CBFA2T3	4	chr16
BCYRN1	4	chrX
C11orf44	4	chr11
DLGAP2	4	chr8
TPPP	4	chr5
BRSK2	4	chr11
CHFR	4	chr12
CTNNA3	4	chr10
DMD	4	chrX
CAGE1	4	chr6
LYRM4	4	chr6
CDH4	4	chr20
DYDC1	4	chr10
DYDC2	4	chr10
NFATC1	4	chr18
RPRD2	4	chr1
KCNQ2	3	chr20
LHFPL2	3	chr5
MYOM2	3	chr8
PHACTR3	3	chr20
ADAMTS13	3	chr9
PNPLA7	3	chr9
MYO1F	3	chr19
COL4A5	3	chrX
ADAMTS2	3	chr5
FGF13	3	chrX
LHX6	3	chr9
CEP112	3	chr17
FKBP9	3	chr7
KANK1	3	chr9
JAG1	3	chr20
ZDHHC14	3	chr6
EIF4G3	3	chr1
KDM4B	3	chr19
PXDN	3	chr2
MOB2	3	chr11

CNOT1	3	chr16
CLYBL	3	chr13
ERICH1-AS1	3	chr8
CAPN10	3	chr2
BLOC1S5	3	chr6
AFMID	3	chr17
FRMD1	3	chr6
TSNARE1	3	chr8
LARP1B	3	chr4
HMGA1P7	3	chr6
ABCA7	3	chr19
BRSK2	3	chr11
SOX13	3	chr1
FLG	3	chr1
PRDM16	3	chr1
ANKRD24	3	chr19
TNRC18	3	chr7
GALNTL6	3	chr4
EEF1E1-MUTED	3	chr6
BLOC1S5-TXNDC5	3	chr6
SURF6	3	chr9
ATP8B4	3	chr15
WWOX	3	chr16
DMD	3	chrX
C7orf50	3	chr7
SHANK2	3	chr11
MYBPC2	3	chr19
TMEM121	3	chr14
AMZ1	3	chr7
HDAC4	3	chr2
PHF21B	3	chr22
JMY	3	chr5
FAM189A1	3	chr15
PCSK6	3	chr15
IL1RAPL1	3	chrX
NRXN1	3	chr2
PPFIA3	3	chr19
LINGO2	3	chr9
KDM2B	3	chr12
CACNA1G	3	chr17
THEG	3	chr19
PROSER2	3	chr10
SDK2	3	chr17

PIEZO1	3	chr16
ASTN2	2	chr9
RAB11FIP3	2	chr16
FANCA	2	chr16
RGPD1	2	chr2
HSH2D	2	chr19
ADAMTS17	2	chr15
MYRF	2	chr11
PCNXL2	2	chr1
AFMID	2	chr17
C20orf85	2	chr20
FGF12	2	chr3
AP3D1	2	chr19
NTM	2	chr11
LOC100499194	2	chr2
CHST9	2	chr18
UGT1A6	2	chr2
DLG2	2	chr11
INF2	2	chr14
TSG1	2	chr6
C17orf107	2	chr17
SYT1	2	chr12
SYNDIG1	2	chr20
ABO	2	chr9
CTSD	2	chr11
CHRNE	2	chr17
NXN	2	chr17
UGT1A8	2	chr2
PQLC1	2	chr18
ZNF57	2	chr19
LINC00616	2	chr4
MAP2K2	2	chr19
COL14A1	2	chr8
B3GNTL1	2	chr17
KAT2B	2	chr3
DNAJB13	2	chr11
RTL1	2	chr14
DIDO1	2	chr20
XRN2	2	chr20
LPP	2	chr3
KIR3DX1	2	chr19
B4GALNT4	2	chr11
SLC35E2	2	chr1

PCNT	2	chr21
AKAP12	2	chr6
PPP1R15A	2	chr19
ANK1	2	chr8
GRK5	2	chr10
GABRA5	2	chr15
CLN6	2	chr15
RBMS3	2	chr3
LINC00200	2	chr10
ACTL9	2	chr19
HRNR	2	chr1
RPTOR	2	chr17
CNTNAP2	2	chr7
ANP32E	2	chr1
SAMD12	2	chr8
CPLX1	2	chr4
LTBP1	2	chr2
MAGIX	2	chrX
FLI1	2	chr11
EHMT1	2	chr9
TNC	2	chr9
STON1-GTF2A1L	2	chr2
CAMK1D	2	chr10
RAB36	2	chr22
COL19A1	2	chr6
ZFHX3	2	chr16
ABCC5	2	chr3
SHISA6	2	chr17
PEAR1	2	chr1
ANO2	2	chr12
NFIC	2	chr19
CNRIP1	2	chr2
ARID4B	2	chr1
SNX25	2	chr4
ENOSF1	2	chr18
NRXN1	2	chr2
SHB	2	chr9
MCPH1	2	chr8
ASB18	2	chr2
ADARB2-AS1	2	chr10
MMP25	2	chr16
TP73	2	chr1
TMEM201	2	chr1

NPEPL1	2	chr20
LPHN1	2	chr19
FAM213B	2	chr1
GABRG3	2	chr15
SBNO2	2	chr19
HELB	2	chr12
UGT1A4	2	chr2
DOK6	2	chr18
SYN3	2	chr22
SF3B3	2	chr16
LDB2	2	chr4
FAM184A	2	chr6
NTN1	2	chr17
DTNBP1	2	chr6
PPP2R5C	2	chr14
PRKAG2	2	chr7
BEND3	2	chr6
CNOT1	2	chr16
COLEC11	2	chr2
UGT1A7	2	chr2
COL5A1	2	chr9
UGT1A9	2	chr2
FZR1	2	chr19
CFDP1	2	chr16
TSPAN9	2	chr12
ELFN1	2	chr7
XKR6	2	chr8
BACH2	2	chr6
ZC3H12D	2	chr6
LAMC3	2	chr9
CWF19L2	2	chr11
KCNT1	2	chr9
PSME3	2	chr17
MAGI1	2	chr3
COL23A1	2	chr5
ACSF3	2	chr16
SLC47A1	2	chr17
DRD5	2	chr4
UNC79	2	chr14
KIAA1217	2	chr10
ERLEC1	2	chr2
MYH10	2	chr17
TTLL6	2	chr17

UGT1A10	2	chr2
WDR4	2	chr21
TIAM2	2	chr6
DMD	2	chrX
CACNA1C	2	chr12
ATP10A	2	chr15
TAF1C	2	chr16
VTI1A	2	chr10
LRRC4C	2	chr11
GOLGA3	2	chr12
AGPS	2	chr2
HCN4	2	chr15
RASA3	2	chr13
NEBL	2	chr10
SENP5	2	chr3
STX16-NPEPL1	2	chr20
VAMP5	2	chr2
SYT2	2	chr1
PCSK6	2	chr15
MAEA	2	chr4
SYMPK	2	chr19
NDE1	2	chr16
KIF26A	2	chr14
TSSC1	2	chr2
CCNY	2	chr10
ATP9A	2	chr20
KCNB2	2	chr8
SCRIB	2	chr8
UGT1A5	2	chr2
GREM1	2	chr15
VIPR2	2	chr7
SDK1	2	chr7
IFT140	2	chr16
CABLES2	2	chr20
KCNK17	2	chr6
GEMIN7	2	chr19
MSRA	2	chr8
ARRDC5	2	chr19
CXCL13	2	chr4
CNTN4	2	chr3
LRP5	2	chr11
TAF4	2	chr20
EYA4	2	chr6

NLRP8	2	chr19
HDAC9	2	chr7
MSANTD1	2	chr4
UGT1A3	2	chr2
GPR75-ASB3	2	chr2
TBCD	2	chr17
LINC00673	2	chr17
CXCR3	2	chrX
PIGG	2	chr4
LOC286238	2	chr9
SIRT1	2	chr10
CACNA1A	2	chr19
ACSM1	2	chr16
SLC16A10	2	chr6
DAGLA	2	chr11
SPPL2B	2	chr19
MYO7A	2	chr11
FANCC	2	chr9
SCAMP4	2	chr19
STK32B	2	chr4
TMEM132C	2	chr12
BAZ1A	2	chr14
PGBD5	2	chr1
DYSF	2	chr2
TYW1	2	chr7
TPCN2	2	chr11
ATAD3C	2	chr1
TEAD4	2	chr12
LHX3	2	chr9
LOXHD1	2	chr18
ART3	2	chr4
DIP2C	2	chr10
PRKCZ	2	chr1
DPY19L2P2	2	chr7
SLC6A3	2	chr5
CDH4	2	chr20
MACROD2	2	chr20
PARVB	2	chr22
ZDHHC8P1	2	chr22
SSTR5	2	chr16
CAMTA1	2	chr1
CACNA1I	2	chr22
EP400	2	chr12

GRAMD4	2	chr22
9-Sep	2	chr17
ZNF611	2	chr19
LARGE	2	chr22
NOV	2	chr8
WBSCR17	2	chr7
ATG4B	2	chr2
PKNOX2	2	chr11
SYT14	2	chr1
DNMT1	2	chr19
POR	2	chr7
EPHA8	2	chr1
IFT27	2	chr22
KANK1	2	chr9
LOC100133612	2	chr1
ZDHHC19	2	chr3
HEATR2	2	chr7
PKD1L2	2	chr16
MMEL1	2	chr1
PLOD3	2	chr7
PTK7	2	chr6
DPYD	2	chr1
PTPRT	2	chr20
KIAA1967	2	chr8
FLJ12825	2	chr12
YWHAE	2	chr17
SYNPR	2	chr3
CTBP2	2	chr10
TTLL1	2	chr22
LIMA1	2	chr12
PRKX	1	chrX
BCAT2	1	chr19
LCN1	1	chr9
PRSS21	1	chr16
C12orf36	1	chr12
SFTA3	1	chr14
C1orf141	1	chr1
CELF5	1	chr19
TMEM233	1	chr12
IAH1	1	chr2
TAF3	1	chr10
TAF2	1	chr8
CEP70	1	chr3

COL8A1	1	chr3
STOX2	1	chr4
KIF1A	1	chr2
DIS3L2	1	chr2
GABRD	1	chr1
CDK10	1	chr16
TUB	1	chr11
C1orf159	1	chr1
DOCK10	1	chr2
TBC1D16	1	chr17
PCDHGA3	1	chr5
TMEM132D	1	chr12
GIGYF2	1	chr2
EXD3	1	chr9
PAR6G-AS1	1	chr18
LOC100128946	1	chr22
DTYMK	1	chr2
NNT	1	chr5
APOBEC3H	1	chr22
PCDHGB3	1	chr5
ADK	1	chr10
RINL	1	chr19
KNDC1	1	chr10
LCMT1	1	chr16
FUT3	1	chr19
PGP	1	chr16
EIF4G3	1	chr1
OR8U8	1	chr11
RAB31	1	chr18
GNA12	1	chr7
OTUD7A	1	chr15
GLI2	1	chr2
CDC7	1	chr1
DNAH9	1	chr17
PLIN4	1	chr19
UVSSA	1	chr4
FADS2	1	chr11
POMT2	1	chr14
PRR5	1	chr22
SLC9A3	1	chr5
HNF4A	1	chr20
CMC1	1	chr3
UBXN6	1	chr19

EFCAB2	1	chr1
ZMYM1	1	chr1
GRM2	1	chr3
ANKRD13C	1	chr1
SIK1	1	chr21
TSC22D1	1	chr13
OSBPL5	1	chr11
CNTRL	1	chr9
MRPL28	1	chr16
GPC1	1	chr2
SRSF4	1	chr1
RHBDL2	1	chr1
DENND2A	1	chr7
RPH3AL	1	chr17
COL4A2	1	chr13
LOC284395	1	chr19
AK8	1	chr9
ATG14	1	chr14
EPPK1	1	chr8
TRPM4	1	chr19
WNT9A	1	chr1
LRRC27	1	chr10
DGKE	1	chr17
SBF1	1	chr22
COL17A1	1	chr10
SH3TC1	1	chr4
PTCHD2	1	chr1
CHD1	1	chr5
GLP2R	1	chr17
CTNND1	1	chr11
TGFBR3	1	chr1
ANO10	1	chr3
EYS	1	chr6
MRTO4	1	chr1
HRH2	1	chr5
PRR12	1	chr19
MEF2C	1	chr5
STMN3	1	chr20
GLTSCR1L	1	chr6
LRP12	1	chr8
BCAS4	1	chr20
NXF4	1	chrX
AGMO	1	chr7

PAX7	1	chr1
DAG1	1	chr3
GRID2	1	chr4
ADAMTS6	1	chr5
ARHGAP33	1	chr19
GMPR	1	chr6
UNC13D	1	chr17
WASF3	1	chr13
LUZP2	1	chr11
SULF2	1	chr20
OR7E156P	1	chr13
MED29	1	chr19
TENM2	1	chr5
TM7SF3	1	chr12
MYEOV	1	chr11
SPATA2	1	chr20
OTX2-AS1	1	chr14
HELLS	1	chr10
CCDC171	1	chr9
CCDC61	1	chr19
BFSP2	1	chr3
OLFM2	1	chr19
GABRA1	1	chr5
TGIF1	1	chr18
TRAPPC9	1	chr8
SH3GL1	1	chr19
PIR-FIGF	1	chrX
ERH	1	chr14
IFNAR1	1	chr21
ATP2B3	1	chrX
SCTR	1	chr2
PMF1	1	chr1
L3MBTL4	1	chr18
RIMS2	1	chr8
RTEL1	1	chr20
LRRC49	1	chr15
LOC283692	1	chr15
TBC1D20	1	chr20
HCN1	1	chr5
OTUB1	1	chr11
GRM6	1	chr5
LAMA4	1	chr6
NAGPA	1	chr16

EPB41L4B	1	chr9
BTNL9	1	chr5
FPGT-TNNI3K	1	chr1
PDE3A	1	chr12
MUC17	1	chr7
MRC2	1	chr17
RBMS1	1	chr2
SORCS1	1	chr10
UBE2H	1	chr7
ABCA2	1	chr9
PCDHGA1	1	chr5
MIR548AN	1	chr13
XXYLT1	1	chr3
AP3S2	1	chr15
LINC00624	1	chr1
ATP2B2	1	chr3
GATA4	1	chr8
KIAA0247	1	chr14
NXN	1	chr17
C1QTNF2	1	chr5
CEP120	1	chr5
SLC5A5	1	chr19
EMC1	1	chr1
KLHL15	1	chrX
TANC1	1	chr2
SCN2A	1	chr2
AGO4	1	chr1
WDR19	1	chr4
ZFP1	1	chr16
SNTG2	1	chr2
CRLF1	1	chr19
SYTL3	1	chr6
PLXNB3	1	chrX
C1QTNF7	1	chr4
PCDHGA2	1	chr5
C6orf123	1	chr6
C6orf147	1	chr6
FAM108C1	1	chr15
MOV10L1	1	chr22
SH3BP2	1	chr4
HLCS	1	chr21
CLIP2	1	chr7
EPS8L1	1	chr19

PCDHGB1	1	chr5
HHIPL2	1	chr1
FGFBP2	1	chr4
ADAMTSL1	1	chr9
CCT3	1	chr1
PRKAR1B	1	chr7
SFRP1	1	chr8
EIF2AK4	1	chr15
PCDHGB2	1	chr5
ZNF815P	1	chr7
PRKXP1	1	chr15
RAB11FIP3	1	chr16
COA1	1	chr7
CSNK1A1L	1	chr13
AP1G1	1	chr16
CYTH4	1	chr22
CORO7	1	chr16
PLEKHH2	1	chr2
C12orf5	1	chr12
APOH	1	chr17
TPO	1	chr2
ARHGAP39	1	chr8
MSRB3	1	chr12
ASB13	1	chr10
TRIM6	1	chr11
QRICH2	1	chr17
PADI6	1	chr1
NAV1	1	chr1
BSN	1	chr3
TRPM2	1	chr21
SOD3	1	chr4
ZNF208	1	chr19
C2orf83	1	chr2
RIPK4	1	chr21
TAZ	1	chrX
LOC100130691	1	chr2
RYR1	1	chr19
SLC35B4	1	chr7
SARM1	1	chr17
ERI3	1	chr1
SIPA1L3	1	chr19
TUFT1	1	chr1
CHRM3	1	chr1

PI16	1	chr6
SLCO3A1	1	chr15
ITPR2	1	chr12
TNPO3	1	chr7
PCCA	1	chr13
FOSB	1	chr19
CCDC148	1	chr2
ISM1	1	chr20
ANK2	1	chr4
ENTPD8	1	chr9
FAM19A1	1	chr3
AK1	1	chr9
LOC389634	1	chr12
TBX15	1	chr1
OGFR	1	chr20
TSPAN11	1	chr12
PROC	1	chr2
C21orf2	1	chr21
ERMAP	1	chr1
OCA2	1	chr15
ACAP1	1	chr17
PIR	1	chrX
MLLT10	1	chr10
FAM149B1	1	chr10
FERMT1	1	chr20
MEI1	1	chr22
CCDC102A	1	chr16
FRRS1L	1	chr9
DPP10	1	chr2
3-Sep	1	chr22
SEMA6A	1	chr5
PDSS1	1	chr10
TSPO	1	chr22
MIR548G	1	chr3
DGKQ	1	chr4
SLC38A10	1	chr17
PKD1L2	1	chr16
GALNS	1	chr16
LRRC1	1	chr6
BRWD1	1	chr21
LRRC6	1	chr8
AKT2	1	chr19
EPHA3	1	chr3

TRAF3IP2	1	chr6
CNN2	1	chr19
DNAH2	1	chr17
LOC100507003	1	chr19
HTR6	1	chr1
CEP72	1	chr5
C14orf159	1	chr14
MYCBPAP	1	chr17
RHPN1	1	chr8
ESR1	1	chr6
GLYR1	1	chr16
ATF7	1	chr12
LMF1	1	chr16
ARMCX5-GPRASP2	1	chrX
BMP6	1	chr6
INTS1	1	chr7
COX4I2	1	chr20
PRUNE2	1	chr9
CIT	1	chr12
LOC100507373	1	chr19
FIBCD1	1	chr9
FAM110C	1	chr2
PRKCZ	1	chr1
AQP1	1	chr7
RNF26	1	chr11
SEMA4B	1	chr15
CDK16	1	chrX
NOD1	1	chr7
SEC1P	1	chr19
CCDC63	1	chr12
FAM163A	1	chr1
FSTL3	1	chr19
EPHA1-AS1	1	chr7
SYBU	1	chr8
MORN1	1	chr1
IRX6	1	chr16
CANX	1	chr5
STXBP6	1	chr14
TMED10	1	chr14
VAT1L	1	chr16
TMPRSS15	1	chr21
PLEKHO2	1	chr15
LSAMP	1	chr3

MMD2	1	chr7
MGAT3	1	chr22
BANP	1	chr16
MAT1A	1	chr10
SLC4A7	1	chr3
TSHZ3	1	chr19
ENO4	1	chr10
CADM4	1	chr19
SPTB	1	chr14
RAB30	1	chr11
PTBP1	1	chr19
DHX34	1	chr19
AGAP1	1	chr2
SOSTDC1	1	chr7
GLT25D2	1	chr1
SYS1-DBNDD2	1	chr20
MDGA2	1	chr14
CDC42SE2	1	chr5
NUBPL	1	chr14
CAMK2D	1	chr4
RAB40B	1	chr17
DCHS2	1	chr4
ZNF492	1	chr19
CCDC154	1	chr16
RPF2	1	chr6
POLR1E	1	chr9
TBCE	1	chr1
TFAP4	1	chr16
CATSPERD	1	chr19
WWOX	1	chr16
MSN	1	chrX
TRIM62	1	chr1
ZMAT4	1	chr8
CPSF3L	1	chr1
MIR143HG	1	chr5
ZNF578	1	chr19
ATP4B	1	chr13
TMPRSS11F	1	chr4
AIG1	1	chr6
ROS1	1	chr6
CUEDC1	1	chr17
CNP	1	chr17
SCT	1	chr11

ADCY3	1	chr2
PHF13	1	chr1
TRPS1	1	chr8
OPALIN	1	chr10
INF2	1	chr14
CERS1	1	chr19
ZNF276	1	chr16
PRRT1	1	chr6
HELZ2	1	chr20
AKR1C3	1	chr10
CADPS	1	chr3
RABL6	1	chr9
MLXIP	1	chr12
TMEM204	1	chr16
TCERG1L	1	chr10
VWA3A	1	chr16
MUC4	1	chr3
AGT	1	chr1
OXER1	1	chr2
NCOR2	1	chr12
TMEM72-AS1	1	chr10
GREM2	1	chr1
TRDN	1	chr6
CBX5	1	chr12
SYAP1	1	chrX
NR5A1	1	chr9
KLF17	1	chr1
TMEM51-AS1	1	chr1
WDR27	1	chr6
CORO7-PAM16	1	chr16
GAREML	1	chr2
MAP3K12	1	chr12
SYNJ2BP-COX16	1	chr14
SLC17A1	1	chr6
OBSCN	1	chr1
EHMT1	1	chr9
TRAF3IP2-AS1	1	chr6
LRRC15	1	chr3
STK32C	1	chr10
FTH1P18	1	chrX
NT5DC3	1	chr12
ANO3	1	chr11
RADIL	1	chr7

KLHL30	1	chr2
ACOT11	1	chr1
GPC5	1	chr13
KLHDC10	1	chr7
COL11A1	1	chr1
IL1RAPL2	1	chrX
COL6A2	1	chr21
GMDS	1	chr6
SVIL	1	chr10
NPSR1	1	chr7
GAREM	1	chr18
HS3ST4	1	chr16
CDHR2	1	chr5
PAPD5	1	chr16
C20orf26	1	chr20
GAD2	1	chr10
DNAH17	1	chr17
CDRT1	1	chr17
ZNF550	1	chr19
MRPL54	1	chr19
TTC7B	1	chr14
FAT2	1	chr5
PARP8	1	chr5
SLC47A2	1	chr17
MIPEP	1	chr13
SPAST	1	chr2
RAB11FIP4	1	chr17
SPON1	1	chr11
FRMPD4	1	chrX
WISP1	1	chr8
LYPD2	1	chr8
10-Mar	1	chr17
SLC16A6	1	chr17
MAGEA4	1	chrX
PDE4B	1	chr1
SPN	1	chr16
NPY	1	chr7
EBF4	1	chr20
MYH7B	1	chr20
EPB41L2	1	chr6
CCDC65	1	chr12
LOC285441	1	chr4
ARIH1	1	chr15

DENND1A	1	chr9
WDR85	1	chr9
IL32	1	chr16
SUMF1	1	chr3
PFDN1	1	chr5
MIR5694	1	chr10
GAMT	1	chr19
DLGAP3	1	chr1
SLC29A4	1	chr7
S1PR2	1	chr19
ROBO2	1	chr3
OLFML2B	1	chr1
BEND2	1	chrX
KLHL29	1	chr2
ZNF7	1	chr8
LRRTM4	1	chr2
MCOLN1	1	chr19
DYSF	1	chr2
MYH14	1	chr19
MEFV	1	chr16
SLC7A5	1	chr16
STON1-GTF2A1L	1	chr2
RHPN1-AS1	1	chr8
PTCHD3	1	chr10
IDO2	1	chr8
TP73	1	chr1
PDPR	1	chr16
ARSF	1	chrX
OTOA	1	chr16
CTNNA2	1	chr2
GRWD1	1	chr19
QSOX2	1	chr9
GRIN2B	1	chr12
SCFD2	1	chr4
WDR37	1	chr10
KIAA1751	1	chr1
DHX8	1	chr17
PIBF1	1	chr13
CELF6	1	chr15
MAD2L2	1	chr1
CHRNA1	1	chr17
GABRB3	1	chr15
UBXN11	1	chr1

TRPM8	1	chr2
HTT	1	chr4
TMF1	1	chr3
SPATA13	1	chr13
AIDA	1	chr1
STON1	1	chr2
SHROOM3	1	chr4
SLC2A6	1	chr9
DNAH7	1	chr2
BCR	1	chr22
GSX1	1	chr13
EPB41	1	chr1
BAIAP2	1	chr17
LOC339166	1	chr17
RYR3	1	chr15
GBF1	1	chr10
OPRD1	1	chr1
CPPED1	1	chr16
IQGAP1	1	chr15
MYO15A	1	chr17
VASH1	1	chr14
LRRK1	1	chr15
GNG7	1	chr19
PCP4L1	1	chr1
ZNF565	1	chr19
INADL	1	chr1
STX8	1	chr17
SETD1B	1	chr12
NALCN-AS1	1	chr13
ARRB2	1	chr17
MAP3K4	1	chr6
PRL	1	chr6
IGSF21	1	chr1
GATA1	1	chrX
PPAPDC3	1	chr9
TRIM6-TRIM34	1	chr11
SPNS2	1	chr17
NONO	1	chrX
TUBB3	1	chr16
USH2A	1	chr1
KIRREL2	1	chr19
CLIC2	1	chrX
HSPG2	1	chr1

IGSF11	1	chr3
CLOCK	1	chr4
TUSC5	1	chr17
KRT72	1	chr12
PTPRO	1	chr12
PRIM2	1	chr6
TMPRSS11D	1	chr4
ENPP6	1	chr4
BCOR	1	chrX
FLVCR1	1	chr1
ARHGAP4	1	chrX
ZFYVE28	1	chr4
BIN3	1	chr8
DKFZp686K1684	1	chr11
DHDH	1	chr19
FGGY	1	chr1
PMF1-BGLAP	1	chr1
SLC2A5	1	chr1
CCM2	1	chr7
PUM1	1	chr1
SLC26A10	1	chr12
DKK3	1	chr11
PCDHGA6	1	chr5
CCDC155	1	chr19
MROH1	1	chr8
LANCL2	1	chr7
DEAF1	1	chr11
RBKS	1	chr2
SLC15A4	1	chr12
CAMK2B	1	chr7
TPK1	1	chr7
C1orf151-NBL1	1	chr1
ITGB7	1	chr12
IMPA2	1	chr18
FAM21A	1	chr10
MCOLN2	1	chr1
CACNB2	1	chr10
URGCP	1	chr7
NR1I2	1	chr3
BTBD11	1	chr12
FLJ43663	1	chr7
GALNT9	1	chr12
POP1	1	chr8

FMN2	1	chr1
GRAMD1A	1	chr19
MAGEL2	1	chr15
TMEM192	1	chr4
CCNF	1	chr16
NGEF	1	chr2
PTER	1	chr10
ASGR2	1	chr17
SEC14L5	1	chr16
LOC285627	1	chr5
PODXL2	1	chr3
RFX1	1	chr19
GAL3ST2	1	chr2
TLX2	1	chr2
PLEKHA5	1	chr12
TTC40	1	chr10
PIGN	1	chr18
C1orf228	1	chr1
SLC5A4	1	chr22
ARNT2	1	chr15
SYT6	1	chr1
ELMO1	1	chr7
DCUN1D3	1	chr16
RGS7	1	chr1
TMX2-CTNND1	1	chr11
TIMD4	1	chr5
GNAL	1	chr18
FBXL20	1	chr17
LIMA1	1	chr12
PKP4	1	chr2
CDK11B	1	chr1
KIFC3	1	chr16
CSMD1	1	chr8
CASR	1	chr3
BCAP29	1	chr7
SLC7A9	1	chr19
STEAP3	1	chr2
FAM182B	1	chr20
TCEANC	1	chrX
MARK3	1	chr14
OLFM1	1	chr9
ZBTB11	1	chr3
PCDH19	1	chrX

SORBS2	1	chr4
PRMT8	1	chr12
ABL1	1	chr9
BYSL	1	chr6
DTNB	1	chr2
TNFRSF1B	1	chr1
CYFIP1	1	chr15
PKD1	1	chr16
NDUFS7	1	chr19
HECTD4	1	chr12
CDH23	1	chr10
ZFYVE21	1	chr14
FLJ16171	1	chr5
AKR7L	1	chr1
MGMT	1	chr10
RMND1	1	chr6
FOXN3	1	chr14
ABAT	1	chr16
PCGF2	1	chr17
MAPK8IP2	1	chr22
MSI2	1	chr17
C2CD2	1	chr21
ARSG	1	chr17
PITPNM3	1	chr17
PCDHGA9	1	chr5
MMP17	1	chr12
SLC35F5	1	chr2
EPHB1	1	chr3
LOC100009676	1	chr3
NEBL	1	chr10
RFX2	1	chr19
CMIP	1	chr16
LOC100286922	1	chr2
ATP8A1	1	chr4
GUSBP2	1	chr6
DUSP13	1	chr10
FAT1	1	chr4
HMHA1	1	chr19
TENM4	1	chr11
PDE9A	1	chr21
MGRN1	1	chr16
DOCK4	1	chr7
FAM129C	1	chr19

NRXN3	1	chr14
ZNF77	1	chr19
SKI	1	chr1
SYNM	1	chr15
DCTN2	1	chr12
TXN2	1	chr22
TTC34	1	chr1
FLRT1	1	chr11
LOC550113	1	chr4
PLA2G4E	1	chr15
RASGRF1	1	chr15
RPS7	1	chr2
CCDC129	1	chr7
NR2C1	1	chr12
RAPGEF3	1	chr12
GPR123	1	chr10
GRM5	1	chr11
ODF3L2	1	chr19
PDXDC2P	1	chr16
FGD3	1	chr9
INTS8	1	chr8
PEX5L	1	chr3
UBE2K	1	chr4
CABP1	1	chr12
NCAM2	1	chr21
ERC1	1	chr12
SYNJ2BP	1	chr14
RAB40C	1	chr16
SERPINH1	1	chr11
CASP7	1	chr10
PCDH9	1	chr13
BCAS3	1	chr17
EPHB6	1	chr7
PEX3	1	chr6
AIM1L	1	chr1
BEAN1	1	chr16
GAK	1	chr4
ERCC2	1	chr19
CDHR1	1	chr10
HAAO	1	chr2
MYBBP1A	1	chr17
PCDHGA4	1	chr5
GRM7	1	chr3

AASDH	1	chr4
MYH3	1	chr17
AK5	1	chr1
PODN	1	chr1
NLRP2	1	chr19
BOC	1	chr3
TBC1D8	1	chr2
PNPT1	1	chr2
ALDH8A1	1	chr6
FAR1	1	chr11
SCAMP5	1	chr15
PDCD6	1	chr5
KCNAB2	1	chr1
KAZN	1	chr1
RGS12	1	chr4
KIF19	1	chr17
FAM229B	1	chr6
BANF2	1	chr20
KLHL6	1	chr3
MIR548W	1	chr17
KCND3	1	chr1
TPGS1	1	chr19
FARP1	1	chr13
ECT2L	1	chr6
PLA2G3	1	chr22
TIAM1	1	chr21
GRM3	1	chr7
APOC1	1	chr19
NLGN1	1	chr3
TXNRD2	1	chr22
LRRC20	1	chr10
OTOF	1	chr2
CUL3	1	chr2
GDF1	1	chr19
UBN1	1	chr16
CCDC85C	1	chr14
LINC00294	1	chr11
MND1	1	chr4
TMPRSS3	1	chr21
HSF1	1	chr8
OCEL1	1	chr19
ZBTB43	1	chr9
NMU	1	chr4

GALK2	1	chr15
DOT1L	1	chr19
BCL11B	1	chr14
SPTBN4	1	chr19
LINC00461	1	chr5
ZNF517	1	chr8
NOTCH1	1	chr9
BCL2	1	chr18
LOXHD1	1	chr18
RHOBTB3	1	chr5
B3GALTL	1	chr13
CYP11B1	1	chr8
MCF2L	1	chr13
ATP8A2	1	chr13
GPCPD1	1	chr20
STAU2	1	chr8
NEK6	1	chr9
KCTD17	1	chr22
GAS6	1	chr13
GRTP1	1	chr13
FYCO1	1	chr3
DSCAML1	1	chr11
PCGF3	1	chr4
DNMT3A	1	chr2
FAM58A	1	chrX
SPI1	1	chr11
NUDCD1	1	chr8
LHX9	1	chr1
RILPL1	1	chr12
GPSM1	1	chr9
NTSR1	1	chr20
MIRLET7BHG	1	chr22
SV2B	1	chr15
RAB3IL1	1	chr11
EPHA8	1	chr1
NBL1	1	chr1
PILRA	1	chr7
KCNQ1	1	chr11
INO80	1	chr15
GPR107	1	chr9
AOX1	1	chr2
ZNF444	1	chr19
PCMT1	1	chr6

PRR5-ARHGAP8	1	chr22
RAB35	1	chr12
RWDD4	1	chr4
POLDIP3	1	chr22
TNN	1	chr1
POFUT2	1	chr21
CLEC17A	1	chr19
RHBDL1	1	chr16
ANKMY1	1	chr2
LOC100130992	1	chr10
RALGDS	1	chr9
LLGL2	1	chr17
PARL	1	chr3
SHC2	1	chr19
TEX22	1	chr14
LOC401324	1	chr7
ABCC1	1	chr16
SCG5	1	chr15
LOC401109	1	chr3
SH2D5	1	chr1
PPP2R2B	1	chr5
KIF25	1	chr6
PKNOX1	1	chr21
EFR3B	1	chr2
SVOP	1	chr12
THSD7A	1	chr7
PCDHGA7	1	chr5
GNA14	1	chr9
ERCC8	1	chr5
ZNF787	1	chr19
TLK2	1	chr17
KCNH7	1	chr2
HOPX	1	chr4
KHDC1	1	chr6
RPS6KA2	1	chr6
LOC100133669	1	chr8
POGZ	1	chr1
ATP1A1	1	chr1
PTGES	1	chr9
PHGDH	1	chr1
METTL15	1	chr11
MYO18B	1	chr22
MIR5095	1	chr20

THPO	1	chr3
NLRP5	1	chr19
CRYL1	1	chr13
KDM4C	1	chr9
ATRNL1	1	chr10
SNX27	1	chr1
ZNF710	1	chr15
DNAH10	1	chr12
SDCCAG8	1	chr1
KIAA2022	1	chrX
VEGFC	1	chr4
TBATA	1	chr10
CNTNAP5	1	chr2
ZFP82	1	chr19
P2RX4	1	chr12
LINC00421	1	chr13
LOC100128675	1	chr19
COL27A1	1	chr9
C15orf38-AP3S2	1	chr15
LDLRAD3	1	chr11
MPP7	1	chr10
PCDHGA8	1	chr5
VPRBP	1	chr3
VAC14	1	chr16
CCDC57	1	chr17
PARP9	1	chr3
NRG1	1	chr8
PCDHGB5	1	chr5
CPNE7	1	chr16
SNX29P2	1	chr16
TMEM8A	1	chr16
ABCC4	1	chr13
PIP5K1C	1	chr19
CNTN6	1	chr3
FAT3	1	chr11
FFAR1	1	chr19
PPARA	1	chr22
PLEC	1	chr8
PHF17	1	chr4
EPC1	1	chr10
ABCC6	1	chr16
NTHL1	1	chr16
LOC442459	1	chrX

GTF2IRD1P1	1	chr7
STAG1	1	chr3
C1QTNF6	1	chr22
LOC84931	1	chr2
TOM1	1	chr22
PCDHGB4	1	chr5
C6orf99	1	chr6
TPTE2	1	chr13
PINK1	1	chr1
SHISA9	1	chr16
GAS7	1	chr17
PCDHGA5	1	chr5
MGAT4C	1	chr12
CCL26	1	chr7
SAP130	1	chr2
B3GALT6	1	chr1
ACYP1	1	chr14
TBC1D3P5	1	chr17
FRMD4A	1	chr10
PMS2	1	chr7
MORC2-AS1	1	chr22
ADNP2	1	chr18
MECOM	1	chr3
BPTF	1	chr17
ANHX	1	chr12
CERS5	1	chr12
TMEM184A	1	chr7
LOC653160	1	chr1
TNNI3K	1	chr1
MUC16	1	chr19
MPND	1	chr19
FAM20C	1	chr7
SGMS1	1	chr10
SARDH	1	chr9
SHANK1	1	chr19
SMOC1	1	chr14
EPN2	1	chr17
TDRD5	1	chr1
SLC12A3	1	chr16
RTEL1-TNFRSF6B	1	chr20
AP3M1	1	chr10
VGLL4	1	chr3
MACF1	1	chr1

DNM1L	1	chr12
KLF2	1	chr19
JMJD1C	1	chr10
LOC100506207	1	chr6
C1orf94	1	chr1
PROSER2-AS1	1	chr10
KPNA1	1	chr3
EOGT	1	chr3
OR5M8	1	chr11
BRCA1	1	chr17
KLF12	1	chr13
SLC24A4	1	chr14
CTBP2	1	chr10
CAMSAP3	1	chr19
ITGBL1	1	chr13
AJAP1	1	chr1
ATPBD4-AS1	1	chr15
LOC286094	1	chr8
ZNF99	1	chr19
NPRL3	1	chr16
C12orf50	1	chr12
RNLS	1	chr10
CDH15	1	chr16
GOLGA8A	1	chr15
HADHA	1	chr2
ERBB4	1	chr2
DNAH5	1	chr5
DLG2	1	chr11
AFF4	1	chr5
SRSF10	1	chr1
CRMP1	1	chr4
RIMS1	1	chr6
TMEM105	1	chr17
ADAT3	1	chr19
FRMD8	1	chr11
FBRSL1	1	chr12
PDE11A	1	chr2
MIR181C	1	chr19
URGCP-MRPS24	1	chr7
KLK10	1	chr19
C11orf65	1	chr11
TEKT5	1	chr16
GHSR	1	chr3

STK11	1	chr19
RIMBP2	1	chr12
PPP2R2C	1	chr4
ST3GAL2	1	chr16
PDE6B	1	chr4
ADAMTS12	1	chr5
FAM69B	1	chr9
MACROD1	1	chr11
IL1RL2	1	chr2
SUN1	1	chr7
CUBN	1	chr10
MGLL	1	chr3
YAE1D1	1	chr7
ATP11A	1	chr13
MYOCD	1	chr17
CNPY1	1	chr7
RAB3C	1	chr5
PRDX1	1	chr1
CCDC149	1	chr4
SLC51A	1	chr3
KSR1	1	chr17
PLXNC1	1	chr12
EYA2	1	chr20
PPM1E	1	chr17
CPNE2	1	chr16
NTNG1	1	chr1
LINC00693	1	chr3
PACRG	1	chr6
CA9	1	chr9
BABAM1	1	chr19
INPP5D	1	chr2
ANKRD20A9P	1	chr13
ZNF407	1	chr18
RTN4RL1	1	chr17
CD9	1	chr12

site locations

80885897,80885901,80885910,80885924,80885930,80885933,80885952,80885978,808
53832854,53832864,53833078,53833082,53833096,53833127,53833131,53833132,538
42837883,42837904,42862627,42862811,42863011,42863013,42863172,42863173,428
6459346,6459396,6128106,6385505,6385507,6769736,6869494,6975521,7013945,7126
50256539,50256545,50256867,50256869,50256892,50256899,50257311,50257345,502
6425758,6442194,6442198,6442210,6442212,6442238,6442247,6442254,6442291,6442
151078762,151078769,151078771,151078775,151078786,151078793,151078803,15107
84140710,84140719,84140721,84140723,84140732,84140735,84140753,84140777,841
157792086,157818754,157799746,158027614,158109457,158186238,158217285,15824
1475063,1475087,1475099,1475107,1475129,1475140,1475142,1475161
179581,179588,179616,179623,179642,179644,179653,179657
2761118,2747549,2752964,2886201,2886238,2886249,2938998
1804894,1804901,1804910,1804916,1804921,1804959,1804993
18699964,18699968,18699970,18699999,18700008,18700038,18700058
162850908,162528353,162539208,162539213,162693582,163096332,163096348
28149330,28150213,28476562,29110580,29110581,29110627
101694275,101858142,101892327,101586764,101679473,101771662
79494991,79495002,79495020,79495022,79495036,79495047
63904583,63678356,63772374,63772382,63859606,63859699
84439591,84560741,84560786,84692728,84692772,84692788
7351443,7430418,7443240,7451442,7500739,7738401
132202936,132202941,132202972,132203010,132222753,132222754
47508572,47531319,47185263,47548187,47552521,47557636
59897399,59876123,60166217,60174399,60372869,60512936
1148048,1113915,1130889,1164072,1164139,1169021
98812969,98827209,98832214,98862325,98862375,98862392
55104159,55105156,55105169,55105171,55105184,55105189
167182469,167182470,166944388,167182406,167196031,167196063
13301060,13404332,13431992,13432069,13571929
1643950,1438439,1577806,1590616,1774954
27491291,27472771,27472772,27476547,27501188
135341357,135341388,135341790,135341909,135342191
1645478,1649416,1660042,1662027,1663210
125448959,125455371,125455372,125457201,125437142
51417503,51417508,51417534,51417550,51417553
60392283,60392305,60392327,60392339,60392362
6869494,6975521,7013945,7126103,7200186
6224779,6224826,6228522,6212546,6269736
60898505,60907895,60926221,60930091,60938308
245381025,245393901,245681000,245715801,245851486
24301320,24301369,24301373,24301380,24301394
70528243,70682546,70425842,70425843,70437604

89038729,88951647,88953882,88953887,88968926
14423492,14423493,14759025,15984559,15984564
3053413,3053682,3053685,3053761,3055568
51417503,51417508,51417534,51417550,51417553
168458072,168458073,168474308,168479602
1227719,1211221,1215059,1235322
1063282,1081766,1081767,1084400
88951647,88953882,88953887,88968926
70519117,70837057,70837080,70880637
130561184,130561204,130561262,130561278
1633136,1493528,1505775,1511725
664082,677881,677890,677899
1464589,1464608,1430797,1469776
133428241,133420273,133452074,133453540
67854284,68053718,68069304,68629037
31538956,31693693,32603677,33074770
7344654,7344698,7344712,7344728
5144666,5144667,5152786,5154846
60166217,60174399,60372869,60512936
82108898,82108926,82108938,82108942
82108898,82108926,82108938,82108942
77202644,77202645,77220878,77221799
150375271,150410977,150423966,150423967
62049177,62051163,62056325
77881285,77881292,77881319
2032423,2024445,2048933
58322407,58406749,58316080
136305437,136308542,136300712
140418303,140439398,140439426
8595660,8595688,8595693
107701947,107701980,107745702
178701724,178583157,178736617
138136408,138277128,138285547
124987754,124987767,124987769
63678356,63772374,63772382
33036695,33036697,33036701
625876,736017,736018
10647835,10647837,10647879
157876915,157913475,157932677
21134595,21134596,21361300
5055995,5127897,5127968
1712819,1712858,1712978
1777815,1778321,1712430

58560322,58610256,58610257
100260559,100260560,100497664
923765,697379,1042396
241528926,241537047,241531172
8042079,8042113,8053059
76185796,76186886,76198457
168458072,168458073,168474308
143338681,143373004,143382143
128987362,128987417,129018407
134436738,134436740,134436761
1042227,1042295,1064333
1464589,1464608,1469776
204048147,204048207,204048221
152276148,152276624,152276670
3038842,3195532,3228695
4190586,4211076,4211081
5355940,5361230,5427848
173103159,173402338,173402339
8042079,8042113,8053059
8042079,8042113,8053059
136199464,136199465,136199502
50239356,50239403,50239404
78357293,78261500,78883255
31538956,31693693,32603677
1090332,1044953,1133513
70425842,70425843,70437604
50945768,50960192,50960252
105993535,105993569,105993600
2736981,2736982,2754084
239997710,240295801,240295802
45339200,45339208,45344326
78564532,78564600,78564602
29499634,29516446,29420473
101903335,101924537,101924539
29202024,29827515,29880980
50311412,50311527,50661499
49629845,49636805,49636807
28149330,28150213,28476562
121881846,121881847,121891696
48648361,48689798,48689799
370596,370639,370641
11875084,11875085,11907859
71387221,71524887,71478052

88793810,88793822,88793842
119834144,119834160
504920,536685
89832847,89858525
88254823,88254825
16269140,16269141
100667714,100788211
61547236,61547237
233253104,233399444
76185796,76186886
56732799,56733571
191963202,192090439
2131565,2131578
131855535,131855536
114737080,114737086
24708453,24708478
234663653,234664070
83553637,84156725
105170221,105171845
94483628,94483633
4804152,4804183
79368458,79368495
24638979,24485182
136131436,136133712
1777815,1778321
4804152,4804183
743982,846798
234663653,234664070
77674633,77683125
2903751,2903798
138973585,138973626
4094774,4102448
121164388,121206075
80988416,80988417
20111266,20111267
73669043,73681089
101349172,101350387
61519232,61520723
21301178,21330991
188011801,188219351
55054206,55054211
372194,372986
1665014,1666807

47848458,47853840
151586044,151586045
49378970,49378985
41585571,41585576
121191208,121213135
27128210,27140921
68514554,68514586
29456667,29503557
1206496,1206503
8808057,8808059
152192113,152192631
78876226,78683458
146050135,146335868
150194484,150202102
119571087,119571091
812255,812479
33366103,33466306
49022886,49022902
128611281,128611282
140653360,140687120
117846079,117846080
48803931,48844793
12412836,12412837
23505467,23505575
70617317,70792492
72836951,72837000
183713815,183713816
11353695,11207292
156878421,156883491
5998328,5998366
3439415,3464711
68532708,68532820
235333172,235333173
186203288,186208714
696500,696502
50311412,50311527
37935946,38042209
6448606,6465694
237123475,237123502
1577806,1590616
3101637,3101817
3615047,3607518
9670833,9672089

57290845,57274149
14260075,14310797
2522390,2522391
27250387,27471602
1113915,1130889
66733266,66733338
234663653,234664070
67195173,67270777
33410800,33410829
70570289,70604275
16624957,16863981
119315721,119363071
9130196,9132751
15576599,15576600
102247751,102247753
151390749,151393353
107391394,107426528
58610256,58610257
3644890,3648757
234663653,234664070
137535735,137713757
234663653,234664070
3526496,3533273
75438233,75444572
3227502,3277484
1786179,1786266
10798255,10823359
90833316,90833345
149772746,149795690
133906248,133943785
107241964,107241975
138646497,138656229
40992931,40992945
65412778,65939826
177761376,177976241
89167394,89167429
19440536,19440537
9784206,9784219
94003834,94157362
24516752,24832885
54036817,54036818
8446823,8505453
46872414,46879969

234663653,234664070
44280703,44290375
155424627,155519533
31538956,31693693
2292689,2172022
25978582,26078909
84212709,84212710
114353912,114571228
40459032,40583151
133366240,133403333
178331204,178393772
73617438,73617458
114821692,114821703
21183608,21337794
196634118,196634119
57290845,57274149
85811854,85811881
202638788,202638789
101924537,101924539
1316894,1320118
46350446,46350450
15770642,15770643
104621139,104621144
3216288,3268254
35564676,35558831
50299421,50288630
73480200,73480218
144887733,144877833
234663653,234664070
33021466,33021467
158896485,158896515
4055515,4118375
1641550,1583712
60969884,60963818
39271537,39271538
45584540,45587004
10207898,10280165
4894110,4894170
78445708,78492204
2876748,2882107
68165118,68169686
60596617,60598912
133601687,133601824

56465308,56465311
18977943,18977945
3255736,3255741
234663653,234664070
54036817,54036818
80829706,80829707
70526843,70585373
70837057,70837080
524881,531139
91265664,91265665
69656327,69656328
13371574,13397636
20641659,20641660
111436691,111527986
61490244,61458594
2353556,2353557
76862024,76862025
97979532,97979533
1912817,1917127
5389713,5389714
128812117,129169510
35302603,35332660
230457889,230552128
71797711,71692546
66479904,66479905
68821860,68853503
1388103,1395612
3148019,3147079
139091549,139091874
44157752,44083743
77022852,77022853
444996,418675
2041154,1999678
102883962,102883987
1430616,1430647
60372869,60512936
15984559,15984564
44526397,44559478
23739315,23742538
1129439,1129485
7745032,7765495
40082538,40060205
132558689,132558761

47074257,47036716
75372848,75375879
53212923,53218181
34285345,34060801
120433495,120433500
70856188,70886007
242605420,242584161
125287393,125287394
210220802,210220903
10247268,10258560
75611354,75614294
22900493,22923992
37159441,37159532
736017,736018
3828752,3828753
195925355,195933370
770493,794963
81192339,81232273
2522390,2522391
100851242,100851243
43101270,43090939
98251540,98251544
40726826,41813055
22471822,22471823
54500140,54500231
1252535,1252536
63269641,63328784
126715435,126719832
43457167,43460458
50611831,50624821
3621933
49303068
138416120
2871451
13527861
36975759
67600595
3281296
120032540
9616060
7907571
120798926
138268233

99376748
184848069
241653710
232933589
1956361
89757132
8088757
1023891
225862244
77943467
140783061
130157394
233566677
140275798
77906392
49277055
242615470
43620580
39496742
140783061
76054960
39366036
135000682
25144907
5847195
2261683
21361300
56258736
9730394
2851688
31779664
121568707
91983472
11836948
4512512
1368341
61609749
77774949
45117629
495127
43044775
28296877
4447482

245227092
35563541
51744256
70775172
44838660
45041118
3125407
123926393
419921
241401565
29485475
39400107
140219998
185165
111039356
29931204
135716507
55874093
144941419
49682898
228110732
134188872
54933103
50898617
105815572
8233264
11591802
98259396
9750820
57552264
92150275
43584942
66166172
19583733
175092242
50105239
88074016
62278385
42805236
105540724
49427252
101806930
15568514

19028551
49517215
93364910
64744423
36276085
16286726
73838029
27144196
24739250
46344569
64314779
39883987
166866088
27138950
69063476
48526703
57283974
96349690
15699077
46511616
133169726
10023876
161274326
3434261
140968750
4399114
15415022
69855903
34711337
152807424
120222696
156189625
6099086
105167535
62301969
71332985
83317537
432779
45281775
63761059
178416062
112505108
5075224

112049875
180482539
74712951
20553573
100684925
60728953
161251918
108566049
129534618
139904754
140783061
100043086
194929572
90425672
146929217
10462341
11566772
70105763
743982
159789608
122737256
17983245
19573205
24014551
159846583
166147711
36277445
39233975
75197183
956455
18706287
159180009
153033733
15443575
140783061
168185593
74009153
81013035
50588183
2829476
38222035
73723166
55593164

140783061
222704637
15963671
18671899
156293490
644301
41122515
40314967
140783061
5864583
101098047
536685
43744893
37679533
71820651
37699289
4435161
43985515
4462772
64225346
1500777
145755582
65683072
5683649
5620733
74294757
17721388
201708421
49701981
45786783
24801314
22160709
228491315
43165015
153648928
178192902
39070929
133989881
26708120
44780321
38627237
151527035
239929360

36917189
92697031
26511115
128671100
101106210
45973939
159207835
13213728
113806426
140331113
68295510
130636454
8541630
119522926
61443659
31133655
128183912
45753891
43296173
28256783
7251603
15415022
21883429
74928845
6062988
42112504
57563395
111926896
115594262
42382747
115801836
27015760
43548216
99376748
958088
79261346
81232273
88920677
53787694
40627210
133638543
40765784
89180081

111901451
1038212
7671606
49930798
20005511
640726
91609462
48597192
144461039
152077845
4887677
53922182
977419
101966996
7774520
1534387
30227580
79482708
120150195
14260075
133800093
45837
2041154
30955537
119206373
90771703
47086345
30510532
49183703
111321250
179743875
681359
143208214
110685597
2310576
55361588
179145862
25446359
75639854
77942630
19693869
65155426
115810642

4984168
39854307
88074459
82045876
27421654
31826545
118616294
44130262
65220461
82732688
804612
47862091
236613477
16502284
183906828
44023473
47975939
130638028
32180470
114566203
80653992
155410953
22824829
1493169
111342297
37489862
235600208
4316167
5744912
78261500
64888532
33626235
40518778
1249185
148807225
52985695
114310921
68932568
143608582
117698417
56015672
40122485
626834

25064191
6681743
116455059
98114709
105170221
19004173
89793113
32116963
62199258
5101814
62417145
139735105
122626380
1583712
132976407
22137039
195535322
230848701
42990521
124826676
45406290
240670793
123681139
54644961
16746656
127258342
44597748
15467777
170060146
4435161
26409949
53885310
70848734
25820890
228472980
140653360
111901451
194077617
134111481
37061821
104187439
26405317
4857396

239048965
55096491
92577340
129718127
103417023
104215798
47545908
1708771
29780291
34893338
29917785
26085405
176011887
50218304
20265220
26565559
76452150
15501131
58060536
3767265
91044069
150946772
50037886
19617234
24341072
32297484
29839695
14099081
12631891
134230643
143832768
60837033
66282150
151087988
66630076
29676041
24324808
2717620
33583715
131245620
49307524
187215448
72801122

126683071
140466814
3116362
4507864
139652189
122687143
1399055
35369244
5338900
10338746
77689499
161954548
18236885
23780424
146068321
77714227
7594158
71797711
50781389
3306523
87871580
48844793
144449706
27702774
39835886
3615047
70157051
3018925
21727748
79824323
48950880
139101706
13966158
54198305
1151618
1898937
41597379
73406357
72582163
11737881
7350380
26915714
26608782

234897813
3234979
69089846
24851054
222873966
48803931
77662247
136340458
196659961
23532031
28367369
29310431
79065497
5802998
33652116
104089420
29190137
12777971
90964322
18054691
77241391
101483211
2689418
161231961
36680376
62624261
9449977
122249609
101608210
4622638
161500455
22290785
18606376
48650558
134168808
5620733
4419898
70519117
90001881
215867783
36353936
154534618
22168216

118844761
56372979
1196184
52995043
15673189
57329407
68720845
185037323
39933047
213048256
153191644
2418071
22479988
31841757
49440896
59938978
156189625
9126976
45068112
31429353
58014796
11988839
140783061
49893543
145252482
55494626
658048
28063228
129280064
44282027
144494169
19975658
53587010
12008018
51832469
85462261
18565704
43923161
119533732
108044895
130754655
132862924
99137831

240503601
35509160
23891602
166019081
2494019
233770144
16505604
7011453
5047192
158879966
127348915
14088948
242723648
74743717
19383370
134727535
59803822
45170741
32632850
80728061
114665653
37463048
20894616
241448405
57552264
156367299
11880998
37552988
50611831
159519410
1576635
57831641
2904202
122003248
107243558
33354403
120012170
25755669
13679214
103856381
138011059
101393295
99662866

186697926
3523747
133593354
41893322
25638407
12249019
22896102
2160494
1391234
112785237
73319512
104194278
174410846
19596138
131504580
151731479
89719633
8875318
36894037
51047189
55521935
43318993
66282150
6418642
140783061
132329206
114505405
134741103
101397085
21183608
6063350
81530659
234663653
42589916
26872409
76859102
187581092
1081598
78534660
44152788
4684446
111565937
17656793

79081359
2942171
2214430
99656046
57925285
36869013
2605539
63885704
68932568
42326258
79268260
3624798
31660000
95465911
48131308
134943031
88619806
463919
70054057
95737647
95845082
179711536
39774944
121088884
22647616
1421739
70848734
678430
75279846
115483612
67347339
59368387
142561729
143795382
26659793
66503874
878078
45858245
85977395
43010738
4453814
140783061
6903492

57249091
10554358
77749093
53537264
55495378
112996962
101654460
55869568
135263305
13695712
75293376
285583
6102888
15258423
3423441
72350966
112421720
17686898
183260073
60837033
112525024
509895
99003603
139132985
31533965
32831129
86457243
45421742
173983358
19916706
72084146
26738909
225394812
19004173
4916935
100019739
33097876
154302293
43810558
145525404
17339225
129579823
56469894

49458652
2187851
99641135
41050290
87974503
146030084
139401502
60816889
44083743
95088562
31828406
143957576
113649120
26087639
5587837
74379582
127041643
37457413
114555024
113986039
46008086
117316047
714017
25551130
152859642
47399600
110343617
197887473
124011285
139251480
61340967
46484596
91762260
61670036
22900493
19975658
99979645
2798848
41400561
132884828
201475722
56656775
150108749

45117629
120538685
184564197
42990074
175075825
46700057
14712665
727837
241496830
22542000
135973678
73569776
183576819
436690
105868861
35402989
16161030
32980924
195877923
21057740
146273193
168419501
44421872
25347469
109325482
11803928
140783061
80044329
60192106
56621183
60691223
163398933
57521544
74009153
166944388
144081249
151389685
116918686
132514863
120270180
28301339
26424722
55965167

184092736
56511221
21082931
7147974
116999307
151615685
90616131
124399154
243649329
74044684
177686896
72542960
124936983
36893856
121661688
19919386
35570306
116981484
90425672
36133381
28550653
140783061
51531473
70736751
80164654
122248709
32435801
140783061
89656043
29344689
427782
95741647
3694380
1429396
92622010
35843322
46552814
144993068
129743452
32661824
16268470
2091600
99058795

66289040
136119354
37578578
121222494
35698489
140783061
159324406
20135545
20961949
13166327
9820694
140783061
87119397
75412653
128733481
1168540
75528578
25756888
14372134
6037990
31318743
77879657
168827499
65867128
133808129
50552960
1587041
35442519
74712951
8981896
4351596
214822
52077715
136545055
51199517
70397475
19239431
179564700
56926792
62301969
75893633
11611766
39683297

32837976
16437762
65063262
8449258
34642490
11907859
122181796
69061830
56258736
41273377
74509345
92825859
126715435
7663229
102277204
4758326
35970527
136271554
22943371
178051
88400023
90140400
89244650
34702884
26440941
212842332
13810619
83553637
132281526
24297099
5841576
72645775
79288010
1912817
65157855
133072766
178906215
13985586
43923161
51517528
108298305
10778992
172166029

1219701
130935425
6550037
70444447
620041
33724902
139609202
63885704
102804691
893295
17098383
127411436
39609804
113398928
12653396
155323907
58040961
45977859
24927586
195948834
25803230
94620569
45543675
56895272
57149978
108011588
28668377
163237541
35674138
17388922
233938242
19412346
72776119
1871883
6331427

6143,80886147,80886227

Gene name	number of high covari	chromosome
FGF13	18	chrX
CACNA1H	17	chr16
PTPRN2	16	chr7
JAG2	13	chr14
EXD3	13	chr9
CDH4	11	chr20
PRDM16	11	chr1
CYP2E1	10	chr10
MAD1L1	9	chr7
COL23A1	8	chr5
LARGE	8	chr22
FAM189A1	8	chr15
FAM19A5	8	chr22
PRKAR1B	8	chr7
MGMT	8	chr10
LRP1B	7	chr2
ONECUT2	7	chr18
CBFA2T3	7	chr16
TSNARE1	7	chr8
ADARB2	7	chr10
SEC14L5	7	chr16
RBFOX1	7	chr16
CSMD1	7	chr8
CAMTA1	7	chr1
PRKAR1B	7	chr7
CUX1	7	chr7
ACAP3	6	chr1
SORCS2	6	chr4
MACROD2	6	chr20
FLG	6	chr1
DPP6	6	chr7
CDH4	6	chr20
CTBP1	6	chr4
DAGLA	5	chr11
TMEM184A	5	chr7
DLEU7-AS1	5	chr13
INTS1	5	chr7
DLEU7	5	chr13
WDR72	5	chr15
RPTOR	5	chr17
ZNF516	5	chr18
SLC36A1	5	chr5

CEP112	5	chr17
MYO1F	5	chr19
SDK1	5	chr7
SMOC2	5	chr6
CNTNAP2	5	chr7
KIF26B	5	chr1
PARK2	5	chr6
RABL6	5	chr9
RPS6KA2	5	chr6
COLEC11	5	chr2
DPP6	5	chr7
LRRC4C	5	chr11
NPR3	5	chr5
DLGAP2	5	chr8
SORCS1	5	chr10
RTN4RL1	5	chr17
MORN1	5	chr1
MEGF6	5	chr1
MMP17	5	chr12
TBCD	5	chr17
DSCAML1	5	chr11
STK17B	4	chr2
KAZN	4	chr1
TTC40	4	chr10
SBNO2	4	chr19
ERICH1-AS1	4	chr8
LINGO2	4	chr9
PRKCZ	4	chr1
PCDH19	4	chrX
RGS12	4	chr4
TMEM240	4	chr1
FIBCD1	4	chr9
CLSTN2	4	chr3
SHANK2	4	chr11
SYT1	4	chr12
C22orf34	4	chr22
DOCK1	4	chr10
ZNF664-FAM101A	4	chr12
KCTD16	4	chr5
EPHA1-AS1	4	chr7
N4BP3	4	chr5
RBFOX3	4	chr17
C16orf62	4	chr16

GPR132	4	chr14
ADAMTS2	4	chr5
PNKD	4	chr2
KIF17	4	chr1
CDH12	4	chr5
IL1RAPL1	4	chrX
LPHN1	4	chr19
RYR3	4	chr15
HDAC4	4	chr2
DNAH8	4	chr6
GPC5	4	chr13
NCAM2	4	chr21
ANO2	4	chr12
ABR	4	chr17
GAS6	4	chr13
ATP11A	3	chr13
TPST2	3	chr22
PIK3C2B	3	chr1
ZNF282	3	chr7
SLC25A25	3	chr9
GABBR2	3	chr9
MYRF	3	chr11
DAB1	3	chr1
SGCZ	3	chr8
CACNA1A	3	chr19
CCDC144B	3	chr17
D2HGDH	3	chr2
FAM83A	3	chr8
LDLRAD4	3	chr18
ADAMTS2	3	chr5
ALK	3	chr2
LRRTM4	3	chr2
CNTNAP5	3	chr2
NXN	3	chr17
TLN2	3	chr15
NBEA	3	chr13
NFATC1	3	chr18
SIPA1L3	3	chr19
PEAR1	3	chr1
SLC2A6	3	chr9
EIF4G3	3	chr1
LAMC3	3	chr9
CLYBL	3	chr13

MACROD2	3	chr20
LOC441666	3	chr10
C9orf171	3	chr9
ULK4	3	chr3
RORA	3	chr15
DNAJC25-GNG10	3	chr9
GPHN	3	chr14
RPH3AL	3	chr17
ZSCAN1	3	chr19
BCYRN1	3	chrX
PRRT1	3	chr6
GAS7	3	chr17
MICAL3	3	chr22
RYR2	3	chr1
RIMBP2	3	chr12
TRAPPC9	3	chr8
KIF1A	3	chr2
TPCN2	3	chr11
PRR5-ARHGAP8	3	chr22
KIAA1755	3	chr20
BEND2	3	chrX
NRXN1	3	chr2
MIR548F5	3	chr13
CHST15	3	chr10
RAB36	3	chr22
PLEKHG1	3	chr6
MLLT1	3	chr19
CWF19L2	3	chr11
HEPHL1	3	chr11
FBLN1	3	chr22
QSOX2	3	chr9
CHST8	3	chr19
PCSK6	3	chr15
VAV2	3	chr9
IGSF23	3	chr19
MECOM	3	chr3
CDH13	3	chr16
NAALADL2	3	chr3
PKNOX2	3	chr11
ANKRD30BL	3	chr2
TMBIM1	3	chr2
GPR133	3	chr12
GALNTL6	3	chr4

DNAH17	3	chr17
CAMK1D	3	chr10
HSH2D	2	chr19
PIEZO2	2	chr18
ALPL	2	chr1
CCDC178	2	chr18
C20orf85	2	chr20
B4GALT1	2	chr9
CNBD2	2	chr20
CACNA1B	2	chr9
LINC00523	2	chr14
PTCHD2	2	chr1
AP3D1	2	chr19
STON1-GTF2A1L	2	chr2
ANKRD24	2	chr19
CACNA1G	2	chr17
EYS	2	chr6
AGAP1	2	chr2
GNB1L	2	chr22
PTPRT	2	chr20
MICAL3	2	chr22
DNAJC5	2	chr20
SFMBT1	2	chr3
SLC17A3	2	chr6
CCDC113	2	chr16
KRT72	2	chr12
CTSD	2	chr11
ENTPD6	2	chr20
PDE6B	2	chr4
PQLC1	2	chr18
GNG7	2	chr19
PCNXL2	2	chr1
LINC00617	2	chr14
C16orf45	2	chr16
HCN2	2	chr19
MAP2K2	2	chr19
SOGA3	2	chr6
CNTN4	2	chr3
MIR548AI	2	chr14
KIF19	2	chr17
DNAJB13	2	chr11
MICALL2	2	chr7
LOC100133669	2	chr8

GPR123	2	chr10
UGT1A4	2	chr2
PRKAG2	2	chr7
ASAP1	2	chr8
PLEKHH1	2	chr14
UGT1A3	2	chr2
AP2A2	2	chr11
BAI1	2	chr8
ZIC3	2	chrX
KIAA1671	2	chr22
BTBD16	2	chr10
RERE	2	chr1
PCSK6	2	chr15
KIAA0825	2	chr5
9-Sep	2	chr17
ANP32E	2	chr1
SPTB	2	chr14
GRM3	2	chr7
TNC	2	chr9
EPB41L4B	2	chr9
GRK5	2	chr10
UGT1A10	2	chr2
FLJ34503	2	chr6
BIN1	2	chr2
UGT1A6	2	chr2
RAB40C	2	chr16
ABCC5	2	chr3
LRRC20	2	chr10
DENND1A	2	chr9
RAP1GAP2	2	chr17
FGD5	2	chr3
TOP1MT	2	chr8
USP35	2	chr11
EYA4	2	chr6
CLEC17A	2	chr19
HDAC9	2	chr7
PALLD	2	chr4
KIAA1217	2	chr10
LOC285577	2	chr5
EFR3B	2	chr2
WDR18	2	chr19
RBM25	2	chr14
RGS7	2	chr1

DOK6	2	chr18
DLGAP3	2	chr1
P4HA3	2	chr11
AHRR	2	chr5
COL6A2	2	chr21
LMF1	2	chr16
KIF26A	2	chr14
CDH18	2	chr5
RASA3	2	chr13
CLPTM1	2	chr19
CELF5	2	chr19
CDK14	2	chr7
HNF4A	2	chr20
UGT1A9	2	chr2
CRELD2	2	chr22
LIN54	2	chr4
BRD1	2	chr22
DTNBP1	2	chr6
PLXNA4	2	chr7
GLT1D1	2	chr12
LINC00162	2	chr21
CNOT1	2	chr16
AFMID	2	chr17
ARHGAP25	2	chr2
NOTO	2	chr2
HAUS7	2	chrX
UVSSA	2	chr4
ARHGAP19	2	chr10
TSC2	2	chr16
CAMK2B	2	chr7
RPS6KA2	2	chr6
ANKRD20A9P	2	chr13
MDGA2	2	chr14
BRSK2	2	chr11
SEC14L1	2	chr17
ADCK3	2	chr1
CYP26B1	2	chr2
FAM101A	2	chr12
YIF1B	2	chr19
CTNNA2	2	chr2
RXRA	2	chr9
SPN	2	chr16
TLL2	2	chr10

LYRM4	2	chr6
LRRC4C	2	chr11
LOC100288637	2	chr15
TLE2	2	chr19
FGFR3	2	chr4
LAMA5	2	chr20
WDR19	2	chr4
STK25	2	chr2
INPP5A	2	chr10
COLEC11	2	chr2
DOT1L	2	chr19
ANKRD13C	2	chr1
GAK	2	chr4
COL25A1	2	chr4
THOP1	2	chr19
PXDNL	2	chr8
OTOA	2	chr16
COL22A1	2	chr8
TCERG1L	2	chr10
SEMA7A	2	chr15
RGMA	2	chr15
BUB1B	2	chr15
ZBTB46	2	chr20
TMEM45B	2	chr11
PRKAG3	2	chr2
WDR4	2	chr21
FAM20C	2	chr7
SNX8	2	chr7
LYPD6B	2	chr2
MECOM	2	chr3
KIAA2022	2	chrX
ZRANB3	2	chr2
NCS1	2	chr9
FAM101B	2	chr17
EHMT1	2	chr9
PLAUR	2	chr19
DIP2C	2	chr10
SLC37A1	2	chr21
MMEL1	2	chr1
DLG2	2	chr11
EPS15L1	2	chr19
PDSS1	2	chr10
ABLIM2	2	chr4

ITIH3	2	chr3
LUZP2	2	chr11
NBL1	2	chr1
VWA3A	2	chr16
MCTP1	2	chr5
KCNG2	2	chr18
CXCL13	2	chr4
C1orf94	2	chr1
SYT2	2	chr1
TECPR2	2	chr14
PTPRS	2	chr19
PCDH9	2	chr13
ABCA2	2	chr9
HK1	2	chr10
APCDD1L-AS1	2	chr20
C1orf65	2	chr1
RPF2	2	chr6
HAGHL	2	chr16
LOC100286922	2	chr2
LOC100507373	2	chr19
WBSCR17	2	chr7
CALN1	2	chr7
DNAH7	2	chr2
KCTD17	2	chr22
MUC2	2	chr11
KCNK17	2	chr6
MCF2L	2	chr13
ANO1	2	chr11
DPP10	2	chr2
NINL	2	chr20
RAB40B	2	chr17
HTR2C	2	chrX
SHC2	2	chr19
SNED1	2	chr2
ATP9B	2	chr18
UGT1A5	2	chr2
MSANTD1	2	chr4
ADAMTS17	2	chr15
CHRNA4	2	chr20
MYO7B	2	chr2
FAM213B	2	chr1
SFSWAP	2	chr12
PIGZ	2	chr3

PCSK5	2	chr9
BNC2	2	chr9
UGT1A8	2	chr2
DNMT3B	2	chr20
FAM32A	2	chr19
VGLL4	2	chr3
TNRC6B	2	chr22
KIAA2026	2	chr9
SYNPR	2	chr3
MIR548AO	2	chr5
RECQL5	2	chr17
DHX37	2	chr12
LOC339166	2	chr17
DSCAM	2	chr21
MIPEP	2	chr13
USP37	2	chr2
SH2B2	2	chr7
KCNN3	2	chr1
KCND3	2	chr1
DYSF	2	chr2
OCA2	2	chr15
R3HDM4	2	chr19
PRR5	2	chr22
ARHGAP23	2	chr17
NDRG4	2	chr16
SHISA6	2	chr17
LOC100132273	2	chr22
SYNPO2	2	chr4
CCDC102B	2	chr18
HSPA7	2	chr1
LOC284294	2	chr18
AP1M1	2	chr19
MKLN1	2	chr7
B3GALT6	2	chr1
COTL1	2	chr16
PKP4	2	chr2
RNF165	2	chr18
HSPG2	2	chr1
LINC00200	2	chr10
IGF1R	2	chr15
GRID2	2	chr4
ATP8A2	2	chr13
INPP5J	2	chr22

TSPAN9	2	chr12
FBXL20	2	chr17
RIMS1	2	chr6
NUGGC	2	chr8
ARHGEF10	2	chr8
STK3	2	chr8
SYNGR3	2	chr16
GUSBP11	2	chr22
ARHGAP19-SLIT1	2	chr10
MRPL45P2	2	chr17
GPR98	2	chr5
DIS3L2	2	chr2
MOB2	2	chr11
PIEZO1	2	chr16
DOC2B	2	chr17
C1orf151-NBL1	2	chr1
TMCO3	2	chr13
IFFO2	2	chr1
TRPM7	2	chr15
COL18A1	2	chr21
RGS6	2	chr14
ZNF423	2	chr16
CAMKMT	2	chr2
LINC00616	2	chr4
FRMD1	2	chr6
GLTSCR1	2	chr19
USP48	2	chr1
FLJ12825	2	chr12
KDM4B	2	chr19
COL26A1	2	chr7
YWHAE	2	chr17
HSD17B6	2	chr12
SLC39A11	2	chr17
GRK4	2	chr4
UGT1A7	2	chr2
PAH	1	chr12
FAM187B	1	chr19
ZC3HAV1	1	chr7
ZCCHC24	1	chr10
LCN1	1	chr9
PRSS21	1	chr16
CDH8	1	chr16
PIGB	1	chr15

ABCB10	1	chr1
KIAA1609	1	chr16
SFTA3	1	chr14
KCNAB2	1	chr1
ELOVL2	1	chr6
GTPBP3	1	chr19
FAM83E	1	chr19
TBC1D24	1	chr16
FBLN2	1	chr3
CBS	1	chr21
DIS3L2	1	chr2
GLYR1	1	chr16
CMTM5	1	chr14
MEI1	1	chr22
MYO9B	1	chr19
TUB	1	chr11
MROH5	1	chr8
LOC100128164	1	chr3
TEAD2	1	chr19
LOC100652739	1	chr6
GIGYF2	1	chr2
KIAA0825	1	chr5
ZNRF4	1	chr19
TSHZ1	1	chr18
PHTF1	1	chr1
LOC100128946	1	chr22
HTRA3	1	chr4
C8orf74	1	chr8
LOC442459	1	chrX
LCMT1	1	chr16
LOC100506585	1	chr7
CES4A	1	chr16
PRKG1	1	chr10
NTN1	1	chr17
SPAG16	1	chr2
CAPN10	1	chr2
FRMPD4	1	chrX
IQCE	1	chr7
PLCG2	1	chr16
RPN1	1	chr3
11-Mar	1	chr5
TDRD5	1	chr1
PCDH7	1	chr4

SORBS2	1	chr4
WDR5	1	chr9
RNU6-83	1	chr11
UAP1L1	1	chr9
TSHZ2	1	chr20
MAPK8IP2	1	chr22
MAGI1	1	chr3
POMT2	1	chr14
ZMYM5	1	chr13
ALX4	1	chr11
CMC1	1	chr3
ZFP42	1	chr4
C3orf67	1	chr3
FARP1	1	chr13
TSPEAR	1	chr21
LINC00340	1	chr6
URI1	1	chr19
JRK	1	chr8
AK1	1	chr9
TPO	1	chr2
CORO7-PAM16	1	chr16
HIP1	1	chr7
DNMT1	1	chr19
KCTD5	1	chr16
BAZ1A	1	chr14
ZNF621	1	chr3
LOC284395	1	chr19
ARL2-SNX15	1	chr11
SLC6A18	1	chr5
UBE2F	1	chr2
HCN1	1	chr5
PGS1	1	chr17
TAF2	1	chr8
RYR1	1	chr19
FAM92B	1	chr16
USP3	1	chr15
NANOS2	1	chr19
DYSF	1	chr2
NDC80	1	chr18
MAGI2	1	chr7
LOC100507424	1	chr12
ACTL6B	1	chr7
METTL8	1	chr2

COL17A1	1	chr10
RBMS2	1	chr12
INPP4B	1	chr4
ADAMTSL1	1	chr9
SLC45A1	1	chr1
DDX12P	1	chr12
PPM1F	1	chr22
CSMD3	1	chr8
CTNND1	1	chr11
PRCD	1	chr17
CNOT2	1	chr12
COL8A1	1	chr3
PDZD4	1	chrX
MYH9	1	chr22
FAM160A2	1	chr11
LOC100652770	1	chr18
ZNF467	1	chr7
ZNF695	1	chr1
SFRP1	1	chr8
GLTSCR1L	1	chr6
CUL1	1	chr7
FGD4	1	chr12
FAM71E1	1	chr19
LOC286059	1	chr8
WDR37	1	chr10
CPLX2	1	chr5
ST18	1	chr8
ZNF280C	1	chrX
AGMO	1	chr7
PPFIA1	1	chr11
DAG1	1	chr3
IQCG	1	chr3
XKR4	1	chr8
ARHGAP8	1	chr22
LINC00674	1	chr17
CHEK2	1	chr22
LOXL3	1	chr2
GATA2	1	chr3
C10orf53	1	chr10
LPAR5	1	chr12
EIF2B3	1	chr1
SYTL3	1	chr6
SULF2	1	chr20

ZZEF1	1	chr17
AKAP13	1	chr15
ZNF284	1	chr19
MACROD1	1	chr11
HIC1	1	chr17
MYO5B	1	chr18
NEK1	1	chr4
LOC729852	1	chr7
PHF21A	1	chr11
OTX2-AS1	1	chr14
APOL4	1	chr22
CRISPLD2	1	chr16
NFATC1	1	chr18
TRIM25	1	chr17
ZNF833P	1	chr19
BAHCC1	1	chr17
ECE1	1	chr1
RBP7	1	chr1
TMED10	1	chr14
CDH2	1	chr18
FUT10	1	chr8
SLCO5A1	1	chr8
FAM129C	1	chr19
GFOD1	1	chr6
C2orf83	1	chr2
IFNAR1	1	chr21
TNS1	1	chr2
FAM47B	1	chrX
PTPRM	1	chr18
PARM1	1	chr4
CCDC88C	1	chr14
NXN	1	chr17
AGXT	1	chr2
HELB	1	chr12
TCEAL2	1	chrX
PMF1	1	chr1
PTER	1	chr10
FRMD1	1	chr6
PLS3	1	chrX
INCA1	1	chr17
RUVBL2	1	chr19
LAMA4	1	chr6
NAGPA	1	chr16

CLIC6	1	chr21
CMPK1	1	chr1
SSU72	1	chr1
CDH1	1	chr16
DRD2	1	chr11
MUC17	1	chr7
MRC2	1	chr17
HTRA1	1	chr10
UBE2H	1	chr7
B3GALTL	1	chr13
DOCK8	1	chr9
DYM	1	chr18
UNC5D	1	chr8
MIR548AN	1	chr13
AP3S2	1	chr15
CEP170B	1	chr14
NKD2	1	chr5
COL14A1	1	chr8
PVRL1	1	chr11
MMP25	1	chr16
GATA4	1	chr8
TRPC5	1	chrX
NRCAM	1	chr7
C1QTNF2	1	chr5
SLC35F6	1	chr2
CMTM8	1	chr3
PDE12	1	chr3
EHD1	1	chr11
SLC12A3	1	chr16
EML1	1	chr14
LOC283692	1	chr15
KLHL15	1	chrX
RFX2	1	chr19
AGPAT3	1	chr21
ATP2B4	1	chr1
C11orf49	1	chr11
TANC1	1	chr2
SCN2A	1	chr2
LOC284009	1	chr17
GMDS	1	chr6
SMOX	1	chr20
C6orf147	1	chr6
MKL2	1	chr16

ACPL2	1	chr3
SMAD6	1	chr15
SYNGR1	1	chr22
MPP7	1	chr10
EIF4G3	1	chr1
RAB3GAP1	1	chr2
POLR2A	1	chr17
GRM2	1	chr3
TDRD9	1	chr14
NLRP3	1	chr1
PKD1L3	1	chr16
C1QL3	1	chr10
PCDHA9	1	chr5
FANCC	1	chr9
SYS1-DBNDD2	1	chr20
LOC100507194	1	chr6
FGFBP2	1	chr4
CCT3	1	chr1
ANP32B	1	chr9
PRR12	1	chr19
B4GALNT4	1	chr11
SLC38A11	1	chr2
EIF2AK4	1	chr15
INSR	1	chr19
TMEM8A	1	chr16
GTF2IRD1	1	chr7
TNFAIP2	1	chr14
CYTH4	1	chr22
CORO7	1	chr16
SNTG1	1	chr8
TULP2	1	chr19
PCSK4	1	chr19
LOC100289561	1	chr7
KCNA2	1	chr1
FLJ42102	1	chr11
LOC63930	1	chr20
SERPINI1	1	chr3
NRXN1	1	chr2
GAL3ST1	1	chr22
BCL7A	1	chr12
MASP2	1	chr1
PLA2G4C	1	chr19
PPP2R2B	1	chr5

DNAH11	1	chr7
SFMBT2	1	chr10
FHIT	1	chr3
LOC100131655	1	chr18
MFSD4	1	chr1
SNAPC5	1	chr15
ISM2	1	chr14
CDAN1	1	chr15
FAM227A	1	chr22
SDCCAG3	1	chr9
UBE2F-SCLY	1	chr2
SLC39A6	1	chr18
PCDHA7	1	chr5
RIPK4	1	chr21
NLRC3	1	chr16
TAZ	1	chrX
ERI3	1	chr1
PLVAP	1	chr19
TUFT1	1	chr1
AATK	1	chr17
PTPMT1	1	chr11
KATNAL2	1	chr18
DAGLB	1	chr7
PCCA	1	chr13
MAGEA4	1	chrX
MIR17HG	1	chr13
PCDHB8	1	chr5
TPT1-AS1	1	chr13
PITPNC1	1	chr17
KCNG4	1	chr16
BSN	1	chr3
GCKR	1	chr2
ACSL6	1	chr5
GTF2A1L	1	chr2
CPNE5	1	chr6
TPPP	1	chr5
ERC2	1	chr3
FAM19A1	1	chr3
WDSUB1	1	chr2
GRIN3A	1	chr9
RGS3	1	chr9
EEPD1	1	chr7
C20orf196	1	chr20

POR	1	chr7
GLP2R	1	chr17
PCDH11X	1	chrX
NRP2	1	chr2
ABO	1	chr9
SLC12A7	1	chr5
MTMR6	1	chr13
SAMD3	1	chr6
PCDHA8	1	chr5
LOC150935	1	chr2
FAM155B	1	chrX
C7orf50	1	chr7
ADAMTS20	1	chr12
PLAUR	1	chr19
ZNF605	1	chr12
RPRD2	1	chr1
PLK5	1	chr19
COL19A1	1	chr6
SLC38A10	1	chr17
LCK	1	chr1
CCDC155	1	chr19
RARB	1	chr3
GALNS	1	chr16
GORASP2	1	chr2
FZR1	1	chr19
PCDHA6	1	chr5
SLC22A18	1	chr11
KCNJ15	1	chr21
RELN	1	chr7
DNAH2	1	chr17
ZNF611	1	chr19
HTR6	1	chr1
C14orf159	1	chr14
RHPN1	1	chr8
KCNMB1	1	chr5
FOXK2	1	chr17
LOC650368	1	chr11
PPP1R37	1	chr19
WDR27	1	chr6
CCDC146	1	chr7
KRAS	1	chr12
SH3PXD2A	1	chr10
CLHC1	1	chr2

NLRC4	1	chr2
CCDC88B	1	chr11
MRTO4	1	chr1
GRAMD4	1	chr22
KIR3DX1	1	chr19
ZNF385B	1	chr2
NOD1	1	chr7
GFRA1	1	chr10
ITPK1	1	chr14
EEF2	1	chr19
CPS1	1	chr2
LDLRAD3	1	chr11
NR6A1	1	chr9
SCUBE1	1	chr22
SERPINB2	1	chr18
RBMS1	1	chr2
DKFZp686O1327	1	chr2
MCM8	1	chr20
COL18A1	1	chr21
APBA3	1	chr19
MYO15B	1	chr17
PLXNA4	1	chr7
MYOCD	1	chr17
TMEM71	1	chr8
DNAJC15	1	chr13
TLL10	1	chr1
WNT3	1	chr17
RUFY1	1	chr5
MDN1	1	chr6
CTBP1-AS1	1	chr4
INTS2	1	chr17
CANX	1	chr5
SMIM14	1	chr4
PLXNB3	1	chrX
ADRA1D	1	chr20
LOXL2	1	chr8
SCARA5	1	chr8
LOC653712	1	chr3
CCDC134	1	chr22
ZFAND3	1	chr6
DIRAS2	1	chr9
CTNND2	1	chr5
MMD2	1	chr7

MYBPC2	1	chr19
LOC100630923	1	chr7
COL4A1	1	chr13
CELSR1	1	chr22
SSBP4	1	chr19
CNTLN	1	chr9
C1orf216	1	chr1
MXRA5	1	chrX
LIN52	1	chr14
SKIV2L2	1	chr5
PDZRN3	1	chr3
SLC4A7	1	chr3
RCAN1	1	chr21
IL17F	1	chr6
ARRDC2	1	chr19
PRH1-PRR4	1	chr12
SH3RF3	1	chr2
FBLN7	1	chr2
COPS4	1	chr4
CDC42SE2	1	chr5
NRXN3	1	chr14
PTPRG	1	chr3
CHID1	1	chr11
PLXDC2	1	chr10
NTNG1	1	chr1
TNFRSF13B	1	chr17
CARD11	1	chr7
FAIM2	1	chr12
CATSPERD	1	chr19
PLEKHG4B	1	chr5
TRPM4	1	chr19
ZMAT4	1	chr8
DENND1A	1	chr9
PARVG	1	chr22
OTOR	1	chr20
SVOP	1	chr12
U2AF2	1	chr19
LRRC4B	1	chr19
UNC13A	1	chr19
ZNF578	1	chr19
MKNK1-AS1	1	chr1
TMPRSS11F	1	chr4
MMRN2	1	chr10

KIF25	1	chr6
PHIP	1	chr6
MAFK	1	chr7
GOLGA3	1	chr12
EFHA1	1	chr13
GRAMD1B	1	chr11
GLG1	1	chr16
ADCY3	1	chr2
PHF13	1	chr1
ASB10	1	chr7
PEBP4	1	chr8
TMEM37	1	chr2
TGS1	1	chr8
MAN2B2	1	chr4
CERS1	1	chr19
LMNA	1	chr1
FLNB	1	chr3
ATP8B3	1	chr19
TUBB1	1	chr20
XKR6	1	chr8
DENND2C	1	chr1
AGBL1	1	chr15
ACTG2	1	chr2
MBOAT1	1	chr6
FAM198A	1	chr3
KCNT1	1	chr9
AQP1	1	chr7
TPCN1	1	chr12
LILRA1	1	chr19
PRKD1	1	chr14
TAF4	1	chr20
DOK7	1	chr4
PAQR5	1	chr15
SRSF4	1	chr1
LOC440704	1	chr1
RIMS2	1	chr8
PDZD2	1	chr5
XRCC4	1	chr5
TMEM132D	1	chr12
TRAPPC8	1	chr18
ZRANB2-AS2	1	chr1
JAK1	1	chr1
SNX11	1	chr17

MUC6	1	chr11
NR2C2	1	chr3
KCNIP4	1	chr4
LRRC15	1	chr3
PLXNB2	1	chr22
SAMD1	1	chr19
DOK2	1	chr8
SPATA13	1	chr13
LINC00359	1	chr13
CINP	1	chr14
ADNP2	1	chr18
DBF4B	1	chr17
CRLF1	1	chr19
RABGAP1L	1	chr1
ZNF346	1	chr5
C20orf78	1	chr20
FTSJ1	1	chrX
SUV420H2	1	chr19
SVIL	1	chr10
MAGIX	1	chrX
SQRDL	1	chr15
GRIK1	1	chr21
ADAP1	1	chr7
MLF1	1	chr3
TRPM5	1	chr11
ATF7IP	1	chr12
GLI2	1	chr2
CACNA1I	1	chr22
ALS2CL	1	chr3
ARVCF	1	chr22
ZNF398	1	chr7
AGPS	1	chr2
PARP8	1	chr5
OSBPL5	1	chr11
ATP2B2	1	chr3
IFNL4	1	chr19
MIR548G	1	chr3
RHOH	1	chr4
NELFB	1	chr9
PDE11A	1	chr2
HOXC5	1	chr12
CNRIP1	1	chr2
RALYL	1	chr8

KCNQ2	1	chr20
SPON1	1	chr11
PEPD	1	chr19
WDR7	1	chr18
CTDSP2	1	chr12
CDH6	1	chr5
CCDC47	1	chr17
FNDC3B	1	chr3
HIBCH	1	chr2
PARVB	1	chr22
CYP11B1	1	chr8
MYO18B	1	chr22
MGRN1	1	chr16
HS6ST3	1	chr13
EPB41L2	1	chr6
TNFRSF19	1	chr13
SLITRK3	1	chr3
POMT1	1	chr9
PIAS4	1	chr19
DOCK3	1	chr3
LOC100505875	1	chr4
LINC00840	1	chr10
CHMP6	1	chr17
ENOX1	1	chr13
B3GAT1	1	chr11
FMR1NB	1	chrX
NR4A3	1	chr9
DENND1C	1	chr19
ARHGAP4	1	chrX
NFATC4	1	chr14
MYO7A	1	chr11
PIK3R5	1	chr17
DYNC1H1	1	chr14
ZNF7	1	chr8
ESR2	1	chr14
SPOCK3	1	chr4
PCDHA1	1	chr5
GSK3B	1	chr3
KANK4	1	chr1
RHPN1-AS1	1	chr8
UHRF1BP1L	1	chr12
DMTF1	1	chr7
MAEA	1	chr4

IL32	1	chr16
CTCF	1	chr20
NOV	1	chr8
NEURL4	1	chr17
FTHL17	1	chrX
IDO2	1	chr8
GAPVD1	1	chr9
CELF4	1	chr18
C3orf20	1	chr3
CYP26C1	1	chr10
ZNF473	1	chr19
LINC00693	1	chr3
PTX4	1	chr16
SLC13A5	1	chr17
CNTN4	1	chr3
KIAA1751	1	chr1
NRG3	1	chr10
CORO2B	1	chr15
MAD2L2	1	chr1
JARID2	1	chr6
ADCYAP1R1	1	chr7
TUBG2	1	chr17
PACSIN1	1	chr6
TFCP2L1	1	chr2
PLOD1	1	chr1
GRIK2	1	chr6
HTT	1	chr4
AIDA	1	chr1
POU4F1-AS1	1	chr13
SOHLH1	1	chr9
APBA2	1	chr15
RASSF9	1	chr12
DNAH9	1	chr17
ACER1	1	chr19
CXCR3	1	chrX
ST6GAL2	1	chr2
CSE1L	1	chr20
FAM211B	1	chr22
UBE2G1	1	chr17
GREM2	1	chr1
WDR66	1	chr12
DHRS4L1	1	chr14
GBF1	1	chr10

CDKAL1	1	chr6
CHD1	1	chr5
CXXC11	1	chr2
ATXN7L1	1	chr7
IGFALS	1	chr16
GZMM	1	chr19
CPPED1	1	chr16
KCNK9	1	chr8
TFCP2	1	chr12
GLYATL3	1	chr6
MYO15A	1	chr17
TSIX	1	chrX
C20orf112	1	chr20
CD320	1	chr19
CRMP1	1	chr4
SBF1	1	chr22
ENO1	1	chr1
FLRT2	1	chr14
SETD1B	1	chr12
CASP14	1	chr19
MARS	1	chr12
ZNF804A	1	chr2
PTPRH	1	chr19
PSME3	1	chr17
BAIAP3	1	chr16
ARRB2	1	chr17
MAP3K4	1	chr6
ADCY9	1	chr16
CADPS	1	chr3
WARS2	1	chr1
PPAPDC3	1	chr9
DNAI2	1	chr17
CEP85	1	chr1
AFMID	1	chr17
KIRREL2	1	chr19
AK8	1	chr9
CLOCK	1	chr4
FOXF1	1	chr16
ADA	1	chr20
UQCC	1	chr20
FAM53B	1	chr10
VIPR1	1	chr3
FRMD5	1	chr15

ENPP6	1	chr4
PCDHA4	1	chr5
STX16-NPEPL1	1	chr20
BOC	1	chr3
STX8	1	chr17
TEX2	1	chr17
PMF1-BGLAP	1	chr1
TRPC4	1	chr13
LOC100130015	1	chr16
CHN1	1	chr2
TMEM198	1	chr2
ATP13A2	1	chr1
NOVA1	1	chr14
SLC26A10	1	chr12
FOXN3	1	chr14
ZDHHC8P1	1	chr22
ATP13A1	1	chr19
ATCAY	1	chr19
SMPX	1	chrX
SERHL2	1	chr22
LOC340094	1	chr5
ASIC2	1	chr17
AVPR1A	1	chr12
GABRB1	1	chr4
DKK3	1	chr11
CCDC61	1	chr19
UBXN6	1	chr19
SEC14L4	1	chr22
CMTM6	1	chr3
SMYD3	1	chr1
IGSF21	1	chr1
TRIM6-TRIM34	1	chr11
FRRS1L	1	chr9
SLC15A4	1	chr12
UGGT2	1	chr13
TAOK1	1	chr17
PPP4R1L	1	chr20
KCNIP1	1	chr5
RGS9BP	1	chr19
AKR1E2	1	chr10
SELM	1	chr22
EVC	1	chr4
UHRF1	1	chr19

EXOC6B	1	chr2
ANKRD33B	1	chr5
URGCP	1	chr7
NR1I2	1	chr3
ABL1	1	chr9
FKRP	1	chr19
GABRA5	1	chr15
C9orf3	1	chr9
GPSM1	1	chr9
RTTN	1	chr18
MBD5	1	chr2
CXADR	1	chr21
TCF7L1	1	chr2
CNPY1	1	chr7
CD300LG	1	chr17
ATG4B	1	chr2
GRID1	1	chr10
ZNF579	1	chr19
PLD5	1	chr1
OVOL2	1	chr20
FLJ41350	1	chr10
CCKAR	1	chr4
GGT1	1	chr22
CMTM2	1	chr16
PIGN	1	chr18
ARL5C	1	chr17
KCTD8	1	chr4
TENM4	1	chr11
EBF3	1	chr10
COL11A1	1	chr1
SYT6	1	chr1
RGS10	1	chr10
PXDN	1	chr2
WVOX	1	chr16
TMX2-CTNND1	1	chr11
TIMD4	1	chr5
CXCL17	1	chr19
GNAL	1	chr18
BOP1	1	chr8
ADAP2	1	chr17
THSD7A	1	chr7
VAT1L	1	chr16
NEK6	1	chr9

CACNA1D	1	chr3
FERMT1	1	chr20
GRM7	1	chr3
DET1	1	chr15
MOG	1	chr6
INO80D	1	chr2
MGAT4C	1	chr12
SHROOM4	1	chrX
NTM	1	chr11
TTC7B	1	chr14
MADCAM1	1	chr19
ARHGAP42	1	chr11
TCEANC	1	chrX
WWC3	1	chrX
C7orf10	1	chr7
CTNNAL1	1	chr9
ANKK1	1	chr11
MOK	1	chr14
GRM4	1	chr6
ADD2	1	chr2
FBXL7	1	chr5
ITGAL	1	chr16
ISY1-RAB43	1	chr3
CDT1	1	chr16
FOXP1	1	chr3
POLD1	1	chr19
PKD1	1	chr16
DCHS1	1	chr11
KIAA1614	1	chr1
MSRA	1	chr8
SHANK1	1	chr19
CACNA1C	1	chr12
SLC9A9	1	chr3
NAV2	1	chr11
FAM73B	1	chr9
FAM53A	1	chr4
FLJ13197	1	chr4
GPR125	1	chr4
TENM2	1	chr5
SLITRK5	1	chr13
TMEM44	1	chr3
SLC6A3	1	chr5
MCF2L	1	chr13

FBXL4	1	chr6
SNPH	1	chr20
KALRN	1	chr3
FAR1	1	chr11
ME3	1	chr11
PLAC1L	1	chr11
RBKS	1	chr2
PDE3A	1	chr12
TLR8-AS1	1	chrX
BARHL2	1	chr1
FGD3	1	chr9
GLB1	1	chr3
TRIM42	1	chr3
KNCN	1	chr1
LINC00673	1	chr17
SNX14	1	chr6
SPTB	1	chr14
C2CD2	1	chr21
H6PD	1	chr1
MIER2	1	chr19
LEFTY1	1	chr1
COL4A5	1	chrX
CIT	1	chr12
PATZ1	1	chr22
ENPP7	1	chr17
TGFBRAP1	1	chr2
ZNF169	1	chr9
STXBP6	1	chr14
ALPK2	1	chr18
NEBL	1	chr10
GPATCH8	1	chr17
C1orf106	1	chr1
CRYL1	1	chr13
MSH2	1	chr2
C14orf23	1	chr14
POC1B	1	chr12
MEOX2	1	chr7
PPP2R2C	1	chr4
BTBD2	1	chr19
COL5A3	1	chr19
IFT140	1	chr16
ATG2A	1	chr11
FLJ33534	1	chr2

DLGAP1	1	chr18
VGLL4	1	chr3
NT5C3	1	chr7
UBR3	1	chr2
SKI	1	chr1
DCTN2	1	chr12
CREBBP	1	chr16
GRM8	1	chr7
SEPSECS	1	chr4
RREB1	1	chr6
STK32A	1	chr5
ARHGEF10L	1	chr1
LOC550113	1	chr4
XYLT1	1	chr16
RAB5B	1	chr12
EPHA2	1	chr1
GAS8	1	chr16
LOC100133050	1	chr5
GSG1L	1	chr16
KLHL21	1	chr1
THRAP3	1	chr1
PTPRE	1	chr10
VSX1	1	chr20
CCDC129	1	chr7
LOC100379224	1	chr19
EFNA2	1	chr19
CLUH	1	chr17
NGB	1	chr14
SLCO2B1	1	chr11
ACOT7	1	chr1
SLC1A6	1	chr19
GRM5	1	chr11
KLB	1	chr4
MRPS35	1	chr12
UNC79	1	chr14
DMD	1	chrX
TMPRSS15	1	chr21
IMPDH1	1	chr7
KLHL22	1	chr22
CABP1	1	chr12
DGCR2	1	chr22
DALRD3	1	chr3
CTU2	1	chr16

ANO7	1	chr2
IL12RB1	1	chr19
UMODL1	1	chr21
ZNF76	1	chr6
NPRL3	1	chr16
PTCHD3	1	chr10
LOC100996307	1	chr19
CD4	1	chr12
FPGT-TNNI3K	1	chr1
ZDHHC19	1	chr3
CPNE6	1	chr14
ASIC4	1	chr2
ZIC4	1	chr3
VPS33A	1	chr12
ARHGAP24	1	chr4
TNRC18	1	chr7
APAF1	1	chr12
MTOR	1	chr1
RBMS3	1	chr3
LHFPL3	1	chr7
CHMP2A	1	chr19
CENPF	1	chr1
AASDH	1	chr4
MYH3	1	chr17
RTL1	1	chr14
TRA2A	1	chr7
COMMD10	1	chr5
HPCAL1	1	chr2
PRTG	1	chr15
ZNF670-ZNF695	1	chr1
TMEM233	1	chr12
GPR68	1	chr14
UNQ6494	1	chr9
PNPT1	1	chr2
TERT	1	chr5
STK10	1	chr5
ABAT	1	chr16
IL20RA	1	chr6
KAT2B	1	chr3
DRD5	1	chr4
PDE1A	1	chr2
CPT1C	1	chr19
CHST3	1	chr10

KAZN	1	chr1
SLC43A2	1	chr17
MYBPHL	1	chr1
KLHL6	1	chr3
SLC51A	1	chr3
NUPR1L	1	chr7
GSE1	1	chr16
FRMD8	1	chr11
PDE4A	1	chr19
TLE2	1	chr19
PLA2G3	1	chr22
TIAM1	1	chr21
UBE2E1	1	chr3
APOC1	1	chr19
ITPR1	1	chr3
GRM1	1	chr6
MDM2	1	chr12
TXNRD2	1	chr22
TSPAN2	1	chr1
ETV7	1	chr6
CUL3	1	chr2
C20orf26	1	chr20
GDF1	1	chr19
ARHGEF18	1	chr19
BCAT1	1	chr12
PNMA3	1	chrX
MAML2	1	chr11
SPRN	1	chr10
CDK11B	1	chr1
LOC286467	1	chrX
ENGASE	1	chr17
BCKDK	1	chr16
TXLNA	1	chr1
TNXB	1	chr6
DIRAS1	1	chr19
ATG4D	1	chr19
MND1	1	chr4
GALNT8	1	chr12
FRMD4A	1	chr10
HSF1	1	chr8
HSP90AA1	1	chr14
LOC100507266	1	chr4
DPH1	1	chr17

NEO1	1	chr15
ABCG1	1	chr21
CYP2B7P1	1	chr19
ARHGAP9	1	chr12
NDUFA7	1	chr19
AAK1	1	chr2
LIX1	1	chr5
TNFRSF8	1	chr1
LOC388796	1	chr20
TPST2	1	chr22
PHKA2	1	chrX
LRP5	1	chr11
GRAMD1A	1	chr19
SPTBN4	1	chr19
ATP2A1	1	chr16
ZNF517	1	chr8
MAPKBP1	1	chr15
CCNG1	1	chr5
BCL2	1	chr18
SH3BP5	1	chr3
TEAD4	1	chr12
DHX58	1	chr17
FBXL17	1	chr5
DGKG	1	chr3
CD97	1	chr19
OSBP2	1	chr22
FAM178B	1	chr2
SNTB1	1	chr8
LINC00661	1	chr19
GRK1	1	chr13
ERBB4	1	chr2
SRPK3	1	chrX
FES	1	chr15
CCDC85C	1	chr14
L3MBTL4	1	chr18
FYCO1	1	chr3
METRNL	1	chr17
USP40	1	chr2
MAP1S	1	chr19
NUDCD1	1	chr8
SEMA3A	1	chr7
OCLN	1	chr5
SULT2A1	1	chr19

PPFIA2	1	chr12
ASB18	1	chr2
CYP27A1	1	chr2
ZFHX4	1	chr8
SEMA5A	1	chr5
EBF4	1	chr20
KBTBD2	1	chr7
SV2B	1	chr15
CCP110	1	chr16
C17orf107	1	chr17
NAA60	1	chr16
KCNQ1	1	chr11
JAKMIP1	1	chr4
GAD1	1	chr2
GIPC2	1	chr1
AOX1	1	chr2
LRRC16A	1	chr6
CHRNE	1	chr17
CBFB	1	chr16
HIVEP3	1	chr1
MOB3B	1	chr9
POLDIP3	1	chr22
FAM109B	1	chr22
PARD6G-AS1	1	chr18
POFUT2	1	chr21
ACE	1	chr17
RNGTT	1	chr6
MYO10	1	chr5
CDON	1	chr11
SRCAP	1	chr16
ZC3H12D	1	chr6
TMTC2	1	chr12
THSD4	1	chr15
TBL1X	1	chrX
LYRM7	1	chr5
TNNT3	1	chr11
PDE1C	1	chr7
EFCAB6	1	chr22
CTNNA3	1	chr10
RHPN2	1	chr19
CLASP1	1	chr2
XXYLT1	1	chr3
ABCC1	1	chr16

NMT1	1	chr17
ART3	1	chr4
RRNAD1	1	chr1
ABR	1	chr17
TULP4	1	chr6
TNIP2	1	chr4
C9orf114	1	chr9
RALGDS	1	chr9
FUT8	1	chr14
ASPSCR1	1	chr17
SEL1L3	1	chr4
ERCC8	1	chr5
KLHDC7B	1	chr22
LMX1B	1	chr9
GRIK3	1	chr1
CDYL	1	chr6
PDGFRL	1	chr8
KHDC1	1	chr6
LCT	1	chr2
CYGB	1	chr17
GNG4	1	chr1
MEGF11	1	chr15
C17orf61-PLSCR3	1	chr17
AATF	1	chr17
PGBD5	1	chr1
LINC00351	1	chr13
NMU	1	chr4
ATP1A1	1	chr1
PCDHA2	1	chr5
AGAP1	1	chr2
TLR6	1	chr4
ARMC2	1	chr6
MYLK3	1	chr16
CACNA2D1	1	chr7
MIR5095	1	chr20
SMARCC2	1	chr12
APOBEC3D	1	chr22
YEATS2	1	chr3
9-Sep	1	chr17
TMSB15A	1	chrX
FAM129B	1	chr9
SNX27	1	chr1
S1PR3	1	chr9

DNAH10	1	chr12
CPA6	1	chr8
GPC1	1	chr2
KLHL29	1	chr2
NFASC	1	chr1
SDCCAG8	1	chr1
LINC00478	1	chr21
SLC23A2	1	chr20
GLB1L2	1	chr11
MCM3AP	1	chr21
LOC100287944	1	chr12
P2RX4	1	chr12
ENO4	1	chr10
LOC100128675	1	chr19
CTPS2	1	chrX
C15orf38-AP3S2	1	chr15
TUBB3	1	chr16
TMEM63A	1	chr1
TMEM220-AS1	1	chr17
RSPH9	1	chr6
TENM1	1	chrX
PCDHA3	1	chr5
UVRAG	1	chr11
CPNE7	1	chr16
SHD	1	chr19
C9orf84	1	chr9
PTGS1	1	chr9
DKK4	1	chr8
FFAR1	1	chr19
PAPLN	1	chr14
SGTA	1	chr19
ZNF890P	1	chr7
CNTNAP3	1	chr9
IRF2	1	chr4
PLIN3	1	chr19
KAL1	1	chrX
LOC100873065	1	chrX
RFC2	1	chr7
SNX30	1	chr9
OBP2B	1	chr9
NFRKB	1	chr11
MLL3	1	chr7
C1QTNF6	1	chr22

TBC1D30	1	chr12
USH2A	1	chr1
RAD17	1	chr5
LIG1	1	chr19
TOM1L1	1	chr17
SLITRK4	1	chrX
FLT4	1	chr5
SBNO2	1	chr19
ANKFY1	1	chr17
R3HCC1L	1	chr10
MPPED2	1	chr11
VAV1	1	chr19
HOXC4	1	chr12
ABCB5	1	chr7
ZNF276	1	chr16
EXOC3	1	chr5
WNT7B	1	chr22
BICD1	1	chr12
SPAG9	1	chr17
DNAL4	1	chr22
CDH3	1	chr16
KIRREL3	1	chr11
KIAA1875	1	chr8
CHODL	1	chr21
BPTF	1	chr17
LOC284379	1	chr19
LINC00469	1	chr17
NCS1	1	chr9
SMC1B	1	chr22
IGF2R	1	chr6
GATAD2A	1	chr19
TCF20	1	chr22
TMEM132B	1	chr12
NUBPL	1	chr14
XIAP	1	chrX
TNNI3K	1	chr1
MUC16	1	chr19
WDR90	1	chr16
ERMAP	1	chr1
SESTD1	1	chr2
ADARB2-AS1	1	chr10
ABCG2	1	chr4
SMOC1	1	chr14

CYFIP1	1	chr15
CASC2	1	chr10
ANKS1B	1	chr12
CCDC66	1	chr3
THBS2	1	chr6
KRT5	1	chr12
RIN1	1	chr11
ELOVL5	1	chr6
ST3GAL1	1	chr8
KSR2	1	chr12
ITM2A	1	chrX
JMJD1C	1	chr10
RRP12	1	chr10
EPB41L1	1	chr20
RPL23AP53	1	chr8
KIAA1432	1	chr9
TLX2	1	chr2
MASP1	1	chr3
SLC38A7	1	chr16
ST8SIA5	1	chr18
LAMA3	1	chr18
TRPM2	1	chr21
ZFYVE28	1	chr4
ARHGEF9	1	chrX
NXF1	1	chr11
LOC643542	1	chr18
PCSK6	1	chr15
CDH24	1	chr14
HMMR	1	chr5
CACNA2D2	1	chr3
TFDP2	1	chr3
CAPN13	1	chr2
CAMSAP3	1	chr19
ITGBL1	1	chr13
AP3B2	1	chr15
TCEB3C	1	chr18
ASCL3	1	chr11
INF2	1	chr14
SEC14L1	1	chr17
RTFDC1	1	chr20
CIITA	1	chr16
NR5A2	1	chr1
RAB43	1	chr3

PIK3R4	1	chr3
ZNF99	1	chr19
NPEPL1	1	chr20
SSBP3	1	chr1
CPT1A	1	chr11
HADHA	1	chr2
LINC00294	1	chr11
LSP1	1	chr11
LECT1	1	chr13
OPCML	1	chr11
SPATS2	1	chr12
CDH23	1	chr10
C4orf45	1	chr4
ITPR2	1	chr12
NFIX	1	chr19
FCHO1	1	chr19
PARD6B	1	chr20
ZNF175	1	chr19
URGCP-MRPS24	1	chr7
ESPL1	1	chr12
KIAA1211	1	chr4
AGO2	1	chr8
STK11	1	chr19
TMEM132C	1	chr12
CALN1	1	chr7
CACNA2D4	1	chr12
SLC44A4	1	chr6
ST3GAL2	1	chr16
CAD	1	chr2
C14orf178	1	chr14
AUTS2	1	chr7
MIR548I4	1	chr7
WDFY4	1	chr10
PRKXP1	1	chr15
UBE2W	1	chr8
HID1	1	chr17
SMIM5	1	chr17
TET1	1	chr10
DSE	1	chr6
MIR143HG	1	chr5
VSX2	1	chr14
KSR1	1	chr17
FAM160B1	1	chr10

ANO3	1	chr11
TCEB3CL	1	chr18
TJP2	1	chr9
EYA2	1	chr20
RBFOX1	1	chr16
PCDHA5	1	chr5
GRIK1-AS1	1	chr21
LHPP	1	chr10
HDGFL1	1	chr6
IL6R	1	chr1
ADAM11	1	chr17
BABAM1	1	chr19
ZNF407	1	chr18
ACSM1	1	chr16

site locations

138136408,138136474,138277060,138277067,138277085,138277119,138277122,138277129,138277136,138277143,138277150,138277157,138277164,138277171,138277178,138277185,138277192,138277199,138277206,138277213,138277220,138277227,138277234,138277241,138277248,138277255,138277262,138277269,138277276,138277283,138277290,138277297,138277304,138277311,138277318,138277325,138277332,138277339,138277346,138277353,138277360,138277367,138277374,138277381,138277388,138277395,138277402,138277409,138277416,138277423,138277430,138277437,138277444,138277451,138277458,138277465,138277472,138277479,138277486,138277493,138277500,138277507,138277514,138277521,138277528,138277535,138277542,138277549,138277556,138277563,138277570,138277577,138277584,138277591,138277598,138277605,138277612,138277619,138277626,138277633,138277640,138277647,138277654,138277661,138277668,138277675,138277682,138277689,138277696,138277703,138277710,138277717,138277724,138277731,138277738,138277745,138277752,138277759,138277766,138277773,138277780,138277787,138277794,138277801,138277808,138277815,138277822,138277829,138277836,138277843,138277850,138277857,138277864,138277871,138277878,138277885,138277892,138277899,138277906,138277913,138277920,138277927,138277934,138277941,138277948,138277955,138277962,138277969,138277976,138277983,138277990,138277997,138278004,138278011,138278018,138278025,138278032,138278039,138278046,138278053,138278060,138278067,138278074,138278081,138278088,138278095,138278102,138278109,138278116,138278123,138278130,138278137,138278144,138278151,138278158,138278165,138278172,138278179,138278186,138278193,138278200,138278207,138278214,138278221,138278228,138278235,138278242,138278249,138278256,138278263,138278270,138278277,138278284,138278291,138278298,138278305,138278312,138278319,138278326,138278333,138278340,138278347,138278354,138278361,138278368,138278375,138278382,138278389,138278396,138278403,138278410,138278417,138278424,138278431,138278438,138278445,138278452,138278459,138278466,138278473,138278480,138278487,138278494,138278501,138278508,138278515,138278522,138278529,138278536,138278543,138278550,138278557,138278564,138278571,138278578,138278585,138278592,138278599,138278606,138278613,138278620,138278627,138278634,138278641,138278648,138278655,138278662,138278669,138278676,138278683,138278690,138278697,138278704,138278711,138278718,138278725,138278732,138278739,138278746,138278753,138278760,138278767,138278774,138278781,138278788,138278795,138278802,138278809,138278816,138278823,138278830,138278837,138278844,138278851,138278858,138278865,138278872,138278879,138278886,138278893,138278900,138278907,138278914,138278921,138278928,138278935,138278942,138278949,138278956,138278963,138278970,138278977,138278984,138278991,138278998,138279005,138279012,138279019,138279026,138279033,138279040,138279047,138279054,138279061,138279068,138279075,138279082,138279089,138279096,138279103,138279110,138279117,138279124,138279131,138279138,138279145,138279152,138279159,138279166,138279173,138279180,138279187,138279194,138279201,138279208,138279215,138279222,138279229,138279236,138279243,138279250,138279257,138279264,138279271,138279278,138279285,138279292,138279299,138279306,138279313,138279320,138279327,138279334,138279341,138279348,138279355,138279362,138279369,138279376,138279383,138279390,138279397,138279404,138279411,138279418,138279425,138279432,138279439,138279446,138279453,138279460,138279467,138279474,138279481,138279488,138279495,138279502,138279509,138279516,138279523,138279530,138279537,138279544,138279551,138279558,138279565,138279572,138279579,138279586,138279593,138279600,138279607,138279614,138279621,138279628,138279635,138279642,138279649,138279656,138279663,138279670,138279677,138279684,138279691,138279698,138279705,138279712,138279719,138279726,138279733,138279740,138279747,138279754,138279761,138279768,138279775,138279782,138279789,138279796,138279803,138279810,138279817,138279824,138279831,138279838,138279845,138279852,138279859,138279866,138279873,138279880,138279887,138279894,138279901,138279908,138279915,138279922,138279929,138279936,138279943,138279950,138279957,138279964,138279971,138279978,138279985,138279992,138279999,138280006,138280013,138280020,138280027,138280034,138280041,138280048,138280055,138280062,138280069,138280076,138280083,138280090,138280097,138280104,138280111,138280118,138280125,138280132,138280139,138280146,138280153,138280160,138280167,138280174,138280181,138280188,138280195,138280202,138280209,138280216,138280223,138280230,138280237,138280244,138280251,138280258,138280265,138280272,138280279,138280286,138280293,138280300,138280307,138280314,138280321,138280328,138280335,138280342,138280349,138280356,138280363,138280370,138280377,138280384,138280391,138280398,138280405,138280412,138280419,138280426,138280433,138280440,138280447,138280454,138280461,138280468,138280475,138280482,138280489,138280496,138280503,138280510,138280517,138280524,138280531,138280538,138280545,138280552,138280559,138280566,138280573,138280580,138280587,138280594,138280601,138280608,138280615,138280622,138280629,138280636,138280643,138280650,138280657,138280664,138280671,138280678,138280685,138280692,138280699,138280706,138280713,138280720,138280727,138280734,138280741,138280748,138280755,138280762,138280769,138280776,138280783,138280790,138280797,138280804,138280811,138280818,138280825,138280832,138280839,138280846,138280853,138280860,138280867,138280874,138280881,138280888,138280895,138280902,138280909,138280916,138280923,138280930,138280937,138280944,138280951,138280958,138280965,138280972,138280979,138280986,138280993,138280999,138281006,138281013,138281020,138281027,138281034,138281041,138281048,138281055,138281062,138281069,138281076,138281083,138281090,138281097,138281104,138281111,138281118,138281125,138281132,138281139,138281146,138281153,138281160,138281167,138281174,138281181,138281188,138281195,138281202,138281209,138281216,138281223,138281230,138281237,138281244,138281251,138281258,138281265,138281272,138281279,138281286,138281293,138281300,138281307,138281314,138281321,138281328,138281335,138281342,138281349,138281356,138281363,138281370,138281377,138281384,138281391,138281398,138281405,138281412,138281419,138281426,138281433,138281440,138281447,138281454,138281461,138281468,138281475,138281482,138281489,138281496,138281503,138281510,138281517,138281524,138281531,138281538,138281545,138281552,138281559,138281566,138281573,138281580,138281587,138281594,138281601,138281608,138281615,138281622,138281629,138281636,138281643,138281650,138281657,138281664,138281671,138281678,138281685,138281692,138281699,138281706,138281713,138281720,138281727,138281734,138281741,138281748,138281755,138281762,138281769,138281776,138281783,138281790,138281797,138281804,138281811,138281818,138281825,138281832,138281839,138281846,138281853,138281860,138281867,138281874,138281881,138281888,138281895,138281902,138281909,138281916,138281923,138281930,138281937,138281944,138281951,138281958,138281965,138281972,138281979,138281986,138281993,138281999,138282006,138282013,138282020,138282027,138282034,138282041,138282048,138282055,138282062,138282069,138282076,138282083,138282090,138282097,138282104,138282111,138282118,138282125,138282132,138282139,138282146,138282153,138282160,138282167,138282174,138282181,138282188,138282195,138282202,138282209,138282216,138282223,138282230,138282237,138282244,138282251,138282258,138282265,138282272,138282279,138282286,138282293,138282300,138282307,138282314,138282321,138282328,138282335,138282342,138282349,138282356,138282363,138282370,138282377,138282384,138282391,138282398,138282405,138282412,138282419,138282426,138282433,138282440,138282447,138282454,138282461,138282468,138282475,138282482,138282489,138282496,138282503,138282510,138282517,138282524,138282531,138282538,138282545,138282552,138282559,138282566,138282573,138282580,138282587,138282594,138282601,138282608,138282615,138282622,138282629,138282636,138282643,138282650,138282657,138282664,138282671,138282678,138282685,138282692,138282699,138282706,138282713,138282720,138282727,138282734,138282741,138282748,138282755,138282762,138282769,138282776,138282783,138282790,138282797,138282804,138282811,138282818,138282825,138282832,138282839,138282846,138282853,138282860,138282867,138282874,138282881,138282888,138282895,138282902,138282909,138282916,138282923,138282930,138282937,138282944,138282951,138282958,138282965,138282972,138282979,138282986,138282993,138282999,138283006,138283013,138283020,138283027,138283034,138283041,138283048,138283055,138283062,138283069,138283076,138283083,138283090,138283097,138283104,138283111,138283118,138283125,138283132,138283139,138283146,138283153,138283160,138283167,138283174,138283181,138283188,138283195,138283202,138283209,138283216,138283223,138283230,138283237,138283244,138283251,138283258,138283265,138283272,138283279,138283286,138283293,138283300,138283307,138283314,138283321,138283328,138283335,138283342,138283349,138283356,138283363,138283370,138283377,138283384,138283391,138283398,138283405,138283412,138283419,138283426,138283433,138283440,138283447,138283454,138283461,138283468,138283475,138283482,138283489,138283496,138283503,138283510,138283517,138283524,138283531,138283538,138283545,138283552,138283559,138283566,138283573,138283580,138283587,138283594,138283601,138283608,138283615,138283622,138283629,138283636,138283643,138283650,138283657,138283664,138283671,138283678,138283685,138283692,138283699,138283706,138283713,138283720,138283727,138283734,138283741,138283748,138283755,138283762,138283769,138283776,138283783,138283790,138283797,138283804,138283811,138283818,138283825,138283832,138283839,138283846,138283853,138283860,138283867,138283874,138283881,138283888,138283895,138283902,138283909,138283916,138283923,138283930,138283937,138283944,138283951,138283958,138283965,138283972,138283979,138283986,138283993,138283999,138284006,138284013,138284020,138284027,138284034,138284041,138284048,138284055,138284062,138284069,138284076,138284083,138284090,138284097,138284104,138284111,138284118,138284125,138284132,138284139,138284146,138284153,138284160,138284167,138284174,138284181,138284188,138284195,138284202,138284209,138284216,138284223,138284230,138284237,138284244,138284251,138284258,138284265,138284272,138284279,138284286,138284293,138284300,138284307,138284314,138284321,138284328,138284335,138284342,138284349,138284356,138284363,138284370,138284377,138284384,138284391,138284398,138284405,138284412,138284419,138284426,138284433,138284440,138284447,138284454,138284461,138284468,138284475,138284482,138284489,138284496,138284503,138284510,138284517,138284524,138284531,138284538,138284545,138284552,138284559,138284566,138284573,138284580,138284587,138284594,138284601,138284608,138284615,138284622,138284629,138284636,138284643,138284650,138284657,138284664,138284671,138284678,138284685,138284692,138284699,138284706,138284713,138284720,138284727,138284734,138284741,138284748,138284755,138284762,138284769,138284776,138284783,138284790,138284797,138284804,138284811,138284818,138284825,138284832,138284839,138284846,138284853,138284860,138284867,138284874,138284881,138284888,138284895,138284902,138284909,138284916,138284923,138284930,138284937,138284944,138284951,138284958,138284965,138284972,138284979,138284986,138284993,138284999,138285006,138285013,138285020,138285027,138285034,138285041,138285048,138285055,138285062,138285069,138285076,138285083,138285090,138285097,138285104,138285111,138285118,138285125,138285132,138285139,138285146,138285153,138285160,138285167,138285174,138285181,138285188,138285195,138285202,138285209,138285216,138285223,138285230,138285237,138285244,138285251,138285258,138285265,138285272,138285279,138285286,138285293,138285300,138285307,138285314,138285321,138285328,138285335,138285342,138285349,138285356,138285363,138285370,138285377,138285384,138285391,138285398,138285405,138285412,138285419,138285426,138285433,138285440,138285447,138285454,138285461,138285468,138285475,138285482,138285489,138285496,138285503,138285510,138285517,138285524,138285531,138285538,138285545,138285552,138285559,138285566,138285573,138285580,138285587,138285594,138285601,138285608,138285615,138285622,138285629,138285636,138285643,138285650,138285657,138285664,138285671,138285678,138285685,138285

63904583,63859606,63859688,63859699,63904587
8595648,8595660,8595680,8595688,8595725
3389435,3393710,3393779,3918065,4134106
168918740,168928224,168842713,168842764,168876493
146445528,146050135,146191221,146335866,147179769
245328353,245381025,245681000,245858319,245715801
162850908,162106955,162254655,162947410,163096348
139715724,139715740,139715749,139715775,139715786
167182469,166944382,166944388,167196031,167196063
3644890,3645428,3648757,3660867,3683201
154585884,154585887,154585915,154585966,154585968
40459032,40187425,40250914,41086726,41330514
32721664,32721665,32770187,32770312,32770392
1488473,1496555,1493528,1522661,1522683
108486614,108554450,108554540,108715748,108715812
1840468,1841741,1921777,1921953,1921980
2310576,2258323,2267385,2267568,2267637
3413503,3413504,3450637,3493818,3493819
132329206,132326291,132334754,132334766,132334777
80829706,80829707,80895510,80895531,80898093
117667058,117327550,117327685,117544836,117566161
197033959,197033987,197034009,197034039
15117477,15127614,15127623,15258423
134681693,134623694,134623726,134737190
1148048,1130889,1164139,1169021
748829,872324,1018732,1061073
28476494,28476508,28476562,28476564
2040776,2041154,2048727,2101059
99662812,99662857,99662864,99662866
3423441,3374037,3374161,3407788
1475095,1475099,1475142,1475188
133785745,133787347,133789012,133794455
139715360,139884273,139884372,140060540
70424607,70347727,70425842,70425843
79258966,79368458,79368495,79368511
50034477,50031073,50044220,50044252
129048851,129049534,129191646,128900119
124642802,124786052,124799642,124545513
143568926,143660477,143660568,143767895
143165992,143111464,143111498,143208214
177546160,177548186,177548195,177548237
77204990,77207251,77221474,77221560
19571316,19656650,19656674,19703344

105518006,105518015,105518054,105518091
178701724,178576680,178665526,178689460
219186591,219146078,219146079,219146139
21001865,21001926,21035108,21043852
22086598,22116020,21831003,22345991
29584256,29784212,28765650,29226624
14260075,14275845,14310765,14310797
33609541,33652116,33993318,33993357
239997710,240043297,240156475,240270095
38803489,38849546,38865411,38865415
92482536,92347650,92577340,92635364
22385757,22385813,22385820,22851625
5998344,5998328,5998366,5998367
961894,1048960,1048969,1059734
114555024,114555065,114558565,114558566
113362104,113379148,113398928
26948220,26971734,26971735
204417023,204434779,204436065
148904623,148904794,148909758
130845150,130841923,130842141
101226215,101226328,101226340
61547236,61547237,61533335
58099159,58172471,58566803
14108628,14048300,14687543
13358272,13397703,13593094
18492560,18492567,18492576
242706956,242707659,242707772
124219472,124219538,124219544
13225980,13491894,13571929
178701724,178665526,178689460
29502055,29502060,29703604
77379705,77667267,77667277
124946152,124993635,125119775
846798,725432,863256
62955264,62955265,62990409
36120888,36101742,36227031
77204766,77240602,77253849
38554304,38697052,38697053
156878419,156878421,156883491
136340458,136341293,136341305
21134595,21134596,21361300
133906248,133906955,133906956
100545379,100260559,100260560

15966163,15984559,15984564
42854072,42863209,42863215
135342076,135389134,135389223
41951575,41962818,41882537
60924151,61383283,61489557
114418617,114423197,114423215
67139912,67142112,67142113
64492,96927,135237
58552731,58545712,58545730
70837080,70880637,70896088
32116931,32116933,32116963
9963395,9963484,9963487
18281728,18398207,18459859
237382688,237382689,237263846
130989049,130935425,130935954
140930848,140945894,140968750
241653710,241686403,241686408
68821614,68821860,68853503
45113150,45117629,45187318
36849007,36849086,36849087
18236885,18236927,18237215
50160519,50661499,50661515
36120888,36101742,36227031
125834973,125835068,125836294
23505467,23505575,23505616
151083585,151085415,151102302
6213284,6213311,6213321
107241950,107241964,107242008
93833054,93822300,93822310
45978046,45981293,45981447
139101770,139109526,139129414
34181314,34188708,34214991
101903335,101915394,101924537
136778878,136665987,136842677
45123944,45123954,45124734
168827493,168839060,169039199
83619828,83679935,83679983
175269482,174850766,174850843
125258266,125287393,125287394
133014079,133014095,133014097
219146078,219146079,219146139
131519660,131521885,131549814
173103159,173030020,173748345

76442925,76565604,76565662
12412836,12412837,12739548
16269140,16269141
11023984,11024198
21892979,21892980
30595325,30896751
56732799,56733571
33132490,33132491
34610181,34610253
141002309,141014701
101134053,101138965
11591802,11591812
2131565,2131578
48841796,48844977
4190519,4190586
48689798,48689799
65216632,65391560
236754256,237021344
19787307,19796766
41159390,41249375
18398207,18459859
62555971,62565833
53000108,53000115
25847088,25847089
58299811,58300770
52995043,52995070
1777815,1778321
25186115,25202891
619587,619634
77674633,77683125
2601809,2622405
233399443,233399444
96378109,96379614
15636141,15636155
607040,608392
4094774,4102448
127827885,127827913
2876748,2948452
29968344,30111409
72350966,72351017
73669043,73681089
1474475,1475514
144081249,144067531

134941997,134943031
234663626,234663653
151439827,151488536
131069818,131427223
68038697,68045840
234663626,234663653
1001560,1002229
143545918,143545931
136648374,136648854
25426949,25448652
124061501,124089034
8421091,8421092
101915394,101924537
93523365,93869138
75372848,75285469
150194484,150202102
65239877,65220461
86323612,86457243
117846079,117846080
112049875,112021706
121191208,121191186
234663626,234663653
114232907,114232931
127860879,127861446
234663626,234663653
651516,678843
183713815,183713816
72083976,72084146
126160676,126682467
2824332,2719187
14912168,14964125
144392601,144392602
77903267,77907409
133766907,133766952
14712665,14712697
18517936,18517945
169424570,169424571
24673986,24832885
3491070,3491082
25347469,25366078
988260,988335
73526987,73580257
241018822,241402337

67361031,67355844
35369244,35370007
74015925,74016147
355048,435782
47546079,47546166
925278,940247
104628693,104628749
19573547,19573576
114821692,114845244
45488093,45490426
3263758,3264693
90808839,90808842
43044767,43044775
234663626,234663653
50318505,50319700
83896149,83856659
50191970,50209854
15576599,15576600
131964356,132187312
129417210,129452098
46422998,46424361
58610256,58610257
76186886,76198457
69042742,69042827
73430150,73430433
152746484,152746485
1354210,1362912
99047710,99047711
2103242,2131289
44302635,44303189
166944382,166944388
19411480,19412335
47327858,47768048
1464589,1464605
75170673,75185899
227146132,227170004
72359682,72359705
124786052,124799642
38794450,38794465
79862481,80188763
137288499,137308241
29675927,29676041
98132016,98131430

5144667,5154846
40187425,40250914
31059156,31059158
3013017,3040555
1804959,1805004
60926221,60930091
39186109,39233975
242434315,242436237
134423349,134550099
3660867,3683201
2198844,2226675
70775172,70815636
878078,889943
109933638,110152070
2807373,2810246
52317473,52317474
21710960,21710964
139833255,139883644
132966947,132976407
74709973,74711409
93598438,93602036
40501478,40507830
62432152,62432177
129702080,129702081
219691685,219691758
44280703,44290375
214822,226491
2291790,2293508
149980430,149980516
168827493,168839060
74102048,74102054
136030518,136213285
132947536,132970927
291073,291094
140653360,140652571
44166374,44151092
444996,670243
43946639,43979388
2522201,2522203
83392560,83392644
16475386,16475387
27015760,27015761
8019279,8050765

52837554,52837614
24739182,24739250
19978899,19978970
22136995,22137039
94612374,94612417
77629166,77629328
78483350,78492213
34642490,34642383
202638788,202638789
102954922,102966001
5238770,5263766
67197164,67197166
139905818,139904754
71107222,71156732
57165682,57165688
223566798,223566800
111342297,111313236
779604,779687
234663626,234663653
14260075,14275845
70601147,70856188
71569684,71858218
196659997,196660059
37450839,37457414
1087887,1081376
39271537,39271538
113649235,113705141
69971133,69979164
115954765,116584034
25441432,25441935
80617214,80620340
113981251,114047138
455242,455450
241976625,241976708
77080287,76910759
234663626,234663653
3255736,3255741
100667714,100800292
61981617,61987340
128340650,128367090
2522201,2522203
132268143,132268184
196693709,196694955

78820926,78934475
16787669,16787670
234663626,234663653
31353414,31353415
16298268,16298269
11687184,11611732
40539656,40539661
5952239,5952240
63269640,63269641
92934607,92938402
73627904,73635178
125448959,125455371
5774950,5802998
41802809,41903187
24341072,24336129
219328681,219404207
101944241,101944246
154693964,154694024
112525024,112525031
71797711,71692546
28249145,28256783
897518,898967
45113150,45117629
36590578,36590622
58530075,58530197
11226692,11432290
42492062,42492104
119898276,119898281
66602320,66693644
161575874,161575910
61962859,61962873
16335739,16339715
130918981,130902391
1168532,1168540
84608934,84615224
159519410,159519451
43960833,43969528
22157543,22204506
1206496,1206503
99504127,99206152
93364910,93795025
26087639,26087655
31523685,31523720

3227545,3277484
37549199,37552988
72682846,72804801
27886902,27886903
1790861,1887563
99627094,99751599
2041493,2041581
23995795,24049350
99047710,99047711
45565093,45565384
89896790,90018316
232933589,233187953
1777815,1778321
88793822,88797567
14334,14352
19978899,19978970
114161310,114166775
19245994,19245995
50935282,50935283
46858444,46892956
72793575,72939978
49724869,49835124
44812007,44892455
138973585,138974330
168474308,168479602
48205286,48205287
22100962,22100963
54500140,54500162
5048201,5095792
101119953,101120187
1252535,1252536
57161275,57177663
71031784,70778561
3021471,3021601
234663626,234663653
103279412
35718191
138731842
81176816
138416120
2871451
62041061
55644017

229683263
84514963
36975759
6143145
10995039
17449381
49106994
2539644
13663441
44486917
232933589
4866005
23848310
42143536
17188322
8088757
142459700
169670888
49855167
150226650
233566677
93869138
5455605
72949954
114299514
49277055
8278123
10543484
99036839
25144907
157650299
67040333
52883210
8993970
214490660
241531172
12602043
2635811
81929693
128357764
16085921
179566610
31035585

186536056
137005022
77795764
139975195
51654601
51045142
65412778
77774949
20408076
44330555
28296877
188918166
58879005
98813152
45941327
21895228
30440216
143747271
130636267
1520843
4435161
75240956
10247268
2742236
35332660
40568734
29931152
64790137
1245005
238947612
45425257
76400505
120798926
39002389
85133800
63839041
46417795
71797711
2580888
78404394
2949569
100247412
172265745

105815572
56978169
143727259
18671899
8392394
9588490
22287860
113816394
57552264
74529576
70698846
99373556
153073318
36749530
6238960
29129929
149463220
247126920
41122515
42805236
148480233
32677157
50974035
22927142
1135221
175266506
53301757
129385813
15568514
70194623
49517215
197665044
56295504
45187318
66130534
29101828
74774061
128200720
50911182
6738732
45431413
159081094
46344569

3977531
86184442
44585591
63836680
1961886
47465957
170435428
7836123
45956069
57283974
36586176
84872049
77204766
54972399
11788413
79375358
21630582
10064649
75621019
25691215
33267160
70604210
17656840
13430489
228491298
34711337
218683368
34961674
8219261
75861886
91775504
725432
241814190
66733266
101380931
156189625
16504929
168474308
114807236
4894131
49499100
112505108
5075224

36072573
47828187
1487836
68787529
113300246
100684925
60728953
124266500
129534618
31789710
274107
46917064
35568760
100043086
90425672
105349687
1027526
121164388
119574608
3102441
11566772
111149356
107811682
159789608
26989326
32403722
57544713
64621469
56947979
100402814
83338891
24014551
6107231
45386749
203698626
47147437
159846583
166147711
2318693
2172707
4154830
74009153
14327296

141000152
66998856
39779740
28522401
21361300
135813647
7405073
51750151
104398975
247582755
72015970
16561939
140233651
98035448
44023437
3190756
15963671
156293490
100750835
50105239
372156
165781535
40314967
7180909
427782
73982269
103595564
37699289
4435161
51250433
49391403
1485478
102008252
111144026
71118582
61695692
167535541
50160519
30950999
122471367
11094202
48603733
146387464

21871934
7240874
60004440
74529509
205549384
66789157
77943616
43017917
39013521
139301958
238947612
33697759
140233651
43165015
3614382
153648928
44780321
17464584
151527035
79134665
47589706
44555862
6449945
101106210
151082456
92005136
140559639
45919499
65659467
84256410
49701981
27734043
131327896
48844977
36755667
664322
56403735
68516247
160102738
104500059
116327352
36333169
5741195

75611354
9750880
91715819
206551978
136131436
1104733
25825573
130608855
140233651
240698258
68733892
1100693
43864935
44166374
133515554
150423967
1530015
70792406
79261346
32741484
49903708
25630065
88920677
171793585
3533273
140233651
2937629
39631463
103395851
7671606
53218181
20005511
91609462
144461039
169814362
80508538
3413808
45618958
169977893
76762264
25399473
105480533
55453099

32485154
64108151
19583733
47074257
55054211
180540908
30510532
117883900
93567990
3976548
211539635
36116108
127319559
43628203
61559786
161244769
145687183
5936612
46892956
3750867
73595712
132187312
12655890
133736236
43598340
1114171
44856096
179004274
90514679
1244109
59992426
179145862
39624043
153033730
4223453
23155335
27737179
128587817
42220489
37842088
93401811
11139358
4984168

50960252
102008252
110862685
46839894
18543949
17290868
36181446
3250576
74646222
54671147
73669147
27421654
35890230
52104669
18122221
11074428
109973837
112899507
83977812
130638028
79562574
61615095
888631
20361078
108011590
16873734
2971515
50280105
5744912
163768
49669421
40518778
126682467
44596205
16730654
109325478
56170281
51051276
17725632
52985695
47013500
68932568
88703316

168419593
79701971
1574811
133378706
22069818
123409473
74619602
25064191
6681743
150881874
22749343
120190952
56736652
6592474
19004173
156105927
58112487
1791956
57599401
10798255
115184729
87267293
74138386
20116177
43021166
138646497
30955122
113702376
55106771
30111409
60598912
3465338
69604436
29485475
190675953
105081884
31884043
82429891
130171977
29457371
71580834
65415951
46195925

1014999
15079582
21305941
194077617
50726410
14200242
21770371
24743734
97600626
102815041
77879657
42827672
18706350
174423979
176484225
18795558
48339985
55856850
29780291
49022855
45945400
31128568
987588
158319418
2428094
14594740
121623353
40060205
46718264
19959365
148864851
178331204
50037886
3143781
10481532
39737866
99373556
40238931
140160085
178659605
54424862
68532820
85812638

62037583
14099081
33986662
54674445
58227117
31302287
61825764
171846842
191150856
44515804
143957579
26420640
4715437
97129897
131245620
24155527
164907051
134397624
4028690
51310012
80043335
44373190
78971536
43980918
134275151
147064183
102591363
6471896
153176005
24839165
76840405
8789358
102451981
146068321
64774314
167710436
140233651
119689587
62752894
144449706
100518917
86789842
1320118

3117519
56099114
120433500
7222875
31089939
39835886
128073095
34888733
14808428
94821205
50531188
28668377
1538262
6600139
2948452
1898937
84442915
69011119
11737881
15263009
31136618
40818281
34466126
121974717
12015766
102264434
3234979
222873966
78969375
138586239
29270640
86212504
11592359
6311352
70837080
107459731
47678291
24983263
4267803
240756231
122431336
24507010
104089420

20832165
98259396
242815320
105513371
1840776
547559
12777971
140661032
51513353
49493944
18054691
73012786
31149132
8367708
5841557
50894847
8931148
85996834
122249609
15164589
57889227
185528075
55703497
40992887
1397814
4622638
161500455
4043240
62657666
119594662
134168808
72274783
26578979
76186886
36353936
135679280
56372979
86547385
43263356
33936336
126320737
42568439
44305058

185037323
140233651
57274149
112991312
9465495
62243646
156189625
38265536
90107402
175862629
220411703
17320668
27062535
58014796
89968426
23742538
19771100
3905135
21768475
42969129
5036702
31372187
63543646
47380657
11988839
46511614
4453998
30899353
32527610
246278082
18679739
5637193
111926896
129280064
96580857
27853036
56845938
169814362
33168604
4888314
31503149
5733915
4945917

72436305
10572060
43923161
119533732
133593565
47259292
27128732
97647163
139241534
67770249
148946472
18935986
85517291
155323907
41928285
242584161
87938910
56089440
242252838
18008674
102998228
26491972
24983263
66613524
59803822
37313663
44421784
78369200
131663705
103403228
114665653
121301342
1712978
78357293
57552264
156367299
42936457
11880998
145509615
29249705
11549241
77942603
127048907

53534199
6062988
6903189
89067474
29639786
206911227
86995791
50429121
131638085
91024464
502552
100596522
13679214
10079896
40287102
111763399
113265722
102733210
34101235
70988896
15722674
30503727
128828168
88871361
71290557
50909404
2160494
6645357
180897569
10280165
51169853
2206970
143207127
19485585
131808288
1649416
38616757
22499723
167514351
88326877
194324731
1424563
113705141

99359664
1287250
123982970
13695712
86267676
59810619
28063222
20704562
12924035
91177971
95761949
33128890
140401459
47013500
70526843
86280873
65239877
43318993
9323909
315320
226076598
107745702
120150195
31724358
77708969
105923990
97036140
25479514
56155967
21183608
42552831
200863771
21082931
47653645
29254749
89897387
15725580
6395454
2000129
10102490
1641550
64681140
11264485

4106009
11611732
33096643
170861528
2214430
57925285
3782942
126481921
25158222
7223662
146659900
17958772
68932568
17518541
56385579
16455051
90107402
99715657
27802755
6658769
36760589
129827032
25062376
31660000
44615001
1289071
2593661
77736450
74879862
6442324
15093266
88619806
39411407
27867706
94003834
32603677
19660981
128048976
20831245
121088884
19025380
49056569
88779323

242149010
18183527
43493133
35260502
177853
27702774
42936457
6917017
74712951
195925355
24542436
220401322
147114306
122725870
86756664
5427651
99112078
11179484
29503557
104061260
59064635
214781685
57249091
10554358
101349172
23546609
115444798
10524329
55917965
247126920
120032521
91717962
92282792
55869568
1264941
171536969
8875318
137337215
20111266
9783687
183363989
50211918
73767858

15258423
1492198
109839674
183260073
195955761
56183047
85681868
65179435
10577843
3013017
31533965
32831129
23915129
45421742
4836461
146389500
69234371
19916706
115604657
36329937
225394812
20319385
19004173
7480362
25054889
152225031
95965927
135236807
1580301
130880126
77084652
31121792
32647982
32046943
2716530
10655592
154302293
4833580
14305370
145525404
102582444
4636274
1942860

73427047
43707726
41448208
57872957
8379486
69849224
96444893
12188481
37059349
26948220
18934349
68084227
35502532
41050290
28893838
146030084
42073397
162870234
60816889
15347782
3128415
40260053
107417280
186077900
14506631
31261857
97622919
121603170
16126820
114432861
212566718
153047088
91428778
100026843
5994158
46008086
81050220
234394486
17839688
110343617
83783720
68831858
48381457

82152238
237126235
219674490
77767075
9426363
2696910
32909180
91762260
19558246
4804152
3534890
2798848
6167942
171675123
78516538
201475722
25516861
4804152
67089494
41984584
27416887
42990074
42473603
77906701
46700057
61562922
89498970
16794914
125854390
30747191
149795690
83246130
71658641
9480685
130529475
1943118
31991266
44039847
67854284
33494728
122350966
194888044
16161030

43185498
76990688
156704106
961894
158857015
2743980
131590069
136017794
65979455
79959659
25853367
60192106
50987481
129379371
37297602
4892380
17453738
74009153
136574972
74529576
235714041
66473141
7300603
35386509
230552095
85965696
56469861
116918686
140233651
236754256
38825551
109246160
46781832
81928153
55965167
56560534
39428918
183493990
75372848
101771265
130313341
151615685
91612882

124399154
68454160
241387018
23740141
204828056
243649329
17725744
4844906
134203177
47691729
106938632
121661688
118616249
35570306
16698090
90425672
90001561
226057689
10660427
43620020
123863938
140233651
75558120
89656043
4287197
114449970
125154676
42232916
35843322
73719984
2763627
5175313
39122117
185311568
4854735
8586839
22527642
73650292
115569591
136083939
129738644
151998404
37578578

65269045
216559655
68698168
48645334
53013356
142721761
180043387
1130889
4165347
99912060
30470360
6833227
54424862
20749914
89800057
462994
46337043
32528150
49188262
39178374
68696638
126453648
145171262
19636791
65867128
54106545
71749469
132970927
45807905
160391929
19612277
42574830
125920596
32180470
123046829
74712951
8981896
711711
43296117
180013583
1590438
89021640
70397475

22927469
119846720
100262556
56614533
169652497
52910431
66099987
53188735
134474148
118382105
78622494
65063262
99159017
34783506
179642
5683494
74743791
187009441
58711469
44259982
21324610
45785484
2279035
63005076
62564125
65358898
101924537
23517172
162896152
50425838
141846292
30955476
7663229
102277204
83338891
44555862
8959545
105162256
75185899
55062871
11006702
200083183
128828168

130434201
22943371
57274149
54768053
68565904
26440941
33097876
1887530
53298797
132643215
49897385
73563656
159893282
26924516
13113482
17899267
49365211
52086350
43923161
53665648
57080660
141569176
1219701
129111284
71569684
1946872
31846535
70444447
27452084
78233344
69205759
147179769
50028589
101096562
74757139
72949435
73635178
70321681
116646991
148807225
74723439
25803230
116634422

26405589
44555862
71779902
45543675
6869494
140233651
31128568
126290561
22570064
154416933
42839033
17388922
72776119
20641660

3277128,138277131,138277156,138277167,138277332,138277338,138277341,13828!
246016,1252217,1252231,1252243,1254312,1254316,1254335,1261455
7650299,157700218,157799746,157933157,158109457,158240236,158240238,15824!
5622218,105622238,105622243,105622249,105622272,105622280
J278361,140283070,140283094,140297563,140299447,140301195
.0454333,60454374,60512936
279800,3321018
5341805,135341909,135342334

7987647

1433341

5328,138285344,138285521,138285529

0243,158240257

Gene name	number of high covaria	chromosome
ANTXR2	15	chr4
LOC441666	12	chr10
PTPRN2	11	chr7
CUX1	10	chr7
RPL23AP53	10	chr8
FGF13	9	chrX
CBFA2T3	7	chr16
CDH4	7	chr20
MACROD2	7	chr20
COL23A1	7	chr5
JAG2	6	chr14
LARGE	6	chr22
TMEM240	6	chr1
ONECUT2	6	chr18
LOC286467	6	chrX
NFATC1	6	chr18
CBFA2T3	6	chr16
DPP6	5	chr7
NFATC1	5	chr18
SEC14L5	5	chr16
CSMD1	5	chr8
DAGLA	5	chr11
RPTOR	5	chr17
HSPA7	4	chr1
LARP1B	4	chr4
MORN1	4	chr1
LAMA5	4	chr20
HDAC4	4	chr2
CTBP1	4	chr4
FLJ12825	4	chr12
TBCD	4	chr17
COLEC11	4	chr2
CEP112	4	chr17
MAGIX	4	chrX
N4BP3	4	chr5
PCSK6	4	chr15
DMD	4	chrX
PRKCZ	4	chr1
AHRR	4	chr5
MLLT1	4	chr19
ADAMTS17	4	chr15
SLC36A1	4	chr5
TSPAN9	4	chr12
NPR3	4	chr5
D2HGDH	4	chr2

CDH4	4	chr20
CAMTA1	4	chr1
KIF26B	4	chr1
DPP6	4	chr7
RPRD2	4	chr1
UGT1A8	3	chr2
DNAH17	3	chr17
SYNPR	3	chr3
DMD	3	chrX
UGT1A4	3	chr2
MOB2	3	chr11
AGAP1	3	chr2
UGT1A6	3	chr2
PARK2	3	chr6
ZNF282	3	chr7
SYNGR1	3	chr22
C1QL3	3	chr10
ANO2	3	chr12
CACNA1H	3	chr16
DYSF	3	chr2
SBNO2	3	chr19
CNOT1	3	chr16
DOT1L	3	chr19
DLGAP2	3	chr8
UGT1A5	3	chr2
CNTNAP2	3	chr7
CLYBL	3	chr13
SMOC2	3	chr6
MACROD2	3	chr20
NRCAM	3	chr7
UGT1A10	3	chr2
COL6A2	3	chr21
RBFOX1	3	chr16
ATP8B4	3	chr15
CTBP2	3	chr10
TNFRSF19	3	chr13
PCSK6	3	chr15
MMP17	3	chr12
LOC339166	3	chr17
SHANK2	3	chr11
PKP4	3	chr2
PIEZO1	3	chr16
UGT1A9	3	chr2
PGS1	3	chr17
C14orf159	3	chr14
ATP9B	3	chr18

AP3M1	3	chr10
CTSD	3	chr11
SH2D4B	3	chr10
RYR3	3	chr15
MMEL1	3	chr1
ZSCAN1	3	chr19
FZR1	3	chr19
DOK6	3	chr18
WDSUB1	3	chr2
FAM213B	3	chr1
MIR548F5	3	chr13
WDR86	3	chr7
GPR133	3	chr12
TAF1C	3	chr16
ZNF664-FAM101A	3	chr12
PRR5-ARHGAP8	3	chr22
TMEM132C	3	chr12
FAM53A	3	chr4
UGT1A7	3	chr2
RAB36	3	chr22
FLG	3	chr1
FRMD1	3	chr6
CAMK1D	3	chr10
BCYRN1	3	chrX
NAALADL2	3	chr3
PLEKHG1	3	chr6
NBEA	3	chr13
KCND3	3	chr1
NOTCH1	2	chr9
CHST8	2	chr19
GPC5	2	chr13
PVRL1	2	chr11
PCDHA1	2	chr5
PHKA2	2	chrX
PIK3C2B	2	chr1
RAB40C	2	chr16
MRPL28	2	chr16
ABCC5	2	chr3
LRRC20	2	chr10
RGS12	2	chr4
ROBO1	2	chr3
DNMT1	2	chr19
CYP11B1	2	chr8
TIAM1	2	chr21
PEAR1	2	chr1
PRR5	2	chr22

FAM19A5	2	chr22
ANKRD24	2	chr19
SLC12A5	2	chr20
FAM178B	2	chr2
TPCN2	2	chr11
WDR4	2	chr21
TRAPPC9	2	chr8
FAM20C	2	chr7
SNX8	2	chr7
MYOM2	2	chr8
PCDHA3	2	chr5
AP3D1	2	chr19
ATP11A	2	chr13
STON1-GTF2A1L	2	chr2
LINC00200	2	chr10
TTC40	2	chr10
GABRA5	2	chr15
KCNQ1	2	chr11
LOC100132273	2	chr22
CLEC17A	2	chr19
SYNPO2	2	chr4
HSH2D	2	chr19
SYT14	2	chr1
ENOSF1	2	chr18
ZIC1	2	chr3
LRP1B	2	chr2
MIR548AO	2	chr5
BRD1	2	chr22
HHAT	2	chr1
DLEU7-AS1	2	chr13
FAM47B	2	chrX
ULK4	2	chr3
RASA3	2	chr13
PCDH19	2	chrX
FAM83A	2	chr8
TMED10	2	chr14
PDSS1	2	chr10
FIBCD1	2	chr9
STMN3	2	chr20
9-Sep	2	chr17
SIPA1L3	2	chr19
CNTNAP5	2	chr2
PRKAG2	2	chr7
PNKD	2	chr2
NXN	2	chr17
EIF4G3	2	chr1

STK40	2	chr1
ADAMTSL3	2	chr15
COTL1	2	chr16
DSCAML1	2	chr11
FBXL20	2	chr17
PARD6G	2	chr18
BAIAP2	2	chr17
SYT2	2	chr1
SORCS2	2	chr4
KANSL1	2	chr17
FRMD1	2	chr6
KCNAB2	2	chr1
TMEM184A	2	chr7
C1orf94	2	chr1
PQLC1	2	chr18
LHX6	2	chr9
MYO9B	2	chr19
RYR2	2	chr1
MCF2L	2	chr13
CACNA1B	2	chr9
TXN2	2	chr22
PCNXL2	2	chr1
ARHGEF9	2	chrX
PTPRS	2	chr19
POLR2A	2	chr17
PCDHA8	2	chr5
HNF4A	2	chr20
TMCO3	2	chr13
MKLN1	2	chr7
PCDH9	2	chr13
AGAP1	2	chr2
ADCY3	2	chr2
PCDHA5	2	chr5
OCA2	2	chr15
VPS26A	2	chr10
C2orf83	2	chr2
VDR	2	chr12
RPF2	2	chr6
DNAJB13	2	chr11
NINL	2	chr20
DYSF	2	chr2
YIF1B	2	chr19
LOC100286922	2	chr2
GPC1	2	chr2
UNC79	2	chr14
FOXK2	2	chr17

PXDNL	2	chr8
C1orf159	2	chr1
CELF4	2	chr18
COL18A1	2	chr21
CNOT1	2	chr16
SLITRK4	2	chrX
C20orf85	2	chr20
NOV	2	chr8
TMPRSS15	2	chr21
DOCK1	2	chr10
IL1RAP	2	chr3
STIM1	2	chr11
PGBD5	2	chr1
SLC12A7	2	chr5
ADARB2	2	chr10
KCNQ2	2	chr20
CACNA1G	2	chr17
LINC00616	2	chr4
TYW1	2	chr7
GPR132	2	chr14
PCDHA7	2	chr5
ASAP1	2	chr8
HAUS7	2	chrX
PTCHD2	2	chr1
ZFHX4	2	chr8
NLRP2	2	chr19
SYNGR3	2	chr16
KCNK17	2	chr6
TTLL10	2	chr1
ARHGAP19-SLIT1	2	chr10
UGT1A3	2	chr2
ANO1	2	chr11
ZNF483	2	chr9
MRPL45P2	2	chr17
TSNARE1	2	chr8
MYRF	2	chr11
POR	2	chr7
ATG4B	2	chr2
PCSK6	2	chr15
ERICH1-AS1	2	chr8
INPP5A	2	chr10
GAS7	2	chr17
DIAPH2	2	chrX
CDH13	2	chr16
WDR5	2	chr9
ZIC3	2	chrX

ZFP42	2	chr4
ATAD3C	2	chr1
CTBP1-AS1	2	chr4
CELSR1	2	chr22
MYO7B	2	chr2
SENP5	2	chr3
MDGA2	2	chr14
PCDHA4	2	chr5
B4GALT1	2	chr9
ZDHHC19	2	chr3
LMF1	2	chr16
GABRB3	2	chr15
TRPM7	2	chr15
DLEU7	2	chr13
RTL1	2	chr14
RYR1	2	chr19
GAK	2	chr4
MMP25	2	chr16
SORCS1	2	chr10
GALNTL6	2	chr4
ANP32E	2	chr1
C7orf50	2	chr7
LINC00673	2	chr17
TRPM2	2	chr21
FTSJ1	2	chrX
TPST2	2	chr22
WDR37	2	chr10
FAM32A	2	chr19
FLI1	2	chr11
DIP2C	2	chr10
KDM4B	2	chr19
KIAA1967	2	chr8
SORBS2	2	chr4
PCDHA6	2	chr5
IL32	2	chr16
YWHAE	2	chr17
SH3PXD2A	2	chr10
PARD6G-AS1	2	chr18
TNC	2	chr9
SPPL2B	2	chr19
ARHGAP19	2	chr10
PRDM16	2	chr1
FANCC	2	chr9
ADAMTS2	2	chr5
PCDHA2	2	chr5
RIMBP2	2	chr12

DHX37	2	chr12
QSOX2	2	chr9
DCHS2	2	chr4
LRRTM4	2	chr2
KIF1A	2	chr2
AES	2	chr19
ASPSCR1	2	chr17
APBA2	1	chr15
CTNND1	1	chr11
PRKX	1	chrX
ART3	1	chr4
GRAMD1A	1	chr19
SPTBN4	1	chr19
SNRPN	1	chr15
TBC1D30	1	chr12
TACC2	1	chr10
PTPRH	1	chr19
PSME3	1	chr17
RPS6KB1	1	chr17
ARRB2	1	chr17
NUGGC	1	chr8
GALNS	1	chr16
NOB1	1	chr16
BCL2	1	chr18
SH3BP5	1	chr3
LOC100873065	1	chrX
GLT1D1	1	chr12
CLSTN2	1	chr3
CCT5	1	chr5
PDE6B	1	chr4
UBAC1	1	chr9
MTRF1L	1	chr6
C20orf196	1	chr20
DGKG	1	chr3
KIAA1609	1	chr16
FRY	1	chr13
CD97	1	chr19
SFTA3	1	chr14
PRIMA1	1	chr14
SLC22A18	1	chr11
CNTN1	1	chr12
RHPN1-AS1	1	chr8
KCNJ15	1	chr21
ATP8A2	1	chr13
TMEM8C	1	chr9
TAF2	1	chr8

FAM83E	1	chr19
GRB10	1	chr7
MYH7	1	chr14
CNN2	1	chr19
RPS6KA2	1	chr6
ZNF611	1	chr19
PLXNB3	1	chrX
HEATR2	1	chr7
LINC00461	1	chr5
HTR6	1	chr1
MACROD1	1	chr11
THBS2	1	chr6
ITPR3	1	chr6
GAS6	1	chr13
SLC6A18	1	chr5
PLEKHA6	1	chr1
PARD6B	1	chr20
RHPN1	1	chr8
RTDR1	1	chr22
KRT72	1	chr12
BAIAP3	1	chr16
IQCG	1	chr3
STOX2	1	chr4
DNMT3A	1	chr2
PRKAG2	1	chr7
CCDC146	1	chr7
PRKAR1B	1	chr7
AJAP1	1	chr1
CCDC178	1	chr18
DIS3L2	1	chr2
ZNF213	1	chr16
PI4K2B	1	chr4
WBP2NL	1	chr22
LDLRAD3	1	chr11
CMTM5	1	chr14
MAP3K4	1	chr6
MLL3	1	chr7
RAP1GAP2	1	chr17
BCOR	1	chrX
FLVCR1	1	chr1
OCLN	1	chr5
ALPL	1	chr1
TUB	1	chr11
MYO1F	1	chr19
NLRC4	1	chr2
LOC100507373	1	chr19

PXDN	1	chr2
BIN3	1	chr8
STX16-NPEPL1	1	chr20
NT5C3	1	chr7
MROH5	1	chr8
BOC	1	chr3
PPFIA2	1	chr12
RNF26	1	chr11
FGGY	1	chr1
CEP170B	1	chr14
ZNF516	1	chr18
PMF1-BGLAP	1	chr1
TRPC5	1	chrX
CDK16	1	chrX
SLC2A5	1	chr1
PML	1	chr15
GIGYF2	1	chr2
GRAMD4	1	chr22
DTNBP1	1	chr6
SEMA5A	1	chr5
PPIL6	1	chr6
ST3GAL1	1	chr8
NOVA1	1	chr14
TSHZ1	1	chr18
PKD1L2	1	chr16
GFRA1	1	chr10
KBTBD2	1	chr7
PREX1	1	chr20
THOP1	1	chr19
CDH18	1	chr5
LINGO2	1	chr9
NCAM2	1	chr21
MICAL3	1	chr22
TLL2	1	chr10
IL12RB1	1	chr19
FBXL17	1	chr5
SERHL2	1	chr22
FSTL3	1	chr19
ANKRD33B	1	chr5
KAZN	1	chr1
LOC728431	1	chr1
ZSWIM4	1	chr19
DKFZp686O1327	1	chr2
LINC00617	1	chr14
RHOBTB3	1	chr5
ASIC2	1	chr17

CALN1	1	chr7
AVPR1A	1	chr12
MYO15B	1	chr17
SYT1	1	chr12
HSPB2-C11orf52	1	chr11
DNAJC15	1	chr13
ATP10A	1	chr15
DKK3	1	chr11
CCDC61	1	chr19
HELB	1	chr12
PGP	1	chr16
DDX3X	1	chrX
ARL2-SNX15	1	chr11
LDLRAD4	1	chr18
NTN1	1	chr17
WNT3	1	chr17
MROH1	1	chr8
AOX1	1	chr2
SPAG16	1	chr2
HAGHL	1	chr16
TCEAL2	1	chrX
ZNF524	1	chr19
BMPR1B	1	chr4
CUL3	1	chr2
RAB35	1	chr12
LRP12	1	chr8
LRRC38	1	chr1
INTS1	1	chr7
ATP9A	1	chr20
KIAA1211	1	chr4
UGGT2	1	chr13
POLDIP3	1	chr22
PRKAG3	1	chr2
GUSBP11	1	chr22
CANX	1	chr5
PPP4R1L	1	chr20
SMIM14	1	chr4
POFUT2	1	chr21
ACE	1	chr17
TMBIM1	1	chr2
SELM	1	chr22
RNGTT	1	chr6
TMEM45B	1	chr11
DEAF1	1	chr11
UHRF1	1	chr19
PCDHA8	1	chr5

GALNT9	1	chr12
CHMP5	1	chr9
EXOC6B	1	chr2
LOC653712	1	chr3
SRCAP	1	chr16
SORBS2	1	chr4
CORO2B	1	chr15
C1QTNF2	1	chr5
FLJ46257	1	chr22
TMEM41B	1	chr11
C1orf151-NBL1	1	chr1
ZC3H12D	1	chr6
URGCP	1	chr7
RABGAP1L	1	chr1
FADS2	1	chr11
DPYSL2	1	chr8
NR1I2	1	chr3
MMD2	1	chr7
ABL1	1	chr9
MAGI1	1	chr3
KCNQ3	1	chr8
BRSK2	1	chr11
PPIL4	1	chr6
DPYSL5	1	chr2
ALX4	1	chr11
ENPP7	1	chr17
NLRP5	1	chr19
GABBR2	1	chr9
GATA6	1	chr18
KCTD17	1	chr22
POP1	1	chr8
CMC1	1	chr3
CTNNA3	1	chr10
C3orf67	1	chr3
ACAP3	1	chr1
CTBP2	1	chr10
MAGEL2	1	chr15
TSHZ2	1	chr20
TRAPPC11	1	chr4
ABCC1	1	chr16
LIN52	1	chr14
GLTSCR1	1	chr19
SKIV2L2	1	chr5
PDZRN3	1	chr3
SLC4A7	1	chr3
NMT1	1	chr17

LDB2	1	chr4
ARHGAP4	1	chrX
SPTB	1	chr14
SRSF4	1	chr1
GRK1	1	chr13
PDZD2	1	chr5
CNPY1	1	chr7
ABCA13	1	chr7
TULP4	1	chr6
LAMC3	1	chr9
BAZ1A	1	chr14
HRNR	1	chr1
PDS5A	1	chr4
MGMT	1	chr10
KIRREL2	1	chr19
KCNG4	1	chr16
SLC22A23	1	chr6
DAPK3	1	chr19
PLD5	1	chr1
LOC100130155	1	chr8
SEZ6L	1	chr22
CDC42SE2	1	chr5
EPHA3	1	chr3
NRXN3	1	chr14
ERCC8	1	chr5
PLEKHA5	1	chr12
RGS10	1	chr10
ERBB4	1	chr2
TRIM37	1	chr17
ZRANB3	1	chr2
AOAH	1	chr7
DNAJC5G	1	chr2
TERT	1	chr5
GGT1	1	chr22
ATG14	1	chr14
CWF19L2	1	chr11
PIGN	1	chr18
PNLIPRP2	1	chr10
MYO7A	1	chr11
TNK1	1	chr17
ANKRD31	1	chr5
SNX27	1	chr1
WNT9A	1	chr1
BNC2	1	chr9
KHDC1	1	chr6
PIK3R4	1	chr3

SLC5A4	1	chr22
SOD3	1	chr4
LRRC27	1	chr10
USP37	1	chr2
COL4A4	1	chr2
ATP2B2	1	chr3
MEI1	1	chr22
PM20D1	1	chr1
COL22A1	1	chr8
JRK	1	chr8
PTX4	1	chr16
WWOX	1	chr16
DCUN1D3	1	chr16
WBSCR17	1	chr7
ZMAT4	1	chr8
PLOD1	1	chr1
LOC100133669	1	chr8
MIR548AI	1	chr14
NEBL	1	chr10
ZNF812	1	chr19
MUC6	1	chr11
ATP1A1	1	chr1
TRIM62	1	chr1
CHD1	1	chr5
LRRC4B	1	chr19
NEK6	1	chr9
DDX12P	1	chr12
PARL	1	chr3
ZNF578	1	chr19
FAR1	1	chr11
FAM101A	1	chr12
DGCR2	1	chr22
RGS7	1	chr1
MARS	1	chr12
SIPA1	1	chr11
ZNF280C	1	chrX
ARHGAP25	1	chr2
CDK11B	1	chr1
SLC29A1	1	chr6
MYO18B	1	chr22
MRTO4	1	chr1
KANK1	1	chr9
LONRF3	1	chrX
LHFP	1	chr13
SLC1A7	1	chr1
SVIL	1	chr10

CD4	1	chr12
HTT	1	chr4
DET1	1	chr15
SDCCAG8	1	chr1
MAFK	1	chr7
ANP32B	1	chr9
SURF6	1	chr9
LOC100128946	1	chr22
EFHA1	1	chr13
CPN2	1	chr3
SLC7A9	1	chr19
GABRD	1	chr1
CRELD2	1	chr22
MGAT4C	1	chr12
KIF26A	1	chr14
SFRP1	1	chr8
CCDC154	1	chr16
DAB1	1	chr1
RBFOX3	1	chr17
MAT1A	1	chr10
GLTSCR1L	1	chr6
YEATS2	1	chr3
9-Sep	1	chr17
POLR3C	1	chr1
CUL1	1	chr7
DRAM1	1	chr12
ABAT	1	chr16
NRXN1	1	chr2
ROR2	1	chr9
GPR151	1	chr5
KDM4C	1	chr9
SNX29	1	chr16
MADCAM1	1	chr19
PEX6	1	chr6
LINC00840	1	chr10
GCH1	1	chr14
TCEANC	1	chrX
C7orf10	1	chr7
DNAH10	1	chr12
FAM189A2	1	chr9
CLPSL1	1	chr6
CTNNAL1	1	chr9
ZBTB11	1	chr3
HELZ2	1	chr20
GRID2	1	chr4
FXN	1	chr9

LINC00478	1	chr21
ATP8B3	1	chr19
CD9	1	chr12
HSD17B6	1	chr12
TUSC5	1	chr17
INPP5J	1	chr22
XKR6	1	chr8
TBATA	1	chr10
DAG1	1	chr3
KIAA1217	1	chr10
TGS1	1	chr8
METRNL	1	chr17
MCM3AP	1	chr21
FAM184A	1	chr6
ZFP82	1	chr19
OTX2-AS1	1	chr14
C15orf38-AP3S2	1	chr15
P2RX4	1	chr12
ITGAL	1	chr16
DTNB	1	chr2
MAGI2	1	chr7
ANKFN1	1	chr17
FOXP1	1	chr3
ZNF565	1	chr19
GATA2	1	chr3
ZNF517	1	chr8
HIBCH	1	chr2
TUBB3	1	chr16
FAM187B	1	chr19
PLCB1	1	chr20
INTS2	1	chr17
SLC29A4	1	chr7
HTR2C	1	chrX
MIR548I4	1	chr7
GOLGA8A	1	chr15
AQP1	1	chr7
SCNN1A	1	chr12
NCOR2	1	chr12
LPHN1	1	chr19
ARHGAP8	1	chr22
AKAP13	1	chr15
GRXCR1	1	chr4
ZNF284	1	chr19
MED29	1	chr19
R3HDM4	1	chr19
TRDN	1	chr6

TAF4	1	chr20
FLJ16171	1	chr5
APBB2	1	chr4
CPNE7	1	chr16
CTNNA2	1	chr2
CDR2L	1	chr17
SHD	1	chr19
NCS1	1	chr9
AKR7L	1	chr1
TMEM8A	1	chr16
NRG1	1	chr8
JOSD2	1	chr19
ABCC4	1	chr13
MRC2	1	chr17
PHACTR3	1	chr20
ACTRT2	1	chr1
RER1	1	chr1
NRF1	1	chr7
GMEB2	1	chr20
RBMS3	1	chr3
MCF2L	1	chr13
BTBD2	1	chr19
NSMCE1	1	chr16
DKK4	1	chr8
KALRN	1	chr3
FAT3	1	chr11
RNF128	1	chrX
PDCD6	1	chr5
JAK1	1	chr1
TCF7L1	1	chr2
DCDC2	1	chr6
MAP3K12	1	chr12
CDH2	1	chr18
MCPH1	1	chr8
NUDCD1	1	chr8
SKI	1	chr1
GTF2A1L	1	chr2
SNX11	1	chr17
ZNF890P	1	chr7
CCDC102B	1	chr18
OBSCN	1	chr1
ME3	1	chr11
COL25A1	1	chr4
BFSP2	1	chr3
UBE2H	1	chr7
RBKS	1	chr2

TFDP2	1	chr3
LRRC4C	1	chr11
FAM178B	1	chr2
LRRC15	1	chr3
CCDC88C	1	chr14
PRSS21	1	chr16
GFOD1	1	chr6
PLIN3	1	chr19
GLB1	1	chr3
RADIL	1	chr7
LOC732275	1	chr16
UBR4	1	chr1
IFNAR1	1	chr21
LOC442459	1	chrX
BCKDK	1	chr16
RTN4RL1	1	chr17
SGCZ	1	chr8
SNX14	1	chr6
PTPRM	1	chr18
CCDC113	1	chr16
TSC2	1	chr16
C1QTNF6	1	chr22
CRISPLD2	1	chr16
ZDHHC8P1	1	chr22
CTSH	1	chr15
ZNF7	1	chr8
RIN1	1	chr11
COL4A5	1	chrX
PMF1	1	chr1
CYP2E1	1	chr10
GOLGB1	1	chr3
FBXW11	1	chr5
CXCR3	1	chrX
PTER	1	chr10
ANKFY1	1	chr17
CYFIP1	1	chr15
VIPR2	1	chr7
LRRC49	1	chr15
ABLIM2	1	chr4
CHD4	1	chr12
COL18A1	1	chr21
DPP9	1	chr19
FAM184B	1	chr4
DENND1C	1	chr19
CDH12	1	chr5
C8orf44-SGK3	1	chr8

ITIH3	1	chr3
HMHA1	1	chr19
PAK4	1	chr19
ABCB5	1	chr7
ESR1	1	chr6
LAMA4	1	chr6
BAI1	1	chr8
FAM69C	1	chr18
SH3RF3	1	chr2
HCRTR2	1	chr6
GNAT1	1	chr3
NAGPA	1	chr16
ZFH3	1	chr16
TFAP2A	1	chr6
PLXDC1	1	chr17
MSH2	1	chr2
POC1B	1	chr12
PDE9A	1	chr21
CADPS	1	chr3
FBLN7	1	chr2
GPR98	1	chr5
B3GALT6	1	chr1
ACYP1	1	chr14
BTBD16	1	chr10
SUPT3H	1	chr6
MUC17	1	chr7
MLF1	1	chr3
GTF3C1	1	chr16
BICD1	1	chr12
EHMT1	1	chr9
AKT1	1	chr14
ESR2	1	chr14
COL5A3	1	chr19
CHFR	1	chr12
DOCK8	1	chr9
DYM	1	chr18
HRH2	1	chr5
ABCA2	1	chr9
KIAA1614	1	chr1
ADNP2	1	chr18
IFT140	1	chr16
SUV420H2	1	chr19
KIRREL3	1	chr11
SLC26A5	1	chr7
MSRA	1	chr8
MIR548AN	1	chr13

AP3S2	1	chr15
SULF2	1	chr20
BPTF	1	chr17
CAMK2B	1	chr7
KCNN3	1	chr1
IQSEC1	1	chr3
GATA4	1	chr8
GEMIN7	1	chr19
LOC284379	1	chr19
TTC7B	1	chr14
ZNF398	1	chr7
PCSK2	1	chr20
APOC1	1	chr19
VGLL4	1	chr3
AGPS	1	chr2
PDE12	1	chr3
IFNL4	1	chr19
NUBPL	1	chr14
MEGF6	1	chr1
FAM101B	1	chr17
XIAP	1	chrX
EMC1	1	chr1
RHOH	1	chr4
EML1	1	chr14
NELL1	1	chr11
WDR90	1	chr16
IGSF21	1	chr1
DCTN2	1	chr12
MIPEP	1	chr13
TNNI3K	1	chr1
STK3	1	chr8
KLHL15	1	chrX
RREB1	1	chr6
ASF1B	1	chr19
SPON1	1	chr11
SESTD1	1	chr2
PEPD	1	chr19
SAMD3	1	chr6
TANC1	1	chr2
LINC00523	1	chr14
SMOC1	1	chr14
TBC1D22A	1	chr22
LYPD2	1	chr8
EP400	1	chr12
THEM4	1	chr1
USP8	1	chr15

LYRM4	1	chr6
BEST1	1	chr11
RAB5B	1	chr12
AP1M1	1	chr19
MAGEA4	1	chrX
RUNX3	1	chr1
WDR19	1	chr4
DDX1	1	chr2
RASGRF1	1	chr15
SLC7A7	1	chr14
PARVB	1	chr22
SLC7A5	1	chr16
EPHA1-AS1	1	chr7
DNAH11	1	chr7
CIT	1	chr12
NPY	1	chr7
EBF4	1	chr20
NXN	1	chr17
C6orf123	1	chr6
MYH7B	1	chr20
ENPP6	1	chr4
RBPM5	1	chr8
SMAD6	1	chr15
EPB41L2	1	chr6
SLCO2B1	1	chr11
NBL1	1	chr1
GRM5	1	chr11
SH3BP2	1	chr4
MECOM	1	chr3
MAP2K2	1	chr19
CLCN7	1	chr16
SCFD2	1	chr4
ATXN1	1	chr6
DDX6	1	chr11
KIAA1432	1	chr9
NLRP3	1	chr1
LOC440970	1	chr3
GNAZ	1	chr22
DCAF12L2	1	chrX
IL1RAPL1	1	chrX
PCDHA9	1	chr5
EIF4A3	1	chr17
TNPO3	1	chr7
EXD3	1	chr9
CHMP6	1	chr17
CACNA2D1	1	chr7

LYRM7	1	chr5
LINC00174	1	chr7
LAMA3	1	chr18
TMEM132D	1	chr12
AP2A2	1	chr11
CABP1	1	chr12
CATSPERD	1	chr19
CCT3	1	chr1
SHB	1	chr9
DIAPH2	1	chrX
PRR12	1	chr19
CTU2	1	chr16
B4GALNT4	1	chr11
ARHGEF10	1	chr8
ERC1	1	chr12
ARMCX4	1	chrX
EIF2AK4	1	chr15
DLGAP3	1	chr1
SERPINH1	1	chr11
MND1	1	chr4
ZZEF1	1	chr17
SEMA7A	1	chr15
GTF2IRD1	1	chr7
FAM109B	1	chr22
EED	1	chr11
DGKE	1	chr17
SHISA6	1	chr17
DGCR5	1	chr22
TNFAIP2	1	chr14
CAPN13	1	chr2
CAMSAP3	1	chr19
FFAR1	1	chr19
BEND2	1	chrX
ITGBL1	1	chr13
AP3B2	1	chr15
TMEM44	1	chr3
TMEM130	1	chr7
FAIM2	1	chr12
ARNT2	1	chr15
FGF2	1	chr4
FPGT-TNNI3K	1	chr1
ASCL3	1	chr11
ADAMTS20	1	chr12
LOC653160	1	chr1
FAM189A1	1	chr15
SEPSECS	1	chr4

NDP	1	chrX
TRIM61	1	chr4
EHD1	1	chr11
SEC14L1	1	chr17
GSK3B	1	chr3
TECPR2	1	chr14
SLC12A3	1	chr16
FAM129C	1	chr19
RORA	1	chr15
PIGU	1	chr20
TNRC18	1	chr7
MUC16	1	chr19
ITGB2	1	chr21
KLHL29	1	chr2
UHRF1BP1L	1	chr12
MYBBP1A	1	chr17
IQSEC3	1	chr12
PTCHD3	1	chr10
MIR548AC	1	chr3
PCSK4	1	chr19
MASP2	1	chr1
TENM4	1	chr11
ZNF99	1	chr19
VAV2	1	chr9
C9orf171	1	chr9
PLXNB2	1	chr22
PPP2R2B	1	chr5
AASDH	1	chr4
KSR1	1	chr17
QRICH2	1	chr17
C6orf147	1	chr6
TGFBRAP1	1	chr2
LOC283692	1	chr15
BSN	1	chr3
FHIT	1	chr3
HADHA	1	chr2
LINC00294	1	chr11
LOXL2	1	chr8
MFSD4	1	chr1
CTPS2	1	chrX
AFMID	1	chr17
LOC100288181	1	chr8
PODN	1	chr1
TRAPPC8	1	chr18
IDO2	1	chr8
RIPK4	1	chr21

TBC1D8	1	chr2
ITPR2	1	chr12
PNPT1	1	chr2
ARSF	1	chrX
TAZ	1	chrX
ARHGAP23	1	chr17
RAB20	1	chr13
GNG7	1	chr19
NPEPL1	1	chr20
FCHO1	1	chr19
OTOA	1	chr16
SLC37A1	1	chr21
EFCAB4B	1	chr12
KAT2B	1	chr3
PUS1	1	chr12
CACNA1D	1	chr3
DOK7	1	chr4
TUFT1	1	chr1
DRD5	1	chr4
KLK13	1	chr19
PDE1A	1	chr2
SLC13A5	1	chr17
KLHL3	1	chr5
PRUNE2	1	chr9
CHD5	1	chr1
URGCP-MRPS24	1	chr7
ESPL1	1	chr12
DYDC2	1	chr10
COLEC11	1	chr2
RALYL	1	chr8
METTL8	1	chr2
PCCA	1	chr13
KIF17	1	chr1
POLRMT	1	chr19
HIVEP3	1	chr1
KIAA1751	1	chr1
KIF19	1	chr17
COL17A1	1	chr10
SLC45A1	1	chr1
TEKT5	1	chr16
SLC35E2	1	chr1
PCDHB8	1	chr5
RNF222	1	chr17
KCNG2	1	chr18
KLHL6	1	chr3
SLC51A	1	chr3

TPT1-AS1	1	chr13
MAD2L2	1	chr1
PPFIA3	1	chr19
HTRA3	1	chr4
TRPM4	1	chr19
NFIC	1	chr19
FAM19A4	1	chr3
TRPM1	1	chr15
WDR24	1	chr16
HEPHL1	1	chr11
STK11	1	chr19
PACSIN1	1	chr6
GAD1	1	chr2
IFT27	1	chr22
SSU72	1	chr1
PLEKHG4B	1	chr5
LOC100130954	1	chr9
ACSL6	1	chr5
TMF1	1	chr3
SGSM1	1	chr22
PLA2G3	1	chr22
AIDA	1	chr1
BCL11B	1	chr14
MAN2B2	1	chr4
GRM3	1	chr7
HPS5	1	chr11
FAM19A1	1	chr3
SLC2A6	1	chr9
DYDC1	1	chr10
TGIF1	1	chr18
TSPAN11	1	chr12
TENM1	1	chrX
CACNG4	1	chr17
C21orf2	1	chr21
FAM227A	1	chr22
TSPAN2	1	chr1
CLPTM1	1	chr19
CDH10	1	chr5
DOK2	1	chr8
PLAC1L	1	chr11
ST6GAL2	1	chr2
C20orf26	1	chr20
TEX2	1	chr17
FAM211B	1	chr22
CA9	1	chr9
AEN	1	chr15

TSPEAR	1	chr21
LOC286059	1	chr8
HDGFRP2	1	chr19
MAML2	1	chr11
NRP2	1	chr2
CACNA1I	1	chr22
ABO	1	chr9
NFASC	1	chr1
MIR143HG	1	chr5
PLAUR	1	chr19
MLLT10	1	chr10
GBF1	1	chr10
ENGASE	1	chr17
MTMR6	1	chr13
VAT1L	1	chr16
TMX2-CTNND1	1	chr11
GPHN	1	chr14
TJP2	1	chr9
EYA2	1	chr20
TRPC2	1	chr11
OPRD1	1	chr1
PNMA3	1	chrX
MGAT3	1	chr22
RBFOX1	1	chr16
CPPED1	1	chr16
COL14A1	1	chr8
IRF2	1	chr4
FAM149B1	1	chr10
LHPP	1	chr10
SETD1B	1	chr12
TOM1L1	1	chr17
TFCP2	1	chr12
HSF1	1	chr8
FERMT1	1	chr20
ARHGAP42	1	chr11
IL6R	1	chr1
IGF1R	1	chr15
MYO15A	1	chr17
NR2F1	1	chr5
TMEM255B	1	chr13
C10orf68	1	chr10
EPHA2	1	chr1
NLRP12	1	chr19
COL18A1-AS1	1	chr21
MSANTD1	1	chr4
NEO1	1	chr15

FRRS1L	1	chr9
ABCG1	1	chr21
ARHGAP9	1	chr12
ANKRD13C	1	chr1
ABCC6	1	chr16
SBF1	1	chr22
TNFRSF8	1	chr1
GALK2	1	chr15
INF2	1	chr14
ACSM1	1	chr16
ALDH1L1	1	chr3
DGKQ	1	chr4
C16orf62	1	chr16
SLC38A10	1	chr17

site locations

80885897,80885901,80885910,80885924,80885930,80885933,80885952,80885978,8
42837822,42837883,42837904,42854040,42854072,42854116,42863011,42863013,4
157412971,157585437,157606110,157700218,157793222,157799746,157933157,158
101649441,101694275,101848789,101858142,101892327,101771662,101777540,10
179561,179581,179588,179614,179616,179623,179642,179644,179653,179657
138085209,138136408,138136474,138277128,138277131,138277156,138277167,138
89038729,88951509,88951647,88953882,88991154,88991157,88998226
60283593,60450242,59859294,59934559,60020737,60452249,60459503
14423492,14423493,14759025,14827364,15966163,15984559,15984564
177741111,177808674,177808675,177968358,177968359,177976214,177980043
105622204,105622207,105622212,105622243,105622249,105622272
33674736,33729246,33729283,33911677,34060801,34291144
1475095,1475107,1475129,1475142,1475143,1475188
55138245,55104159,55104627,55105156,55105169,55105189
130863889,130863893,130863895,130863905,130863933,130863951
77157797,77202644,77202645,77204766,77220878,77221799
88951509,88951647,88953882,88991154,88991157,88998226
153899667,154585884,154585887,154585915,154585968
77202644,77202645,77204766,77220878,77221799
5029979,5038242,5047168,5047192,5058704
3828373,4208389,4248269,4256137,4256138
61490244,61511261,61456424,61458594,61494325
78807502,78597523,78683458,78793474,78847067
161575874,161575882,161575904,161575910
128987146,128987362,128987417,129018407
2266933,2310576,2258323,2267568
60898505,60926221,60930091,60938308
239997710,240043297,240170032,240170077
1222301,1224540,1224647,1227951
54500162,54500200,54500355,54500455
80829706,80829707,80895531,80898095
3644890,3645428,3648757,3660867
63904583,63859606,63859699,63915389
49022855,49022886,49022891,49022902
177546160,177548186,177548195,177548237
101903335,101915394,101924537,101924539
31912609,31693636,32094716,32603677
2040761,2040776,2041154,2048727
355048,435782,308947,407802
6213284,6213311,6213321,6212546
100538150,100667714,100788211,100800292
150834304,150834312,150834334,150834359
3227502,3277484,3386339,3386340
32721664,32721665,32770312,32770392
242706955,242706956,242706979,242707772

60283593,60450242,60452249,60459503
6999818,7633798,7639870,7742833
245381025,245393901,245681000,245715801
154585884,154585887,154585915,154585968
150375271,150410977,150423966,150423967
234633332,234663626,234663653
76506973,76507053,76565604
63269640,63269641,63328784
31912609,31693636,32094716
234633332,234663626,234663653
1777815,1778321,1784265
236613477,236754256,236847317
234633332,234663626,234663653
162850908,162254655,163096348
148904623,148904794,148909758
39753991,39754000,39754031
16561923,16561939,16561955
5998344,5998328,5998366
1211221,1214678,1235322
71797711,71692546,71697519
1148048,1164139,1169021
58560322,58610256,58610257
2187851,2198844,2226675
1496555,1493528,1505751
234633332,234663626,234663653
146050135,146191221,147179769
100545379,100260559,100260560
168918740,168928224,168876493
15966163,15984559,15984564
107811641,107811682,107828183
234633332,234663626,234663653
47546079,47546166,47546179
6384299,6689474,6869494
50239356,50239403,50239404
126715435,126719831,126719832
24155526,24155527,24160216
101915394,101924537,101924539
132329206,132334754,132334766
5774950,5802998,5800830
70425842,70425843,70437604
159519410,159519451,159519478
88793822,88793842,88797567
234633332,234663626,234663653
76400505,76400506,76414300
91609462,91609508,91609532
77080287,76889937,76910759

75880423,75893632,75893633
1777815,1778321,1784265
82360631,82360632,82360648
33609541,33652116,33993318
2522201,2522203,2522391
58552731,58545712,58545730
3526496,3526784,3533273
67361019,67361031,67355844
160102680,160102724,160102738
2522201,2522203,2522391
36120888,36101742,36227031
151078769,151078803,151078848
131519660,131521885,131549814
84212777,84212709,84212710
124799642,124545513,124568638
45113150,45117629,45187308
128853053,129084727,129169510
1645478,1649416,1663210
234633332,234663626,234663653
23505467,23505575,23505616
152276148,152276670,152286107
168458073,168474308,168479602
12412836,12412837,12739548
70837080,70880637,70896088
175269482,174850766,174850843
151083585,151085415,151102302
36120888,36101742,36227031
112525003,112525024,112525031
139389767,139424016
34188708,34214991
92347650,92577340
119566196,119574608
140222356,140233651
18934349,18934350
204417023,204436065
651516,678843
419921,419974
183713815,183713816
72083976,72084146
3423441,3374161
79495020,79495022
10247268,10258560
143957576,143957579
32556483,32831129
156878421,156883491
45113150,45117629

49035765,49057291
4190519,4190586
44686590,44686635
97543776,97622919
68821860,68853503
44280703,44290375
140930848,140968750
214822,226491
2291790,2293508
2020462,2024445
140222356,140233651
2131565,2131578
113362104,113398928
48841796,48844977
1206496,1206503
134681693,134727535
27128732,27140921
2495420,2798848
42492062,42492104
14712665,14712697
119898276,119898281
16269140,16269141
210152514,210152515
696500,696502
147128588,147128594
141294992,142022616
92923939,92934607
50191970,50199589
210575775,210575776
51417503,51417534
34961674,34961676
41962818,41882537
114880846,114821692
99662864,99662866
124219472,124219530
75621019,75639854
27015760,27015761
133787347,133789012
62275844,62278385
75348109,75372848
38554304,38697053
125119660,125398121
151398709,151560141
219186591,219146078
743982,846798
21134595,21134596

36807480,36810010
84503767,84692728
84608934,84615224
117544836,117566161
37549199,37552988
77918012,77972065
79042974,79063592
202638788,202638789
7494167,7738401
44286088,44286196
168458073,168474308
6132067,6143145
1587041,1587042
34642382,34642490
77674633,77683125
124987743,124987769
17240198,17188322
237382688,237382689
113642833,113705141
140963179,141002309
36869012,36869013
233399443,233399444
63005076,63005079
5238770,5263766
7405073,7411770
140222356,140233651
43044767,43044775
114161310,114166775
130918981,130902391
67197164,67197166
236613477,236754256
25064191,25109803
140222356,140233651
28070739,28256783
70910031,70910888
228491298,228491315
48257325,48257326
111342297,111313236
73669043,73681089
25441432,25441935
71797711,71697519
38794450,38794465
234663626,234663653
241387005,241387018
93805879,94003834
80491066,80508538

52317474,52455803
1023891,1024479
34854425,34988706
46892956,46844086
58610256,58610257
142721759,142721761
56732799,56733571
120433495,120433500
19660981,19693869
129048851,128900119
190352746,190352783
3936650,3982840
230552095,230552128
1084332,1103036
1643950,1728452
62049177,62056325
48689798,48689799
138973585,138974330
66479904,66479905
105518054,105518091
140222356,140233651
131069818,131427223
152746484,152746485
11591735,11591802
77767075,77767077
55494187,55495378
2041493,2041581
39271537,39271538
1109849,1114171
99047710,99047711
234663626,234663653
69971133,69979164
114294417,114294418
45565093,45565384
143313650,143358298
61547236,61547237
75611354,75614294
242584161,242610500
101924537,101924539
872324,1042396
134372679,134372680
9820694,9820695
96508663,96798784
83679935,83679983
137005022,137005023
136648374,136648854

188918159,188918166
1387347,1388103
1244109,1245384
46908054,46839894
128340901,128367090
196634118,196634119
47327858,47768048
140222356,140233651
33132490,33132491
195925355,195933370
925290,941519
26915677,26915701
50935282,50935283
51417503,51417534
101349763,101349172
39070929,39071020
870042,878078
3101637,3102462
108554540,108715748
173103159,173030020
150194484,150202102
1100693,1044953
70526843,70585373
45785484,45785490
48339984,48339985
26971734,26971735
1135221,1151618
16298268,16298269
128611281,128611282
367482,444996
5048201,5095792
22471822,22471823
186699811,186536056
140222356,140233651
3116362,3117519
1252535,1252536
105584366,105480533
77918012,77906392
117846079,117846080
2353556,2353557
99047710,99047711
3228639,3279800
97979532,97979533
178701724,178689460
140222356,140233651
130989049,130935954

125448959,125455371
139101770,139129414
155410665,155410924
77379705,77648689
241674447,241686408
3053682,3053761
79959659,79972901
29227420
57552264
3621933
76990688
35502532
41050290
25196084
65269045
123817855
55703497
40992887
57986974
4622638
27886902
88920677
69785793
60816889
15347782
22527642
129417210
139715360
10253162
619634
138831135
153311755
5741195
186077900
84514963
32849448
14506631
36975759
94211502
2937629
41305237
144449706
39631463
26087639
136382602
120798926

49106994
50823429
23896981
1038212
167182470
53218181
153033730
813867
87974503
20005511
63808062
169652497
33601000
114555024
1244986
204219848
49365211
144461039
23441116
52995043
1397814
197665044
184848069
25551130
151398709
76762264
752449
4749980
30595325
232933589
3192535
25248474
42395130
36135842
23848310
161500455
151998404
2824332
39933047
213048256
68831858
21892980
8088757
8640380
32485154
14260075

1712978
22479988
57274149
33096643
142459700
112991312
82152238
119206373
59938978
105349687
74097118
156189625
111149356
47086345
9126976
74336971
233566677
47074257
15576600
9426363
109717108
134494941
27062535
72949954
81166557
117883900
32909180
47325314
2810246
19573576
28149330
22385757
18398207
98132016
18183527
107417280
42969129
681359
10572060
15127614
37923004
13936132
145687183
96378109
95088562
31372187

71858218
63543646
73595712
79368458
111784923
43598340
25978582
11988839
46511614
66733266
2261683
41200425
64790137
13571929
8993970
44856096
145252482
201475722
214490660
779687
101380931
56113828
95762833
225394812
120538685
105540724
13811655
1532399
50288630
57080660
96580857
42990074
219691758
23995795
179145862
56845938
39624043
46700057
61562922
219146078
31503149
89498970
129702080
686712
4945917
140222356

132871604
33269800
72436305
128587817
30747191
186536056
69011119
159789608
48018415
9311701
19978899
149795690
43923161
174423979
61609749
26404206
119533732
4984168
133593565
65412778
133259807
1464589
149846961
27152161
44330555
77708969
56511221
101226340
19752319
37457414
99137831
28296877
67854284
58879005
1229850
126715435
23891602
52098511
184631918
16161030
74646222
48205286
54671147
73669147
27421654
43185498

16759621
153176005
65220461
29485475
114432861
31884043
155323907
48244355
158857015
133906248
35332660
152192113
39828294
131316315
36353936
84256410
3396490
3960019
242252838
65286227
26566755
130638028
89180081
79562574
60192106
19383370
121301386
212566718
57114786
136030518
36660728
27501475
1279429
24983263
55874093
107241950
59803822
118392543
76862024
7286344
74472337
151615685
228110732
16787670
74009153
130434201

32632850
24801314
134188872
219328681
227975544
10481532
42143536
205819038
139883644
143747271
1538262
78357293
20894616
70886007
40518778
12015766
144081249
29968344
21183608
9804096
1014999
116918686
33630987
98259396
51051276
127048907
9588490
183576819
52985695
13695712
124799642
19025380
241402337
57889227
65406869
129385813
69042827
1576635
44198397
26384142
19583733
655106
118143818
40175144
53588498
29780291

6920956
3234979
89067474
243649329
1574811
100750835
136199502
49277055
22069818
194063152
33354403
1956361
50318505
86995791
104628693
41122515
1493030
58566803
77362729
82045876
42805236
183493990
75372848
145607536
148480233
102277334
8875318
50661499
94516767
145895164
7147974
12174662
502552
42934500
44373190
55363590
13679214
40287102
124399154
71951803
35753205
111763399
101393295
62199258
93364910
71682280

17725744
1791956
6331427
57177663
1203558
31523720
10798255
72542960
49517215
24832885
56736652
81050220
47691729
119363071
36893856
57283974
90425672
121661688
30503727
25638407
78404394
54281212
71290557
36680376
128200720
146030084
191150856
90001561
35718191
8557871
59992426
5338900
113981251
147179769
34702884
30955122
6469895
124826676
14260075
45187308
86184442
42951036
44585591
39883987
897518
123681139

60598912
174410846
41087062
89656043
79914706
72999772
4287197
132956228
19596138
427782
32505613
51012814
95741647
60728953
58406749
2938265
2334259
129265545
62226857
29503557
113705141
2000129
27244129
42232916
123982970
92622010
106007285
308947
65415951
85517291
24301369
53885310
25691215
6465694
110343617
2214430
48844977
46195925
5175313
66602320
228472980
86267676
109933638
133169726
129534618
28063222

141846292
40459032
97543776
194077617
91775504
2871451
13430489
4854735
33128890
4857396
86369306
19408117
34711337
99058795
31121792
1841741
14482374
86280873
8219261
58300770
2131289
37578578
84872049
23742538
79224683
146068321
66099987
107745702
156189625
135341790
121407725
171356637
70837080
16504929
4165347
22896102
158896515
71332985
8019279
6715084
46892956
4697654
17657991
6471896
22116020
67618114

52837614
1071946
39622241
20749914
152077845
112505108
143545931
72110160
109973837
55104936
50231058
5075224
73001596
10398600
37265192
47653645
89897387
44152788
62417145
112899507
89896790
1168540
75528578
124089034
45249548
100684925
158319418
27491291
32528150
140653360
105249322
64774314
10102490
133420273
274107
46917064
175091697
139904754
180897569
77879657
1641550
55856850
126453648
103016782
10280165
100043086

90425672
46344569
65867128
44303189
154810845
12946689
11566772
45587004
54106545
91044069
148864851
17411845
45421742
11611732
178331204
57544713
39737866
32180470
3450637
291094
123046829
19573205
40238931
100402814
20855645
711711
18527092
57925285
24341072
74712951
99751599
24014551
7223662
14231242
14099081
180013583
33986662
130608855
159846583
101138965
70397475
47508572
143832768
132558689
151862660
50752566

5154846
61723377
56385579
16339715
151087988
25231279
39233975
15756328
79268260
23254214
44515804
87871580
143111464
21871891
120150195
24324808
2717620
743982
168185593
33583715
185037323
30334347
66998856
131245620
74879862
19978899
88619806
2829476
169039199
4094774
1497136
54198305
16692260
118659488
5683494
247582755
84695352
23441116
125299550
28765650
140233651
78114653
128671100
140238241
78971536
81928153

130529475
65852199
21324610
130342963
1001560
121088884
5744912
156293490
38042209
96508663
50105239
88779323
372156
1790861
1421739
100713754
40314967
35369244
75279846
154302293
3977531
74709973
73982269
42473603
85964886
54933103
11432290
18961797
103595564
30955476
7663229
35843322
18236885
102277204
83338891
194344842
98449155
50280105
80728029
123787320
74712951
8959545
43864935
35442519
29499634
25158222

43829064
165885356
64621469
75170673
119689587
102966001
56947979
17656840
61489557
33212945
5427651
8981896
46339178
23912711
100518917
4453814
263439
27702774
23645147
1485478
11094202
78534660
22943371
136778878
135389134
50721351
146387464
57249091
25803230
74294757
74009153
105923990
83338891
49701981
60004440
26440941
33097876
23155335
205549384
16727277
76198457
143795313
53537264
29457371
39835886
43165015

101654460
26924516
55869568
3018925
153648928
36590622
111207612
2601809
57274149
17899267
21727748
43946639
3761063
20111266
132423565
53534199
3466233
151527035
9783687
51567573
183363989
6600139
137007952
79482728
6180637
43923161
53665648
82108898
3660867
85812638
172274554
101106210
21035108
626237
41984584
1898937
72350966
105815572
8392394
10778992
1666807
140559639
8296629
77629328
183260073
195955761

45919499
11737881
49629845
8278123
49669421
3404316
68931611
31335686
737791
93833054
1219701
34466126
171675123
37159441
1483008
163768
138468444
131327896
69089846
25228296
31533965
222873966
99679700
6592474
86457243
18338734
68516247
136340458
82108898
3434261
31133655
123863938
64982462
45753891
39013521
115604657
45490426
24504697
21770371
59810619
107459731
20319385
62233645
24983263
35674138
89169651

45941327
22927142
4490302
95965927
206551978
40060205
136131436
204907738
148807225
44166374
21883429
104089420
77084652
25825573
77942603
57552264
67142112
71779902
45543675
3649499
29190137
152225031
39854307
6869494
12777971
121164388
185311568
74928845
126290561
122249609
53013356
51513353
145525404
6062988
100596464
154416933
99504127
18054691
92923939
114467409
33161834
16455051
54305731
46844086
3255741
73427047

111926896
43707726
57872957
70815636
16280872
50894847
12188481
49458652
105171845
20641660
125834605
958088
19656650
79261346

80885980,80885982,80885994,80885995,80885996,80886112,80886143
.2863173,42863204,42863209,42863215
3109457,158240238,158240243,158240257
1842465,101842576,101842581

3285328,138285407

Gene name	number of high covariance sites	chromosome
ANTXR2	42	chr4
RGS22	13	chr8
PTPRN2	9	chr7
ELFN1	7	chr7
ANKMY1	7	chr2
CDH4	6	chr20
SPATC1L	6	chr21
PRDM16	6	chr1
LRP8	6	chr1
LARP1B	6	chr4
MIR548F5	5	chr13
LMF1	5	chr16
NFATC1	5	chr18
MAB21L1	5	chr13
NBEA	5	chr13
CHFR	5	chr12
ZNF467	5	chr7
SORCS2	5	chr4
AES	4	chr19
WDSUB1	4	chr2
BAIAP2	4	chr17
GOLGA3	4	chr12
MACF1	4	chr1
LOC100130992	4	chr10
NFATC1	4	chr18
FAM50B	4	chr6
CSMD1	4	chr8
SYNGR1	4	chr22
ZIC5	4	chr13
KANK1	4	chr9
SLC12A5	4	chr20
PDXK	4	chr21
SHANK2	4	chr11
RBFOX1	4	chr16
FAM19A5	4	chr22
RPRD2	4	chr1
MEGF6	3	chr1
DOK6	3	chr18
SYNPR	3	chr3
RIMBP2	3	chr12
PEX14	3	chr1
CUX1	3	chr7
HDAC4	3	chr2
DLGAP2	3	chr8
UQCRH	3	chr1

CNOT1	3	chr16
ATP8B4	3	chr15
CACNA1H	3	chr16
LAMA5	3	chr20
SURF6	3	chr9
SSTR5	3	chr16
CDH4	3	chr20
CTBP2	3	chr10
KDM4B	3	chr19
NRG1	3	chr8
KIF26B	3	chr1
MICAL3	3	chr22
LOC441601	3	chr11
DEAF1	3	chr11
SHANK2	3	chr11
MAGIX	3	chrX
PGS1	3	chr17
EPPK1	3	chr8
FAM19A5	3	chr22
AP3M1	3	chr10
GOLGA3	3	chr12
GTF3C1	3	chr16
PRKCI	3	chr3
KCNQ2	3	chr20
CAPG	3	chr2
INPP5A	3	chr10
TPPP	3	chr5
IFT27	3	chr22
NLRP2	3	chr19
CABP1	2	chr12
WDR31	2	chr9
HIC1	2	chr17
TBC1D8	2	chr2
HSPA7	2	chr1
PITPNA	2	chr17
MRPL28	2	chr16
HIPK3	2	chr11
ABCC5	2	chr3
CARD11	2	chr7
HRAS	2	chr11
BCOR	2	chrX
ERLEC1	2	chr2
MYRF	2	chr11
FLJ12825	2	chr12
OSBPL5	2	chr11
NCOR2	2	chr12

CCT5	2	chr5
C20orf85	2	chr20
LPPR3	2	chr19
TSNARE1	2	chr8
DMD	2	chrX
FBXL18	2	chr7
TPCN2	2	chr11
PPP1R26	2	chr9
SH3BP2	2	chr4
14-Sep	2	chr7
PCSK6	2	chr15
FAM53A	2	chr4
TEX2	2	chr17
DNMT3B	2	chr20
KCTD13	2	chr16
ENOSF1	2	chr18
SYT14	2	chr1
COL6A1	2	chr21
AEN	2	chr15
MRPL54	2	chr19
MED29	2	chr19
MKLN1	2	chr7
INF2	2	chr14
CNTNAP3	2	chr9
IL1RAP	2	chr3
GAS7	2	chr17
ARNT2	2	chr15
SLC25A25	2	chr9
ADAMTS13	2	chr9
SORCS1	2	chr10
RMND1	2	chr6
ENPP6	2	chr4
MACROD2	2	chr20
SLC9A3	2	chr5
CUX1	2	chr7
CACNB2	2	chr10
TNRC18	2	chr7
CTSD	2	chr11
ZDHHC14	2	chr6
LOC286094	2	chr8
LONP1	2	chr19
ERICH1-AS1	2	chr8
INO80D	2	chr2
FSTL3	2	chr19
USP48	2	chr1
ZNF57	2	chr19

TXN2	2	chr22
SRP54	2	chr14
INO80	2	chr15
ANO9	2	chr11
VDR	2	chr12
CHMP2A	2	chr19
APBB2	2	chr4
ESR1	2	chr6
WDR86	2	chr7
MUC4	2	chr3
TSSC1	2	chr2
SDK2	2	chr17
PDE9A	2	chr21
IL32	2	chr16
ATG4B	2	chr2
XRN2	2	chr20
CDH4	2	chr20
PRDM15	2	chr21
CNOT1	2	chr16
MAD1L1	2	chr7
STIM1	2	chr11
PREX1	2	chr20
GREM1	2	chr15
VIPR2	2	chr7
ITPR3	2	chr6
KCNK17	2	chr6
UVSSA	2	chr4
GEMIN7	2	chr19
ATG7	2	chr3
OSBPL3	2	chr7
NACC2	2	chr9
IGF1	2	chr12
FANCC	2	chr9
MGMT	2	chr10
CBFA2T3	2	chr16
MOB2	2	chr11
LOC389332	2	chr5
PTPRG	2	chr3
HTR2C	2	chrX
KANK1	2	chr9
GLI3	2	chr7
EYA4	2	chr6
PRKCZ	2	chr1
GPC1	2	chr2
UGGT2	2	chr13
SENP5	2	chr3

DRD4	2	chr11
GPR75-ASB3	2	chr2
IQSEC1	2	chr3
APOBEC3H	2	chr22
MMP25	2	chr16
ANP32E	2	chr1
KLRD1	2	chr12
FTHL17	2	chrX
TBC1D22A	2	chr22
FTSJ1	2	chrX
PCCA	2	chr13
PIGG	2	chr4
TNS3	2	chr7
RERE	2	chr1
FLI1	2	chr11
KIAA1967	2	chr8
MCF2L	2	chr13
PHF21B	2	chr22
COL4A2	2	chr13
MACROD1	2	chr11
SMAP1	2	chr6
RARA	2	chr17
MYO7A	2	chr11
PTPRT	2	chr20
CDH18	2	chr5
STX8	2	chr17
GREB1	2	chr2
TGIF1	2	chr18
MIR5694	2	chr10
FAM213B	1	chr1
LOC100289019	1	chr9
PRKX	1	chrX
KDM6A	1	chrX
CCDC40	1	chr17
GDF10	1	chr10
COL23A1	1	chr5
RPS6KB1	1	chr17
RNPEP	1	chr1
ARRB2	1	chr17
KCNJ12	1	chr17
BIN3	1	chr8
MSN	1	chrX
CAMK1G	1	chr1
MEIS3P1	1	chr17
FZR1	1	chr19
HHAT	1	chr1

FXR1	1	chr3
RHOBTB3	1	chr5
RTEL1-TNFRSF1	1	chr20
UBAC1	1	chr9
MTRF1L	1	chr6
RAB3GAP1	1	chr2
LDB2	1	chr4
ZNF746	1	chr7
UNC5B	1	chr10
TNS1	1	chr2
ACAD9	1	chr3
MCPH1	1	chr8
DHTKD1	1	chr10
PDZD8	1	chr10
LPP	1	chr3
LTK	1	chr15
CLN6	1	chr15
KLHL22	1	chr22
BMP8A	1	chr1
LCP1	1	chr13
NAALADL2	1	chr3
IGSF11	1	chr3
DPP6	1	chr7
SLC6A18	1	chr5
PLEKHA6	1	chr1
TRPV3	1	chr17
DRAM1	1	chr12
RHBDL3	1	chr17
SH2B1	1	chr16
DDAH1	1	chr1
DZANK1	1	chr20
MMEL1	1	chr1
BCL2L14	1	chr12
CD163L1	1	chr12
DNMT3A	1	chr2
KLF12	1	chr13
PARD3	1	chr10
PI4K2B	1	chr4
ELOVL6	1	chr4
CTDP1	1	chr18
BSND	1	chr1
SFMBT1	1	chr3
NUDCD1	1	chr8
PNKD	1	chr2
FGF13	1	chrX
TUB	1	chr11

CHP1	1	chr15
SGCZ	1	chr8
HOXB1	1	chr17
UGT1A6	1	chr2
TBC1D16	1	chr17
ARRDC4	1	chr15
SMIM4	1	chr3
TMC4	1	chr19
RNF26	1	chr11
FGGY	1	chr1
CCDC109B	1	chr4
GPSM1	1	chr9
RPS6KA1	1	chr1
CCM2	1	chr7
PPIL6	1	chr6
TWSG1	1	chr18
CACNA2D1	1	chr7
MIDN	1	chr19
FLG	1	chr1
NTSR1	1	chr20
GLRA1	1	chr5
MYH10	1	chr17
ZNF529	1	chr19
NRXN3	1	chr14
FAM47E	1	chr4
BTBD2	1	chr19
EIF4A3	1	chr17
LHX3	1	chr9
CIB1	1	chr15
IL12RB1	1	chr19
RAB3IL1	1	chr11
HOXB-AS3	1	chr17
MKLN1	1	chr7
GATAD2A	1	chr19
IGF1R	1	chr15
KCNQ1	1	chr11
NR5A1	1	chr9
C16orf45	1	chr16
C9orf171	1	chr9
MSI2	1	chr17
ABCA1	1	chr9
LHPP	1	chr10
RRP7A	1	chr22
ZNF236	1	chr18
DKK3	1	chr11
TECR	1	chr19

PDE6C	1	chr10
FUT3	1	chr19
NECAB2	1	chr16
PGP	1	chr16
DDX3X	1	chrX
CADM2	1	chr3
LOC642852	1	chr21
MROH1	1	chr8
MSRA	1	chr8
ZNF708	1	chr19
ADARB2-AS1	1	chr10
PACRG	1	chr6
RNU6-19	1	chr12
KIRREL	1	chr1
BMF	1	chr15
KCNAB2	1	chr1
GABRD	1	chr1
FRRS1L	1	chr9
EYS	1	chr6
IFFO2	1	chr1
UGT1A5	1	chr2
ATP9A	1	chr20
BGN	1	chrX
FAM19A2	1	chr12
FOXO1	1	chr13
FILIP1	1	chr6
ATP6V1G2-DDX1	1	chr6
NKAIN2	1	chr6
LRP1B	1	chr2
CEP72	1	chr5
GRK1	1	chr13
TMED10	1	chr14
FLJ37505	1	chr12
ABR	1	chr17
STK39	1	chr2
KIAA1549L	1	chr11
SLC31A1	1	chr9
LOC285768	1	chr6
PFKFB3	1	chr10
RGS7	1	chr1
BANF2	1	chr20
LOC643339	1	chr12
WDR5	1	chr9
TMEM41B	1	chr11
PLIN4	1	chr19
MICAL3	1	chr22

ADAP1	1	chr7
NPRL3	1	chr16
FADS2	1	chr11
KLHL30	1	chr2
NTSR2	1	chr2
TMEM132C	1	chr12
NR1I2	1	chr3
RELL1	1	chr4
UGT1A7	1	chr2
OXTR	1	chr3
CHMP5	1	chr9
KIAA0586	1	chr14
GRM2	1	chr3
THSD7A	1	chr7
NWD1	1	chr19
KSR2	1	chr12
HIP1	1	chr7
ARHGEF10L	1	chr1
RYR1	1	chr19
MYO3A	1	chr10
CMC1	1	chr3
TCEAL2	1	chrX
TRIM27	1	chr6
CD244	1	chr1
TRAPPC11	1	chr4
INF2	1	chr14
LOC100133050	1	chr5
TSC22D1	1	chr13
SCG5	1	chr15
GLB1L3	1	chr11
LOC644936	1	chr5
HDAC9	1	chr7
LOC401109	1	chr3
NECAB1	1	chr8
CNTRL	1	chr9
MAGEB3	1	chrX
C1QL3	1	chr10
RPSA	1	chr3
GPR143	1	chrX
MAP2K5	1	chr15
ROBO2	1	chr3
RALGDS	1	chr9
DNMT1	1	chr19
HEATR4	1	chr14
TRAPPC6A	1	chr19
KIAA0226	1	chr3

FAM135B	1	chr8
SLC22A23	1	chr6
COPS4	1	chr4
PNPLA3	1	chr22
PDZD2	1	chr5
MUC5B	1	chr11
PARD6G	1	chr18
KIAA1217	1	chr10
SH2D3C	1	chr9
PCDHB15	1	chr5
SYT1	1	chr12
ATP13A2	1	chr1
ZNF787	1	chr19
TMC7	1	chr16
TENM2	1	chr5
TESC	1	chr12
SPECC1	1	chr17
CLEC18B	1	chr16
SH3PXD2A	1	chr10
ATG14	1	chr14
KDEL3	1	chr22
PIGN	1	chr18
HPN	1	chr19
ARSG	1	chr17
TBCE	1	chr1
GCH1	1	chr14
DYSF	1	chr2
MYO10	1	chr5
DGKE	1	chr17
RNF149	1	chr2
PRKCA	1	chr17
DNAH17	1	chr17
KCNN3	1	chr1
CD38	1	chr4
ELMO1	1	chr7
SF3B3	1	chr16
EVI5L	1	chr19
JAKMIP1	1	chr4
APBA2	1	chr15
CACNA1D	1	chr3
HOXD10	1	chr2
GALNT9	1	chr12
PLEKHN1	1	chr1
TMEM8B	1	chr9
CPA3	1	chr3
TLX3	1	chr5

AKR1E2	1	chr10
KIFC2	1	chr8
SDCCAG8	1	chr1
EEF1E1-MUTEC1	1	chr6
LRP2	1	chr2
AIG1	1	chr6
PTGES	1	chr9
UNC5D	1	chr8
FAM115A	1	chr7
ZBTB11	1	chr3
CDK11B	1	chr1
SLC29A1	1	chr6
AGAP1	1	chr2
MRTO4	1	chr1
ALS2CR11	1	chr2
PHIP	1	chr6
LONRF3	1	chrX
ZNF738	1	chr19
SLC24A3	1	chr20
MYO9B	1	chr19
RAP1GAP2	1	chr17
CASZ1	1	chr1
CACNA1I	1	chr22
LOC100286922	1	chr2
CPN2	1	chr3
SLC7A9	1	chr19
SENP6	1	chr6
STEAP3	1	chr2
STMN3	1	chr20
CBFA2T3	1	chr16
MAPK8IP1	1	chr11
FAM219A	1	chr9
THOC5	1	chr22
GLI2	1	chr2
SLC14A2	1	chr18
ACTR1A	1	chr10
EGFLAM	1	chr5
KDM4C	1	chr9
RPL23AP53	1	chr8
CACNA1B	1	chr9
PRR5	1	chr22
GSE1	1	chr16
NGEF	1	chr2
MEF2BNB	1	chr19
CUBN	1	chr10
DGKD	1	chr2

MYT1L	1	chr2
FAM189A2	1	chr9
HYLS1	1	chr11
DMRT2	1	chr9
ACACB	1	chr12
PDE3A	1	chr12
PRKAR1B	1	chr7
C7orf50	1	chr7
SORBS2	1	chr4
FRMD4A	1	chr10
KREMEN1	1	chr22
GPR123	1	chr10
GRIK4	1	chr11
TBATA	1	chr10
LARGE	1	chr22
FSTL4	1	chr5
TRIM71	1	chr3
MAEA	1	chr4
WDR93	1	chr15
CPXM2	1	chr10
ZFP82	1	chr19
ACOT7	1	chr1
DOC2B	1	chr17
ITPK1	1	chr14
LOC643542	1	chr18
DTNB	1	chr2
ISY1-RAB43	1	chr3
PGBD5	1	chr1
ZNF500	1	chr16
C15orf55	1	chr15
ARAP1	1	chr11
SCRIB	1	chr8
ADD1	1	chr4
TSPAN11	1	chr12
PSD2	1	chr5
STK32B	1	chr4
KHSRP	1	chr19
CREBL2	1	chr12
SH2B2	1	chr7
CDH22	1	chr20
NACAD	1	chr7
OPA3	1	chr19
TMEM72-AS1	1	chr10
LOC100128675	1	chr19
BAZ1A	1	chr14
CLPTM1L	1	chr5

WDR11-AS1	1	chr10
CNTNAP5	1	chr2
SLC2A13	1	chr12
CYTH4	1	chr22
PI4KA	1	chr22
TM7SF3	1	chr12
PGAP2	1	chr11
CDR2L	1	chr17
MYO1F	1	chr19
ITIH5	1	chr10
PCGF3	1	chr4
AKR7L	1	chr1
KCNT1	1	chr9
BRSK2	1	chr11
SLC1A6	1	chr19
MEF2D	1	chr1
WDR27	1	chr6
ZNF664-FAM10	1	chr12
PFKL	1	chr21
PHACTR3	1	chr20
ACTRT2	1	chr1
TRDMT1	1	chr10
CECR6	1	chr22
TAOK1	1	chr17
ATP6V0A2	1	chr12
PLLP	1	chr16
COA1	1	chr7
NFAT5	1	chr16
CXCL14	1	chr5
MCAT	1	chr22
TSPEAR	1	chr21
FAR1	1	chr11
PPP5D1	1	chr19
SERPINF2	1	chr17
VPS26A	1	chr10
GPR144	1	chr9
TP53I3	1	chr2
DCDC2	1	chr6
NUBP2	1	chr16
PCSK6	1	chr15
LSAMP	1	chr3
ADAMTS20	1	chr12
TMEM201	1	chr1
FBRSL1	1	chr12
PMEPA1	1	chr20
FLJ39080	1	chr8

COL25A1	1	chr4
BFSP2	1	chr3
ABCC1	1	chr16
MRGPRX2	1	chr11
CYB5A	1	chr18
RUNX1	1	chr21
LRRC15	1	chr3
PHF17	1	chr4
RNF130	1	chr5
TMC5	1	chr16
TACC3	1	chr4
RADIL	1	chr7
XG	1	chrX
BDH1	1	chr3
IFNAR1	1	chr21
GTF2IRD1P1	1	chr7
PDE6B	1	chr4
RAPGEF3	1	chr12
STK40	1	chr1
COLEC11	1	chr2
UGT1A3	1	chr2
MORC2-AS1	1	chr22
EIF2AK1	1	chr7
METTL8	1	chr2
NCKAP5	1	chr2
MIR548AI	1	chr14
GOLGB1	1	chr3
JAK3	1	chr19
JARID2	1	chr6
MCHR2	1	chr6
OBP2A	1	chr9
NBPF9	1	chr1
RPUSD1	1	chr16
CYFIP1	1	chr15
RTEL1	1	chr20
CDH13	1	chr16
CAND2	1	chr3
ADARB2	1	chr10
TBC1D20	1	chr20
METAP1D	1	chr2
HCN1	1	chr5
USP13	1	chr3
RXRA	1	chr9
HIBCH	1	chr2
LOC100009676	1	chr3
CNRIP1	1	chr2

HRNR	1	chr1
PXDN	1	chr2
LAMA4	1	chr6
GMDS	1	chr6
RBM47	1	chr4
TNFRSF9	1	chr1
NUP210	1	chr3
GDPD4	1	chr11
SVIL	1	chr10
ZFH3	1	chr16
SSX6	1	chrX
UGT1A8	1	chr2
BAI1	1	chr8
CMPK1	1	chr1
SIX2	1	chr2
PHACTR4	1	chr1
WNK2	1	chr9
ZNF385B	1	chr2
GRIK2	1	chr6
LOC100507489	1	chr6
FGF2	1	chr4
FECH	1	chr18
DDX39B	1	chr6
YIPF4	1	chr2
ACYP1	1	chr14
RSBN1L-AS1	1	chr7
CDHR2	1	chr5
PTCHD2	1	chr1
AKT1	1	chr14
MAGI1	1	chr3
UGT1A4	1	chr2
MIR548AN	1	chr13
FLNC	1	chr7
IRF4	1	chr6
RET	1	chr10
SLC39A11	1	chr17
LRRTM4	1	chr2
BEND2	1	chrX
CTNND2	1	chr5
LINC00290	1	chr4
RBM20	1	chr10
UBR3	1	chr2
KIAA1211L	1	chr2
CDRT1	1	chr17
SLC6A19	1	chr5
OPCML	1	chr11

EBF4	1	chr20
FGFR4	1	chr5
ZNF550	1	chr19
DOCK4	1	chr7
LIN54	1	chr4
NXN	1	chr17
EIF4G3	1	chr1
TMEM104	1	chr17
CDK16	1	chrX
LPIN1	1	chr2
ARHGEF18	1	chr19
AGPS	1	chr2
LSM12	1	chr17
ZFYVE1	1	chr14
CAMK1D	1	chr10
LHX9	1	chr1
VPS54	1	chr2
SKI	1	chr1
CHST8	1	chr19
EML1	1	chr14
NELFB	1	chr9
MMAB	1	chr12
THRB	1	chr3
EXD1	1	chr15
BLOC1S5-TXNC1	1	chr6
ALDH3B2	1	chr11
ANAPC2	1	chr9
RIN2	1	chr20
PI4KAP1	1	chr22
RNU6-71	1	chr6
FOXE1	1	chr9
CAPN2	1	chr1
WISP1	1	chr8
KLHDC4	1	chr16
FAM179A	1	chr2
IGF2BP2	1	chr3
EP400	1	chr12
BAIAP2L2	1	chr22
EHMT1	1	chr9
USP8	1	chr15
CELF4	1	chr18
LOC440704	1	chr1
TMEM249	1	chr8
SARS2	1	chr19
MAGEA4	1	chrX
LPHN1	1	chr19

COL6A2	1	chr21
DDX1	1	chr2
PLA2G4E	1	chr15
CDH8	1	chr16
SLC12A3	1	chr16
RASA3	1	chr13
CRLF1	1	chr19
SLC27A1	1	chr19
ZNF275	1	chrX
DIAPH2	1	chrX
KIAA0556	1	chr16
LOC100133612	1	chr1
PCDHB14	1	chr5
CCND3	1	chr6
TSPO	1	chr22
NAGPA-AS1	1	chr16
CLCN4	1	chrX
SCAMP4	1	chr19
LOC283177	1	chr11
SH3BP2	1	chr4
ZCCHC10	1	chr5
MIR548AO	1	chr5
MGAT4C	1	chr12
KIF1A	1	chr2
XKR6	1	chr8
ATXN1	1	chr6
DDX6	1	chr11
FAM46C	1	chr1
LOC440970	1	chr3
LARS	1	chr5
EML2	1	chr19
SBSN	1	chr19
PRKD1	1	chr14
GLDC	1	chr9
PIH1D3	1	chrX
CTNNA2	1	chr2
TBC1D14	1	chr4
C14orf159	1	chr14
SMPD3	1	chr16
HHIPL2	1	chr1
TRIM36	1	chr5
ATMIN	1	chr16
AUTS2	1	chr7
RBFOX1	1	chr16
CHODL	1	chr21
KCNMB2	1	chr3

NOS1	1	chr12
SLC24A4	1	chr14
TRIM43B	1	chr2
RNF165	1	chr18
ERC1	1	chr12
APAF1	1	chr12
RTL1	1	chr14
RAB40C	1	chr16
NKX6-2	1	chr10
NAV2	1	chr11
SERPINH1	1	chr11
REXO1	1	chr19
FBXW8	1	chr12
SLC29A4	1	chr7
TNFRSF8	1	chr1
CACNA1A	1	chr19
BLOC1S5	1	chr6
LOC285441	1	chr4
PACSIN2	1	chr22
RNF10	1	chr12
LOC100271702	1	chr12
GALNT7	1	chr4
BAI3	1	chr6
HIVEP2	1	chr6
ZNF138	1	chr7
SORCS3	1	chr10
UGT1A9	1	chr2
CHTF18	1	chr16
HOXB6	1	chr17
MUM1	1	chr19
ZFPM2	1	chr8
ZNFX1	1	chr20
CARD9	1	chr9
SMAD6	1	chr15
ASCL3	1	chr11
RNU6-81	1	chr2
CDKL2	1	chr4
ANGPT2	1	chr8
UBASH3B	1	chr11
JMJD1C	1	chr10
DNAJC5G	1	chr2
SLC7A5	1	chr16
TYW1	1	chr7
POLA2	1	chr11
CAB39L	1	chr13
TRPC6	1	chr11

KRTAP10-2	1	chr21
EGFEM1P	1	chr3
RAB43	1	chr3
ASB13	1	chr10
AGRN	1	chr1
PLXDC1	1	chr17
HK1	1	chr10
ROR2	1	chr9
TMEM181	1	chr6
BCL11A	1	chr2
EXOC3	1	chr5
MCM6	1	chr2
VASH1	1	chr14
PRKAG2	1	chr7
TNN	1	chr1
DACH2	1	chrX
FSTL5	1	chr4
AFMID	1	chr17
RGS3	1	chr9
EFCC1	1	chr3
PODN	1	chr1
APOBEC3F	1	chr22
C2orf83	1	chr2
TCEAL6	1	chrX
KIAA1210	1	chrX
SLC12A7	1	chr5
RAB20	1	chr13
FCHO1	1	chr19
SPAST	1	chr2
MCF2L	1	chr13
CRAT	1	chr9
KIAA1671	1	chr22
GSG1	1	chr12
SLIT1	1	chr10
TOPAZ1	1	chr3
SIPA1L3	1	chr19
KCNMA1	1	chr10
NKAIN4	1	chr20
KAT8	1	chr16
PPIL4	1	chr6
ANHX	1	chr12
ANO7	1	chr2
KANSL1	1	chr17
PTPN9	1	chr15
SCFD2	1	chr4
CTBP2	1	chr10

TNPO3	1	chr7
INPP5D	1	chr2
WDR37	1	chr10
LMNB2	1	chr19
PARK2	1	chr6
SEZ6L2	1	chr16
BRAT1	1	chr7
SYTL3	1	chr6
ESR1	1	chr6
GAS7	1	chr17
GLTPD1	1	chr1
MAP3K12	1	chr12
TBL1XR1	1	chr3
PPFIA3	1	chr19
AGBL4	1	chr1
WDR7	1	chr18
NEU4	1	chr2
KCND3	1	chr1
NFIC	1	chr19
FAM19A4	1	chr3
WDR24	1	chr16
LONRF2	1	chr2
CD33	1	chr19
SYT6	1	chr1
RIBC2	1	chr22
SPSB1	1	chr1
RTN4R	1	chr22
LRRC43	1	chr12
AFAP1	1	chr4
KLHL29	1	chr2
ERGIC1	1	chr5
LCT	1	chr2
HTT	1	chr4
TMF1	1	chr3
SGSM1	1	chr22
PLA2G3	1	chr22
ZNF710	1	chr15
SLC9C1	1	chr3
ZNF454	1	chr5
STARD4-AS1	1	chr5
VPS53	1	chr17
LOC389634	1	chr12
APOC1	1	chr19
TENM1	1	chrX
CEP112	1	chr17
PARVB	1	chr22

EPHB6	1	chr7
C1orf151-NBL1	1	chr1
PLEC	1	chr8
DHX37	1	chr12
NALCN-AS1	1	chr13
POU4F2	1	chr4
EPB41	1	chr1
DGKQ	1	chr4
FLRT1	1	chr11
C14orf169	1	chr14
PPARD	1	chr6
GAK	1	chr4
MAP2K7	1	chr19
SGK1	1	chr6
PRR24	1	chr19
TUBA8	1	chr22
HS3ST4	1	chr16
CUL4A	1	chr13
MIR5009	1	chr21
PBRM1	1	chr3
C15orf27	1	chr15
QSOX2	1	chr9
CCL25	1	chr19
TP53I13	1	chr17
MEF2BNB-MEF2B	1	chr19
SMPD4	1	chr2
NFASC	1	chr1
RGS10	1	chr10
PARD6G-AS1	1	chr18
MLLT10	1	chr10
WDR1	1	chr4
LANCL2	1	chr7
SEZ6L	1	chr22
DAPK1	1	chr9
DENND6A	1	chr3
PLXNC1	1	chr12
KLHL26	1	chr19
NKX6-1	1	chr4
OPRD1	1	chr1
BRI3	1	chr7
ZNF493	1	chr19
SNX24	1	chr5
MDGA1	1	chr6
UGT1A10	1	chr2
CT49	1	chr5
MYBBP1A	1	chr17

TFAP4	1	chr16
GNG7	1	chr19
PPFIA1	1	chr11
ADAMTS16	1	chr5
ARVCF	1	chr22
ILF3	1	chr19
RDH13	1	chr19
COL9A3	1	chr20
MYCBPAP	1	chr17
SCML4	1	chr6
NAPA	1	chr19
CRISPLD2	1	chr16
NR2F1	1	chr5
LY86-AS1	1	chr6
RAB35	1	chr12
PIP5K1C	1	chr19
DPP10	1	chr2
FAM20B	1	chr1
KIAA1751	1	chr1
GPC6	1	chr13
RPS6KA2	1	chr6
CARD14	1	chr17
TMEM182	1	chr2
PALLD	1	chr4
GALK2	1	chr15
CD9	1	chr12
ZNF565	1	chr19
ZMAT3	1	chr3
INADL	1	chr1
ZNF154	1	chr19
SLC7A7	1	chr14
LINGO2	1	chr9

site locations

80885897,80885901,80885910,80885924,80885930,80885933,80885952,80885
101118167,101118178,101118180,101118182,101118205,101118216,1011182
157454478,157568353,157594746,157605618,157606110,157793222,1578911
1784819,1786170,1786179,1786181,1786188,1786193,1786217
241497322,241497366,241497368,241497374,241497379,241497398,2414974
59872365,59897399,60055530,60097932,60422230,60432232
47581364,47581388,47581391,47581412,47581540,47581702
3032863,3032879,3032930,3032939,3128448,3239848
53742676,53742679,53742681,53742700,53742736,53742740
128987146,128987362,128987417,128987424,128987921,129018407
36049571,36049594,36049601,36049604,36049618
952281,963102,963335,968450,1012567
77202644,77202645,77220878,77221799,77246977
36049571,36049594,36049601,36049604,36049618
36049571,36049594,36049601,36049604,36049618
133420273,133428241,133452074,133453540,133456221
149462706,149462746,149462752,149462786,149462789
7203405,7306844,7351443,7430418,7738401
3053365,3053685,3053761,3053762
160102680,160102724,160102725,160102738
79034649,79042974,79063592,79069122
133351029,133365918,133366240,133373503
39577117,39577199,39591536,39683297
22541902,22541912,22541914,22541971
77202644,77202645,77220878,77221799
3850388,3850447,3850457,3850459
3350740,3620826,4501349,4656635
39753991,39753998,39754000,39754031
100621403,100621408,100621410,100621419
580997,655106,736017,736018
44686590,44686616,44686619,44686635
45142779,45160148,45160245,45172377
70391024,70425842,70425843,70566956
6070771,6507637,6769736,7660583
48931592,49057277,49062539,49062544
150375271,150410977,150423966,150423967
3417741,3417752,3457896
67361019,67361021,67361089
63269640,63269641,63328784
130918993,130935502,130968527
10612073,10631814,10640437
101771662,101892327,101902605
240156784,240295801,240295802
1498403,1505775,1586353
46771281,46771285,46771293

58560322,58610256,58610257
50239356,50239403,50239404
1227719,1252231,1270066
60926221,60930091,60938308
136199464,136199465,136199502
1129439,1129485,1129502
60097932,60422230,60432232
126715435,126719831,126719832
4977744,5055995,5142816
31505899,31548860,32315683
245381025,245393901,245715849
18271709,18273461,18459859
50256539,50256869,50257380
649485,658048,686712
70391024,70425842,70425843
49022886,49022891,49022902
76400505,76400506,76414300
144941419,144946817,144946818
49057277,49062539,49062544
75880423,75893632,75893633
133365918,133366240,133373503
27491291,27491302,27491336
169971406,170010554,170010624
62037967,62049177,62056325
85640626,85640697,85640725
134372679,134372680,134550099
664082,664322,674370
37159436,37159441,37159532
55484293,55494187,55495378
121088368,121088884
116086817,116086818
1962190,1962202
101654460,101761168
161575967,161575972
1443154,1457243
419921,419974
33304906,33304907
183713815,183713816
3000633,3062322
533035,533036
39922108,39933047
54036817,54036818
61547236,61547237
54500231,54500278
3163652,3172913
124826676,124995813

10253162,10253312
56732799,56733571
812583,812601
143382143,143396060
31912609,32094716
5541655,5544317
68821860,68853503
138377842,138377899
2814581,2829476
55874300,55874316
101915394,101924539
1645478,1663210
62233645,62243646
31353414,31353415
29921210,29921211
696500,696502
210152514,210152515
47407117,47407143
89169651,89169652
3767264,3767265
39883987,39885497
130982824,131077590
105170221,105171845
39120436,39120591
190352746,190352783
9855868,9944081
80728029,80855968
130842141,130845150
136308542,136310653
108370663,108566049
151731479,151771262
185037248,185037323
14759025,14827364
508293,508326
101771662,101892327
18565703,18565704
5355940,5361230
1777815,1778321
157932677,157938466
136271554,136271612
5696960,5718258
1042396,1081678
206904061,206911227
681359,681387
22100962,22100963
2903751,2903798

36869012,36869013
35471352,35471353
41400561,41400562
433904,433963
48257325,48257326
59064634,59064635
41051019,41087062
152077845,152343843
151078775,151078803
195535322,195535323
3216288,3268254
71371473,71499318
44152488,44152788
3116362,3116369
242610500,242612753
21301178,21330991
60422230,60432232
43240355,43242321
58610256,58610257
2115162,2190452
3936650,3982840
47325314,47364384
33021466,33021467
158863757,158896515
33601000,33655575
39271537,39271538
1354210,1374695
45584540,45587004
11421381,11421402
24964457,24964485
138905214,138974091
102813414,102813430
97979532,97979533
131323099,131323100
88953887,89038729
1777815,1778321
135528434,135528458
61615095,61712593
113960177,114019091
736017,736018
42069535,42171978
133601687,133601824
2041154,2048727
241387018,241403232
96580854,96681180
196596234,196634118

639565,639567
54036817,54036818
12946689,12956530
39496742,39496901
3101637,3102462
150194484,150202102
10465362,10465363
31090100,31090165
47508572,47557636
48339984,48339985
101001357,101106210
524881,531139
47469946,47469947
8421091,8421092
128611281,128611282
22471822,22471823
113648526,113743501
45339200,45339208
111039356,111134778
63824364,63885704
71505659,71505660
38467437,38467458
76862024,76862025
41042717,41230552
19573547,19654863
9449975,9449983
11759159,11771786
3428523,3434261
122527475,122687143
2522391
130874245
3621933
44770845
78067456
48426798
177808674
57986974
201953292
4622638
21288836
22479988
64904550
209785204
15690181
3533273
210841736

180638489
95088562
62301969
138831135
153311755
135863142
16624957
149190403
73032162
218802990
128619357
6365738
12156554
119126778
188219351
41804694
68514554
20816424
39983305
46711447
175269483
118844761
154150241
1244986
204219848
3451152
102277334
30646215
28877304
85932799
18384675
2522391
12225207
7593382
25551130
74509345
35084200
25248474
111114534
77513463
55464790
53000104
110343617
219186591
138136474
8088757

41570301
14661018
46607884
234663653
77943467
98504130
52573842
54671495
119206373
59938978
110600567
139251480
26899124
45068112
109717108
9386027
81802933
1255252
152276670
61340967
151291266
8505453
37035922
79135938
77155930
1987279
78114653
139091549
90776152
18183527
61670036
46674458
131077590
19606632
99206152
2495420
127255455
15584827
135393863
55521935
107677481
126225822
42910374
74574323
11988839
14663376

95375286
5847195
84030844
2261683
41200425
85593453
46712803
145252482
10278677
21474934
1590616
163501131
12052231
158062337
40391964
6132067
1956361
111926896
64908195
19259429
234663653
50288630
152770461
62541379
41217203
76160100
31502766
124902355
142341584
640726
114436081
75639854
128375623
935299
168992803
33679850
116011925
1046952
6208011
241350118
17686898
93432444
137005022
9311701
4512512
18459859

944190
139365
61609749
239059723
11809894
128853053
119533732
37646283
234663653
8798585
33269800
58914418
51749946
11804002
16843835
118169150
75240909
18006002
39071020
26495150
28296877
101380947
28882096
160829889
184631918
105170221
99715564
45041118
32980924
134162865
79596274
18531432
195877923
91887876
123926393
30250321
16561939
39450360
9733598
67883998
77161486
135991193
10247268
73958867
45671321
197403563

139164569
3396490
83977812
44340903
31826929
1271429
77918010
24516752
130532879
140625879
79744327
17313341
56621183
19041180
167011860
117491923
20065618
74444360
105584366
55874093
38868219
59803822
35556122
66354791
235600208
55363590
71797711
16679913
54933103
101894221
64479342
76507053
154795208
15779999
37463048
70570289
7920582
6073246
29409676
53769479
176982491
132862851
908413
35846606
148595111
170738824

4887813
145693366
243651458
8053059
170105268
143608582
132514863
35094602
143579725
101393295
1576635
44198397
236679058
19583733
202420997
79701971
118143818
21543403
19222060
17283402
2886201
10828178
40043664
234663653
194063152
33354403
76382861
120012170
62278385
88953887
45923465
34400580
29942708
121634009
43054466
104255284
38462094
7147974
179657
140963179
45092954
85681867
233770144
19289673
17032374
234375976

1845361
71951803
125754229
1053495
109637186
20704570
752407
1044953
186697926
13987404
29544164
134912150
120833072
72542960
34060801
132905627
32906450
1316894
90241316
125593092
36893856
6410580
14982
93568151
65358898
25638407
128828168
230552128
4811178
34646987
72396988
144890967
2928995
31133655
139196702
5167650
6417884
12771409
101944107
44831287
45122722
46069034
45406290
35556122
35302603
1331692

122527475
124955295
40171283
37705562
21196897
27138950
3838571
72999772
8631151
7668224
741746
19596138
138597287
1435516
15081665
156448424
170060146
124590414
45731671
58406749
2938265
17239947
17600984
27867867
124204400
57312685
43744893
69662907
134914208
43529312
45970330
13695712
47044588
1655489
70910031
127215342
24306494
24301369
1839022
101924539
115928020
43944909
9670833
133118219
56245312
75525880

109933638
133169726
16162480
19077804
71957050
36321330
194077617
129743452
179395326
19460424
1739976
4857396
2726162
197237872
34711337
66289040
649876
48145152
36810010
3648757
234663653
31318743
6094700
172265745
134024284
30119568
121407725
17952196
15497829
100439409
138438940
144615192
835298
22896102
62301969
83552044
12861606
1590616
432779
172901511
45281775
179390381
137225217
191150856
101397085
68531801

152187892
1681482
112505108
1708771
40502160
7977280
13367405
76960225
29780291
73001596
47973422
234663653
143593366
47828187
45233666
28756657
95960469
180565555
101891915
143312216
123787320
55235380
31502766
32516377
75528578
77315620
176011887
11579853
105249322
65775060
234663653
100043086
128478103
392482
43599793
70738075
77714227
18238325
11739486
182008236
112417008
170698346
99414823
15501131
1213197
132869536

2686745
176522651
58060536
111565937
83896149
743982
21501749
72784649
47086345
11875366
7503844
178331204
42127570
73477261
12584996
197887473
64203245
2214430
34188708
100402814
140160085
109996343
24245237
41521834
8053059
67438801
140080581
19957998
20394006
56142049
100617711
223900800
134230643
87773917
29274749
185449846
132558689
38504041
140589218
50752566
34854425
190675884
145577616
39406440
151087988
14293718

47546772
15756328
42326258
61774056
56926792
114880842
18706287
17592756
152613111
96798784
27598105
3821214
140605205
41987787
43548216
5089389
10132822
1917127
134341896
2829476
132340053
92923996
86995793
241674447
10910862
16692260
118659488
118168565
84695352
145555123
46138998
36018946
30119568
6624973
106481008
79914920
6971604
91609532
68445055
222704637
114511548
81071332
70189666
7660583
19617335
178294555

117768693
92857051
96149356
43963879
1421739
99112078
101349763
678430
134598558
19882060
75279846
1832316
117465712
5338900
12176256
13371413
8053059
187246888
43274720
120987390
2042550
174136997
69832026
143106261
64285783
106402969
234663653
841965
46674458
1370842
106500939
47871727
139262145
67021945
8959545
132222754
76533216
6365738
122543129
65110530
27501505
87871580
66479905
65040435
49947050
101363172

45970330
168208448
128828168
5683649
976737
37265145
71156732
94524476
159045292
60688991
449985
136632902
77241391
151390749
175075817
85597733
162554591
76198457
116322930
128750410
53537264
39449294
228491315
101397198
118215070
1103036
111207612
17899267
32297484
113743501
131863236
25448652
13252806
98758840
44283537
38627237
79088889
61876049
31132332
149846961
133812284
242149071
44196828
75778309
54198305
126715435

128671100
233938242
1151618
2448661
161834256
29896389
2580913
159180009
152343843
9855868
1262966
53885310
176889359
49629845
49540020
54333582
242754586
112525024
3404316
68931611
737791
100937114
51728550
114654852
45826878
9414430
20248390
122675333
7812672
23773445
172313210
136575019
3234979
69089846
25228296
31533965
90608557
111903460
178383952
110867863
509519
8541630
45421742
123857691
63904583
44540398

142561892
19964097
145004544
125455371
101608210
147560155
29310431
960712
63885704
73958867
35391786
844034
7969900
134627284
47778710
18594073
26031806
113906308
28720328
52666865
76496231
139101706
8124738
27899780
19289673
130937931
204907738
121301386
77918010
21883429
10081200
55494626
26604021
90143574
57677894
94620569
18778690
85417969
29190137
97912126
21582213
122249255
37606303
234663653
12722281
4444163

4314529
2666007
70218705
5232871
19958667
10787582
55558596
61471745
48589244
108099312
48007096
84903207
92923996
6468440
120538685
3656067
115594262
179005079
1887243
94955326
166938187
78164070
103398554
169424570
49458652
6331427
36680376
178750202
62624261
58220445
23254214
29110581

i953,80885978,80885979,80885980,80885981,80885982,80885983,80885994,808859
32,101118235,101118240,101118243,101118246,101118248,101118250
32,158281485,158349807

04

395,80885996,80885997,80885999,80886002,80886004,80886023,80886035,808860:

38,80886059,80886063,80886070,80886077,80886088,80886098,80886100,8088610

12,80886112,80886114,80886126,80886130,80886131,80886142,80886143,80886146

3,80886147,80886227

Gene name	number of high covariance sites	chromosome
SORCS2	4	chr4
PRKAG2	1	chr7
SNTG2	1	chr2
SLC6A5	1	chr11
PHOSPHO2-KLHL23	1	chr2
DPP6	1	chr7
GOLGA8A	2	chr15
CCDC113	4	chr16
RPS6KB1	1	chr17
TMEM201	1	chr1
NAGPA	1	chr16
PEX14	2	chr1
PLCL1	1	chr2
WDR31	2	chr9
MLXIP	2	chr12
TMCO3	1	chr13
ZFR2	1	chr19
WARS2	1	chr1
GSTM3	1	chr1
FUT10	1	chr8
FAM19A5	3	chr22
SMURF1	1	chr7
NCKAP5	1	chr2
SLC25A37	1	chr8
CAMK1D	1	chr10
SPNS2	1	chr17
DLEU7	1	chr13
RBM25	1	chr14
GPR123	1	chr10
NEBL	1	chr10
DAPK1	1	chr9
USH2A	1	chr1
GNB1L	2	chr22
LAMC3	1	chr9
ZNF236	1	chr18
SOLH	1	chr16
FES	1	chr15
PAPLN	2	chr14
TRAF3IP2	1	chr6
NEK6	1	chr9
LAPTM4B	1	chr8
CLIP2	1	chr7

ERLEC1	2	chr2
PPAT	1	chr4
TMC6	1	chr17
SIRT1	1	chr10
LDB3	1	chr10
PCSK2	1	chr20
HID1	1	chr17
CCDC146	1	chr7
PARD3	1	chr10
KIF26B	1	chr1
MINK1	1	chr17
FAM58A	1	chrX
VIPR1	1	chr3
SPI1	1	chr11
SFMBT1	1	chr3
APCDD1L-AS1	3	chr20
FRMD5	1	chr15
LARGE	2	chr22
OCLN	1	chr5
MACROD1	2	chr11
LEPREL1	1	chr3
CRISPLD2	2	chr16
C18orf25	1	chr18
LOXL2	1	chr8
SHB	1	chr9
TBC1D16	1	chr17
KATNB1	1	chr16
AMZ1	2	chr7
LOC642846	1	chr12
CACNA1H	1	chr16
FGGY	1	chr1
RPS6KA1	1	chr1
CAMK2B	1	chr7
CCM2	1	chr7
ZBTB46	2	chr20
ZNF385B	1	chr2
SMAD3	1	chr15
BCAR3	1	chr1
C9orf135	1	chr9
TTLL1	1	chr22
ZNF529	1	chr19
DUSP13	1	chr10
CACNA1I	2	chr22

SNX25	1	chr4
ENTPD6	2	chr20
NNT	1	chr5
B4GALT1	2	chr9
MAN2A2	1	chr15
ACSF3	1	chr16
SLC22A11	1	chr11
MSI2	1	chr17
GPR107	1	chr9
ZDHHC14	1	chr6
LHPP	1	chr10
RRP7A	1	chr22
TGFBR2	1	chr3
RASL12	1	chr15
PDE6C	1	chr10
FILIP1	1	chr6
WNT4	1	chr1
PTK7	1	chr6
RPTOR	2	chr17
FLG	2	chr1
MSRA	1	chr8
KSR2	1	chr12
SOX5	1	chr12
FAN1	1	chr15
COL5A3	1	chr19
FAM213B	1	chr1
ACACB	1	chr12
MRPS35	1	chr12
KAZN	1	chr1
SEZ6L2	1	chr16
TMED10	1	chr14
PKD1L2	1	chr16
MOB2	1	chr11
BDP1	1	chr5
SRCAP	1	chr16
MTMR14	1	chr3
RBL1	2	chr20
WSB2	1	chr12
ITPKB	1	chr1
TP73	1	chr1
TBL1X	1	chrX
TONSL	3	chr8
DNAH8	2	chr6

CDH12	1	chr5
ZMYM5	1	chr13
DNMT1	1	chr19
KIAA0586	1	chr14
PPP1R26	1	chr9
SMARCC1	1	chr3
PIK3C2B	1	chr1
SLC7A9	1	chr19
AXDND1	1	chr1
GRAMD1A	1	chr19
CUEDC1	1	chr17
RBFOX1	1	chr16
SIPA1L3	1	chr19
ZNF467	4	chr7
NGEF	1	chr2
MMEL1	1	chr1
GLB1L3	1	chr11
PACRG-AS1	1	chr6
FIBCD1	4	chr9
LRPAP1	1	chr4
CHD9	1	chr16
ST3GAL3	1	chr1
TBC1D20	1	chr20
SBNO1	1	chr12
RBFOX1	3	chr16
SLC6A12	2	chr12
TSHZ2	1	chr20
C14orf166B	1	chr14
COPS4	1	chr4
GALNT9	1	chr12
TRAF3	1	chr14
PTN	1	chr7
ERMAP	1	chr1
TBC1D22A	3	chr22
LRRTM4	1	chr2
CHID1	1	chr11
KIF16B	1	chr20
IL17RE	1	chr3
SAFB2	1	chr19
PRDM6	1	chr5
ITSN1	2	chr21
AK5	1	chr1
GALM	1	chr2

AGPAT4	1	chr6
ATG14	1	chr14
PACRG	1	chr6
DPYS	1	chr8
SLC25A25	2	chr9
ZBBX	1	chr3
CYP4Z2P	1	chr1
ATP9B	1	chr18
LIN54	2	chr4
C6orf118	1	chr6
FAM86B3P	1	chr8
COL23A1	1	chr5
DTX2P1-UPK3BP1-PMS2P11	1	chr7
FBLN1	3	chr22
TACC3	2	chr4
SF3B3	1	chr16
AFAP1L2	1	chr10
NTNG1	1	chr1
CUL2	1	chr10
HSPG2	1	chr1
YPEL1	1	chr22
CPQ	1	chr8
GLTSCR1	1	chr19
DLGAP2	2	chr8
MORN1	1	chr1
PRKG1	1	chr10
TEAD4	1	chr12
ZNF77	1	chr19
CACNA2D4	1	chr12
OSBPL5	1	chr11
EFCAB12	1	chr3
LOC100130855	1	chr15
ATXN3	1	chr14
AP3M1	2	chr10
LRCOL1	1	chr12
CDH6	2	chr5
PHIP	1	chr6
METTLL15	1	chr11
CSMD1	1	chr8
AASDH	2	chr4
GPHN	2	chr14
PHF2	1	chr9
CRELD2	1	chr22

ADARB2	1	chr10
MERTK	1	chr2
CEP170B	6	chr14
STEAP3	1	chr2
CDC42BPA	1	chr1
RNU6-66	1	chr19
LOC100873065	2	chrX
CTBP1	1	chr4
CNPY1	1	chr7
SMARCA4	1	chr19
GRK5	1	chr10
LMNA	1	chr1
PTPRN2	5	chr7
SURF6	3	chr9
TBCD	1	chr17
SLC44A1	1	chr9
MCTP1	1	chr5
RAB6B	1	chr3
NUP210	1	chr3
SORBS2	1	chr4
B4GALNT4	1	chr11
VPRBP	3	chr3
PDLIM2	3	chr8
MAEA	1	chr4
UTP6	1	chr17
CPXM2	1	chr10
ZFP82	1	chr19
IFT27	1	chr22
TUFT1	1	chr1
MURC	1	chr9
LINC00674	1	chr17
ARHGAP33	1	chr19
EEF1A2	1	chr20
KLHL29	1	chr2
RNF166	1	chr16
C14orf132	1	chr14
LAMA5	2	chr20
CELF4	1	chr18
CCDC40	1	chr17
RAB11FIP3	1	chr16
SUN1	2	chr7
ZNF284	1	chr19
MAGEE1	1	chrX

TENM2	1	chr5
EPPK1	3	chr8
TM7SF3	1	chr12
HOTAIR	1	chr12
PFDN1	1	chr5
SYAP1	1	chrX
WDR27	1	chr6
ZNF664-FAM101A	1	chr12
XYLT1	1	chr16
JAZF1	1	chr7
IFNL4	1	chr19
SEC16A	1	chr9
STRN4	1	chr19
AGAP1	3	chr2
GPR32	1	chr19
FAM19A5	1	chr22
LOC285577	1	chr5
PPM1L	2	chr3
MOK	1	chr14
LSAMP	1	chr3
FRY	1	chr13
FBXL18	1	chr7
VASH1	1	chr14
GRIN2A	1	chr16
TRAF3IP2-AS1	1	chr6
PHF17	1	chr4
DOCK1	2	chr10
FAM182B	1	chr20
PCDHB19P	1	chr5
CCDC85C	3	chr14
FER1L6	1	chr8
PPP2R5E	1	chr14
MYO9B	2	chr19
RECK	1	chr9
MARK2	1	chr11
RHBDL2	1	chr1
SNX14	1	chr6
ARHGEF4	1	chr2
MYOM2	1	chr8
PCNT	1	chr21
ARSG	1	chr17
RAB43	1	chr3
BNC2	1	chr9

CHP1	1	chr15
CDH4	2	chr20
UBE2U	1	chr1
LIG1	1	chr19
BIRC7	1	chr20
RBFOX3	1	chr17
FLT4	1	chr5
SSTR5	3	chr16
RTEL1	1	chr20
NIPA2	1	chr15
COL11A1	1	chr1
TSNARE1	1	chr8
PDXK	3	chr21
SUMF1	1	chr3
NCOR2	2	chr12
SRGAP1	1	chr12
DLGAP1	1	chr18
ZNF423	2	chr16
COBLL1	1	chr2
FYCO1	1	chr3
SLC27A1	2	chr19
PRELP	1	chr1
RC3H1	3	chr1
SLC1A7	1	chr1
MACF1	1	chr1
POC1B	1	chr12
PDE9A	1	chr21
MECOM	1	chr3
SEMA3D	1	chr7
GPR98	1	chr5
DDX31	2	chr9
SNN	1	chr16
ZMAT5	1	chr22
CDHR2	1	chr5
COL26A1	1	chr7
HPS3	1	chr3
PIGG	1	chr4
RYR1	1	chr19
DOCK8	1	chr9
OTUD7A	2	chr15
ERCC6	1	chr10
ZNF208	2	chr19
CCL25	1	chr19

SCAI	1	chr9
SH3RF3	1	chr2
RGN	1	chrX
HIVEP3	2	chr1
ARAP1	1	chr11
GREM1	2	chr15
ACOX2	1	chr3
LAMA3	1	chr18
ZNF550	1	chr19
ATP11A	1	chr13
EGFR	1	chr7
TMEM104	1	chr17
ASTN2	1	chr9
CDK16	1	chrX
MIR548G	2	chr3
VMP1	1	chr17
TBC1D8	1	chr2
ERMP1	1	chr9
CEP120	1	chr5
CNKSR3	1	chr6
SLC12A3	1	chr16
NELFB	1	chr9
PNPLA1	1	chr6
FZR1	2	chr19
LOC338651	1	chr11
KDM4B	3	chr19
PPP6R3	1	chr11
FLJ22447	1	chr14
CABLES2	1	chr20
EXD3	2	chr9
PI4KAP1	1	chr22
TBL1XR1	1	chr3
UVSSA	1	chr4
USP49	1	chr6
DPYD	1	chr1
DNAL1	2	chr14
POU4F1-AS1	1	chr13
KIAA2022	1	chrX
EPN2	1	chr17
PLEKHH1	2	chr14
SLC16A6	1	chr17
RCOR2	1	chr11
TMEM255B	1	chr13

TTLL6	1	chr17
DDX1	1	chr2
SPIRE1	1	chr18
KDM6A	1	chrX
RNPEP	1	chr1
TMC2	1	chr20
RTEL1-TNFRSF6B	1	chr20
RAB11FIP1	1	chr8
ZNF275	1	chrX
NHSL1	1	chr6
RIN1	1	chr11
SCN5A	1	chr3
MRPL45P2	2	chr17
LOC729732	1	chr8
VAV2	1	chr9
LAMC1	1	chr1
EFCAB6	1	chr22
SCAMP4	1	chr19
PRMT10	1	chr4
GABBR2	1	chr9
KIF1A	1	chr2
TTI2	2	chr8
CDH4	6	chr20
NDUFS4	1	chr5
CTBP2	2	chr10
FAM196A	2	chr10
AGAP1	2	chr2
PPP2R5C	1	chr14
INTS8	1	chr8
GAS7	2	chr17
CHMP6	1	chr17
HHIPL2	1	chr1
KPNA1	1	chr3
RASA3	1	chr13
MCF2L	1	chr13
FAM21A	1	chr10
ITSN1	1	chr21
FGF1	1	chr5
GRIN3A	1	chr9
TPP2	1	chr13
CNN2	1	chr19
MYO7A	3	chr11
FAM86HP	2	chr3

SDK2	2	chr17
APOBEC3H	1	chr22
CSNK1A1L	1	chr13
CAMTA1	1	chr1
TLL2	1	chr10
ANKRD29	1	chr18
LRP1	1	chr12
EVC2	2	chr4
GAS6	1	chr13
ZFPM2	1	chr8
WBSCR17	1	chr7
ITPK1	1	chr14
CCDC109B	1	chr4
PRKXP1	1	chr15
CUX1	1	chr7
MCOLN1	1	chr19
CUX2	1	chr12
ERCC2	1	chr19
ZFP30	1	chr19
ARHGAP22	1	chr10
CD3G	1	chr11
RTN4	1	chr2
HPD	1	chr12
UBP1	1	chr3
C14orf159	1	chr14
TBX5	1	chr12
KIAA1671	2	chr22
SIK3	1	chr11
ZC3H6	1	chr2
EBF2	1	chr8
SYNM	1	chr15
GYPC	1	chr2
UHRF2	1	chr9
PDSS2	1	chr6
RXRA	2	chr9
FLJ46300	1	chr10
GPR56	1	chr16
ZNF362	1	chr1
PRTG	1	chr15
LONP1	1	chr19
RGS6	1	chr14
TXNRD1	2	chr12
PREX1	1	chr20

GPR75-ASB3	2	chr2
STARD4-AS1	1	chr5
RORA	1	chr15
TRAPPC9	1	chr8
GRWD1	1	chr19
ATP2A3	1	chr17
KATNBL1	1	chr15
SUGP1	1	chr19
PRDM16	1	chr1
SGTA	1	chr19
C1orf86	1	chr1
SCFD2	1	chr4
SYMPK	1	chr19
SHROOM2	1	chrX
ANP32E	2	chr1
CD82	1	chr11
R3HDM4	1	chr19
LAMA1	1	chr18
PXDN	2	chr2
MYO18A	1	chr17
GLTPD1	1	chr1
PIBF1	1	chr13
TNS3	2	chr7
JARID2	1	chr6
PGS1	3	chr17
PPP2R2C	1	chr4
USP15	1	chr12
TPGS1	1	chr19
GCC2	1	chr2
PPCS	1	chr1
MYCBPAP	2	chr17
EPHA3	2	chr3
ARR3	2	chrX
TPPP	1	chr5
AUTS2	1	chr7
AJAP1	1	chr1
SLC35D2	1	chr9
COL8A1	2	chr3
AGT	1	chr1
PIZO1	1	chr16
CRY2	1	chr11
DLGAP1	2	chr18
SYBU	1	chr8

SETBP1	1	chr18
DGKQ	1	chr4
FLRT1	1	chr11
PPARD	1	chr6
CCDC94	1	chr19
SPATA2L	1	chr16
ST6GAL2	1	chr2
SNAPC4	1	chr9
ROBO1	1	chr3
KCNAB1-AS2	1	chr3
COL18A1	2	chr21
DHRS4L1	1	chr14
ZC3HAV1	2	chr7
SCTR	1	chr2
VSX2	1	chr14
KDM2B	1	chr12
NFATC1	2	chr18
PNPLA7	2	chr9
DENND6A	1	chr3
PDZRN3	1	chr3
PEMT	1	chr17
TRPC2	1	chr11
SLC47A1	2	chr17
KIAA1551	1	chr12
UBR1	1	chr15
NXN	4	chr17
CABP7	1	chr22
ISY1-RAB43	1	chr3
C7orf50	1	chr7
ANKMY1	6	chr2
PYGB	2	chr20
TRIO	1	chr5
PODXL	1	chr7
TRAPPC10	1	chr21
OCEL1	1	chr19
CORIN	1	chr4
GPC5	2	chr13
FBXL22	1	chr15
LRIT1	1	chr10
TMEM175	1	chr4
KCNAB1	1	chr3
MEGF6	1	chr1
TMEM51-AS1	1	chr1

RPRD2	4	chr1
TPO	1	chr2
MLLT1	2	chr19
PCNXL2	1	chr1

site locations

7218745,7218749,7428386,7484966
151518005
952271
20672356
170580614
154149462
34728930,34728972
58299811,58299812,58299910,58300770
57986974
9672089
5079239
10620238,10640437
198820472
116086817,116086818
122626379,122626380
114200379
3841541
119594662
110282391
33323126
48958730,48958739,49146358
98650049
133541575
23403376
12599343
4419898
51336091
73580257
134942004
21337794
90229685
215867783
19787307,19796766
133906248
74657603
602593
91428778
73720684,73720685
111901451
127041643
98832214
73752970

54036817,54036818
57283261
76118451
69656328
88443652
17461532
72956122
76762264
35084200
245393901
4795306
152859642
42568439
47399600
53000104
57155391,57155397,57171961
44305058
34225416,34285345
68831858
63836680,63885704
189763772
84903207,84872049
43766753
23155335
37935946
77943467
57777008
2742449,2742484
9447487
1254368
59938978
26899124
44277261
45068112
62432152,62432177
180540908
67409909
94032576
72472674
43457167
37035922
76859102
40082534,40082538

186208714
25195018,25202891
43620580
33132490,33132491
91459474
89203992
64331566
55521935
132884828
157913475
126225822
42910374
30649907
65347404
95375286
76160100
22456323
43101270
78597523,78683458
152276614,152276670
10278677
118311097
24678571
31217110
10090322
2522390
109644356
27867706
15127628
29882489
75639854
81192339
1605075
70793980
30747191
9722333
35661806,35661836
118477650
226900342
3607518
9480685
145658369,145658525,145658526
38803489,38803490

22641335
20408076
10258158
58914418
138377899
47813211
204417023
33355891
179336995
35509160
56015672
7013945
38440492
149463193,149463218,149463220,149463242
233770144
2522390
134162865
163731500
133787347,133794455,133800092,133800093
3508341
53350837
44299780
432779
123784929
6799428,6799461,7013945
313285,313304
51602748
77329076
83977812
132898445
103354182
136968948
43296117
47508572,47320509,47557636
77714245
888631
16534807
9956277
5618072
122430537
35043780,35246558
77927325
38935856

161624564
55874093
163731500
105439493
130842141,130845150
166962928
47311929
76910759
83856659,83896149
165715903
8094724
177968359
76617529
45978046,45981384,45981447
1731696,1737403
70570289
116080559
108011588
35310696
22168216
22079226
97903605
48192159
1478277,1496555
2257490
53649062
3147079
2942171
1955747
3140627
129145448
63892510
92562824
75893632,75893633
133186770
31317785,31317788
79701971
28301339
3113336
57248956,57249091
67139912,67142112
96362048
50318505

1438422
112770132
105335048,105337802,105344316,105344603,105344761,105359658
120012170
227463696
46784615
22527641,22527642
1222300
155302486
11166825
121213135
156105927
157496434,157579942,157818754,158240257,158281485
136199464,136199465,136199502
80829706
108135012
94580212
133608347
13448093
186697926
373029
51531473,51531495,51531517
22441821,22441851,22441924
1316894
30215667
125593092
36893856
37159436
151550229
103346178
66130534
36276085
62125889
23673127
88763956
96517838
60926221,60930091
34941955
78032915
536685
893295,902764
44585591
75649357

166866088
144941419,144946817,144946818
27138950
54362455
139652104
16746656
170060146
124590414
17228366
27895885
39737861
139361082
47225789
236613477,236944858,236724860
51274704
49146358
3491070
160672427,160609898
102733210
115928020
32696485
5544317
77241355
10205325
111901451
129743452
128944079,128944080
25755379
140621746
100019739,100020623,100026843
124922447
63907397
17283402,17298891
36062862
63627263
39400107
86280873
131749076
2048994
47753493
66282150
128838228
16787669

41570301
60175237,60450432
64680773
48645334
61869501
77333576
180043387
1129461,1129485,1129502
62301969
23018551
103417023
143373004
45152879,45157126,45157127
4480981
124986517,125032798
64281902
3544294
49544818,49724869
165567324
46008789
17597619,17597680
203457476
173944474,173944478,173944511
53579582
39803565
89897387
44152788
169362200
84687730
89896790
135488850,135488851
11764920
30161133
176011887
101120187
148866434
531139
38956838
274107
31847859,31877801
50700334
22160708,22160709
8120507

127794978
110021005
46948159
42193273,42193276
72411996
33021466,33021467
58516382
21526087
58060536
113432010
55136397
72784649
119617173
47086345
99514627,99376747
57823683
101761168
5817337
122737256
154805692
56947979
140160085
36260913
3526496,3533273
1605075
5055995,5081230,5127897
68231843
62106264
60969884
140262339,140296614
20394006
176830177
1354210
41817493
98251544
74136351,74145938
78969375
74102054
19239431
68038697,68045840
66282150
63680719
114496429

46872414
15756328
12617688
44770845
201953292
2581250
62301969
37737033
152613111
138745176
66099987
38590138
45565093,45565384
12507917
136690328
183101302
44039859
1917127
148591549
101226215
241663687
33366032,33366043
59897399,59971800,60055607,60175237,59875598,60450432
52947803
126741727,126840272
128944079,128944080
236613477,236724860
102247767
95845082
9820694,9820695
78971536
222704637
122181796
114888534
113641483
51834536
35043780
141995076
104481466
103269465
1036442
76862024,76862025,76840405
129822490,129822550

71387221,71524887
39496901
37679533
7765495
98131430
21233958
57593100
5570219,5570220
114555065
106500939
71178224
93413384
110600567
101094460
101464829
7594158
111758395
45858245
38135045
49801057
118219848
55220020
122282514
33474740
91666017
114834256
25426949,25448652
116730736
113066405
25793412
99656046
127439661
6451750
107759664
137288499,137308241
133618368
57697568
33743120
55917965
5696960
72796787
104670845,104670846
47242311

54036817,54036818
110867863
61489619
140930848
48950880
3839683
34444494
19390747
3286078
2776981
2128343
54198305
46350446
9880690
150194484,150202102
44639920
902246
7023986
1663742,1664033
27423226
1262966
73406357
47469946,47469947
15263009
76386449,76386524,76386538
6550037
62782795
509895
109066797
42923485
48597192,48589244
89180075,89180077
69493317,69493318
664322
69205759
4817150
99094068
99514627,99376747
230848701
88797567
45878121
4106009,3544294
110685597

42296341
960712
63885704
35391786
4255008
89764547
107459431
139273402
79444248
155939304
46909514,46912946
24507010
138731842,138731967
120251508
74723439
121881847
77246977,77249039
140414409,140414410
57677894
73669104
17474143
3649499
19440536,19440537
32134240
43368571
725432,741559,763518,743920
30122278
128838228
1100693
241497322,241497366,241497368,241497379,241497398,241497404
25262289,25274317
14454982
131195162
45443289
17339225
47611546
92638597,93503882
63892510
85997810
943538
155939304
3457896
15445059

150375271,150410977,150423966,150423967
1482680
6224779,6224826
233151171

Gene name	number of high covariance sites	chromosome
KDM1B	1	chr6
GRAMD1A	1	chr19
SPTBN4	1	chr19
CSNK1G2	1	chr19
TMC6	1	chr17
CAMTA1	1	chr1
ARRB2	1	chr17
CCNG1	1	chr5
LAMA5	1	chr20
BCL2	1	chr18
DYSF	1	chr2
GNAZ	2	chr22
STIM1	1	chr11
UBAC1	1	chr9
MTRF1L	1	chr6
FUT10	1	chr8
ARHGAP19-SLIT1	2	chr10
MMP25	1	chr16
KIAA1609	1	chr16
CD97	1	chr19
LINC00620	1	chr3
TPST2	1	chr22
DHTKD1	1	chr10
MCF2L	2	chr13
KCNJ15	1	chr21
TRPM7	1	chr15
CCDC85C	1	chr14
ZNF812	1	chr19
CCDC154	1	chr16
DRAM1	1	chr12
PCSK6	2	chr15
STOX2	1	chr4
WDSUB1	2	chr2
ZNF213	1	chr16
GABRD	1	chr1
ELOVL6	1	chr4
TSNARE1	1	chr8
PRKCZ	3	chr1
MLL3	1	chr7
PNKD	1	chr2
ALPL	1	chr1
TUB	1	chr11

CACNA1I	1	chr22
DHX38	1	chr16
UGT1A6	1	chr2
SEC14L5	1	chr16
COL6A1	1	chr21
RAB11B	1	chr19
PRKX	2	chrX
CDK16	1	chrX
FTSJ1	1	chrX
ST3GAL1	1	chr8
TSHZ1	1	chr18
GFRA1	1	chr10
RTDR1	2	chr22
C20orf85	2	chr20
HTRA3	1	chr4
IL12RB1	1	chr19
ZDHHC19	1	chr3
RAB11FIP4	1	chr17
SLITRK2	1	chrX
KCNQ1	1	chr11
RCOR1	1	chr14
PLXNA4	1	chr7
RAB1A	1	chr2
SNX8	2	chr7
SEC14L4	1	chr22
DIP2C	1	chr10
NTN1	1	chr17
CARD11	1	chr7
AP3D1	2	chr19
HRAS	1	chr11
FRRS1L	1	chr9
UGT1A5	1	chr2
NTM	1	chr11
CANX	1	chr5
MAGIX	2	chrX
N4BP3	1	chr5
PPP4R1L	1	chr20
SYNPR	3	chr3
HSPB2-C11orf52	1	chr11
RNGTT	1	chr6
ZFR2	1	chr19
DLEU7	1	chr13
MFSD12	1	chr19

LOC653712	1	chr3
CDC7	1	chr1
PEAR1	1	chr1
PIP5K1B	1	chr9
MAGI1	1	chr3
CACNA1H	3	chr16
PPIL4	1	chr6
PIK3C2B	1	chr1
NCOR2	2	chr12
POP1	1	chr8
CMC1	1	chr3
AKIRIN1	1	chr1
CTBP1	1	chr4
ACAP3	1	chr1
JRK	1	chr8
LINC00616	1	chr4
KDM4C	1	chr9
KLF11	1	chr2
IL1RAP	2	chr3
FHDC1	1	chr4
CACNA1G	1	chr17
MUC5B	1	chr11
NRXN3	1	chr14
DCUN1D5	1	chr11
SLC36A1	2	chr5
WDR65	1	chr1
PIGN	1	chr18
CNOT1	3	chr16
DNAJB13	1	chr11
CDH4	1	chr20
RNF149	1	chr2
LHPP	1	chr10
EIF4G3	2	chr1
MIR548AI	1	chr14
PRKAG2	3	chr7
TLR8-AS1	1	chrX
PPM1G	1	chr2
ONECUT1	1	chr15
CACNA1D	1	chr3
CLASP1	3	chr2
PRKAR1B	2	chr7
SLC29A1	1	chr6
MRTO4	1	chr1

CEP68	2	chr2
ANTXR2	2	chr4
PDZD4	1	chrX
ITGA9	1	chr3
COTL1	2	chr16
MAFK	1	chr7
SYNGR1	1	chr22
CRELD2	1	chr22
CCT6P3	1	chr7
CSMD1	1	chr8
CTSD	2	chr11
C1orf106	1	chr1
BAIAP2	3	chr17
FAM219A	1	chr9
CUL1	1	chr7
CYFIP1	1	chr15
DLGAP2	1	chr8
SNX29	1	chr16
ZFP57	1	chr6
UCK1	1	chr9
FAM189A2	1	chr9
ZNF280C	1	chrX
IL1RAPL1	1	chrX
CUX1	4	chr7
RASA3	2	chr13
ARFGEF1	1	chr8
LARGE	1	chr22
DAG1	1	chr3
MCM3AP	1	chr21
LCLAT1	1	chr2
ZFP82	1	chr19
GNG7	1	chr19
PCNXL2	2	chr1
ABCC5	1	chr3
ATP10A	1	chr15
DAPK3	1	chr19
TFDP2	1	chr3
PIEZO1	2	chr16
TAF4	1	chr20
KIF17	1	chr1
LINC00174	1	chr7
BRSK2	1	chr11
ZNF664-FAM101A	1	chr12

ANO2	4	chr12
NRF1	1	chr7
CRISPLD2	1	chr16
RBM47	1	chr4
TRAPPC8	1	chr18
FAR1	1	chr11
PHKA2	1	chrX
TMED10	1	chr14
SPATA2	1	chr20
COL25A1	1	chr4
AKAP14	1	chrX
RBKS	1	chr2
TNFAIP2	1	chr14
LRRC15	1	chr3
LONRF3	1	chrX
DENND2C	1	chr1
C2orf83	1	chr2
LOC732275	1	chr16
PEBP4	1	chr8
STK40	1	chr1
CCDC113	1	chr16
RAB40B	1	chr17
C1QTNF6	1	chr22
COLEC11	1	chr2
UGT1A3	1	chr2
ANKRD24	1	chr19
CDX2	1	chr13
ZNF282	2	chr7
DBF4B	1	chr17
TOM1L1	1	chr17
FRMD1	1	chr6
SUV420H2	1	chr19
LRCOL1	1	chr12
TMPRSS15	1	chr21
NEBL	1	chr10
KANSL1	1	chr17
SVIL	1	chr10
LOC100286922	1	chr2
FBXL18	1	chr7
UGT1A8	1	chr2
STX2	1	chr12
PHACTR4	1	chr1
POC1B	1	chr12

ADAMTS17	2	chr15
CNOT1	2	chr16
SPEN	1	chr1
AHRR	1	chr5
BOC	1	chr3
MUC17	1	chr7
MLF1	1	chr3
MRC2	1	chr17
RNF128	1	chrX
UBE2H	1	chr7
AKT1	1	chr14
VPS52	1	chr6
COL5A3	1	chr19
UGT1A4	1	chr2
MIR548AN	1	chr13
ADNP2	1	chr18
ATF7IP	1	chr12
TTLL6	1	chr17
PDE9A	1	chr21
FAM19A5	2	chr22
MAEA	1	chr4
RGN	1	chrX
PVRL1	1	chr11
IQSEC1	1	chr3
FAM86HP	1	chr3
NXN	1	chr17
MED24	1	chr17
VGLL4	1	chr3
MICAL3	1	chr22
TMEM184A	1	chr7
CDH23	1	chr10
WNT3A	1	chr1
TNNI3K	1	chr1
EML1	1	chr14
MIPEP	1	chr13
ERICH1-AS1	2	chr8
ASAP1	2	chr8
AGPAT2	1	chr9
HAUS7	2	chrX
ABCG2	1	chr4
USP8	1	chr15
PGS1	3	chr17
MLLT1	1	chr19

KCNK17	2	chr6
EPHA2	1	chr1
HIBCH	1	chr2
SLC7A5	1	chr16
GSG1L	1	chr16
FAM160B1	1	chr10
C9orf96	1	chr9
DAGLA	3	chr11
MEI1	1	chr22
MYO9B	1	chr19
MRPL45P2	2	chr17
SMAD6	1	chr15
EPB41L2	1	chr6
THBS3	1	chr1
ATG4B	2	chr2
GRM5	1	chr11
MACROD2	1	chr20
POLR2A	1	chr17
C19orf71	1	chr19
TMCO3	1	chr13
COL23A1	2	chr5
INPP5A	2	chr10
GAS7	2	chr17
CHMP6	1	chr17
MGA	1	chr15
CABP1	1	chr12
HOMER3	1	chr19
B4GALNT4	1	chr11
MOB2	2	chr11
RTL1	1	chr14
SERPINH1	1	chr11
JAG2	1	chr14
EED	1	chr11
HMMR	1	chr5
UGT1A9	1	chr2
PIK3R5	1	chr17
DLEU7-AS1	1	chr13
ZNF7	1	chr8
FPGT-TNNI3K	1	chr1
ASCL3	1	chr11
ANGPT2	1	chr8
GAK	1	chr4
SEPSECS	1	chr4

NDP	1	chrX
PTPRN2	1	chr7
SEC14L1	1	chr17
ARMC2	1	chr6
CSNK1G2-AS1	1	chr19
TSPEAR	1	chr21
UHRF1BP1L	1	chr12
IL32	1	chr16
GOLGA8A	1	chr15
SLC39A11	1	chr17
GPR133	2	chr12
NOV	1	chr8
FHIT	1	chr3
PLEKHA6	2	chr1
BSN	1	chr3
AFMID	1	chr17
NFAT5	1	chr16
PCSK6	1	chr15
NLRP2	1	chr19
CLCN7	2	chr16
C10orf54	1	chr10
C4orf45	1	chr4
ITPR2	1	chr12
FGD4	1	chr12
FCHO1	1	chr19
BIN1	2	chr2
PARD6G	2	chr18
ECE1	1	chr1
SIPA1L3	1	chr19
TUFT1	1	chr1
ANP32E	2	chr1
DOK6	1	chr18
PDE1A	1	chr2
PLGRKT	1	chr9
SHANK2	2	chr11
CACNA1B	1	chr9
PCCA	1	chr13
C15orf27	1	chr15
LEMD2	1	chr6
CHMP5	1	chr9
EPB41L4A	2	chr5
ISM1	1	chr20
UGT1A7	1	chr2

ATP11A	1	chr13
RPF2	1	chr6
VAV2	5	chr9
WDR24	1	chr16
FRMD1	2	chr6
PACSIN1	1	chr6
FLI1	2	chr11
HTT	1	chr4
ACSL6	1	chr5
PLA2G3	1	chr22
MAPT	1	chr17
ZCCHC14	1	chr16
TRAPPC9	1	chr8
HPS5	1	chr11
C1orf65	2	chr1
GABRB3	1	chr15
KCND3	1	chr1
DGKQ	1	chr4
MAP2K2	1	chr19
YWHAE	2	chr17
TAF1C	1	chr16
HDGFRP2	1	chr19
WDR4	2	chr21
ARHGAP19	2	chr10
EIF4A3	1	chr17
PCP4	1	chr21
UGT1A10	1	chr2
FGF13	3	chrX
C7orf50	1	chr7
PDK3	1	chrX
IL6R	1	chr1
PARD6G-AS1	2	chr18
MCPH1	1	chr8
EPG5	1	chr18
VDR	2	chr12
ABCC6	1	chr16
TNFRSF8	1	chr1
RPRD2	1	chr1
ALDH1L1	1	chr3
MMRN2	1	chr10

site locations

18158286
35502532
41050290
1954126
76118451
7633798
4622638
162870234
60926221
60816889
71692546
23438616,23441116
3982840
138831135
153311755
33323126
99047710,99047711
3102462
84514963
14506631
13694628
26982357
12156554
113693327,113705141
39631463
50935283
100026843
9804096
1493030
102277334
101903335,101915394
184848069
160101991,160102738
3192535
1956361
111114534
143313650
2041154,2048727,2063148
151998404
219186591
21892980
8088757

40082534
72137560
234663653
5047168
47421793
8468337
3570186,3621933
47086345
48339985
134494941
72949954
117883900
23438616,23441116
56732799,56733571
8278123
18183527
195925355
29834071
144902969
2495420
103128775
132187312
65345703
2291790,2293508
30899353
444996
8993970
3062322
2131565,2131578
533036
111926896
234663653
132058408
179145862
49022855,49022886
177546160
56845938
63269640,63269641,63328784
111784923
89498970
3819891
51417534
3543396

128587817
91983472
156883491
71477604
65412778
1211221,1214678,1235322
149846961
204417023
124826676,124860830
99137831
28296877
39468217
1224647
1229850
143747271
138973585
7147974
10191713
190352746,190352783
153896358
48689799
1271429
79562574
102958119
150834304,150834312
43702360
59803822
58560322,58610256,58610257
73681089
60450242
101894221
126208561
21134595,21134596
29968344
151393353,151398709,151406005
12924035
27605982
53081116
53534199
122106474,122350965,122350966
752407,752449
44198397
19583733

65289622,65289948
80885978,80885996
153073318
37572577
84608934,84615224
1574811
39746803
50318505
64516736
3828373
1777815,1778321
200863771
79042974,79063592,79068407
34400580
148480233
22896102
1455439
12174662
29644039
134405414
71951803
129385813
29547567
101694275,101858142,101892327,101771662
114802859,114880846
68223105
34060801
49517215
47691729
30822053
36893856
2601809
233399443,233399444
183713816
25978503
3966518
141846292
88797567,88799286
60598912
21043852
65852199
1435516
124590414

5998344,5998328,5998366,5998367

129265545

84872049

40599002

29457371

13695712

18934350

75621019

48526703

109933638

119046195

28063222

103595564

194077617

118143818

115174199

228491298

86369306

22770137

36810010

58300770

80617214

37578578

3648757

234663653

4190586

28541503

148904623,148909758

42827672

53013356

168474308

55856850

133186812

19693947

21183608

44286196

29780291

234663653

5541655

234663653

131276761

28756657

89897387

100514524,100667714
58610256,58610257
16184131
355048
112991312
100684925
158319418
60728953
106007285
129534618
105249322
33223425
10102490
234663653
100043086
77879657
14594740
46879962
44152788
49146297,49146298
1310925
46948159
119574608
12946689
129822550
743982
38179288
11611732
18281728
1587041
73521730
228206934
74712951
100402814
24341072
872324,1042396
131069818,131427223
139578879
152746484,152746485
89021640
50752566
76400505,76400506,76414300
6213321

39271537,39271538
16455051
191150856
87871580
27802755
116636620
136247289
61456424,61458594,61494325
42143536
17188322
45565093,45565384
66998856
131245620
155174105
242584161,242610500
88619806
14423493
7405073
3543396
114166775
177741111,177808674
134372679,134372680
9820694,9820695
78971536
42024577
121088884
19041551
372156
1777815,1778321
101349763
75279846
105622272
85964886
162896152
234663653
8789358
51417534
146068321
74712951
8959545
6365738
878078
25158222

43829064
157606110
75170673
109276551
1954126
46101348
100518917
3117519
34702884
71031784
131519660,131521885
120433500
60004440
204219848,204219849
49701981
76198457
69662907
101915394
55495378
1497136,1505429
73521730
159893282
26924516
32677157
17899267
127860879,127861446
77918010,77918012
21630582
38627237
151527035
150194484,150202102
67361019
183363989
5433404
70425842,70425843
141002309
101106210
76448776
33742193
33269800
111696502,111696538
13213728
234663653

113362104
111313236
136778878,136789528,136809115,136809118,136816939
737791
168474308,168479602
34466126
128611281,128611282
3234979
131327896
31533965
44022067
87496161
141269708
18338734
223566800,223567075
26915677
112525031
960712
4094774
1252535,1252536
84212777
4490302
44280703,44290375
99047710,99047711
78114653
41297673
234663653
138085209,138136474,138192626
1100693
24556724
154416933
77918010,77918012
6365738
43522083
48257325,48257326
16280872
12188481
150423967
125834605
88703316

Gene name	number of high covariance sites	chromosome
PKD1L2	1	chr16
WDR72	11	chr15
PRKX	1	chrX
SPTBN4	1	chr19
DLGAP2	2	chr8
COL23A1	1	chr5
ZNF517	1	chr8
TRIM6-TRIM34	1	chr11
ARRB2	1	chr17
MAP3K4	1	chr6
FANCA	2	chr16
BIN3	1	chr8
PRL	1	chr6
FBRSL1	1	chr12
ANKRD24	1	chr19
SOX13	2	chr1
RHOBTB3	1	chr5
RAB36	2	chr22
LDB2	1	chr4
SYNPR	1	chr3
HSH2D	2	chr19
KIAA1217	2	chr10
LPP	1	chr3
USH2A	1	chr1
ZFHX3	2	chr16
CELF5	1	chr19
MRTO4	1	chr1
EPHA3	1	chr3
GPCPD1	1	chr20
TAF3	1	chr10
TAF2	1	chr8
LRP5	1	chr11
LINC00461	1	chr5
HSPG2	1	chr1
GAS6	1	chr13
HEATR2	1	chr7
ERLEC1	2	chr2
CEP70	1	chr3
ESR1	1	chr6
TUSC5	1	chr17
KRT72	1	chr12
ZDHHC14	3	chr6

STOX2	1	chr4
GLYR1	1	chr16
DENND2A	1	chr7
CYP2E1	1	chr10
ATF7	1	chr12
ZFYVE21	1	chr14
FAM58A	1	chrX
AFMID	2	chr17
PRSS21	1	chr16
SPI1	1	chr11
FLG	2	chr1
INTS1	1	chr7
NUDCD1	1	chr8
ROBO1	5	chr3
C6orf147	1	chr6
TGIF1	1	chr18
C1orf159	1	chr1
FAM108C1	1	chr15
CIT	1	chr12
LOC100507373	1	chr19
ZFYVE28	1	chr4
DKFZp686K1684	1	chr11
DIP2C	1	chr10
DHDH	1	chr19
RNF26	1	chr11
FGGY	1	chr1
SEMA4B	1	chr15
WDR86	6	chr7
PMF1-BGLAP	1	chr1
SLC2A5	1	chr1
TYW1	2	chr7
CCM2	1	chr7
PEAR1	2	chr1
LOC441601	3	chr11
EPHA8	1	chr1
ANO2	2	chr12
SCAMP4	1	chr19
C20orf85	2	chr20
TTLL1	1	chr22
SEC1P	1	chr19
DTYMK	1	chr2
RBMS3	2	chr3
C17orf107	1	chr17

CCDC65	1	chr12
NNT	1	chr5
PHF13	1	chr1
NFIC	2	chr19
EPHA1-AS1	1	chr7
SCRIB	1	chr8
KCNQ1	1	chr11
TPCN2	2	chr11
TNPO3	1	chr7
WDR4	2	chr21
ADK	1	chr10
RINL	1	chr19
ATP10A	1	chr15
SBNO2	2	chr19
PHF21B	3	chr22
DKK3	1	chr11
PGP	1	chr16
PTK7	1	chr6
SH3BP2	1	chr4
MROH1	1	chr8
BLOC1S5-TXNDC5	2	chr6
KCNQ2	1	chr20
ZNF444	1	chr19
CHRNE	1	chr17
MORN1	1	chr1
PMF1	1	chr1
RAB35	1	chr12
RWDD4	1	chr4
SLC15A4	1	chr12
BAZ1A	2	chr14
FAM53A	2	chr4
POLDIP3	1	chr22
CANX	1	chr5
DHX8	1	chr17
CEP72	1	chr5
ARID4B	2	chr1
TMED10	1	chr14
KCNT1	1	chr9
TMPRSS15	1	chr21
EIF4G3	3	chr1
BANF2	1	chr20
FKBP9	1	chr7
PLEKHO2	1	chr15

PLIN4	1	chr19
ZC3H12D	1	chr6
URGCP	1	chr7
ENOSF1	2	chr18
9-Sep	1	chr17
FADS2	1	chr11
STON1-GTF2A1L	1	chr2
NR1I2	1	chr3
PRKCZ	1	chr1
PRR5	1	chr22
RPL23AP53	5	chr8
LLGL2	1	chr17
POP1	1	chr8
CMC1	1	chr3
MGAT3	1	chr22
GRAMD1A	1	chr19
EFCAB2	1	chr1
RBFOX1	1	chr16
GRM2	1	chr3
ANKRD13C	1	chr1
CHFR	3	chr12
PIGG	2	chr4
NGEF	1	chr2
ABCC1	1	chr16
SCG5	1	chr15
CNTRL	1	chr9
TSHZ3	1	chr19
PARP9	1	chr3
LDLRAD4	1	chr18
PPP2R2B	1	chr5
PTER	1	chr10
SPTB	1	chr14
MMP25	2	chr16
INF2	2	chr14
PKNOX1	1	chr21
SEC14L5	1	chr16
RAB30	1	chr11
RHBDL2	1	chr1
DNMT1	1	chr19
PTBP1	1	chr19
ATG4B	1	chr2
EFR3B	1	chr2
AGAP1	1	chr2

PRKAG2	2	chr7
LOC285627	1	chr5
ATRNL1	1	chr10
THSD7A	1	chr7
MDGA2	1	chr14
WWOX	2	chr16
NUBPL	1	chr14
ERCC8	1	chr5
DCDC2	2	chr6
CNTNAP2	1	chr7
AK8	1	chr9
ATG14	1	chr14
PIGN	1	chr18
CNOT1	3	chr16
RPF2	1	chr6
MYO7A	1	chr11
HOPX	1	chr4
TBCE	1	chr1
DYSF	1	chr2
KHDC1	1	chr6
LRRC27	1	chr10
CATSPERD	1	chr19
RASA3	1	chr13
ARNT2	1	chr15
WWOX	1	chr16
NTM	1	chr11
CDH4	1	chr20
PXDN	1	chr2
SF3B3	1	chr16
UGT1A9	1	chr2
TMX2-CTNND1	1	chr11
TRIM62	1	chr1
ADAMTS17	1	chr15
ZMAT4	1	chr8
SH3TC1	1	chr4
IL1RL2	1	chr2
CPSF3L	1	chr1
UGT1A6	1	chr2
CUX1	3	chr7
IL1RAPL1	3	chrX
PTCHD2	1	chr1
CHD1	1	chr5
ANK1	1	chr8

ZNF578	1	chr19
RBFOX1	2	chr16
FBXL20	1	chr17
AIG1	1	chr6
CTNND1	1	chr11
ROS1	1	chr6
BANP	1	chr16
ERICH1-AS1	1	chr8
PHGDH	1	chr1
CXCL13	1	chr4
LYRM4	1	chr6
NAGPA	1	chr16
BCAP29	1	chr7
MIR5095	1	chr20
NPEPL1	2	chr20
UGT1A8	1	chr2
UGT1A10	1	chr2
CTSD	2	chr11
ADCY3	1	chr2
GLTSCR1L	1	chr6
MGAT4C	1	chr12
AIDA	1	chr1
NLRP5	1	chr19
DSCAML1	1	chr11
MAGIX	1	chrX
KCNB2	1	chr8
SYT2	2	chr1
CDH4	2	chr20
BCYRN1	1	chrX
SIK1	1	chr21
SENP5	2	chr3
SNX27	1	chr1
SURF6	3	chr9
WBSCR17	1	chr7
MYRF	2	chr11
ZBTB11	1	chr3
AGMO	1	chr7
HELZ2	1	chr20
CEP112	1	chr17
TSC22D1	1	chr13
VEGFC	1	chr4
XKR6	1	chr8
MACROD2	3	chr20

LARGE	1	chr22
DAG1	1	chr3
GRID2	1	chr4
PQLC1	2	chr18
MAEA	1	chr4
LINGO2	2	chr9
ASB18	1	chr2
PRMT8	1	chr12
LOC389634	1	chr12
ZFP82	1	chr19
ZNF57	2	chr19
BYSL	1	chr6
P2RX4	1	chr12
BLOC1S5	2	chr6
INF2	1	chr14
DTNB	1	chr2
TNFRSF1B	1	chr1
SERPINH1	1	chr11
FAM213B	2	chr1
RPS6KA2	3	chr6
ACTL9	1	chr19
CYFIP1	1	chr15
ABCC5	1	chr3
NDUFS7	1	chr19
HELB	2	chr12
TSPAN11	1	chr12
MPP7	1	chr10
CDH23	1	chr10
MAP2K2	2	chr19
OR7E156P	1	chr13
VAC14	1	chr16
DGKE	1	chr17
TEAD4	2	chr12
TAF4	1	chr20
FLJ16171	1	chr5
TENM2	1	chr5
TM7SF3	1	chr12
PSME3	1	chr17
CLIP2	1	chr7
UBE2K	1	chr4
HMGA1P7	1	chr6
MYEOV	1	chr11
SYAP1	1	chrX

B3GNTL1	2	chr17
LINC00200	2	chr10
CLYBL	2	chr13
WDR27	1	chr6
SRSF4	1	chr1
ABCC4	1	chr13
SPATA2	1	chr20
SSTR5	2	chr16
FAM184A	2	chr6
KAT2B	2	chr3
FOXN3	1	chr14
DTNBP1	1	chr6
GTF3C1	1	chr16
PIP5K1C	1	chr19
CCDC171	1	chr9
CTBP2	1	chr10
FAT3	1	chr11
FAR1	1	chr11
CACNA1I	2	chr22
AP3D1	1	chr19
STX16-NPEPL1	2	chr20
SLC17A1	1	chr6
BFSP2	1	chr3
EP400	2	chr12
AKR1C3	1	chr10
EEF1E1-MUTED	2	chr6
LRRC4C	1	chr11
SORCS2	3	chr4
LRRC15	1	chr3
PHF17	1	chr4
NDE1	2	chr16
EPC1	1	chr10
LAPTM4B	4	chr8
ADAMTS13	2	chr9
SH3GL1	1	chr19
CAGE1	1	chr6
FGFR3	5	chr4
UNC79	1	chr14
YAE1D1	1	chr7
IFNAR1	1	chr21
LOC442459	1	chrX
ATP2B3	1	chrX
KDM2B	3	chr12

MSI2	1	chr17
COL14A1	2	chr8
STAG1	1	chr3
KLHL30	1	chr2
TPPP	1	chr5
C2CD2	1	chr21
ARSG	1	chr17
ABCA2	1	chr9
STK32B	1	chr4
PRR5-ARHGAP8	1	chr22
L3MBTL4	1	chr18
TMEM240	5	chr1
MMP17	1	chr12
TNRC18	3	chr7
RIMS2	1	chr8
DIDO1	2	chr20
HDAC4	3	chr2
C15orf38-AP3S2	1	chr15
C6orf99	1	chr6
BCAS3	1	chr17
KLHDC10	1	chr7
RILPL1	1	chr12
YWHAE	1	chr17
HCN1	1	chr5
XRN2	2	chr20
NEBL	1	chr10
GLT25D2	1	chr1
LAMA4	1	chr6
GMDS	1	chr6
KIR3DX1	2	chr19
SVIL	1	chr10
LIMA1	1	chr12
ATP8A1	1	chr4
CADPS	1	chr3
PPFIA3	2	chr19
SLC16A10	1	chr6
CNOT1	2	chr16
COLEC11	2	chr2
B3GALT6	1	chr1
ACYP1	1	chr14
MUC17	1	chr7
DUSP13	1	chr10
MRC2	1	chr17

RBMS1	1	chr2
SORCS1	1	chr10
FAT1	1	chr4
EHMT1	1	chr9
DMD	3	chrX
MORC2-AS1	1	chr22
TOM1	1	chr22
ADNP2	1	chr18
GPC5	1	chr13
PDE9A	1	chr21
TMEM132D	1	chr12
AP3S2	1	chr15
LINC00624	1	chr1
BPTF	1	chr17
CDRT1	1	chr17
PCNT	1	chr21
GREM1	2	chr15
GATA4	1	chr8
GPSM1	1	chr9
CCNY	1	chr10
POR	2	chr7
LOC100506207	1	chr6
ZNF77	1	chr19
TMEM72-AS1	1	chr10
AGPS	1	chr2
CEP120	1	chr5
LOC653160	1	chr1
EMC1	1	chr1
SKI	1	chr1
LAMA5	5	chr20
FZR1	2	chr19
SYNM	1	chr15
DCTN2	1	chr12
SLC47A2	1	chr17
MIPEP	1	chr13
COL19A1	1	chr6
FRMD1	4	chr6
SHANK2	3	chr11
LTBP1	1	chr2
HDAC9	1	chr7
SGMS1	1	chr10
RAB11FIP4	1	chr17
SPON1	1	chr11

WISP1	1	chr8
CNTN4	1	chr3
EPN2	1	chr17
FLRT1	1	chr11
ANKRD20A9P	1	chr13
SLC16A6	1	chr17
KCNK17	2	chr6
WDR19	1	chr4
PLA2G4E	1	chr15
RASGRF1	1	chr15
GRK5	2	chr10
TBC1D22A	4	chr22
DOT1L	1	chr19
CFDP1	2	chr16
MRPL54	1	chr19
NPY	1	chr7
AP3M1	1	chr10
EBF4	1	chr20
ENPP6	1	chr4
TSNARE1	2	chr8
COL4A5	2	chrX
ARRDC5	2	chr19
RAPGEF3	1	chr12
DMD	2	chrX
JMJD1C	1	chr10
GRM5	1	chr11
TSPAN9	2	chr12
PDXDC2P	1	chr16
NRXN1	1	chr2
ARIH1	1	chr15
WDR85	1	chr9
LOC441666	6	chr10
FGD3	1	chr9
INTS8	1	chr8
EPS8L1	1	chr19
KPNA1	1	chr3
DLEU7	3	chr13
FGFBP2	1	chr4
CABP1	1	chr12
LINGO2	1	chr9
ABO	2	chr9
MYBPC2	1	chr19
CSMD1	1	chr8

MIR5694	1	chr10
IFT27	2	chr22
SFRP1	1	chr8
CLN6	2	chr15
EPPK1	1	chr8
RMND1	1	chr6
MOB2	2	chr11
C7orf50	1	chr7
EIF2AK4	1	chr15
KLF12	1	chr13
ZNF815P	1	chr7
TMEM51-AS1	1	chr1
PRKXP1	1	chr15
SLC29A4	1	chr7
RAB11FIP3	1	chr16
ATPBD4-AS1	1	chr15
S1PR2	1	chr19
NFATC1	2	chr18
KIF26B	3	chr1
COA1	1	chr7
PCSK6	1	chr15
MCPH1	1	chr8
CAMSAP3	1	chr19
BEND2	1	chrX
ITGBL1	1	chr13
UGT1A3	1	chr2
SAMD12	1	chr8
PCDH9	1	chr13
PLEKHH2	1	chr2
ADAMTSL1	1	chr9
KLHL29	1	chr2
PTPRN2	3	chr7
RNU6-81	1	chr2
LRRTM4	1	chr2
MCOLN1	1	chr19
KANK1	2	chr9
LINC00693	1	chr3
UGT1A7	1	chr2
FAM189A1	1	chr15
MYH14	1	chr19
LPHN1	1	chr19
OTX2-AS1	1	chr14
ADAMTSL3	1	chr15

EYA4	2	chr6
ZDHHC8P1	1	chr22
SHISA6	1	chr17
KLHL15	1	chrX
AFMID	3	chr17
ZDHHC19	2	chr3
HAAO	1	chr2
ANTXR2	13	chr4
LOC286094	1	chr8
HRNR	2	chr1
MPND	1	chr19
ADAMTS2	3	chr5
ASB13	1	chr10
CACNA1H	1	chr16
TRIM6	1	chr11
MLLT1	1	chr19
AASDH	1	chr4
NPRL3	1	chr16
MYH3	1	chr17
ELFN1	1	chr7
QRICH2	1	chr17
UGT1A5	1	chr2
CNTN6	1	chr3
AK5	1	chr1
ERBB4	1	chr2
DNAH5	1	chr5
BSN	1	chr3
PTPRT	1	chr20
SOD3	1	chr4
ZNF208	1	chr19
UGT1A4	1	chr2
PODN	1	chr1
TP73	1	chr1
AES	1	chr19
NLRP2	1	chr19
TAF1C	1	chr16
GPR75-ASB3	2	chr2
SHANK2	4	chr11
C2orf83	1	chr2
RIPK4	1	chr21
PNPT1	1	chr2
ARSF	1	chrX
TAZ	1	chrX

CABLES2	1	chr20
NTN1	2	chr17
LOC100130691	1	chr2
OTOA	1	chr16
RYR1	1	chr19
PKD1L2	2	chr16
GRWD1	1	chr19
FRMD1	3	chr6
MMEL1	2	chr1
FLJ12825	1	chr12
SIPA1L3	1	chr19
PDE11A	1	chr2
ANP32E	2	chr1
MIR181C	1	chr19
CHRM3	1	chr1
LINC00673	2	chr17
URGCP-MRPS24	1	chr7
ITPR2	1	chr12
DYDC2	1	chr10
FAM20C	1	chr7
KIF26A	1	chr14
SCFD2	1	chr4
KAZN	1	chr1
PCCA	1	chr13
WDR37	1	chr10
C11orf65	1	chr11
RGS12	1	chr4
HADHA	1	chr2
KIAA1751	1	chr1
KIF19	1	chr17
LINC00294	1	chr11
SLC35E2	1	chr1
PSD3	5	chr8
NAV1	1	chr1
MAP3K12	1	chr12
PIBF1	1	chr13
KLHL6	1	chr3
STK11	1	chr19
MAD2L2	1	chr1
ABCA7	2	chr19
KCND3	1	chr1
DNAJB13	1	chr11
CACNA1G	1	chr17

NTNG1	1	chr1
LOC286238	2	chr9
SIRT1	2	chr10
FARP1	1	chr13
TIMD4	1	chr5
ECT2L	1	chr6
FLI1	2	chr11
CCDC61	1	chr19
ADAMTS12	1	chr5
TRPM8	1	chr2
HTT	1	chr4
MACROD1	1	chr11
SUN1	1	chr7
PIEZO1	2	chr16
ADARB2	1	chr10
STON1	1	chr2
C1QTNF2	1	chr5
SLC2A6	1	chr9
DYDC1	1	chr10
DNAH7	1	chr2
AGT	1	chr1
EIF4G3	1	chr1
BCR	1	chr22
GSX1	1	chr13
KIAA1967	2	chr8
ACSM1	2	chr16
EPB41	1	chr1
OCA2	1	chr15
ACOT7	4	chr1
CAPN10	3	chr2
CUL3	1	chr2
CXCR3	1	chrX
DHX37	3	chr12
EHMT1	2	chr9
UBN1	1	chr16
DAGLA	2	chr11
OCEL1	1	chr19
KDM4B	2	chr19
CNPY1	1	chr7
TNC	2	chr9
RYR3	1	chr15
MLLT10	1	chr10
ATP8B4	3	chr15

ME1	3	chr6
KSR1	1	chr17
C11orf44	2	chr11
PLXNC1	1	chr12
FANCC	2	chr9
OPRD1	1	chr1
MND1	1	chr4
SLC47A1	2	chr17
LINC00616	1	chr4
DLEU7-AS1	3	chr13
CDH4	4	chr20
IQGAP1	1	chr15
FERMT1	1	chr20
LAMC3	1	chr9
DLG2	1	chr11
SDK2	1	chr17
GALNTL6	1	chr4
DPP10	1	chr2
THEG	2	chr19
CAMK1D	2	chr10
ZBTB43	1	chr9
TMEM201	1	chr1
NMU	1	chr4
ATP9A	1	chr20
GALK2	1	chr15
RPRD2	4	chr1
ZNF565	1	chr19
PARK2	2	chr6
RADIL	1	chr7
PDE4B	1	chr1

site locations

81232273
53832854,53832864,53833078,53833082,53833127,53833131,53833132,53833143,5383314
3621933
41050290
1493528,1511725
177761376
146030084
5620733
4622638
161500455
89832847,89858525
22479988
22290785
133072766
4211076
204048147,204048221
95088562
23505467,23505575
16624957
63328784
16269140,16269141
24516752,24832885
188219351
215867783
72836951,72837000
3281296
19583733
89180081
5587837
7907571
120798926
68169686
87974503
22168216
114555024
770493
54036817,54036818
138268233
152077845
1196184
52995043
157876915,157913475,157932677

184848069
4887677
140219998
135341357
53922182
104194278
152859642
76185796,76186886
2871451
47399600
152276148,152276670
1534387
110343617
79494991,79495020,79495022,79495036,79495047
74009153
3434261
1023891
81013035
120150195
14260075
2418071
31841757
418675
49440896
119206373
59938978
90771703
151078769,151078775,151078793,151078803,151078848,151078852
156189625
9126976
66479904,66479905
45068112
156878421,156883491
50256539,50256869,50257378
22923992
5998328,5998366
1917127
56732799,56733571
43457167
49183703
242615470
29456667,29503557
4804152

49307524
43620580
6681743
3439415,3464711
143208214
144877833
2798848
68821860,68853503
128671100
44280703,44290375
76054960
39366036
25978582
1164139,1169021
45339200,45339208,45344326
11988839
2261683
43101270
2829476
145252482
8042079,8053059
62049177
56656775
4804152
2310576
156189625
120538685
184564197
129280064
35302603,35332660
1649416,1663210
42990074
179145862
41597379
640726
235333172,235333173
75639854
138656229
19693869
21134595,21134596,21361300
17686898
33036695
65155426

4512512
149795690
43923161
696500,696502
75372848
61609749
48803931
119533732
1999678
45117629
179581,179623,179642,179644,179653
73569776
99137831
28296877
39854307
35509160
245227092
7013945
51744256
70775172
133420273,133452074,133453540
524881,531139
233770144
16161030
32980924
123926393
31826545
122248709
13571929
146273193
16505604
65220461
3101637,3101817
105170221,105171845
44421872
5047192
82732688
39400107
10247268
804612
242584161
25347469
236613477

151390749,151393353
158879966
116999307
11803928
47975939
78357293,78261500
32180470
60192106
24301369,24301380
146050135
135716507
55874093
59803822
58560322,58610256,58610257
111342297
76862024
57521544
235600208
71797711
74009153
134188872
5744912
114821703
80728061
78261500
131855536
60372869
1712978
70570289
234664070
57552264
33626235
100667714
40518778
8233264
102804691
1249185
234664070
101694275,101858142,101892327
29202024,29827515,29880980
11591802
98259396
41585571

52985695
6459396,7013945
37552988
143608582
57552264
117698417
88074459
1042396
120270180
78492204
5152786
5075224
107243558
55965167
57290845,57274149
234664070
234664070
1777815,1778321
25064191
42805236
87119397
222873966
56511221
117316047
49022886
73480218
202638788,202638789
60166217,60372869
70837080
44838660
196634118,196634119
151615685
136199464,136199465,136199502
70886007
61547236,61547237
101393295
15568514
62199258
63859699
45041118
177686896
10798255
14423492,14423493,14759025

34060801
49517215
93364910
77674633,77683125
1316894
28149330,29110581
237123475
3523747
8541630
36893856
2903751,2903798
41893322
121661688
8042079,8053059
105170221
25638407
12249019
75279846
2522390,2522391
167182469,167182470,167196063
8808057
22896102
183713816
1391234
66733266,66733338
31133655
28550653
73319512
4094774,4102448
64314779
70736751
54933103
3148019,3147079
60598912
174410846
166866088
27138950
40992931
73723166
39774944
134436761
69063476
16746656

80988416,80988417
1206496,1206503
100260559,100260560
170060146
29485475
95741647
48526703
1129439,1129485
119315721,119363071
20111266,20111267
89719633
15576600
27491291
3694380
15699077
126715435
92622010
13695712
40082538,40060205
2131565
57290845,57274149
25820890
133169726
132558689,132558761
5101814
8042079,8053059
40459032
7351443,7443240,7738401
194077617
129743452
15770642,15770643
32661824
98812969,98827209,98862375,98862392
136308542,136300712
4399114
7344728
1804894,1804901,1804910,1804916,1804959
94003834
39609804
34711337
99058795
152807424
121881846,121881847,121891696

55521935
121164388,121206075
136119354
239048965
677899
43318993
66282150
139904754
5389713
45117629
6099086
1475063,1475087,1475107,1475129,1475161
132329206
5355940,5361230,5427848
105167535
61519232,61520723
239997710,240295801,240295802
90425672
159324406
59368387
129718127
124011285
1252535
45281775
21301178,21330991
21183608
183906828
112505108
1708771
55054206,55054211
29780291
50624821
42589916
62417145
49629845,49636805
111527986
58610256,58610257
3644890,3648757
1168540
75528578
100684925
76859102
60728953

161251918
108566049
187581092
140653360
31538956,31693693,32603677
31318743
35698489
77879657
92577340
44152788
130157394
90425672
146929217
65867128
15501131
47853840
33021466,33021467
11566772
139251480
35558831
75611354,75614294
8449258
2942171
45406290
178331204
122737256
35442519
19573205
2214430
60898505,60907895,60926221,60930091,60938308
3526496,3533273
99656046
57925285
19617234
24341072
70617317
168458072,168458073,168474308,168479602
70425842,70425843,70437604
33466306
18977943
52077715
29839695
14099081

134230643
2876748
19239431
63885704
19412346
66282150
39271537,39271538
39233975
42326258
79268260
121191208,121213135
47508572,47185263,47552521,47557636
2187851
75438233,75444572
3767265
24324808
75893633
2717620
185037323
143373004,143382143
107701980,107745702
4894110,4894170
48131308
31538956,31693693
65063262
88619806
3227502,3277484
70054057
50311412
72801122
140466814
42837883,42837904,42862811,42863013,42863209,42863215
95737647
95845082
55593164
122181796
51417503,51417508,51417534
15963671
121088884
28149330
136131436,136133712
50960192
2904202

122687143
37159441,37159532
41122515
68514554,68514586
144941419
151731479
1777815,1778321
1044953
40314967
74509345
5864583
15467777
101098047
5338900
536685
35970527
10338746
77202644,77202645
245381025,245393901,245715801
43744893
101924539
6465694
7663229
18236885
102277204
234664070
119571087
67347339
43985515
18671899
23780424
157818754,157799746,158109457
132222754
77714227
7594158
736017,736018
28668377
234664070
29499634
50781389
14260075
57283974
84560741

133601687,133601824
23739315
11353695
24014551
76185796,76186886,76198457
195925355,195933370
43010738
80885897,80885901,80885910,80885924,80885930,80885933,80885952,80885978,8088598
136271554
152192113,152192631
4351596
178701724,178583157,178736617
5683649
1227719
5620733
6224779
57249091
178051
10554358
1786266
74294757
234664070
1429396
77749093
212842332
13810619
49701981
41813055
24801314
22160709
234664070
53537264
3615047
3053685
55495378
84212710
54036817,54036818
70528243,70425842,70425843,70437604
228491315
43165015
55869568
3018925
153648928

60969884
9130196,9132751
178192902
21727748
39070929
81192339,81232273
48950880
168458072,168458073,168474308
2522390,2522391
54500140
38627237
178906215
150194484,150202102
13985586
239929360
70526843,70585373
43923161
26511115
82108898
214822
104621144
54198305
15258423
101106210
1151618
108298305
3423441
26440941
1898937
72350966
33097876
1666807
18699964,18699968,18699970,18699999,18700008
201708421
53885310
73406357
183260073
1219701
11737881
1042295,1064333
112525024
73669043
48689799

108011588
91265664,91265665
69656327,69656328
99003603
156367299
139132985
128611281,128611282
46511616
33724902
234897813
3234979
63885704
893295
88793810,88793842
1643950
48803931
159789608
136340458
82108898
196659961
230848701
21361300
23532031
28367369
22471822,22471823
20641659,20641660
29310431
28256783
6425758,6442198,6442210,6442238
241528926,241537047,241531172
225394812
70837080
125448959,125455371,125455372
140653360,140687120
4916935
61490244,61458594
17339225
5055995,5127897
155323907
117846079,117846080
33652116
21883429
50239356,50239403,50239404

84140719,84140723,84140777
25803230
130561262,130561278
94620569
97979532,97979533
29190137
154302293
19440536,19440537
138973585
51417503,51417508,51417534
59897399,59876123,60166217,60372869
90964322
6062988
133906248
83553637
71478052
173103159
115594262
370596,370641
12412836,12412837
129579823
9672089
56469894
50288630
49458652
150375271,150410977,150423966,150423967
36680376
162539208,162539213
4857396
66630076

6,53833166,53833177

0,80885982,80885994,80886143,80886147

Gene name	number of high covariance sites	chromosome
USP37	2	chr2
MARS	1	chr12
PARVB	1	chr22
WARS2	1	chr1
GRAMD1A	1	chr19
SPTBN4	1	chr19
HSPG2	1	chr1
ZNF517	1	chr8
ARRB2	1	chr17
MAP3K4	1	chr6
INTS2	1	chr17
SEMA7A	1	chr15
GALNS	1	chr16
BCL2	1	chr18
GORASP2	1	chr2
FZR1	1	chr19
SIPA1L3	3	chr19
LOC100288637	1	chr15
HCN2	1	chr19
PEAR1	3	chr1
ABCB10	1	chr1
KIAA1609	1	chr16
CD97	1	chr19
OSBP2	1	chr22
PKNOX2	2	chr11
PPP4R1L	1	chr20
PIK3C2B	2	chr1
ATP11A	1	chr13
KCNAB2	1	chr1
LINC00661	1	chr19
RECQL5	1	chr17
ABCC5	2	chr3
ERBB4	1	chr2
ELOVL2	1	chr6
TMEM184A	2	chr7
GTPBP3	1	chr19
TAF2	1	chr8
TRPM7	1	chr15
ANKRD20A9P	1	chr13
DNAH2	1	chr17
ZNF611	1	chr19
AATK	1	chr17

CDH12	1	chr5
C9orf171	1	chr9
ENTPD6	1	chr20
AK8	1	chr9
CLOCK	1	chr4
C14orf159	1	chr14
RHPN1	1	chr8
ONECUT2	1	chr18
MSANTD1	2	chr4
FO XK2	1	chr17
MYRF	2	chr11
PCSK6	2	chr15
UGGT2	1	chr13
LINC00616	2	chr4
IQCG	1	chr3
USP40	1	chr2
INPP5A	2	chr10
DOCK8	1	chr9
CCDC146	1	chr7
DIS3L2	1	chr2
CMTM5	1	chr14
VIPR1	1	chr3
TPCN1	1	chr12
MLL3	1	chr7
RGMA	2	chr15
SH3PXD2A	1	chr10
PNKD	1	chr2
BUB1B	2	chr15
OCLN	1	chr5
ALPL	1	chr1
CLEC17A	2	chr19
CIT	1	chr12
LOC100507373	1	chr19
CHST3	1	chr10
EPHA1-AS1	3	chr7
TNNT3	1	chr11
STX16-NPEPL1	1	chr20
KCND3	2	chr1
IGSF23	1	chr19
PRKCZ	1	chr1
ADCY9	1	chr16
CDH4	5	chr20
UGT1A4	1	chr2

ZNF516	1	chr18
PMF1-BGLAP	1	chr1
GIGYF2	1	chr2
ZIC3	1	chrX
GRAMD4	1	chr22
DTNBP1	1	chr6
HDAC9	1	chr7
ZNF385B	1	chr2
TSHZ1	1	chr18
NOD1	1	chr7
GFRA1	1	chr10
KBTBD2	1	chr7
C20orf85	2	chr20
THOP1	1	chr19
FOXN3	1	chr14
SV2B	1	chr15
HTRA3	1	chr4
CCP110	1	chr16
C8orf74	1	chr8
ZDHHC19	1	chr3
DKFZp686O1327	1	chr2
ZNF282	3	chr7
KCNQ1	1	chr11
TPCN2	2	chr11
PRKAG3	2	chr2
AVPR1A	1	chr12
MYO15B	1	chr17
WDR4	2	chr21
DNAJC15	1	chr13
FAM20C	2	chr7
SLC43A2	1	chr17
SNX8	2	chr7
LINC00617	1	chr14
UBXN6	1	chr19
SORBS2	1	chr4
CYP2E1	2	chr10
TLL10	1	chr1
CMTM6	1	chr3
UGT1A7	1	chr2
NTN1	1	chr17
MYO1F	2	chr19
AP3D1	2	chr19
MIR548AO	1	chr5

AOX1	1	chr2
SPAG16	1	chr2
HAGHL	1	chr16
TCEAL2	1	chrX
TRAPPC9	2	chr8
CBFB	1	chr16
CBFA2T3	1	chr16
TLN2	2	chr15
KIAA1211	1	chr4
MICAL3	3	chr22
CDH4	3	chr20
POLDIP3	1	chr22
FAM109B	1	chr22
GRIK1	1	chr21
GUSBP11	1	chr22
CANX	1	chr5
FAM189A1	2	chr15
RGS9BP	1	chr19
SMIM14	1	chr4
NUGGC	1	chr8
RBFOX1	2	chr16
ADRA1D	1	chr20
LOC100132273	2	chr22
SELM	1	chr22
SBNO2	1	chr19
RNGTT	1	chr6
VAV2	2	chr9
MYO10	1	chr5
LOXL2	1	chr8
RPN1	1	chr3
SYNPO2	2	chr4
UHRF1	1	chr19
CDON	1	chr11
TTC40	1	chr10
TMEM220-AS1	1	chr17
ANKRD33B	1	chr5
LOC653712	1	chr3
SRCAP	1	chr16
MGMT	4	chr10
PHF13	1	chr1
MDGA2	1	chr14
NLRP3	1	chr1
HSH2D	2	chr19

ABCA2	1	chr9
CACNA1G	2	chr17
C1orf151-NBL1	1	chr1
URGCP	1	chr7
TMTC2	1	chr12
LAMC3	3	chr9
SFTA3	1	chr14
NR1I2	1	chr3
TBL1X	1	chrX
ABL1	1	chr9
MAGI1	1	chr3
GABRA5	1	chr15
FRMD1	1	chr6
PKP4	1	chr2
BRSK2	1	chr11
LRP1B	2	chr2
MPPED2	1	chr11
PDE1C	1	chr7
ALX4	1	chr11
CELSR1	1	chr22
HNF4A	1	chr20
CTNNA3	1	chr10
CEP85	1	chr1
ZFP42	1	chr4
TSPEAR	1	chr21
DLEU7-AS1	2	chr13
GZMM	1	chr19
ZNF346	1	chr5
LINC00478	1	chr21
LIN52	1	chr14
IL1RAPL1	2	chrX
GLTSCR1	1	chr19
SKIV2L2	1	chr5
JRK	1	chr8
DIP2C	2	chr10
SLC4A7	1	chr3
TCERG1L	1	chr10
ULK4	2	chr3
PTPRT	2	chr20
C1orf94	1	chr1
RYR3	2	chr15
MMEL1	2	chr1
GRK1	1	chr13

CORO7-PAM16	1	chr16
DAGLA	4	chr11
CNPY1	1	chr7
ZSCAN1	2	chr19
PLEKHG1	1	chr6
MICAL3	2	chr22
RYR2	2	chr1
ATG4B	1	chr2
CAMTA1	4	chr1
TNIP2	1	chr4
SH3RF3	1	chr2
UGT1A6	1	chr2
KCNJ15	1	chr21
COPS4	1	chr4
FUT8	1	chr14
SYS1-DBNDD2	1	chr20
B3GALT6	1	chr1
CLPTM1	2	chr19
ASPSCR1	1	chr17
PDSS1	2	chr10
CDC42SE2	1	chr5
SEL1L3	1	chr4
NRXN3	1	chr14
ERCC8	1	chr5
AP1M1	2	chr19
PTPRG	1	chr3
CHID1	1	chr11
USP48	2	chr1
RBM25	2	chr14
TNFRSF19	1	chr13
GGT1	1	chr22
NTNG1	1	chr1
FAM83E	1	chr19
CMTM2	1	chr16
PIGN	1	chr18
DOK6	2	chr18
KCTD8	1	chr4
INTS1	3	chr7
PDGFRL	1	chr8
SLC45A1	1	chr1
BIN1	1	chr2
LOC100286922	1	chr2
KHDC1	1	chr6

CYGB	1	chr17
ITIH3	2	chr3
CCDC85C	1	chr14
PLEKHG4B	1	chr5
LINC00693	1	chr3
STX8	1	chr17
METTL8	1	chr2
WVOX	1	chr16
EIF4G3	2	chr1
TRPM4	1	chr19
ADAMTS17	1	chr15
TIMD4	1	chr5
LOC100133669	1	chr8
DENND1A	1	chr9
PARVG	1	chr22
MIR548AI	1	chr14
PRDM16	1	chr1
GIPC2	1	chr1
XKR4	1	chr8
AP2A2	2	chr11
MIR143HG	1	chr5
CHD1	1	chr5
LRRC4B	1	chr19
AGAP1	1	chr2
DDX12P	1	chr12
ZNF578	1	chr19
LRRC20	1	chr10
TMPRSS11F	1	chr4
USP35	1	chr11
SFMBT1	2	chr3
CTNND1	1	chr11
CLYBL	3	chr13
PRCD	1	chr17
ADAMTS2	3	chr5
CNTLN	1	chr9
PDZD4	1	chrX
PHIP	1	chr6
RTN4RL1	2	chr17
NAGPA	1	chr16
MMP17	4	chr12
DET1	1	chr15
COTL1	2	chr16
MAFK	1	chr7

KRT72	2	chr12
MIR5095	1	chr20
ANKRD30BL	2	chr2
EFHA1	1	chr13
PRTG	1	chr15
CRELD2	1	chr22
MGAT4C	1	chr12
RGS6	1	chr14
SLC25A25	3	chr9
N4BP3	3	chr5
CTSD	2	chr11
ADCY3	1	chr2
GLTSCR1L	1	chr6
YEATS2	1	chr3
TTC7B	1	chr14
CDH18	2	chr5
CUL1	1	chr7
AGAP1	2	chr2
FAM71E1	1	chr19
LINGO2	3	chr9
SYNPR	1	chr3
PEBP4	1	chr8
MADCAM1	1	chr19
TGS1	1	chr8
COL26A1	1	chr7
LINC00840	1	chr10
SNX27	1	chr1
LOC286059	1	chr8
CPA6	1	chr8
ZNF280C	1	chrX
NFASC	1	chr1
MOK	1	chr14
PPFIA1	1	chr11
SYT2	2	chr1
BCYRN1	1	chrX
DAG1	1	chr3
KIAA1217	1	chr10
LPHN1	2	chr19
PQLC1	2	chr18
GRM4	1	chr6
CACNA1A	1	chr19
TRAPPC8	1	chr18
UGT1A8	1	chr2

P2RX4	1	chr12
LINC00674	1	chr17
ITGAL	1	chr16
GNG7	1	chr19
ISY1-RAB43	1	chr3
CDT1	1	chr16
LOXL3	1	chr2
MBOAT1	1	chr6
CTPS2	1	chrX
PATZ1	1	chr22
C15orf38-AP3S2	1	chr15
WDR72	2	chr15
C16orf45	2	chr16
LOC283692	1	chr15
MYO7B	1	chr2
KIAA1614	1	chr1
GNB1L	1	chr22
MSRA	1	chr8
AQP1	1	chr7
FAM83A	2	chr8
AGBL1	1	chr15
AKAP13	1	chr15
CACNA1C	1	chr12
PLEKHH1	1	chr14
ZNF284	1	chr19
FAM53B	1	chr10
CDK14	2	chr7
SLC9A9	1	chr3
TAF4	1	chr20
MACROD1	1	chr11
CPNE7	1	chr16
NEK1	1	chr4
HSPA7	1	chr1
BTBD16	1	chr10
BRD1	1	chr22
CTBP1	5	chr4
FAM53A	1	chr4
LOC729852	1	chr7
GPR125	1	chr4
KIF1A	1	chr2
TMEM8A	1	chr16
TMEM44	1	chr3
TSNARE1	2	chr8

SRSF4	1	chr1
DNAH17	1	chr17
PCDH9	2	chr13
RBMS3	1	chr3
C22orf34	1	chr22
ESR2	1	chr14
MECOM	1	chr3
TRIM25	1	chr17
SLC39A6	1	chr18
KALRN	1	chr3
FAR1	1	chr11
ZNF664-FAM101A	1	chr12
JAK1	1	chr1
TCF7L1	1	chr2
TMED10	1	chr14
CCNG1	1	chr5
FRMD5	1	chr15
CHEK2	1	chr22
COLEC11	3	chr2
LRRTM4	1	chr2
ZNF890P	1	chr7
COL25A1	1	chr4
UBE2H	1	chr7
LRRC4C	1	chr11
LRRC15	1	chr3
CCDC88C	1	chr14
IRF2	1	chr4
CORO7	1	chr16
GFOD1	1	chr6
PLIN3	1	chr19
GLB1	1	chr3
KIAA2026	1	chr9
C16orf62	1	chr16
RPF2	2	chr6
C2orf83	1	chr2
LOC100873065	1	chrX
LINC00673	1	chr17
IFNAR1	1	chr21
RPS6KA2	1	chr6
SAMD1	1	chr19
SNX14	1	chr6
CCDC113	1	chr16
AHRR	1	chr5

CUL3	1	chr2
C2CD2	1	chr21
H6PD	1	chr1
ANKRD24	1	chr19
RIN1	1	chr11
UGT1A5	1	chr2
D2HGDH	1	chr2
PMF1	1	chr1
LINC00162	1	chr21
ADNP2	1	chr18
TOM1L1	1	chr17
FLT4	1	chr5
EFR3B	1	chr2
ANKFY1	1	chr17
R3HCC1L	1	chr10
GABBR2	2	chr9
ABLIM2	1	chr4
TUBB3	1	chr16
GLT1D1	2	chr12
ZNF169	1	chr9
C9orf114	1	chr9
TMEM63A	1	chr1
ABCB5	1	chr7
NEBL	1	chr10
LAMA4	1	chr6
GPATCH8	1	chr17
MACROD2	2	chr20
SYT1	3	chr12
SVIL	1	chr10
FGF13	13	chrX
FBXL20	2	chr17
C1orf106	1	chr1
CMPK1	1	chr1
KIRREL3	1	chr11
MSH2	1	chr2
FAM211B	1	chr22
POC1B	1	chr12
CDH1	1	chr16
CTNND2	1	chr5
CNOT1	2	chr16
GPR98	1	chr5
LOC100128946	1	chr22
BOC	1	chr3

MUC17	1	chr7
MLF1	1	chr3
MRC2	1	chr17
BTBD2	1	chr19
BICD1	1	chr12
GAS6	4	chr13
ASCL3	1	chr11
RPTOR	3	chr17
ZBTB46	1	chr20
MACROD2	4	chr20
DNAL4	1	chr22
CDH3	1	chr16
ADCK3	1	chr1
SUV420H2	1	chr19
PLD5	1	chr1
STK25	1	chr2
MIR548AN	1	chr13
AP3S2	1	chr15
CHODL	1	chr21
BPTF	1	chr17
COL14A1	1	chr8
FLJ33534	1	chr2
PVRL1	1	chr11
SORCS2	1	chr4
CACNA1H	5	chr16
LIN54	1	chr4
LDLRAD4	2	chr18
SEC14L1	1	chr17
PCNXL2	1	chr1
TCF20	1	chr22
VGLL4	1	chr3
LYPD6B	1	chr2
AGPS	1	chr2
B4GALT1	2	chr9
KIAA1755	3	chr20
PTPRS	1	chr19
IFNL4	1	chr19
NUBPL	1	chr14
NUDCD1	1	chr8
RTFDC1	1	chr20
SLC12A3	1	chr16
EML1	1	chr14
NELFB	1	chr9

DCTN2	1	chr12
FBLN1	2	chr22
ERMAP	1	chr1
SEC14L5	2	chr16
MIPEP	1	chr13
SYNGR3	1	chr16
SMC1B	1	chr22
PDZD2	1	chr5
ASAP1	2	chr8
NPEPL1	1	chr20
NMT1	1	chr17
RREB1	1	chr6
STK3	2	chr8
GPHN	3	chr14
SPON1	1	chr11
ASIC4	1	chr2
HAUS7	2	chrX
ADARB2-AS1	1	chr10
POU4F1-AS1	1	chr13
KIAA2022	1	chrX
MICALL2	1	chr7
RAB40C	1	chr16
VSX2	1	chr14
MYO9B	1	chr19
LOC550113	1	chr4
LYRM4	1	chr6
PARK2	2	chr6
KCNK17	2	chr6
EPHA2	1	chr1
SMOX	1	chr20
HIBCH	1	chr2
ZNF804A	1	chr2
TBC1D30	1	chr12
KLHL21	1	chr1
PTPRE	1	chr10
MTMR6	1	chr13
UGT1A10	1	chr2
ANO1	2	chr11
ACAP3	2	chr1
C6orf147	1	chr6
TSPAN9	1	chr12
CLSTN2	2	chr3
MRPL45P2	2	chr17

UVSSA	2	chr4
SMAD6	1	chr15
ST3GAL1	1	chr8
EPB41L2	1	chr6
SLCO2B1	1	chr11
C1QTNF2	1	chr5
GRM5	1	chr11
SDK1	2	chr7
MAP2K2	1	chr19
EHMT1	2	chr9
KIAA1432	1	chr9
PIAS4	1	chr19
TMCO3	1	chr13
SLC36A1	3	chr5
COL23A1	6	chr5
DMD	1	chrX
PRKAR1B	1	chr7
ARL2-SNX15	1	chr11
TMPRSS15	1	chr21
CHMP6	1	chr17
TNRC18	1	chr7
PTPRN2	8	chr7
AASDH	1	chr4
MAD1L1	6	chr7
CABP1	1	chr12
CCT3	1	chr1
EYA2	1	chr20
VPS33A	1	chr12
NINL	2	chr20
ANP32B	1	chr9
PRR12	1	chr19
MKLN1	1	chr7
B4GALNT4	1	chr11
ARHGEF10	1	chr8
MOB2	2	chr11
RAB43	1	chr3
PIEZO1	2	chr16
EIF2AK4	1	chr15
DLGAP3	1	chr1
RSPH9	1	chr6
FAM19A5	1	chr22
UMODL1	1	chr21
DLEU7	2	chr13

GTF2IRD1	1	chr7
HMMR	1	chr5
TNFAIP2	1	chr14
SLCO5A1	1	chr8
CAMSAP3	1	chr19
TLL2	1	chr10
BEND2	1	chrX
ITGBL1	1	chr13
AP3B2	1	chr15
PIK3R5	1	chr17
DLGAP2	1	chr8
ERICH1-AS1	3	chr8
JAG2	11	chr14
MORN1	5	chr1
STK17B	1	chr2
NT5C3	1	chr7
SSU72	1	chr1
ZNF7	1	chr8
KCNA2	1	chr1
ATP9B	1	chr18
SEC14L1	2	chr17
INF2	1	chr14
CSMD1	2	chr8
DYSF	1	chr2
PCSK5	1	chr9
SEPSECS	1	chr4
DNAH8	3	chr6
EHD1	1	chr11
SKI	1	chr1
KAZN	2	chr1
UGT1A3	1	chr2
HDAC4	2	chr2
CIITA	1	chr16
RHPN1-AS1	1	chr8
NR5A2	1	chr1
C7orf50	1	chr7
BCL7A	1	chr12
APAF1	1	chr12
MEGF6	3	chr1
UHRF1BP1L	1	chr12
YIF1B	2	chr19
MTOR	1	chr1
CRISPLD2	1	chr16

MASP2	1	chr1
FLG	2	chr1
MCF2L	1	chr13
CHMP2A	1	chr19
HK1	1	chr10
MAEA	1	chr4
APBA3	1	chr19
TRA2A	1	chr7
FAM213B	2	chr1
IL20RA	1	chr6
CPT1A	1	chr11
SOGA3	1	chr6
MIR548F5	3	chr13
NPR3	2	chr5
NEURL4	1	chr17
FHIT	1	chr3
XRCC4	1	chr5
PITPNC1	1	chr17
LSP1	1	chr11
SNAPC5	1	chr15
BSN	1	chr3
QSOX2	1	chr9
GPR68	1	chr14
AFMID	1	chr17
CDAN1	1	chr15
GAPVD1	1	chr9
POR	1	chr7
PCSK6	1	chr15
DKK4	1	chr8
C3orf20	1	chr3
NAALADL2	2	chr3
ANO2	4	chr12
ITPR2	1	chr12
MKL2	1	chr16
TERT	1	chr5
TAZ	1	chrX
GPR133	3	chr12
SORCS1	2	chr10
TGFBRAP1	1	chr2
FCHO1	1	chr19
KIF26B	2	chr1
NCAM2	2	chr21
RXRA	2	chr9

TUFT1	1	chr1
ANP32E	2	chr1
EXD3	1	chr9
PDE1A	1	chr2
CEP112	2	chr17
BNC2	2	chr9
ZNF175	1	chr19
URGCP-MRPS24	1	chr7
SHANK2	2	chr11
ESPL1	1	chr12
GABRB1	1	chr4
C1orf65	1	chr1
COLEC11	1	chr2
KAZN	1	chr1
CACNA1B	1	chr9
PCCA	1	chr13
NXN	1	chr17
GALNTL6	2	chr4
RGS12	1	chr4
HIVEP3	1	chr1
KIAA1751	1	chr1
KIF19	1	chr17
NRG3	1	chr10
TMEM45B	1	chr11
COL17A1	1	chr10
DNMT3B	2	chr20
PCDHB8	1	chr5
KCNG2	1	chr18
AGO2	1	chr8
KLHL6	1	chr3
SLC51A	1	chr3
STK11	1	chr19
MAD2L2	1	chr1
JARID2	1	chr6
TMX2-CTNND1	1	chr11
DNAJB13	1	chr11
KCNG4	1	chr16
KIF17	1	chr1
TBCD	2	chr17
FRMD1	2	chr6
HEPHL1	1	chr11
FAM32A	2	chr19
VGLL4	2	chr3

PACSIN1	1	chr6
LINC00351	1	chr13
NFATC1	1	chr18
FAM101A	1	chr12
HTT	1	chr4
ACSL6	1	chr5
RERE	1	chr1
ABO	1	chr9
PLA2G3	1	chr22
AIDA	1	chr1
CPNE5	1	chr6
MAN2B2	1	chr4
SMOC1	1	chr14
C14orf178	1	chr14
APOC1	1	chr19
SLC2A6	1	chr9
NCS1	1	chr9
LOC285577	1	chr5
TXNRD2	1	chr22
IDO2	1	chr8
ARHGAP19-SLIT1	1	chr10
SOHLH1	1	chr9
CHST15	1	chr10
WDR19	2	chr4
TSPAN2	1	chr1
ADARB2	4	chr10
ARHGAP19	1	chr10
C20orf196	1	chr20
RAB36	3	chr22
RNF165	1	chr18
DOK2	1	chr8
RABL6	1	chr9
CXCR3	1	chrX
ST6GAL2	1	chr2
YWHAE	2	chr17
DPP6	1	chr7
SMOC2	2	chr6
CSE1L	1	chr20
SMIM5	1	chr17
NBEA	3	chr13
LOC339166	1	chr17
CDH6	1	chr5
ARVCF	1	chr22

TNC	2	chr9
NRP2	1	chr2
CDH13	1	chr16
DHRS4L1	1	chr14
GRK5	1	chr10
UGT1A9	1	chr2
LARGE	2	chr22
ENGASE	1	chr17
CDKAL1	1	chr6
EPB41L4B	2	chr9
SLC12A7	1	chr5
TLR8-AS1	1	chrX
BCKDK	1	chr16
NBL1	1	chr1
TXLNA	1	chr1
DOT1L	2	chr19
CAMK1D	3	chr10
TNXB	1	chr6
DIRAS1	1	chr19
TJP2	1	chr9
ADAMTS2	2	chr5
PXDNL	2	chr8
MND1	1	chr4
RBFOX1	1	chr16
CPPED1	1	chr16
SAMD3	1	chr6
FAM129C	1	chr19
MIR17HG	1	chr13
GRIK1-AS1	1	chr21
ANKRD13C	2	chr1
LHPP	1	chr10
GAK	2	chr4
TFCP2	1	chr12
HSF1	1	chr8
FERMT1	1	chr20
ITPK1	1	chr14
EPS15L1	1	chr19
RIMBP2	2	chr12
DHX37	2	chr12
CACNA1D	1	chr3
DYSF	2	chr2
ADAMTS20	1	chr12
DPH1	1	chr17

PLAUR	1	chr19
ATP8A2	1	chr13
COL6A2	1	chr21
MLLT1	2	chr19
ARHGAP9	1	chr12
SLC15A4	1	chr12
SBF1	1	chr22
KCNN3	1	chr1
DGCR2	1	chr22
TNFRSF8	1	chr1
RPRD2	1	chr1
FIBCD1	4	chr9
MECOM	2	chr3
ALPK2	1	chr18
TMEM198	1	chr2
PIEZO2	1	chr18
CUX1	5	chr7
FRMPD4	1	chrX

site locations

219328681,219404207
57889227
44515804
119594662
35502532
41050290
22204506
146030084
4622638
161500455
59992426
74711409
88920677
60816889
171793585
3533273
38554304,38697052,38697053
31059156
607040
156878419,156878421,156883491
229683263
84514963
14506631
31261857
125287393,125287394
56845938
204417023,204436065
113398928
6143145
16126820
73635178
183713815,183713816
212566718
10995039
1584078,1587041
17449381
120798926
50935283
19411480
7671606
53218181
79134665

22345991
135389134
25202891
135679280
56372979
91609462
144461039
55105191
3255736,3255741
80508538
61547236,61547237
101903335,101915394
96580857
138973585,138974330
197665044
234394486
134423349,134550099
274107
76762264
232933589
23848310
42568439
113702376
151998404
93598438,93602036
105480533
219186591
40501478,40507830
68831858
21892980
14712665,14712697
120150195
14260075
73767858
143165992,143111464,143208214
1943118
57274149
112525024,112525031
45123944
2041154
4043240
60283593,59832996,59866519,60454333,60454374
234663626

74097118
156189625
233566677
136648854
47074257
15576600
18517936
180540908
72949954
30510532
117883900
32909180
56732799,56733571
2810246
89968426
91762260
8278123
19558246
10543484
195925355
145687183
148904623,148904794,148909758
2798848
68821860,68853503
219691685,219691758
63543646
73595712
44280703,44290375
43598340
214822,226491
1492198
2291790,2293508
96379614
4453998
186536056
135341790,135341794
1114171
32527610
234663626
8993970
8595660,8595688
2131565,2131578
92934607

201475722
214490660
779687
101380931
140930848,140968750
67089494
88991154
62955265,62990409
57080660
18281728,18398207,18459859
60283593,60454333,60454374
42990074
42473603
31128568
23995795
179145862
29516485,29452378
33168604
39624043
27886902
6384299,6869494
4223453
42492062,42492104
31503149
1148048
89498970
136778878,136665987
16794914
23155335
128357764
119898276,119898281
4945917
125854390
134681693
10660427
10572060
128587817
30747191
131323099,131323100,131316315,131320233
6681743
47768048
247582755
16269140,16269141

139905818
48689798,48689799
19978899
43923161
83246130
133906248,133906955,133906956
36975759
119533732
9480685
133593565
65412778
27128732
168474308
159519451
1464589
141337137,142022616
30470360
31991266
44330555
46839894
43044775
67854284
26578979
188918166
45941327
51417503,51417534
547559
176484225
17725744
74646222
29784212,28765650
48205286
54671147
143747271
444996,670243
27421654
132976407
41962818,41882537
41159390,41249375
34642383
33609541,33993318
2522201,2522203
114432861

4435161
61490244,61456424,61458594,61494325
155323907
58545712,58545730
151085415
18398207,18459859
237382689,237263846
242584161
7633798,7114720,7639870,7742833
2743980
109973837
234663626
39631463
83977812
65979455
44023437
1168532
45488093,45490426
79959659
27015760,27015761
130638028
25853367
79562574
60192106
16335739,16339715
61615095
888631
22100962,22100963
73526987,73580257
2415527
24983263
108011590
49106994
66613524
59803822
67361031,67355844
44421784
1532399,1534145,1534146
17453738
8392394
127861446
234663626
74009153

74529576
52837554,52837614
100026843
163768
28668377
9465495
172265745
78357293
21134595,21134596
49669421
100667714
156367299
144081249
126682467
44596205
29968344
3279800
78516538
56295504
1001560,1002229
148807225
98259396
51051276
236754256
9588490
52985695
72083976
68932568
77903267
53000108,53000115
57552264
100545379,100260559,100260560
74529576
178701724,178576680,178689460
17290868
153073318
79701971
1841741,1921953
5075224
132329206,132326291,132334754,132334766
89067474
84608934,84615224
1574811

52995043,52995070
55965167
133014095,133014097
22069818
55917965
50318505
86995791
72793575
130845150,130841923,130842141
177548186,177548195,177548237
1777815,1778321
25064191
42805236
183493990
91024464
19573547,19573576
148480233
236754256,237021344
50974035
28476494,28476508,28476562
63269641
22749343
502552
56736652
101119953
44373190
151615685
22927142
68454160
129385813
204828056
102733210
70194623
202638788,202638789
70837080
49517215
24832885
14260075,14310797
77674633,77683125
34101235
13397703
29457371
234663626

121661688
66130534
30503727
2601809
128828168
88871361
74774061
20116177
16698090
31724358
90425672
53833078,53833132
15636141,15636155
83338891
128367090
180897569
19796766
10280165
30955122
124219472,124219538
87267293
86184442
2206970
68045840
44585591
126320737
90808839,90808842
143207127
60598912
63836680
89656043
170435428
161575910
124089034
50209854
1222300,1222301,1224540,1224647,1227951
1649416
7836123
22499723
241686408
427782
194324731
143333487,143358298

29485475
76565604
67197164,67197166
29503557
50044252
64774314
168839060
54972399
33697759
123982970
13695712
124799642
65415951
85517291
75621019
162870234
44305058
29101828
3645428,3648757,3660867
77379705
5175313
109933638
129534618
40459032
194077617
91775504
185311568
4435161
13430489
4854735
33128890
5952240
19656650
111342297,111313236
228491298
22527642
70526843
34711337
167196063
14200242
86280873
58300770
435782

225394812
43318993
9323909
4190586
66099987
234663626
242707659
156189625
46424361
77879657
53013356
180043387
25347469
4165347
99912060
101226215,101226340
8019279
90001561
129417210,129452098
97036140
131590069
226057689
20749914
21183608
112505108
42552831
15984559,15984564
79368458,79368495,79368511
29780291
138136474,138277060,138277067,138277085,138277122,138277128,138277131,138277151
37549199,37552988
200863771
47828187
126453648
47653645
24983263
89897387
68787529
11139358
58610256,58610257
89896790
49277055
112991312

100684925
158319418
60728953
2000129
32528150
114555024,114555065,114558565,114558566
8959545
78597523,78683458,78793474
62432152
14423492,14423493,15984559,15984564
39178374
68696638
227146132
55856850
242252838
242436237
100043086
90425672
19636791
65867128
121164388
11264485
119574608
7498481
1211221,1235312,1235322,1252217,1252243
83896149
13491894,13571929
75185899
233399444
42574830
11611732
149980430
178331204
33132490,33132491
36849007,36849086,36849087
5238770
39737866
32180470
110343617
55062871
56947979
100402814
140160085

57925285
45978046,45981447
43296117
5038242,5047168
24341072
2041493
45807905
31884043
131069818,131427223
57274149
43185498
7223662
99627094,99751599
67139912,67142112,67142113
14099081
220401322
152746484,152746485
1590438
78969375
74102054
1474475
651516
74723439
17188322
68932568
5154846
162254655,162947410
39271537,39271538
16455051
4154830
191150856
185528075
65269045
6658769
129827032
25825573
234663626
69971133,69979164
1229850,1229860
74009153
3227545
139715360,140060540
45565093,45565384

1354210,1362912
66998856
134474148
131245620
74879862
159789608
88619806
3389435,3918065
4094774
140653360,140652571
5683494
4028690
114166775
150834304,150834312,150834359
177741111,177808674,177808675,177968358,177968359,177987647
32603677
655047
64790137
19660981
78971536
5427651
157413204,157455195,157700218,157933157,158109457,158240238,158240243,158240257
57249091
2020993,2020994,2141237,2237198,2190451,2190452
121088884
156293490
45543675
122725870
25441432,25441935
100750835
50105239
130918981
372156
1790861
1777815,1778321
128828168
88793822,88797567
40314967
35369244
43620020
49146962
43493133
51417503,51417534

73982269
162896152
103595564
70604210
7663229
98131430
18236885
102277204
83338891
8789358
1496555
748829,872324,1061073
105622189,105622204,105622207,105622212,105622216,105622218,105622238,10562224:
2310576,2258323,2267385,2267568,2267637
197034009
33096643
1487836
146068321
111144026
76910759
75170673,75185899
105162256
3823354,3828373
71797711
78820926
25158222
38849546,38865411,38865415
64621469
2214430
15127614,15258423
234663626
239997710,240270095
11006702
144449706
200083183
1100693
122471367
99112078
3413504,3450637,3493818
100518917
38794450,38794465
11179484
84872049

11094202
152276148,152286107
113705141
59064635
71156732
1320118
3750867
23546609
2522201,2522203
137337215
68565904
127827913
36120888,36101742,36227031
32770312,32770392
7222875
60004440
82429891
65659467
1887530
66789157
49701981
139101770
91717962
76198457
43017917
128073095
75611354
101915394
42232916
14808428
174850766,174850843
5998344,5998328,5998366,5998367
26924516
14327296
1264941
153648928
131519660,131521885,131549814
108554540,108715748
105923990
17899267
245328353,245381025
22385757,22385820
137288499,137308241

151527035
150194484,150202102
140278361
183363989
63859606,63859699
16787669,16787670
52086350
43923161
70425842,70425843
53665648
47380657
223566798
3660867
15258423
141002309
101106210
846798
173103159,173030020
3423441
41984584
1898937
72350966
84442915
129702080
105815572
31353414,31353415
140559639
77629328
141569176
183260073
195955761
1219701
11737881
15263009
57552264
73669043
84256410
21035108
80829706,80895531
168474308,168479602
93833054
16298268,16298269
11687184,11611732

34466126
85965696
77240602
124799642
3234979
131327896
8421091
136131436
31533965
222873966
36755667
6592474
70397475
78233344
45421742
136340458
132947536
3491082
19916706
39835886
99047711
138586239
125836294
39186109,39233975
115604657
1382459,1590438,1643950,1476732
99047711
5741195
23505467,23505575,23505616
43969528
21770371
139715786
70837080
107459731
1252535,1252536
154585884
168918740,168928224
47678291
73635178
36120888,36101742,36227031
5802998
31302287
19959365

117846079,117846080
206551978
83679983
24507010
121191208
234663626
33729283,34060801
77084652
20832165
112049875,112021706
1104733
12924035
31121792
19978899
32647982
2198844,2226675
12412836,12412837,12739548
32046943
2716530
71779902
178701724,178689460
52317473,52317474
154302293
6869494
12777971
130608855
17656840
92005136
31128568
70775172,70815636
126290561
878078,889943
51513353
145525404
6062988
93567990
16475386
130989049,130935954
125448959,125455371
53534199
71797711,71692546
43864935
1942860

44166374
26087655
47546166
6213311,6213321
57872957
129280064
50894847
154694024
19025380
12188481
150423967
133785745,133787347,133789012,133794455
168839060,169039199
56155967
220411703
11023984
101649441,101694275,101848789,101858142,101892327
12602043

6,138277167,138277332,138277338,138285521,138285529

3,105622249,105622272,105622280

Gene name	number of high covariance sites	chromosome
MARS	1	chr12
POLDIP3	1	chr22
ADAMTS2	1	chr5
GRAMD1A	1	chr19
SPTBN4	1	chr19
SNRPN	1	chr15
TBC1D30	1	chr12
TACC2	1	chr10
PSME3	1	chr17
RPS6KB1	1	chr17
PRKAG3	1	chr2
ARRB2	1	chr17
MAP3K4	1	chr6
PRKX	1	chrX
BCL2	1	chr18
DIP2C	2	chr10
GLT1D1	1	chr12
UGT1A8	3	chr2
STIM1	1	chr11
CCT5	1	chr5
UBAC1	1	chr9
MTRF1L	1	chr6
C20orf196	1	chr20
KIAA1609	1	chr16
CD97	1	chr19
PIK3C2B	2	chr1
SLC22A18	1	chr11
KCNAB2	1	chr1
UNC79	1	chr14
ABCC5	2	chr3
TPST2	1	chr22
TAF2	1	chr8
MYH7	1	chr14
RPS6KA2	1	chr6
C14orf159	1	chr14
HSPB2-C11orf52	1	chr11
RGS12	2	chr4
FGF13	6	chrX
LRP12	1	chr8
UGT1A4	3	chr2
RTDR1	1	chr22
KRT72	1	chr12

MYO7B	1	chr2
LINC00616	2	chr4
IQCG	1	chr3
STOX2	1	chr4
PRKAR1B	1	chr7
DIS3L2	1	chr2
ZNF213	1	chr16
PI4K2B	1	chr4
LDLRAD3	1	chr11
PRSS21	1	chr16
MIR548F5	2	chr13
RAP1GAP2	1	chr17
FAM178B	1	chr2
BCOR	1	chrX
MACROD2	5	chr20
FLVCR1	1	chr1
OCLN	1	chr5
ALPL	1	chr1
TUB	1	chr11
C1orf159	1	chr1
LOC100507373	1	chr19
STX16-NPEPL1	1	chr20
UGT1A6	3	chr2
BOC	1	chr3
GALK2	1	chr15
RNF26	1	chr11
FGGY	1	chr1
TTL10	1	chr1
ZNF516	1	chr18
PMF1-BGLAP	1	chr1
PRR5	1	chr22
CDK16	1	chrX
MLLT1	3	chr19
GIGYF2	1	chr2
GRAMD4	1	chr22
PEAR1	2	chr1
ST3GAL1	1	chr8
TSHZ1	1	chr18
PKD1L2	1	chr16
KBTBD2	1	chr7
C20orf85	2	chr20
NCAM2	1	chr21
MICAL3	1	chr22

TLL2	1	chr10
IL12RB1	1	chr19
FBXL17	1	chr5
SERHL2	1	chr22
KAZN	1	chr1
LOC728431	1	chr1
ZDHHC19	1	chr3
B4GALT1	2	chr9
DMD	2	chrX
ASIC2	1	chr17
TPCN2	2	chr11
RPTOR	3	chr17
MYO15B	1	chr17
WDR4	2	chr21
NAALADL2	2	chr3
FAM20C	2	chr7
SNX8	2	chr7
DKK3	1	chr11
RAB36	2	chr22
GAD1	1	chr2
NTN1	1	chr17
AP3D1	2	chr19
AOX1	1	chr2
WDSUB1	2	chr2
ATP11A	2	chr13
HAGHL	1	chr16
MORN1	1	chr1
RAB35	1	chr12
DMD	3	chrX
INTS1	1	chr7
ATP9A	1	chr20
POLR2A	1	chr17
COLEC11	3	chr2
FAM109B	1	chr22
CTBP1-AS1	1	chr4
CANX	1	chr5
SENP5	1	chr3
PPP4R1L	1	chr20
TTC40	2	chr10
KCNQ1	2	chr11
PLXNB3	1	chrX
TMBIM1	1	chr2
LOC100132273	2	chr22

SELM	1	chr22
RNGTT	1	chr6
CLEC17A	2	chr19
KCND3	2	chr1
DLEU7	1	chr13
UHRF1	1	chr19
C1QL3	2	chr10
LOC653712	1	chr3
SRCAP	1	chr16
HSH2D	2	chr19
WDR5	1	chr9
URGCP	1	chr7
PCDHB8	1	chr5
FADS2	1	chr11
GAS6	1	chr13
BRD1	1	chr22
NR1I2	1	chr3
ABL1	1	chr9
MAGI1	1	chr3
FRMD1	1	chr6
MGMT	1	chr10
SYNGR1	1	chr22
ALX4	1	chr11
HNF4A	1	chr20
RYR1	1	chr19
CMC1	1	chr3
CTNNA3	1	chr10
TSPEAR	1	chr21
CRISPLD2	1	chr16
ABCC1	1	chr16
LIN52	1	chr14
PDZRN3	1	chr3
MRPL28	1	chr16
ULK4	2	chr3
NCOR2	1	chr12
PCDH19	2	chrX
SPTB	1	chr14
SRSF4	1	chr1
MMP25	1	chr16
TMED10	2	chr14
CNPY1	1	chr7
CAMTA1	3	chr1
ABCA13	1	chr7

DNMT1	1	chr19
PTPRN2	6	chr7
LAMC3	1	chr9
BAZ1A	1	chr14
AGAP1	1	chr2
ARMCX4	1	chrX
LYRM7	1	chr5
PLD5	1	chr1
PDSS1	2	chr10
SH2D4B	2	chr10
CDC42SE2	1	chr5
NUBPL	1	chr14
ERCC8	1	chr5
FIBCD1	2	chr9
NBEA	2	chr13
CNTNAP2	1	chr7
SLC36A1	2	chr5
TNFRSF19	1	chr13
LOC440970	1	chr3
9-Sep	2	chr17
SIPA1L3	2	chr19
PIGN	1	chr18
CNOT1	3	chr16
RPF2	1	chr6
ZNF282	2	chr7
CDH4	2	chr20
SNX27	1	chr1
DYSF	1	chr2
LARGE	2	chr22
KHDC1	1	chr6
PIK3R4	1	chr3
USP37	1	chr2
PNKD	2	chr2
ATAD3C	1	chr1
C6orf147	1	chr6
WWOX	1	chr16
PCSK6	2	chr15
EIF4G3	2	chr1
TMX2-CTNND1	1	chr11
AHRR	2	chr5
ZMAT4	1	chr8
PLOD1	1	chr1
LOC100133669	1	chr8

MIR548AI	1	chr14
RTN4RL1	1	chr17
NFATC1	3	chr18
RGS10	1	chr10
SLC45A1	1	chr1
DDX12P	1	chr12
COL6A2	2	chr21
FAM83A	1	chr8
ZNF578	1	chr19
LRRC20	1	chr10
FBXL20	1	chr17
DGCR2	1	chr22
CTNND1	1	chr11
CLYBL	3	chr13
ZNF280C	1	chrX
CDK11B	1	chr1
ERICH1-AS1	1	chr8
KDM4B	1	chr19
MRTO4	1	chr1
LAMA5	3	chr20
KANK1	1	chr9
NLRP2	2	chr19
NAGPA	1	chr16
DET1	1	chr15
COTL1	2	chr16
MAFK	1	chr7
DSCAML1	2	chr11
EFHA1	1	chr13
CPN2	1	chr3
SLC7A9	1	chr19
GABRD	1	chr1
CRELD2	1	chr22
MGAT4C	1	chr12
CTSD	2	chr11
ADCY3	1	chr2
YEATS2	1	chr3
9-Sep	1	chr17
CUL1	1	chr7
DRAM1	1	chr12
BAIAP2	2	chr17
ROR2	1	chr9
SYT2	2	chr1
KDM4C	1	chr9

TGS1	1	chr8
LDLRAD4	1	chr18
GCH1	1	chr14
C7orf10	1	chr7
WBSCR17	1	chr7
TBCD	1	chr17
FAM189A2	1	chr9
MYRF	2	chr11
TMEM184A	2	chr7
GPC1	1	chr2
ZBTB11	1	chr3
HELZ2	1	chr20
C1orf94	2	chr1
LINC00478	1	chr21
ATP8B4	2	chr15
GRM3	1	chr7
RTL1	1	chr14
XKR6	1	chr8
BCYRN1	1	chrX
DAG1	1	chr3
KIAA1217	1	chr10
PQLC1	2	chr18
ZFP82	1	chr19
P2RX4	1	chr12
JRK	1	chr8
CSMD1	2	chr8
DTNB	1	chr2
FOXP1	1	chr3
ZNF517	1	chr8
CYFIP1	1	chr15
FAM187B	1	chr19
LHX6	1	chr9
UGT1A10	3	chr2
TAF1C	2	chr16
MSRA	1	chr8
AQP1	1	chr7
ARHGAP8	1	chr22
PTPRS	2	chr19
AKAP13	1	chr15
ZNF284	1	chr19
MED29	1	chr19
LINC00523	1	chr14
R3HDM4	1	chr19

TRDN	1	chr6
TAF4	1	chr20
ART3	1	chr4
CPNE7	1	chr16
SBNO2	2	chr19
SHD	1	chr19
MAGIX	4	chrX
VPS26A	2	chr10
TMEM8A	1	chr16
JOSD2	1	chr19
ABCC4	1	chr13
MMP17	1	chr12
DNAH17	1	chr17
PCDH9	2	chr13
ACTRT2	1	chr1
NRF1	1	chr7
RBMS3	1	chr3
MCF2L	1	chr13
BTBD2	1	chr19
NSMCE1	1	chr16
DKK4	1	chr8
FAT3	1	chr11
FAR1	1	chr11
TCF7L1	1	chr2
MACROD2	2	chr20
MAP3K12	1	chr12
NUDCD1	1	chr8
GTF2A1L	1	chr2
ZNF890P	1	chr7
CCDC102B	1	chr18
OBSCN	1	chr1
ZNF565	1	chr19
COL25A1	1	chr4
EHMT1	1	chr9
C2orf83	2	chr2
TFDP2	1	chr3
LRRC4C	1	chr11
LRRC15	1	chr3
CCDC88C	1	chr14
PCSK6	4	chr15
VDR	2	chr12
CTBP2	3	chr10
GFOD1	1	chr6

GLB1	1	chr3
RADIL	1	chr7
DNAJB13	2	chr11
STON1-GTF2A1L	1	chr2
LINC00673	1	chr17
IFNAR1	1	chr21
SNX14	1	chr6
PTPRM	1	chr18
CCDC113	1	chr16
MLL3	1	chr7
C1QTNF6	1	chr22
ANKRD24	1	chr19
RIN1	1	chr11
TCEAL2	1	chrX
PMF1	1	chr1
GOLGB1	1	chr3
SLITRK4	1	chrX
LRP1B	1	chr2
PTER	1	chr10
LOC100286922	2	chr2
ANKFY1	1	chr17
DOK6	2	chr18
C15orf38-AP3S2	1	chr15
VIPR2	1	chr7
ENPP7	1	chr17
ABLIM2	1	chr4
CHD4	1	chr12
CLPSL1	1	chr6
DAGLA	5	chr11
GAS7	1	chr17
CDH12	1	chr5
HMHA1	1	chr19
ABCB5	1	chr7
ATG4B	1	chr2
ESR1	1	chr6
NOTCH1	1	chr9
FOXK2	2	chr17
NEBL	1	chr10
LAMA4	1	chr6
FAM69C	1	chr18
STK40	2	chr1
SVIL	1	chr10
SNX29	1	chr16

LINC00840	1	chr10
POC1B	1	chr12
STK11	1	chr19
ZNF7	1	chr8
CNOT1	2	chr16
GPR98	1	chr5
B3GALT6	1	chr1
ACYP1	1	chr14
BTBD16	1	chr10
MUC17	1	chr7
MLF1	1	chr3
MRC2	1	chr17
GTF3C1	1	chr16
LRRTM4	1	chr2
UBE2H	1	chr7
COL5A3	1	chr19
CHFR	1	chr12
ABCA2	1	chr9
ADNP2	1	chr18
IFT140	1	chr16
GPC5	1	chr13
SUV420H2	1	chr19
IL1RAP	2	chr3
KIRREL3	1	chr11
PDE9A	1	chr21
JAG2	5	chr14
RER1	1	chr1
MIR548AN	1	chr13
AP3S2	1	chr15
SULF2	1	chr20
BPTF	1	chr17
COL14A1	1	chr8
PRKCZ	3	chr1
PVRL1	1	chr11
IQSEC1	1	chr3
GATA4	1	chr8
CEP112	2	chr17
GEMIN7	1	chr19
KCNQ2	2	chr20
NRCAM	1	chr7
POR	2	chr7
PCNXL2	1	chr1
PCSK2	1	chr20

VGLL4	1	chr3
SLC2A5	1	chr1
PDE12	1	chr3
IFNL4	1	chr19
NT5C3	1	chr7
MEGF6	1	chr1
LOC653160	1	chr1
EMC1	1	chr1
RHOH	1	chr4
SKI	1	chr1
CHST8	1	chr19
EML1	1	chr14
WDR90	1	chr16
DCTN2	1	chr12
MIPEP	1	chr13
STK3	1	chr8
SHANK2	3	chr11
TXN2	1	chr22
ASAP1	2	chr8
RALYL	1	chr8
GALNTL6	2	chr4
PKP4	3	chr2
SPON1	1	chr11
UGT1A9	3	chr2
HAUS7	2	chrX
SMOC1	1	chr14
TBC1D22A	1	chr22
PGS1	2	chr17
RAB40C	1	chr16
USP8	1	chr15
CAMK1D	1	chr10
LYRM4	1	chr6
CTBP1	3	chr4
RAB5B	1	chr12
AP1M1	1	chr19
KCNK17	2	chr6
MAGEA4	1	chrX
WDR19	1	chr4
DDX1	1	chr2
HIBCH	1	chr2
PARVB	1	chr22
SLC7A5	1	chr16
EPHA1-AS1	1	chr7

CUX1	5	chr7
ARHGAP19-SLIT1	2	chr10
UGT1A3	2	chr2
NPY	1	chr7
ANO1	2	chr11
C6orf123	1	chr6
MYH7B	1	chr20
ENPP6	1	chr4
MYO9B	1	chr19
ZNF483	2	chr9
MRPL45P2	2	chr17
SMAD6	1	chr15
ANKRD13C	1	chr1
EPB41L2	1	chr6
PLEKHG4B	1	chr5
RPL23AP53	6	chr8
C1QTNF2	1	chr5
GRM5	1	chr11
SH3BP2	1	chr4
TSPAN9	3	chr12
MAP2K2	1	chr19
KIF1A	1	chr2
CLCN7	1	chr16
ATXN1	1	chr6
KIAA1432	1	chr9
TMCO3	1	chr13
GNAZ	1	chr22
DOT1L	2	chr19
INPP5A	2	chr10
FAM19A5	1	chr22
EIF4A3	1	chr17
TMPRSS15	1	chr21
CHMP6	1	chr17
AP3M1	3	chr10
DIAPH2	2	chrX
COL23A1	5	chr5
UGT1A5	3	chr2
AP2A2	1	chr11
CABP1	1	chr12
ARHGEF9	1	chrX
CCT3	1	chr1
PARK2	2	chr6
PRR5-ARHGAP8	2	chr22

DIAPH2	1	chrX
RYR3	3	chr15
ZFP42	2	chr4
SFRP1	1	chr8
MKLN1	1	chr7
B4GALNT4	1	chr11
ARHGEF10	1	chr8
AGPS	1	chr2
ERC1	1	chr12
MOB2	2	chr11
PIEZO1	2	chr16
EIF2AK4	1	chr15
DLGAP3	1	chr1
SERPINH1	1	chr11
SLC29A4	1	chr7
GTF2IRD1	1	chr7
EED	1	chr11
FLJ12825	1	chr12
CELSR1	2	chr22
CTBP2	1	chr10
FZR1	3	chr19
TNFAIP2	1	chr14
CAMSAP3	1	chr19
BEND2	1	chrX
ITGBL1	1	chr13
DLEU7-AS1	1	chr13
TSNARE1	1	chr8
FGF2	1	chr4
FPGT-TNNI3K	1	chr1
ASCL3	1	chr11
FLG	2	chr1
LINC00200	1	chr10
GAK	1	chr4
FAM189A1	1	chr15
SEPSECS	1	chr4
LPHN1	1	chr19
NDP	1	chrX
ANTXR2	12	chr4
EHD1	1	chr11
SEC14L1	1	chr17
CBFA2T3	3	chr16
GSK3B	1	chr3
TNNI3K	1	chr1

FAM129C	1	chr19
TYW1	1	chr7
TIAM1	1	chr21
PIGU	1	chr20
TNRC18	1	chr7
RHPN1-AS1	1	chr8
C7orf50	1	chr7
UHRF1BP1L	1	chr12
YIF1B	2	chr19
PCSK4	1	chr19
ZNF99	1	chr19
VAV2	1	chr9
NINL	1	chr20
AASDH	1	chr4
ZNF664-FAM101A	2	chr12
TRPM7	2	chr15
SEC14L5	3	chr16
IL32	1	chr16
AES	1	chr19
NPEPL1	1	chr20
ZIC1	1	chr3
IGF1R	1	chr15
NOV	1	chr8
NPR3	2	chr5
FHIT	1	chr3
HADHA	1	chr2
DGKE	1	chr17
CTPS2	1	chrX
BSN	1	chr3
AFMID	1	chr17
FAM227A	1	chr22
C10orf68	1	chr10
PODN	1	chr1
TRAPPC8	1	chr18
FRRS1L	1	chr9
IDO2	1	chr8
RIPK4	1	chr21
TBC1D8	1	chr2
ITPR2	1	chr12
TAZ	1	chrX
ARHGAP23	1	chr17
RAB20	1	chr13
GNG7	1	chr19

GPR133	3	chr12
SORCS1	2	chr10
TGFBRAP1	1	chr2
FCHO1	1	chr19
SLC37A1	1	chr21
ZIC3	1	chrX
KAT2B	1	chr3
PAR6B	1	chr20
TUFT1	1	chr1
ANP32E	2	chr1
PDE1A	1	chr2
URGCP-MRPS24	1	chr7
ESPL1	1	chr12
TNPO3	1	chr7
CACNA1B	1	chr9
PCCA	1	chr13
NXN	1	chr17
PRDM16	1	chr1
FTSJ1	2	chrX
KIAA1211	1	chr4
KIAA1751	1	chr1
KIF19	1	chr17
RBFOX1	2	chr16
COL17A1	1	chr10
CHMP5	1	chr9
CORO2B	1	chr15
DLGAP2	2	chr8
KLHL6	1	chr3
SLC51A	1	chr3
TPT1-AS1	1	chr13
MAD2L2	1	chr1
PPFIA3	1	chr19
HTRA3	1	chr4
FAM19A4	1	chr3
KIF17	1	chr1
CACNA1G	1	chr17
WDR24	1	chr16
FRMD1	2	chr6
HEPHL1	1	chr11
ADAMTS17	1	chr15
HDAC4	1	chr2
PCSK6	3	chr15
PACSIN1	1	chr6

FLI1	2	chr11
FAM101A	1	chr12
ANO2	3	chr12
HTT	1	chr4
ACSL6	1	chr5
TMF1	1	chr3
SGSM1	1	chr22
PLA2G3	1	chr22
BCL11B	1	chr14
FAM53A	3	chr4
ADARB2	1	chr10
LOC441666	8	chr10
HPS5	1	chr11
UGT1A7	3	chr2
APOC1	1	chr19
SLC2A6	1	chr9
TSPAN11	1	chr12
QRICH2	1	chr17
ATP9B	1	chr18
TSPAN2	1	chr1
CLPTM1	1	chr19
OCA2	1	chr15
PTCHD2	2	chr1
CUL3	1	chr2
SLC12A5	1	chr20
CXCR3	1	chrX
ST6GAL2	1	chr2
YWHAE	2	chr17
SYNPR	2	chr3
SMOC2	2	chr6
SH3PXD2A	2	chr10
LOC339166	1	chr17
TMEM240	1	chr1
LOC286059	1	chr8
MAML2	1	chr11
TNC	2	chr9
NRP2	1	chr2
ABO	1	chr9
ASF1B	1	chr19
GBF1	1	chr10
ENGASE	1	chr17
RYR2	1	chr1
CHD1	1	chr5

ARHGAP19	2	chr10
CACNA1H	2	chr16
FANCC	2	chr9
TJP2	1	chr9
EYA2	1	chr20
CYP11B1	1	chr8
OPRD1	1	chr1
MND1	1	chr4
RBFOX1	1	chr16
CPPED1	1	chr16
SAMD3	1	chr6
LONRF3	1	chrX
HSF1	1	chr8
FERMT1	1	chr20
ZSCAN1	2	chr19
IL6R	1	chr1
DHX37	2	chr12
CBFA2T3	2	chr16
MYO15A	1	chr17
CACNA1D	1	chr3
N4BP3	2	chr5
EPHA2	1	chr1
DYSF	2	chr2
ADAMTS20	1	chr12
LOC286467	4	chrX
PLAUR	1	chr19
KIF26B	4	chr1
PLEKHG1	3	chr6
TNFRSF8	1	chr1
PXDNL	1	chr8
RPRD2	4	chr1
ACSM1	1	chr16
ALDH1L1	1	chr3
RASA3	1	chr13
UGGT2	1	chr13

site locations

57889227
42990074
178701724
35502532
41050290
25196084
65269045
123817855
40992887
57986974
219691758
4622638
161500455
3621933
60816889
367482,444996
129417210
234633332,234663626,234663653
3982840
10253162
138831135
153311755
5741195
84514963
14506631
204417023,204436065
2937629
6143145
93805879
183713815,183713816
26971735
120798926
23896981
167182470
91609462
111784923
3423441,3374161
138136408,138136474,138277128,138277131,138277156,138277167
105540724
234633332,234663626,234663653
23441116
52995043

128367090
138973585,138974330
197665044
184848069
752449
232933589
3192535
25248474
36135842
2871451
36101742,36227031
2824332
97543776
39933047
14423492,14423493,14759025,15966163,15984559
213048256
68831858
21892980
8088757
1023891
14260075
57274149
234633332,234663626,234663653
112991312
49458652
119206373
59938978
1109849
74097118
156189625
45113150
47086345
6213284,6213311,6213321
233566677
47074257
156878421,156883491
134494941
72949954
81166557
32909180
56732799,56733571
22385757
18398207

98132016
18183527
107417280
42969129
15127614
37923004
195925355
33132490,33132491
31912609,32094716
31372187
68821860,68853503
78597523,78683458,78847067
73595712
44280703,44290375
175269482,174850766
214822,226491
2291790,2293508
11988839
23505467,23505575
171675123
8993970
2131565,2131578
201475722
160102724,160102738
113362104,113398928
779687
2310576
120538685
31912609,32094716,32603677
1532399
50288630
7405073
3644890,3645428,3648757
42473603
1244109
179145862
196634119
56845938
134681693,134727535
2495420,2798848
153033730
219146078
42492062,42492104

31503149
89498970
14712665,14712697
112525024,112525031
51417534
4945917
16561923,16561939
128587817
30747191
16269140,16269141
137005022
43923161
140559639
61609749
114555024
50191970
119533732
133593565
65412778
168474308
131316315
39754031
44330555
43044775
39071020
28296877
67854284
45941327
84872049
16161030
74646222
73669147
419921
41962818,41882537
124826676
99662864,99662866
65220461
29485475
3101637
75621019,75639854
155323907
7633798,7639870,7742833
48244355

10247268
157606110,157793222,157799746,158109457,158240238,158240257
133906248
35332660
236613477
100713754
130529475
242252838
27015760,27015761
82360631,82360632
130638028
32180470
60192106
133787347,133789012
36101742,36227031
146050135
150834304,150834312
24155527
84695352
75348109,75372848
38554304,38697053
59803822
58560322,58610256,58610257
111342297
148904623,148904794
60450242,60452249
151615685
71797711
33911677,34060801
74009153
130434201
219328681
219186591,219146078
1387347
74009153
78357293
101924537,101924539
21134595,21134596
57552264
355048,435782
40518778
12015766
144081249

29968344
1841741
77202644,77202645,77220878
121301386
8392394
9588490
47546079,47546166
124219472
52985695
72083976
37552988
19025380
57552264
100545379,100260559,100260560
129385813
1576635
872324
5095792
19583733
60926221,60930091,60938308
655106
55494187,55495378
5075224
89067474
84608934,84615224
1574811
117544836,117566161
22069818
194063152
33354403
1956361
50318505
86995791
1777815,1778321
25064191
183493990
75372848
148480233
102277334
79042974,79063592
94516767
202638788,202638789
7147974

56736652
13571929
55363590
40287102
70886007
80829706
71951803
61547236,61547237
1587041,1587042
241387018
101393295
62199258
34642382,34642490
17725744
50239403,50239404
86457243
101349763
10798255
70837080
49517215
24832885
77674633,77683125
36893856
121661688
143747271
3828373,4256138
25638407
71290557
146030084
22896102
35718191
124987769
234633332,234663626,234663653
84212709,84212710
10280165
30955122
45187308
5238770,5263766
86184442
44585591
39883987
101138965
897518

123681139
60598912
76990688
89656043
1148048,1164139
4287197
49022855,49022886,49022891,49022902
70910031,70910888
427782
51012814
95741647
132329206
76565604
67197164,67197166
2938265
129265545
29503557
113705141
2000129
27244129
42232916
92622010
13695712
85517291
15966163,15984559
53885310
110343617
48844977
5175313
66602320
228472980
36680376
109933638
140653360
228491298,228491315
141846292
40459032
194077617
91775504
101903335,101915394,101924537,101924539
48257325,48257326
126715435,126719831,126719832
13430489

33128890
4857396
73669043,73681089
48844977
70526843
34711337
86280873
8219261
58300770
151998404
37578578
4190586
66099987
101380931
156189625
121407725
142721761
142022616
16504929
234663626,234663653
4165347
67361019,67361031
90425672
158896515
77708969
8019279
6715084
35753205
61490244,61511261,61456424,61458594,61494325
9820694
22116020
1071946
20749914
242610500
152077845
139424016
80491066,80508538
21183608
112505108
72110160
36807480,36810010
29780291
12174662

44373190
89897387
1219701
146068321
58610256,58610257
89896790
1168540
75528578
124089034
100684925
158319418
60728953
27491291
77379705
129534618
10102490
133420273
139904754
77879657
1641550
92577340
55856850
190352746,190352783
126453648
44152788
105622204,105622207,105622243,105622249,105622272
2334259
100043086
90425672
46344569
65867128
121164388
2040776,2041154,2048727
119574608
12946689
11566772
63904583,63859606
45587004
62049177,62056325
107811682
75611354,75614294
233399444
17411845

11611732
9126976
57544713
39737866
33096643
3450637
35442519
19573205
40238931
2214430
34188708
100402814
711711
57925285
24341072
99751599
70425842,70425843,70437604
36869013
131069818,131427223
85812638
173103159,173030020
159519410,159519451,159519478
14099081
234633332,234663626,234663653
152746484,152746485
70397475
47508572
76400505,76400506
651516
50752566
12412836
5154846
1222301,1224540,1224647
56385579
16339715
39271537,39271538
151087988
39233975
15756328
191150856
44515804
87871580
143111464

101694275,101848789,101858142,101892327,101842576
99047710,99047711
234663626,234663653
24324808
69971133,69979164
168185593
33583715
185037323
17188322
114294417,114294418
45565093,45565384
66998856
70815636
131245620
163768
179588,179616,179623,179642,179644,179653
159789608
88619806
2829476
3227502,3277484,3386339
4094774
241674447
1497136
16692260
5683494
114166775
23441116
2198844,2226675
134372679,134372680
49057291
78114653
19660981
78971536
75880423,75893632,75893633
96508663,96798784
177741111,177808674,177808675,177968358,177968359
234633332,234663626,234663653
1001560
121088884
63005076
156293490
162850908,162254655
45113150,45187308

96508663
33609541,33652116,33993318
188918159,188918166
41122515
130918981
372156
1790861
178331204
1421739
1777815,1778321
88793822,88797567
40314967
35369244
75279846
5338900
73982269
85964886
54500162
46908054,46839894
126715435
3526496,3526784,3533273
103595564
7663229
18236885
102277204
51417534
143313650
123787320
74712951
8959545
152276148,152286107
1206496
878078
29499634
25158222
14260075
43829064
80885897,80885901,80885910,80885924,80885930,80885933,80885952,80885978,8088598
64621469
75170673
89038729,88953882,88991154
119689587
74712951

17656840
66479905
32831129
33212945
5427651
144449706
1100693
100518917
38794450,38794465
1485478
22943371
136778878
25441432
57249091
124799642,124545513
50935282,50935283
5029979,5038242,5047168
3117519
3053682
57274149
147128594
99504127
120433500
32770312,32770392
60004440
26440941
54933103
16727277
49701981
76198457
39013521
33161834
53537264
29457371
111926896
39835886
43165015
101654460
26924516
153648928
36590622
111207612
2601809

131519660,131521885,131549814
108554540,108715748
105923990
17899267
43946639
136648374
20111266
49365211
151527035
150194484,150202102
183363989
43923161
53665648
128671100
141002309
101106210
846798
3228639
48339984,48339985
57080660
1898937
72350966
6384299,6869494
105815572
33269800
69011119
1496555,1493528
183260073
195955761
45919499
11737881
49629845
8278123
68931611
21035108
48689799
737791
168474308,168479602
93833054
100667714
239997710
101915394,101924537,101924539
34466126

128611281,128611282
124799642
5998344,5998328,5998366
3234979
131327896
69089846
25228296
31533965
99679700
1645478,1649416,1663210
1643950
42837883,42837904,42854040,42854072,42854116,42863173,42863209,42863215
18338734
234633332,234663626,234663653
45421742
136340458
31133655
74294757
76910759
115604657
45490426
28256783
11591735,11591802
225394812
44686590
70837080
107459731
1252535,1252536
63269640,63269641
168918740,168928224
105584366,105480533
5802998
1475095
22927142
95965927
117846079,117846080
206551978
136131436
14231242
104089420
77084652
237382689
98259396

99047710,99047711
1211221,1235322
97979532,97979533
71779902
45543675
143957579
29190137
154302293
6869494
12777971
130608855
118143818
145525404
6062988
58552731,58545712
154416933
125448959,125455371
88953882,88991154
18054691
53534199
177546160,177548237
16455051
71797711,71692546
43864935
130863889,130863893,130863905,130863933
44166374
245381025,245393901,245681000,245715801
151083585,151085415,151102302
12188481
52317474
150375271,150410977,150423966,150423967
20641660
125834605
114880846
96580857

!0,80885982,80885995,80885996

Gene name	number of high covariance sites	chromosome
LOC100289019	1	chr9
PRKX	1	chrX
CCDC40	1	chr17
BCL2L14	1	chr12
PTPRN2	3	chr7
TPPP	2	chr5
ARRB2	1	chr17
KCNJ12	1	chr17
BIN3	1	chr8
SORCS3	1	chr10
WDR31	2	chr9
TBC1D8	2	chr2
CRLF1	1	chr19
UBAC1	1	chr9
RGS22	9	chr8
LDB2	1	chr4
OSBPL5	1	chr11
TNS1	1	chr2
MRPL28	2	chr16
CARD11	2	chr7
PRKCA	1	chr17
LCP1	1	chr13
EEF1E1-MUTED	1	chr6
IGSF11	1	chr3
ITPR3	1	chr6
DPP6	1	chr7
TRPV3	1	chr17
DRAM1	1	chr12
DZANK1	1	chr20
MYRF	2	chr11
RPS6KB1	1	chr17
MAB21L1	2	chr13
DNMT3A	1	chr2
PARD3	1	chr10
KIF26B	1	chr1
PI4K2B	1	chr4
ELOVL6	1	chr4
BSND	1	chr1
BCOR	1	chrX
TUB	1	chr11
CSMD1	3	chr8
NCOR2	2	chr12

UGT1A6	1	chr2
TBC1D16	1	chr17
RNF26	1	chr11
FGGY	1	chr1
RPS6KA1	1	chr1
CCM2	1	chr7
PPIL6	1	chr6
NFATC1	3	chr18
SCAMP4	1	chr19
NTSR1	1	chr20
MYH10	1	chr17
LHX3	1	chr9
IL12RB1	1	chr19
FAM19A5	2	chr22
SHANK2	1	chr11
PHF21B	1	chr22
SERPINF2	1	chr17
IQSEC1	1	chr3
RRP7A	1	chr22
ZNF236	1	chr18
DKK3	1	chr11
TBL1XR1	1	chr3
PDE6C	1	chr10
FUT3	1	chr19
FILIP1	1	chr6
PGP	1	chr16
DDX3X	1	chrX
MROH1	1	chr8
MSRA	1	chr8
ZNF708	1	chr19
KCNQ2	1	chr20
PACRG	1	chr6
KIRREL	1	chr1
BMF	1	chr15
DEAF1	1	chr11
KCNAB2	1	chr1
GABRD	1	chr1
UGT1A5	1	chr2
ATP9A	1	chr20
FAM53A	2	chr4
FOXO1	1	chr13
CUX1	1	chr7
TEX2	2	chr17

CEP72	1	chr5
TMED10	1	chr14
CDH4	1	chr20
MACF1	3	chr1
CCT5	2	chr5
KCTD13	2	chr16
BANF2	1	chr20
TMEM41B	1	chr11
PLIN4	1	chr19
ENOSF1	2	chr18
CDH4	2	chr20
FADS2	1	chr11
KSR2	1	chr12
NTSR2	1	chr2
NR1I2	1	chr3
PEX14	3	chr1
PPIL4	1	chr6
VIPR2	1	chr7
KIAA0586	1	chr14
PPP1R26	1	chr9
NWD1	1	chr19
ANO9	1	chr11
CMC1	1	chr3
TRIM27	1	chr6
TRAPPC11	1	chr4
INF2	1	chr14
NGEF	1	chr2
NACC2	1	chr9
GPR123	1	chr10
GLB1L3	1	chr11
HDAC9	1	chr7
CTBP2	2	chr10
CNTRL	1	chr9
MAGEB3	1	chrX
RPSA	1	chr3
INF2	2	chr14
KDM4C	1	chr9
MAP2K5	1	chr15
PDE9A	2	chr21
RIMBP2	1	chr12
TSNARE1	1	chr8
COL4A2	1	chr13
IL1RAP	2	chr3

MUC5B	1	chr11
KIAA1217	1	chr10
FAM19A2	1	chr12
SYT1	1	chr12
ATP13A2	1	chr1
ZNF787	1	chr19
TENM2	1	chr5
SPECC1	1	chr17
LOC440970	1	chr3
ATG14	1	chr14
CNOT1	3	chr16
SLC25A25	2	chr9
ARSG	1	chr17
TBCE	1	chr1
DYSF	1	chr2
LRP8	1	chr1
PRKCI	1	chr3
RNF149	1	chr2
CRAT	1	chr9
HDAC4	1	chr2
CD38	1	chr4
ELMO1	1	chr7
SF3B3	1	chr16
KDM4B	1	chr19
JAKMIP1	1	chr4
MIR548F5	2	chr13
APBA2	1	chr15
CACNA1D	1	chr3
HOXD10	1	chr2
HS3ST4	1	chr16
TMEM8B	1	chr9
RGS10	1	chr10
SDCCAG8	1	chr1
LARP1B	6	chr4
ERICH1-AS1	1	chr8
AGAP1	1	chr2
MRTO4	1	chr1
LAMA5	3	chr20
PHIP	1	chr6
ZNF738	1	chr19
MYO9B	1	chr19
CASZ1	1	chr1
ZFHX3	1	chr16

CPN2	1	chr3
SLC7A9	1	chr19
SENP6	1	chr6
CACNB2	2	chr10
STEAP3	1	chr2
FLJ37505	1	chr12
TMEM249	1	chr8
MAPK8IP1	1	chr11
FAM219A	1	chr9
GLI2	1	chr2
TNRC18	2	chr7
GOLGA3	3	chr12
KIAA0226	1	chr3
INO80D	2	chr2
GCH1	1	chr14
LOC100133050	1	chr5
SURF6	3	chr9
MEF2BNB	1	chr19
DGKD	1	chr2
FAM189A2	1	chr9
ACACB	1	chr12
SORBS2	1	chr4
LARGE	1	chr22
ERGIC1	1	chr5
ZFP82	1	chr19
DTNB	1	chr2
ZNF500	1	chr16
CYFIP1	1	chr15
PDZD8	1	chr10
KHSRP	1	chr19
CREBL2	1	chr12
MEF2D	1	chr1
OPA3	1	chr19
BAZ1A	1	chr14
NBPF9	1	chr1
EPPK1	3	chr8
TM7SF3	1	chr12
C20orf85	1	chr20
PLEC	1	chr8
AKR7L	1	chr1
KCNT1	1	chr9
KANK1	4	chr9
CACNA1A	1	chr19

PFKL	1	chr21
TRDMT1	1	chr10
MACROD2	1	chr20
NFAT5	1	chr16
NLRP2	3	chr19
MCAT	1	chr22
FAR1	1	chr11
VPS26A	1	chr10
DCDC2	1	chr6
MAP3K12	1	chr12
FBRSL1	1	chr12
PMEPA1	1	chr20
BFSP2	1	chr3
MRGPRX2	1	chr11
WDR1	1	chr4
LRRC15	1	chr3
PHF17	1	chr4
VDR	2	chr12
TMC5	1	chr16
TACC3	1	chr4
LINGO2	1	chr9
PDXK	2	chr21
APBB2	2	chr4
ZNF454	1	chr5
ESR1	2	chr6
GTF2IRD1P1	1	chr7
MSI2	1	chr17
STK40	1	chr1
MAEA	1	chr4
MUC4	2	chr3
COLEC11	1	chr2
UGT1A3	1	chr2
STIM1	1	chr11
GOLGB1	1	chr3
TPCN2	1	chr11
JARID2	1	chr6
PRDM15	1	chr21
OSBPL3	1	chr7
GPC1	1	chr2
RTEL1	1	chr20
MRPL54	2	chr19
TBC1D20	1	chr20
METAP1D	1	chr2

XRN2	2	chr20
LOC100009676	1	chr3
FLI1	1	chr11
ATG4B	1	chr2
HRNR	1	chr1
LAMA4	1	chr6
GMDS	1	chr6
NUP210	1	chr3
CACNA1H	1	chr16
SVIL	1	chr10
LOC100286922	1	chr2
UGT1A8	1	chr2
CMPK1	1	chr1
SIX2	1	chr2
PHACTR4	1	chr1
WNK2	1	chr9
GRIK2	1	chr6
CNOT1	2	chr16
YIPF4	1	chr2
ACYP1	1	chr14
GTF3C1	1	chr16
CDHR2	1	chr5
AKT1	1	chr14
UGT1A4	1	chr2
MORC2-AS1	1	chr22
SLC39A11	1	chr17
LINC00290	1	chr4
KIAA1211L	1	chr2
GREM1	2	chr15
NRG1	2	chr8
ZNF550	1	chr19
LIN54	1	chr4
NXN	1	chr17
TMEM104	1	chr17
CDK16	1	chrX
LPIN1	1	chr2
AGPS	1	chr2
VPS53	1	chr17
VPS54	1	chr2
KREMEN1	1	chr22
NELFB	1	chr9
MMAB	1	chr12
THRB	1	chr3

LMF1	1	chr16
BLOC1S5-TXNDC5	1	chr6
AES	1	chr19
ANAPC2	1	chr9
PI4KAP1	1	chr22
DOC2B	1	chr17
WISP1	1	chr8
KLHDC4	1	chr16
DNMT3B	1	chr20
EP400	1	chr12
EHMT1	1	chr9
PGS1	3	chr17
LOC440704	1	chr1
KCNK17	2	chr6
COL9A3	1	chr20
SCML4	1	chr6
STMN3	1	chr20
GEMIN7	2	chr19
PPP5D1	1	chr19
PLA2G4E	1	chr15
SLC24A3	1	chr20
TWSG1	1	chr18
RTEL1-TNFRSF6B	1	chr20
PDE3A	1	chr12
ZNF275	1	chrX
AP3M1	1	chr10
BAIAP2	1	chr17
CCND3	1	chr6
DLGAP2	1	chr8
CLCN4	1	chrX
MACROD1	1	chr11
SH3BP2	1	chr4
KIF1A	1	chr2
ATXN1	1	chr6
DDX6	1	chr11
FAM46C	1	chr1
EML2	1	chr19
SBSN	1	chr19
GLDC	1	chr9
NECAB1	1	chr8
SORCS2	4	chr4
TBC1D14	1	chr4
C14orf159	1	chr14

MGMT	2	chr10
PNPLA3	1	chr22
HHIPL2	1	chr1
TRIM36	1	chr5
HSPA7	1	chr1
CABP1	1	chr12
RBFOX1	1	chr16
ERC1	1	chr12
C7orf50	1	chr7
NAV2	1	chr11
KLF12	1	chr13
REXO1	1	chr19
FBXW8	1	chr12
SLC29A4	1	chr7
INO80	2	chr15
CLPTM1L	1	chr5
TSSC1	1	chr2
BLOC1S5	1	chr6
RNF10	1	chr12
BAI3	1	chr6
ZNF493	1	chr19
UGT1A9	1	chr2
PTPRG	2	chr3
ZFPM2	1	chr8
NBEA	2	chr13
CCDC109B	1	chr4
FGF2	1	chr4
CTSD	1	chr11
KANK1	2	chr9
ANGPT2	1	chr8
MICAL3	2	chr22
SLC7A5	1	chr16
EYA4	2	chr6
PRKCZ	2	chr1
CAB39L	1	chr13
FBXL18	2	chr7
APAF1	1	chr12
KCNQ1	1	chr11
CHMP2A	1	chr19
ROR2	1	chr9
RBFOX1	4	chr16
ANKMY1	4	chr2
SENP5	2	chr3

PRKAG2	1	chr7
TNN	1	chr1
AGBL4	1	chr1
PODN	1	chr1
UVSSA	1	chr4
C2orf83	1	chr2
LOC100130992	1	chr10
MYBBP1A	1	chr17
MMP25	2	chr16
SIPA1L3	1	chr19
ANP32E	2	chr1
KCNMA1	1	chr10
DOK6	1	chr18
QSOX2	1	chr9
ANHX	1	chr12
ENPP6	2	chr4
KANSL1	1	chr17
KLRD1	2	chr12
PTPN9	1	chr15
GAS7	1	chr17
SCFD2	1	chr4
TNPO3	1	chr7
WDR37	1	chr10
TBC1D22A	2	chr22
LMNB2	1	chr19
FLJ12825	1	chr12
CHMP5	1	chr9
SYTL3	1	chr6
ESR1	1	chr6
UGT1A7	1	chr2
PIGG	2	chr4
TNS3	2	chr7
CAPG	3	chr2
PPFIA3	1	chr19
WDR7	1	chr18
NFIC	1	chr19
WDR24	1	chr16
LONRF2	1	chr2
RERE	2	chr1
SYT6	1	chr1
LOC441601	1	chr11
IL32	1	chr16
AFAP1	1	chr4

LONP1	1	chr19
HTT	1	chr4
TMF1	1	chr3
SGSM1	1	chr22
SLC9C1	1	chr3
DMRT2	1	chr9
STARD4-AS1	1	chr5
LOC389634	1	chr12
USP48	2	chr1
PGBD5	1	chr1
TSPAN11	1	chr12
C1orf151-NBL1	1	chr1
ITIH5	1	chr10
POU4F2	1	chr4
KIAA1967	2	chr8
CARD14	1	chr17
PPARD	1	chr6
MAP2K7	1	chr19
PRR24	1	chr19
ZDHHC14	1	chr6
CUL4A	1	chr13
PBRM1	1	chr3
CCL25	1	chr19
MEF2BNB-MEF2B	1	chr19
NFASC	1	chr1
MLLT10	1	chr10
ATP8B4	3	chr15
APOBEC3H	2	chr22
ANTXR2	17	chr4
DAPK1	1	chr9
GALNT7	1	chr4
MYO7A	2	chr11
WDSUB1	2	chr2
SMAP1	1	chr6
MDGA1	1	chr6
UGT1A10	1	chr2
MOB2	1	chr11
CHFR	5	chr12
GNG7	1	chr19
CDH18	2	chr5
SYNPR	2	chr3
SGK1	1	chr6
RDH13	1	chr19

MYCBPAP	1	chr17
IFT27	3	chr22
NAPA	1	chr19
LY86-AS1	1	chr6
MCPH1	1	chr8
DPP10	1	chr2
PRDM16	1	chr1
MIR5009	1	chr21
MEGF6	1	chr1
RPRD2	4	chr1
ZMAT3	1	chr3
NALCN-AS1	1	chr13
RIBC2	1	chr22
TGIF1	2	chr18
NFATC1	4	chr18
UGGT2	1	chr13

site locations

130874245

3621933

78067456

12225207

157454478,157606110,158349807

674370,664082

4622638

21288836

22479988

106402969

116086817,116086818

101654460,101761168

18706287

138831135

101118167,101118178,101118180,101118216,101118232,101118235,101118246,101118248

16624957

3172913

218802990

419921,419974

3000633,3062322

64479342

46711447

8053059

118844761

33601000

154150241

3451152

102277334

18384675

61547236,61547237

57986974

36049594,36049601

25551130

35084200

245393901

25248474

111114534

55464790

39933047

8088757

3350740,3620826,4656635

124826676,124995813

234663653
77943467
119206373
59938978
26899124
45068112
109717108
77202645,77220878,77221799
1917127
61340967
8505453
139091549
18183527
49062539,49062544
70425843
45339208
1655489
12956530
42910374
74574323
11988839
176889359
95375286
5847195
76160100
2261683
41200425
145252482
10278677
21474934
62049177
163501131
158062337
40391964
658048
6132067
1956361
234663653
50288630
1645478,1663210
41217203
101771662
62233645,62243646

640726
75639854
60432232
39577117,39577199,39683297
10253162,10253312
29921210,29921211
17686898
9311701
4512512
696500,696502
59897399,60432232
61609749
118169150
11809894
119533732
10612073,10631814,10640437
149846961
158896515
58914418
138377899
16843835
433904
28296877
28882096
184631918
105170221
233770144
138905214
134912150
134162865
18531432
126719831,126719832
123926393
30250321
39450360
105170221,105171845
7147974
67883998
44152788,44152488
130935502
143382143
111134778
190352746,190352783

1271429
24516752
62541379
79744327
17313341
56621183
167011860
20065618
84695352
55874093
58560322,58610256,58610257
130842141,130845150
66354791
235600208
71797711
53742736
169971406
101894221
131863236
240156784
15779999
37463048
70570289
4977744
6073246
36049594,36049601
29409676
53769479
176982491
26031806
35846606
121301386
243651458
128987146,128987362,128987417,128987424,128987921,129018407
1042396
236679058
19583733
60926221,60930091,60938308
79701971
21543403
17283402
10828178
73001596

194063152
33354403
76382861
18565703,18565704
120012170
128375623
145577616
45923465
34400580
121634009
5355940,5361230
133366240,133373503,133365918
197403563
206904061,206911227
55363590
99715564
136199464,136199465,136199502
19289673
234375976
71951803
109637186
186697926
34060801
172313210
36893856
25638407
4811178
22896102
119126778
6417884
12771409
156448424
46069034
35302603
144615192
144941419,144946817,144946818
27138950
56733571
145004544
19596138
138597287
655106,580997,736017,736018
13371413

45731671
17239947
14827364
69662907
55494187,55495378,55484293
43529312
13695712
70910031
24301369
53885310
133118219
56245312
133169726
19077804
10081200
194077617
129743452
48257325,48257326
19460424
1739976
29110581
45142779,45160245
41051019,41087062
178383952
152077845,152343843
66289040
55521935
36810010
1316894
195535322,195535323
3648757
234663653
3936650
121407725
68821860
15497829
43240355
24964485
241403232
62301969
3767264,3767265
432779
172901511

21301178,21330991
101397085
128611282
242610500
152187892
112505108
1708771
13367405
1270066
29780291
234663653
234663653
47828187
45233666
28756657
95960469
101891915
58610256,58610257
32516377
75528578
27491291
176011887
105249322
234663653
31318743
70738075
182008236
99414823
33021466,33021467
31505899,32315683
58060536
83896149
743982
72784649
47086345
11875366
178331204
509519
64203245
29544164
140160085
109996343
24245237

1012567
8053059
3053685
140080581
20394006
14982
134230643
87773917
31353415
132558689
140589218
76400505,76400506,76414300
190675884
39271537,39271538
61471745
108099312
62278385
45584540,45587004
47044588
42326258
19222060
9386027
62301969
20704570
152613111
75893633
79063592
41987787
1498403
10132822
63824364
2829476
241674447
16692260
118659488
118168565
46138998
36018946
6624973
91887876
7306844,7351443,7430418,7738401
6971604
91609532

131323099,131323100
44340903
222704637
114511548
161575967
121088884
7660583
1421739
1044953
19882060
74509345
1832316
117465712
5338900
41400561,41400562
1331692
3216288
8053059
120987390
69832026
21582213
234663653
61615095,61712593
106500939
36049594,36049601
110600567
123787320
1777815
736017,736018
6365738
18271709,18273461
87871580
133601687,133601824
2041154,2048727
49947050
5541655,5544317
99112078
2495420
59064635
94524476
6070771,6507637,6769736,7660583
241497366,241497368,241497379,241497404
196596234,196634118

151390749
175075817
49540020
53537264
1374695
228491315
22541914
4444163
3101637,3102462
38627237
150194484,150202102
79088889
67361019
139101706
133812284
185037248,185037323
44196828
10465362,10465363
75778309
9944081
54198305
128671100
1151618
47508572,47557636
2448661
54500278
33269800
159180009
152343843
234663653
524881,531139
47469946,47469947
85640626,85640697,85640725
49629845
54333582
3404316
737791
100937114
8421091,8421092
114654852
50256869
3116369
7812672

5696960
3234979
69089846
25228296
111903460
1053495
110867863
8541630
22100962,22100963
230552128
31133655
19964097
7668224
147560155
22471822,22471823
78164070
35391786
7969900
47778710
157932677
113906308
52666865
8124738
19289673
204907738
21883429
50239356,50239403,50239404
39496742,39496901
80885897,80885901,80885910,80885930,80885952,80885978,80885979,80885980,8088598
90143574
174136997
76862024,76862025
160102680,160102724
71505659
37606303
234663653
1777815
133428241,133456221,133420273,133452074,133453540
2666007
19573547,19654863
63269641,63328784
134627284
55558596

48589244
37159436,37159441,37159532
48007096
6468440
6365738
115594262
3239848
28720328
3457896
150375271,150410977,150423966,150423967
178750202
101608210
45826878
3428523,3434261
77202645,77220878,77221799,77246977
96580854

8,101118250