

**Supplementary Table 8. The immune-related gene list in the InnateDB database.**

**Gene**

Id2  
Iltifb  
PRKRA  
DDX3X  
DDX58  
MIR136  
Mir146  
Nod2  
Il1a  
IFIH1  
EFTUD2  
Tlr2  
Ap3b1  
Tlr9  
Ifnb1  
Atf3  
Nlrp3  
IRF3  
IL29  
TRAF6  
MAVS  
IKBKB  
RELA  
Tbk1  
Ppp4c  
Myd88  
Tlr7  
Tslp  
Chuk  
IFIT5  
Stat2  
Stat1  
Adar  
Ticam1  
CAMP  
Casp2  
Pcbp2  
Ube2i  
Baiap211

CASP1  
IL1B  
TLR4  
PELI3  
Atf7  
MIR223  
COLEC12  
TLR3  
CLEC4E  
Traf3  
Usp25  
Irf1  
Cxcl10  
Ccl5  
ITGB1  
IFNG  
DDX60L  
HDAC2  
NFKBIZ  
IL6  
TET2  
March5  
Bnip31  
Bnip3  
Isg15  
Cdkn1a  
Nfia  
JMJD6  
PRMT1  
RORC  
IL23A  
IL2  
IL7R  
Lcn2  
Ireb2  
Aco1  
TMEM173  
Nrip1  
Bcl11b  
Map3k8  
Egfr

Areg  
Il33  
Card9  
Nlr5  
C2  
C4B  
Mir485  
PLA2G2A  
IL22  
Cd47  
SKP2  
IFI27  
Clec4n  
Pik3cd  
IFIT3  
MIR146A  
HACE1  
Retnla  
Ifngr1  
Cxcl13  
Mrc1  
NFKBIA  
TNFAIP3  
Il2rb  
Ezh2  
Irf8  
Spp13  
Ahr  
Ido1  
Lgals3  
Trpm5  
Il25  
Mb21d1  
TLR5  
CXCR1  
Stat6  
Dhcr7  
Sc4mol  
Idi1  
Srebf2  
Mir342

Tgfb1  
Sod1  
LGALS1  
Aim2  
Irf7  
Cxcr3  
Cd48  
Tnfsf4  
Clec4d  
Mtap1s  
Il18  
Nlrp6  
Atg5  
IL10  
STAT3  
MIR29A  
Trim12c  
MX1  
Lyn  
Dhx15  
Il17a  
Ern1  
C5  
CEACAM8  
C5AR1  
Zbp1  
Hs2st1  
Zfp36  
Dusp1  
Cxcr4  
Nfkb2  
Ybx1  
SYK  
Il7  
AIP  
Ager  
S100a9  
S100a8  
Lcp2  
Ticam2  
Tirap

Il17rd  
DHX33  
RNASEL  
IL32  
ELAVL1  
CYLD  
MIR362  
Uvrug  
Mir125a  
Ptpn6  
CTSK  
CTSS  
Mir328  
Il4  
Nlrp12  
DEFB103B  
DEFB103A  
DEFB4B  
DEFB4  
Mapk14  
Trem14  
SPHK1  
Peli1  
FCN3  
Icosl  
Smpd13b  
Ctnnb1  
Gsk3a  
Gsk3b  
TLR8  
UBE2V2  
UBE2N  
UBE2W  
TRIM5  
OAS3  
OAS1  
Pycard  
Psen2  
Stmn1  
MAP3K7  
IRAK1

TIFA  
Rora  
IFRD1  
PDE12  
PQBP1  
TNF  
RNASE7  
IFI16  
MAPK8  
Pten  
Sqstm1  
TREM1  
PGLYRP1  
Il17f  
Cxcl1  
Defb1  
Dnase2a  
FPR2  
FPR1  
PPARG  
PPARGC1A  
MIR130A  
Tollip  
Pik3c3  
Cav1  
Mir199a-1  
Akt1  
DR1  
CASP4  
PTX3  
S100A12  
CXCL14  
Myo18a  
Rac1  
Cd81  
CAPRIN1  
G3BP1  
ULK1  
Nfil3  
Anpep  
WFDC12

Ctnd1  
Ly6g  
Il1r1  
HAVCR2  
HIF1A  
Mapk3  
Mapk1  
Csf1r  
Traf2  
Cfp  
Hc  
Wdfy1  
Ear11  
Tnfrsf13c  
Osm  
Cxcl5  
Atm  
ZBTB16  
IL1RAPL1  
IL18R1  
IL1F7  
Sf3a1  
CLEC6A  
Cd200r1  
Cd200  
ANO6  
P2RX7  
Zfp423  
Rel  
Irf5  
SLC22A3  
TPP2  
EIF2AK2  
RPS6KA5  
IFITM3  
INSIG1  
AMFR  
Eif4ebp2  
Eif4ebp1  
Anxa1  
Sirpa

Itgam  
Clec7a  
Ptpn11  
Irak4  
Cd40  
Cd86  
Icam1  
Tmem126a  
TP53  
Atg7  
Arl5b  
MIR548G  
IL22RA2  
Cxcl2  
Cebpa  
TLR6  
Cxcr6  
Cxcl16  
DEFA6  
DEFA5  
Il1r2  
Il1r1  
Adam17  
MIR23A  
Il15  
Il28ra  
Nlrc4  
Nod1  
SMAD4  
SMAD3  
MIR181A2  
Tyrobp  
Relb  
Nfkb1  
Ripk3  
ATF2  
ADCY8  
SCN5A  
ECSIT  
Slc11a1  
USP2



Prl  
Myc  
ARG1  
Pik3cg  
Rab8a  
PRKX  
PRKACA  
S1pr1  
CCNA2  
MIR124-1  
PIK3CA  
MIR203  
SAMHD1  
Cxcr2  
Adrbk1  
MIR122  
hsa-mir-146a  
RIPK2  
IRF4  
Il20rb  
Il20ra  
Il19  
Ptges  
MFF  
DNM1L  
BST2  
Mir302b  
MAPK9  
MAP2K7  
Il5  
Il13  
Kdm4a  
Vegfc  
Flt4  
Nlrp1a  
Hdac1  
Daxx  
Il12b  
Prdm1  
MYH9  
HNRNPL

IFIT1  
BTK  
TRIM14  
Mir149  
Sykb  
TXNIP  
Krt16  
Cd51  
MIR208B  
MIR499A  
IL28B  
Fscn1  
AICDA  
PARD3  
CD1D  
Cd36  
MSR1  
HMGB1  
BGN  
HSPA1A  
CMA1  
C3  
C3ar1  
Rheb  
Tsc1  
Mtor  
Kdr  
Mir126  
Stat4  
ARF6  
Dusp16  
CTSL1  
GNB2L1  
ELF4  
Dhx58  
JAK1  
TNK1  
Reg3g  
Nlr1  
SLX4  
Bcl2l1

Bcl2  
Il17c  
Il27  
Gata3  
EGLN2  
HIF1AN  
Ifi202b  
Il9  
CRKL  
Numb  
XRCC5  
XRCC6  
PRKDC  
Mfn2  
F2RL1  
PRTN3  
Marco  
CEBPB  
CREB1  
Nos2  
IL28A  
Nfe2l2  
Keap1  
TRIM25  
RNF135  
IKBKG  
Traf5  
Mertk  
Axl  
Tyro3  
LGALS9  
HDAC11  
MIR145  
PARK2  
POLR2F  
CXCL12  
MIR141  
PIAS3  
MIR21  
UCP2  
MIR133A1

IL12A  
RNF125  
Zbtb20  
ASCC3  
MASP2  
MASP1  
WNT9B  
WNT2B  
VPS45  
Sarm1  
ANKRD17  
UCHL1  
Klf4  
Coch  
Cdc42  
SRC  
CD14  
MIR15B  
Lgr4  
TNFSF10  
Ppp1cc  
Ppp1ca  
Psmb8  
MIR517C  
MIR517A  
Ifne  
Csf2  
Il21  
IKBKE  
Mfge8  
MIR3148  
Plunc  
Serpib2  
SFTPA1B;SFTPA1  
TRIM63  
TRIM61  
TRIM60  
TRIM55  
TRIM49  
TRIM45  
TRIM42

TRIM38  
TRIM37  
TRIM36  
TRIM27  
TRIM24  
TRIM23  
TRIM6  
MID2  
TRIM67  
TRIM66  
TRIM65  
TRIM56  
TRIM50  
TRIM13  
TRIM9  
TRIM8  
TRIM71  
TRIM58  
TRIM47  
TRIM32  
TRIM26  
TRIM21  
MID1  
TRIM15  
TRIM7  
MUL1  
Gabarap  
MIRLET7B  
Mir135b  
Tlr1  
LEP  
Scaf11  
Naip5  
Fer  
Rad23a  
Lum  
Tacr1  
Nr1h4  
Siglecg  
CNOT8  
Chat

COX5B  
Abl1  
Prked  
Tbx21  
Mir212  
Mir132  
hsa-mir-132  
Cryab  
Drd2  
Tph1  
ITGB3  
ITGAV  
Fcnb  
Fcna  
Glrx  
Hspa1b  
Mir497  
MOV10  
Daglb  
MIR187  
TRIM62  
Mir4661  
AI607873  
Pydc3  
Pyhin1  
BC094916  
Gm4955  
TRIM28  
CALCOCO2  
MAP1LC3C  
Foxo3  
VTRNA2-1  
Adipoq  
Tnfaip812  
Abca1  
Mir467b  
Trp73  
TP73  
MIR10B  
Mcpt4  
Tlr13

Nlrc3  
MIR378  
Cfr  
Mmp9  
Ahsg  
Olfm4  
Itgb2  
Itgax  
Ms4a8a  
MS4A8B  
Casp7  
MIR1275  
MIR200C  
MIRLET7C  
Pura  
Ace2  
Eif4e  
Edil3  
NLRP4  
Zc3h12a  
P2ry14  
Dusp10  
E2f1  
Rb1  
Angpt1  
Dok3  
Dicer1  
Tufm  
mmu-mir-29a  
Gnai2  
Spink5  
Lst1  
Scarb1  
Spag11a  
Tsc22d3  
Hamp  
Rhbd2  
Plscr1  
Ly96  
LILRA2  
Clec9a

Pacsin1  
Irak3  
Eps8  
Atf4  
Nfat5  
Ehmt2  
Sftpa1  
1700021K19Rik  
KIAA0226  
Tmed7  
TMED7;TICAM2  
Il1rap  
Sdc4  
Cd209a  
CD209  
Ntn1  
Nampt  
Jak3  
Sharnin  
Camkk2  
WNT3A  
Was  
MIR16-2  
MIR16-1  
Frem1  
Usp4  
DCD  
Fstl1  
DEFA1  
Trib2  
Apoa1  
Jak2  
Hsp90b1  
Trpm2  
Itch  
Il17re  
Lrrk2  
Hp  
Unc5cl  
Plcg2  
Cnot4



Unc93b1  
Serpib9  
Igf1  
Hsf1  
Pros1  
Gas6  
Cd300lf  
Cd300a  
Rictor  
Ccl17  
Ifit2  
Yy1  
mmu-mir-10a  
MIR10A  
MRGPRX2  
Rgs2  
Nox1  
Ppp3r1  
Pcbp1  
Trp53  
Fance  
APOBEC3B  
Pglyrp3  
Cdkn2a  
Dcn  
MIR125B2  
MIR125B1  
Dlk1  
Tnip1  
Rac2  
Pklr  
Serp2  
Fadd  
Pla2g4a  
Plaur  
Gzmm  
SELK  
Aire  
ApoH  
Ppargc1b  
Mapkapk2

Zfpm2  
Zfpm1  
Gata6  
Gata4  
Tyk2  
Nr3c1  
Stub1  
Serpine1  
Tank  
NAIP  
Naip2  
Trem2  
APOBEC3G  
Ddx41  
Tax1bp1  
Neu1  
Aqp3  
Elf1  
Cd8a  
Muc1  
Il1rl2  
Rpl19  
Il4ra  
IL4R  
Sftpd  
mmu-mir-29b-1  
Pltp  
Ltbr  
Rag1  
Tnfsf9  
Tnfrsf9  
Snca  
F11  
Tnfrsf1a  
Trem12  
Cbl  
Hspd1  
Pml  
Pin1  
Hrg  
Notch1

Gbp2  
Hspa14  
Tgtp1  
Igtp  
Edn1  
Socs1  
Nras  
Irgm1  
Aimp1  
MIF  
Gm16379  
Duox2  
Rarres2  
Kcnj8  
Nfatc4  
Nfatc3  
Clec1b  
Dhx36  
Ddx21  
Ddx1  
Cd97  
Adrb2  
Jam3  
Ubqln1  
Pmaip1  
Ip6k1  
Khsrp  
Ifnar1  
Tpst1  
Plec  
VENTX  
Ccr3  
Vldlr  
MIR23B  
Cflar  
Cdk6  
MIR107  
Gpr77  
Lilrb3  
Pik3ap1  
Avp

Casp8  
SREBF1  
Zc3hav1  
Atg12  
MIR373  
MIR372  
Akna  
IRAK2  
CCL1  
Pglyrp4  
Gbp10  
Gbp7  
Gbp6  
Gbp1  
Tnfsf11  
Arhgap15  
Bid  
Thbs1  
Tecpr1  
HMGN2  
Map3k5  
Grn  
Cd46  
FCN1  
Nr1h3  
Nr4a3  
H2-Ab1  
H2-Aa  
Srxn1  
Gp2  
Hrh4  
Plg  
Ccl2  
Impdh2  
C1qc  
C1qb  
C1qa  
Ccbp2  
Xiap  
Birc3  
Birc2

Pglyrp2  
Defb3  
Raet1c  
Raet1a  
Crp  
Lgmn  
Cops5  
Xbp1  
Mbl2  
Ccr6  
Trp63  
TP63  
Cltc  
Fgf7  
Cebpe  
MoleculeID 216094  
CEBPD  
Coro2a  
Hmox1  
TBKBP1  
SIAH2  
CD37  
SLC15A4  
SYP  
MAP2K6  
MMP7  
MMP12  
NLRP2  
NLRP9  
NLRP11  
NLRP13  
NLRP8  
NLRP5  
PSMA7  
TNFRSF18  
CDK9  
PTAFR  
C8A  
SELE  
C4A  
Mbl1

DEFA3  
Apcs  
Cfh  
PTPN2  
IFNGR2  
RCAN1  
SMAD7  
MALT1  
ABCG1  
SOCS6  
CSF2RB  
LGALS2  
APOBEC3A  
MAP3K7IP1  
MLST8  
TCEB2  
MEFV  
PTK2B  
AMACR;C1QTNF3  
SCARF1  
CLEC4C  
SIGIRR  
HRAS  
C19orf29  
C9  
PIAS4  
MAP2K2  
SMAD6  
STAP2  
ARRB2  
REST  
HSP90AA1  
RCOR1  
KAT2B  
NLRP1  
THRB  
MTA1  
CCR4  
IL8  
CD180  
BCL2A1

TCEB1  
VDR  
SIAH1  
LPCAT2  
ACHE  
MoleculeID 32847  
TRAIP  
TRADD  
TNIP3  
MAP3K12  
PTK2  
ELMOD2  
RNF41  
BCAR1  
ZMYND11  
CD22  
CD274  
PDCD1LG2  
CCR7  
SMARCE1  
NKIRAS2  
SOCS2  
BECN1  
NUMBL  
CCDC88A  
RPS19  
CAMK2A  
IFNA2  
IFNA1  
MAP3K14  
ANXA4  
CYBB  
BCL3  
RIPK1  
TRAFD1  
ITGA3  
IRF2BP1  
PIK3CB  
LY86  
RANBP9  
NUP153

OTUD5  
LILRA4  
PROCR  
CASP12  
CARD18  
SOCS3  
CYTIP  
MAFB  
Sirt1  
FLI1  
PTCH1  
CTLA4  
CTNNAL1  
IL8RB  
AAMP  
NFATC2  
COPS8  
LRRFIP1  
VEGFA  
NUP214  
TNFRSF1B  
GRK5  
DMBT1  
GPSM1  
FBXW5  
IRAK1BP1  
KDM1  
RUNX3  
GJA1  
MAP3K7IP2  
MKNK1  
MAP3K4  
JUN  
GNAI3  
CD53  
SNX27  
RUSC1  
FCGR2A  
PTPRC  
hsa-mir-146b  
MFN1



SPP1  
C4bp  
C4BPB  
C4BPA  
Kitl  
KITLG  
Pcd1  
Rftn1  
Hspbp1  
Akap10  
Ptges2  
Stim1  
Orai1  
Itpr3  
Itpr1  
Lrrfip2  
Trib3  
Chga  
Siglech  
Siglece  
Siglec5  
Siglec1  
SIGLEC15  
SIGLEC11  
SIGLEC9  
SIGLEC8  
SIGLEC7  
SIGLEC6  
SIGLEC10  
Rgmb  
4432412L15Rik  
Oas2  
Oas1h  
Oas1g  
Oas1f  
Oas1e  
Oas1d  
Oas1c  
Oas1b  
Oas1a  
Ctsb

Lair1  
C8B  
DEFA4  
PIK3R1  
NLRP10  
CARD16  
BCL10  
NFKBIE  
OTUD7B  
CFB  
ISG20  
IL2RG  
MST1R  
ADAM10  
MAP3K3  
NKIRAS1  
KLK1  
C1S  
MAP3K1  
PTGS2  
KPNA1  
C8G  
LAT  
C1R  
LY9  
HLA-E  
EGR1  
IL6ST  
IGF1R  
ELP2  
F2RL2  
F2RL3  
CD27  
HOXA9  
GSTP1  
EPOR  
WDR34  
ACAP1  
ERAP1  
CXCL11  
CXCL9

S100a10  
Anxa2  
CEACAM1  
Tlr11  
IL13RA1  
Sema3a  
Plxna4  
CASP6  
Defa20  
PELI2  
hsa-mir-126  
FFAR2  
hsa-mir-98  
CISH  
hsa-let-7e  
HMGB3  
HMGB2  
SIVA1  
SNAP23  
IRF2  
PLK1  
TRAF1  
PKN1  
FXR1  
ERBB2IP  
RBCK1  
RNF31  
PIAS1  
WDR62  
DAB2IP  
YJEFN3  
RP5-1000E10.4  
Trim30  
AZI2  
MAP3K7IP3  
APOBEC3G;APOBEC3F  
hsa-mir-152  
hsa-mir-148b  
hsa-mir-148a  
TRAT1  
F2R

FCGR1A  
UBD  
CD300E  
PRKCA  
CASP10  
IRF6  
IRF9  
VASP  
IFITM1  
IFITM2  
RAD21  
RASGEF1B  
NOXA1  
TRPV2  
CYBA  
CALCA  
PPP3CA  
KIR3DL2  
OPTN  
LGALS4  
LGALS8  
IL31  
RSAD2  
HERC5  
FCN2  
DUOX1  
NOX4  
Inpp5d  
CNPY3  
BIRC5  
DHCR24  
Gpr33  
SFTPA2  
MIF;SLC2A11  
ILF3  
ATG9A  
MX2  
TPSB2  
GAB1  
SLAMF1  
GOPC

YWHAE  
LTB4R  
BTN3A3  
BTN3A2  
BTN3A1  
IFI6  
PTMA  
Rxra  
GNB2  
SPI1  
NLRP7  
GLI1  
TOMM70A  
USP17  
Ace  
ETS1  
RAB11A  
FZD1  
CTSG  
ELANE  
TNFRSF13B  
DHX9  
MAP2K1  
DDIT3  
ATG16L1  
OTUB2  
OTUB1  
Padi4  
PPIA  
XDH  
CR2  
IFNAR2;IL10RB  
Foxa2  
Defb14  
Fcr15  
ING4  
Calm1  
NXN  
SPON2  
CTCF  
RNF5

PIAS2  
TCF4  
TNFRSF12A  
TLR10  
USP7  
CARD6  
C7  
C6  
BDKRB2  
CTSD  
C1QBP  
CSK  
SCAMP5  
PSTPIP1  
CTSH  
TRIM22  
SMARCA4  
NLRP14  
CCNT1  
MAP2K4  
MAP2K3  
SUGT1  
NCKAP1L  
CD63  
SMARCA2  
BMX  
SERPING1  
RETNLB  
NFKBIB  
PRKCE  
STAT5B  
STAT5A  
SOCS5  
RPS6KA4  
SH2D1A  
SLAMF8  
SLAMF9  
SLAMF6  
SLAMF7