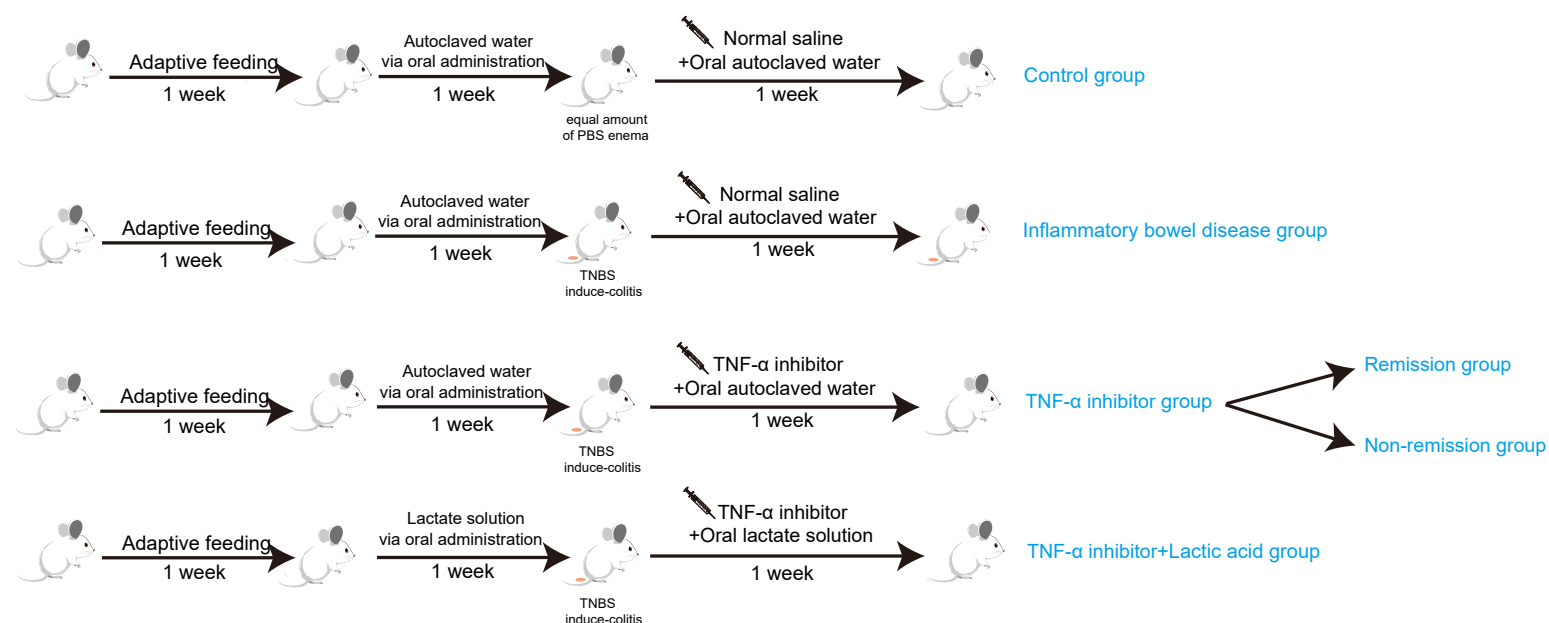




Supplementary Figure 1. Animal model construction process

Supplementary Table 1. Datasets information

GEO Series	GPL Platform	Sample Size		Sample Size		Dataset Type
		Before First Infusion		4-6 Weeks After First Infusion		
		Remission	Non-remission	Remission	Non-remission	
GSE16879	GPL570	28	33	27	33	Training dataset
GSE73661	GPL6244	8	15	8	15	Validation dataset

Supplement Table 2. Lactylation-related gene

Gene Name				
ACAT2	EEF1A1	HMGN1	NUP50	S100A4
ACIN1	EEF1G	HMGN2	PABPC1	S100A6
ADAR	EEF2	HMGN3	PABPN1	SAFB
ADNP	EHMT2	HMGN4	PAK2	SARNP
AHNAK	EIF3D	HNRNPA1	PARP1	SATB1
ALB	EIF3J	HNRNPC	PCBP1	SET
ALDH1A1	EIF4G1	HNRNPD	PCBP2	SF3A1
ALDOA	EIF4G2	HNRNPF	PCMT1	SF3B1
ALDOB	EIF4H	HNRNPH1	PCNP	SFPQ
ALYREF	EMG1	HNRNPK	PDAP1	SH3GL1
ARGLU1	ENO1	HNRNPL	PDLIM1	SMAP
ARID1A	ENSA	HNRNPM	PES1	SMARCA5
ARID3A	FABP5	HNRNPU	PFKM	SMARCC1
ARID3B	FAM50A	HSDL2	PFKP	SMARCC2
ARPP19	FKBP3	HSPE1	PFN1	SMC3
BCLAF1	FLYWCH2	IARS2	PGK1	SNRPA1
BOLA2	FUBP1	IFI16	PHC3	SOD1
BRD4	G6PD	IK	PHF6	SPR
BTF3	GAPDH	IKZF1	PKM2	SPR14
BZW1	GATAD2A	ILF2	POLDIP3	SRP14
BZW2	GATAD2B	ILF3	PPIA	SRRM1
C19orf53	GFAP	IRF2BP2	PPIL4	SRRM2
CACYBP	GIGYF2	JMJD1C	PPM1G	SSB
CALD1	GTF2F1	JPT1	PPP1CB	STMN1
CALM1	GTF2I	JPT2	PPP1CC	SUB1
CALML5	H1-2	KHDRBS1	PPP1R2B	SUMO2
CALR	H1-3	KHSRP	PRAM1	TCOF1
CBR1	H1-5	KIF2C	PRCC	TERF2
CBX3	H2AFV	KRT1	PRDX1	THOC2
CBX5	H2AFZ	KRT10	PRKDC	THRAP3
CCNA2	H2AJ	LAP3	PRPF6	THUMPD1
CCT5	H2AX	LCP1	PSMA7	TKT
CD2BP2	H2AZ1	LDHB	PSMC1	TMA7
CDC5L	H2AZ2	LEMD3	PSME3IP1	TMPO
CDV3	H2BC13	LGALS1	PTBP1	TMSB4X
CDYL	H2BC14	LRPPRC	PTMA	TOP2B
CEBPZ	H2BC18	LSP1	RACGAP1	TP53
CFDP1	H2BC5	MAGOH	RALYL	TPM4
CHD4	H2BU1	MAGOHB	RAN	TPR
CHERP	H3-3A	MAP2K4	RANBP2	TRIM28
CNN2	H3C1	MAPRE1	RB1	TRIR
CNN3	H3C15	MBD2	RBM10	TSSC4
COPS4	H4C1	MBP	RBM14	U2AF2
CRABP2	HCFC1	MDC1	RBM17	U2SURP
CSRP1	HDAC1	MKI67	RBM25	UBE2E1
CSRP2	HDAC2	MNDA	RBM39	UBE2M
CWC15	HDGF	MPHOSPH6	RBMX	UPF1
DDX17	HDGFL2	MSN	RCC2	VARS

DDX18	HEXIM1	MTA1	RECQL	VIM
DDX21	HIST1H1C	MTA2	RFC1	WAS
DDX39A	HIST1H2BB	MYH13	RFC4	WBP11
DDX39B	HIST1H2BD	NCDN	RIMS1	WDR33
DDX3X	HIST1H2BH	NCL	RPA1	WIZ
DDX41	HIST1H2BK	NEFL	RPL13	XPO5
DDX42	HIST1H2BL	NHLRC2	RPL14	XRCC4
DDX46	HIST1H2BN	NOC3L	RPL22	YLPM1
DDX5	HIST1H2BO	NOLC1	RPL24	ZC3H18
DECR1	HIST1H3A	NONO	RPL29	ZC3H4
DFFA	HIST1H4A	NOP2	RPL5	ZMYM3
DHRS7	HIST2H2BE	NPM1	RPS11	ZNF207
DHX16	HIST2H2BF	NSUN2	RPS23	ZNF280C
DHX9	HISTIH2BH	NUCKS1	RPS27A	ZNF706
EAF1	HLTF	NUDT21	RRP1B	ZNFX1
ECHDC1	HMGA1	NUDT5	RSL1D1	ZRANB2
EDF1	HMGB1	NUP133	S100A11	ZYX

Supplement Table 3. Genes associated with macrophage polarization

Gene Name			
CSF2	KLF7	ETF1	MAP1A
CSF1	PADI4	TOR1AIP1	SCUBE3
MIF	ATF1	C4BPA	CLOCK
TNF	ENAH	USP54	WDR18
MSR1	GRK5	RDH10	NHP2
IFNG	FERMT3	TPR	NDUFB10
IL10	HTR2B	REEP1	LARP4B
IL1B	MYH2	APTX	PHKA1
CCR5	SLC39A10	HAX1	WDHD1
CCL3	EIF2S1	TAF2	NOA1
CSF1R	CDC42SE2	POLE	ECPAS
MST1	GLI2	MSH5	PRPSAP2
IL6	RFX5	GABBR1	RALYL
CXCL8	DCD	C1R	ATP4A
CSF2RA	CA2	ANTXR2	HTR2C
MST1R	FABP5	MGP	GHRH
CCL2	CCT3	SHROOM3	ATG2B
TLR4	GLI3	NFIL3	APBA1
CD163	MSH6	UGDH	LNPEP
IL4	ARID1A	SHE	BCCIP
MARCO	NHERF2	ADRA1B	HOXA7
CD4	ABCC5	CTR9	DNAJC22
CCL4	AIFM1	AP3S1	UBE2C
MAEA	SAP30BP	FAT2	MC3R
CRYAB	CPS1	EEF1G	CAVIN2
CCL5	DISP1	TCEANC2	EPN3
TLR2	COL8A1	BMAL2	GYS1
CD68	SPHK2	RCE1	AOX1
MMD	DDX42	CAPN7	PJA1
PITX3	STAB2	GLTP	TASOR2
ABCA1	CCDC88A	CIC	MED10
CDC42	TUBB6	GTPBP10	PDE7B
RIPOR2	PIKFYVE	GAL	R3HDM2
CSF3	SRF	PPP2CB	SRSF12
EPHA2	ZC3H11A	BUB1B	SAC3D1
NLRP3	SCN5A	AXIN2	CRY1
ITGAM	SLC9A8	CDK11B	CRIPTO
CCR1	SLC7A5	NUDT6	DKK3
CHMP4B	P4HB	INPP5J	VEZT
NOS2	NROB1	LSS	WDR45
NLRC4	POU1F1	ZMYND8	ACTL6A
MRC1	ORC4	LNX2	KRT2
CD14	SYNE4	COMP	RXFP2
PARD3	PITRM1	CAMK4	CARMIL3
STAT1	NUMB	AZIN2	GRTP1
PPARG	DHFR	KLK11	NTHL1
STAT3	SERPINH1	MAGI2	TAF5L
IL3	CA9	DSC2	MRPS18A
NFKB1	PABPN1	CLDN15	ARMCX2
MMP9	DAXX	PPM1B	OCIAD2
WDPCP	DDX39A	MYH7	SSBP2

IL18	BCAN	NDRG2	PDE1C
IL1A	ITGB6	SNAPIN	HOXA11
TGFB1	PPIB	PUM1	SLC39A1
MACIR	HRH2	VPS13D	DCUN1D2
SLC11A1	DCP1A	RPRD1A	CETN3
IL2	NKD1	APOL6	SYT2
CCL18	HINFP	XRCC3	LPO
MMP12	RAB4A	CEACAM4	PIM3
CCR2	LRPAP1	ARHGAP1	PUF60
CD36	PPM1F	UPF3B	MSX2
RIPOR1	HYLS1	CYP7B1	BST1
SCRIB	MLEC	PRAG1	UBQLN4
APOE	PLGRKT	PPAT	TTLL4
PRF1	NT5DC2	MRPS23	METTL21A
PIK3CG	LNX1	SESN1	KCTD6
CXCR4	PREP	FUBP3	USP2
RAC1	CDC42BPB	NDUFS3	ACTN2
UNC13D	RPL22	NUP133	CHD2
ICAM1	CUBN	ZNF384	MRGBP
MAPK1	TPO	EXOC8	MTX3
IL12B	NDUFS7	PTBP3	SMN2
CRYBB2	KLF3	ADRM1	GRM5
VEGFA	ICOSLG	ARHGEF12	IQCJ-SCHIP1
JUN	HEXIM1	DNAJC13	PDXP
ITGB2	CKAP4	UNKL	MBTPS2
PARD6A	EVL	GABPA	FKBP8
GBF1	DHX33	LHCGR	TTF1
ABCG1	SNX17	DOCK10	UBXN4
PRKCZ	NSF	AVPR2	SMS
HMGB1	PLXNB2	RPS28	SLC35A2
IL13	FERMT2	NEIL3	STMP1
HLA-DRB1	ETV6	SMO	EXO1
CRYAA	CCT4	CNNM3	CLDN16
CES1	SDHA	SLC20A1	HIRIP3
PIK3R1	OPRK1	RNPS1	LGALS13
VIM	RPRD2	TIMM21	C4BPB
LIPA	GNB1	ABHD17C	LGR4
FAS	PLXNC1	AK4	FCRLA
WAS	HNRNPC	RELCH	MED29
FASLG	SIK2	ARAP3	TOX
IL5	DIABLO	COL5A1	SH3GLB1
JAK2	CD1E	LMO2	FAM53B
STXBP2	TNFSF8	INPP5B	CCDC15
TNFRSF1A	FXR1	S100A3	P2RY14
CXCL12	GINS1	PRKAG3	LDB1
LEMD2	WASL	PSMD6	AHCTF1
CCL20	EHBPI1L1	RDH13	PDCD5
PTGS2	BHLHE40	SDR9C7	SAMD4A
LPL	PRPF3	DLX3	INTS13
IRF8	VPS26A	DUSP13B	RNF126
CRYBB3	PLCD1	RYR1	RNF43
STK11	IDH2	TUT1	RTCB
LLGL2	SLC2A4	CLDN12	ATP2A1
CCL22	DOCK11	INTS12	KDM5C

CD40	MEN1	STX1A	PSMD3
PRKCA	PGM2	MDH1	ARHGAP39
LYST	NPY	SCAF4	CTAG2
VIPAS39	CCAR2	FN3KRP	PITPNA
APOA1	SP110	MVB12A	TYRP1
CD274	LAIR1	DCAF7	MYBL2
AKT1	SYTL2	NFXL1	CSMD1
DVL2	BAG6	SACM1L	RP9
STX11	IL13RA1	SMCHD1	BCAS2
RAB27A	PIN1	ANKRD44	SRSF8
CAPG	EPB41L3	PPP1R35	RGS14
MIP	DSP	TARBP1	SAP30L
SYK	AP2A1	PIP4K2A	ZFAND6
HAVCR2	EMD	DACH1	TENT5B
CXCL10	SYVN1	PRR12	CABIN1
SPI1	DNAJB12	ESCO2	KCTD20
XIAP	RNF2	PURB	ATF7IP
IL17A	IRAK4	UBAP2	TRIM69
IFNA1	POLR2C	TSC22D1	TBC1D22B
CHIT1	MUSK	MED13L	GTSE1
CD74	DNASE1	BTBD3	GUCY1B1
TLR3	HOXA9	HMGN1	L3MBTL2
INTU	ECI2	IGKC	PAK3
IL2RA	BLVRB	REG4	RPS6KB2
MAPK8	CAMK2A	PKD2	CLEC18B
MAPK14	SPRED1	NCAPH2	SP7
CD209	PFAS	C2	SASH3
SLC40A1	DUOX1	PTPMT1	GRHL2
CD44	CYBRD1	MAP3K20	HBS1L
KITLG	SUPT5H	PAK1IP1	CHMP2B
SLC11A2	DNAJA2	TANC2	TENM4
CRYGB	OTUD5	ALDH3A1	ELP5
MARK2	P2RX1	FYTDD1	ZNF470
FUZ	XBP1	U2SURP	CHM
CFTR	PSMA1	IP013	ABCF2
CPLANE1	RHEB	COMMD2	PYGM
DVL3	EIF4ENIF1	CHD3	GPD1L
LAMP1	TNIF	SEC61A1	SMPD4
CD86	FAM120A	CSNK1G2	GRPEL1
UNC45B	NCOA1	DLGAP1	DCTPP1
CCR3	PRRC2B	MRPS27	MYRFL
MYC	SYT1	TMED10	WNK2
ID01	CASP2	NUCB2	CYP4F22
TNFSF11	OXER1	IP6K2	MT-ND4
CRP	KCNMB2	RAPH1	ARHGAP44
CYBB	HNRNPU	ZNF593	AFTPH
MEFV	ANLN	DSTN	EFEMP1
CXCL2	PTH1R	GRIN2A	COL1A2
SCARB1	GNB2	SYNRG	CUL9
P2RX7	RPS2	MPP2	RASSF10
RHOA	PSPC1	SLC22A2	KCNAB2
SLC7A7	MS4A1	SARM1	DUOXA1
TP53	SHARPIN	MCF2	SLC39A6
CNR2	DICER1	DCTN4	CEP128

IFNB1	SLC12A6	AUP1	KCNJ12
SIRPA	CLIC4	LRP12	SEL1L
MAP2K1	SUV39H1	MRPS9	CYGB
DLG1	NOP56	NEPRO	DENND1B
MAF	SLC1A4	TM9SF1	EIF4EBP2
PRKCI	KRT18	MRPL21	KRT9
PARD3B	ADGRF5	DPYS	ROGDI
SPP1	RPS13	ACAA1	UBE2M
PTK2B	FGFR3	TNP02	PABPC3
RAC2	SRA1	MMS19	UTP14C
CHI3L1	RAN	USP16	LDLRAD2
IL33	TUFM	TSPYL1	AICDA
CTNNB1	CMTM6	NAA80	MXRA8
DVL1	FAM98B	LARP4	MECR
GDF15	AQP9	COPB1	HACL1
BMP6	OXSRI	CLDN5	ZAR1
MSN	DDX3X	STAG2	RPF1
VANGL2	YIPF5	BGN	USPL1
ERCC3	ANAPC2	SPAG4	ZNF600
SFTPD	LSM14A	TEP1	USP11
NR1H3	CDC42EP3	ZNF326	P4HA1
FOS	RPL36	COG4	FRMPD4
IL12A	AGXT	P3H1	FIS1
CX3CR1	SLC9A3	CEP350	LLPH
CCL11	N4BP1	MSI2	ADCY2
WNT5A	EDC4	ATG16L2	SLC7A14
IL34	ARHGAP31	GCG	GTF3C3
HMOX1	FREM2	KLHL2	CALB2
MAPK3	PRKCG	AFF4	MTIF2
IFNGR1	HMGA1	RAMP1	DCAF12
PARD6B	OTULIN	PXK	SH3BP4
NPC1	PLSCR3	MAF1	SH3GL2
PARD6G	RPL14	ABCG8	WIPF2
ITGAL	IL13RA2	DIP2A	KCNE2
COL12A1	RPL13A	ATP10A	PIANP
ADIPOQ	TSR1	HIVEP1	ITGB3BP
IL15	GRB10	TEAD2	EHD2
TLR6	NUP93	SOST	TMX3
IRF3	POLR1A	CWC25	KCTD15
CRB2	EIF2S2	ARPC2	MITD1
MYD88	TOE1	PPP4R1	PNMA1
PTEN	CFAP298	FGF5	C9orf78
CRB1	HTRA1	DCHS1	PSAT1
NR1H2	RPL3	DHX40	IRF2BPL
IL12RB1	ZNF687	SBN01	SLC36A1
PRKCD	GDI2	ULK1	USP42
CD47	HOXD13	ATAD3B	AK9
IKBKG	PREB	RPS15A	ATP6V0B
SRC	SP3	CHRM3	WDR43
GJA3	DHX15	PQBP1	ZSWIM7
TLR9	WEE2	GEMIN4	NDUFA6
IL4R	GTF2F2	DENND4A	GINS2
CRYBB1	EIF2B1	MSX1	NSD3
CCR4	SYT11	HELZ2	IKZF2

ICAM3	PRCC	ZFAND5	SH2D4B
PIK3CD	RBL1	EIF3F	PTPN4
CD81	SPTAN1	ERLIN2	PUS1
GBA1	KIF16B	RHD	PPM1D
CD5L	STIM1	HSPH1	EXOSC8
CRYBA1	CSNK2A2	CDCA8	CTCFL
LLGL1	RPTOR	OVOL2	ATAD3C
NCF2	HRH1	KRT7	MRPL47
CCL19	ADIPOR1	DENND2B	RGPD3
PPARA	SLC16A3	PIP	LANCL1
CTSD	ANKFY1	MAVS	GABBR2
ARG1	STRADA	DBI	TOP1MT
SH2D1A	APOA4	BLNK	CDK17
SMPD1	LAMA2	YAE1	GPR34
CD80	GDNF	MRM2	SNAPC5
TRAF6	RAB31	ITPK1	C1orf226
LYN	PRMT1	FBLN5	ARID3A
MERTK	TBX21	MTFR1	CHAMP1
LDLR	RNF31	GRAMD1A	RGN
EGFR	SFRP2	PIP4K2C	JTB
IKBKB	PLXNB1	SNTA1	CWF19L2
NFKBIA	TCF12	POLR3C	KLRG1
IL18R1	STK38L	DTL	CLDN2
IL23A	C1QA	ATP6V1E1	MRPS30
PALS1	KRI1	GPAT3	POU2F3
CCR7	TUBB4A	LSMEM2	KATNA1
CDH1	PLXNA1	SDF2L1	PSMA2
PATJ	PLPP1	TRPV1	KLHDC3
CASP3	CACNA2D1	ATOX1	WBP2
F3	BRCA2	XYLT1	JPH4
ITK	RPL9	LMX1A	QTRT2
MPO	SELENBP1	HOXD11	CCNA1
HAMP	DROSHA	CDH3	SSH1
ADA	IGHG1	EFCAB13	CBX7
GSK3B	WWP2	SLC9A2	ELOA2
CBS	IK	SRBD1	BCL2L2
STAT5A	SPEF1	METAP2	DHTKD1
MTOR	RRP1B	MAS1	IFNK
TF	GTF2H4	SAXO4	SLC13A3
LGALS3	MYO1F	ALKAL1	ACD
IRF1	UTS2	NFYA	FXD2
S100A9	DUOX2	PLCH1	PCDHA2
SFTPB	SLA	FBXL12	DTX2
PLA2G4A	SARAF	DOK2	TRMT10A
HCK	TRMT1	INSRR	CENPT
CXCR3	MIB1	ANG	RAB30
CCL7	ELK1	FAR1	SLC22A11
TLR7	SF3B3	LUC7L	TAF10
CLEC10A	SNRPE	ACTR1B	RTF2
FLT1	ACTL7B	RCOR1	FAM120C
TARS1	RNF40	UBL3	RHOXF1
CCR6	SNTB1	E2F6	KCNK5
PTPRC	CEACAM8	RPE	HCRT
HIF1A	APOC3	RHBDF1	AMN

RAF1	ATP7A	LMO4	WDTC1
PLA2G7	PLA2G4C	TP53RK	IFT43
NFE2L2	ADCY3	SCFD1	SLC24A2
MAPK10	CCDC85C	DNAAF5	CNIH4
CCL21	POF1B	SEC22B	NOC3L
LIF	CSE1L	EHF	TMC01
PTK2	SMPD3	KRT33A	AHSA1
NOD2	GPI	CEP152	ACOT9
NEU1	PSMC4	SERAC1	RPS19BP1
CASP1	POMC	PRSS8	PSD
RELA	PI4KA	GYPE	MIPEP
SOCS3	MED24	ASNS	LMAN2L
CCR8	PPP3CA	SLC6A4	TRAPPC9
S100A8	POLA1	GZMH	PDCL3
CLEC4E	EPHA1	CNN2	MYF5
SOAT1	TRMT112	DENND2C	CIT
CORO1A	IGF2	NAE1	PCMT1
TFRC	BBS7	ADRA1A	CAP2
VCAM1	IRS1	MTREX	LRP10
IL2RG	S1PR1	NPM3	DNAJC21
CAT	LIMA1	RABL6	MARVELD2
PRICKLE1	SPINT2	TARS2	KCNE3
SP1	RBSN	RABL3	NTMT1
FN1	XRCC5	RASGRP2	CIDEB
SOD1	RPS11	INTS1	PCDHA@
GJA8	PLPP3	GRIN1	NR2F1
MUC1	RIPK3	NMUR1	DDAH2
RHOD	UACA	LPGAT1	CCDC8
IL1RN	USP34	HECTD3	PCNP
TREM2	GNPAT	RXFP1	UCK2
FCGR1A	ATP2C1	BAALC	ISCA2
HGF	RPL7	CDC6	RINT1
CXCL9	MTERF1	ABCF3	WBP11
MAFB	TLE3	UTP4	SUGT1
FCGR3A	RPLP1	YRDC	HSBP1
TPP1	MAP3K11	HSDL2	BLOC1S3
BCL2	TERF2	TREH	SH2D2A
ITGB1	STT3B	STX12	GNAT1
STAT6	HNRNPF	EIF3E	TAS2R38
ANPEP	PMP22	SULT2B1	ARF3
CASP8	SLC27A4	SMARCC1	H2BC8
APC	ASH1L	TBC1D22A	PSMD7
BTK	CHRFAM7A	CKM	KLHDC2
CCL17	GFER	TUBB1	ITPKB
BRAF	APOBEC3F	POC1A	ATP6V0E1
SFTPA1	OIT3	STRN	LARGE2
GSN	FOXK2	SPRY4	ZNF609
MMP2	ACSF3	YTHDC1	TP53I11
NPC2	VIPR2	SDAD1	PRR14L
APP	HMCN1	FST	NOPCHAP1
IRF4	ARIH2	CLTA	NR5A1
CD83	AP3M1	LTK	KCNH1
EZR	DIAPH3	SCNN1A	KDM5A
GUSB	SAMSN1	CBX5	NAPA

CD40LG	PICALM	TBXA2R	SELENOP
HLA-G	VCP	LIMS1	PTOV1
SFTPC	UBR5	APBB1IP	ADGRG1
MMP14	IAPP	SLC38A9	RRP7A
GC	NEURL4	TBL2	DHX37
MPL	RIOK1	SERPINI1	CTTNBP2
KIT	PPIF	RAB11FIP4	CALB1
OLR1	CHI3L2	NUBP1	CYP2C19
PLA2G5	RASD2	PRPH2	KCNK9
GATA2	KAT7	NDUFS8	DR1
PYCARD	DNER	DYNLRB2	ZNF184
AP3B1	STRADB	LMCD1	NLN
SOCS1	CD300A	TRAPPC8	CCDC68
ERCC2	SMNDC1	SEC23IP	TSPAN10
ELAVL1	MOB1A	MRRF	B3GALT1
IL7	SGMS2	YIF1B	TXNDC11
ESR1	TBC1D10A	NDC1	FAF1
PDGFRB	RAB1B	HSPE1-MOB4	KCNC1
MRC2	PRMT5	SPART	PER3
ARF6	CEP104	EGLN2	ADISSP
CCL15	MT-CYB	SHKBP1	ACADSB
AHR	LUM	BAG3	COX15
PLAU	STRAP	CENPO	SLC25A21
SHH	RNF113A	CCDC137	SLC35F6
PIK3CA	S100A7	ASCC3	UBE3D
PTPN11	PTGDR	HEPH	RPSA2
CD9	H2BC21	CHRNA1	CLDN14
CD27	F8	MTMR2	TFDP2
MFHAS1	IFI27	HAL	ITGB1BP1
MYO5A	EPCAM	LCE1A	ANKRD13D
HSPA4	CYRIA	NEK2	CTDSP1
THBS1	ATP2A2	TYMS	NEO1
IL11	TMEM201	MGMT	MRPS14
ITGAX	GNAQ	NFATC4	CDKN2C
PRICKLE3	EIF4G3	POLD2	ANKS6
ACP5	IGFBP6	GNAT3	GABPB1
ITIH4	LRMDA	RPP25L	PCIF1
ITPR1	USP18	PACS1	ABCC9
ANXA1	APLP2	SRP9	UBL7
INPP5D	BZW1	SLC5A3	PHLDB3
INPPL1	APOBEC3H	DDX31	KCNK1
KRAS	CLDN1	MUC16	TCF15
CREB1	CHIA	SFXN1	TOMM40
SLAMF1	CHRNA7	DTYMK	TSEN34
C5AR1	PHB2	SKP2	MAFK
CLEC7A	VDAC2	EHD3	CC2D1A
EPO	WDR7	OPHN1	ALPI
MAPK9	PNKD	KAT6A	MPHOSPH6
VANGL1	HP1BP3	ALDH7A1	RCOR3
GATA3	PITX1	MTR	RSBN1L
IL1R1	CFI	GRIA2	ZNF750
ROCK1	MCM5	OGDH	ACAA2
SHC1	AGO2	GRIN2C	RBFox3
CEBPB	HBG2	COL18A1	ZC3H15

TLR8	RBM15	CTBP2	MORC4
KLF4	FMO3	TMEM165	PIK3R6
MPLKIP	SLC25A12	DDX19B	AVEN
TNFAIP3	DYNC1H1	RRP36	DYNC1LI2
CXCR2	TNRC6B	FECH	CLDN6
PDCD1	RBM17	PRMT3	STYXL1
OSM	MYL9	SPTB	CENPA
PARP14	FAP	GSTM4	FGD6
FRYL	TUT7	GEM	SH3BGRL3
YAP1	PSME2	HSPA1B	SLAIN1
ALOX5	GTF2I	GATAD2B	PRPF38B
IRAK1	VGLL4	VPS13C	MAP4K2
ELANE	TBC1D15	SCYL2	NUSAP1
ALB	NPR1	SSH2	IMP3
MMP1	ADD3	EHD4	CLPTM1
PRKCE	BMAL1	SLC8A3	UFL1
CXCL1	ENPP1	POLR2J	ARMT1
DAAM1	FRMPD2	ENGASE	TRAPPC5
CYP27A1	BRCA1	MKRN2	RANBP6
MCL1	SYNCRIP	HERC5	MYOD1
LEP	TRIO	FCRL6	SUMO4
VAV3	PLEKHA7	FCH02	NBPF14
CPLANE2	MED14	COL14A1	BTNL2
ABL1	RAP2B	MTMR4	C2CD3
RAB8A	FANCB	MYH6	DENND5B
MPP7	LAMB2	TMEM43	TBCA
KRIT1	OCLN	INTS5	MAD2L1BP
CD28	SLTM	UBE2G2	GPM6A
MET	RPL8	NUDT15	UBQLN1
PTPN6	CAD	NPC1L1	OSTM1
ZFP36	NPR3	RANGAP1	MAGED2
LCK	ASAP1	LRIG3	EIF3K
FMNL1	FLCN	GMNN	H2BC7
MYO18A	DUSP10	RHOV	ERO1A
QKI	EIF2B2	NIPAL4	RPGRIP1
MPP1	CASP6	PHF8	CPNE3
GLB1	TRIM29	WNT10B	AMPH
TBXAS1	ASIP	ARHGAP18	KCNJ9
TIAM1	SMAD6	RSPRY1	UPB1
FCGR2A	IRF9	AFG3L2	SECISBP2
FLT3	UPF1	RPL37	UBE2G1
ZC3H12A	CYC1	DDX56	PCDHA1
TREM1	SMARCC2	MBOAT7	MED19
CSF3R	CACTIN	USP5	RNF214
CRYBA2	PPIG	CLDN24	MAP3K7CL
IGHE	RCN1	SAG	CRACDL
CCL23	GIGYF2	HCST	TOB1
CX3CL1	ATP1B3	FXYD5	VASH2
ELN	UST	TNFRSF21	RPL36A
TIMP1	NEDD4	RALB	CD7
RAB11A	PFKFB3	LCLAT1	HELQ
HSF4	STX5	BCL9	SLC34A1
NR3C1	EBAG9	VPS41	USP53
FRMD4A	CSTPP1	ATP5F1C	MGAM2

CD247	AAAS	DGKZ	FBP1
HSPD1	SNTB2	RITA1	FOXA2
DYSF	BMPR1A	TTLL12	PTCRA
CETP	AURKB	PDIA4	POLR2D
CRB3	CDC42BPA	ZFYVE9	H3C6
FGFR1	TNS3	GAS1	PNMA2
CTSB	SUMO1	CHTF18	CSRP2
PLAUR	HELZ	RBM15B	NSA2
ALOX15	KDM5B	MISP	RCC1L
PF4	RAB18	KNOP1	OSBPL11
APOB	OFD1	COL11A2	PARG
LIN7B	UBE2L3	SFSWAP	BRI3BP
TJP1	ZC3H7A	POLDIP3	TAF9B
PRKCB	HMBOX1	DNAJC10	INKA2
PPP1CA	PEX14	MTERF4	KIR2DS4
CXCR1	DUSP19	AUTS2	DCDC2
DPP4	FLVCR1	NOB1	CDC42EP2
CARMIL2	HSPB7	TBX20	TAMALIN
STING1	CAMK2B	PDCD10	PCNT
PATL2	NBR1	UBA5	CD300LB
CTSK	TNPO3	TOP3A	TAGLN
CRYGD	PCDH15	RNF130	BMS1
FCER2	SGMS1	CERS3	SPTY2D1
KDM6B	FGD2	RRAGC	BLMH
SERPINE1	PI3	ERGIC3	COQ7
RASGRP1	TSPAN7	ATAD3A	MSRB3
IL4I1	RAB7B	TRPC1	MEPE
PLA2G2A	ARL1	GSPT1	ATP6V1E2
HLA-C	SEC16A	CNOT8	DCUN1D1
SERPINA1	TUT4	RAI1	KANSL3
PJA2	TPI1	PHKB	ZBTB8A
EDN1	WDR62	GHDC	SLC7A6OS
ABCB1	SLC2A6	DGKQ	SMARCAD1
GRB2	BRD9	KRT77	NGB
ETS1	SCAMP3	ISY1	CIAO2B
CAV1	NCSTN	PCDH1	TARS3
TGFA	CDK5	BAG1	TMEM109
COL4A3	UBE2D1	GPC4	ZNG1C
NUMA1	WNT3A	RBMS2	PKIA
PECAM1	COLEC12	RPRD1B	SLIRP
ITGA4	NUP62	NUB1	CLDND1
ARHGEF2	ZNF638	SERPINB3	PDZD8
KCTD7	HAND2	COIL	TGM1
DAB2	CLU	CACNA1F	PSMB7
LILRB1	YLPM1	PPP2R5D	CNRIP1
PTPN2	SH2B2	CYB5A	RASA3
VAV1	ZYX	ADM2	WDR44
TYROBP	RPL4	ABCD3	CCDC40
STK4	TLR10	GPT2	DENND4B
PTK7	MED12	GFPT2	AVL9
FPR2	SLAMF7	UBE2N	ENTPD3
SELL	TP73	APEH	ARL8A
CMKLR1	ARPC4	NIPSNAP2	MRPS12
FADD	RPL32	RAPGEF1	AGTPBP1

GZMB	KANK1	ALDH1B1	MAST3
MBL2	SEC24C	MRPL3	IQSEC3
LGALS9	AMIGO2	PUM2	KIF27
ANXA2	TBC1D5	DHRS7B	FAM234A
ROCK2	JHY	TH	HMGN4
DCAF1	MC1R	EFNB3	KRBA1
PLCG2	HELB	GEMIN2	CD300LD
SIRT1	CYP2E1	ARHGEF26	PID1
IL16	CA4	KIAA0753	FFAR1
IRF7	ITGA2B	CRYGS	SIGMAR1
HDAC1	BPIFA1	NAGS	RABEP1
CCNT1	SERPINA3	PTPRM	CDCA2
PXN	EPS8	CLCA4	CCDC124
PLA2G6	IFNAR1	ABRAXAS2	SSC4D
FABP4	H2AC12	TMOD4	ATP5PD
CD69	FTSJ1	CRADD	VRK3
AKT2	SYTL3	ERP44	MIOS
ITGAV	HSPA2	FRMD6	CHORDC1
IL27	DOT1L	MTNAP1	MRPS35
AXL	LGALS4	HADHB	HOXB9
PRKD1	RBBP7	TMEM208	SALL4
LACC1	WRAP53	GNL3	RPUSD4
VDR	MCTS1	PYCR3	PHF14
SAMHD1	RBM42	XRCC4	PCDH12
STAT5B	PRKAR1A	WASHC2A	DMTN
BBS2	NACA	FOXMI	OOEP
TUBB8	SLC6A12	ATP6V1D	GP5
TGM2	NES	RANBP10	RRN3
CD70	RPS10	XPO4	TMEM87B
CHUK	CYP11B1	RETREG3	RNF185
CDH5	PLA2G1B	WDR55	HECA
PANX1	CYTH3	CCNL1	PRKCSH
TUG1	NOTCH4	HIVEP3	ELMO2
TBK1	MEPCE	GMEB2	PAFAH1B2
ACTG1	RSL1D1	OBSL1	TRUB1
TGFB2	USP6NL	GLP1R	TM9SF3
COPA	IFNL1	UBAC2	MTCH2
LILRB2	PRP4K	NUP54	EPHX2
CIITA	SLC1A5	PAPSS2	SLC22A6
CARD9	MCM2	DNAJA3	PGRMC1
SND1	LPA	DDX21	DYNC2I1
CXCL16	CCK	SDHB	HTR3A
NRAS	CARMIL1	TFF2	NAF1
PRTN3	SUPT16H	RASSF3	SLC31A1
RACK1	PELP1	ARFGAP3	HHAT
SUCNR1	CNOT9	ASRGL1	HTRA3
HLA-DRA	CEP55	METTL13	KRT20
NPHP1	LACTB	VPS35L	NMB
PLCG1	MAZ	EMC2	H2BC10
PIK3CB	PRC1	MYLK3	GAD1
IL6R	MAP2K5	H4C3	PIGB
FGF2	UBE2D2	SORBS1	CYB5R1
TCF4	TRMT2A	DCP2	PEMT
NHERF1	PC	RAD9A	RPS6KC1

RAP1A	POM121C	CACUL1	PDLIM4
LTF	NXF1	RCL1	IGSF10
HPS6	ARHGEF19	UTP15	MTBP
EGR1	PABPC4	CAPZA2	DMAC2
CD1A	CDC37	PARVG	CUEDC1
JAK3	EIF3A	PFDN6	CHLSN
HLA-A	ALDOA	EML4	NADK
PRKAA1	AFP	ATP1A2	SCN4A
NPHP3	IBSP	CHCHD6	SIKE1
TLR5	ATF4	WFS1	ACTL9
TNFRSF11A	IL25	DPY30	PPP2R3A
TRIM32	PRIM1	COTL1	ARFIP1
AMOT	UBE3A	CRIPT	HCN4
ACE	SERPING1	EXT1	IGHM
HSP90AA1	MYL12B	NFATC2IP	DENND1C
CTPS1	ACTG2	ESYT2	CEP41
TLR1	HCLS1	RUFY1	RNF139
FLT3LG	UNG	TMPPE	PAX3
CLEC12A	INCENP	ELOVL1	PRPS1L1
CCL26	SEMA3B	ZWILCH	RIC8B
HDAC9	REV1	WFDC2	DCAF13
IGF1	IL26	NECTIN2	CYTIP
PLCB1	RPL23A	NOL10	MRPS28
IRF5	SLC38A2	DNAAF11	RAB3IL1
TNC	EFL1	AFAP1L2	POP7
DOCK8	JPT2	POLQ	SELENOH
DPYSL2	MED15	POLR3E	DZIP3
AGER	SMC3	NETO2	COQ6
PARP1	H3-3A	ARID4B	CYP4X1
JAK1	IL10RB	PAN2	CYP2U1
EGF	IGL	MSM01	RNF8
CD8A	RAD18	PTPN20	PIEZ02
CYP27B1	EIF4EBP1	THRB	TAF8
HDAC2	OSBPL9	BTf3	PCDHA4
PNP	DPF2	ATG12	RHBDD2
RUNX2	H6PD	ABI2	WDR87
IL32	ATP6V0E2	HOMER1	H3C8
RPGRIP1L	EDC3	PNPLA7	ERICH1
EPHB2	SLAMF6	PIGK	SETX
CCL1	WWC1	GEMIN6	ZFC3H1
LBP	PPM1A	MYL6B	NCS1
CYCS	KLHL21	DDX11	FERRY3
CTSL	MED17	VPS37C	ADRA2A
ACTA1	RUNX3	HOXA13	TIMM17B
HLA-DPB1	PRKACB	CST6	TOPORS
HLA-DPA1	SETDB1	SFRP4	CCDC28B
ZAP70	SEPTIN7	DDX1	INTS11
FGR	FKBP4	NOL6	RNF5
RAB7A	TOP2B	SLC30A9	APOBEC3B
ANXA5	RBBP4	NOC4L	TMOD2
CDK6	PSMA7	ZNF300	TM7SF2
EP300	SERBP1	CACNA1H	LRRC8B
VPS33B	TCF3	GRB14	UVSSA
ETV3	SPAST	NKAP	CLMN

LYZ	SLC26A9	EIF3H	KIAA1217
B2M	EIF2B5	AP3B2	CCDC69
CDKN3	HSPA14	TEX10	ZNF777
MARCKS	HNRNPA0	ANXA13	KHNYN
IRGM	MCM3	FNBP1L	C2orf49
TYR	BRD1	CTNBL1	FBLN2
FOLR2	CALML3	METTL16	KCNQ4
CLEC5A	ACYP2	RCSD1	BMP1
FZD5	UBTF	DTNA	PAX7
HRAS	CDYL	GCGR	PNPLA3
PAK1	SASH1	SIRT4	PLIN4
RASSF5	SMG7	RAD54L2	RAB3C
JMJD6	CACNA2D3	GLCCI1	PKMYT1
PTX3	HKDC1	FZR1	CLCF1
MAPKAPK2	USP8	EFNA2	MLN
LIN7A	SPATA2	NSD1	H2AC1
PRICKLE2	TRAPPC14	SLC14A1	KLK4
SMURF1	COPS8	TBP	CTPS2
NAMPT	UBXN7	ZG16B	RPL10L
EEA1	MTAP	SHANK2	IGFBP7
CPM	EFEMP2	COPS6	CDKN2D
SIPA1L3	THADA	UTP3	LHX8
DOCK7	ERAP2	NUTM2A	TNRC18
RB1	MCM6	STARD8	ZC3HC1
CD3G	KIF22	THOC7	OGFR
MAP3K7	H4C16	CCDC18	UBR7
GJB2	FGFR4	SRM	REPIN1
LTA	HTR2A	PSMD10	TRMT2B
HFE	VAMP2	ARHGAP27	FBXO30
ITGB3	ALPP	GPS1	MIEF2
CBL	PLEKHA5	TRIM7	HNMT
GALC	LOX	ATP13A3	ATP8A2
LIN7C	TNIP2	PHF3	REEP5
NR4A1	CADM1	VPS35	DDX59
BSG	TXK	LUC7L2	PCMTD1
ACE2	CD48	CCNA2	COL28A1
MCM4	DOCK1	AEBP2	SGF29
GAPDH	TWF1	NAB2	ARMCX4
NDUFS4	LTA4H	CRTC1	CFAP126
PKM	PRKRA	PCDH18	AOC3
IL3RA	TTC7B	CORO1C	TXLNG
CEACAM5	IVNS1ABP	ATG4B	GDF9
PEX5	ADK	MYO18B	CCN6
S100B	PSMD2	TRAF7	CDR2
MALT1	THRAP3	MAGOH	SLC9A5
SIN3A	EPB41L1	TAOK3	PIDD1
SMAD3	FUT4	IMPDH1	TMEM59
HSPG2	STAU1	PIGT	NDRG3
DMBT1	RORC	TRABD	KBTD2
NR1H4	PLEKHA4	PEA15	OTP
LGALS1	LRIG1	PTK6	ENC1
CTLA4	DKC1	GRB7	TRIP13
BCR	PRDM2	NHLRC2	TUBGCP5
BCL2L1	MTA1	FCGBP	RBM34

SLC29A3	SLC22A4	RBM27	LGR6
STX3	KTN1	POC1B	PDZD2
CTSC	COL3A1	RBM10	SERPINB12
FHL1	CAND1	H4C8	SCHIP1
ADAM17	SNRPB	ACAN	SHANK3
IKZF1	SLC12A3	PHKG2	FGFR10P2
PLIN2	MARK4	CRTAP	GUCA1A
TNFRSF11B	RRM2	ANAPC7	CRTC2
HBB	HTR7	RBM22	ASXL2
PKHD1	SLC19A3	MRPL4	PCDHGA1
ATP7B	TPM4	RAMAC	STAC
PON1	RGS1	CETN2	ODR4
IL7R	GNA12	ARHGAP22	H2BC4
IRAK3	TWF2	ZNF350	GUCA2A
CXCL13	MRPL9	MTSS1	NELFA
HLA-DMA	SIGLEC9	RSPH14	BEND3
VSIG4	UBE2D3	CCP110	PDZD9
UCP2	PDCD6	CLIC5	SLC28A2
CTSA	RAB22A	CEP43	PCSK6
ABCC1	PLXDC1	TNRC6A	IVL
STAB1	ATP12A	RSRC2	UQCRC2
ADORA2A	GRWD1	MZF1	CDC16
NCF1	CDKAL1	DCXR	PTER
FCGR3B	ABCE1	CBR3	RBM7
PDGFB	NCOA5	RAB24	SKA1
IL1RL1	TRIM27	AOPEP	CNDP2
CEBPD	SLC43A3	CELSR2	GLYATL1
PRKCQ	TNFAIP2	FUBP1	TBATA
FPR1	LONP1	FRMD3	DTD1
CD3E	MDC1	IWS1	ATMIN
HRG	SLC46A1	ARVCF	DYRK3
PTGER4	PAH	ZCCHC3	GTF3C5
LZTR1	GPB1	TACC1	TLE6
MMP7	RPN2	CGB5	TMIGD1
FYN	ZFR	MED27	EMC8
IL10RA	GIT1	COPG2	RPL26L1
AP3D1	MED8	TBC1D23	PHETA2
IGF1R	GMDS	MELK	RPAIN
AHI1	PSMA5	PCBP4	BRF1
KDR	NOL9	TAMM41	TTC17
CXCR6	YBX3	H2AZ2	CLDN3
CREBBP	INTS7	GOPC	POGLUT2
MAPT	CD226	WNT6	FAM32A
IFNGR2	FDFT1	LPAR6	MBD1
IL9	SATB1	ACTN3	NR6A1
CXCL11	HMOX2	PRPF19	KLC4
CD3D	CNP	TBCB	SNRPB2
MOS	TELO2	PTP4A2	RB1CC1
SI	WRNIP1	HSH2D	YTHDF3
CD84	CHD1	PRIM2	CHD5
PHGDH	ALDOB	BOD1L1	MCM8
TUBB3	CACNA1G	MAML1	STK17B
STXBP3	TCIRG1	SNAP25	ANO2
RARRES2	HSD11B2	PCID2	AP4S1

PLCB4	MS4A4A	RAMP2	ERGIC1
PLA2G10	SMYD3	COL17A1	LEO1
ERBB2	IL1RAP	CNNM4	PLD5
LMNA	MEOX1	ICAM5	SH3TC1
MMP3	PSMF1	DDX46	MDM1
TEK	SLC9A6	CLEC18A	DSN1
HDAC6	GH1	GLE1	AMMECR1L
CRYBA4	UMOD	NAP1L4	C19orf33
TGFBR2	HAVCR1	FNIP1	PTCHD3
GTF2H5	LIFR	C2CD2L	KIF18A
MBP	DPM1	TMEM263	PNMA8A
CNR1	TGM3	NDUFS1	CBARP
MAP3K8	LARS2	SEC23A	BAG5
FMN2	MYO9B	TUBGCP2	MOB2
SLC9A1	AHNAK	MNX1	SYNM
PLP1	PELI1	ZBTB38	SGCE
RAP1B	EIF4A2	MRPL15	TJAP1
CDK9	METTL14	GL01	PPP1R12B
RDX	A2ML1	ANKAR	LAX1
TNFSF10	GAP43	ITM2C	FGG
PCCA	EPB41	CLDN22	KLHL15
ARHGAP35	ATP5F1B	MAL	HOMER2
TAOK1	AHCYL1	PITX2	SPTBN2
TUBB	MTA2	PACSLN2	STX1B
STAR	GPR174	DNASE1L1	ULK2
VIP	ANKFN1	CCDC86	BTN2A1
CAMP	NPEPPS	HSPB6	DNAH10
SGCB	DDX55	PSMG1	OTOA
TIMP3	ELF1	SARS2	DELE1
PRKDC	GTPBP2	POLK	FNIP2
IL37	ARHGAP15	BCL11A	FOXJ3
FOXO1	RAB17	CHGB	BCL2L2-PABPN1
LCAT	OCSTAMP	ATXN3	DBF4B
EZH2	GHRL	PAN3	TTC22
LRBA	DGAT1	SORD	SVOP
C3	LTV1	TNFRSF10B	SLC3A1
HLA-B	RPL17	IPMK	SYNJ1
ZFP36L1	GJB6	ANO1	VPS37A
ACTB	EIF3D	EEF2K	MRGPRX1
IL19	TNFAIP8	MAFF	UCHL3
NAGA	FLG	PTTG1	ALDH5A1
RIGI	STEAP4	CBR1	PPP3CC
ACAT1	GTF2B	EP400	UBQLN2
VWF	STK36	NROB2	KCNJ8
GPBAR1	DHX8	RRP9	HYAL2
BCAR1	RPS15	GAST	ATG9A
MYH9	AGPAT4	POLR3B	C1GALT1
CCL8	APRT	ZMPSTE24	SKIC3
SPN	MRI1	DPM3	CNTFR
CRTAM	MSTO1	HDDC2	CDX1
TTC7A	AP1M2	PPP5C	GPATCH2
BST2	KCNB1	RIC1	SARS1
ATP8B1	OAT	CENPP	NEK1
HBEGF	S100A10	UBE2L6	MRAP2

CLEC4D	NUP153	TBCE	MT-CO2
LRP1	BLVRA	PLN	LAMC1
AR	RDH11	DECR1	KIF5A
IL6ST	SYNE3	ADD2	ORAI2
HCFC1	COQ8B	SF3B5	FUNDC1
TRIB1	CCT6B	MLLT6	ZBTB21
TUBA1B	RXRB	OTUD1	TMEM192
PLTP	NCOA4	WDR81	SMTNL2
FSCN1	USH1G	PRIMPOL	CENPB
DUSP1	TMT1B	KIF3B	ACBD5
MDK	SF3B1	CHEK1	BOLA2-SMG1P6
ZNF335	KIAA1614	SPG11	FMO2
F2RL1	PLS1	IDH3B	H4C6
NAGLU	CCNB1	PATL1	GUCA1B
MYO5B	PDE3A	L3MBTL3	ACVRL1
CLEC4A	PPP2R5A	DYNC1I2	AKR1C4
NGF	CYB561	BAIAP2L1	IKBIP
WIPF1	VPS52	GORASP1	EPB41L4B
PDPK1	PSD4	TBC1D12	TERF1
ADGRB1	BFSP1	RPS14	DOHH
TSC2	SSR1	HARS2	RLIG1
ARFGEF1	GLS2	MUL1	PRPH
CD200	MRPS7	XP07	MFAP2
RUNX1	HIP1	RBM47	GSE1
RARA	INTS3	INA	MCF2L
STX4	FYB1	CAMKK2	GIPC2
FLNB	RPL12	BLTP3A	PDE12
OXA1L	POLR1C	NUP205	LRRCC1
MAP7	JUP	RCC2	CCDC93
FGL2	RMI2	SNRPC	MTUS2
HDAC3	LTBP1	SRPRB	OMD
PTGS1	ARHGDIB	ALG2	H2BC12
KIF5B	LAT	PARL	FADS3
NTRK2	RPL35A	HACD3	PAX1
IGF2BP2	RBM5	TRIM58	PKLR
GALNS	CNTR0B	AMBRA1	NCAM2
MLPH	DDX6	BATF	TTYH1
F2	VTI1B	SEMA3D	ARFGAP1
RNF114	ZNF281	DIXDC1	ADRA2C
PLCB3	TSC1	DHH	UBAC1
TNFSF13B	TLN2	CEP57	FGD3
ARSA	RPA3	QRICH1	PI4K2B
SEMA4A	BCAT1	RAD23B	OTUB2
PIGR	IRF2BP1	PTCD3	PAPLN
HBA1	STAM2	CARS2	GALNT5
TXN	ODF1	EAPP	TNP2
FGFR2	CEACAM6	SRPK1	MFSD9
CXCL14	TNFRSF18	MCMBP	GPALPP1
SLC22A5	TRPV2	GNAO1	TSSK1B
F13A1	LTC4S	HIVEP2	KRT16
GFI1	RBM39	DOP1B	MYBPC1
CPVL	ARPC5	TFIP11	FOXE1
MTCL1	CYTH2	TSHR	PNISR
IL2RB	TRIM46	CD109	CCDC43

CASP9	CD2BP2	PEG10	UTP20
MME	CAMK2D	KRT14	C7
VEGFC	CTHRC1	EXOSC1	TNFAIP1
RNASE3	BLZF1	YY1AP1	IMPG1
CALR	LRRC59	CCT2	INPP5K
HNRNPA2B1	RPL35	MEI1	ADAD2
PCSK9	STOM	CUL2	DUX4
CCL25	RSP02	NOG	FSCN2
IL1RAPL2	PAPOLG	COR02A	COX20
HLA-DMB	SH2B1	RGPD8	KIF18B
BAX	CDCA4	NSUN2	FOXS1
NPM1	FSTL1	MSH2	SLC4A10
SLC25A13	STOML2	MACC1	PASK
NCOR2	SMAD5	PSMD14	UNC13A
PTAFR	RPS17	STMN3	PLEKHG1
NPHS1	ZNF512	FHIT	CNOT4
PRKCH	SETD1A	CCNK	GRHL1
TNFSF13	IPO5	TXNRD2	CFAP44
CD200R1	ACHE	CDK14	PCDHGC5
MARCKSL1	ENTPD1	RERE	EFCAB14
ANGPT1	MED20	HARS1	CEP120
SREBF1	ATXN2L	PTPRCAP	ATP6V1F
PLEKHG3	APOBEC3C	ADAMTS13	USP46
YWHAZ	MGAM	COQ8A	HAPLN3
CTSS	CTBP1	COQ5	PCNX1
GSDMD	TRPM7	GPC5	MMRN1
KLF6	RPA2	TTI1	NGRN
INS	YJU2	SMG5	MB21D2
ABCC2	RTCA	KLHL11	HOXD12
LAMP2	TULP1	CIZ1	GTF3C1
GLA	GTF2F1	CDC23	SCML2
SMAD2	AGO1	MKNK2	TIMM23B
CALM1	PSMA3	LTB4R2	ZBTB8B
PODXL	BACE1	FAM83B	DLX2
STAT2	ICMT	RFC5	GRSF1
VCL	PDE4D	FAM184A	LRRC8A
FKRP	PTGES3	GOLGA5	ABHD17A
SLC4A7	INVS	EPB41L4A	LAMTOR3
ERN1	HNRNPLL	RFXAP	KBTBD7
CASP4	SLC12A2	MLKL	ATAD2
RAB13	RRP12	YARS2	MED13
CTSG	SLC25A1	SEC63	ZFPM2
CEACAM3	IRS4	LORICRIN	TMEM63A
CCN2	MAPRE2	RGS6	RFFL
RIPK1	CHN2	DOP1A	DNAJC17
SDCCAG8	TBL3	WDR75	NUDCD3
BFSP2	XPO5	MICAL1	CC2D1B
ZEB1	DDX52	PSMB5	PCDHGA7
YWHAQ	VSIR	EXOSC3	PTCD2
ZBTB20	HSPE1	FGF21	SEC14L3
ADCY10	RPS6KA4	SMG8	ZNF200
G6PD	ORAI1	TTC4	MTFR1L
SQSTM1	TSG101	GORASP2	PCDHGA6
SMAD7	MTUS1	AGO3	URB1

MKS1	MAGI3	GPBP1L1	FAM228B
NOS1	SUMO3	MACO1	SLC26A5
PCCB	AKT1S1	H2BC18	TCN1
CSK	MAT2A	STK35	DENND3
TEAD1	SULT1A1	EIF2B3	CEP85
TNPO1	LARP1	UCP3	RNF34
DDX20	RPS25	SIRT3	SLC29A4
CCND1	PHACTR4	MYO3B	PPP2R2B
ITGB4	TXNDC5	TAF1	DSG3
VTCN1	RPL15	LCT	INSL3
FES	AKAP8L	ARFRP1	PHEX
CCL24	KIFC1	SRPRA	SVIP
FOSL2	C2CD5	RALGDS	PCSK2
CRKL	HNF4A	PBX1	PROP1
HEXB	EPS15L1	PPP2R3C	VCPIP1
XDH	VWA8	KDM2A	LAS1L
AIRE	PSMB3	BMPR1B	CCNE2
COL4A4	NOTCH3	TNK2	PANK1
SCARB2	THOC1	HIBADH	BAG4
IL12RB2	NUP37	TNNT1	TPPP3
SELE	ANKRD28	GNL1	SLC30A2
NAIP	SIAH2	FAM98A	PTH2R
LIPC	GOLGA4	WDR35	FXYD3
TTC8	MAD2L1	TPRA1	STON2
IFIH1	RAD51	NDUFS2	CATSPERB
HLA-DQA1	ATF7	DPYSL5	MIER1
PPP1CB	FBL	FARP2	FOXJ2
DLG5	RREB1	DDX51	FBLL1
LAMC2	LATS2	SF3B6	TMEM179B
WDR1	SIK3	FGF20	MAP3K10
TICAM1	SF3A1	TINF2	COX11
IDUA	ARHGDIA	POLR1F	FASTKD2
BCL2A1	ZNF574	SFXN4	CIP2A
TNFSF15	LAMTOR1	CEP20	FASTKD5
JAG1	KRT1	CD59	CCDC59
TRPV4	PTGDR2	LAMA5	UBE2NL
FYCO1	TARDBP	CDK11A	SH3BP5L
C4A	BCAS3	ALDH9A1	THBS2
ITGA6	WNT5B	SAT2	NEXN
WWTR1	PEAK1	RGS16	OPN4
HBA2	CACNB2	NAV2	THEMIS
TUBA1C	ABCB4	DENND4C	CRYBG3
CTNNA1	CTTNBP2NL	ANAPC10	NFIX
MAN2B1	PGR	THTPA	H3C7
KAT5	DCLK1	MIS18A	PHRF1
PDE4A	PALLD	DUSP11	CEP44
PAFAH1B1	UVRAG	H1-2	ZFP42
PARK7	MUC2	EIF5	LRRC47
SERPINB2	CEP135	NXN	CLTB
ARHGAP24	NELFE	SLC12A5	TMEM132D
TFEB	XRN1	DENND5A	ATAT1
SLC17A5	EEFSEC	NRDC	LSM7
SLC30A1	VDAC1	TDRD7	SSBP3
NCOR1	NSUN5	SAA2	ARL11

TUBA1A	PRKAG1	PHIP	ATIC
SFRP1	VEZF1	CPAMD8	AQP7
AP1G1	PPIL3	VPS26C	POLM
ARL8B	VASH1	ARID3B	PPIP5K2
APOBEC3G	ERCC1	ATP6V0D1	PATZ1
ILF3	PLS3	MAP9	FBX028
FOXP3	DUSP5	MYL1	SLC39A3
TAF4A	ETV4	RBM26	TRERF1
SFRP5	PLD2	CERT1	FAM149B1
LCP1	POGZ	KRT82	ZNF330
RXRA	LDHB	HAS3	CARD19
CD46	PKP1	MAT1A	SDE2
HLA-DQB1	CCDC66	AFG2A	SPAG5
SLC3A2	ATP6V1A	TRAM1	SUCLG2
APOC1	RNASET2	NOP9	SLC5A4
MPDZ	WNK4	H1-5	CCDC25
RHOC	EDN3	ZIC2	WDCP
STAT4	RAPGEF2	BAZ1B	ELAVL4
GPNMB	C1QTNF5	GNPDA1	ZRANB3
HSPA8	SOX2	FBXL18	KCNJ5
ADORA2B	SH3GL1	RPUSD3	KCTD13
VASP	CHERP	PM20D2	SRSF9
PTPRJ	CPD	YARS1	GBX2
TGIF1	USH1C	BDKRB2	TDRKH
DAG1	ORC2	SRSF4	FABP3
DDB1	DOCK4	OPRD1	NOP10
ELP1	MYBBP1A	TMC1	AASS
HP	PTPN23	UBXN6	ING2
STK26	APAF1	POLDIP2	PIP4P1
CDKN1A	EEF2	SSH3	LONRF3
SOAT2	KRT19	RPS26	CASQ2
BCL6	ITGA1	NRBP1	DDAH1
INPP5E	KLC2	SYN	DPH2
GPR55	RAB23	ZC3H7B	COPS7B
LILRB4	MON2	RASSF8	AGBL3
CEBPA	EPB41L2	RNF141	CCDC180
CD58	RAB2A	ARAP2	ELFN1
SLC15A1	ID3	CCL27	CLDN4
PSAP	RIF1	CSTF2T	APLF
PDHX	SMARCD2	SSTR2	TPBG
DMD	NPTN	PROM2	ABCB7
ANK3	ATRX	RAE1	SLC25A14
TYMP	PTPN9	PGM2L1	MRM3
PAK4	RUBCN	SQLE	SPICE1
LAMA3	GRHL3	PRPSAP1	EXOSC9
LGALS3BP	DSC1	PNPLA1	SLC12A1
PLSCR1	PLOD1	OBSCN	GPATCH4
TNFRSF1B	ERH	RAD50	TPMT
COL4A5	ATP6V1H	NDEL1	ANKRD35
CD34	NFYC	ZNF592	SEPTIN5
HADHA	SDC4	SLFN12L	KLB
ALDH3A2	CDA	SEC24A	THOC3
BRSK2	HOOK1	BRPF1	CLTCL1
RAB5A	RAB34	ZNF407	BABAM1

SETD2	MBD2	ZNF536	H2AC18
TTR	SMC2	KMT2C	DYNC2I2
HMGCR	DUS3L	SKIC8	SLC51A
CD63	GHR	C1orf198	KCNK6
MFSD6	NODAL	SRGAP1	PCDH8
CXCL5	SF3B4	ANKRD50	ADARB1
CD55	FABP2	CNTRL	ARHGAP9
KIF26B	SUMO2	TMEM119	CAVIN3
FBF1	S1PR2	ARHGAP21	PDZD7
OTOF	FZD10	AIP	TXNRD3
SHPK	ESM1	MRPS10	AQP11
FZD3	IARS1	SGIP1	WDFY4
SNCA	MFN1	DENND1A	DNTTIP1
PTPN1	APLN	HAGH	CCSER1
SGK1	ATG7	CLEC18C	DNAH12
ARSB	PEPD	BCL9L	TP53INP2
SART1	PCBP1	RPL7L1	GVQW3
IFT140	VRK2	CNOT2	LOC102724334
IKBKE	ATL2	SLC25A4	LMTK2
OSBPL8	HOMER3	SERPINA6	DAO
CD82	EXOSC10	SCNN1D	HESX1
GSK3A	KRT36	ADSL	HASPIN
FTH1	ANTXR1	KLHL12	GAS2L3
DHCR7	CBFB	SCFD2	FSHR
MARK1	EPHA4	TMEM168	ZNF787
PMEL	GNL2	LUZP1	ARMS2
TSLP	PWP2	EHMT2	CENPW
TNFRSF9	PIP4K2B	ARHGEF17	POC5
NF2	C1QC	IL22RA2	KIAA0930
ECT2	EGLN3	FDX1	TBC1D25
RORA	CCNB2	SLC25A15	NCKIPSD
DCN	RCC1	QPCT	SELENOT
NOTCH1	RFX1	SLC30A5	GRIPAP1
INHBA	CYFIP2	ABHD6	FAT3
CLASP2	HAUS6	TBKBP1	FGD1
PKN2	EIF3B	CDC73	P2RY4
GPC3	RTRAF	NELFCD	CNST
PKD1	SOX4	LBX1	WRN
MID1	NUP107	PVALB	CNOT7
BDNF	SMPD2	PPIAL4A	PDE6B
TGFBR1	STX2	FNDC3B	PLCZ1
PRL	STMN1	ATL3	MFAP4
DDR1	CYP2J2	SLC24A1	SSBP4
SFPQ	APEX1	PDZD11	ZP4
PPT1	DNAJA1	RAB9B	MUC13
AGTR1	KNSTRN	BCAM	CCDC82
SKAP2	PAK2	MYOG	ZSCAN29
EIF4A1	CPSF1	DAPK3	ZNF185
SPARC	ECE1	NEK11	FBX021
DCSTAMP	SKP1	GTF3C2	ZBTB44
TAP1	DISP2	HEXD	PNKP
ZBP1	NEDD8	LSR	PIM2
GRIP1	DNAJC7	CHKA	ARHGEF9
HDAC7	ETFB	GPAT4	RIMS2

POMT1	GULP1	RGS4	KCNS2
TMEM67	CAPN2	MFAP1	RRAGA
SLC16A1	KCTD12	UBE4B	GRIA1
RHO	SHB	SLC6A17	AACS
GNAI2	TRPS1	EPHA5	ERN2
WNT11	LRRC7	SRSF6	TTC13
NEDD4L	ABCA12	CTDP1	MEX3C
HDLBP	CORO7	CYP26A1	USP1
SLC2A1	TRAF1	DHRS9	DNAAF10
PTPN3	NCOA6	GET1	NDUFA8
BRSK1	CCDC12	FGD4	MT-ND5
TMEM106A	HLA-DRB3	RNF168	TOM1
AGFG1	GFPT1	GPR21	ROBO2
STAP1	EXOSC7	ATP6V0C	NTAN1
IL36G	AIMP2	CHN1	PCDHGC3
BLM	AMBP	TTK	PFDN2
MAPK7	SFN	WWP1	FLRT1
AKT3	TRIM4	ARID5B	GPRC6A
ALK	COG2	EML6	RNF14
TG	SLC46A3	PDXK	FIGN
NEB	SNRPD3	KRT8	MYOM2
CDH23	PGAM1	UPF2	ARPP21
MAPRE1	TMPRSS2	CENPV	SLC25A33
TSC22D3	RECQL	MYH3	SNX15
RTN4	FIG4	COX5B	ARMC10
HSP90B1	CEACAM7	CMSS1	PPP4R2
CACNA1C	ARF4	FAM98C	SNRNP27
EPHA3	RBCK1	LMF2	OSGIN2
ZEB2	GNA14	FAM120B	TCF23
CDKN2A	ATAD1	PPP1R37	NKAPL
TRAF2	SRR	CAMSAP1	KLK2
TMEM114	PLK2	GNL3L	CTNNA3
MCCC1	ZNF598	EIF4E2	HOXD1
BBS1	KATNAL1	SRP72	CBX8
FLNA	GTPBP1	RTN3	TOX4
ABL2	CLCA1	BRD3	RAB2B
LCN2	ZNRD2	NFIC	TTPAL
SOD2	RPAP3	UQCRH	PTGFR
TGFB3	KRBOX4	PCNX2	FOXC1
LRP2	COPG1	RPS5	DCC
SLC37A4	CACNA1B	CROCC	ANKK1
PTPRO	MYCN	RBM23	CA14
LIPE	PEF1	SPTA1	AFAP1
TRIM21	FBX038	TPSAB1	CDH19
NR4A3	HAUS3	BCL11B	HERC3
TNFSF12	VPS37B	HLA-DRB4	VSIG8
CCL13	SYNE1	STIP1	CFAP210
IQGAP1	HECTD4	SESN3	C6orf62
EXOC4	H2AZ1	ADAMTS17	LRRC73
MCCC2	FBXW11	AKAP7	NHSL3
ATF3	DCK	APBB1	ALS2
GLUL	ETV5	TSSK6	DCTN6
GCA	GSDME	CAPRIN1	UBFD1
SYMPK	NAXE	AQR	IFNL2

ODC1	LEF1	VARs2	WNT16
C5	EIF2AK3	TRIM9	PRELID1
IL22	PPP4R3A	NKIRAS2	C2orf88
CD1D	CEP192	CPSF4	RASSF6
SELP	CSTF2	AK1	NADK2
TNFRSF8	PRORP	STT3A	ISCU
NRP1	ITCH	ARHGAP33	COPE
BIRC2	TFG	MEP1B	BECN2
ARNT	DUT	DDX50	TRIM3
AEBP1	PTBP2	S100A2	GPRASP2
PRKAB1	ATP9A	CFAP20	TCAF1
FHL2	UCP1	TMED9	BTBD2
REL	TWINK	CYB5R3	GPSM3
GREM1	DEK	TNNI3	TRH
EPAS1	OPRM1	SH3PXD2A	CSRNP2
IL21	SPNS1	ITFG1	FJX1
TNFRSF6B	POLR2B	PSME1	F13B
M6PR	TOP2A	FBXW9	HAND1
VTN	ELOC	KCNQ3	ADGRB2
NEDD9	GJB1	SETD5	INPP5A
HSD17B4	RSP03	PPP4R3B	PADI1
SF3B2	NUP188	KIFC3	ZBTB7B
CRYGC	C5AR2	MBTD1	YAF2
NCL	PDLIM5	SLC9B2	DDX60
ADAM9	CPEB3	MAU2	VSTM1
KIF14	UNC119	CEP295	FBX042
GLS	RNF41	ESRP2	RGS13
PDP1	CENPE	HSPB2	ENSG00000271810
SLC7A1	PPIL2	SH3BP1	NEBL
YBX1	GOLPH3	MEMO1	CRISPLD2
SLC5A6	PKN3	PPP1R9B	CRACR2A
ACACA	BCAR3	NECAP2	MMRN2
RPS6KA1	ECI1	ERGIC2	CCSAP
ADAMDEC1	RLF	EXD2	POLE2
IL18RAP	ELL	PPP4C	VPS4A
MTTP	CDC20	ZDHHC20	TMPRSS15
TACR1	PFKL	KIFAP3	KCNJ4
CD79A	SEMA3C	MAPKAPK5	SLC25A27
NOX4	EFNB1	NDUFB8	GLRA2
FZD6	FH	CMBL	SPC24
KCNN4	NRDE2	GNB1L	DMP1
MKKS	FABP12	RBM12B	MYADM
CCL14	ZMIZ1	MAGEB2	KCNK2
YWHAE	DPYSL3	TRMU	CYP3A7
ITGA5	TRNT1	MEAF6	PRRC1
HSPA5	CACYBP	CDV3	ASAP3
IDS	GLG1	NCR2	CILP
CBLB	JAM2	DCAF6	NEK8
DEFB4A	FLNC	CBFA2T3	YBX2
DNMT1	GPX1	SLC4A3	MAMDC2
LY96	DDA1	PDLIM7	TGFBRAP1
BMP4	S100A11	LDHD	MTPN
RGCC	IHH	ENO3	PHF12
PGF	LETM1	FAM91A1	RBBP9

TCF7L2	RNMT	BICD2	ARPC5L
ADAMTSL1	NTPCR	ELF2	CYP4F11
GRN	PDE5A	NBAS	ATXN7L3
DDB2	CSNK1D	TIMELESS	KIAA1958
PDHB	PAWR	CWC15	RNF123
ADRB2	CALCRL	FHAD1	ACER2
NCAM1	TAGLN2	MIDEAS	HHIP
FMN1	COL5A2	TLNRD1	ZYG11B
COL7A1	SYTL4	DARS2	TUBGCP4
CYTH1	FHOD1	PDE1A	AKR1C2
NTRK1	TTF2	MRPL58	OBI1
KMT2A	KCNN1	GJB4	UBN1
JAM3	TCOF1	QTRT1	EME1
STK24	PTPRU	TPP2	BTBD10
ARRB2	AQP3	LHX2	JAKMIP1
LRPPRC	SMC1A	PCBD1	MAP3K13
SF1	AKAP10	FABP6	RASA4
WEE1	MRPL11	AKAP11	DNAH11
MMACHC	CHCHD3	MYSM1	MARCHF1
ERC1	PDS5B	FKBP15	GLRX3
EPHB1	STAMBP	FOXQ1	UPRT
SLC4A1	SSX2IP	ARL2	CCM2L
TKT	PRRC2C	TRIP11	FRMPD1
ABCG2	SLC39A7	SAA4	ISOC1
WNT7A	CALML5	SUCLA2	IL17C
NUDC	PAF1	TMEM223	NACC1
TNFAIP6	PPA1	AMPD3	GALNT6
HSPA1A	ADCY8	SLC22A16	PCDHGB2
HNRNPM	CWF19L1	RECQL5	ZNF496
ENO1	PIBF1	KLRC1	ALKBH2
MLLT3	NGDN	GPD2	IRAG2
SLC7A11	ABHD12	TMEM33	NUP210L
LATS1	CCT6A	ABCB6	RALGPS2
LBR	JUND	H4C15	CFAP276
SERPINF1	PAEP	POLR2F	HMGXB4
EIF2AK2	KRT5	TRIM41	PROSER2
MKI67	ACVR2A	PNPT1	SZRD1
SLC26A4	GATA1	COPS4	ZCCHC9
IRS2	FEN1	ZNF830	PPP1R3A
UNC13B	MYO19	TM9SF4	PRSS1
EEF1D	ATP2A3	MAP3K12	ARHGEF16
CYP19A1	TRPC6	SRD5A1	SLC25A25
MPI	RHOJ	VAX2	PLRG1
MAP2K4	MPZL1	MED22	RCN2
ELMO1	EIF3G	BBOF1	NDUFB11
CLASP1	AP2S1	ZNF408	CDK8
EDNRB	GGA1	STRA6	C15orf48
MMP8	RFT1	NT5C	MTRR
CAMSAP3	NID1	CCDC80	SCN4B
PON2	MAG	ASGR2	AURKC
ACTR3	ASPH	TBC1D14	GALNTL6
HLA-DQB2	RFC4	CLPX	PCDHGA5
CSNK2A1	NUBP2	CARHSP1	TRANK1
MLC1	N4BP2	GOLGB1	ZHX3

DOCK2	PCBP2	OCM2	STARD3NL
NTRK3	TEX264	RER1	ESYT3
TRAF3	EBI3	IAH1	FAM186A
DHX9	PAICS	RWDD2B	SYDE2
AGPS	PSMB4	FHDC1	GUCY2C
CYLD	GNB3	CEP250	MEIS2
KCNMA1	ANXA3	CDC14A	UQCRC1
MCPH1	UFD1	CEP19	NCAPD3
TYK2	PLEKHA8	ODF2	LRRC56
ADA2	TBC1D10B	PDZK1	PPFIBP2
TWIST1	OXNAD1	GPRIN1	PCDHGB3
ATP1A1	EIF3I	GRM2	MIGA1
CD207	RARS1	KCNJ10	TMEM132C
FZD1	SAR1A	INTS4	TMED5
EBP	USF1	ZNRF1	GJB3
LSP1	RPL27	GMPS	FOXF2
SLPI	KCNA2	RASSF2	RAB12
AURKA	RAB3GAP1	NMBR	H4C9
BRIP1	ALDH1A1	PRPF38A	H4C2
PLCB2	NDUFAB1	ABTB2	H4C13
MYO6	IP6K1	ERF	ELOF1
MYO1D	COLGALT1	DCUN1D3	ALAS1
RHOG	SPECC1	KIF12	PHF21A
SNX27	LPCAT1	LRP4	PARP4
LDAH	CCND3	FBX03	SUPV3L1
ALMS1	ANAPC5	RAB28	CHMP1B
WDR26	TGOLN2	NDUFA2	MYOZ1
ACP1	LIMK1	CAMKMT	GAL3ST4
IRF2BP2	PBRM1	TANC1	FAM161B
TUBG1	SF3A2	SPATS2	RWDD3
PRKD2	RBM4B	STRIP2	CCDC127
L1CAM	STX18	PPHLN1	GEMIN8
TP63	GSTK1	URB2	PIWIL2
EXOC5	YTHDC2	GATD3	SLC22A7
NBN	MAOA	ITGAE	SFXN3
GNAI1	UBXN1	KLF10	LAP3
GRK2	NAGK	XPNPEP3	CERS2
LMNB1	MSRB1	FABP7	ZW10
P2RX4	NDUFV3	ITIH3	METTL15
RMC1	HSD17B12	H2BC9	PSMA8
PDCD6IP	CLCN5	WBP4	HMX3
TNS1	ARL15	SEPTIN6	EMC3
SAA1	KCNH2	MARF1	MTM1
UGCG	ADD1	ZBTB7A	MYO1H
DLK1	SSRP1	MPHOSPH10	IL22RA1
CD1B	CIAO1	PRKG2	XYLT2
KLRK1	ZMYM4	TBC1D10C	TNNC1
PIK3C3	MOGS	ENSG00000280987	KCNS1
TRIP10	CALCOCO2	NR2E3	SEPTIN12
CASK	IMMP2L	HAS1	CDKL1
LDHA	CRH	PLOD3	MLLT1
CYP21A2	CUL1	HMG20A	ADAP1
FGF1	DHRS2	ARHGAP32	RASSF4
SEMA4D	SOCS5	LZTS2	FBLIM1

RPS6KA5	STX7	NSUN6	HSPA1L
SPIRE1	THOC6	WDR76	SLC19A2
PTPN22	PGRMC2	EDRF1	DFFB
F2R	TWIST2	ATP8B4	CNTN3
GLDC	LUC7L3	KCNK10	KMT5A
MEF2A	CNMD	IGHA2	NEGR1
PRKN	SLC25A3	GPR156	UGGT2
LGMN	TIMP4	NEK4	UXS1
MAP1B	DCTN1	PRX	CLGN
PROM1	IER3	LRRC40	LNPB
MAL2	FGF9	SLC28A1	AFG2B
RUFY3	MORC3	STMN2	ING5
MX1	ZNF318	PYGL	MRPS26
HPRT1	FBN1	SERINC4	SYPL1
ADAR	SIRT2	DYNC1I1	SLC38A8
DLG4	TAF15	ZNF202	NIPAL3
CTSH	STRN4	BCL7C	PTPN18
NUP85	DHPS	INTS10	SLU7
TOLLIP	FGF13	SAMD4B	NCKAP5
FASN	SLC6A6	SLC52A2	TDRD6
SOS1	PES1	GIGYF1	PCDHB7
LIPG	C1orf35	MYLK2	TESPA1
CHD4	NUMBL	CDC42SE1	THAP9
KCNQ1	DUSP22	TBC1D2B	SEM1
HSD11B1	RELN	LYPLA2	CEP68
PMM2	LASP1	HMBS	KIAA1143
RAB11FIP2	FOXE3	ZMYM3	PPP1R9A
TRIM65	ASH2L	CSRP3	BIN2
TNFSF9	PMFBP1	ATP6V1G2	HAUS2
ROR2	SLC4A4	XPR1	CHRM2
PPIA	AP2A2	MEX3B	IMPA1
FZD4	LONP2	SAP18	CDH6
CD2	KRR1	SPATA31A1	RAB15
CD276	BAMBI	MTA3	QSER1
RELB	ASCC2	PINX1	GRM1
MAP2K7	ZBTB10	FAM83D	BRWD1
CWC27	RAB9A	CCDC6	KTI12
PLEKH02	OGT	MCTP2	THAP1
HDAC8	TERF2IP	LYSMD2	TMED2
PLEKHG5	TEAD3	IST1	ASB10
CAMK2G	RIT1	PFDN4	PPP1R16B
CFLAR	PTPN12	CAND2	TRIM42
DBT	SLC39A5	TEX9	P2RX2
KPNA2	POLR2L	MPHOSPH8	SPTBN5
PRNP	EN2	ZNRF3	PALB2
RASA1	SIGIRR	MRPL44	ELP2
PANK4	GPN1	MDN1	HYCC1
AP1B1	CAV2	DDX18	PCDHGA2
VLDLR	PPP2R2A	NNT	MLIP
RHOB	TAOK2	FRS2	CDC14B
STK25	RNF7	TOMM22	FAM114A2
WASF2	TIGIT	NEK6	CYREN
SLC46A2	SUCLG1	CASP14	GAREM2
DHX30	MT1H	CNBP	KRT4

TBL1XR1	RBBP8	MAMDC4	CENPK
ARL13B	SRGAP2	TPPP	TRAIP
COX5A	NIBAN1	OR5AC2	FAM219A
RAPGEF3	TTLL5	NAT8	P2RY10
RFTN1	KMT2B	AKR7A2	TMIGD2
CKAP5	ZNF703	CRABP1	LSM4
NTN1	RYBP	ACOT7	GUF1
F2RL2	U2AF2	IFT81	NUDT11
MED1	GTF2H3	ATP13A1	POU3F2
SIGLEC15	HAUS1	NAA35	CD300LG
PFN1	GYPC	WDR89	PER2
DNM3	SETBP1	AARSD1	TIMM9
SRSF5	MRE11	SELENOO	WWC2
RHOH	POP1	TRNAU1AP	MOCS1
PTGER2	MYH4	HERC1	CA6
SCD	DENND6A	CISD2	CDH10
GJA1	PPAN	NDUFB4	MIA2
PEX1	ZNF7	RALGAPB	ENSA
MTDH	SLC22A12	PLEKHA6	GPC2
MYH10	THOC2	CD200R1L	SLC25A18
FZD2	YTHDF2	PARP12	CCDC62
TUBB2A	FGF23	TBC1D9B	NCR3LG1
BACH1	CNTNAP1	MAGI1	TLE5
MDM2	DMAP1	CHD8	PCDHGB4
RICTOR	GAMT	RAB5B	PPWD1
DCAF16	DIAPH2	CSNK2A3	SUN3
SHTN1	SLC6A3	SLC10A2	ANKRD13A
PEX6	MAP3K2	FGA	GBA3
HPSE	CRNKL1	FAM171B	MTSS2
MITF	GIT2	MRM1	EIF3J
DST	GM2A	TFAM	ANKDD1B
TOP3B	PTGES	TRAF4	BIVM
IGF2BP1	RPS4X	FUT8	BRME1
GNAS	ARID1B	TOP6BL	WDR27
AQP1	RPN1	RAB3B	NACA2
SMAD4	QPCTL	KLF1	SEPTIN8
PRKACA	TRB	NMT1	HAO1
WNT4	SPOP	THSD7A	CENPH
MUC4	SCAPER	NGLY1	RNH1
OPTN	TRA2A	APBB2	POLI
JUNB	KIF11	SLC2A12	SAMD8
HLA-DQA2	IGFBP4	ELL2	ZSWIM3
AMOTL1	ECM1	AIRIM	AHSP
IVD	SERPINB9	MED16	TDP1
ARHGEF11	PER1	MAN1A2	MADCAM1
RHOQ	PPL	ABCB10	H2AC11
SC02	ZFYVE27	HSDL1	SLC5A2
SMN1	FCN2	UBE4A	KCNA1
UBE2K	NCBP2	TIMM10	SP8
RAB8B	CACNA1D	STX8	TCEA3
TUBA3C	RAB38	ATP5MF	QDPR
KDM1A	IPCEF1	TSSC4	SYDE1
MYH14	ZNF740	SMC6	SIM2
APOC2	RPS27	PDCD4	LARP1B

POLR2A	TCP1	RMND1	KNL1
CP	PHOX2A	SS18	SULT1A3
PEX13	IL17RB	HEATR1	HOXB4
POLH	RPL24	DEFA3	CRLS1
TBC1D1	ACAD9	FZD9	SRV
MFGE8	UQCC1	AVPR1B	MYOC
HYAL1	YEATS2	TOPBP1	SLC01C1
WHRN	OCRL	CNN3	CNKSR1
CPQ	PSME3	EIF3C	MIER3
SBN02	DLGAP5	AKR1D1	LENG1
EPOR	YIPF3	MTMR10	OXCT2
VAPA	RING1	ELFN2	C9orf85
RANBP2	ATP2B2	FLG2	H3C2
TXNIP	WNT9B	ANKRD26	H2BC3
ERVW-1	STAU2	RIMS1	H3C3
KARS1	GZMA	SYNGR2	H3C11
FCGRT	NME7	MCF2L2	HNF1A
POU5F1	SIPA1L2	TMCC1	TBX5
KPNA3	MED4	HEBP2	RORB
UBE2I	HLTF	ZNF382	PMPCA
ERBB4	RASAL2	PTPRT	ELAVL3
BCKDHA	ATP5PB	NELFB	SMAD9
HNRNPA1	UBE2E2	CCDC57	HES5
CD2AP	ZC3H18	CSTF1	SET
SCN8A	NFE2L3	TRPC4AP	SLC52A3
MACF1	PSD3	NIPSNAP1	KIF19
SLC15A2	GGA3	UNC45A	TDRD5
USP12	PPP6R3	DEFA5	DYNLL2
POR	MICU1	TMEM37	TRPV5
SLC23A2	BASP1	OTX2	UBL4A
NCK1	DMPK	IKZF3	FBP2
SRSF1	TFPT	RMND5A	UBA6
GPR183	GSTM2	ZNF385A	ACCS
CST3	RAB11B	ZNHIT2	TCEAL1
AP2B1	ERG	POLB	GADD45GIP1
NINJ1	ELP3	CIR1	SEC62
HMGCL	GRPR	GAK	DACT3
NOD1	SBDS	SEC61A2	ANKRD16
SOCS2	CLK3	UTP25	FAM83F
LRP5	ERAP1	KRT33B	NCKAP5L
S100A1	OSMR	ZFAT	HPDL
GFAP	SCGB1A1	PPOX	ATP5MK
COL1A1	CCN3	NSFL1C	TIMM13
RPS7	CASR	COBLL1	SPINK1
S100A4	SEMA3F	CADM4	ATG9B
FGF7	H2BC11	XKR8	TIMMDC1
PRDX1	ZNF148	VAMP1	EIF1AX
SELPLG	EIF2A	TSHZ3	ARF5
PNPLA2	AMFR	SCNN1G	VAMP5
IFNA2	NRBF2	ARMC1	MGST1
ADGRE5	HDGF	FOXJ1	SLC16A2
XCL1	WTAP	ACP3	RAD54B
LAMB3	CCHCR1	SMCR8	PCDHB8
IL18BP	TRAPPC10	PRMT8	NEFM

ASL	RAB29	TAC01	UQCRQ
TAP2	INTS6	MTG2	CDHR1
TAB2	RAB11FIP5	RABL2A	NRXN1
ILF2	WDR41	RPAP1	GDF11
ABCC8	MUC5AC	MRPS22	UIMC1
PRG2	NEK3	IARS2	FGF16
NR1I2	SMARCE1	H2BC15	PHC3
NCKAP1L	SUPT6H	SMAP1	SLC25A46
THOC5	ATR	MTX2	RASGRP4
COPS5	KLRD1	DNPEP	ZFPM1
VIPR1	SMC4	BARD1	FBLN7
NOP2	PPFIA1	REC114	COBL
C1S	TRIP12	HMGCS1	SUDS3
CTDSP2	PEX3	P2RX3	PCDHA7
SLC16A4	SLC9A7	BCKDK	DCAKD
LMBR1	PHLDB1	ACTR3C	TMEM245
DLD	RANBP9	COA8	R3HDM1
CDK2	GEMIN5	COL2A1	ZCRB1
SH2D1B	UROD	BAP1	PCDHGB6
CALM3	CCDC9	LRWD1	FBX039
ST14	MPRIP	KCNMB3	CCNYL1
IL31RA	AQP5	GRIK1	MR1
MDH2	ATP6AP2	SETMAR	RASSF9
CD151	DHX57	ANAPC4	KANK2
OSBPL3	HERC2	C12orf43	RNF138
CDK4	NGFR	PUM3	WIF1
IL24	SLC25A6	COPRS	DNA2
FOXO3	FAM89B	DDX60L	STK11IP
CPEB4	NCAPD2	TRIM11	GDA
TRIM62	GNG5	ERRFI1	FBX05
RALA	H3-3B	ITM2A	KRT15
MAP4	ATP10D	RALGAPA1	HJURP
FURIN	NARS1	HOMEZ	PRELID2
FMR1	SLC25A24	TMEM41A	H1-4
FLT4	NPHP4	COL27A1	ITIH5
DPYD	TRAFD1	MYOF	FBX031
ABCD1	NKRF	TUFT1	JAKMIP3
PPP1R2	RPL10A	RHOBTB1	ASCL2
PDGFRA	FMOD	EDA	CYP4F3
PDGFA	CEBPZ	TRMT44	ALDH1L2
ATM	USP24	SHMT2	EAF2
ATG16L1	STXBP5	SASS6	CDCA5
AREG	P2RY6	RNF146	H2BC6
CCDC88C	NTF4	PLEKHG6	ZFYVE1
PDE2A	GATAD2A	H4C5	DNAI7
SNAI1	PPM1G	WNT8A	CTF1
AP1M1	ALPK1	TRAPPC3	GFRA1
CSNK2B	GPATCH1	CEP57L1	FGF17
PIK3C2A	RABGEF1	BTLA	NOVA2
ESR2	NRF1	RUVBL2	UBASH3A
ACTA2	RIOK2	SHD	PSRC1
HNRNPD	RRM1	PFKM	LYPD3
UBC	RPS20	HM13	SEC11A
RPS19	MAP7D1	HDHD5	ZNF652

TAF3	IDI1	RBMXL1	TAS1R2
NDUFS6	PRDX3	CEP70	ATXN7L2
FUCA1	ADCYAP1R1	MYBPC3	THAP12
RIPK2	YKT6	GEMIN7	TMED3
ACTN4	NAP1L1	LSM12	GRAMD1C
MTHFD1	LY9	KDM2B	GCK
TRPM2	CCNT2	RIPPLY1	AGR2
PARVA	DLL1	TAF4	RHAG
PIK3R2	GNE	TTC1	DYNLRB1
PRKAA2	HIP1R	NAT9	CEP112
ANKRD6	B3GALNT2	ATP6V0A1	RHPN2
IL23R	KIDINS220	EHD1	HAUS7
HMGA2	POU2F1	CASKIN2	MC4R
PRLR	ISOC2	B4GALT7	MF
ACIN1	SCAMP1	CKAP2L	STK31
SRGN	PNOC	ECHDC3	TMT1A
RET	SPRED2	GRAMD1B	SLC26A3
XPC	ABCG4	VPS13A	CDH16
CALCR	CEP170	CRHBP	MRPS18B
BIRC3	CLDN10	CA5A	CDK7
TAT	PCSK1	ERO1B	ADAMTS18
SPTBN1	AXIN1	MRPS25	AGAP2
PLK3	SRP19	WDR91	PCDHA9
CALCA	KIF2A	NOMO2	YEATS4
SLC8A1	VGF	URGCP	CFAP43
ATP1B1	PRKAR2B	POLR2E	UNC80
PRKD3	HSPA12A	MAGED1	ZNF431
GPSM2	EVI5L	MPPE1	ABHD8
RP2	SOX9	PREX2	TMC3
CD1C	ATP2B4	SORBS3	SOWAHB
CCR9	C9orf72	EFR3B	AVPR1A
LAMP3	KIF13A	WAPL	TPRN
MANF	UNK	MACROH2A2	FLRT3
IGF2BP3	H2AC6	GCAT	CYP26C1
TMEM237	RPLP0	LRRC49	SPAG6
CYRIB	GPATCH8	SENP5	GJA5
F11R	PTGES2	MED7	GCKR
PRPF8	DDX41	GATA4	EPN1
BPI	ABCC3	RPL3L	RYR2
BAD	RC3H2	PYG02	SLC18A2
EIF2AK4	CDC42EP1	BUD13	PADI6
ACADM	MPIG6B	HOXA1	SULT1B1
ERBIN	RILPL1	RHOBTB2	AQP8
EEF1A1	RPL38	PSMC3	VIL1
F9	GAPVD1	GRM7	PCDH9
RBPJ	EXOC1	H4C4	TMEM98
VPS13B	AKR1B10	NAA10	KATNAL2
ASS1	EMG1	CHD1L	LIN9
PRDM1	IPO7	ZNHIT6	ISL2
NCF4	SERF2	PCGF3	PCDHGA3
CGAS	PIAS3	KRT78	BAHD1
AQP4	LIMD2	FAM111B	LCA5L
CLN3	NSMCE2	NME2	MFSD2B
TUBA4A	TIMM29	TSSK3	MSANTD2

RPS3	CLK2	SEPTIN10	WASHC1
HS2ST1	DAZAP1	PPP2R1B	KLHL32
CLDN7	MAPK12	RBM8A	PCP4L1
DACT1	EPG5	CEP170B	CCT8L2
USP9X	NECAB3	EYA1	FBX02
BRD4	ZNF451	SLC29A2	ERVK-6
CSTB	OAS3	CRYGA	DNAH5
CEP290	OSBP	CLMP	HTR1A
ITPR2	STRN3	ANKRD27	CEP97
NR2C2	SNAI2	DIMT1	OIP5
DAPK2	DCP1B	RPL36AL	CEP164
ALDH1A2	TFAP2B	TMX1	CCDC178
CRK	ARFGEF2	SPINDOC	DCX
SIRT6	RNGTT	TAFAZZIN	CYP2C9
MVP	TAX1BP3	COASY	GRK1
CYSLTR2	HMMR	MAP7D2	BRD3OS
NFATC1	PKN1	EMX2	GOLGA1
ISG20	EIF6	SMAGP	DNPH1
ADGRE3	WDR70	DIRAS3	TMEM47
IGF2R	MATK	APOD	MC2R
ABR	INF2	PISD	CDCA7L
BCOR	ARHGAP19	PELO	FXYD1
NRP2	HSD3B2	SETD1B	GPM6B
NFKB2	MLH1	TMEM199	SENPF
YY1	RAP1GAP	GALNT2	API5
CDH2	KLHL22	GNG11	CASP8AP2
MAP4K4	ADRB1	BCDIN3D	TUSC2
ACSL4	PDCD11	SCN9A	NHERF4
LITAF	H2BC12L	RAB33A	MOSPD1
B9D2	DDOST	ARHGAP12	NSL1
FBX011	CBFA2T2	CCDC77	ANKRD40
S100A12	PDS5A	HPD	RAD21L1
VPS28	MRTFB	CEP95	COP1
BEST1	CDH13	OSGEP	MPG
CYP1B1	APOL1	CNNM2	TCHH
RS1	HPR	NPLOC4	NECTIN4
INSR	PYCR2	PGP	ELAVL2
GSR	EDIL3	TOR1AIP2	NUF2
GNAI3	MAP1S	KIAA2013	PLEKHJ1
SDC2	SMARCA5	NAT14	NDUF4F4
ANXA4	CCT5	MEX3A	MRPS5
TOR1A	LCOR	CRBN	NAA11
ILK	SH3PXD2B	S100A5	SPRR2G
JMJD1C	DYM	ARHGEF25	AMPD2
ERCC4	SBF2	FARP1	MT-CO3
SIAH1	RIOX2	PTCD1	FGF12
RPL19	CPAP	LACTBL1	MPST
SMARCA4	ATP5P0	CLIC3	TET3
TCTN2	GGA2	OMP	PPP2R5E
EDN2	SLFN11	EMC1	THAP5
SPTLC1	PINK1	NEMF	PSD2
MYL6	KLK3	APOOL	LONRF2
NR1D1	PDXDC1	LRCH2	ZMYM5
RBL2	PTPRZ1	TNRC6C	ANKRD18A

LYVE1	VRK1	GRID2IP	H2AJ
BMP2	DRD5	CCNH	LGTN
CD19	FADS1	LYAR	ZXDA
CTNND1	SPTLC2	CEP78	ABCB8
IL20	DSG2	IFT80	ARID4A
AMOTL2	HSD17B11	ZBTB33	RILPL2
CYP1A1	MYLIP	KLHDC1	SH3GL3
FAU	SIGLEC10	RPP30	SSNA1
RBP2	GPHN	DKK2	ACO2
AGT	KIF23	ARHGAP4	AIDA
GTF2H2	LYPLAL1	TCF20	TPGS1
DYNC2H1	PHLDB2	FDXR	ESAM
NOS3	GRP	DRD1	GSTM5
TLN1	MAPK8IP1	COX6C	ZNF292
ALKBH5	NLRC3	TOM1L2	FSD1
CDK12	TRIM37	ZNF521	PCDH7
FANCI	CPA6	FAM81A	EIF4H
SIGLEC7	PPP6C	GK2	BSDC1
GBE1	COMT	EPM2AIP1	CHRNA4
FRY	ATP11A	ATP23	GABRA5
RPL11	TAC4	SEC22A	SLC13A5
SACS	NCBP1	USP6	PNPLA8
HDC	RAB11FIP1	ADGRA3	CA7
RPS6	NASP	RFWD3	TNNC2
NME1	RAB1A	PTH	TOMM7
ARAF	MED21	ARL6IP4	HOXB6
KPNB1	BIN3	ITGA7	SYNP02L
PIP5K1C	RPS29	STX16	XIRP1
SCYL1	WDR74	UGP2	NANP
RPS18	MVD	H2BC5	FBRSL1
SEMA7A	RASSF1	H3C13	MACROD1
MAP3K1	PPP6R1	H3C10	PCDHGA9
LIPF	RBM4	MED6	SAAL1
BECN1	NANOG	PNLIP	WASHC2C
HMGN2	SLC27A2	EBNA1BP2	CRABP2
OTC	NUP155	SH2D3C	CA1
DNMT3A	SYNJ2	MRPS16	CYP1A2
ZDHHC7	PRSS3	TMEM126A	RETNLB
NRIP1	RTP1	DNAJC3	LGR5
NECTIN1	ADGRL2	CLPTM1L	GSTA2
TAPBP	GPKOW	ECHDC1	TOB2
ADGRV1	CSN2	LANCL2	KCNJ11
RPS6KB1	MAP4K5	OXR1	CENPM
SLC9A9	NAT10	NYX	SLC44A4
RRBP1	CACNB1	SREK1	RAD54L
PHB1	DNAJB8	FAM117A	NUDT3
ADCYAP1	ZNF829	SUN1	DAOA
ORM1	ATP6V0A2	GTF3C4	GAS2L1
TERT	ACVR1	PRKAR1B	WWC3
IMPDH2	SDHAF1	PPP6R2	CXXC1
KIF20B	BMP2K	GPR88	NDUFB9
RLBP1	TNFRSF4	SAP30	ARHGEF15
CUX1	PROC	TMEM30A	B4GAT1
SERPINB1	TTC28	LCN10	POLR3H

TAX1BP1	ZFP91	ELOVL4	KIF24
CAPZA1	LRIF1	H4C14	PCDHGB1
P2RY11	ZC3H4	CYP2D6	JAKMIP2
HSP90AB1	CLUH	CBX4	PCDHGA8
GAB2	CAV3	TBPL1	PCDHGA4
FLOT2	TNFRSF25	TTI2	SURF2
ITPR3	PIAS2	MOSPD2	ADGRF3
ENG	RARB	TBPL2	MDP1
SCAP	DNAJC1	CASC3	CCDC185
VAV2	CDKN2AIP	PCK2	LMTK3
EXOC3	EIF4G2	NECTIN3	DMC1
AARS1	PITPNB	KIR2DL1	MSH4
VCAN	UCKL1	PTP4A3	DPY19L2
FMNL2	MPP4	MSMP	PDE11A
HNRNPL	C1orf21	NOSIP	COL11A1
HHLA2	GSTP1	TMA7	KBTBD3
KPNA6	TPM2	STS	CTAG1A
CKB	DDX54	JADE1	SNRPN
RBP4	VPS16	USP32	XYLB
POLG	TUBA4B	TAF1D	SPDL1
PALM2AKAP2	CERK	ZC2HC1B	ACTL6B
HEXA	H2AX	MCM7	PLK4
EPB41L5	CSTF3	FGB	MSMB
DNM1L	EIF3L	SLC25A10	RPP38
FZD7	SLC25A11	MAIP1	KIAA1586
MAPRE3	TUBD1	SH3RF2	TAF3
HDAC5	CAPZB	PRR16	ZNF415
SLC2A3	SNRNP40	ERG28	CD164L2
BBIP1	MGST3	ENSG00000248751	ANKRD61
SLC1A3	STX6	COG6	BBLN
MORC2	DGKD	UBE2Z	CCDC54
DLG2	GPSM1	VEPH1	PRXL2B
PIM1	NLK	DAZL	AHNAK2
NR4A2	BAZ2A	PGAM2	DNAAF2
ACKR3	TPD52	TTC21B	CAMKK1
CD38	SPDEF	NELL2	GLRX2
BBS10	RPF2	ATP5PF	TESK1
ACTR2	POLR2H	AAGAB	MIGA2
AIMP1	LENG8	SH2D3A	FGF3
ADGRE2	HSPA6	LMOD1	HTR1D
KHDRBS1	GOLGA3	KCMF1	ATP5ME
FANCD2	REN	CRMP1	RABGGTB
SORL1	CDIPT	CHMP6	ZKSCAN1
CXCR5	VAT1	TMEM230	ADGRA2
HLA-DOB	FBX022	PPP1R15A	AGTRAP
XRCC1	WASF3	FAM117B	SLN
HYOU1	USP36	STK16	DCAF10
POSTN	GPAA1	PSMD8	FAM83A
CLCN7	LRRC41	PTPRF	PHACTR3
ALG1	CKLF	SEC31A	SPHKAP
ST3GAL4	SCIN	ZCCHC17	ZCCHC24
PEX11B	TIAM2	CCDC88B	BRD8
DSPP	EED	KANSL1	SEPTIN3
SH3BP2	IQSEC1	NUAK1	BOLA2

BCL2L11	QARS1	CEP89	ISM1
MAP3K5	KATNB1	FAM193A	CDC42EP5
TNIP1	AJUBA	OGG1	NAT1
APPL1	SLC27A1	LMX1B	CYS1
KAT2B	KIR2DL4	H2AC25	PDRG1
PABPC1	KIRREL1	SDCBP2	ESF1
TET2	DTNBP1	CCKBR	DSG1
ALCAM	RRS1	TRAPPC4	SERPINA10
PGM3	RPS27L	BAG2	WDR47
POMT2	PSMC1	ORC3	SLC01A2
RRAS2	F5	MRPS17	SRSF11
ABCC4	ALDH16A1	RIOX1	AVP
YWHAG	PHC1	TBRG4	EEF1B2
FANCL	ESPL1	USP27X	ENPP3
DDX17	INPP4B	ARL5B	INHBB
GAA	MNDA	RBFA	RMI1
FOSL1	SPC25	CD6	GLRB
SRSF2	ERVFRD-1	ADAMTS10	NPY4R
EIF4E	CPEB2	FEZ1	TREML1
ARPC1B	CNOT1	PACC1	CENPI
FRMD4B	UBA2	NKX2-3	CYP46A1
DNM2	MYDGF	TNKS1BP1	S1PR4
ALPL	MESP2	PDCD7	ACOT13
CFH	MT1A	TUBAL3	UQCRB
ARHGEF7	DUSP3	CDCA3	ANKS1B
CELSR1	TRIP4	H2BC14	PUS7
TBCD	GCC1	SSR4	FN3K
MCU	ZNF180	MPC1	IFT52
TNFSF4	AKAP12	FADS2	EFHD1
PRDX2	MAP3K4	SAE1	TIMM8B
PDIA3	KDM6A	NDUFB3	H1-8
TGFBI	CDC27	INTS14	ZMAT4
BGLAP	BIRC6	PCDH19	DNAI4
ITGA3	MOV10	DEFB103A	GPRASP1
SPIRE2	RFC3	KIAA1671	HNRNPA1L2
SEC24B	CWC22	SPPL2B	C1orf174
EXOC2	MTMR3	NCR3	STPG1
GCDH	FOXP3	CHMP3	SPATA31F3
TSPO	DHX38	PFDN5	GRIA3
CRTC3	CEMIP	IGFBP3	ATP6V0A4
P2RY1	NAV1	TRAK1	NTSR1
CAP1	TUBG2	DNALI1	SLC25A22
MMP28	CLDN20	CCDC170	GPRC5A
DCTN2	TNKS2	SKA3	SLC22A25
MAP1LC3A	KRT83	COL10A1	LODC1
PROS1	SUB1	COX4I1	NDN
ARHGEF1	PLXND1	ARHGEF4	FBN2
PDHA1	RANBP3	CAB39L	IQCE
MANBA	TRIM5	HRK	TENM3
STRIP1	CA12	DNMT3B	BET1L
NOTCH2	KIF4A	KCNE1	RAB27B
GAS6	CLDN18	DNTTIP2	ZNF107
FAT1	APLNR	MRPL17	SVBP
GLRX	C18orf21	MATN3	HMGN3

SENP3	WDR33	NSDHL	TYW3
RPL23	DGKA	FBLN1	RHEBL1
TNFAIP8L2	UMPS	IDH3G	FBXO4
NLRP7	DMXL2	CISD1	DRD3
FER	CYP2C8	EI24	PTRH2
XP01	MS4A7	TMA16	DLX6
ADCY1	ATP1A3	ATP2B3	DKK4
EIF5A	GYPA	MAGOHB	PCDHGC4
ANK2	WDR48	LIMK2	NCOA7
LOXL2	MAP4K1	ACTR3B	SLC5A10
SNRPD2	GIPC1	CEP85L	IFT70B
PSTPIP1	HEATR5A	GNAL	PCDHA5
PTPRE	MAT2B	PORCN	PPP1R3D
ITM2B	VAMP8	ESRRA	EXOC3L4
ALOX12	CANT1	KDM4B	TSC22D4
PDK1	SPECC1L	GTF3C6	OLFML2B
POLA2	CSNK1G1	ASTL	HDGFL1
IDH1	RBMX2	CENPU	PYG01
FUS	MAP7D3	MICAL2	GUCY1A2
KCNJ2	H3C14	KIF1A	PSMB2
DNAH8	HOOK2	KCNJ16	GPX8
DPEP1	RTTN	GUCY2D	KCTD10
VAMP3	RPL27A	UNC119B	VPS29
LCP2	AGPAT1	DERL2	LAT2
APBA3	CDK5RAP1	MBOAT2	TRMT10C
TRIM24	SNX29	ELAC2	CLPS
GARS1	ZDHHC5	ZP3	KCNJ1
CYP24A1	VAPB	ERC2	ABRAXAS1
PDCD1LG2	PAK5	UBR2	KLHL9
KHSRP	NPPC	TAL1	SORCS2
GPT	RAB35	ZDHHC8	TMED1
FAM161A	EHBP1	CNOT6L	TRAPPC12
PSIP1	SIX1	MYO7A	GDAP2
PSMA6	RNPEP	NDP	NAA25
ABI1	SCML1	GOLIM4	KCTD2
CAMSAP2	NUP50	TEKT2	PCDHGB7
PTPN13	ZNF136	PWWP2A	LRRC45
GLI1	LYSMD3	RNF169	PIH1D2
ABCA2	XPOT	KDM3B	FAM169A
FGF4	CYP26B1	COPS3	TBC1D30
ACTN1	BAIAP2	BUB1	UGT1A9
SNX9	AAR2	LRP8	H2AC4
EVI5	CUL4B	GMFG	NFIB
DYRK1A	KRT79	FBXO34	MRPL40
EPHB4	SYNC	PIGG	TSKS
CASP7	HAUS8	NLGN3	DRD4
CLEC4M	SAMD9	FCHSD2	GLRA1
ATF2	SNW1	NR1I3	TACR3
ADM	GAR1	PPME1	PROZ
HNRNPUL1	MTHFR	DCAF15	EGFL7
UTRN	MAPK11	BRAT1	BNIP2
HNRNPH1	SKI	BZW2	TMEM87A
CLIC1	PPP1R10	TNMD	GCSAM
TEC	PPIL4	KIF20A	ENTPD7

PSMC6	TRMT1L	PRDX5	KRT72
TMSB4X	ATXN1	SEPTIN11	MRPL32
KEAP1	GNG12	HSD17B3	AKAP17A
FANCE	PIP5KL1	EMSY	MTRES1
HAUS5	TRIM56	ALOX12B	SFR1
CPOX	PTPRG	MED23	BLACAT1
MGLL	SRRM1	ADGRL1	SEPSECS
PTGER3	ALPK2	CYP51A1	MKRN3
RBM14	PRPF4	LRRC1	FUT5
CLPB	SLK	ALKBH3	S100G
WT1	SLC28A3	ADRA1D	HIPK1
ICAM2	TNNT2	MRPS21	PCDHA6
IGFBP2	ITSN1	LMBRD2	SLC4A1AP
F10	RHOT1	BUD31	P2RX6
CLTC	DCAF5	DPY19L3	RAB4B
LAG3	ADCY9	DAB1	FKBP3
CEL	RPS9	ZXDC	RNF115
CLN8	LTN1	PRKG1	OSR1
SAFB	PACSIN3	NFYB	FAM3C
MYLK	ADPGK	MADD	PRAME
METTL3	CTDSPL2	FCH01	SLC22A8
TRIM25	RBM33	CADM3	H1-1
LPP	EFNA5	SCOC	RIMBP2
RO60	SIPA1L1	CENPC	HDGFL3
MSRA	VIRMA	KCNJ15	UGT3A2
SRRM2	ENTR1	NCAPG	TPD52L2
IMMT	CYP2R1	CLCA2	RNASE7
DDR2	SBSN	IFT172	HSPA4L
RPL13	SF3A3	PRG4	CCM2
IFNA21	SLC6A1	JAGN1	TBR1
LPCAT3	HNF1B	PPP1R13L	GAN
BLOC1S4	SHC4	COPS7A	SIX6
ITGAD	ARHGAP25	MMP25	DIO3
HLA-E	GATA6	TLE4	PYHIN1
PLAT	MICAL3	RALGAPA2	ZHX1
BMPR2	ZC3H13	CCDC148	CMYA5
KIF2C	RAB33B	SKAP1	ZSCAN2
HGS	PAX5	VDAC3	CCDC42
SLC5A1	ANKRD17	MOCS2	FUNDC2
RECK	FAM133B	DDX47	RAET1E
PDLIM1	SHMT1	PN01	MMGT1
CFL1	MTPAP	HEATR5B	N4BP3
TRPA1	ARFGAP2	VPS39	NPIPBI5
NF1	ATXN10	LRRFIP1	LCN1
SDC1	DOCK9	NDUFA4	ZNF320
TAC1	AP4E1	CNKSR2	PRR36
MGAT5	TTYH3	NRCAM	SLC4A5
SSB	PPP1R12A	PSMB6	PALM
RPLP2	CTAG1B	PAX2	CENPN
USO1	PSMD1	ZNF462	SCN2A
C1QBP	ENHO	ACAP2	MORF4L2
GPR32	ASF1A	CCDC157	SLFN12
PRRC2A	GNG2	CHRD	ZNF106
MAP2K6	CGNL1	MUC6	PBDC1

MAP2K3	RARG	EARS2	MAFG
SPINT1	TUBA3E	BNIP1	FSTL3
CGA	KIF3A	PPP2R2D	PTPRB
GALK1	H3C1	COMTD1	LARP7
PLEC	BICD1	CAMK1	CNTN1
AKAP13	BTAF1	PTPRK	RASL12
AHSG	RSRC1	ASGR1	ENY2
CYSLTR1	GMIP	FGF18	KHDC3L
PCNX3	DENR	DCTN5	LALBA
CXCL6	SHC3	RIC8A	STAG3
FAT4	AP4M1	ACVR2B	PCYT1B
GRAP2	CACNG2	H3C15	OTUD6B
GBP2	SNX5	PROX1	TMEM127
KPNA1	NOP58	C11orf58	TNK1
PLG	FO XK1	FAM234B	SLC35F2
RPL26	KIF21A	TBCK	TICRR
PIK3R4	FRZB	WDR3	ARGLU1
DIP2B	TTC27	CHD9	PCDHGA11
TAB1	ITGA9	MESP1	PCDHGB5
PHLPP1	PPP1R12C	PEX11G	SAMD10
TIMD4	POLD3	DIS3	KIF4B
CALM2	NDUFA12	TSPAN4	SPIN3
RASA2	NOS1AP	EXOSC4	KIF25
SOCS6	SUSD2	ERAL1	SPATA24
TP53BP2	CPEB1	DHX34	RNASEH1
AKAP8	ABT1	ARMC6	DNAJC5
CFB	PFKP	ITPRIP	GSTA4
SDCBP	DDR GK1	TENT4B	SNAP91
SLC26A2	SNX2	TM4SF1	SGTA
CACNA2D2	TCERG1	BRAP	TOMM70
SERPINC1	ADRA2B	MAOB	RPL22L1
PIK3C2B	PCGF6	SNIP1	TFB1M
UTP18	RAP2C	CSAD	PCF11
WASHC5	RAB5C	CASKIN1	RND1
ADIPOR2	RHOT2	ZNF782	ARFIP2
ZC3HAV1	DDX27	EFNB2	F11
DEFB1	ARHGAP45	FABP1	TINAG
THBD	LPXN	COA1	ADGRL3
AZU1	POMGNT2	L2HGDH	AMELY
HTRA2	DEFA1	FIGNL1	RPS21
EPSTI1	TIAL1	DPCD	UBR1
ITGB7	RAD51C	NCLN	GLRA3
WNT7B	RELL1	EPHX1	FHOD3
TIMP2	DDX4	CCDC14	SUPT20H
AKAP9	ELK3	RFC2	TGS1
PML	RPH3A	RAB25	CSNK1A1L
SMURF2	CDKN2B	CGB3	BDP1
HNRNPDL	EFHD2	MRPL12	PCDH17
BCL3	IGFBP5	TIMM50	CRIP2
G3BP1	SON	NOL7	PUSL1
VAMP7	COL6A2	MRPS34	MFSD14A
DEFB103B	YTHDF1	SLC02B1	SPRYD4
TRA	CEP72	SLC30A4	ARK2N
DDX5	TPM3	MAGEA3	LYPD4

GNA13	RNF4	ITGA11	ZNF718
CYP17A1	SRP68	ZZZ3	CLBA1
NFATC2	NUP214	GPATCH2L	BIVM-ERCC5
CSPG4	STIM2	CDH24	BOK
FOLR1	NAA16	PABIR1	RIPPLY3
ARHGAP17	LIG1	ROR1	PTPN21
CDK1	CLDN11	CEMIP2	ITPKA
NDUFA13	TIMM44	SHC2	CPZ
CHGA	OTUD4	PHF6	IQGAP3
ARHGEF28	KIF1B	ANXA7	CRY2
CXADR	TMEM214	PHC2	MICOS13
LPAR1	SPOUT1	MRPL16	PLCD3
LRRK2	YME1L1	SMG1	NR2F6
CCN1	COL6A1	GID8	CENPQ
SRRT	LDLRAD3	MBOAT1	GSTA1
H2AC21	CEP162	NKX2-1	EFNA1
GGT1	CYFIP1	CIAPIN1	KCNQ2
SST	HLA-DOA	PAQR3	PMVK
USP15	TMPRSS13	TMEM70	SDF4
MCUB	MAPK6	KCTD3	ITGA10
CCN4	TRAF3IP1	HEATR3	DOK5
NONO	INPP4A	ZNF768	MRPL19
AJAP1	KRT10	KLHL35	SYT10
PEX16	DHX16	HSPA13	UAP1L1
ANKLE2	UBE2S	H3-5	ANKS4B
ALDH2	BYSL	DNAJC18	DOK4
ST6GAL1	DDX23	LIN37	NAA40
ANXA6	KMT2D	WRAP73	CCDC150
AHCY	GSTT2B	TMEM131L	EIF5AL1
MRTFA	U2AF1	LAGE3	SEMA5A
KIF13B	IRAK2	STXBP1	SLC15A4
NFAT5	IL27RA	SCG5	BCL7B
LPIN1	CS	WDR37	RPS4Y1
SPRY2	GRIN2B	ZNF362	SLC30A10
HAUS4	TUBGCP6	DBNL	FTCD
LRRFIP2	CSNK1E	GGPS1	APC2
SEMA3A	MINK1	TCHP	FMO1
PRICKLE4	NUS1	TRIM26	POLR3K
G3BP2	TFPI2	AGAP3	REC8
EGR2	DDX24	PTDSS2	ATP6V1B1
CEP131	PSMD12	LAD1	PPP1R26
MLST8	PHLPP2	TEX2	PPP1R27
LY75	FAF2	TAPBPL	STXBP5L
EN1	MRPL43	ACTR1A	PNMA6A
LDLRAP1	PTGR3	TMEM94	UBE3B
BANF1	USP19	CHRM5	L3MBTL1
GRK3	MARCHF2	ALG5	DHFR2
PIP5K1A	RPL10	ANP32E	IMPACT
LIG4	POLR3A	USP39	ZNF695
NQO1	SCAF11	PEX5L	FAM200A
CSN1S1	RNASE1	ARL4A	PABIR2
RALY	ITPA	HRNR	TPTEP2-CSNK1E
MYO1C	STAG1	CENPF	OPN1LW
MAP2K2	MLXIPL	NIBAN2	CHRNA4

SLC6A8	TSEN2	SAPCD2	CA3
THY1	SFXN2	ARHGAP30	DYNLT3
MECP2	CHD7	MEF2B	CNIH1
FAM76B	HELLS	PRDM10	TOMM34
ANGPT2	TRRAP	OGA	UGT2B7
ANO6	RBFOX2	ERCC6L	TRPV6
KIAA0586	EIF2D	GLYR1	LELP1
EIF4B	CBLL1	MRPL28	SCO1
PVR	MED30	SSBP1	PCDHB2
IRF2	SLC30A6	SAMD1	ADGRL4
COL4A1	TNKS	NUP88	RNPC3
SENP1	CUL7	TATDN1	DUOXA2
NRG1	BUD23	CLNS1A	APBA2
NCOA2	CHAF1B	HPX	TRPC5
FBXW7	OR1J2	NDUFS5	CPNE5
MUC5B	TEAD4	DNAJB4	GLOD4
ADNP	PSMC2	MOCS3	MYNN
TRAF3IP2	KHDC4	MTX1	TBRG1
MCAM	SMG9	PMS2	TMEM9
CACNA2D4	HACD2	MOB4	KLF16
SGPL1	SINHCAF	CRYZL1	HCN1
ABCC11	GFM1	RPL39	UGT2B15
CDH26	PAXIP1	MICALL1	CBLIF
HTT	RBBP6	TRPC3	GFM2
NPHS2	FOSB	TMX2	PLPBP
G6PC1	WASHC4	SCP2	SPRR1B
TUBA3D	SQOR	BAZ2B	PDCD2L
P2RY2	CACNA1I	HOXA3	GSC
MYO10	KIF1C	CHMP7	NET1
PLD1	USF3	RSL24D1	CDAN1
NDRG1	GARRE1	CCDC154	DENND6B
USP7	SURF6	VPS54	CEP126
CTTN	PHF2	KIF21B	EOLA1
KPNA4	OSCP1	ANKRD11	ARHGAP11A
ATP11C	PPP1R7	CD300E	ARHGAP8
CCDC47	BTN3A2	USP30	AKR1C3
SEPTIN2	LRCH3	RXRG	GAPDHS
PLIN1	WWOX	LYPLA1	BACE2
ICOS	PPP1R8	NMU	NIP7
SIPA1	SHBG	RHOF	TTLL6
MDM4	ULK3	NPAS2	ABHD12B
SEC13	MRPS6	IQCB1	LSM14B
DAAM2	RAD23A	SPATA13	MTARC1
IL31	COPS2	RAB3D	C10orf88
CHTOP	ANKRD52	CBX1	LOC102724594
HLA-DRB5	SMPX	WDR12	ADAD1
DGCR8	CRAMP1	UTP6	FRMD5
CAB39	SRPK2	EIF1B	TAF9
ERCC5	ST7	ACOX1	LGI1
ADAM8	LAMB1	VEGFB	ZER1
CPT1A	CLPP	DBP	BARHL1
FLI1	ALDH18A1	DCLK2	ANP32B
SKIC2	PPP1R21	ATP11B	ZBTB3
GOLGA2	VHL	KIF6	PWWP3A

RPL5	BTRC	MTERF3	NKX2-5
ANK1	CYP4V2	SNAP47	PDP2
STK3	MCFD2	EDF1	TMF1
LTB	CDK5RAP2	BSCL2	ADH5
SRSF7	ARPC3	UBXN2B	MTMR14
HSF1	RBBP5	ORC5	PFKFB2
PPP2R1A	H2BC17	TULP3	ACSBG1
UBASH3B	H1-10	EMP1	RIT2
NLRX1	SNRNP200	OCIAD1	DBF4
ERBB3	GPRIN3	ZC3H14	DBX2
TRIM33	XPO6	TMEM11	PCDHA10
PEBP1	FGF8	VPS50	SEC14L1
CD244	CNOT11	PTGER1	RCN3
CLINT1	RPL30	DHODH	PAGR1
GPR132	MCC	NSD2	PCDHA8
DIAPH1	MSH3	SLC6A5	PCDHGA10
MICB	SYF2	RFC1	METTL25
GBP1	KLRB1	SPG7	LRRC58
SLC23A1	WDR77	NUP35	CCDC160
RAI14	WDR46	HNRNPH2	IQCM
SMG6	NPFF	PBK	AQP10
PKP4	JPH1	RAPGEF4	ASPM
DYNLL1	NFS1	TMEM184B	CYP4F2
DIDO1	TKFC	TDG	STYX
TMOD3	ATP6V1G1	AFF1	PPP1R11
SEC61B	PNN	MYO3A	CSRN3
PLEKHM2	CARD11	LMAN2	HEPN1
CCL16	FFAR3	BOP1	NMUR2
CTSE	SIK1	PXDC1	GNRHR
DCLRE1C	LRCH4	HAP1	CA5B
EWSR1	MELTF	OVGP1	BBOX1
INSC	IGSF3	AKIRIN2	MSRB2
WDR82	RPS6KA6	GAS8	ATP5MC1
LGALS8	FRG1	PLEKHA1	PCDHB16
TRAP1	DNMBP	MRPL41	LRFN1
HSPB1	USP4	EMP3	PCP4
CLEC6A	PGM1	TRAK2	SNX16
TUBB2B	USF2	NSUN4	EFCAB7
PDPN	AAMP	MCRIP1	TEKT5
KL	SCNN1B	BATF2	RASAL3
KIR3DL1	EMILIN1	TRIM39	TRMT61A
TFR2	PCYT1A	RESF1	ZFAND2B
APCS	MCM3AP	SOX10	TMEM64
RABGAP1L	LGALS7	CLEC2B	ENSG00000261832
SH2B3	ATG14	TENT2	PPIL1
RPGR	GUK1	NFASC	MUC17
NUDT21	KCNJ13	ADRB3	EXPH5
PTGDS	NDUFA10	CCDC85B	LRAT
ATP8A1	DAP3	WIZ	RADIL
FMNL3	ERI1	ARMCX3	UGT1A4
WARS1	TUBGCP3	CDC7	CKMT2
MFN2	TNFRSF12A	ATP6AP1	CDC34
SLC39A14	EOMES	MPP3	CDC25B
MYO1E	NKIRAS1	H2AC7	GRXCR1

HES1	SH2D4A	TROAP	ONECUT1
TIRAP	TRIM2	IGFBP1	MGAT5B
HK1	NEDD1	PI4K2A	OSGEPL1
NEK7	HSF5	URI1	RRAD
MUS81	ZRANB2	RGS19	SLC25A31
IDE	SYN2	S100A14	STK32B
HNRNPAB	SYNPO	NOP14	FRA10AC1
PSEN1	FXR2	CAMK1G	JPT1
ADAM10	ATL1	SPIN1	TMEM25
MEF2C	PI4KB	TCN2	EFHB
CD93	UBE20	GGCT	INCA1
DDIT3	POTEF	ACAD11	TCEANC
SNRK	FARS2	EEF1AKMT3	NPIP6B
CARS1	RSU1	DPP6	IFNL3
ADORA1	NUP160	BCL2L12	CYP2B6
CSTA	NDUFV2	ASTN2	COX7A2
RPA1	MIXL1	CLDN9	DCTN3
HSPA9	BBX	FARSA	ATCAY
MARK3	CYP7A1	GPC6	KIF17
PTS	LZTS1	PIWIL4	CHRNA3
TFPI	CDC25C	CDH11	CLCN2
LMNB2	GPR37	AGAP1	DSC3
KNG1	ASXL1	NUDT1	PGC
ACLY	LMO7	TBC1D24	TRDN
SLC1A2	SYTL1	KIFBP	RHCG
SRSF3	SLC2A2	ACOT8	CCDC120
NPPA	EFR3A	TSR3	RSC1A1
ARHGEF6	MRPL39	SLC10A1	ODAD3
PDE3B	C1QB	AGFG2	SCN1A
CPSF6	PTPRS	LAMA4	GHRHR
CGN	BTN1A1	WDR24	TNNT3
DYNLT1	FAAH	RAP1GAP2	SULT1E1
HPGD	E4F1	IFRD1	PFKFB1
PIK3R3	MRPL45	GPR151	SULT4A1
CACNB4	PAX6	SNRPD1	TAS1R3
TXNRD1	STK10	ATP6V1G3	POLN
USP14	EXOSC2	ICE2	MAK16
ARRB1	BAIAP2L2	SHFL	CABLES2
BMP7	GP1BA	ZNRF2	MINDY3
PRKAG2	NOL8	BORCS5	JADE3
IL17F	TLK2	MATN2	LOC102724560
HNRNPR	ARHGAP5	SCG2	DLL3
LIG3	GPX4	RABEPK	FAM83H
SLC4A2	HNRNPH3	PSMD13	POMK
MAPKAP1	CPSF7	SLC6A2	H1-6
ARHGEF18	FNDC5	RAB6B	SNTG1
CANX	SIRT5	NCAPH	TRIM23
HSPB8	CSDE1	RRP15	ATF5
FCER1G	CCDC97	SLC22A1	DDX43
NIPBL	PTP4A1	ST13	MZT1
NOX1	FSCN3	OXCT1	SOCS7
TK1	RBX1	DHCR24	ITGB1BP2
CCT8	GTF3A	ITPRID2	RASSF7
SAV1	PTPRA	MINPP1	KCNT2

ARCN1	DNAJB6	TMEM161B	KRT74
PLIN3	NSRP1	SUZ12	CENPX
TRIM28	PRPF31	GTPBP4	EIF5B
BAK1	CSNK1G3	MMP15	PCDH11X
MXD1	GCNT1	TES	KCNJ3
DNM1	UBR4	PALS2	COX6A1
NUFIP2	KRT35	PLOD2	KLK15
TXLNA	ATAD5	LHX9	NDNF
HNRNPK	DLC1	H2AC20	UQCR10
RPS16	WDR5	AAK1	ARSK
MYH11	SUGP2	USP13	SPAG17
CUL3	RPS12	SNU13	TAF7
EPHB3	NME3	CTU2	FSIP2
SNX10	CD5	MRPL37	HES2
RBMX	S100A6	PPFIA4	PHF23
CNTF	CYP2A6	ATP6V1C1	PAIP2
RUVBL1	CSNK1A1	ABCA13	C5orf34
PDE4DIP	CPA4	CCNY	C4orf17
A2M	PLAA	LRCH1	IGHV3-23
RAB14	MTHFD1L	EVX1	PRSS58
SWAP70	TMOD1	SOX5	SLC16A6
WDR83OS	STAM	RGS9	GATD1
TUBA8	RABGAP1	RSP01	SCT
CD33	S1PR3	CD300C	IFITM3
NKD2	LIN28B	ARNT2	AGRN
RPL18	LMAN1	RMDN3	HOXC10
FTSJ3	PA2G4	PPP2R5C	MC5R
WDR83	EIF3M	NDUFB6	GABRB1
TMCO3	POM121	IBA57	KCNK18
DLL4	COPZ1	FICD	FHL5
P2RY12	KRT13	RBM45	RIOK3
ANGPTL4	CFL2	USE1	RTN4RL1
UBE2E1	CDK13	ZNF622	SART3
LINS1	CHEK2	ACTMAP	SBF1
PIAS1	ZGPAT	HOXA10	BRINP1
SESN2	TIMM8A	TGFB1I1	COL9A1
MYO1B	SLC25A19	CLEC11A	COL9A2
CEBPE	SLC16A10	FGF10	TFAP2C
PTPA	SMU1	SYTL5	MTMR9
PPP2CA	XRN2	GNRH1	SHROOM4
XRCC6	NAA15	IGSF8	PCDHB10
FLOT1	WNT8B	PPID	SLC38A7
SMARCB1	E2F3	UBE2B	TMED4
LEPR	CCT7	METAP1	MEX3D
YWHAB	DDX10	NR2F2	SH3BGRL2
SLC29A1	NBEA	KLK6	ICE1
RNASEL	KMT5B	SEH1L	RGPD4
RPSA	PPARGC1B	SNX3	SPATA31H1
EVC2	SERPINB5	RNF25	CENPL
HDAC4	CCAR1	HEPACAM	CADM2
EREG	BACH2	LECT2	KLK10
RPS3A	ATP10B	SYNE2	KIR2DS2
SREBF2	TET1	MORF4L1	KLRC2
MB	HPN	POLRMT	MAPK8IP3

LEMD3	KSR1	ZNF142	ENTPD2
YWHAH	PDIA5	EIPR1	KCNA4
CISH	OXTR	SPATA32	SLC5A8
PON3	ESYT1	KCNQ5	UCHL5
GPR137B	SCARF2	TCAP	MSI1
PLK1	LSM2	MIS18BP1	MAGEA4
SRI	NUP42	SUOX	EVC
UBA52	LARS1	H4C11	RAB40C
MAP6	HSPB9	H4C12	GABRA2
MYO1A	TRIOBP	ZFYVE19	KCNB2
NOP53	VPS51	AKNA	WNK3
ACKR2	IL21R	GCC2	KHDRBS3
MESD	PSMD9	PTGFRN	IRX4
RPS24	HDGFL2	CDC45	AKR7A3
SPON2	ACACB	CMIP	PCDHB3
RNF213	COPB2	ACTL7A	DDI2
BIRC5	POTEE	NINL	PCDHB13
KRT17	GAS7	ELMOD3	PCDHB6
CD300LF	PPP1R18	CDHR2	BEX2
LPCAT2	EHHADH	UQCRFS1	C17orf75
UHRF1	WDR20	DDX49	KIAA1328
SNAP23	TMEM30B	GMPPA	USP45
ZHX2	C4B	PGLS	ENAM
SH3KBP1	FKBP5	CLSPN	CENPS
TRA2B	NBEAL2	SH3BP5	CHST4
ATP1B2	PIH1D1	MCM9	NOVA1
IL17D	CYP4B1	CEP83	OGDHL
ADAMTS4	OXT	TLE2	PEX11A
FERMT1	PDLIM2	TTC33	DENND2A
HRH4	VPS53	OR6C2	SNRPG
TMPO	CEPT1	MSTN	NEUROG3
FLII	TRAPPC1	PHOX2B	PSCA
VPS33A	L3HYPDH	FKBP10	MRS2
MBNL1	STEEP1	ARL6IP5	SHOX
TPX2	MRPL48	P4HA2	ADGRG2
TPM1	DDX19A	TUBB4B	PPFIA3
RALBP1	ACKR4	RBP1	TRIM54
SPRY1	SFI1	CAAP1	ELMOD1
PARN	INHA	BCHE	PLEKHA3
DAPK1	RYK	KMT2E	TAF1A
RTP3	RBM3	S100A13	SRFBP1
NR3C2	LPAR2	MUC3A	PCDHA11
RAC3	STK17A	KMT5C	PPP3R2
NLRP12	CCDC50	STX10	PRSS56
ENO2	PPP1R13B	OPLAH	RETREG2
USP10	AKAP1	RRP8	EIF2S3B
SOD3	INO80	AFF2	KRT6A
RBM6	NMD3	GOSR1	CNTNAP2
RPL6	STRBP	DBH	UGT1A1
IQGAP2	DYNC1LI1	NDUFA9	DYRK1B
RAB32	PTPN14	UGGT1	HIRA
HNRNPA3	NIFK	ISYNA1	USP29
SNRPA	IPO8	PAPOLA	TRBV6-5
BID	CALU	DHX29	CLIC2

SRP14	CSRP1	MRPL38	PHF19
ATP6V1B2	TSFM	ECH1	RNFT1
LMLN	RBM28	NDE1	ADH1A
LTB4R	TIA1	MFRP	TST
DEF6	MACROH2A1	ABAT	CLDN19
CBX3	DBN1	OASL	SHANK1
AGA	LGALS12	QSOX1	ACSS3
TOMM20	LRP6	TBC1D8B	SALL2
CAPN1	RCVRN	BPIFB4	KLF12
SLC2A9	EIF2S3	SV2A	TTC14
ISG15	ARHGAP29	TBX2	UPF3A
MAP2	NCK2	CBY1	PCDHB12
FIP1L1	WLS	GPA33	PCDHGA12
ABCB11	SPEN	IYD	RNF208
STC1	RAVER1	OSTF1	SOX11
CDX2	REEP3	ARAP1	MYCT1
DLST	GLUD1	BCO2	SLC17A1
PRKAR2A	SLMAP	NANOS3	CDHR5
WDR6	IL15RA	EML3	CFHR4
NDUFV1	NOLC1	MGARP	KLHL1
ENPP2	CNOT3	HYDIN	PTPRD
PFN2	ODF2L	CLDN25	FRK
PTCH1	RGS3	H3C12	HOXB1
ADPRH	VPS4B	H2BC1	CDO1
ACSL1	LSG1	NEFH	PNPLA5
RAB10	ARID2	TFB2M	PRPF39
CYP3A4	TPST1	SSTR1	ZBTB5
ARL4C	CDS2	HSPBP1	PPDPF
WASF1	FARSB	KIN	TPTE
CLASRP	HMGB3	CORO1B	PLEKHB2
GNB5	FUT7	MON1A	MZT2B
PHKA2	DOK1	ERP29	DEFB4B
STIL	PSMA4	ANP32A	RGS5
PDIA6	RETSAT	THEM6	MT-ND1
FKBP1A	C19orf47	POLR1G	SP011
RAPGEF6	NKTR	DENND2D	SLC51B
CDC5L	PWP1	LIX1	AFM
FPR3	PRPS1	NUDT5	CPLX1
ATG5	PSMB1	ALOXE3	KCND3
EPRS1	DRG1	MCAT	NPY2R
PLEK	H1-3	SMARCD3	SULT2A1
FRAS1	THUMPD3	IPO11	ECEL1
CCDC61	ZNF629	JMY	GET3
GCLM	SNX6	EMC4	GSTA3
GRK6	PSEN2	PITHD1	UAP1
ACTBL2	TNFAIP8L1	TXNL4A	SLC12A9
CUL4A	WNT3	TJP3	GALP
RAB39A	SPON1	MRPL53	LACRT
CEACAM1	MLLT10	PRPS2	PCDHA12
EGLN1	ARF1	WDR36	SDF2
BHLHE41	CCNL2	ELF3	PCDHA13
E2F4	PAG1	MCM10	TADA2B
PKP2	ZZEF1	PLEKHB1	TRPT1
SMAD1	EFTUD2	PYCR1	CFAP206

ABCA4	METTL2B	OPCML	HHLA1
PLEKH01	ZNF438	MPDU1	IGHG3
WDR11	MAP1LC3B	SMAP2	TRPC4
NR5A2	TRPM4	RSF1	KIF26A
EIF4G1	EYA3	ANKS1A	SERPINA7
TBXT	SARNP	WDR59	CTRL
XPA	KNTC1	DPAGT1	UBD
PPP1CC	ZFP64	CALCOCO1	CYP11B2
HK2	SCLT1	CRIM1	E2F7
SLC38A3	PTCH2	CCDC171	DEFA1B
BLK	SEMA6A	NMNAT1	SLC16A9
INTS9	DNAJB11	PRSS48	LHB
TBC1D4	PRPF40A	GNB4	GABRA3
PRPF6	RND3	PSMD11	SLC5A5
SLC7A8	PPFIBP1	KAT2A	PGK2
RAG1	SLA2	HNRNPUL2	SERINC3
TLE1	RRP1	NAV3	PCDHB4
MMUT	RAB37	KIF15	SYBU
ELK4	TAF5	ATOH1	PCDHB11
SLC25A5	BUB3	CD79B	PCDHB15
IBTK	TACR2	AP4B1	PCDHB5
TRAF5	RHBG	FAHD1	FILIP1
TJP2	ZSCAN18	TMTC3	GSC2
TONSL	ASCC1	NCAPG2	PCDH20
HIF1AN	HMGB2	TLK1	PCDHB14
AKR1B1	SUPT7L	TAPT1	LSM8
ACTC1	GHSR	SEPTIN4	PCDHB9
MRAS	ST3GAL6	ACSBG2	POTEM
NFKBIZ	COG1	RTN4RL2	DERPC
FTL	IFT20	ERLIN1	PCK1
C3AR1	PICK1	ZMYM2	KRT75
EXOC6B	CSPP1	DDX28	EVI2B
DLG3	NFE2L1	MRT04	BCL2L15
RAB6A	ZDHHC14	ACTL8	TRHR
RAB20	TNS2	NCKAP1	CNTN6
RPL29	DES	PANK2	ALPG
EIF4A3	SESTD1	MRPS31	KLC3
HAS2	DEPDC1B	POLR1B	PCLO
CLCN1	NLE1	SCTR	HS3ST5
LAMA1	COG5	DMXL1	TRIM68
RPL37A	HBD	SURF4	S100A7A
CD22	TRIM72	EMILIN2	TAS2R14
SPHK1	F7	WDR19	CFAP47
PCNA	SLAIN2	KPLCE	OR4N4
RPL31	PLCL2	TFDP1	TRIM75
ITLN1	S100P	DLAT	NPFFR2
WNT2B	IGHMBP2	FGF19	TMEM225
HGFAC	H2BC13	NFRKB	SLC32A1
DBR1	KRT85	DNAJC8	GABRB2
CLDN23	BRD2	ZNF131	SLC01B1
UCHL1	SCAF8	ILRUN	PCDH10
NCR1	GSTM3	LRRC57	PDHA2
WNT2	GPLD1	TXNDC9	MYF6
SNRNP70	FLRT2	EIF3CL	MYPN

CIRBP	SMARCA2	CHMP4A	ARR3
AZGP1	IRF6	SPOCK1	KRT6C
PTBP1	ADAMTSL4	CRYBG1	VTG1
NREP	DIS3L	GGCX	GCFC2
GAB1	ATP5F1D	ZBTB11	PCDHAC2
DNAJB1	TRIP6	PHF5A	NTN3
RIPPLY2	MAP4K3	BLTP2	IGDCC4
RAB21	ABCC6	SLC35E1	TMEM254
SLC2A5	ADAMTS1	SOWAHC	CLEC2A
TOP1	BAZ1A	DHX36	IGKV3-20
ETFA	UBE2E3	FLYWCH1	IGKV5-2
AGK	GCN1	SAMM50	SLC1A1
HOXB8	PRDX4	PABPC1L	KBTBD6
TFAP2A	INTS2	NUCKS1	SLX9
ABCG5	COL15A1	NEUROD1	HRH3
EIF2B4	MRPL14	NDRG4	MT-ND2
RPL7A	RUSF1	CDK2AP1	SLC13A4
ELF4	CDC42EP4	CLUAP1	TACC3
RPL28	TUBE1	LRRRC8C	SERINC1
PYGB	ID1	PCDHA3	SLC26A6
WNT1	VPS8	UHRF2	NT5C1A
ATXN2	SPAG9	ZNF395	SIT1
SLC39A8	TDRD3	RAB11FIP3	ASMTL
PGK1	CPE	FIBCD1	SYT8
FFAR2	RTKN	GPR12	ZNF639
IFI16	BNIP3	SPOCD1	IGHV1-46
CLRN1	UTP14A	SLC6A15	ENSG00000256646
APOH	PAX8	MRPL22	SLX4
DCT	H1-7	NDC80	PNMA3
RPS8	RANBP1	AKR1A1	FUT6
CYP3A5	HPS4	HTR6	ART1
LIMD1	SNX1	SLC20A2	GYS2
PLXNA3	ECHS1	VAMP4	MGAT2
NPPB	MBD3	HADH	TNNI2
KPNA5	MAD1L1	MTHFD2	PTPN7
AMH	FPGS	PLEK2	PIWIL1
USP35	COG3	CCDC138	UGT2B10
RRAS	CARD14	SHCBP1	EPS8L2
MAP3K3	MPHOSPH9	DDIT4	TMC2
DKK1	NTS	UBE2V2	DCHS2
MATR3	FZD8	INPP5F	TXNDC12
DDX39B	DFFA	GTPBP8	GPRIN2
ITGA2	PREX1	SLC02A1	PCDHAC1
GANAB	INTS8	KPTN	PLPP6
MYO5C	ZNF143	SEC31B	VRTN
KCNA3	CTU1	REPS1	ORIG1
BIN1	TM6SF1	SNAPC4	LOC102723407
VAR1	PSMC5	PRDM15	UGT1A6
ANXA11	SNX18	HOXD10	SLC12A7
RHOA	CD164	USP47	UGT1A7
CDKN1B	PRSS23	MTCL2	UGT1A3
ATP5F1A	NISCH	GAD2	UGT1A8
PROK2	DNAJC2	NOC2L	MYBPC2
MYO9A	EPPK1	SUGP1	KCNT1

NCOA3	TCF19	HSD17B2	HTR3B
LIM2	E2F1	RUSC2	KCNK4
DRD2	TTN	AP3M2	FAM3B
MLANA	SLC16A8	PDK3	CHMP4C
TASOR	CARM1	PARS2	BPNT1
PIP5K1B	EXOSC6	MRPL24	HOXD3
POLD1	CELSR3	NIT1	HES4
ALYREF	SCAMP2	CDC40	CDC37L1
RACGAP1	FOXF1	UTS2R	FAM110C
OPA1	FLAD1	PDZRN3	PABPC1L2A
ACADVL	TEPSIN	HSD17B13	MCRIP2
PRDX6	PPP3CB	SMC5	ENSG00000269307
DARS1	UBE2V1	RAB3GAP2	NLRP9
CTNS	SLC7A9	DNAJC11	NDUFA5
PGAM5	ZNF747	SIX2	TPH1
RPS27A	GART	H3C4	HOXD4
CLIP1	RBM25	C1QTNF12	PRR11
GTF2E2	PLLP	SEMA4C	RIDA
PARVB	MYCBP2	HPS5	GSTT1
CABLES1	ARL4D	P2RX5	LIX1L
CPSF2	GJC1	PPA2	UGT1A10
MAX	GDI1	PPIH	VPS26B
PTMA	SNX19	KIF7	MRPL2
ACSL3	H2BC26	E2F5	MRPL50
YES1	TSN	CALD1	LDHAL6A
NLRP2	CKAP2	DGCR6	MALL
SHOC2	GEN1	OSBPL5	PIP4P2
CAVIN1	NUP210	STX17	FAM53C
AP2M1	SNRPF	FOXO4	C9orf40
ECSIT	NOL11	PCBP3	LURAP1L
UBA1	HEATR6	PPP1R36	PRSS2
CAST	DGKE	IDH3A	FUT3
GLMN	EXOC7	MOB1B	ATP4B
FOXC1	IPO4	NPTX1	HOXD9
TSPAN32	REV3L	ARFGEF3	PNLIPRP2
NFIA	ABLIM1	SMTN	NLRP5
BCLAF1	PPP3R1	SCAF1	MSL3
XAB2	HAT1	BRCC3	SPCS3
MAST2	TAF6	SERPINB4	MAGEA6
PIEZO1	NNMT	POPDC1	PLCXD1
ATN1	NEK9	SP100	AK6
SPTBN4	CD160	RNF20	C6orf132
TRIM63	AOC1	ALDOC	CPTP
HVCN1	PROCR	CTNNBIP1	HTR1B
TTPA	EEF1A2	ZNF512B	PIP5K1
RPL21	SORBS2	MRPL49	IGKV2D-29
HUWE1	BNIP3L	MRPS15	SALL1
CDK5RAP3	CCDC112	ENDOD1	AURKAIP1
STK39	ANKHD1	CHAF1A	TFAP4
RGS12	MARCHF5	PAXBP1	ZNF2
ADORA3	RPP40	WDR13	ISM2
AFDN	NEFL	GLIS3	H4C7
AQP2	BDH2	BCAP31	IGHA1
CYP11A1	TECR	UBL5	IGHV3-33

PGD	CRLF2	MEP1A	ENSG00000289517
SLC19A1	GP2	CPA1	GABRA1
SERPINE2	ASIC2	MAP3K9	CHRM1
HSD17B10	DNAJC9	EEF1E1	UGT2B17
ANAPC1	CPSF3	DYNC2LI1	DNAH9
STK38	CMPK1	MRPL23	IFITM1
MPZ	RAD21	BRIX1	MT-ND6
ABCF1	ZNF24	PDAP1	TMEM175
CTNND2	CNTN2	SMARCA1	DACT2
STEAP3	FDPS	MRPL1	CSN3
GNA11	IFT74	VPS36	NPY1R
CPNE8	NUP98	ACTR8	UBE2T
EXOC6	TMEM97	SUFU	UGT8
EPS15	SRP54	AGO4	CDT1
SRCAP	NVL	SLC12A4	NRG3
PURA	RCAN1	ARL14	SLITRK1
SUN2	MIA	AMACR	CDH9
MICA	STK33	SKIL	PHF10
TGFBR3	NAPG	ILVBL	SLBP
PPARGC1A	DUS1L	PLEKHA2	PABPC5
AATF	MGA	ESRP1	IMP4
SEC23B	SNRPA1	RFX7	MZT2A
SLIT2	ARL3	ELP6	ARSH
GCH1	CEP63	TIMM17A	HTN1
FNBP4	SLC33A1	TFF3	FOXH1
APOBEC3A	PRKAB2	FAM13A	PSENEN
STUB1	PTDSS1	RBP3	MT-CO1
APOA2	BPTF	NAPSA	SLC22A3
NTF3	GGH	NHS	ZP2
BATF3	RPE65	NUP43	CCDC115
WNK1	ZNF346	COMMD4	CNTNAP4
NT5E	UBB	LURAP1	PCDHB1
ACBD3	F12	KCTD5	PPP1R14B
ATP2B1	TBC1D31	SRSF10	MTCL3
SEPTIN9	CEP76	ROB01	ZC3H8
RAP2A	CUL5	BRPF3	BPIFB6
ITGB5	OTUB1	SLC6A19	SEMG1
CDC25A	APH1A	ELOB	SEMG2
SVIL	TNR	DOCK5	FOLH1
PSMD4	THUMPD1	GSTM1	HOXD8
AARS2	RNF157	NUAK2	ACRV1
LPAR3	NIN	PLA2G12A	PRDM13
MARS1	VPS18	H4C1	SPPL2C
LHFPL2	PCM1	SPA17	RNF181
MYL2	POLR2I	ABHD17B	CTAGE15
VAC14	ANKRD49	WNT9A	MT-ATP6
RPS23	SLC27A3	JCHAIN	FIGNL2
MCRS1	GPR89A	CHMP1A	ELP4
RPL34	DIPK2A	PIGS	CRX
SAMD9L	IFIT5	NDUFA7	BRS3
SNAP29	KLC1	GRM6	REEP4
UBAP2L	CYP20A1	TP53BP1	BORA
FNBP1	RBM19	ROB03	NLRP13
CTCF	MRPL13	WAC	STARD9

SSR3	ITSN2	BCL2L10	LRRC9
SAFB2	ELOA	PHF20	CKMT1B
RAB3IP	CTIF	SLC15A3	TRAV21
F2RL3	PXDN	ASB7	UGT2B4
AP1S1	LRRC4	ZNF446	HTATSF1
ZCCHC8	FAM177A1	PEDS1	IFITM2
DAGLB	CORO6	AKR1C1	KRT6B
RPS6KA3	PP1E	LAMTOR5	ARHGEF5
RPL18A	PKP3	IFT88	

Supplementary Table 4. Primer Sequences for RT-qPCR

Gene	Primer Sequences	
GAPDH	Forward	5'-AGGTTGTCTCCTGCGACTTCA-3'
	Reverse	5'-GGGTGGTCCAGGGTTTCTTA-3'
ZYG	Forward	5'-CTCCTTCCAGACCACAGGGAT-3'
	Reverse	5'-AGGGCTTCTACCCTCAGCAAG-3'
LGALS1	Forward	5'-TCTCTCGGGTGGAGTCTTCTG-3'
	Reverse	5'-TTGAGATTCAGGTTGCTGGCG-3'
ADAR	Forward	5'-GGTTTCGCAGAGCTTCCTCTC-3'
	Reverse	5'-CACGACAACACCCATGTCCT-3'
MND4	Forward	5'-CCACAGCTCATCTTCGGCTT-3'
	Reverse	5'-AACGGGTCTGTTGCAGTGAG-3'
WAS	Forward	5'-ATCTCACTCCCACCCCGTTC-3'
	Reverse	5'-GGTGGTAGCTGGCGTCTTTC-3'
TNF- α	Forward	5'-ACCACGCTCTTCTGTCTACTG-3'
	Reverse	5'-GAGGGTCTGGGCCATAGAACT-3'
IL-10	Forward	5'-CCTGGGTGAGAAGCTGAAGAC-3'
	Reverse	5'-TGCTCCACTGCCTTGCTCTTAT-3'
IL-6	Forward	5'-AGGATACCACTCCCAACAGACC-3'
	Reverse	5'-GCACAACTCTTTTCTCATTTCCAC-3'

Supplementary Table 5. Performance Metrics from Cross-Validation

	index.orig	training	test	optimism	index.corrected	n
Dxy	0.7879	0.7868	0.8461	-0.0593	0.8472	10
R ²	0.5695	0.5712	0.7637	-0.1925	0.7620	10
Intercept	0.0000	0.0000	-1.6935	1.6935	-1.6935	10
Slope	1.0000	1.0000	7.9170	-6.9170	7.9170	10
E _{max}	0.0000	0.0000	0.4140	0.4140	0.4140	10
D	0.5390	0.5397	0.6932	-0.1535	0.6925	10
U	-0.0328	-0.0364	0.2907	-0.3271	0.2943	10
Q	0.5718	0.5760	0.4025	0.1735	0.3983	10
B	0.1284	0.1281	0.1520	-0.0240	0.1523	10
g	2.7547	2.7893	21.0829	-18.2936	21.0483	10
gp	0.3951	0.3958	0.4424	-0.0467	0.4418	10

Supplementary Table 6. |Log Fold Change| of hub genes in differential expression analysis

GEO Series	ZYG		LGALS1		ADAR		MND4		WAS	
	Before First Infusion	4-6 Weeks After First Infusion	Before First Infusion	4-6 Weeks After First Infusion	Before First Infusion	4-6 Weeks After First Infusion	Before First Infusion	4-6 Weeks After First Infusion	Before First Infusion	4-6 Weeks After First Infusion
GSE16879	0.3920	0.6089	1.2303	1.9037	0.0882	0.3140	1.8297	2.8849	0.3520	0.9097
GSE73661	0.0277	0.3748	0.2255	0.6472	0.1072	0.3110	0.7524	1.5367	0.2603	0.5655