

A list of gene markers of immune cells and pathways.

gene	immune cells and pathways
CD83	aDCs
LAMP3	aDCs
CCL1	aDCs
C10orf54	APC_co_inhibition
CD274	APC_co_inhibition
LGALS9	APC_co_inhibition
PDCD1LG2	APC_co_inhibition
PVRL3	APC_co_inhibition
CD40	APC_co_stimulation
CD58	APC_co_stimulation
CD70	APC_co_stimulation
ICOSLG	APC_co_stimulation
SLAMF1	APC_co_stimulation
TNFSF14	APC_co_stimulation
TNFSF15	APC_co_stimulation
TNFSF18	APC_co_stimulation
TNFSF4	APC_co_stimulation
TNFSF8	APC_co_stimulation
TNFSF9	APC_co_stimulation
BACH2	B_cells
BANK1	B_cells
BLK	B_cells
BTLA	B_cells
CD79A	B_cells
CD79B	B_cells
FCRL1	B_cells
FCRL3	B_cells
HVCN1	B_cells
RALGPS2	B_cells
CCL16	CCR
TPO	CCR
TGFBR2	CCR
CXCL2	CCR
CCL14	CCR
TGFBR3	CCR
IL11RA	CCR
CCL11	CCR
IL4I1	CCR
IL33	CCR
CXCL12	CCR

CXCL10	CCR
BMPER	CCR
BMP8A	CCR
CXCL11	CCR
IL21R	CCR
IL17B	CCR
TNFRSF9	CCR
ILF2	CCR
CX3CR1	CCR
CCR8	CCR
TNFSF12	CCR
CSF3	CCR
TNFSF4	CCR
BMP3	CCR
CX3CL1	CCR
BMP5	CCR
CXCR2	CCR
TNFRSF10D	CCR
BMP2	CCR
CXCL14	CCR
CCL28	CCR
CXCL3	CCR
BMP6	CCR
CCL21	CCR
CXCL9	CCR
CCL23	CCR
IL6	CCR
TNFRSF18	CCR
IL17RD	CCR
IL17D	CCR
IL27	CCR
CCL7	CCR
IL1R1	CCR
CXCR4	CCR
CXCR2P1	CCR
TGFB1I1	CCR
IFNGR1	CCR
IL9R	CCR
IL1RAPL1	CCR
IL11	CCR
CSF1	CCR
IL20RA	CCR
IL25	CCR

TNFRSF4	CCR
IL18	CCR
ILF3	CCR
CCL20	CCR
TNFRSF12A	CCR
IL6ST	CCR
CXCL13	CCR
IL12B	CCR
TNFRSF8	CCR
IL6R	CCR
BMPR2	CCR
IFNE	CCR
IL1RAPL2	CCR
IL3RA	CCR
BMP4	CCR
CCL24	CCR
TNFSF13B	CCR
CCR4	CCR
IL2RA	CCR
IL32	CCR
TNFRSF10C	CCR
IL22RA1	CCR
BMPR1A	CCR
CXCR5	CCR
CXCR3	CCR
IFNA8	CCR
IL17REL	CCR
IFNB1	CCR
IFNAR1	CCR
TNFRSF1B	CCR
CCL17	CCR
IFNL1	CCR
IL16	CCR
IL1RL1	CCR
ILK	CCR
CCL25	CCR
ILDR2	CCR
CXCR1	CCR
IL36RN	CCR
IL34	CCR
TGFB1	CCR
IFNG	CCR
IL19	CCR

ILKAP	CCR
BMP2K	CCR
CCR10	CCR
ILDR1	CCR
EPO	CCR
CCR7	CCR
IL17C	CCR
IL23A	CCR
CCR5	CCR
IL7	CCR
EPOR	CCR
CCL13	CCR
IL2RG	CCR
IL31RA	CCR
TNFAIP6	CCR
IFNL2	CCR
BMP1	CCR
IL12RB1	CCR
TNFAIP8	CCR
IL4R	CCR
TNFRSF6B	CCR
TNFAIP8L1	CCR
TNFRSF10B	CCR
IFNL3	CCR
CCL5	CCR
CXCL6	CCR
CXCL1	CCR
CCR3	CCR
TNFSF11	CCR
CSF1R	CCR
IL21	CCR
IL1RAP	CCR
IL12RB2	CCR
CCL1	CCR
IL17RA	CCR
CCR1	CCR
IL1RN	CCR
TNFRSF11B	CCR
TNFRSF14	CCR
IL13	CCR
IL2RB	CCR
BMP8B	CCR
CCL2	CCR

IL24	CCR
IL18RAP	CCR
TGFBI	CCR
TNFSF10	CCR
TNFRSF11A	CCR
CXCL5	CCR
IL5RA	CCR
TNFSF9	CCR
IL1RL2	CCR
TNFRSF13C	CCR
IL36G	CCR
IL15RA	CCR
TNFRSF21	CCR
CXCL8	CCR
IL22RA2	CCR
TNFAIP8L2	CCR
IL18R1	CCR
IFNLR1	CCR
CXCR6	CCR
CCL3L3	CCR
TNFRSF1A	CCR
IL17RE	CCR
IFNGR2	CCR
IL17RC	CCR
TNFAIP8L3	CCR
ILVBL	CCR
TGFBRAP1	CCR
CCL4L1	CCR
CSF2RA	CCR
CCRN4L	CCR
CCL26	CCR
TNFAIP1	CCR
CCRL2	CCR
IFNA10	CCR
TNFRSF17	CCR
IFNA13	CCR
IL20	CCR
IL18BP	CCR
CCL3L1	CCR
TNFSF12-TNFSF13	CCR
IL5	CCR
IL23R	CCR
IL26	CCR

TNF	CCR
TGFA	CCR
CSF2	CCR
IL1F10	CCR
CXCL17	CCR
TNFSF13	CCR
IFNA4	CCR
IL37	CCR
IL12A	CCR
IL7R	CCR
IFNA1	CCR
IL1A	CCR
IL4	CCR
IL2	CCR
CCL22	CCR
CSF3R	CCR
IL10	CCR
IFNK	CCR
TGFB2	CCR
IL1R2	CCR
IL1B	CCR
IL17F	CCR
IL27RA	CCR
IL15	CCR
TNFSF8	CCR
IL36B	CCR
XCL1	CCR
CXCL16	CCR
TNFRSF19	CCR
IL3	CCR
CCL3	CCR
IFNA2	CCR
BMPR1B	CCR
IFNA21	CCR
TNFSF18	CCR
CCL8	CCR
IL17RB	CCR
TNFRSF25	CCR
IL22	CCR
IL10RB	CCR
IFNAR2	CCR
CCL18	CCR
IFNA16	CCR

CSF2RB	CCR
IL36A	CCR
TNFAIP3	CCR
IL13RA2	CCR
IL13RA1	CCR
CCR9	CCR
TNFRSF10A	CCR
IFNA7	CCR
IFNW1	CCR
XCL2	CCR
TNFSF14	CCR
CCR2	CCR
BMP15	CCR
BMP10	CCR
CCL15-CCL14	CCR
TGFBR1	CCR
IFNA5	CCR
BMP7	CCR
IFNA14	CCR
IL20RB	CCR
IL10RA	CCR
IFNA17	CCR
CCR6	CCR
TGFB3	CCR
CCL15	CCR
CCL4	CCR
CCL27	CCR
TNFRSF13B	CCR
CD8A	CD8+_T_cells
IDO1	Check-point
LAG3	Check-point
CTLA4	Check-point
TNFRSF9	Check-point
ICOS	Check-point
CD80	Check-point
PDCD1LG2	Check-point
TIGIT	Check-point
CD70	Check-point
TNFSF9	Check-point
ICOSLG	Check-point
KIR3DL1	Check-point
CD86	Check-point
PDCD1	Check-point

LAIR1	Check-point
TNFRSF8	Check-point
TNFSF15	Check-point
TNFRSF14	Check-point
IDO2	Check-point
CD276	Check-point
CD40	Check-point
TNFRSF4	Check-point
TNFSF14	Check-point
HHLA2	Check-point
CD244	Check-point
CD274	Check-point
HAVCR2	Check-point
CD27	Check-point
BTLA	Check-point
LGALS9	Check-point
TMIGD2	Check-point
CD28	Check-point
CD48	Check-point
TNFRSF25	Check-point
CD40LG	Check-point
ADORA2A	Check-point
VTCN1	Check-point
CD160	Check-point
CD44	Check-point
TNFSF18	Check-point
TNFRSF18	Check-point
BTNL2	Check-point
C10orf54	Check-point
CD200R1	Check-point
TNFSF4	Check-point
CD200	Check-point
NRP1	Check-point
PRF1	Cytolytic_activity
GZMA	Cytolytic_activity
CCL17	DCs
CCL22	DCs
CD209	DCs
CCL13	DCs
HLA-E	HLA
HLA-DPB2	HLA
HLA-C	HLA
HLA-J	HLA

HLA-DQB1	HLA
HLA-DQB2	HLA
HLA-DQA2	HLA
HLA-DQA1	HLA
HLA-A	HLA
HLA-DMA	HLA
HLA-DOB	HLA
HLA-DRB1	HLA
HLA-H	HLA
HLA-B	HLA
HLA-DRB5	HLA
HLA-DOA	HLA
HLA-DPB1	HLA
HLA-DRA	HLA
HLA-DRB6	HLA
HLA-L	HLA
HLA-F	HLA
HLA-G	HLA
HLA-DMB	HLA
HLA-DPA1	HLA
CD1A	iDCs
CD1E	iDCs
CCL5	Inflammation-promoting
CD19	Inflammation-promoting
CD8B	Inflammation-promoting
CXCL10	Inflammation-promoting
CXCL13	Inflammation-promoting
CXCL9	Inflammation-promoting
GNLY	Inflammation-promoting
GZMB	Inflammation-promoting
IFNG	Inflammation-promoting
IL12A	Inflammation-promoting
IL12B	Inflammation-promoting
IRF1	Inflammation-promoting
PRF1	Inflammation-promoting
STAT1	Inflammation-promoting
TBX21	Inflammation-promoting
C11orf45	Macrophages
CD68	Macrophages
CLEC5A	Macrophages
CYBB	Macrophages
FUCA1	Macrophages
GPNMB	Macrophages

HS3ST2	Macrophages
LGMN	Macrophages
MMP9	Macrophages
TM4SF19	Macrophages
CMA1	Mast_cells
MS4A2	Mast_cells
TPSAB1	Mast_cells
B2M	MHC_class_I
HLA-A	MHC_class_I
TAP1	MHC_class_I
EVI2B	Neutrophils
HSD17B11	Neutrophils
KDM6B	Neutrophils
MEGF9	Neutrophils
MNDA	Neutrophils
NLRP12	Neutrophils
PADI4	Neutrophils
SELL	Neutrophils
TRANK1	Neutrophils
VNN3	Neutrophils
KLRC1	NK_cells
KLRF1	NK_cells
CXCL10	Parainflammation
PLAT	Parainflammation
CCND1	Parainflammation
LGMN	Parainflammation
PLAUR	Parainflammation
AIM2	Parainflammation
MMP7	Parainflammation
ICAM1	Parainflammation
MX2	Parainflammation
CXCL9	Parainflammation
ANXA1	Parainflammation
TLR2	Parainflammation
PLA2G2D	Parainflammation
ITGA2	Parainflammation
MX1	Parainflammation
HMOX1	Parainflammation
CD276	Parainflammation
TIRAP	Parainflammation
IL33	Parainflammation
PTGES	Parainflammation
TNFRSF12A	Parainflammation

SCARB1	Parainflammation
CD14	Parainflammation
BLNK	Parainflammation
IFIT3	Parainflammation
RETNLB	Parainflammation
IFIT2	Parainflammation
ISG15	Parainflammation
OAS2	Parainflammation
REL	Parainflammation
OAS3	Parainflammation
CD44	Parainflammation
PPARG	Parainflammation
BST2	Parainflammation
OAS1	Parainflammation
NOX1	Parainflammation
PLA2G2A	Parainflammation
IFIT1	Parainflammation
IFITM3	Parainflammation
IL1RN	Parainflammation
CLEC4C	pDCs
CXCR3	pDCs
GZMB	pDCs
IL3RA	pDCs
IRF7	pDCs
IRF8	pDCs
LILRA4	pDCs
PHEX	pDCs
PLD4	pDCs
PTCRA	pDCs
BTLA	T_cell_co-inhibition
C10orf54	T_cell_co-inhibition
CD160	T_cell_co-inhibition
CD244	T_cell_co-inhibition
CD274	T_cell_co-inhibition
CTLA4	T_cell_co-inhibition
HAVCR2	T_cell_co-inhibition
LAG3	T_cell_co-inhibition
LAIR1	T_cell_co-inhibition
TIGIT	T_cell_co-inhibition
CD2	T_cell_co-stimulation
CD226	T_cell_co-stimulation
CD27	T_cell_co-stimulation
CD28	T_cell_co-stimulation

CD40LG	T_cell_co-stimulation
ICOS	T_cell_co-stimulation
SLAMF1	T_cell_co-stimulation
TNFRSF18	T_cell_co-stimulation
TNFRSF25	T_cell_co-stimulation
TNFRSF4	T_cell_co-stimulation
TNFRSF8	T_cell_co-stimulation
TNFRSF9	T_cell_co-stimulation
TNFSF14	T_cell_co-stimulation
CD4	T_helper_cells
PDCD1	Tfh
CXCL13	Tfh
CXCR5	Tfh
IFNG	Th1_cells
TBX21	Th1_cells
CTLA4	Th1_cells
STAT4	Th1_cells
CD38	Th1_cells
IL12RB2	Th1_cells
LTA	Th1_cells
CSF2	Th1_cells
PMCH	Th2_cells
LAIR2	Th2_cells
SMAD2	Th2_cells
CXCR6	Th2_cells
GATA3	Th2_cells
IL26	Th2_cells
ITM2C	TIL
CD38	TIL
THEMIS2	TIL
GLYR1	TIL
ICOS	TIL
F5	TIL
TIGIT	TIL
KLRD1	TIL
IRF4	TIL
PRKCQ	TIL
FCRL5	TIL
SIRPG	TIL
LPXN	TIL
IL2RG	TIL
CCL5	TIL
LCK	TIL

TRAF3IP3	TIL
CD86	TIL
MAL	TIL
LILRB1	TIL
DOK2	TIL
CD6	TIL
PAG1	TIL
LAX1	TIL
PLEK	TIL
PIK3CD	TIL
SLAMF1	TIL
XCL1	TIL
GPR171	TIL
XCL2	TIL
TBX21	TIL
CD2	TIL
CD53	TIL
KLHL6	TIL
SLAMF6	TIL
CD40	TIL
SIT1	TIL
TNFRSF4	TIL
CD79A	TIL
CD247	TIL
LCP2	TIL
CD3D	TIL
CD27	TIL
SH2D1A	TIL
FYB	TIL
ARHGAP30	TIL
ACAP1	TIL
CST7	TIL
CD3G	TIL
IL2RB	TIL
CD3E	TIL
FCRL3	TIL
CORO1A	TIL
ITK	TIL
TCL1A	TIL
CYBB	TIL
CSF2RB	TIL
IKZF1	TIL
NCF4	TIL

DOCK2	TIL
CCR2	TIL
PTPRC	TIL
PLAC8	TIL
NCKAP1L	TIL
IL7R	TIL
6-Sep	TIL
CD28	TIL
STAT4	TIL
CD8A	TIL
LY9	TIL
CD48	TIL
HCST	TIL
PTPRCAP	TIL
SASH3	TIL
ARHGAP25	TIL
LAT	TIL
TRAT1	TIL
IL10RA	TIL
PAX5	TIL
CCR7	TIL
DOCK11	TIL
PARVG	TIL
SPNS1	TIL
CD52	TIL
HCLS1	TIL
ARHGAP9	TIL
GIMAP6	TIL
PRKCB	TIL
MS4A1	TIL
GPR18	TIL
TBC1D10C	TIL
GVINP1	TIL
P2RY8	TIL
EVI2B	TIL
VAMP5	TIL
KLRK1	TIL
SELL	TIL
MPEG1	TIL
MS4A6A	TIL
ARHGAP15	TIL
MFNG	TIL
GZMK	TIL

SELPLG	TIL
TARP	TIL
GIMAP7	TIL
FAM65B	TIL
INPP5D	TIL
ITGA4	TIL
MZB1	TIL
GPSM3	TIL
STK10	TIL
CLEC2D	TIL
IL16	TIL
NLRC3	TIL
GIMAP5	TIL
GIMAP4	TIL
IFFO1	TIL
CFH	TIL
PVRIG	TIL
CFHR1	TIL
IL12RB2	Treg
TMPRSS6	Treg
CTSC	Treg
LAPTM4B	Treg
TFRC	Treg
RNF145	Treg
NETO2	Treg
ADAT2	Treg
CHST2	Treg
CTLA4	Treg
NFE2L3	Treg
LIMA1	Treg
IL1R2	Treg
ICOS	Treg
HSDL2	Treg
HTATIP2	Treg
FKBP1A	Treg
TIGIT	Treg
CCR8	Treg
LTA	Treg
SLC35F2	Treg
IL21R	Treg
AHCYL1	Treg
SOCS2	Treg
ETV7	Treg

BCL2L1	Treg
RRAGB	Treg
ACSL4	Treg
CHRNA6	Treg
BATF	Treg
LAX1	Treg
ADPRH	Treg
TNFRSF4	Treg
ANKRD10	Treg
CD274	Treg
CASP1	Treg
LY75	Treg
NPTN	Treg
SSTR3	Treg
GRSF1	Treg
CSF2RB	Treg
TMEM184C	Treg
NDFIP2	Treg
ZBTB38	Treg
ERI1	Treg
TRAF3	Treg
NAB1	Treg
HS3ST3B1	Treg
LAYN	Treg
JAK1	Treg
VDR	Treg
LEPROT	Treg
GCNT1	Treg
PTPRJ	Treg
IKZF2	Treg
CSF1	Treg
ENTPD1	Treg
TNFRSF18	Treg
METTL7A	Treg
KSR1	Treg
SSH1	Treg
CADM1	Treg
IL1R1	Treg
ACP5	Treg
CHST7	Treg
THADA	Treg
CD177	Treg
NFAT5	Treg

ZNF282	Treg
MAGEH1	Treg
DDX4	Type_I_IFN_Reponse
IFIT1	Type_I_IFN_Reponse
IFIT2	Type_I_IFN_Reponse
IFIT3	Type_I_IFN_Reponse
IRF7	Type_I_IFN_Reponse
ISG20	Type_I_IFN_Reponse
MX1	Type_I_IFN_Reponse
MX2	Type_I_IFN_Reponse
RSAD2	Type_I_IFN_Reponse
TNFSF10	Type_I_IFN_Reponse
GPR146	Type_II_IFN_Reponse
SELP	Type_II_IFN_Reponse
AHR	Type_II_IFN_Reponse