

Supplementary Table 1: The functional genes participating in JEV infection ranked by GeneRank algorithm

Symbol	Description	GenBank	KEGG pathway
ABCC9 ABLI	ATP binding cassette subfamily C member 9	NM_005691.3	hsa02010
ACACB	acetyl-CoA carboxylase beta	NM_001093.3	hsa00620, hsa00620, hsa00061, hsa04152, hsa04910, hsa04922, hsa04920, hsa04931
ACLY ACTA1 ACTA2	ATP citrate lyase actin, alpha 1, skeletal muscle	NM_001096.2 NM_001100.3	hsa00020
ACTB	actin beta	NM_001101.4	hsa04015, hsa04390, hsa04145, hsa04210, hsa04510, hsa04520, hsa04530, hsa04810, hsa04611, hsa04670, hsa04921, hsa04919, hsa04971, hsa04714, hsa05205, hsa05225, hsa05418, hsa05410, hsa05412, hsa05414, hsa05416, hsa05110, hsa05130, hsa05132, hsa05131, hsa05100, hsa05164
ACTBL2 ACTC1 ACTG1 ACTL7A ACTL7B ACTL9 ACTN2 ACTRT2 ACVR1C ADAMTS17 ADAR ADCY4 AGTR1 AKAP9	actinin alpha 2	NM_001103.3	hsa05412
AKT1	AKT serine/threonine kinase 1	NM_005163.2	hsa04014, hsa04015, hsa04010, hsa04012, hsa04370, hsa04371, hsa04630, hsa04668, hsa04066, hsa04068, hsa04072, hsa04071, hsa04024, hsa04022, hsa04151, hsa04152, hsa04150, hsa04140, hsa04210, hsa04218, hsa04510, hsa04550, hsa04611, hsa04620, hsa04625, hsa04660, hsa04662, hsa04664, hsa04666, hsa04062, hsa04910, hsa04922, hsa04923, hsa04920, hsa04915, hsa04914, hsa04917, hsa04926, hsa04919, hsa04261, hsa04973, hsa04725, hsa04728, hsa04722, hsa04380, hsa04211, hsa04213, hsa05200, hsa05230, hsa05231, hsa05205, hsa05210, hsa05212, hsa05225, hsa05226, hsa05214, hsa05221, hsa05220, hsa05218, hsa05211, hsa05215, hsa05213, hsa05224, hsa05222, hsa05223, hsa05418, hsa04932, hsa04931, hsa04933, hsa05152, hsa05166, hsa05162, hsa05164, hsa05161, hsa05160, hsa05163, hsa05167, hsa05169, hsa05165, hsa05145, hsa05142, hsa01521, hsa01524, hsa01522
ALB ALDH1A1 ANGPT1 ANKRD20A5 ANKRD34B ANKRD36 ANXA10 AP1S2 APOL2 APP ARL4A ARL5B ARRB1 ARRB2 ASB11 ASH1L ATAD2B ATF3 AVPR2 BAMBI BATF2	albumin amyloid beta precursor protein ADP ribosylation factor like GTPase 4A arrestin beta 1 arrestin beta 2 activating transcription factor 3 BMP and activin membrane bound inhibitor basic leucine zipper ATF-like transcription factor 2	NM_000477.6 NM_000484.3 NM_005738.4 NM_004041.4 NM_004313.3 NM_001674.3 NM_012342.2 NM_138456.3	hsa04918 hsa04726, hsa05010 hsa04010, hsa04340, hsa04144, hsa04062, hsa04926, hsa04928, hsa04740, hsa05032 hsa04010, hsa04340, hsa04144, hsa04062, hsa04926, hsa04928, hsa04740, hsa05032 hsa05166 hsa04310, hsa04350
BCL2	BCL2, apoptosis regulator	NM_000633.2	hsa04141, hsa04340, hsa04630, hsa04064, hsa04066, hsa04071, hsa04151, hsa04140, hsa04210, hsa04215, hsa04217, hsa04115, hsa04510, hsa04621, hsa04915, hsa04928, hsa04261, hsa04725, hsa04722, hsa05200, hsa05206, hsa05210, hsa05226, hsa05215, hsa05222, hsa05014, hsa05418, hsa04933, hsa05152, hsa05161, hsa05169, hsa05145, hsa01521, hsa01524, hsa01522
BCL2A1 BCL6 BIRC6 BMP2 BST2	BCL2 related protein A1 bone marrow stromal cell antigen 2	NM_004049.3 NM_004335.3	hsa04064, hsa04210, hsa05202, hsa05221
Torf76/LRRC7	Leucine-rich repeat-containing protein 75A	NM_001113567.2	
C1R C1S C3AR1 CA2	complement C1r complement C1s complement C3a receptor 1	NM_001733.6 NM_201442.3 NM_004054.3	hsa04145, hsa04610, hsa05322, hsa05133, hsa05150 hsa04610, hsa05322, hsa05133, hsa05150 hsa04080, hsa04610, hsa05150
CACNA1F CAD	carbamoyl-phosphate synthetase 2, aspartate transcarb	NM_004341.4	hsa00240, hsa00250 hsa04014, hsa04015, hsa04371, hsa04020, hsa04070, hsa04024, hsa04022, hsa04114, hsa04218, hsa04625, hsa04910, hsa04922, hsa04912, hsa04915, hsa04921, hsa04916, hsa04924, hsa04925, hsa04261, hsa04270, hsa04970, hsa04971, hsa04728, hsa04720, hsa04722, hsa04744, hsa04740, hsa04750, hsa04713, hsa05200, hsa05214, hsa05010, hsa05031, hsa05034, hsa05418, hsa05133, hsa05152, hsa05163, hsa05167
CALM1	calmodulin 1	NM_001363670.1	

CALM2	calmodulin 2	NM_001305624.1	hsa04014, hsa04015, hsa04371, hsa04020, hsa04070, hsa04024, hsa04022, hsa04114, hsa04218, hsa04625, hsa04910, hsa04922, hsa04912, hsa04915, hsa04921, hsa04916, hsa04924, hsa04925, hsa04261, hsa04270, hsa04970, hsa04971, hsa04728, hsa04720, hsa04722, hsa04744, hsa04740, hsa04750, hsa04713, hsa05200, hsa05214, hsa05010, hsa05031, hsa05034, hsa05418, hsa05133, hsa05152, hsa05163, hsa05167
CALM3	calmodulin 3	NM_005184.3	hsa04014, hsa04015, hsa04371, hsa04020, hsa04070, hsa04024, hsa04022, hsa04114, hsa04218, hsa04625, hsa04910, hsa04922, hsa04912, hsa04915, hsa04921, hsa04916, hsa04924, hsa04925, hsa04261, hsa04270, hsa04970, hsa04971, hsa04728, hsa04720, hsa04722, hsa04744, hsa04740, hsa04750, hsa04713, hsa05200, hsa05214, hsa05010, hsa05031, hsa05034, hsa05418, hsa05133, hsa05152, hsa05163, hsa05167
CASP1	caspase 1	NM_001257118.2	hsa04217, hsa04621, hsa04623, hsa04625, hsa05014, hsa05132, hsa05133, hsa05134, hsa05164
CASP3	caspase 3	NM_004346.3	hsa04010, hsa04668, hsa04210, hsa04215, hsa04115, hsa04650, hsa04657, hsa04726, hsa05200, hsa05206, hsa05205, hsa05203, hsa05210, hsa05222, hsa05010, hsa05012, hsa05014, hsa05016, hsa05416, hsa04932, hsa04933, hsa05120, hsa05133, hsa05134, hsa05152, hsa05161, hsa05168, hsa05163, hsa05167, hsa05165, hsa05146, hsa05145, hsa01524
CASP5			
CAT			
CBL			
CCDC85A			
CCL20	C-C motif chemokine ligand 20	NM_004591.2	hsa04668, hsa04060, hsa04657, hsa04062, hsa05323
CCL26	C-C motif chemokine ligand 26	NM_006072.4	hsa04060, hsa04062
CCL5	C-C motif chemokine ligand 5	NM_002985.2	hsa04668, hsa04060, hsa04620, hsa04621, hsa04623, hsa04062, hsa05323, hsa05020, hsa05120, hsa05164, hsa05168, hsa05163, hsa05142
CCND1			
CCNT1			
CD274	CD274 molecule	NM_014143.3	hsa04514
CD40LG			
CD44			
CD68			
CDC20			
CDC25C			
CDC40			
CDC42	cell division cycle 42	NM_001791.3	hsa04014, hsa04015, hsa04010, hsa04370, hsa04144, hsa04510, hsa04520, hsa04530, hsa04810, hsa04660, hsa04666, hsa04670, hsa04062, hsa04912, hsa04722, hsa04360, hsa05200, hsa05205, hsa05203, hsa05212, hsa05211, hsa04932, hsa04933, hsa05120, hsa05130, hsa05132, hsa05131, hsa05100, hsa05165
CDH1	cadherin 1	NM_004360.4	hsa04015, hsa04390, hsa04371, hsa04514, hsa04520, hsa05200, hsa05226, hsa05216, hsa05218, hsa05219, hsa05213, hsa05130, hsa05100
CDK1			
CDK2			
CFB	complement factor B	NM_001710.5	hsa04610, hsa05150
CFTR			
CGA			
CH25H	cholesterol 25-hydroxylase	NM_003956.3	hsa00120
CHRNA1			
CMPK2	cytidine/uridine monophosphate kinase 2	NM_207315.3	hsa00240
CNDP1			
CNTF			
COL17A1			
COL1A1			
CREB1			
CREBBP			
CSF2			
CSTA			
CTAGE3P			
CTNNB1	catenin beta 1	NM_001904.3	hsa04015, hsa04310, hsa04390, hsa04510, hsa04520, hsa04550, hsa04670, hsa04919, hsa04916, hsa05200, hsa05205, hsa05210, hsa05225, hsa05226, hsa05216, hsa05217, hsa05215, hsa05213, hsa05224, hsa05418, hsa05412, hsa04934, hsa05130, hsa05100, hsa05166, hsa05163, hsa05167, hsa05165
CTSS	cathepsin S	NM_004079.4	hsa04145, hsa04142, hsa04210, hsa04612, hsa05152
CXCL10	C-X-C motif chemokine ligand 10	NM_001565.3	hsa04668, hsa04060, hsa04620, hsa04622, hsa04623, hsa04657, hsa04062, hsa05164
CXCL11	C-X-C motif chemokine ligand 11	NM_005409.4	hsa04060, hsa04620, hsa04062
CXCL3			
CXCR4			
CYCS			
CYLC1			
DCAF17			
DDIT4			
DDO	D-aspartate oxidase	NM_004032.2	hsa00250, hsa04146
DDX58	DExH/H-box helicase 58	NM_014314.3	hsa04064, hsa04622, hsa04623, hsa05162, hsa05164, hsa05161, hsa05160, hsa05168, hsa05169, hsa04622
DDX60	DExH/H-box helicase 60	NM_017631.5	
DDX60L	DExH/H-box 60 like	NM_001012967.2	
DEFB110			
DHH			
DHX58	DExH-box helicase 58	NM_024119.2	hsa04622
DHX8			
DICER1			
DNAH8			
DNAJB14			
DNAJC10			
DPYD			
DPYS			

DTX3L DUOX2 EDN1	deltex E3 ubiquitin ligase 3L	NM_138287.3	hsa04330
EGF	epidermal growth factor	NM_001963.5	hsa04014, hsa04015, hsa04010, hsa04012, hsa04630, hsa04066, hsa04068, hsa04072, hsa04151, hsa04510, hsa04540, hsa04810, hsa05200, hsa05231, hsa05210, hsa05212, hsa05226, hsa05214, hsa05218, hsa05219, hsa05215, hsa05213, hsa05224, hsa05223, hsa05160, hsa05165, hsa01521
EGFR	epidermal growth factor receptor	NM_005228.4	hsa04014, hsa04015, hsa04010, hsa04012, hsa04630, hsa04066, hsa04068, hsa04020, hsa04072, hsa04151, hsa04144, hsa04510, hsa04520, hsa04540, hsa04810, hsa04912, hsa04915, hsa04921, hsa04926, hsa04928, hsa05200, hsa05230, hsa05231, hsa05206, hsa05205, hsa05210, hsa05212, hsa05225, hsa05226, hsa05214, hsa05218, hsa05219, hsa05215, hsa05213, hsa05224, hsa05223, hsa04934, hsa05120, hsa05160, hsa05163, hsa05165, hsa01521, hsa01522
EGR1 EHHADH EHMT1 EHMT2 EID3	euchromatic histone lysine methyltransferase 1	NM_024757.4	hsa00310, hsa04211
	euchromatic histone lysine methyltransferase 2	NM_001289413.1	hsa00310, hsa04211
EIF2AK2 EML6 ENO2	eukaryotic translation initiation factor 2 alpha kinase 2	NM_002759.3	hsa04141, hsa04217, hsa05203, hsa05162, hsa05164, hsa05160, hsa05168, hsa05167, hsa05169, hsa05165
EP300	E1A binding protein p300	NM_001429.3	hsa04310, hsa04330, hsa04350, hsa04630, hsa04066, hsa04068, hsa04024, hsa04110, hsa04520, hsa04922, hsa04919, hsa04916, hsa04720, hsa05200, hsa05206, hsa05203, hsa05211, hsa05215, hsa05016, hsa05152, hsa05166, hsa05164, hsa05161, hsa05168, hsa05167, hsa05169, hsa05165
EPRS EPSTI1 ESM1 ESR1 ETV7 EZH2 F2R F3	epithelial stromal interaction 1	NM_001002264.3	
	endothelial cell specific molecule 1	NM_007036.4	
	estrogen receptor 1	NM_000125.3	hsa04915, hsa04917, hsa04919, hsa04961, hsa05200, hsa05205, hsa05224, hsa01522
FAM183B FAM43A FAM46A FAM83E	coagulation factor III, tissue factor	NM_001993.4	hsa04610, hsa04933
	family with sequence similarity 43 member A	NM_153690.4	
	terminal nucleotidyltransferase 5A	NM_017633.2	
FAS	Fas cell surface death receptor	NM_000043.5	hsa04010, hsa04668, hsa04060, hsa04210, hsa04217, hsa04115, hsa04650, hsa05200, hsa05205, hsa05320, hsa05330, hsa05332, hsa05010, hsa04940, hsa04932, hsa05162, hsa05164, hsa05161, hsa05168, hsa05163, hsa05167, hsa05165, hsa05142, hsa05143, hsa01524
FCGR3B FGF14			
FGF2	fibroblast growth factor 2	NM_002006.5	hsa04014, hsa04015, hsa04010, hsa04151, hsa04550, hsa04810, hsa05200, hsa05205, hsa05226, hsa05218, hsa05224, hsa05167, hsa01521
FLJ42393 FLNA FOS FST FURIN FYN	follicle-stimulating hormone receptor (FST)	NM_006350.3	hsa04350
GAPDH GART GAS2L3	glyceraldehyde-3-phosphate dehydrogenase	NM_002046.6	hsa00010, hsa04066, hsa05010
	phosphoribosylaminoimidazole synthetase (GART)	NM_000819.4	hsa00230, hsa00670, hsa01523
GBP1 GBP2 GBP3 GBP5 GLDC GLS	guanylate binding protein 1	NM_002053.2	hsa04621
	guanylate binding protein 2	NM_004120.4	hsa04621
	guanylate binding protein 3	NM_018284.2	hsa04621
	guanylate binding protein 5	NM_001134486.2	hsa04621
GMPR GMPS GNAI2 GNAL GNAT3 GNB2	guanosine monophosphate reductase	NM_006877.3	hsa00230
	guanine monophosphate synthase	NM_003875.2	hsa00230, hsa00983
	G protein subunit alpha L	NM_182978.3	hsa04020, hsa04728, hsa04740, hsa05012, hsa05146, hsa05142
GNB4	G protein subunit beta 4	NM_021629.3	hsa04014, hsa04371, hsa04151, hsa04062, hsa04926, hsa04724, hsa04727, hsa04725, hsa04728, hsa04726, hsa04723, hsa04713, hsa05200, hsa05032, hsa05034, hsa05163, hsa05167
GNG13 GNG4	G protein subunit gamma 13	NM_016541.2	hsa04014, hsa04371, hsa04151, hsa04062, hsa04926, hsa04724, hsa04727, hsa04725, hsa04728, hsa04726, hsa04723, hsa04740, hsa04742, hsa04713, hsa05200, hsa05032, hsa05034, hsa05163, hsa05167
GNG7	G protein subunit gamma 7	NM_052847.2	hsa04014, hsa04371, hsa04151, hsa04062, hsa04926, hsa04724, hsa04727, hsa04725, hsa04728, hsa04726, hsa04723, hsa04740, hsa04713, hsa05200, hsa05032, hsa05034, hsa05163, hsa05167
GNGT1	G protein subunit gamma transducin 1	NM_021955.4	hsa04014, hsa04371, hsa04151, hsa04062, hsa04926, hsa04724, hsa04727, hsa04725, hsa04728, hsa04726, hsa04723, hsa04744, hsa04713, hsa05200, hsa05032, hsa05034, hsa05163, hsa05167
GPR37 GRB2 GRP GSK3B H2AFB2 H2AFV HACE1			

HAO1			
HAS2	hyaluronan synthase 2	NM_005328.2	
HCK			
HDAC1			
HDAC2			
HDX			
HECW2			
HERC5	HECT and RLD domain containing E3 ubiquitin protei	NM_016323.3	
HERC6	HECT and RLD domain containing E3 ubiquitin protei	NM_017912.3	
HIST1H2AA			
HIST1H2BA			
HIST1H2BL			
HIST2H2AC			
HIST2H2BE			
HLA-A	major histocompatibility complex, class I, A	NM_002116.7	hsa04514, hsa04144, hsa04145, hsa04218, hsa04650, hsa04612, hsa05203, hsa05320, hsa05330, hsa05332, hsa05416, hsa04940, hsa05166, hsa05168, hsa05163, hsa05167, hsa05169, hsa05165
HLA-B	major histocompatibility complex, class I, B (HLA-B)	NM_005514.7	hsa04514, hsa04144, hsa04145, hsa04218, hsa04650, hsa04612, hsa05203, hsa05320, hsa05330, hsa05332, hsa05416, hsa04940, hsa05166, hsa05168, hsa05163, hsa05167, hsa05169, hsa05165
HLA-C	major histocompatibility complex, class I, C	NM_002117.5	hsa04514, hsa04144, hsa04145, hsa04218, hsa04650, hsa04612, hsa05203, hsa05320, hsa05330, hsa05332, hsa05416, hsa04940, hsa05166, hsa05168, hsa05163, hsa05167, hsa05169, hsa05165
HLA-E			
HLA-F	major histocompatibility complex, class I, F	NM_001098479.1	hsa04514, hsa04144, hsa04145, hsa04218, hsa04650, hsa04612, hsa05203, hsa05320, hsa05330, hsa05332, hsa05416, hsa04940, hsa05166, hsa05168, hsa05163, hsa05167, hsa05169, hsa05165
HMSD			
HOXA10			
HRAS	HRas proto-oncogene, GTPase	NM_005343.3	hsa04014, hsa04015, hsa04010, hsa04012, hsa04370, hsa04371, hsa04630, hsa04068, hsa04072, hsa04071, hsa04151, hsa04150, hsa04144, hsa04140, hsa04137, hsa04210, hsa04218, hsa04510, hsa04540, hsa04550, hsa04810, hsa04625, hsa04650, hsa04660, hsa04662, hsa04664, hsa04062, hsa04910, hsa04912, hsa04915, hsa04917, hsa04921, hsa04926, hsa04919, hsa04916, hsa04725, hsa04726, hsa04720, hsa04730, hsa04722, hsa04360, hsa04211, hsa04213, hsa04714, hsa05200, hsa05230, hsa05231, hsa05206, hsa05205, hsa05203, hsa05210, hsa05225, hsa05226, hsa05214, hsa05216, hsa05221, hsa05220, hsa05218, hsa05211, hsa05219, hsa05215, hsa05213, hsa05224, hsa05223, hsa05034, hsa04933, hsa05166, hsa05161, hsa05160, hsa05163, hsa05167, hsa05165, hsa01521, hsa01522
HSP90AA1	heat shock protein 90 alpha family class A member 1	NM_001017963.2	hsa04141, hsa04151, hsa04217, hsa04621, hsa04612, hsa04659, hsa04657, hsa04915, hsa04914, hsa05200, hsa05215, hsa05418
HSP90AB1			
HSPA1A			
HSPA4			
HSPA4L			
HSPA5			
HSPA6	heat shock protein family A (Hsp70) member 6	NM_002155.4	hsa03040, hsa04141, hsa04010, hsa04144, hsa04612, hsa04915, hsa04213, hsa05134, hsa05162, hsa05164, hsa05169, hsa05145
ISPA6	heat shock protein family A (Hsp70) member 6	NM_002155.4	hsa03040, hsa04141, hsa04010, hsa04144, hsa04612, hsa04915, hsa04213, hsa05134, hsa05162, hsa05164, hsa05169, hsa05145
HSPA8			
HSPB3			
HTR2B			
ICAM1			
IDO1	indoleamine 2,3-dioxygenase 1	NM_002164.5	hsa00380, hsa05143
IFI16	interferon gamma inducible protein 16	NM_001206567.1	hsa047621
IFI27	interferon alpha inducible protein 27	NM_001130080.2	
IFI35	interferon induced protein 35	NM_005533.4	
IFI44	interferon induced protein 44	NM_006417.4	
IFI44L	interferon induced protein 44 like	NM_006820.3	
IFI6	interferon alpha inducible protein 6	NM_002038.3	
IFIH1	interferon induced with helicase C domain 1	NM_022168.4	
IFIT1	interferon induced protein with tetratricopeptide repeat	NM_001548.4	hsa05160, hsa05168
IFIT2	interferon induced protein with tetratricopeptide repeat	NM_001547.4	
IFIT3	interferon induced protein with tetratricopeptide repeat	NM_001549.5	
IFIT5	interferon induced protein with tetratricopeptide repeat	NM_012420.2	
IFITM1	interferon induced transmembrane protein 1	NM_003641.3	hsa04662
IFNA10			
IFNA16	interferon alpha 16	NM_002173.3	hsa04630, hsa04151, hsa04060, hsa04217, hsa04620, hsa04621, hsa04622, hsa04623, hsa04650, hsa05200, hsa05320, hsa05152, hsa05162, hsa05164, hsa05161, hsa05160, hsa05168, hsa05163, hsa05167, hsa05165
IFNA17	interferon alpha 17	NM_021268.2	hsa04630, hsa04151, hsa04060, hsa04217, hsa04620, hsa04621, hsa04622, hsa04623, hsa04650, hsa05200, hsa05320, hsa05152, hsa05162, hsa05164, hsa05161, hsa05160, hsa05168, hsa05163, hsa05167, hsa05165
IFNB1	interferon beta 1	NM_002176.3	hsa04630, hsa04668, hsa04151, hsa04060, hsa04217, hsa04620, hsa04621, hsa04622, hsa04623, hsa04650, hsa04380, hsa05152, hsa05162, hsa05164, hsa05161, hsa05160, hsa05168, hsa05163, hsa05167, hsa05165, hsa05142
IFNG			
IGF1			
IGLL3P			
IL10			
IL15	interleukin 15	NM_172175.2	hsa04630, hsa04668, hsa04060, hsa04672, hsa05200, hsa05323, hsa05166, hsa05168
IL18			

IL1B	interleukin 1-beta	NM_000576.2	hsa04010, hsa04064, hsa04668, hsa04060, hsa04217, hsa04640, hsa04620, hsa04621, hsa04623, hsa04625, hsa04659, hsa04657, hsa04750, hsa04380, hsa05323, hsa05321, hsa05332, hsa05010, hsa05020, hsa05418, hsa04940, hsa04932, hsa04933, hsa05132, hsa05133, hsa05134, hsa05152, hsa05162, hsa05164, hsa05168, hsa05163, hsa05146, hsa05144, hsa05140, hsa05142, hsa05143, hsa01523
IL2			
IL28A			
IL29	interleukin 29/interferon lambda 1	NM_172140.1	
IL4			
IL41I			
IL6	interleukin 6	NM_000600.4	hsa04630, hsa04668, hsa04066, hsa04068, hsa04151, hsa04060, hsa04218, hsa04640, hsa04620, hsa04621, hsa04623, hsa04625, hsa04659, hsa04657, hsa04672, hsa05200, hsa05202, hsa05323, hsa05321, hsa05332, hsa05020, hsa05410, hsa04932, hsa04931, hsa04933, hsa05132, hsa05133, hsa05134, hsa05152, hsa05166, hsa05162, hsa05164, hsa05161, hsa05168, hsa05163, hsa05167, hsa05146, hsa05144, hsa05142, hsa05143, hsa01521, hsa01523
IL7R	interleukin 7 receptor	NM_002185.4	hsa04630, hsa04068, hsa04151, hsa04060, hsa04640, hsa05200, hsa05340
IMPDH2	inosine monophosphate dehydrogenase 2	NM_000884.2	hsa00230, hsa00983
INHBE			
IRF1	interferon regulatory factor 1	NM_002198.2	hsa04668, hsa04625, hsa04917, hsa05133, hsa05160, hsa05165
IRF2	interferon regulatory factor 2	NM_002199.3	
IRF7	interferon regulatory factor 7	NM_001572.4	hsa04620, hsa04621, hsa04622, hsa04623, hsa05203, hsa05162, hsa05164, hsa05161, hsa05160, hsa05168, hsa05167
IRF9	interferon regulatory factor 9	NM_006084.4	hsa04630, hsa04217, hsa04621, hsa04625, hsa04380, hsa05203, hsa05162, hsa05164, hsa05160, hsa05168, hsa05167, hsa05165
IRS2			
ISG15	ISG15 ubiquitin-like modifier	NM_005101.4	hsa04622, hsa05165
ISG20	interferon stimulated exonuclease gene 20	NM_002201.5	
ISPD			
ITGA2			
ITGB1			
ITGB2			
JAK1			
JAK2	Janus kinase 2	NM_004972.3	hsa04630, hsa04151, hsa04217, hsa04550, hsa04658, hsa04659, hsa04062, hsa04920, hsa04917, hsa04725, hsa05200, hsa04933, hsa05152, hsa05162, hsa05164, hsa05168, hsa05167, hsa05145, hsa05140, hsa01521
JAKMIP2			
JUN	Jun proto-oncogene, AP-1 transcription factor subunit	NM_002228.3	hsa04010, hsa04012, hsa04310, hsa04668, hsa04024, hsa04137, hsa04210, hsa04510, hsa04530, hsa04620, hsa04621, hsa04625, hsa04660, hsa04658, hsa04659, hsa04657, hsa04662, hsa04912, hsa04915, hsa04921, hsa04926, hsa04722, hsa04380, hsa05200, hsa05231, hsa05203, hsa05210, hsa05211, hsa05224, hsa05323, hsa05321, hsa05030, hsa05031, hsa05418, hsa04932, hsa04933, hsa05120, hsa05132, hsa05133, hsa05166, hsa05164, hsa05161, hsa05168, hsa05167, hsa05169, hsa05140, hsa05142, hsa01522
KCNQ1OT1			
KCNV1	potassium voltage-gated channel modifier subfamily V	NM_014379.3	
KIAA0319			
KIAA0754			
KIT	KIT proto-oncogene receptor tyrosine kinase	NM_000222.2	hsa04014, hsa04015, hsa04010, hsa04072, hsa04151, hsa04640, hsa04916, hsa05200, hsa05230, hsa05221, hsa05224
KLF4	Kruppel like factor 4	NM_001314052.1	hsa04550
KLHDC7A			
KRAS			
KRTAP17-1			
KRTAP19-2			
KRTAP21-3			
KRTAP5-10			
KRTAP5-3			
KYNU	kynureninase	NM_003937.2	hsa00380
LAP3	leucine aminopeptidase 3	NM_015907.2	hsa00330, hsa00480
LBX1			
LCN2			
LEUTX			
LMO2			
LRGUK	leucine rich repeats and guanylate kinase domain conta	NM_001365700.1	
LRRK2	leucine rich repeat kinase 2	NM_198578.3	hsa00010
LRRN3	leucine rich repeat neuronal 3	NM_001099660.1	
LYN			
LYPD1	LY6/PLAUR domain containing 1	NM_144586.6	hsa04014, hsa04015, hsa04010, hsa04012, hsa04350, hsa04370, hsa04371, hsa04668, hsa04066, hsa04068, hsa04072, hsa04071, hsa04024, hsa04022, hsa04151, hsa04150, hsa04140, hsa04114, hsa04210, hsa04218, hsa04510, hsa04520, hsa04540, hsa04550, hsa04810, hsa04611, hsa04620, hsa04621, hsa04625, hsa04650, hsa04660, hsa04658, hsa04659, hsa04657, hsa04662, hsa04664, hsa04666, hsa04062, hsa04910, hsa04912, hsa04915, hsa04914, hsa04917, hsa04921, hsa04926, hsa04919, hsa04928, hsa04916, hsa04261, hsa04270, hsa04960, hsa04724, hsa04725, hsa04726, hsa04720, hsa04730, hsa04723, hsa04722, hsa04360, hsa04380, hsa04713, hsa05200, hsa05230, hsa05231, hsa05206, hsa05205, hsa05203, hsa05210, hsa05212, hsa05225, hsa05226, hsa05214, hsa05216, hsa05221, hsa05220, hsa05218, hsa05211, hsa05219, hsa05215, hsa05213, hsa05224, hsa05223, hsa05010, hsa05020, hsa05034, hsa04930, hsa04933, hsa04934, hsa05132, hsa05131, hsa05133, hsa05152, hsa05164, hsa05161, hsa05160, hsa05163, hsa05167, hsa05165, hsa05145, hsa05140, hsa05142, hsa01521, hsa01524, hsa01522
MAPK1	mitogen-activated protein kinase 1	NM_002745.4	
MAPK11			
MAPK12			

MAPK14	mitogen-activated protein kinase 14	NM_001315.2	hsa04015, hsa04010, hsa04370, hsa04668, hsa04068, hsa04071, hsa04218, hsa04550, hsa04611, hsa04620, hsa04621, hsa04622, hsa04625, hsa04660, hsa04658, hsa04659, hsa04657, hsa04664, hsa04670, hsa04912, hsa04914, hsa04917, hsa04926, hsa04261, hsa04728, hsa04723, hsa04722, hsa04750, hsa04380, hsa04714, hsa05205, hsa05014, hsa05418, hsa04933, hsa05120, hsa05132, hsa05131, hsa05133, hsa05152, hsa05164, hsa05160, hsa05163, hsa05167, hsa05169, hsa05145, hsa05140, hsa05142, hsa051522 hsa04014, hsa04015, hsa04010, hsa04012, hsa04350, hsa04370, hsa04371, hsa04668, hsa04066, hsa04068, hsa04072, hsa04071, hsa04024, hsa04022, hsa04151, hsa04150, hsa04140, hsa04114, hsa04210, hsa04218, hsa04510, hsa04520, hsa04540, hsa04550, hsa04810, hsa04611, hsa04620, hsa04621, hsa04625, hsa04650, hsa04660, hsa04658, hsa04659, hsa04657, hsa04662, hsa04664, hsa04666, hsa04062, hsa04910, hsa04912, hsa04915, hsa04914, hsa04917, hsa04921, hsa04926, hsa04919, hsa04928, hsa04916, hsa04261, hsa04270, hsa04960, hsa04724, hsa04725, hsa04726, hsa04720, hsa04730, hsa04723, hsa04722, hsa04360, hsa04380, hsa04713, hsa05200, hsa05230, hsa05231, hsa05205, hsa05203, hsa05210, hsa05212, hsa05225, hsa05226, hsa05214, hsa05216, hsa05221, hsa05220, hsa05218, hsa05211, hsa05219, hsa05215, hsa05213, hsa05224, hsa05223, hsa05010, hsa05020, hsa05034, hsa04930, hsa04933, hsa04934, hsa05132, hsa05131, hsa05133, hsa05152, hsa05164, hsa05161, hsa05160, hsa05163, hsa05167, hsa05165, hsa05145, hsa05140, hsa05142, hsa05151, hsa051524, hsa051522
MAPK3	mitogen-activated protein kinase 3	NM_002746.2	
MAPK8			
MARCO			
MBOAT4	membrane bound O-acyltransferase domain containing	NM_001100916.1	
MGP			
MIB1			
MIB2			
MMP1	matrix metalloproteinase 1	NM_002421.3	hsa04657, hsa03320, hsa04926, hsa05200, hsa05219, hsa05323
MMP2			
MS4A3			
MTHFR			
MTMR8			
MTOR			
MUSK			
MX1	MX dynamin like GTPase 1	NM_001144925.2	hsa05162, hsa05164, hsa05165
MX2	MX dynamin like GTPase 2	NM_002463.1	
MYC	MYC proto-oncogene, bHLH transcription factor	NM_002467.5	hsa04010, hsa04012, hsa04310, hsa04350, hsa04390, hsa04630, hsa04151, hsa04110, hsa04218, hsa04550, hsa04919, hsa05200, hsa05230, hsa05202, hsa05206, hsa05205, hsa05210, hsa05225, hsa05226, hsa05216, hsa05221, hsa05220, hsa05219, hsa05213, hsa05224, hsa05222, hsa05166, hsa05161, hsa05163, hsa05167, hsa05169
MYD88			
MYH14			
MYL2			
NAA16			
NANOG			
NCAM1			
NCF2	neutrophil cytosolic factor 2	NM_000433.3	hsa04145, hsa04670, hsa04380, hsa05418, hsa05140
NCOA7			
NCRNA00189			
NEDD9	neural precursor cell expressed, developmentally down	NM_006403.3	
NEURL1B			
NFKB1			
NFKBIA	NFkB inhibitor alpha	NM_020529.2	hsa04064, hsa04668, hsa04024, hsa04210, hsa04620, hsa04621, hsa04622, hsa04623, hsa04625, hsa04660, hsa04658, hsa04659, hsa04657, hsa04662, hsa04062, hsa04920, hsa04926, hsa04722, hsa04380, hsa05200, hsa05203, hsa05220, hsa05215, hsa05222, hsa04931, hsa05120, hsa05131, hsa05134, hsa05166, hsa05162, hsa05164, hsa05161, hsa05160, hsa05168, hsa05163, hsa05167, hsa05169, hsa05145, hsa05140, hsa05142
NIPSNAP3B			
NLRC5	NLR family CARD domain containing 5	NM_032206.4	
NMI	N-myc and STAT interactor	NM_004688.2	
NOL4	nucleolar protein 4	NM_003787.4	
NOTCH1	notch 1	NM_017617.5	hsa04330, hsa04658, hsa04919, hsa05200, hsa05206, hsa05224, hsa05020, hsa05165, hsa051522
NPPC			
NPS			
NR2F1	nuclear receptor subfamily 2 group F member 1	NM_005654.5	
NR4A2	nuclear receptor subfamily 4 group A member 2	NM_006186.3	hsa04928, hsa04925
NTS			
OAS1	2'-5'-oligoadenylate synthetase 1	NM_016816.3	hsa04621, hsa05162, hsa05164, hsa05160, hsa05168
OAS2	2'-5'-oligoadenylate synthetase 2	NM_016817.2	hsa04621, hsa05162, hsa05164, hsa05160, hsa05168
OAS3	2'-5'-oligoadenylate synthetase 3	NM_006187.3	hsa04621, hsa05162, hsa05164, hsa05160, hsa05168
OASL	2'-5'-oligoadenylate synthetase like	NM_003733.3	hsa05165
OR4K2			
OR5AK2			
P2RY12			
PARP12	poly(ADP-ribose) polymerase family member 12	NM_022750.3	
PARP14	poly(ADP-ribose) polymerase family member 14	NM_017554.2	
PARP9	poly(ADP-ribose) polymerase family member 9	NM_031458.2	
PCDH17	protocadherin 17	NM_001040429.2	
PCGF5			
PCNA			
PDE6C			
PDE9A			
PHF11	PHD finger protein 11	NM_001040443.2	
PHLPP1	PH domain and leucine rich repeat protein phosphatase	NM_194449.3	hsa04151

PIK3CA	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit	NM_006218.3	hsa00562, hsa04014, hsa04015, hsa04012, hsa04370, hsa04630, hsa04668, hsa04066, hsa04068, hsa04070, hsa04072, hsa04071, hsa04024, hsa04151, hsa04152, hsa04150, hsa04140, hsa04210, hsa04218, hsa04510, hsa04550, hsa04810, hsa04611, hsa04620, hsa04625, hsa04650, hsa04660, hsa04662, hsa04664, hsa04666, hsa04670, hsa04062, hsa04910, hsa04923, hsa04915, hsa04914, hsa04917, hsa04926, hsa04919, hsa04973, hsa04960, hsa04725, hsa04722, hsa04750, hsa04360, hsa04380, hsa04211, hsa04213, hsa05200, hsa05230, hsa05231, hsa05206, hsa05205, hsa05203, hsa05210, hsa05212, hsa05225, hsa05226, hsa05214, hsa05221, hsa05220, hsa05218, hsa05211, hsa05215, hsa05213, hsa05224, hsa05222, hsa05223, hsa05418, hsa04930, hsa04932, hsa04931, hsa04933, hsa05100, hsa05166, hsa05162, hsa05164, hsa05161, hsa05160, hsa05163, hsa05167, hsa05169, hsa05165, hsa05146, hsa05142, hsa01521, hsa01524, hsa01522
			hsa00562, hsa04014, hsa04015, hsa04012, hsa04370, hsa04630, hsa04668, hsa04066, hsa04068, hsa04070, hsa04072, hsa04071, hsa04024, hsa04151, hsa04152, hsa04150, hsa04140, hsa04210, hsa04218, hsa04510, hsa04550, hsa04810, hsa04611, hsa04620, hsa04625, hsa04650, hsa04660, hsa04662, hsa04664, hsa04666, hsa04670, hsa04062, hsa04910, hsa04923, hsa04915, hsa04914, hsa04917, hsa04926, hsa04919, hsa04973, hsa04960, hsa04725, hsa04722, hsa04750, hsa04360, hsa04380, hsa04211, hsa04213, hsa05200, hsa05230, hsa05231, hsa05205, hsa05203, hsa05210, hsa05212, hsa05225, hsa05226, hsa05214, hsa05221, hsa05220, hsa05218, hsa05211, hsa05215, hsa05213, hsa05224, hsa05222, hsa05223, hsa05418, hsa04930, hsa04932, hsa04931, hsa04933, hsa05100, hsa05166, hsa05162, hsa05164, hsa05161, hsa05160, hsa05163, hsa05167, hsa05169, hsa05165, hsa05146, hsa05142, hsa01521, hsa01524, hsa01522
PIK3CB	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit	NM_006219.2	hsa00562, hsa04371, hsa04072, hsa04022, hsa04151, hsa04611, hsa04921, hsa04261, hsa04725, hsa05167, hsa05145
PIK3CD	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit	NM_002649.3	hsa00562, hsa04070, hsa04145, hsa04810
PIK3CG	phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit	NM_002649.3	
PIKFYVE	phosphoinositide kinase, FYVE-type zinc finger containing	NM_015040.3	
PKN1			
PLA2G4A	phospholipase A2 group IVA	NM_024420.2	hsa00564, hsa00565, hsa00590, hsa00591, hsa00592, hsa04014, hsa04010, hsa04370, hsa04072, hsa04217, hsa04611, hsa04664, hsa04666, hsa04912, hsa04913, hsa04921, hsa04270, hsa04724, hsa04726, hsa04730, hsa04750, hsa05231
PLCL2			
PLEK			
PLEKHA4	pleckstrin homology domain containing A4	NM_020904.2	
PLG			
PLK1			
PLSCR1	phospholipid scramblase 1	NM_021105.2	
PLSCR2			
PMAIP1	phorbol-12-myristate-13-acetate-induced protein 1	NM_021127.2	hsa04210, hsa04215, hsa04115, hsa05200, hsa05203, hsa05210, hsa01524
PMS2CL			
PNMAL1			
PNPLA6			
PNPT1			
POM121L8P			
POMC			
PPARG			
PPBP			
PPM1K	protein phosphatase Mg2+/Mn2+ dependent 1K	NM_152542.4	
PPP1R15A	protein phosphatase 1 regulatory subunit 15A	NM_014330.3	hsa04141
PPP2CA			
PPP2R1A			
PRAMEF12			
PRDM10	PR/SET domain 10	NM_020228.2	hsa04014, hsa04010, hsa04310, hsa04340, hsa04371, hsa04020, hsa04024, hsa04140, hsa04114, hsa04530, hsa04540, hsa04611, hsa04062, hsa04911, hsa04910, hsa04922, hsa04923, hsa04912, hsa04913, hsa04915, hsa04914, hsa04921, hsa04926, hsa04918, hsa04919, hsa04928, hsa04916, hsa04924, hsa04925, hsa04927, hsa04261, hsa04270, hsa04970, hsa04971, hsa04976, hsa04962, hsa04961, hsa04724, hsa04727, hsa04725, hsa04728, hsa04726, hsa04720, hsa04723, hsa04740, hsa04742, hsa04750, hsa04211, hsa04213, hsa04713, hsa04714, hsa05200, hsa05205, hsa05203, hsa05012, hsa05020, hsa05030, hsa05031, hsa05032, hsa05034, hsa05414, hsa04934, hsa05110, hsa05166, hsa05163, hsa05169, hsa05165, hsa05165, hsa05146, hsa01522
PRKACA	protein kinase cAMP-activated catalytic subunit alpha	NM_002730.3	hsa04014, hsa04010, hsa04310, hsa04340, hsa04371, hsa04020, hsa04024, hsa04140, hsa04114, hsa04530, hsa04540, hsa04611, hsa04062, hsa04911, hsa04910, hsa04922, hsa04923, hsa04912, hsa04913, hsa04915, hsa04914, hsa04921, hsa04926, hsa04918, hsa04919, hsa04928, hsa04916, hsa04924, hsa04925, hsa04927, hsa04261, hsa04270, hsa04970, hsa04971, hsa04976, hsa04962, hsa04961, hsa04724, hsa04727, hsa04725, hsa04728, hsa04726, hsa04720, hsa04723, hsa04740, hsa04742, hsa04750, hsa04211, hsa04213, hsa04713, hsa04714, hsa05200, hsa05205, hsa05203, hsa05012, hsa05020, hsa05030, hsa05031, hsa05032, hsa05034, hsa05414, hsa04934, hsa05110, hsa05166, hsa05163, hsa05169, hsa05165, hsa05165, hsa05146, hsa01522
PRKACB	protein kinase cAMP-activated catalytic subunit beta	NM_182948.3	hsa04014, hsa04010, hsa04310, hsa04340, hsa04371, hsa04020, hsa04024, hsa04140, hsa04114, hsa04530, hsa04540, hsa04611, hsa04062, hsa04911, hsa04910, hsa04922, hsa04923, hsa04912, hsa04913, hsa04915, hsa04914, hsa04921, hsa04926, hsa04918, hsa04919, hsa04928, hsa04916, hsa04924, hsa04925, hsa04927, hsa04261, hsa04270, hsa04970, hsa04971, hsa04976, hsa04962, hsa04961, hsa04724, hsa04727, hsa04725, hsa04728, hsa04726, hsa04720, hsa04723, hsa04740, hsa04742, hsa04750, hsa04211, hsa04213, hsa04713, hsa04714, hsa05200, hsa05205, hsa05203, hsa05012, hsa05020, hsa05030, hsa05031, hsa05032, hsa05034, hsa05414, hsa04934, hsa05110, hsa05166, hsa05163, hsa05169, hsa05165, hsa05165, hsa05146, hsa01522
PRKACG	protein kinase cAMP-activated catalytic subunit gamma	NM_002732.3	hsa04014, hsa04010, hsa04310, hsa04340, hsa04371, hsa04020, hsa04024, hsa04140, hsa04114, hsa04530, hsa04540, hsa04611, hsa04062, hsa04911, hsa04910, hsa04922, hsa04923, hsa04912, hsa04913, hsa04915, hsa04914, hsa04921, hsa04926, hsa04918, hsa04919, hsa04928, hsa04916, hsa04924, hsa04925, hsa04927, hsa04261, hsa04270, hsa04970, hsa04971, hsa04976, hsa04962, hsa04961, hsa04724, hsa04727, hsa04725, hsa04728, hsa04726, hsa04720, hsa04723, hsa04740, hsa04742, hsa04750, hsa04211, hsa04213, hsa04713, hsa04714, hsa05200, hsa05205, hsa05203, hsa05012, hsa05020, hsa05030, hsa05031, hsa05032, hsa05034, hsa05414, hsa04934, hsa05110, hsa05166, hsa05163, hsa05169, hsa05165, hsa05165, hsa05146, hsa01522
PRKAR2A			
PRKCA			

PRL			
PSMB8	proteasome subunit beta 8	NM_004159.4	hsa03050
PSMB9	proteasome subunit beta 9	NM_002800.4	hsa03050
PTEN			
PTGER4	prostaglandin E receptor 4	NM_000958.2	hsa04080, hsa04924, hsa04750, hsa05200, hsa05163, hsa05165
PTGS2	prostaglandin-endoperoxide synthase 2	NM_000963.3	hsa00590, hsa04370, hsa04064, hsa04668, hsa04625, hsa04657, hsa04923, hsa04913, hsa04921, hsa04726, hsa04723, hsa05200, hsa05206, hsa05204, hsa05222, hsa05163, hsa05167, hsa05165, hsa05140
PTH			
PTPN11			
PTPRR			
PVALB			
RAC1			
RAC2			
RANBP2			
RANBP3L			
RASGRP3	RAS guanyl releasing protein 3	NM_001139488.1	hsa04014, hsa04015, hsa04010, hsa04662, hsa05200
RB1			
REM1			
REV3L			
RGAG1	retrotransposon gag domain containing 1	NM_020769.2	
RHO			hsa04014, hsa04015, hsa04310, hsa04350, hsa04072, hsa04071, hsa04024, hsa04022, hsa04150, hsa04144, hsa04510, hsa04520, hsa04530, hsa04810, hsa04611, hsa04621, hsa04625, hsa04660, hsa04670, hsa04062, hsa04921, hsa04928, hsa04270, hsa04972, hsa04722, hsa04360, hsa05200, hsa05206, hsa05205, hsa05203, hsa05210, hsa05418, hsa05130, hsa05133, hsa05152, hsa05100, hsa05163
RHOA	ras homolog family member A	NM_001664.3	
RIPK4	receptor interacting serine/threonine kinase 4	NM_020639.2	
RIT2			
RPL27A			
RPS27A	ribosomal protein S27a	NM_002954.5	hsa03010
RSAD2	radical S-adenosyl methionine domain containing 2	NM_080657.4	
RTP4	receptor transporter protein 4	NM_022147.2	
SAMD9	sterile alpha motif domain containing 9	NM_017654.3	
SAMD9L	sterile alpha motif domain containing 9 like	NM_152703.4	
SAMHD1	SAM and HD domain containing deoxynucleoside triphosphatase	NM_015474.3	
SCAND3			
SCIN	scinderin	NM_001112706.2	hsa04810, hsa04666, hsa05203
SCN3A	sodium voltage-gated channel alpha subunit 3	NM_006922.3	hsa04742
SELV			
SEMA3A	semaphorin 3A	NM_006080.2	hsa04360
SEMA3D	semaphorin 3D	NM_152754.2	hsa04360
SERPINF2	serpin family B member 2	NM_001143818.1	hsa04610
SETD2			
SH3GL1			
SHH			
SIN3A	SIN3 transcription regulator family member A	NM_001145358.1	hsa04919, hsa05202, hsa05016
SLC25A1			
SLC27A2			
SMAD2			
SMAD3			
SMARCA2			
SNORA2A			
SNORD67			
SNRPN			
SP1	Sp1 transcription factor	NM_138473.2	hsa04350, hsa04137, hsa04915, hsa04928, hsa04927, hsa05200, hsa05231, hsa05202, hsa05224, hsa05016, hsa04934, hsa05163, hsa05122
SP100	SP100 nuclear antigen	NM_001080391.1	hsa05203, hsa05168
SP110	SP110 nuclear body protein	NM_004509.3	
SP140L			
SPINT4			
SPRR1B			
SPTAN1	spectrin alpha, non-erythrocytic 1	NM_001130438.2	hsa04210
SRC	SRC proto-oncogene, non-receptor tyrosine kinase	NM_005417.4	hsa04015, hsa04012, hsa04370, hsa04144, hsa04137, hsa04510, hsa04520, hsa04530, hsa04540, hsa04810, hsa04611, hsa04625, hsa04062, hsa04912, hsa04915, hsa04917, hsa04921, hsa04926, hsa04919, hsa04727, hsa04750, hsa04360, hsa05205, hsa05203, hsa05219, hsa05418, hsa05120, hsa05131, hsa05152, hsa05100, hsa05161, hsa05163, hsa05167, hsa051521, hsa051522
SSRP1			
SST			
SSTR2			
STAMBPL1			hsa04630, hsa04217, hsa04620, hsa04621, hsa04625, hsa04658, hsa04659, hsa04062, hsa04917, hsa04919, hsa04380, hsa05200, hsa05212, hsa05321, hsa04933, hsa05152, hsa05162, hsa05164, hsa05161, hsa05160, hsa05168, hsa05167, hsa05165, hsa05145, hsa05140
STAT1	signal transducer and activator of transcription 1	NM_007315.3	hsa04630, hsa04217, hsa04621, hsa04625, hsa04062, hsa04380, hsa05200, hsa05162, hsa05164, hsa05161, hsa05160, hsa05168, hsa05167, hsa05165
STAT2	signal transducer and activator of transcription 2	NM_005419.3	hsa04630, hsa04066, hsa04068, hsa04217, hsa04550, hsa04659, hsa04062, hsa04920, hsa04917, hsa05200, hsa05206, hsa05205, hsa05203, hsa05212, hsa05221, hsa05223, hsa05321, hsa04931, hsa04933, hsa05162, hsa05161, hsa05160, hsa05163, hsa05167, hsa05169, hsa05145, hsa051521
STAT3	signal transducer and activator of transcription 3	NM_139276.2	
SULT4A1			
SYK			
TAF1	TATA-box binding protein associated factor 1	NM_004606.4	hsa03022
TAOK1			
TAP1	transporter 1, ATP binding cassette subfamily B member 1	NM_000593.5	hsa02010, hsa04145, hsa04612, hsa05340, hsa05168, hsa05163

TAS2R13			
TAS2R8			
TCEAL7			
TDRD7	tudor domain containing 7	NM_014290.2	
TEX9			hsa04010, hsa04350, hsa04390, hsa04068, hsa04060, hsa04110, hsa04218, hsa04659, hsa04672, hsa04926, hsa04380, hsa05200, hsa05205, hsa05210, hsa05212, hsa05225, hsa05226, hsa05220, hsa05211, hsa05323, hsa05321, hsa05410, hsa05414, hsa04932, hsa04933, hsa05152, hsa05166, hsa05161, hsa05146, hsa05144, hsa05145, hsa05140, hsa05142
TGFB1	transforming growth factor beta 1	NM_000660.6	
TKTL2			
TLR3	toll like receptor 3	NM_003265.2	hsa04217, hsa04620, hsa05164, hsa05161, hsa05160, hsa05168, hsa05167, hsa05165
TLR4			
TMEM140	transmembrane protein 140	NM_018295.4	
			hsa04010, hsa04350, hsa04064, hsa04668, hsa04071, hsa04150, hsa04060, hsa04210, hsa04217, hsa04640, hsa04620, hsa04621, hsa04622, hsa04625, hsa04650, hsa04612, hsa04660, hsa04657, hsa04664, hsa04920, hsa04380, hsa05205, hsa05310, hsa05322, hsa05323, hsa05321, hsa05330, hsa05332, hsa05010, hsa05014, hsa05418, hsa05410, hsa05414, hsa04930, hsa04940, hsa04932, hsa04931, hsa04933, hsa05133, hsa05134, hsa05152, hsa05166, hsa05164, hsa05161, hsa05160, hsa05168, hsa05163, hsa05165, hsa05146, hsa05144, hsa05145, hsa05140, hsa05142, hsa05143, hsa051523
TNF	tumor necrosis factor	NM_000594.3	
TNFAIP3	TNF alpha induced protein 3	NM_001270508.1	hsa04064, hsa04668, hsa04217, hsa04621, hsa04657, hsa05162, hsa05169
TNFRSF10A			
TNFRSF17			
TNFSF10	TNF superfamily member 10	NM_003810.3	hsa04068, hsa04060, hsa04210, hsa04217, hsa04650, hsa05162, hsa05164
TNFSF13B	TNF superfamily member 13b	NM_006573.4	hsa04064, hsa04060, hsa04672, hsa05323
TOP2A	DNA topoisomerase II alpha	NM_001067.3	hsa01524
TOP2B	DNA topoisomerase II beta	NM_001330700.1	hsa01524
			hsa04010, hsa04310, hsa04071, hsa04151, hsa04137, hsa04110, hsa04210, hsa04216, hsa04115, hsa04218, hsa04919, hsa04722, hsa04211, hsa05200, hsa05230, hsa05202, hsa05206, hsa05205, hsa05203, hsa05210, hsa05212, hsa05225, hsa05226, hsa05214, hsa05216, hsa05220, hsa05217, hsa05218, hsa05219, hsa05215, hsa05213, hsa05224, hsa05223, hsa05014, hsa05016, hsa05418, hsa05166, hsa05162, hsa05161, hsa05160, hsa05168, hsa05163, hsa05167, hsa05169, hsa05165, hsa01524, hsa01522
TP53	tumor protein p53	NM_001276760.1	
TPPP2			
TRAF1	TNF receptor associated factor 1	NM_005658.4	hsa04064, hsa04668, hsa04210, hsa05200, hsa05202, hsa05203, hsa05222, hsa05168, hsa05169
TRAF6			
TRIM14			
TRIM21	tripartite motif containing 21	NM_003141.3	hsa05322
TRIM22	tripartite motif containing 22	NM_006074.4	
TRIM25			
TRIM28	tripartite motif containing 28	NM_005762.2	
34 /// TRIM6-TI	tripartite motif containing 34	NM_021616.5	
TRIM5	tripartite motif containing 5	NM_033092.2	
TSPAN19			
TUBB8			
UBA52	ubiquitin A-52 residue ribosomal protein fusion product	NM_001033930.2	hsa03010
UBA7	ubiquitin like modifier activating enzyme 7	NM_003335.2	hsa04120, hsa05012
UBB	ubiquitin B	NM_018955.3	hsa04144, hsa04137, hsa05012, hsa05167
UBC	ubiquitin C	NM_021009.6	hsa03320
UBE2L6	ubiquitin conjugating enzyme E2 L6	NM_004223.4	hsa04120, hsa05012
UBL4B			
UCKL1			
UHMK1			
UMPS	uridine monophosphate synthetase	NM_000373.3	hsa00240, hsa00983
USP18	ubiquitin specific peptidase 18	NM_017414.3	
USP50			
VCX3A			
			hsa04014, hsa04015, hsa04010, hsa04370, hsa04066, hsa04151, hsa04510, hsa04926, hsa05200, hsa05206, hsa05205, hsa05212, hsa05211, hsa05219, hsa05323, hsa05418, hsa04933, hsa05163, hsa05167, hsa05165, hsa01521
VEGFA	vascular endothelial growth factor A	NM_001171623.1	
VPREB3			
WDFY2			
WDTC1			
WFDC5			
XAF1	XIAP associated factor 1	NM_017523.4	
YARS			
ZAP70			
ZBTB20			
ZC3HAV1	zinc finger CCCH-type containing, antiviral 1	NM_020119.3	
ZDHHC17			
ZFPM2			
ZFR			
ZNF442	zinc finger protein 442	NM_030824.2	
ZNF557			
ZNF620			
ZNF678			
ZNF79			
ZNF804A			