

Supplementary Table 1	Gene Symbol	Gene name	Alias
Gene function	Gene Symbol	Gene name	Alias
Adhesion,migration	ADGRE5	adhesion G protein-coupled receptor E5	CD97, TM7LN1
Adhesion,migration	CD226	CD226 molecule	DNAM-1, DNAM1, PTA1, TUSA1
Adhesion,migration	CD38	CD38 molecule	ADPRC 1, ADPRC1
Adhesion,migration	CD44	CD44 molecule Indian blood group	CD44R, CD44W, CSPSG, ECMR-III, HCELL, HUTCH-I, IN, LHR, MCS6, MOU2, MDU3, MIC4, Pgp1
Adhesion,migration	CD47	CD47 molecule	IAP, MER6, OA3
Adhesion,migration	CD53	CD53 molecule	MOX44, TSPAN25
Adhesion,migration	IGF1R	insulin like growth factor 1 receptor	CD221, IGFIR, IGFRI, ITR3, ITR3L, MGC18216
Adhesion,migration	ITGA1	integrin subunit alpha 1	CD49b, VLA1
Adhesion,migration	ITGAE	integrin subunit alpha E	CD103, HUMINAIE
Adhesion,migration	ITGB1	integrin subunit beta 1	CD29, FNRR, GPIIA, MZF2, MSK12, VLA-BETA, VLAB
Adhesion,migration	MADCAM1	mucoasal vascular addressin cell adhesion molecule 1	MACAM1
Adhesion,migration	NCAM1	neuronal cell adhesion molecule 1	CD56, MSK39, NCAM
Adhesion,migration	NECTIN2	nectin cell adhesion molecule 2	CD112, HVEB, PRR2, PVRL2, PVRR2
Adhesion,migration	PECAM1	platelet and endothelial cell adhesion molecule 1	CD31, CD31/EndoCAM, GPIIA, PECA1, PECAM-1, endoCAM
Antigen presentation	CD1c	CD1c molecule	BDCAI, CD1, CD1A, R7
Antigen presentation	CD1d	CD1d molecule	CD1A, R3, R3G1
Antigen presentation	CD83	CD83 molecule	BLL1, HB15
Antigen processing	CD74	CD74 molecule	DHLAG, HLAG, H, Ia-GAMMA
Antigen processing	HLA-A	major histocompatibility complex class I A	HLAA
Antigen processing	HLA-B	major histocompatibility complex class I B	AS, B-4901, HLAB
Antigen processing	HLA-C	major histocompatibility complex class I C	D65204, HLA-JY3, HLAC, HLC-C, MHC, PSORS1
Antigen processing	HLA-DMA	major histocompatibility complex class II DM alpha	D65222E, DMA, HLADM, RING6
Antigen processing	HLA-DMB	major histocompatibility complex class II DM beta	D65221E, RING7
Antigen processing	HLA-DOA	major histocompatibility complex class II DO alpha	HLA-DO-alpha, HLA-DNA, HLA-DZA, HLA2D
Antigen processing	HLA-DOB	major histocompatibility complex class II DO beta	DOB
Antigen processing	HLA-DPA1	major histocompatibility complex class II DP alpha 1	DP(W3), DP(W4), HLA-DP1A, HLADP, HLABS, PLT1
Antigen processing	HLA-DPB1	major histocompatibility complex class II DP beta 1	DPB1, HLA-DP, HLA-DP1B, HLA-DPB
Antigen processing	HLA-DQA1	major histocompatibility complex class II DQ alpha 1	DCIAC3, DCA1, HLA-DOA
Antigen processing	HLA-DQA2	major histocompatibility complex class II DQ alpha 2	DX-ALPHA, HLA-DXA
Antigen processing	HLA-DQB1	major histocompatibility complex class II DQ beta 1	HLA-DQB1, HLA-DXB
Antigen processing	HLA-DQA2	major histocompatibility complex class II DQ alpha 2	HLA-DQB1, HLA-DXB
Antigen processing	HLA-DRA	major histocompatibility complex class II DR alpha	HLA-DRA1
Antigen processing	HLA-DRB1	major histocompatibility complex class II DR beta 1	DRB1, HLA-DR1B, HLA-DRB, SS1
Antigen processing	HLA-E	major histocompatibility complex class I E	HLA-6.2, QA1
Antigen processing	HLA-F	major histocompatibility complex class I F	CD412, HLA-5.4, HLA-CD412, HLA-F
Antigen processing	HLA-F-AS1	HLA-F antisense RNA 1	
Antigen processing	HLA-G	major histocompatibility complex class I G	MHC-G
Apoptosis	BCL2	B-cell CLL lymphoma 2	Bcl-2, PBP1R50
Apoptosis	BCL2L11	BCL2 like 11	BAN1, BIM, BMD, BimEL, BimL, BimS
Apoptosis	GADD45GIP1	GADD45G interacting protein 1	CKB8P2, CKbetaBP2, CIP1, MGC4667, MGC4758, MRP-L59, PLINP, PLINP-1, PRG6, Plinp1
Apoptosis	TNFSF10	tumor necrosis factor superfamily member 10	APO2L, Apo-2L, CD253, T12, TNL66A, TRAIL
B cell marker	CD19	CD19 molecule	B4, CIVD3
B cell marker	CD22	CD22 molecule	SIGLEC-2, SIGLEC2
B cell marker	FCGR1A	Fc fragment of IgG receptor Ia	CD64, CD64A, FCR1, IGFRI
B cell marker	FCGR2B	Fc fragment of IgG receptor IIb	CD32, CD32B, FCG2, FCGR2, IGFRI2
B cell marker	FCRLA	Fc receptor like A	FCRL, FCRL1, FCRLM1, FCRLX, FCRLa, FCRlb, FCRLc1, FCRLc2, FCRLd, FCRLe, FCRLf, FCRLg, FCRLh, FCRLi, FCRLj, FCRLk, FCRLl, FCRLm, FCRLn, FCRLo, FCRLp, FCRLq, FCRLr, FCRLs, FCRLt, FCRLu, FCRLv, FCRLw, FCRLx, FCRLy, FCRLz, FCRLA
B cell marker	JCHAIN	joining chain of multimeric IgA and IgM	IGJ, IJG, JCH
B cell marker	NTN3	netrin 3	NTN3L
B cell marker	POU2AF1	POU class 2 associating factor 1	B0B1, OBF-1, OBF1, OCAB
B cell marker	SKAP2	src kinase associated phosphoprotein 2	PRAP, RA70, SAPS, SCAP2, SKAP-HOM, SKAP5SR
B cell marker	TNFRSF17	tumor necrosis factor receptor superfamily member 17	BCM, BCMA, CD269, TNFRSF13A
B cell marker	TNFSF13B	tumor necrosis factor superfamily member 13b	BAFF, BLYS, CD257, TLL, TALL-1, TALL1, THANK, TNFSF20, TNLG7A, ZTNF4
B cell receptor signaling	CD79A	CD79a molecule	IGA, MB-1
B cell receptor signaling	CD79B	CD79b molecule	AGM6, B29, IGB
B cell receptor signaling	FAS	Fas cell surface death receptor	ALPS1A, APO-1, APT1, CD95, FAS1, FASTM, TNFRSF6
Checkpoint pathway	ADORA2A	adenosine A2a receptor	A2aR, ADORA2, RDC8
Checkpoint pathway	BTLA	B and T lymphocyte associated	BTLA1, CD272
Checkpoint pathway	CD160	CD160 molecule	B155, NK1, NK28
Checkpoint pathway	CD244	CD244 molecule	284, NAL, NKR2B4, Nmrk, SLAMF4
Checkpoint pathway	CD276	CD276 molecule	A1g, B7-H3, B7-H3, B7H3, B7RP-2
Checkpoint pathway	CD28	CD28 molecule	Tp44
Checkpoint pathway	CD48	CD48 molecule	BCM1, BLAST, BLAST1, MEM-102, SLAMF2, hCD48, mCD48
Checkpoint pathway	CD69	CD69 molecule	ALM, BL-AC/P26, CLEC2C, EA1, GP32/28, MLR-3
Checkpoint pathway	CD70	CD70 molecule	CD27L, CD27LG, TNFSF7, TNL68A
Checkpoint pathway	CD80	CD80 molecule	B7, B7-1, B7.1, B7.1, B7.1, CD28LG, CD28LG1, LAB7
Checkpoint pathway	CD86	CD86 molecule	B7-2, B7.2, B7.2, CD28LG2, LAB72
Checkpoint pathway	CEACAM1	carcinoembryonic antigen related cell adhesion molecule 1	BGF, BGPI, BGPI, CD66a
Checkpoint pathway	ENTPD1	ectonucleoside triphosphate diphosphohydrolase 1	ATP8ase, CD39, NTPDase-1, SP664
Checkpoint pathway	ECM1	ectomucin	TBR2
Checkpoint pathway	HAVCR2	hepatitis A virus cellular receptor 2	CD366, FLJ14428, HAVcr-2, KIM-3, TIM3, TIMD-3, TIMD3, Tim-3
Checkpoint pathway	ICOS	inducible T-cell costimulator	AIILM, CD278, CVD1
Checkpoint pathway	ICOSLG	inducible T-cell costimulator ligand	B7-H2, B7H2, B7RP-1, B7RP1, CD275, GL50, ICOS-1, ICOSL, KIAA0653, ICOS
Checkpoint pathway	IDO2	indoleamine 2,3-dioxygenase 2	INDO1L
Checkpoint pathway	NT5E	5-nucleotidase ecto	CALJA, CD73, ESNT, NT, NT5, nTE, nE, nENT
Checkpoint pathway	PDCD1LG2	programmed cell death 1 ligand 2	B7-DC, B7DC, Btdc, CD273, PD-L2, PDCD1L2, PDL2, ba574F11.2
Checkpoint pathway	PVR	poliovirus receptor	CD155, HVED, NECL5, Necl-5, PVS, TAG64, Tag64
Checkpoint pathway	TDO2	tryptophan 23-dioxygenase	TIDO, TO, TP22, TRPO
Checkpoint pathway	TGFBR1	transforming growth factor beta 1	CED, DPB1, LAP, TGFB, TGFbeta
Checkpoint pathway	TNFB	tumor necrosis factor	DNF, TNF-alpha, TNF, TNFSF2, TNLG1F
Checkpoint pathway	TNFRSF14	tumor necrosis factor receptor superfamily member 14	ATAR, CD270, HVEA, HVEM, LIGHT, TR2
Checkpoint pathway	TNFSF14	tumor necrosis factor superfamily member 14	CD258, HVEM-L, HVEML, LIGHT, LTg
Checkpoint pathway	TNFSF18	tumor necrosis factor superfamily member 18	AITRL, GITRL, T16, TNL2GA, hGITRL
Checkpoint pathway	TNFSF4	tumor necrosis factor superfamily member 4	CD134L, CD252, GP34, OX-40L, OX40L, TNL2GB, TXGP1, gp34
Checkpoint pathway	VTCN1	V-set domain containing T cell activation inhibitor 1	B7-H4, B7H4, B751, B7X, B7H.5, FLJ2418, PRO1291, VCTN1
Chemokine signaling	OCL17	C-C motif chemokine ligand 17	A-152E5.3, ABCD-2, SCYA17, TARC
Chemokine signaling	OCL20	C-C motif chemokine ligand 20	Ckb4, Exodus, LARC, MIP-3-alpha, MIP-3a, MIP3A, SCYA20, ST38, exodus-1
Chemokine signaling	OCL22	C-C motif chemokine ligand 22	A-152E5.1, ABCD-1, DC/B-CK, MDC, MGC34554, SCYA22, STCP-1
Chemokine signaling	CCR4	C-C motif chemokine receptor 4	CC-CCR4, CD139, CCR4, CCMKBR, ChemR13, HGSN-14099, KS-5, KS-5
Chemokine signaling	CCR6	C-C motif chemokine receptor 6	BN-1, C-CCR6, C-CCR6, C-CCR6, CCR6, CD196, CCR13, CCR13, CCMKBR, DCR2, DRY-6, DRY6, GPR-CY4, GPR29, GPRCY4, STRL22
Chemokine signaling	CXCL1	C-X-C motif chemokine ligand 1	FSP, GRO1, GROa, MGSA, MGSA-a, NAP-3, SCYB1
Chemokine signaling	CXCR2	C-X-C motif chemokine receptor 2	CD182, CDw128b, CCMAR2, ILR82, ILR8A, ILR8B
Chemokine signaling	CXCR3	C-X-C motif chemokine receptor 3	CD182, CD183, CCR-L2, CCMAR3, GPR9, IP10-R, Mig-R, MigR
Chemokine signaling	NCF1	neutrophil cytosolic factor 1	NCF1A, NOXO2, SH3PXD1A, p47phox
Chemokine signaling	VEGFA	vascular endothelial growth factor A	MVCD1, VEGF, VEGF-A, VPF
Cytokine signaling	CCR1	C-C motif chemokine receptor 1	CD191, CCR-1, CKR1, CCMKBR1, HM145, MIP1aR, SCYAR1
Cytokine signaling	CSF1R	colony stimulating factor 1 receptor	C-FMS, CD115, CSF-1R, CSFR, FIM2, FMS, HDLS, M-CSF-R
Cytokine signaling	CSF2RB	cytokine stimulating factor 2 receptor beta common subunit	CD131, CDw131, IL3RB, IL3RB, SMDP5
Cytokine signaling	CCL8	C-C motif chemokine ligand 8	3-10C, AMF-1, GCP-1, GCP1, IL-8, K60, LECT, LUCT, LYNAP, MDNCF, MONAP, NAF, NAP-1, NAP1, SCY88, TSG-1, tg-ENAP
Cytokine signaling	HGF	hepatocyte growth factor	HLR89, F-TCF, HGF, HPTA, SF
Cytokine signaling	IFIT2	interferon induced protein with tetratricopeptide repeats 2	G1092, GARG-39, IFI-54, IFI-54K, IFI54, IFIT-2, ISG-54 k, ISG-54K, ISG54, PS4, c1q42
Cytokine signaling	IL10	interleukin 10	CSF, GVHDS, IL-10, IL10A, TGIF
Cytokine signaling	IL13	interleukin 13	ALRH, BHR1, IL-13, MGC116786, MGC116788, MGC116789, P600
Cytokine signaling	IL1A	interleukin 1 alpha	IL-1A, IL1, IL1-ALPHA, IL1F1
Cytokine signaling	IL21	interleukin 21	CVID11, IL-21, Za11
Cytokine signaling	IL2RA	interleukin 2 receptor subunit alpha	CD25, IDDM10, IL2R, IMD41, TCGFR, p55
Cytokine signaling	IL4	interleukin 4	BCGF-1, BCGF1, BSF-1, BSF1, IL-4, MGC79402
Cytokine signaling	IL6	interleukin 6	BSF-2, BSF2, CDF, HGF, HSF, IFN-beta-2, IFNB2, IL-6
Cytokine signaling	IL7	interleukin 7	IL-7
Cytokine signaling	STAT5A	signal transducer and activator of transcription 5A	MGF, STAT5
Cytokine signaling	TNFSF9	tumor necrosis factor superfamily member 9	4-1BB-L, CD137L, TNL65A
Dendritic cell	CLEC4C	C-type lectin domain family 4 member C	BDC4C, CD303, CLECSF11, CLECSF7, DLEC, HELC, PRO34150
Dendritic cell	HERC6	HECT and RLD domain containing E3 ubiquitin protein ligase family member 6	FLJ20637
Dendritic cell	IL3RA	interleukin 3 receptor subunit alpha	CD123, IL3R, IL3RAY, IL3RX, IL3RY, hIL-3Ra
Dendritic cell	ITGAX	integrin subunit alpha X	CD11C, CD11c, SLEB6
Dendritic cell	NRP1	neuropilin 1	BDC4A, CD304, NRP1, VEGF165R
Dendritic cell	TLR3	toll like receptor 3	CD283, IIAE2
Dendritic cell	ZBTB46	zinc finger and BTB domain containing 46	BTBD4, BZEL, FLJ13502, RINZF, ZNF340, dJ583P15.7, dJ583P15.8
Dendritic cell, macrophage	CD14	CD14 molecule	CD59G, CLEC4B, DC-SIGN, DC-SIGN1
Dendritic cell, macrophage	CD209	CD209 molecule	CHEMERIN, ChemR23, DEZ, RVER1
Dendritic cell, macrophage	CMKLR1	chemerin chemokine-like receptor 1	CANDF6, IL-17F, ML-1, ML1
Dendritic cell, macrophage	IL17F	interleukin 17F	IL-23, IL-23A, IL23P19, P19, SGFR
Dendritic cell, macrophage	IL23A	interleukin 23 subunit alpha	CD206, CLEC13D, CLEC13DL, MMR, MRC11, ba541119.1, hMR
Dendritic cell, macrophage	MRC1	mannose receptor C type 1	B7-H5, B7H5, DD1alpha, GI24, PD-1H, PP2135, SISP1, VISTA
Drug target	C10orf54	chromosome 10 open reading frame 54	S152, S152, LPFS2, T14, TNFRSF7, TP55
Drug target	CD27	CD27 molecule	B7-H, B7-H1, B7H3, PD-L1, PDCD1L1, PDCD1L1, PDL1
Drug target	CD274	CD274 molecule	B7-H, B7-H1, B7H3, PD-L1, PDCD1L1, PDCD1L1, PDL1
Drug target	CD40	CD40 molecule	Bp50, CDW40, TNFRSF5, p50
Drug target	CTLA4	cytotoxic T-lymphocyte associated protein 4	ALP55, CD, CD152, CELIAC3, CTLA-4, GRD4, GSE, IDDM12
Drug target	IDO1	indoleamine 2,3-dioxygenase 1	IDO, IDO-1, INDO
Drug target	IL12A	interleukin 12A	CLMF, IL-12A, NFSK, NKSF1, P35, p35
Drug target	IL12B	interleukin 12B	CLMF, CLMF2, IL-12B, IMD28, IMD29, NKSF, NKSF2
Drug target	IL2	interleukin 2	IL-2, TCGF, lymphokine
Drug target	KIR2DL1	killer cell immunoglobulin like receptor 2 lg domains and long cytoplasmic tail 1	47.11, CD158A, KIR-K64, KIR221, KIR2D51, KIR2D55, NKAT, NKAT-1, NKAT1, cl-42, nkat1, p58.1
Drug target	KLRD1	killer cell lectin like receptor D1	CD94
Drug target	LAG3	lymphocyte activating 3	CD223
Drug target	MS4A1	membrane spanning 4-domains A1	B1, Bp35, CD20, CVID5, LEU-16, MSA42, S7
Drug target	PDCD1	programmed cell death 1	CD279, PD-1, PDI, SLEB2, HPD-1, HPD-1, HSLE1
Drug target	PMEL	premelanosome protein	D125536, ME20, ME20-M, ME20M, P1, P100, PMEL17, Pmel17, SI, SIL, SILV, pp100

Supplementary Table 1	Gene Symbol	Gene name	Alias
Gene function	SLAMF7	SLAM family member 7	19A, CD319, CRACC, CS1
Drug target	STAT3	signal transducer and activator of transcription 3	ADMIO, ADMIO1, APRF, HIES
Drug target	TLR9	toll like receptor 9	CD289
Drug target	TNFRSF18	tumor necrosis factor receptor superfamily member 18	AITR, CD357, GITR, GITR-D
Drug target	TNFRSF4	tumor necrosis factor receptor superfamily member 4	ACT35, CD134, IMD16, OX40, TXGP1L
Drug target	TNFRSF9	tumor necrosis factor receptor superfamily member 9	4-1BB, CD137, CDw137, ILA
Helper T cells	BATF	basic leucine zipper ATF-like transcription factor	B-ATF, BATF1, SFA-2, SFA2
Helper T cells	CCR2	C-C motif chemokine receptor 2	CC-CCR-2, CCR-2, CCR2A, CCR2B, CD192, CCR2, CCR2A, CCR2B, CMKBR2, FLU78302, MCP-1-R
Helper T cells	CD4	CD4 molecule	CD4mut
Helper T cells	GATA3	GATA binding protein 3	HDR, HDR5
Helper T cells	IL17A	interleukin 17A	CTLA-8, CTLA8, IL-17, IL-17A, IL17
Helper T cells	RORC	RAR related orphan receptor C	IMD42, NR1F3, RORR, RZR-GAMMA, RZRg, TOR
Helper T cells	STAT4	signal transducer and activator of transcription 4	SLEB11
Helper T cells	STAT6	signal transducer and activator of transcription 6	D1251644, IL-4-STAT, STAT6B, STAT6C
Housekeeping	ABCF1	ATP binding cassette subfamily F member 1	ABC27, ABC50, EST123147
Housekeeping	GPDP	glucose-6-phosphate dehydrogenase	GGPDI
Housekeeping	GUSB	glucuronidase beta	BG, MP57
Housekeeping	HMB5	hydroxymethylbilane synthase	PHG-D, PHGD, PORC, UPS
Housekeeping	LMNA	lamin A C	CCD1, CDC, CMD1A, CMT2B1, EMD2, FPL, FPLD, FPLD2, HGPS, IDC, LDP1, LFP, LGMD1B, LMN1, LMNC, LMNL1, PRO1
Housekeeping	LRP1	LDL receptor related protein 1	A2MR, APOER, APR, CD91, IGFBP3R, LRP, LRP1A, TGFBRS
Housekeeping	POLR2A	polymerase RNA II subunit A	POLR2, POLRA, RPB1, RPB1, RPO2, RPO2L, RplIIS, hRPB220, hSRPB1
Housekeeping	SDHA	succinate dehydrogenase complex flavoprotein subunit A	CMD1GG, FP, PGLS, SDH1, SDH2, SDHF
Housekeeping	TBP	TATA-box binding protein	GTFD2, GTFD21, HDL4, SCA17, TFID
Housekeeping	TRFR	transferin receptor	CD71, IMD46, TR, TRFR, TRFR, TRFR, p90
Housekeeping	TUBB	tubulin beta class I	CDCB6, CSCS1, M40, MGC16435, OK/SW-d.56, TUBB1, TUBB5, Tubb5
Innate immune response	AXL	AXL receptor tyrosine kinase	ARK, JTK11, Tyro7, UFO
Innate immune response	C10A	complement component 1 q subcomponent A chain	
Innate immune response	C10B	complement component 1 q subcomponent B chain	
Innate immune response	DMBT1	deleted in malignant brain tumors 1	GP340, SAG, muc1in
Innate immune response	IFIH1	interferon induced with helicase C domain 1	AGS7, Hicd, IDDM19, MDA-5, MDA5, RLR-2, SGMRT1
Innate immune response	LCN2	lipocalin 2	24p3, MSF1, NGAL, p25
Innate immune response	LYZ	lysozyme	LYZF1, LZM
Innate immune response	MAPK14	mitogen-activated protein kinase 14	CSBP, CSBP1, CSBP2, CSBP3, EXIP, Mxi2, PRKM14, PRKM15, RK, SAKP2A, p38, p38ALPHA
Innate immune response	MIIF	macrophage migration inhibitory factor glycosylation-inhibiting factor	GIF, GUF, MIMF
Innate immune response	NOS2	nitric oxide synthase 2	HEP-NOS, INOS, NOS, NOS2A, INOS
Innate immune response	TLR7	toll like receptor 7	TLR7-like
Innate immune response	DDX58	DDX58 H-box helicase 58	DKFZp4341111, FLJ13999, RIG-I, RIGI, RLR-1, SGMRT2
Interferon signaling	IFI35	interferon induced protein 35	IFI35
Interferon signaling	IFI44L	interferon induced protein 44 like	Clorf29, GS3686
Interferon signaling	IFI6	interferon alpha inducible protein 6	6-16, FAM134C, G1P3, IFI-6-16, IFI616
Interferon signaling	IRF4	interferon regulatory factor 4	LSIRF, MUM1, NF-EM5, SHEP8
Interferon signaling	MX1	MX dynamin like GTPase 1	IFI-78K, IFI78, MX, MxA
Interferon signaling	OAS2	2-5-oligoadenylate synthetase 2	
Interferon signaling	OAS3	2-5-oligoadenylate synthetase 3	p100, p100OAS
Leukocyte inhibition	LILRB1	leukocyte immunoglobulin like receptor B1	CD85, CD85I, CD85J, ILT-2, ILT2, LIR-1, LIR1, MIR-7, MIR7, PIR-8, PIR8
Leukocyte inhibition	LST1	leukocyte specific transcript 1	B144, D6S49E, LST-1
Leukocyte migration	ITGA1	integrin subunit alpha 1	CD11A, LFA-1, LFA1A
Leukocyte migration	ITGAM	integrin subunit alpha M	CD11B, CD11b, CR3A, MAC-1, MAC1A, MO1A, SLEB6
Leukocyte migration	ITGB7	integrin subunit beta 7	
Leukocyte migration	SELL	selectin L	CD62L, LAM-1, c, LECAM1, LEU8, LNHR, LSEL, LYAM1, Leu-8, Lyam-1, PLNHR, TQ1, hLHRc
Leukocyte migration	VCAM1	vascular cell adhesion molecule 1	CD106, INCAM-100
Lymphocyte activation	SH2D1A	SH2 domain containing 1A	D5HP, EBVS, IMD5, LYP, MTCP1, SAP, SAP/SH2D1A, XLP, XLPD, XLPD1
Lymphocyte activation	SH2D1B	SH2 domain containing 1B	EAT2
Lymphocyte development	IKZF1	IKAROS family zinc finger 1	CVID13, Hs.54452, IK1, IKAROS, LYF1, Lyf-1, PPP1R92, PRO0758, ZNFN1A1, hik-1
Lymphocyte development	IKZF2	IKAROS family zinc finger 2	ANF1A2, HELIOS, Helios, ZNF1A2, ZNFN1A2
Lymphocyte development	IKZF4	IKAROS family zinc finger 4	E05, E05, ZNFN1A4
Lymphocyte infiltrate	CCL18	C-C motif chemokine ligand 18	AMAC1A, AMAC1, CH7, DC-CK1, DCCK1, MIP-4, PARC, SCYA18
Lymphocyte infiltrate	CCL2	C-C motif chemokine ligand 2	GD6C-2, HC11, HSMCM30, MCAF, MCP-1, MCP1, MGC9344, SCYA2, SMC-CF
Lymphocyte infiltrate	CCL21	C-C motif chemokine ligand 21	6Cline, CXK9, ECL, SCYA21, SLIC, TCA4, exodus-2
Lymphocyte infiltrate	CCL3	C-C motif chemokine ligand 3	G0519-1, LD78ALPHA, MIP-1-alpha, MIP1A, SCYA3
Lymphocyte infiltrate	CCL4	C-C motif chemokine ligand 4	ACT2, AT744.1, Act-2, G-26, HC21, LAG-1, LAG1, MIP-1-beta, MIP1B, MIP1B1, SCYA2, SCYA4
Lymphocyte infiltrate	CCL5	C-C motif chemokine ligand 5	D17S136E, MGC17164, RANTES, SCYAS, SIS-delta, SISd, TCP228, eoCP
Lymphocyte infiltrate	CCR5	C-C motif chemokine receptor 5 gene pseudogene	CC-CCR-5, CCCR5, CCR-5, CD195, CCR-5, CMKBR5, IDDM22
Lymphocyte infiltrate	CD2	CD2 molecule	LFA-2, SRBC, T11
Lymphocyte infiltrate	CD37	CD37 molecule	GP52-40, TSPAN26
Lymphocyte infiltrate	CD52	CD52 molecule	CDW52
Lymphocyte infiltrate	CD63	CD63 molecule	LAMP-3, ME491, MLA1, OMA81H, TSPAN30
Lymphocyte infiltrate	CDRO1A	coronin 1A	CLABP, CLUPIA, HCORO1, IMD8, TACO, coronin-1, p57
Lymphocyte infiltrate	CTSS	cathepsin 5	
Lymphocyte infiltrate	CX3CR1	C-X3-C motif chemokine receptor 1	CCR11, CMKBR11, CMKDR1, GPR13, GPRV28, V28
Lymphocyte infiltrate	CX3CR1	C-X3-C motif chemokine receptor 1	
Lymphocyte infiltrate	CX3CR1	C-X3-C motif chemokine receptor 1	
Lymphocyte infiltrate	CX3CR1	C-X3-C motif chemokine receptor 1	
Lymphocyte infiltrate	CXCR4	C-X-C motif chemokine receptor 4	CD184, D25201E, FB22, HM89, HSY3RR, LAP-3, LAP3, LCR1, LESTR, NPY3R, NPYR, NPYRL, NPY3R, WHIM, WHIMS, fusin
Lymphocyte infiltrate	CXCR6	C-X-C motif chemokine receptor 6	BONZO, CD186, STRL33, TYMSTR
Lymphocyte infiltrate	FCER1G	Fc fragment of IgE receptor 1	FCRG
Lymphocyte infiltrate	F1B	F1B binding protein	ADAP, F1B-120/130, PRO0823, SLAP-130, SLAP130
Lymphocyte infiltrate	GZMA	granzyme A	CTL43, HFP5
Lymphocyte infiltrate	GZMB	granzyme B	CCP1, CGL-1, CGL1, CSP-B, CSPB, CTLA1, CTSGL1, HLP, SECT
Lymphocyte infiltrate	GZMH	granzyme H	CCP-X, CGL-2, CSP-C, CTLA1, CTSGL2
Lymphocyte infiltrate	GZMK	granzyme K	PRSS, TRY2P
Lymphocyte infiltrate	IGSF6	immunoglobulin superfamily member 6	DORA
Lymphocyte infiltrate	IL10RA	interleukin 10 receptor subunit alpha	CD210, CD210a, CDW210A, HIL-10R, IL-10R1, IL10R
Lymphocyte infiltrate	IL2RG	interleukin 2 receptor subunit gamma	CD132, CD132, IL-2RG, IMD4, P64, SCID4, SCIDX1
Lymphocyte infiltrate	ITGB2	integrin subunit beta 2	CD18, LAD, LCAMB, LFA-1, MAC-1, MF17, MF17
Lymphocyte infiltrate	JAM1	junction adhesion molecule like	AMICA, AMICA1, CREA7-1, CREA7-4, Gm638
Lymphocyte infiltrate	JAM2	lysosomal associated membrane protein 1	CD107a, LAMPA, LAMP20
Lymphocyte infiltrate	LAPTM5	lysosomal protein transmembrane 5	CLA5B
Lymphocyte infiltrate	LILRB2	leukocyte immunoglobulin like receptor B2	CD85D, CD85d, ILT-4, ILT4, LIR-2, LIR2, MIR-10, MIR10
Lymphocyte infiltrate	LY9	lymphocyte antigen 9	CD229, SLAMF3, hly9, mly9
Lymphocyte infiltrate	NGK7	natural killer cell granule protein 7	GIG1, GMP-17, p15-TIA-1
Lymphocyte infiltrate	PTPN7	protein tyrosine phosphatase non-receptor type 7	BPTP-4, HEPTP, LC-PTP, LPTP, PTPN1
Lymphocyte infiltrate	PTPRC	protein tyrosine phosphatase receptor type C	B220, CD45, CD45R, GP180, L-CA, LCA, LYS, T200
Lymphocyte infiltrate	SAMHD1	SAM and HD domain containing deoxynucleoside triphosphate triphosphohydrolase 1	AGS5, CHBL2, DCIP, HDDC1, MOP-5, Mg11, SBB188
Lymphocyte infiltrate	SIT1	signaling threshold regulating transmembrane adaptor 1	SIT, SIT-R
Lymphocyte infiltrate	SLAMF8	SLAM family member 8	BLAME, CD353, SBB42
Lymphocyte infiltrate	SREN	sargactin	PPS, PPS, PPS1
Lymphocyte infiltrate	TAGAP	T cell activation RhegTase activating protein	ARHGAP47, FKG515, FLJ26261, IDDM21, TAGAP1
Lymphocyte infiltrate	TARP	TCR gamma alternate reading frame protein	CD36, TCRG, TCRG1, TCRG2, TCRGV
Lymphocyte infiltrate	TLR8	toll like receptor 8	CD288
Lymphocyte infiltrate	TNFAIP8	TNF alpha induced protein 8	GG2-1, MDC-3.13, NDED, SCC-52, SCC52
Lymphocyte infiltrate	TYROBP	TYRO protein tyrosine kinase binding protein	DAP12, KARAP, PLO-SL, PLOS
Macrophage	AIF1	allograft inflammatory factor 1	AIF-1, EmAF129756.17, IBA1, IRT-1, IRT1
Macrophage	ALOX15B	arachidonate 15-lipoxygenase type B	15-LOX-2
Macrophage	CD163	CD163 molecule	M130, MM130, SCAR11
Macrophage	CD68	CD68 molecule	DKFzpb86M18236, GP110, LAMP4, SCARD1, macrosialin
Macrophage	FCGR3A	Fc fragment of IgG receptor IIIa	CD16, CD16A, CD68a, FCG3, FCG3R, FCGR10, FCRIII, FCRIIIA, IGRF3, IMD20
Myeloid marker	ARG1	arginase 1	
Myeloid marker	CD33	CD33 molecule	FL00391, SIGLEC3, SIGLEC3, p57
Myeloid marker	CEACAM8	carcinoembryonic antigen related cell adhesion molecule 8	CD66b, CD67, G6C6, NCA-95
Myeloid marker	MPO	myeloperoxidase	
Myeloid marker, MDSC	S100A8	S100 calcium binding protein A8	6088AG, CAGA, CFAG, CGLA, CP-10, L1Ag, MA387, MIF, MRP8, NIF, P8
Myeloid marker, MDSC	S100A9	S100 calcium binding protein A9	6088AG, CAGB, CFAG, CGLB, L1Ag, LIAG, MAC387, MIF, MRP14, NIF, P14
Myeloid marker, stem cell	FUT4	fucosyltransferase 4	CD15, ELFT, FCT3A, FUC-T1V, FUTIV, Lex, SSEA-1
Neutrophil	CA4	carbonic anhydrase 4	CAIV, Car4, RP17
Neutrophil	DGAT2	diacylglycerol O-acyltransferase 2	ARAT, GS1999FULL, HMFN1045
Neutrophil	KREMEN1	kringle containing transmembrane protein 1	KREMEN, KRM1
Neutrophil	LRG1	leucine rich alpha-2-glycoprotein 1	HMF1766, LRG
Neutrophil	PYGL	phosphorylase glycogen liver	GS06
NK activation	B3GAT1	beta-13-glucuronyltransferase 1	CD57, GLCATP, GLUCATP, GLeAT-P, HNK-1, HNK1, LEU7, NK-1, NK1
NK activation	FCGR3B	Fc fragment of IgG receptor IIb	CD16, CD16b, FCG3, FCG3R, FCR-10, FCRIII, FCRIIIB
NK activation	GNLY	granulysin	D2569E, LAG-2, LAG2, NKG5, TLA519
NK activation	KLRB1	killer cell lectin like receptor B1	CD161, CLEC5B, NKR, NKR-P1, NKR-P1A, NKR-P1A, hNKR-P1A
NK activation	KLRF1	killer cell lectin like receptor F1	CLEC5C, Nkp80
NK activation	KLRG1	killer cell lectin like receptor G1	2F1, CLEC15A, MAFA, MAFA-2F1, MAFA-L, MAFA-LIKE
NK activation	KLRK1	killer cell lectin like receptor K1	CD314, D1252489E, KLR, NKG2-D, NKG2D
NK activation	KIR2DL1	killer cell immunoglobulin like receptor two Ig domains and long cytoplasmic tail 1	FLH2, HPLH2, P1, PNI, PIP
NK cell marker	KIR2DL2	killer cell immunoglobulin like receptor two Ig domains and long cytoplasmic tail 2	CD158B1, CD158b, CD158b, NKAT-6, NKAT6, d-43, nkat6, p58.2
NK cell marker	KIR2DL3	killer cell immunoglobulin like receptor two Ig domains and long cytoplasmic tail 3	CD158B2, CD158b, GL183, KIR-0236B, KIR-K7b, KIR-K7c, KIR2DS3, KIR2DS5, KIR2DS3, NKAT, NKAT2, NKAT2A, NKAT2B, c-6, nkat2, nkat2a, nkat2b, p58
NK cell marker	KIR3DL1	natural cytotoxicity triggering receptor 1	CD335, LY94, NK-p46, NKp46
NK cell marker	NCR3	natural cytotoxicity triggering receptor 3	1C7, CD337, LY117, MALT5, NKp30
PD-1 signaling	NFATC1	nuclear factor of activated T-cells 1	NF-ATC, NF-ATc1.2, NFAT2, NFATc
PD-1 signaling	PRDM1	PR domain 1	BLIMP1, PRDI-BF1
PD-1 signaling, tumor marker	FOXO1	forkhead box O1	FKH1, FKHR, FOXO1A
PD-1 signaling, tumor marker	HIF1A	hypoxia inducible factor 1 alpha subunit	HIF-1-alpha, HIF-1A, HIF-1alpha, HIF1, HIF1-ALPHA, MOP1, PASD8, bHLHe78
PD-1 signaling, tumor marker	MTOR	mechanistic target of rapamycin	FLJ4809, FRAP, FRAP1, FRAP2, RAFT1, RAFT1, SKS
PD-1 signaling, tumor marker	PI3KA	phosphatidylinositol 45-bisphosphate 3-kinase catalytic subunit alpha	CLOVE, CWSS, MCAF, MCM, MCMTC, P13K, P13K-alpha, p110-alpha

Supplementary Table 1	Gene Symbol	Gene name	Alias
Gene function	Gene Symbol	Gene name	Alias
PD-1 signaling,tumor marker	PIK3CD	phosphatidylinositol-4(5)-biphosphate 3-kinase catalytic subunit delta	APD5, IMD14, P110DELTA, PI3K, p110D
PD-1 signaling,tumor marker	PTEN	phosphatase and tensin homolog	10q23del, B25, CWS1, DEC, GLM2, MHAM, MMAC1, PTEN1, TEP1
PD-1 signaling,tumor marker	PTPN11	protein tyrosine phosphatase non-receptor type 11	BTPP3, CFC, JMML, METCD5, NS1, PTP-1D, PTP2C, SH-PTP2, SH-PTP3, SHP-2, SHP2
Proliferation	BUB1	BUB1 mitotic checkpoint serine threonine kinase	BUB1A, BUB1L, hBUB1
Proliferation	CN2B2	cyclin B2	HST17299
Proliferation	CDK1	cyclin-dependent kinase 1	CDK2, CDC28A, P34CDC2
Proliferation	CDKN3	cyclin-dependent kinase inhibitor 3	CDL1, CP2, KAP, KAP1
Proliferation	FOXM1	forkhead box M1	FKHL16, FOXM1B, HFH-11, HFH11, HNF-3, INS-1, MPHOSPH2, MPP-2, MPP2, PIG29, TGT3, TRIDENT, trident
Proliferation	KIAA0101	KIAA0101	NS, NSSATP9, OEATC, OEATC-1, OEATC1, PAF, PAF15, p15(PAF), p15/PAF, p15PAF
Proliferation	MAD2L1	MAD2 mitotic arrest deficient-like 1 yeast	HSMAD2, MAD2
Proliferation	MELK	maternal embryonic leucine zipper kinase	HPK38, KIAA0175
Proliferation	MK167	marker of proliferation Ki-67	KIA, MIB-, MIB-1, PPP1R105
Proliferation	TOP2A	topoisomerase DNA II alpha	TOP2, TP2A
T cell differentiation	EGR2	early growth response 2	AT591, CMT1D, CMT4E, KROX20
T cell differentiation	LEKM	lymphocyte expansion molecule	Clorf177, FL40201, LEM
T cell receptor signaling	CDL8	CD1 proto-oncogene B	Cdh-9, Nbls00127, RNF56
T cell receptor signaling	CD40LG	CD40 ligand	CD154, CD40L, HIGM1, IGM, IMD3, T-BAM, TNFSF5, TRAP, gp39, HCD40L
T cell receptor signaling	IFNA17	interferon alpha 17	IFN-alpha, IFNA, IFNA, IFIF2C1
T cell receptor signaling	NFKBIA	NFKB inhibitor alpha	IKBA, IkappaBalpha, MAD-3, NFKB1
T cell receptor signaling	PTPN6	protein tyrosine phosphatase non-receptor type 6	HCP, HCPH, HPT1C, PTP-C1, SH-PTP1, SHP-1, SHP-1L, SHP1
T cell receptor signaling	ZAP70	zeta chain of T cell receptor associated protein kinase 70kDa	ADMIO2, IMD48, SRK, STCD, STD, TZK, ZAP-70
T cell regulation	EBI3	Epstein-Barr virus induced 3	IL-27B, IL27B
T cell regulation	FOXP3	forkhead box P3	AIID, DIETER, IPEX, JM2, PIDX, SCURFIN, XPID
T cell regulation	ID2	inhibitor of DNA binding 2 HLH protein	GIG8, ID2A, ID2H, bHLHb26
T cell regulation	ID3	inhibitor of DNA binding 3 HLH protein	HEIR-1, bHLHb25
T cell regulation	IL15	interleukin 15	IL-15, MGC9721
T cell regulation	IL18	interleukin 18	IGF, IL-18, IL-16, IL1F4
T cell regulation	IL22	interleukin 22	IL-21, IL-22, IL-D110, IL-TIF, ILTIF, MGC79382, MGC79384, TIFL-23, TIFa, zcyto18
T cell regulation	MFPR	mannose-6-phosphate receptor cation dependent	CD-M6PR, CD-MPR, MPR 46, MPR-46, MPR46, SMPR
T cell regulation,trafficking	KLF2	Kruppel like factor 2	LKF
TCR coexpression	CCR7	C-C motif chemokine receptor 7	BLR2, CC-CR7, CCR-7, CD197, CDw197, CMKBR7, EB1
TCR coexpression	CD247	CD247 molecule	CD3-ZETA, CD3H, CD3Q, CD3Z, IMD25, T3Z, TCR2
TCR coexpression	CD30	CD3d molecule	CD3-Delta, IMD19, T3D
TCR coexpression	CD3E	CD3e molecule	IMD18, T3E, TCR6
TCR coexpression	CD3G	CD3g molecule	CD3-GAMMA, IMD17, T3G
TCR coexpression	CD6	CD6 molecule	TP120, TP120
TCR coexpression	CD8A	CD8a molecule	CD8, Leu2, MAL, p32
TCR coexpression	CD8B	CD8b molecule	CD8B1, LEU2, LY3, LYT3, P37
TCR coexpression	CRTAM	cytotoxic and regulatory T-cell molecule	CD355
TCR coexpression	GPR18	G protein-coupled receptor 18	
TCR coexpression	GRAP2	GRB2-related adaptor protein 2	GADS, GRAP-2, GRB2L, GRBLG, GRID, GRPL, Grb4, Mona, P38
TCR coexpression	IKZF3	IKAROS family zinc finger 3	AIO, AIOLOS, Aiolos, ZNFN1A3
TCR coexpression	IL2RB	interleukin 2 receptor subunit beta	CD122, IL15RB, P70-75
TCR coexpression	IL7R	interleukin 7 receptor	CD127, CDW127, IL-7R-alpha, IL7RA, ILRA
TCR coexpression	ITK	IL2 inducible T-cell kinase	EMT, LPF53, LYK, P5CTK2
TCR coexpression	LAMP3	lysosomal associated membrane protein 3	CD208, DC LAMP, DC LAMP, DCLAMP, LAMP, LAMP-3, TSC403
TCR coexpression	LCK	LCK proto-oncogene Src family tyrosine kinase	IMD22, LSK, Y116, p58lck, pp58lck
TCR coexpression	PTPRCAP	protein tyrosine phosphatase receptor type C associated protein	CD45-AP, LPAP
TCR coexpression	TIGIT	T-cell immunoreceptor with Ig and ITIM domains	DKFZp667A205, FLJ39873, VSIG9, VSTM3, WUCAM
Tumor antigen	BAGE	B melanoma antigen	BAGE1, CT2.1
Tumor antigen	CTAG1B	cancer testis antigen 1B	CT6.1, CTAG, CTAG1, ES01, LAGE-2, LAGE2A, LAGE2B, NY-ESO-1
Tumor antigen	CTAG2	cancer testis antigen 2	CAMEL, CT2, CT6.2, CT6.2a, CT6.2b, ES02, LAGE-1, LAGE-1a, LAGE-1b, LAGE1, LAGE2B, MGC138724, MGC3803
Tumor antigen	GAGE1,GAGE12,GAGE12F	G antigen 1	CT4.1, GAGE-1
Tumor antigen	GAGE10	G antigen 10	GAGE-10, OTTHUMG00000024136
Tumor antigen	GAGE12J	G antigen 12j	GAGE11, OTTHUMG00000024137
Tumor antigen	GAGE13	G antigen 13	GAGE12A, GAGE-13, GAGE12A, OTTHUMG00000024138
Tumor antigen	GAGE2C,GAGE2A,GAGE2E	G antigen 2C	CT4.2, GAGE-2, GAGE-2A, GAGE2
Tumor antigen	MAGEA1	MAGE family member A1	CT1.1, MAGE1, MGC9326
Tumor antigen	MAGEA10	MAGE family member A10	CT1.10, MAGE10, MGC10599
Tumor antigen	MAGEA12	MAGE family member A12	CT1.12, MAGE12
Tumor antigen	MAGEA3	MAGE family member A3	CT1.3, HIP8, HYPD, MAGE3, MAGEA6, MGC14613
Tumor antigen	MAGEA4	MAGE family member A4	CT1.4, MAGE-41, MAGE-X2, MAGE4, MAGE4A, MAGE4B, MGC21336
Tumor antigen	MAGEC2	MAGE family member C2	CT10, HCSA87, MAGE-C2, MAGEE1
Tumor antigen	MLANA	melan-A	MART-1, MART1
Tumor antigen	SSX2	SSX family member 2	CT5.2, CT5.2A, CT5.2a, HD21, HOM-MEL-40, MGC119055, MGC15364, MGC38834, SSX
Tumor antigen	XAGE1B	X antigen family member 1B	CT1.1, CT1.1A, CT1.1B, CT1.1C, CT1.1D, CT1.1E, CT1.1F, CT1.1G, GAGE02, XAGE-1, XAGE1, XAGE1A
Tumor marker	AKT1	AKT serine threonine kinase 1	AKT, CWS6, PKB, PKB-ALPHA, PRKBA, RAC, RAC-ALPHA
Tumor marker	BRCA1	BRCA1 DNA repair associated	BRCA1, BRCC1, BROVCA1, FANCS, IRIS, PNC4A, PPP1R53, PSCP, RNF53
Tumor marker	BRCA2	BRCA2 DNA repair associated	BRCC2, BROVCA2, FADC, FAD, FAD1, FANCD, FANCD1, GLM3, PNC4Z, XRCC11
Tumor marker	CDKN2A	cyclin-dependent kinase inhibitor 2A	ARF, CDK4, CDKN2, CMM2, INKA, INKA4, INKAa, INK4a, MLM, MTS-1, MTS1, P14, P14ARF, P16, P16-INKA, P16INKA, P19, P19ARF, TP16, p14, p14ARF, p16, p16INK4a, p19, p19Arf
Tumor marker	EFNA4	ephrin A4	EFL4, EPLG4, LERK4
Tumor marker	EGRF	epidermal growth factor receptor	ERBB, ERBB1, HER1, NISBD2, PIG61, mENA
Tumor marker	EGR3	early growth response 3	EGR-3, PILOT
Tumor marker	IRS1	insulin receptor substrate 1	HIRS-1
Tumor marker	KRT5	keratin 5	CK5, DDD, DDD1, EBS2, KS, KR5A
Tumor marker	KRT7	keratin 7	CK7, CK7, K7, KCL
Tumor marker	MAPK1	mitogen-activated protein kinase 1	ERK, ERK-2, ERK2, ERT1, MAPK2, P42MAPK, PRKM1, PKM2, p38, p40, p41, p41mapk, p42-MAPK
Tumor marker	MMP2	matrix metalloproteinase 2	CLG4, CLGA4, MMP-2, MMP-11, MONA, TBE-1
Tumor marker	MMP9	matrix metalloproteinase 9	CLG4B, GELB, MANDP2, MMP-9
Tumor marker	MYC	v-myc avian myelocytomatosis viral oncogene homolog	MRTL, MYCC, bHLHe39, c-Myc
Tumor marker	NOTCH3	notch 3	CADASIL, CADASIL1, CASIL, IMF2, LMNS
Tumor marker	PGF	placental growth factor	DI2S1900, PGFL, PGF, PLGF, PLGF, PGF-2, SHGC-10760
Tumor marker	PTGS2	prostaglandin-endoperoxide synthase 2	COX-2, COX2, GRIPIGH5, PGG5/H, PGHS-2, PHS-2, hCox-2
Tumor marker	PTK7	protein tyrosine kinase 7 inactive	CKC4, CCK4
Tumor marker	RBI	RB transcriptional corepressor 1	OSRC, PPP1R130, RB, p105-RB, pRb, pp110
Tumor marker	RPS6	ribosomal protein S6	S6
Tumor marker	TCF7	transcription factor 7 T-cell specific HMGB-box	TCF-1
Tumor marker	TP63	tumor protein p63	AIS, BIP(S1A), BIP(S1B), EEC3, KET, LMS, NBP, OFCR, RHS, SHFM4, TP53CP, TP53L, TP73L, p40, p51, p53CP, p63, p73H, p73L
Tumor marker	TRIM29	tripartite motif containing 29	ATDC, FLJ36085
Tumor marker,stemness	SNAI1	snail family transcriptional repressor 1	SLUGH2, SNA, SNAH, SNAI1, snail1, dj1710H13.1
Tumor marker,stemness	SNAI2	snail family transcriptional repressor 2	SLUG, SLUGH1, SNAI2, WS2D
Tumor marker,stemness	Twist1	twist family bHLH transcription factor 1	ACS3, BPES2, BPES3, CRS, CRS1, CSO, H-twist, SCS, TWIST, bHLH38
Tumor marker,stemness	ZEB1	zinc finger E-box binding homeobox 1	AREB6, BZP, DELTAE1F1, FECD6, NIL-2-A, NIL2A, PPCD3, TCF8, ZEB, ZFHED, ZFHXA1, Zfhed, Zfhx1a
Type I interferon signaling	BST2	bone marrow stromal cell antigen 2	CD317, TETHERIN, tetherin
Type I interferon signaling	IFIT1	interferon alpha inducible protein 27	FAM14D, ISG12, ISG12A, P27
Type I interferon signaling	IFIT3	interferon induced protein with tetratricopeptide repeats 1	CS6, G10P1, GARG-16, IFI-56, IFI-56K, IFI56, IFT-1, IFNA11, ISG56, P56, RNMS61
Type I interferon signaling	IFITM1	interferon induced transmembrane protein 3	C1G-49, GARG-49, IFI60, IFIT1, IRG2, ISG60, P60, RIG-G, cig41
Type I interferon signaling	IFITM2	interferon induced transmembrane protein 2	9-27, CD225, DSPA2a, IFI17, LEU13
Type I interferon signaling	ISG15	ISG15 ubiquitin-like modifier	1-8D, DSPA2c
Type I interferon signaling	ISG20	interferon stimulated exonuclease gene 20	G1P2, IFI15, IMD38, IP17, UCRP, HUCRP
Type II interferon signaling	BCL6	B-cell CLL lymphoma 6	CD25, HEM45
Type II interferon signaling	CIITA	class II major histocompatibility complex transactivator	BCL5, BCL6A, LAZ3, ZBTB27, ZNF51
Type II interferon signaling	CX3CL1	C-X3-C motif chemokine ligand 1	C27A, CIITAIV, MHC2TA, NLRA
Type II interferon signaling	CXCL10	C-X-C motif chemokine ligand 10	ABCD-3, CX3kine, CX3C, CX3C3, NTN, NTT, SCYD1, fractalkine, neurotactin
Type II interferon signaling	CXCL11	C-X-C motif chemokine ligand 11	C7, IFI10, INP10, IP-10, SCYB10, crg-2, gp-10, mob-1
Type II interferon signaling	CXCL13	C-X-C motif chemokine ligand 13	HL14, ITAC, IP-9, IP9, SCYB11, SCYB9B, b-R1
Type II interferon signaling	CXCL9	C-X-C motif chemokine ligand 9	ANGIE, ANGLE3, BCA-1, BCA1, BLC, BLR1L, SCYB13
Type II interferon signaling	CXCR5	C-X-C motif chemokine receptor 5	BLR1, CD185, MDR15
Type II interferon signaling	CYBB	cytochrome b-245 beta chain	AMCBX2, CGD, GP91-1, GP91-PHOX, GP91PHOX, IMD34, NOX2, p91-PHOX
Type II interferon signaling	EIF2AK2	eukaryotic translation initiation factor 2 alpha kinase 2	EIF2AK1, PKR, PPP1R38, PRKR
Type II interferon signaling	FASLG	Fas ligand	ALPS1B, APT1LG1, APTL, CD178, CD95-L, CD95L, FASL, FasL, TNFSF6, TNLG1A
Type II interferon signaling	GBP1	guanylate binding protein 1	
Type II interferon signaling	ICAM1	intercellular adhesion molecule 1	BB2, CD54, P3.58
Type II interferon signaling	IFNB1	interferon beta 1	IFB, IFB, IFN-beta, IFNB
Type II interferon signaling	IFNG	interferon gamma	IFG, IFI
Type II interferon signaling	IL18	interleukin 1 beta	IL-1, IL-1B, IL1-BETA, IL1F2
Type II interferon signaling	IRF1	interferon regulatory factor 1	IRF-1, MAR
Type II interferon signaling	IRF9	interferon regulatory factor 9	IRF-9, ISGF3, ISGF3G, p48
Type II interferon signaling	OAS1	2'-5'-oligoadenylate synthetase 1	E18/E16, IFI-4, OIAS, OIASI
Type II interferon signaling	PSMB9	proteasome subunit beta 9	LMP2, PSMB6i, RING12, beta1i
Type II interferon signaling	STAT1	signal transducer and activator of transcription 1	CANDF7, IMD31A, IMD31B, IMD31C, ISGF-3, STAT91
Type II interferon signaling	TAP1	transporter 1 ATP-binding cassette sub-family B MDR TAP	ABC17, ABCB2, APT1, DGS114E, PSF-1, PSF1, RING4, TAP1*0102N, TAP1N
Type II interferon signaling	TBX21	T-box 21	T-PET, T-bet, TBET, TBLVM