

26	GO:0002697	regulation of immune effector process	39	771	101	13528	6.77521	1.00E-20	TNF, CD8E, STASTA, FCER2, TBX21, KLRK1, TNFSF12, TNFSF12, IL7R, TNFSF4, IL10, B2M, IRAK3, SH2D1A, NOD2, TAP2, IFNG, FCER1G, IL1B, LAG3, SPN, CD28, SYK, ICAM1, PTPRC, CRTAM, GIMAP5, IL27, SERPING1, CD40, FDXP3, GIMAP1, NCR3, CD37, P2RX7, UNC13D, CD40LG, PRAMI1, TNFSF12, TNFSF13, CD226, SASH3
27	GO:0070663	regulation of leukocyte proliferation	35	771	84	13528	7.31085	9.47E-20	IL17, STASTA, IL18, CSF1, TNFSF4, IL10, VCAM1, IFNG, ZAP70, IL1B, CD5, EB3, SPN, CD28, SYK, PTPRC, IL2RA, IL7, CD3E, IL27, TNFSF13B, TNFSF13C, CD144, TNFSF14, IDO1, CD40, FDXP3, PDCD1LG2, CD38, CORO1A, TNFSF13B, CD80, CD274, VSIG4, SASH3
28	GO:0032944	regulation of mononuclear cell proliferation	35	771	84	13528	7.31085	9.47E-20	IL17, STASTA, IL18, CSF1, TNFSF4, IL10, VCAM1, IFNG, ZAP70, IL1B, CD5, EB3, SPN, CD28, SYK, PTPRC, IL2RA, IL7, CD3E, IL27, TNFSF13B, TNFSF13C, CD144, TNFSF14, IDO1, CD40, FDXP3, PDCD1LG2, CD38, CORO1A, TNFSF13B, CD80, CD274, VSIG4, SASH3
29	GO:0045087	innate immune response	44	771	138	13528	5.59439	9.77E-20	TNFAIP2, IFH1, KYNU, IL1R1, TLR1, TLR2, NCF1, TLR4, TLR5, TLR6, TLR7, TLR8, TLR9, TLR10, NOD2, CYP27B1, FCGRI2, FCGRI3, FCGRI4, TICAM2, VNN1, C2, DHX9, CITA, IL18R1, CR1, TLR10, CR2, IL20R, IL18RAP, SPN10, NCF2, NCF1, IL27, SERPING1, SLAMF7, CD188, C1QA, C1QB, C1QC, C1QA, CYBB, UNC13D, APO1, CXCL16, LYST, CLEC7A, VSIG4
30	GO:0030098	lymphocyte differentiation	38	771	103	13528	6.47330	2.26E-19	GPR183, CD8A, STASTA, PTPN22, IL7R, HLA-DMA, CD74, IL10, FLT3LG, VCAM1, DOK2, ZAP70, BCL3, CD4, FAS, SPN, CD28, BLNK, SYK, RHOK, PTPRC, GIMAP5, CD30, ICZF1, IL7, CD3E, THEMIS, FLT3, RELB, ITGA4, NFAM1, GIMAP1, CD40LG, LCK, PLCG2, IRF8, IRF4, CD79A, TSHR
31	GO:0050670	regulation of lymphocyte proliferation	34	771	83	13528	7.18754	6.99E-19	IL17, STASTA, IL18, TNFSF4, IL10, VCAM1, IFNG, ZAP70, IL1B, CD5, EB3, SPN, CD28, SYK, PTPRC, IL2RA, CD3E, IL7, IL27, TNFSF13B, TNFSF13C, CD144, TNFSF14, IDO1, CD40, FDXP3, PDCD1LG2, CD38, CORO1A, TNFSF13B, CD80, CD274, VSIG4, SASH3
32	GO:0002703	regulation of leukocyte mediated immunity	29	771	61	13528	8.34156	4.66E-18	STASTA, FCER2, TBX21, KLRK1, TNFSF13, TNFSF12, IL7R, IL10, B2M, SH2D1A, NOD2, TAP2, IFNG, FCER1G, IL1B, LAG3, SPN, SYK, PTPRC, CRTAM, GIMAP5, CD40, FDXP3, GIMAP1, NCR3, P2RX7, UNC13D, PRAMI1, TNFSF12, TNFSF13, CD226, SASH3
33	GO:0007626	locomotory behavior	58	771	274	13528	3.71413	7.66E-17	IL16, CXCR3, CXCL11, IL10, CXCL10, CCR2L2, CCL3L1, IFNG, CCL3L3, IL1B, XCR1, SPN, CHAT, SYK, KCMNA1, CSAR1, OSMR1, CCL4L2, PLAUR, CCR9, CCR7, CD8E, CD8E, PTGDS, CD34, LYST, CCR2, TSHR, PTPRC, CD1, CSAR1, CCL3, CXCL1, CCR1, FPR1, CXCL12, IFNG2, PRK2, PRK3, CCL5, CCL4, ITGA4, CCL24, CCL22, DOK2, TAMP, CCL23, RAC2, CCL19, GPR17, CCL18, CCL17, SOD2, CORO1A, CCL13, CXCL13, CXCL16, XCL1, XCL2
34	GO:0009615	response to virus	36	771	109	13528	5.79502	1.54E-16	IFH1, TNF, FOR, BSAZ2, CCL5, CCL4, TLR7, IFH3, TLR8, BSAZ2, IRAK3, CCL22, B615, IFNG, BCL3, MX1, IFNGR2, MX2, PTPRC, CRTAM, CARD9, IL29, CCL19, IFI44, CCL42, IFI16, STAT1, NLRP3, TRIM22, STAT2, IRF9, IL18, UNC13D, IRF7, LYST, EIF2AK2
35	GO:0002706	regulation of lymphocyte mediated immunity	26	771	54	13528	8.44810	3.05E-16	STASTA, FCER2, TBX21, KLRK1, TNFSF13, TNFSF12, IL7R, IL10, B2M, SH2D1A, NOD2, TAP2, IFNG, FCER1G, IL1B, LAG3, SPN, SYK, PTPRC, CRTAM, GIMAP5, CD40, FDXP3, GIMAP1, NCR3, P2RX7, TNFSF12, TNFSF13, CD226, SASH3
36	GO:0002822	regulation of adaptive immune response based on somatic recombination of immune receptors built from immunoglobulin superfamily domains	26	771	55	13528	8.29449	5.28E-16	FCER2, TBX21, TNFSF13, TNFSF12, IL7R, IL10, B2M, NOD2, TAP2, IFNG, FCER1G, IL1B, SPN, PTPRC, GIMAP5, IL27, TNFSF13C, IDO1, CD40, FDXP3, GIMAP1, P2RX7, CD8E, TNFSF13B, CD80, TNFSF12, TNFSF13, CD226, SASH3
37	GO:0048534	hemopoietic or lymphoid organ development	55	771	260	13528	3.71166	6.38E-16	ZBTB32, TNFSF4, CD8A, STASTA, MMP9, PTPN22, HLA-DMA, IL10, FLT3LG, CXCR5, FAS, LTB, SPN, LTA, SYK, RHOK, CD30, CD3E, RELB, IFI16, NFAM1, CD40LG, LCK, TSHR, CSF2, GPR183, TNF, CSF1, IL7R, CD74, VCAM1, DOK2, ZAP70, BCL3, CD4, CD38, BLNK, CE2PA, PTPRC, GIMAP5, PLEK, ICZF1, IL7, THEMIS, FLT3, HCL1S1, ITGA4, GIMAP1, SOD2, CXCL13, PLCG2, IRF8, IRF1, IRF4, CD79A
38	GO:0002252	immune effector process	39	771	134	13528	5.10668	6.65E-16	CD8A, BSAZ2, LY9, IL7R, HLA-DMA, C1QC, CD74, TLR8, NOD2, FCN1, BCL3, FCER1G, C2, FAS, CD27, ICAM1, PTPRC, CRTAM, CARD9, CR2, IL2, SLA2, MYO1F, SERPING1, SLAMF7, NLRP3, C1QA, LAT, C1QB, LAT2, UNC13D, TNFSF13B, LAX1, CD40LG, LYST, VSIG4, HLA-DRA
39	GO:0002460	adaptive immune response based on somatic recombination of immune receptors built from immunoglobulin superfamily domains	30	771	77	13528	6.83612	7.58E-16	CD8A, IL18, TLR4, LY9, TLR8, C1QC, HLA-DMA, IL10, TLR8, CD74, NOD2, FCER1G, BCL3, FAS, C2, EB3, CD27, ICAM1, CR1, CRTAM, CR2, SLA2, RELB, SERPING1, C1QA, C1QB, IL18BP, UNC13D, CD40LG, HLA-DRA
40	GO:0002250	adaptive immune response	30	771	77	13528	6.83612	7.58E-16	CD8A, IL18, TLR4, LY9, TLR8, C1QC, HLA-DMA, IL10, TLR8, CD74, NOD2, FCER1G, BCL3, FAS, C2, EB3, CD27, ICAM1, CR1, CRTAM, CR2, SLA2, RELB, SERPING1, C1QA, C1QB, IL18BP, UNC13D, CD40LG, HLA-DRA
41	GO:0002819	regulation of adaptive immune response	26	771	56	13528	8.14638	9.02E-16	FCER2, TBX21, TNFSF13, TNFSF12, IL7R, IL10, B2M, NOD2, TAP2, IFNG, FCER1G, IL1B, SPN, PTPRC, GIMAP5, IL27, TNFSF13C, IDO1, CD40, FDXP3, GIMAP1, P2RX7, CD8E, TNFSF13B, CD80, TNFSF12, TNFSF13, CD226, SASH3
42	GO:0042108	positive regulation of cytokine biosynthetic process	24	771	48	13528	8.77302	2.00E-15	TNF, CD3E, STASTA, IL27, TLR1, TNFSF13C, TLR4, TLR6, TLR7, TLR8, TLR9, CD8E, CD80, IFNG, IRF1, BCL3, IL1B, CD4, IRF4, LTB, EB3, SPN, CD28, SYK
43	GO:0002253	activation of immune response	32	771	94	13528	5.97312	4.00E-15	CDAR1, CD247, KLRK1, TLR2, PTPN22, TLR4, TLR6, C1QC, SKAP1, TLR7, BSAZ2, NOD2, ZAP70, C2, SYK, PTPRC, CR1, CR2, CD3E, THEMIS, SLA2, SERPING1, NFAM1, C1QA, C1QB, LAT2, CD14, LAX1, PLCG2, CD79A, CLEC7A, VSIG4
44	GO:0030217	T cell differentiation	27	771	65	13528	7.28836	6.00E-15	CD8A, STASTA, PTPN22, IL7R, HLA-DMA, CD74, DOK2, ZAP70, BCL3, CD4, FAS, SPN, SYK, RHOK, CD38, PTPRC, GIMAP5, CD30, ICZF1, THEMIS, FLT3, CD3E, IL7, RELB, GIMAP1, LCK, IRF1
45	GO:0030097	hemopoiesis	51	771	236	13528	3.79173	6.00E-15	ZBTB32, TNFSF4, CD8A, MMP9, STASTA, PTPN22, HLA-DMA, IL10, FLT3LG, FAS, SPN, SYK, RHOK, CD30, CD3E, RELB, NFAM1, IFH3, CD40LG, LCK, TSHR, CSF2, GPR183, TNF, CSF1, IL7R, CD74, VCAM1, DOK2, ZAP70, BCL3, CD4, BLNK, CD28, CE2PA, PTPRC, GIMAP5, ICZF1, FLEK, THEMIS, FLT3, IL7, HCL1S1, ITGA4, SOD2, GIMAP1, IRF8, PLCG2, IRF1, IRF4, CD79A
46	GO:0002520	immune system development	55	771	276	13528	3.49649	1.20E-14	ZBTB32, TNFSF4, CD8A, STASTA, MMP9, PTPN22, HLA-DMA, IL10, FLT3LG, CXCR5, FAS, LTB, SPN, LTA, SYK, RHOK, CD30, CD3E, RELB, IFI16, NFAM1, CD40LG, LCK, TSHR, CSF2, GPR183, TNF, CSF1, IL7R, CD74, VCAM1, DOK2, ZAP70, BCL3, CD4, CD38, BLNK, CE2PA, PTPRC, GIMAP5, PLEK, ICZF1, IL7, THEMIS, FLT3, HCL1S1, ITGA4, GIMAP1, SOD2, CXCL13, PLCG2, IRF8, IRF1, IRF4, CD79A
47	GO:0002764	immune response-regulating signal transduction	25	771	56	13528	7.83306	1.20E-14	CDAR1, PTPRC, CD3E, THEMIS, SLA2, CD247, TLR2, KLRK1, PTPN22, NFAM1, CD40, NFAM1, TLR6, TLR7, SKAP1, IRAK3, LAT2, NOD2, CD19, LAX1, PLCG2, ZAP70, CD79A, CLEC7A, SYK
48	GO:0042129	regulation of T cell proliferation	26	771	62	13528	7.35802	1.99E-14	IL18, STASTA, IL10, VCAM1, IFNG, ZAP70, IL1B, SPN, EB3, SYK, CD28, PTPRC, IL2RA, CD3E, IL27, CD144, TNFSF13C, TNFSF14, IDO1, FDXP3, PDCD1LG2, CORO1A, TNFSF13B, CD80, CD274, VSIG4
49	GO:0002757	immune response-activating signal transduction	24	771	52	13528	8.09817	2.19E-14	CDAR1, PTPRC, CD3E, THEMIS, SLA2, CD247, KLRK1, TLR2, PTPN22, NFAM1, TLR6, TLR7, SKAP1, IRAK3, NOD2, LAT2, CD19, LAX1, PLCG2, ZAP70, CLEC7A, CD79A, SYK
50	GO:0042035	regulation of cytokine biosynthetic process	28	771	74	13528	6.63904	2.59E-14	TNF, STASTA, TLR1, TLR4, TLR6, TLR7, IL10, TLR8, TLR9, IFNG, IL1B, BCL3, CD4, LTB, LAG3, SPN, EB3, SYK, CD28, CARD9, CD3E, IL27, TNFSF13C, FDXP3, CD8E, CD80, IRF1, IRF4
51	GO:0045619	regulation of lymphocyte differentiation	26	771	63	13528	2.74122	2.79E-14	STASTA, IL7R, HLA-DMA, CD74, CD2, ZAP70, VNN1, IL2RG, FAS, HLA-DQA, CD27, SYK, PTPRC, IL2RA, GIMAP5, ICZF1, FLT3, IL7, IL27, CD144, NFAM1, GIMAP1, CD38, CD80, IRF4, SASH3
52	GO:0048002	antigen processing and presentation of peptide antigen	18	771	28	13528	11.27960	1.23E-13	HLA-H, HLA-E, IT3D, HLA-C, HLA-B, HLA-E, HLA-DMA, CD74, B2M, HLA-F, TAPBP, TAP2, CD209, FCER1G, ERAP2, MR1, TAPBP, HLA-DQA, HLA-DRA
53	GO:0032946	positive regulation of mononuclear cell proliferation	24	771	56	13528	7.51973	1.63E-13	PTPRC, IL2RA, IL7, CD3E, STASTA, CSF1, IL18, TNFSF13C, CD40, TNFSF4, PDCD1LG2, VCAM1, CD38, CORO1A, TNFSF13B, CD80, IFNG, ZAP70, IL1B, SASH3, EB3, SPN, CD28, SYK
54	GO:0070665	positive regulation of leukocyte proliferation	24	771	56	13528	7.51973	1.63E-13	PTPRC, IL2RA, IL7, CD3E, STASTA, CSF1, IL18, TNFSF13C, CD40, TNFSF4, PDCD1LG2, VCAM1, CD38, CORO1A, TNFSF13B, CD80, IFNG, ZAP70, IL1B, SASH3, EB3, SPN, CD28, SYK
55	GO:0002683	negative regulation of immune system process	28	771	83	13528	5.91915	6.89E-13	IL17, IL7R, IL10, CD74, IRAK3, NOD2, UBASH3A, FAS, LAG3, SPN, PTPRC, GIMAP5, IL2RA, FLT3, SLA2, TNFSF13B, CD144, SERPING1, TNFSF14, IDO1, FDXP3, PDCD1LG2, GIMAP1, TIGIT, BPI, LAX1, CD274, VSIG4
56	GO:0050671	positive regulation of lymphocyte proliferation	23	771	55	13528	7.33744	1.20E-12	PTPRC, IL2RA, CD3E, IL7, STASTA, IL18, TNFSF13C, CD40, TNFSF4, PDCD1LG2, VCAM1, CD38, CORO1A, TNFSF13B, CD80, IFNG, ZAP70, IL1B, SASH3, EB3, SPN, CD28, SYK
57	GO:0002443	leukocyte mediated immunity	28	771	86	13528	5.71267	1.84E-12	CD8A, LY9, C1QC, HLA-DMA, CD74, TLR8, NOD2, FCER1G, BCL3, FAS, C2, CD27, ICAM1, CR1, CRTAM, CR2, SLA2, MYO1F, SERPING1, SLAMF7, C1QA, LAT, C1QB, LAT2, UNC13D, CD40LG, LYST, HLA-DRA
58	GO:0045580	regulation of T cell differentiation	22	771	51	13528	7.56888	2.25E-12	PTPRC, GIMAP5, IL2RA, ICZF1, IL7, STASTA, IL27, CD144, IL7R, HLA-DMA, CD74, GIMAP1, CD8E, CD80, ZAP70, CD2, VNN1, IL2RG, IRF4, HLA-DQA, SASH2, SYK
59	GO:0031341	regulation of cell killing	17	771	28	13528	10.65296	2.99E-12	PTPRC, ICAM1, CRTAM, GIMAP5, STASTA, FCER2, KLRK1, IL7R, B2M, NCR3, GIMAP1, SH2D1A, P2RX7, TAP2, IFNG, CD226, SASH3
60	GO:0002768	immune response-regulating cell surface receptor signaling pathway	20	771	42	13528	8.35526	4.17E-12	CDAR1, PTPRC, THEMIS, CD3E, SLA2, CD247, KLRK1, TLR2, PTPN22, NFAM1, CD40, SKAP1, LAT2, CD19, LAX1, PLCG2, ZAP70, CLEC7A, CD79A, SYK
61	GO:0002449	lymphocyte mediated immunity	25	771	70	13528	6.26644	4.88E-12	ICAM1, CR1, CRTAM, CR2, CD8A, SLA2, SERPING1, LY9, SLAMF7, C1QC, HLA-DMA, TLR8, CD74, C1QA, C1QB, NOD2, UNC13D, CD40LG, LYST, BCL3, FCER1G, FAS, C2, CD27, HLA-DRA
62	GO:0002705	positive regulation of leukocyte mediated immunity	18	771	34	13528	9.28908	9.76E-12	PTPRC, CRTAM, GIMAP5, STASTA, FCER2, KLRK1, B2M, NCR3, GIMAP1, SH2D1A, NOD2, P2RX7, TAP2, IL1B, FCER1G, CD226, SASH3, LAG3
63	GO:0002708	positive regulation of lymphocyte mediated immunity	18	771	34	13528	9.28908	9.76E-12	PTPRC, CRTAM, GIMAP5, STASTA, FCER2, KLRK1, B2M, NCR3, GIMAP1, SH2D1A, NOD2, P2RX7, TAP2, IL1B, FCER1G, CD226, SASH3, LAG3
64	GO:0002429	immune response-activating cell surface receptor signaling pathway	19	771	39	13528	8.54807	1.17E-11	CDAR1, PTPRC, THEMIS, CD3E, SLA2, CD247, KLRK1, TLR2, PTPN22, NFAM1, SKAP1, LAT2, CD19, LAX1, PLCG2, ZAP70, CLEC7A, CD79A, SYK
65	GO:0002699	positive regulation of immune effector process	20	771	44	13528	7.97547	1.18E-11	PTPRC, CRTAM, GIMAP5, STASTA, FCER2, KLRK1, B2M, NCR3, GIMAP1, SH2D1A, NOD2, P2RX7, CD37, TAP2, IL1B, FCER1G, CD226, SASH3, LAG3, SYK
66	GO:0006959	humoral immune response	26	771	79	13528	5.77465	1.24E-11	PSMB10, GPR183, POU2AF1, CR1, CR2, TNF, IL7, LY86, TIEB, SERPING1, C1QC, PDCD1, C1QA, C1QB, SH2D1A, CCR6, POU2F2, BCL3, LTF, C2, TREM2, VSIG4, EB3, LTA, CD28, BLNK

67	GO:0045621	positive regulation of lymphocyte differentiation	18	771	35	13528	9.02368	1.80E-11	PTPRC, GIMAP5, IL2RA, IKZF1, IL7, STAT5A, IL7R, HLA-DMA, CD74, GIMAP1, CD86, CD28, ZAP70, VNN1, IL2RG, SASH3, CD27, SYK
68	GO:0050864	regulation of B cell activation	21	771	51	13528	7.22484	2.60E-11	PTPRC, FLT3, IL7, STAT5A, SLA2, TBK1, TNFRSF13B, TNFRSF13C, TNFSF13, TNFSF13, TNFSF12, CD40, TNFRSF4, IL10, CD38, TNFRSF13B, IFNG, IL2RG, TNFSF2-TNFSF13, FAS, SASH3, CD27, SYK
69	GO:0002695	negative regulation of leukocyte activation	22	771	57	13528	6.77216	3.02E-11	GIMAP5, IL2RA, LST1, FLT3, SLA2, TNFRSF13B, CTLA4, TNFRSF14, IDO1, FDXP3, PDCD1LG2, IL10, CD74, GIMAP1, TIGIT, BPI, LAX1, CD274, FAS, VSG14, SPN, LAG3
70	GO:0045582	positive regulation of T cell differentiation	17	771	32	13528	9.32134	4.76E-11	PTPRC, GIMAP5, IL2RA, IKZF1, IL7, STAT5A, IL7R, HLA-DMA, CD74, GIMAP1, CD86, CD28, ZAP70, VNN1, IL2RG, SASH3, SYK
71	GO:0009617	response to bacterium	40	771	193	13528	3.63649	5.06E-11	TNF, FGR, TLR2, FASLG, TLR4, TLR6, CCL5, CHIT1, IL10, TLR9, B2M, IL12RB2, IRAK3, NOD2, CYP27B1, HAO1, TAP2, IFNG, BCL3, IL18, LIT, SERPINA1, LTA, SPN, CARD9, IL2RA, HNRK, HNK, GNY, LY2, MYO1F, IDO1, STA11, BPI, P2RX7, CCR4, LYST, PLOC2, SELE, PTAFR, CD14
72	GO:0043067	regulation of programmed cell death	97	771	812	13528	2.09602	5.85E-11	MMP9, STAS1A, TNFSF15, TLR2, TNFSF14, FASLG, TNFSF13, TLR4, TNFSF12, IL10, BTK, CASP5, MAP3K5, NOD2, CASP4, CD44, IFNG, IL18, VNN1, FAS, MX1, CASP1, LTB, LTA, SPN, KCMNA1, PKM3G, CRTAM, CD35, CD3E, ARHGAP5, BCL2L1, ESR1, IFI16, NLRP3, DAPK2, NLRP1, CD38, TNFRSF9, ADIR2, UNC13D, TNFSF13B, CARD16, ALOX15B, BTG1, RASGRF1, CD40LG, LYST, TNFAIP8, LCK, RPK3, FAM83, TNFSF12-TNFSF13, CTSS, LRK2, TNFAIP3, FGD2, TRAF1, CSF2, IFN1, TNF, GSDMA, TNFRSF4, CD74, VDR, CD2, PYCARD, TNFRSF18, BCL3, PTOR1A, CD5, RUNX3, CD27, TNXP, PTPRC, IL2RB, CARD9, IL2RA, GIMAP5, IL7, BIRC7, MAL, SLAMF7, IDO1, STA11, CARD6, BIRC3, VAV1, GIMAP1, TNFSF8, TRADD, SOD2, PLEKHF1, TNFSF10, P2RX7, NUPR1, P2RX1, PLOC2, IFI6
73	GO:0031343	positive regulation of cell killing	15	771	24	13528	10.96628	6.89E-11	PTPRC, CRTAM, GIMAP5, FCER2, STAS1A, KLK1, B2M, NCR3, GIMAP1, P2RX7, SH2D1A, TAP2, IFNG, CD226, LAG3
74	GO:0010941	regulation of cell death	97	771	815	13528	2.08830	7.16E-11	MMP9, STAS1A, TNFSF15, TLR2, TNFSF14, FASLG, TNFSF13, TLR4, TNFSF12, IL10, BTK, CASP5, MAP3K5, NOD2, CASP4, CD44, IFNG, IL18, VNN1, FAS, MX1, CASP1, LTB, LTA, SPN, KCMNA1, PKM3G, CRTAM, CD35, CD3E, ARHGAP5, BCL2L1, ESR1, IFI16, NLRP3, DAPK2, NLRP1, CD38, TNFRSF9, ADIR2, UNC13D, TNFSF13B, CARD16, ALOX15B, BTG1, RASGRF1, CD40LG, LYST, TNFAIP8, LCK, RPK3, FAM83, TNFSF12-TNFSF13, CTSS, LRK2, TNFAIP3, FGD2, TRAF1, CSF2, IFN1, TNF, GSDMA, TNFRSF4, CD74, VDR, CD2, PYCARD, TNFRSF18, BCL3, PTOR1A, CD5, RUNX3, CD27, TNXP, PTPRC, IL2RB, CARD9, IL2RA, GIMAP5, IL7, BIRC7, MAL, SLAMF7, IDO1, STA11, CARD6, BIRC3, VAV1, GIMAP1, TNFSF8, TRADD, SOD2, PLEKHF1, TNFSF10, P2RX7, NUPR1, P2RX1, PLOC2, IFI6
75	GO:0051250	negative regulation of lymphocyte activation	21	771	54	13528	6.82346	9.17E-11	GIMAP5, IL2RA, LST1, FLT3, SLA2, TNFRSF13B, CTLA4, TNFRSF14, IDO1, FDXP3, PDCD1LG2, IL10, CD74, GIMAP1, TIGIT, LAX1, CD274, FAS, VSG14, SPN, LAG3
76	GO:0007610	behavior	67	771	469	13528	2.50658	1.07E-10	IL16, GMDA, IL18, CXCR3, CXCL11, IL10, CXCL10, CCR2, CCL3, IFNG, CCL3L3, IL18, XCR1, SPN, CHAT, SYK, KCMNA1, EGR2, CSAR1, CMLK1, CCL4L2, MBO2, DDO, PLAU, OSM, CCR9, CCR7, CCR6, CCR5, PTGDS, CCR4, RASGRF1, LYST, CCR2, TSHR, PTAFR, CCL1, CSAR1, CCL3, CYSLTR1, CCR1, CCL5, IFN1, IFI16, PRR3, PRR2, CCL4, FGD4, CCL4, CD22, TNXP, DOK2, CCL23, RAC2, GF11, CCL19, GPR77, IDO1, CCL18, SOD2, CCL7, CCR10A, CCL13, CXCL13, CXCL16, XCL2
77	GO:0050866	negative regulation of cell activation	22	771	61	13528	6.32808	1.39E-10	GIMAP5, IL2RA, LST1, FLT3, SLA2, TNFRSF13B, CTLA4, TNFRSF14, IDO1, FDXP3, PDCD1LG2, IL10, CD74, GIMAP1, TIGIT, BPI, LAX1, CD274, FAS, VSG14, SPN, LAG3
78	GO:0001910	regulation of leukocyte mediated cytotoxicity	15	771	25	13528	10.52763	1.49E-10	PTPRC, ICAM1, CRTAM, GIMAP5, STAS1A, KLK1, IL7R, B2M, NCR3, GIMAP1, P2RX7, SH2D1A, TAP2, CD226, LAG3
79	GO:0042102	positive regulation of T cell proliferation	18	771	39	13528	8.09817	1.63E-10	PTPRC, IL2RA, CD3E, STAS1A, IL18, TNFRSF13C, PDCD1LG2, VCAM1, CORO1A, TNFSF13B, CD80, IFNG, ZAP70, IL18, EB1B, SPN, CD28, SYK
80	GO:0042981	regulation of apoptosis	95	771	804	13528	2.07323	1.96E-10	STAS1A, MMP9, TNFSF15, TLR2, TNFSF14, FASLG, TNFSF13, TLR4, TNFSF12, IL10, BTK, CASP5, MAP3K5, NOD2, CASP4, CD44, IFNG, IL18, VNN1, FAS, MX1, CASP1, LTB, LTA, SPN, KCMNA1, PKM3G, CRTAM, CD35, CD3E, ARHGAP5, BCL2L1, ESR1, IFI16, NLRP3, DAPK2, NLRP1, CD38, TNFRSF9, ADIR2, UNC13D, TNFSF13B, CARD16, ALOX15B, BTG1, RASGRF1, CD40LG, LYST, TNFAIP8, LCK, RPK3, FAM83, TNFSF12-TNFSF13, CTSS, LRK2, TNFAIP3, FGD2, TRAF1, CSF2, IFN1, TNF, GSDMA, TNFRSF4, CD74, VDR, CD2, PYCARD, TNFRSF18, BCL3, PTOR1A, CD5, RUNX3, CD27, TNXP, PTPRC, IL2RB, IL2RA, GIMAP5, CARD9, IL7, BIRC7, MAL, IDO1, SLAMF7, STA11, BIRC3, CARD6, VAV1, GIMAP1, SOD2, TRADD, TNFSF8, PLEKHF1, TNFSF10, P2RX7, NUPR1, P2RX1, PLOC2, IFI6
81	GO:0001819	positive regulation of cytokine production	26	771	90	13528	5.06886	3.17E-10	TNF, IL18, NLRK1, TLR2, TLR4, TLR7, NOD2, IFNG, PYCARD, FCER1G, IL18, BCL3, CASP1, CARD9, GIMAP5, IDO1, NFAM1, CD40, NLRP3, GIMAP1, TIGIT, P2RX7, CD40LG, CLEC7A, SASH3, CD14
82	GO:0031349	positive regulation of defense response	23	771	73	13528	5.52821	8.91E-10	CRTAM, CARD9, GIMAP5, STAS1A, KLK1, TLR2, TLR4, IDO1, TLR6, CCL5, TLR7, TLR8, NCR3, GIMAP1, CSM, IRAK3, SH2D1A, NOD2, IRF7, FCER1G, CLEC7A, CD226, LAG3
83	GO:0045088	regulation of innate immune response	20	771	54	13528	6.49853	8.96E-10	CRTAM, CARD9, GIMAP5, STAS1A, KLK1, TLR2, MYO1F, SERPING1, TLR4, TLR6, TLR7, TLR8, NCR3, GIMAP1, IRAK3, SH2D1A, NOD2, CLEC7A, CD226, LAG3
84	GO:0007249	I-kappaB kinase/NF-kappaB cascade	21	771	63	13528	5.84868	2.36E-09	TLR10, LY86, TLR1, TNFSF15, TLR2, TLR4, TNFSF14, TLR4, TLR6, TLR7, TLR8, IL10, BTK, TLR9, NLR3, TICAM2, RPK3, BCL3, CD27
85	GO:0001912	positive regulation of leukocyte mediated cytotoxicity	13	771	21	13528	10.86184	3.48E-09	PTPRC, CRTAM, GIMAP5, STAS1A, KLK1, NCR3, GIMAP1, B2M, P2RX7, SH2D1A, TAP2, CD226, LAG3
86	GO:0002824	positive regulation of adaptive immune response based on somatic recombination of immune receptors built from immunoglobulin superfamily domains	15	771	30	13528	8.77302	3.71E-09	PTPRC, GIMAP5, FCER2, TNFRSF13C, IDO1, GIMAP1, B2M, NOD2, P2RX7, TNFSF13B, TAP2, IL18, FCER1G, CD226, SASH3
87	GO:0045089	positive regulation of innate immune response	18	771	46	13528	6.86584	3.83E-09	CRTAM, CARD9, GIMAP5, STAS1A, TLR2, KLK1, TLR4, TLR6, TLR7, TLR8, NCR3, GIMAP1, IRAK3, SH2D1A, NOD2, CLEC7A, CD226, LAG3
88	GO:0002237	response to molecule of bacterial origin	24	771	86	13528	4.89657	4.73E-09	CARD9, LY86, TLR2, FASLG, TLR4, IDO1, TLR6, CCL5, STA11, IL10, B2M, IL12RB2, IRAK3, NOD2, P2RX7, CYP27B1, TAP2, PLOC2, IL18, SERPINA1, SELE, CD14, LTA, PTAFR
89	GO:0002700	regulation of production of molecular mediator of immune response	17	771	41	13528	7.27519	5.03E-09	PTPRC, TNF, GIMAP5, TBK1, TNFSF13, TNFSF12, CD40, FDXP3, TNFRSF14, IL10, GIMAP1, IRAK3, NOD2, CD37, CD40LG, IFNG, FCER1G, TNFSF12-TNFSF13, SASH3
90	GO:0043068	positive regulation of programmed cell death	60	771	433	13528	2.43132	5.55E-09	MMP9, TLR2, TNFSF14, FASLG, TLR4, TNFSF13, TNFSF12, IL10, BTK, MAP3K5, CASP4, CD44, IFNG, IL18, FAS, CASP1, MX1, LTB, SPN, LTA, KCMNA1, CRTAM, CD3E, ARHGAP5, IFI16, DAPK2, NLRP3, NLRP1, TNFRSF9, CD38, ADIR2, UNC13D, ALOX15B, RASGRF1, LYST, LCK, RPK3, TNFSF12-TNFSF13, LRK2, FGD2, TNF, GSDMA, VDR, CD2, PYCARD, BCL3, CD5, RUNX3, CD27, TNXP, PTPRC, IL2RA, MAL, SLAMF7, STA11, VAV1, TNFSF8, TRADD, PLEKHF1, TNFSF10, P2RX7, NUPR1
91	GO:0002821	positive regulation of adaptive immune response	15	771	31	13528	8.49002	6.41E-09	PTPRC, GIMAP5, FCER2, TNFRSF13C, IDO1, GIMAP1, B2M, NOD2, P2RX7, TNFSF13B, TAP2, IL18, FCER1G, CD226, SASH3
92	GO:0010942	positive regulation of cell death	60	771	435	13528	2.42014	6.65E-09	MMP9, TLR2, TNFSF14, FASLG, TLR4, TNFSF13, TNFSF12, IL10, BTK, MAP3K5, CASP4, CD44, IFNG, IL18, FAS, CASP1, MX1, LTB, SPN, LTA, KCMNA1, CRTAM, CD3E, ARHGAP5, IFI16, DAPK2, NLRP3, NLRP1, TNFRSF9, CD38, ADIR2, UNC13D, ALOX15B, RASGRF1, LYST, LCK, RPK3, TNFSF12-TNFSF13, LRK2, FGD2, TNF, GSDMA, VDR, CD2, PYCARD, BCL3, CD5, RUNX3, CD27, TNXP, PTPRC, IL2RA, MAL, SLAMF7, STA11, VAV1, TNFSF8, TRADD, PLEKHF1, TNFSF10, P2RX7, NUPR1
93	GO:0043065	positive regulation of apoptosis	59	771	430	13528	2.40748	1.17E-08	MMP9, TLR2, TNFSF14, FASLG, TLR4, TNFSF13, TNFSF12, IL10, BTK, MAP3K5, CASP4, CD44, IFNG, IL18, FAS, CASP1, MX1, LTB, SPN, LTA, KCMNA1, CRTAM, CD3E, ARHGAP5, IFI16, DAPK2, NLRP3, NLRP1, TNFRSF9, CD38, ADIR2, UNC13D, ALOX15B, RASGRF1, LYST, LCK, RPK3, TNFSF12-TNFSF13, LRK2, FGD2, TNF, GSDMA, VDR, CD2, PYCARD, BCL3, CD5, RUNX3, CD27, TNXP, PTPRC, IL2RA, MAL, SLAMF7, STA11, VAV1, TNFSF8, TRADD, PLEKHF1, TNFSF10, P2RX7, NUPR1
94	GO:0019724	B cell mediated immunity	19	771	56	13528	5.95312	1.59E-08	CR1, CR2, SLA2, SERPINA1, LY86, C10A, HLA-DMA, TLR6, CD74, C1QA, C1QB, NOD2, CD40LG, BCL3, FCER1G, FAS, C2, CD27, HLA-DRA
95	GO:0045058	T cell selection	12	771	19	13528	11.08171	1.69E-08	PTPRC, DOCK2, CD3D, CD3E, THEMIS, ZAP70, CD4, FAS, HLA-DMA, CD74, SPN, SYK
96	GO:0050871	positive regulation of B cell activation	15	771	33	13528	7.97547	1.78E-08	PTPRC, IL7, TBK1, STAS1A, TNFRSF13C, TNFSF13, TNFSF12, CD40, TNFRSF4, CD38, TNFSF13B, IFNG, IL2RG, TNFSF12-TNFSF13, CD27, SASH3, SYK
97	GO:0050851	antigen receptor-mediated signaling pathway	17	771	33	13528	7.97547	1.78E-08	PTPRC, THEMIS, CD3E, SLA2, CD247, PTPN22, NFAM1, SWAP1, LAT2, CD19, LAX1, PLOC2, ZAP70, CD79A, SYK
98	GO:0002504	antigen processing and presentation of peptide or polysaccharide antigen via MHC class II	15	771	33	13528	7.97547	1.78E-08	HLA-DQB1, HLA-DQB1, IFI30, HLA-DMB, HLA-DMA, HLA-DQA1, HLA-DQA1, CD74, HLA-DREB1, FCER1G, HLA-DPA1, HLA-DPB1, HLA-DOA, HLA-DOB, HLA-DRA
99	GO:0032649	regulation of interferon-gamma production	14	771	30	13528	8.18815	5.19E-08	GIMAP5, IL27, IL18, TNFRSF13C, KLK1, FDXP3, TLR2, TLR6, TLR9, GIMAP1, NOD2, BCL3, EB1B, SASH3
100	GO:0007243	protein kinase cascade	52	771	370	13528	2.46593	6.20E-08	STAS1A, TLR1, TLR2, TNFSF15, TNFSF14, TLR4, TLR6, TLR7, IL10, BTK, MAP3K5, CASP4, CD44, IFNG, IL18, FAS, CASP1, MX1, LTB, SPN, LTA, KCMNA1, CRTAM, CD3E, ARHGAP5, IFI16, DAPK2, NLRP3, NLRP1, TNFRSF9, CD38, ADIR2, UNC13D, ALOX15B, RASGRF1, LYST, LCK, RPK3, TNFSF12-TNFSF13, LRK2, FGD2, TNF, GSDMA, VDR, CD2, PYCARD, BCL3, CD5, RUNX3, CD27, TNXP, PTPRC, IL2RA, MAL, SLAMF7, STA11, VAV1, TNFSF8, TRADD, PLEKHF1, TNFSF10, P2RX7, NUPR1
101	GO:0046634	regulation of alpha-beta T cell activation	15	771	36	13528	7.31085	7.02E-08	PTPRC, GIMAP5, IKZF1, CD3E, IL27, TNFRSF14, GIMAP1, CD86, CD28, ZAP70, IL2RG, IRF4, SASH3, EB1B, SYK
102	GO:0050868	negative regulation of T cell activation	16	771	42	13528	6.68421	7.78E-08	GIMAP5, IL2RA, CTLA4, TNFRSF14, IDO1, FDXP3, CD74, PDCD1LG2, IL10, GIMAP1, TIGIT, LAX1, CD274, VSG14, LAG3, SPN
103	GO:0032655	regulation of interleukin-12 production	11	771	17	13528	11.35332	8.16E-08	TIGIT, IRAK3, NOD2, CD40LG, IFNG, IRF1, TLR4, IDO1, CD40, LTB, IL10
104	GO:0002474	antigen processing and presentation of peptide antigen via MHC class I	11	771	17	13528	11.35332	8.16E-08	HLA-H, TAP2, HLA-H, HLA-C, ERA2, HLA-B, MR1, HLA-E, TAPBPL, TAPBP, B2M, HLA-F

105	GO:0032680	regulation of tumor necrosis factor production	14	771	31	13528	7.92402	8.47E-08	IRAK3, BPL, NOD2, CARD9, TLR1, TLR2, FCER1G, BCL3, TLR4, CLEC7A, SASH3, IL10, CD14, SPN
106	GO:0042113	B cell activation	21	771	76	13528	4.84825	9.45E-08	GAPT, PTPRC, GPR183, IKZF1, NFAM1, ITGA4, CD40, IL7R, IL10, VCAM1, LAT2, CXCR5, CD40LG, LAX1, PLOG2, MS4A1, BCL3, CD79A, BANK1, TSHR, BLNK
107	GO:0006917	induction of apoptosis	47	771	320	13528	2.57708	9.82E-08	FGD2, TNF, GSDMA, TLR2, TNFSF14, FASLG, TNFSF13, TNFSF12, BTK, VDR, MAP3K5, CASP4, CD2, PYCARD, BCL3, FAS, MK1, CASP1, LTB, CD5, RUND3, LTA, CD27, SPN, CRTAM, CD3E, ARHGAP5, MAL, IFI16, SLAMF7, DAPK2, NLRP3, STAT1, VAV1, NLRP1, TNFSF8, TRADD, PLEKHF1, TNFSF9, CD38, TNFSF10, UNC13D, NUPR1, ALOX15B, RASGRF1, LYST, LCK, RPK3, TNFSF12, TNFSF13
108	GO:0012502	induction of programmed cell death	47	771	321	13528	2.56905	1.08E-07	FGD2, TNF, GSDMA, TLR2, TNFSF14, FASLG, TNFSF13, TNFSF12, BTK, VDR, MAP3K5, CASP4, CD2, PYCARD, BCL3, FAS, MK1, CASP1, LTB, CD5, RUND3, LTA, CD27, SPN, CRTAM, CD3E, ARHGAP5, MAL, IFI16, SLAMF7, DAPK2, NLRP3, STAT1, VAV1, NLRP1, TNFSF8, TRADD, PLEKHF1, TNFSF9, CD38, TNFSF10, UNC13D, NUPR1, ALOX15B, RASGRF1, LYST, LCK, RPK3, TNFSF12, TNFSF13
109	GO:0007166	cell surface receptor linked signal transduction	163	771	1856	13528	1.54095	1.12E-07	GNAT5, STATA, TLR2, PTPN22, GRN3A, CXCL11, CXCL10, MARCO, PTOG, LILRA1, BHLHA15, S1PR4, IFNG, CLEC4A, KLRD1, SPN, SYK, KLRB1, PK3CG, WNT10A, CSAR1, CD36, STAP1, CD3D, CD3E, TNFSF14, GPR132, CD40, IC6F8, CCR8, LILRB2, COR7, LAT2, CCR6, CCR5, CCR4, PRAM1, LILRB3, CD22, KLRK1, ITGAL, CSAR1, CD133, IL1R1, CYS2TR1, CYS2TR2, KLRK1, ITGB2, CCL5, ITGAM, GPR141, IL12RB2, P2RY6, P2RY8, OR2N4, IL12RB1, ITGAX, ITGB7, ZAP70, FCER1G, KLRK1, CSF1R, TNFSF13B, GPR150, ITGA4, VAV1, LAT, P2RX7, GNGT2, RGS1, EMR1, CXCL16, PLOG2, CD274, CD78B, EMR3, ITGA0, CLEC7A, EMR2, CD79A, GPR96, FGF7, CD88, CD48, TASS1B, CXCR5, CNK1, SKAP1, SIRPB1, CCR2, CERK1, CXCR5, CXCR6, XCR1, IFNGR2, LAG3, RAMP3, GPR174, PTGER2, IL1RAP, PTGER4, CNKLR1, GPR18, LY96, GPR171, SLA2, CD160, NFAM1, DOK2, ADRB2, LAX1, LCK, GPR15, TSHR, PTAFR, LCP2, GPR183, COR1, CD247, CXCL9, FRP1, GPR85, FRP3, GPR88, FRP2, IL7R, SIGLEC9, DOK4, TNFSF18, CCL23, PTK2B, DOK3, CD2, CD4, SUCNR1, GP1BA, CD27, CD28, CD7, TNXP, PTPRC, PTPRE, IL3RA, PLEK, IL13, THEMIS, IL18, RGS18, GPR77, STAT1, BIRC3, RGS13, CCL17, IRF9, P2RY12, P2RY13, P2RY10, CD19, PNOX, P2RY14, JAK3, ADAMDEC1, CD14
110	GO:0019884	antigen processing and presentation of exogenous antigen	10	771	14	13528	12.53289	1.66E-07	PSME1, TAP2, IFI30, FCER1G, HLA-DOA, HLA-DMA, CD74, TAPBP, HLA-DRA, B2M
111	GO:0007159	leukocyte adhesion	13	771	28	13528	8.14638	2.49E-07	VCAM1, ITGAL, ICAM1, PTPRC, TNF, CD40LG, CD209, ITGB2, ITGA4, SELPLG, SELE, ITGAM, SYK
112	GO:0002478	antigen processing and presentation of exogenous peptide antigen	9	771	11	13528	14.35585	2.70E-07	TAP2, IFI30, FCER1G, HLA-DOA, HLA-DMA, CD74, TAPBP, HLA-DRA, B2M
113	GO:0002274	myeloid leukocyte activation	16	771	46	13528	6.10297	3.26E-07	CSF2, GIMAP5, CSF1, RELE, TLR1, TLR2, MYO1F, TLR4, TLR6, TLR7, GIMAP1, CD44, LAT, LAT2, IRF4, LCP2
114	GO:0045076	regulation of interleukin-2 biosynthetic process	11	771	19	13528	10.15824	3.49E-07	CD86, CARD9, CD80, CD3E, STATA5, IL18, CD4, IRF4, FOXP3, LAG3, CD28
115	GO:0007242	intracellular signaling cascade	119	771	1256	13528	1.66240	3.86E-07	GNAT5, STATA, TLR1, TLR2, TNFSF14, RGL4, TLR4, TLR5, TLR6, TLR7, TLR8, IL10, BTK, TLR9, MAP3K5, PTOG, ARIL1, NLR3, BHLHA15, S1PR4, IFNG, IL18, PRK43, RAB20, SYK, PK3CG, CSAR1, SIRPB1, LAT2, RASGRF1, ICAM1, CD22, RPK3, ASB2, GPR42, LRRC2, GRM3, BLK, SFRP1, CD74, VDR, P2RY6, RAC2, PLOG2, ZAP70, FBXO6, BLNK, ARHGAP5, TYROBP2, TIRAP, GPR155, TLR10, VAV1, RAB35A, LAT, CD247, RGS1, CD209, PLOG2, CLEC7A, PLAZSG2, CNK1, NOD2, VCAM1, CD21, LTB, ADAP2, PLOG2, LTA, RHON, ARHGAP1, SP100, PTGER4, LY96, ARHGAP5, SLA2, ESR1, TIFA, NFAM1, IFI16, DAPK2, PRKCB, MCTP1, OSM, SH2D3, DOK2, ADRB2, CD80, LAX1, GAD45G, TSHR, PTAFR, TNF, CD21, FRP1, DOK4, STATA, RASGRF3, PTK2B, RASGRF2, CD86, PLEKHA7, CASK1, CD27, NFATC1, FVB, PTPRC, PLEK, HCL1, BIRC7, STAT1, STAZ1, P2RY12, RASSF5, DUSP2, NUPR1, JAK3, SELE
116	GO:0055074	calcium ion homeostasis	33	771	188	13528	3.07989	3.96E-07	CCL1, CSAR1, CCL3, GNAT5, CYS2TR1, COR1, CD52, CXCR3, CCL5, VDR, CYP27B1, CCL23, PTK2B, S1PR4, IL18, XCR1, PTPRC, CSAR1, CCL19, PRKCB, CCR9, CD38, P2RX7, COR7, CCL13, CCR6, CCR5, CCR4, CXCL13, LCK, PLOG2, CCR2, XCL1
117	GO:0002712	regulation of B cell mediated immunity	12	771	24	13528	8.77302	4.28E-07	PTPRC, GIMAP5, FCER2, TBX21, TNFSF13, CD40, TNFSF12, IL10, GIMAP1, NOD2, IFNG, FCER1G, TNFSF12, TNFSF13, CD226
118	GO:0002889	regulation of immunoglobulin mediated immune response	12	771	24	13528	8.77302	4.28E-07	PTPRC, GIMAP5, FCER2, TBX21, TNFSF13, CD40, TNFSF12, IL10, GIMAP1, NOD2, IFNG, FCER1G, TNFSF12, TNFSF13, CD226
119	GO:0055066	di-, tri-valent inorganic cation homeostasis	38	771	239	13528	2.78975	4.39E-07	CCL1, CSAR1, CCL3, GNAT5, CYS2TR1, COR1, CD52, CXCR3, CCL5, FTH1, VDR, CYP27B1, CCL23, PTK2B, HAMP, S1PR4, IL18, LTF, XCR1, FTL, PTPRC, CSAR1, CCL19, PRKCB, SOD2, COR9B, CD38, P2RX7, COR7, CCL13, CCR6, CCR5, CCR4, CXCL13, LCK, XCL1
120	GO:0042127	regulation of cell proliferation	84	771	787	13528	1.87277	4.60E-07	RARR33, RARR51, FGF7, AIF1, STATA5, IL18, TNFSF15, TNFSF13, TNFSF12, IL10, CXCL10, FLT3LG, CCL3, IFNG, CCL3L3, IL18, LTB, LTA, SPN, EB1, SYK, PTGER2, IL2, CD3E, IL27, TNFSF14, CD40, HES2, PCDH12, MMP12, OSM, CD38, TNFSF9, SIRPB1, ADRB2, CD86, CD38, TNFSF15B, ALOX15B, BTG1, CD33, TNFSF12, TNFSF13, EMP3, EIF2AK2, V5C4, TSHR, CSF2, TNF, LST1, F1, SFRP1, TNFSF4, FTH1, IL12RB2, VCAM1, VDR, CCL23, IL12RB1, CYP27B1, RAC2, FTH3, PTK2B, ZAP70, GPR96, CD8, RUND3, CD28, TCR2, TNXP, CNRPA, PTPRC, IL2RA, IL7, FLT3, HCL51, TNFSF18, TNFSF13C, CTLA4, IDO1, STAP1, FOXP3, SLAMF1, SOD2, POLD4, CORO1A, NUPR1, CD274, SASH3
121	GO:0016064	immunoglobulin mediated immune response	17	771	54	13528	5.52375	5.12E-07	CR1, CR2, SERPINC1, LY8, C1QC, HLA-DMA, TLR8, CD74, C1QA, C1QB, NOD2, CD40LG, BCL3, FCER1G, C2, CD27, HLA-DRA
122	GO:0050707	regulation of cytokine secretion	13	771	30	13528	7.60329	6.37E-07	CRTAM, TNF, TNFSF15, NLRP3, FOXP3, TNFSF4, IL10, NOD2, P2RX7, IFNG, PYCARD, CASP1, SRGN
123	GO:0032663	regulation of interleukin-2 production	13	771	30	13528	7.60329	6.37E-07	CD86, CARD9, CD80, CD3E, STATA5, IL18, CD4, IRF4, FOXP3, V5C4, SASH3, LAG3, CD28
124	GO:0002263	cell activation during immune response	14	771	36	13528	6.82346	7.28E-07	GPR183, ICAM1, ITGAL, RELE, TLR2, MYO1F, TLR4, TLR6, TLR7, LAT, LAT2, UNC13D, PLOG2, BCL3
125	GO:0032675	regulation of interleukin-6 production	14	771	36	13528	6.82346	7.28E-07	CARD9, TNF, TLR1, TLR2, TLR4, TLR6, TLR7, IL10, IRAK3, NOD2, BPL, P2RX7, IFNG, IL18
126	GO:0002366	leukocyte activation during immune response	14	771	36	13528	6.82346	7.28E-07	GPR183, ICAM1, ITGAL, RELE, TLR2, MYO1F, TLR4, TLR6, TLR7, LAT, LAT2, UNC13D, PLOG2, BCL3
127	GO:0006874	cellular calcium ion homeostasis	32	771	183	13528	3.06816	7.36E-07	CCL1, CSAR1, CCL3, GNAT5, CYS2TR1, COR1, CD52, CXCR3, CCL5, VDR, CCL23, PTK2B, S1PR4, IL18, XCR1, PTPRC, CSAR1, CCL19, PRKCB, CCR9, CD38, P2RX7, COR7, CCL13, CCR6, CCR5, CCR4, CXCL13, LCK, PLOG2, CCR2, XCL1
128	GO:0055065	metal ion homeostasis	34	771	205	13528	2.91008	9.68E-07	CCL1, CSAR1, CCL3, GNAT5, CYS2TR1, COR1, CD52, CXCR3, CCL5, VDR, CYP27B1, CCL23, PTK2B, S1PR4, IL18, XCR1, PTPRC, CSAR1, CCL19, PRKCB, CCR9, CD38, P2RX7, COR7, CCL13, CCR6, CCR5, CCR4, CXCL13, LCK, PLOG2, CCR2, XCL1
129	GO:0006875	cellular metal ion homeostasis	33	771	196	13528	2.95418	1.10E-06	CCL1, CSAR1, CCL3, GNAT5, CYS2TR1, COR1, CD52, CXCR3, CCL5, VDR, CCL23, PTK2B, S1PR4, IL18, XCR1, KCNMA1, PTPRC, CSAR1, CCL19, PRKCB, CCR9, CD38, P2RX7, COR7, CCL13, CCR6, CCR5, CCR4, CXCL13, LCK, PLOG2, CCR2, XCL1
130	GO:0043383	negative T cell selection	8	771	9	13528	15.59648	1.10E-06	PTPRC, DOK2, CD3E, THEMIS, ZAP70, FAS, CD74, SPN
131	GO:0030005	cellular di-, tri-valent inorganic cation homeostasis	36	771	227	13528	2.78263	1.17E-06	CCL1, CSAR1, CCL3, GNAT5, CYS2TR1, COR1, CD52, CXCR3, CCL5, FTH1, VDR, CCL23, PTK2B, HAMP, S1PR4, IL18, LTF, XCR1, FTL, PTPRC, CSAR1, CCL19, PRKCB, CCR9, CD38, P2RX7, COR7, CCL13, CCR6, CCR5, CCR4, CXCL13, LCK, PLOG2, CCR2, XCL1
132	GO:0046635	positive regulation of alpha-beta T cell activation	12	771	26	13528	8.09817	1.19E-06	PTPRC, CD86, GIMAP5, CD80, IKZF1, CD3E, ZAP70, LR8, SASH3, EB1, GIMAP1, SYK
133	GO:0050900	leukocyte migration	17	771	57	13528	5.23303	1.20E-06	ICAM1, TNF, IL18, ITGB2, CCL5, ITGAM, IL10, VCAM1, CORO1A, DOK2, CXCL16, LYST, IFNG, IL1B, SELE, SELPLG, SYK
134	GO:0045061	thymic T cell selection	9	771	13	13528	12.14726	1.90E-06	PTPRC, DOK2, CD3D, CD3E, ZAP70, FAS, HLA-DMA, CD74, SPN
135	GO:0051240	positive regulation of multicellular organismal process	37	771	244	13528	2.66067	2.37E-06	TNF, STATA5, CSF1, IL18, TLR2, KLRK1, TLR4, CCL5, LTB, NOD2, IFNG, PYCARD, BCL3, FCER1G, IL18, CASP1, LTB, LTA, CARD9, GIMAP5, IKZF1, IDO1, NFAM1, CD40, NLRP3, GIMAP1, TRADD, TIGIT, CD38, ADRB2, P2RX7, CD40LG, ALOX5, CLEC7A, TSHR, CD14, SASH3
136	GO:0002260	lymphocyte homeostasis	12	771	28	13528	7.51973	2.98E-06	CORO1A, P2RX7, IL2RA, GIMAP5, TNFSF13B, STATA5, TNFSF13B, TNFSF13C, TNFSF14, FAS, FOXP3, GIMAP1
137	GO:0007204	elevation of cytosolic calcium ion concentration	23	771	110	13528	3.66872	3.56E-06	CSAR1, PTPRC, GNAT5, CSAR1, CYS2TR1, COR1, CD52, CXCR3, CCR6, CD38, COR7, P2RX7, CCR6, CCR5, CCR4, CXCL13, PTK2B, S1PR4, LCK, PLOG2, CCR2, IL18, XCR1
138	GO:0032496	response to lipopolysaccharide	19	771	77	13528	4.32954	3.94E-06	LY96, FASLG, TLR4, IDO1, CCL5, STAT1, IL10, IL12RB2, IRAK3, NOD2, P2RX7, CYP27B1, PLOG2, IL18, SERPINA1, SELE, CD14, LTA, PTAFR
139	GO:0009967	positive regulation of signal transduction	41	771	295	13528	2.43860	4.88E-06	CSF2, TNF, CD8A, CSF1, FASLG, TLR4, TLR6, NOD2, CYP27B1, IFNG, ZAP70, TICAM2, IL1B, CD4, CASP1, LTB, CD27, LTA, SYK, SECTM1, PTPRC, CARD9, IL2, CD3E, HCL51, ESR1, CD40, NFAM1, HES2, LOX5L9, TRAF1, TRADD, OSM, APOL3, HES6, TNFSF10, P2RX7, ADRB2, CD80, LCK, CD226
140	GO:0046651	lymphocyte proliferation	14	771	42	13528	5.84868	5.84E-06	ZBTB32, PTPRC, P2RX7, CD86, DOK2, CRTAM, CD40LG, TNFSF14, CD79A, CD40, IL7R, TNFSF4, ITGAM, IL10
141	GO:0055080	cation homeostasis	40	771	286	13528	2.45399	5.94E-06	CCL1, SLC9A9, CSAR1, GNAT5, CCL3, CYS2TR1, COR1, CD52, CXCR3, CCL5, FTH1, VDR, CYP27B1, CCL23, PTK2B, HAMP, S1PR4, IL18, LTF, XCR1, FTL, KCNMA1, PTPRC, CSAR1, CCL19, PRKCB, SOD2, COR9B, CD38, P2RX7, COR7, CCL13, CCR6, CCR5, CCR4, CXCL13, CCR2, PLOG2, LCK, XCL1
142	GO:0030003	cellular cation homeostasis	37	771	254	13528	2.55592	6.50E-06	CCL1, CSAR1, CCL3, GNAT5, CYS2TR1, COR1, CD52, CXCR3, CCL5, FTH1, VDR, CCL23, PTK2B, HAMP, S1PR4, IL18, LTF, XCR1, FTL, KCNMA1, PTPRC, CSAR1, CCL19, PRKCB, CCR9, CD38, P2RX7, COR7, CCL13, CCR6, CCR5, CCR4, CXCL13, CCR2, PLOG2, LCK, XCL1
143	GO:0001776	leukocyte homeostasis	13	771	36	13528	6.33607	6.71E-06	CORO1A, P2RX7, GIMAP5, IL2RA, TNFSF13B, STATA5, TNFSF13B, IFNG, TNFSF13C, TNFSF14, FAS, FOXP3, GIMAP1
144	GO:0046637	regulation of alpha-beta T cell differentiation	11	771	25	13528	7.72026	9.03E-06	CD86, GIMAP5, CD80, IKZF1, IL27, ZAP70, IL2RG, IRF4, SASH3, GIMAP1, SYK
145	GO:0050708	regulation of protein secretion	16	771	58	13528	4.84029	9.97E-06	CRTAM, TNF, TNFSF15, CD40, NLRP3, FOXP3, TNFSF4, IL10, KRNNA, NOD2, P2RX7, CD40LG, IFNG, PYCARD, CASP1, SRGN
146	GO:0070661	leukocyte proliferation	14	771	44	13528	5.58283	1.07E-05	ZBTB32, PTPRC, P2RX7, CD86, DOK2, CRTAM, CD40LG, TNFSF14, CD79A, CD40, IL7R, TNFSF4, ITGAM, IL10
147	GO:0032943	mononuclear cell proliferation	14	771	44	13528	5.58283	1.07E-05	ZBTB32, PTPRC, P2RX7, CD86, DOK2, CRTAM, CD40LG, TNFSF14, CD79A, CD40, IL7R, TNFSF4, ITGAM, IL10
148	GO:0051480	cytosolic calcium ion homeostasis	23	771	118	13528	3.41999	1.27E-05	CSAR1, PTPRC, GNAT5, CSAR1, CYS2TR1, COR1, CD52, CXCR3, CCR6, CD38, COR7, P2RX7, CCR6, CCR5, CCR4, CXCL13, PTK2B, S1PR4, LCK, PLOG2, CCR2, IL18, XCR1

149	GO:0051222	positive regulation of protein transport	17	771	67	13528	4.45198	1.36E-05	CRAM, TNF, TNFSF15, TNFSF14, NLRP3, TNFSF4, IL10, KCNN4, NOD2, PRRX7, IFNG, PYCARD, IL1B, CASP1, LTA, LTA, CD27
150	GO:0002637	regulation of immunoglobulin production	11	771	26	13528	7.42333	1.39E-05	PTPRC, CD37, TNF, CD40LG, TBX21, IFNG, TNFSF13, TNFSF12, TNFSF13, TNFSF12, CD40, TNFSF4, SASH3, IL10
151	GO:0070664	negative regulation of leukocyte proliferation	12	771	32	13528	6.57977	1.45E-05	LST1, IL2RA, TNFSF13B, CD274, CTLL4, TNFSF14, IDO1, FOXP3, VSIG4, PDCD1LG2, IL10, SPN
152	GO:0032945	negative regulation of mononuclear cell proliferation	12	771	32	13528	6.57977	1.45E-05	LST1, IL2RA, TNFSF13B, CD274, CTLL4, TNFSF14, IDO1, FOXP3, VSIG4, PDCD1LG2, IL10, SPN
153	GO:0050672	negative regulation of lymphocyte proliferation	12	771	32	13528	6.57977	1.45E-05	LST1, IL2RA, TNFSF13B, CD274, CTLL4, TNFSF14, IDO1, FOXP3, VSIG4, PDCD1LG2, IL10, SPN
154	GO:0045060	negative thymic T cell selection	7	771	8	13528	15.35279	1.52E-05	PTPRC, DOCK2, CD3E, ZAP70, FAS, CD74, SPN
155	GO:0031294	lymphocyte costimulation	7	771	8	13528	15.35279	1.52E-05	TNFSF13B, CD80, KLRK1, TNFSF13C, TNFSF14, CDS, SPN
156	GO:0031295	T cell costimulation	7	771	8	13528	15.35279	1.52E-05	TNFSF13B, CD80, KLRK1, TNFSF13C, TNFSF14, CDS, SPN
157	GO:0006915	apoptosis	65	771	602	13528	1.89451	1.55E-05	TSPO, LY8E, TNFSF15, FASLG, TNFSF13, TNFSF12, PDCD1, CASP5, MAP3K5, CASP4, IFNG, IL1B, FAS, CASP1, LTB, LTA, CD24, APOH3, BCL2L1, TNFSF14, CD28B, L24, DAPK2, NLRP3, G2M1, NLRP1, OSM, RASGEF1, GADD45G, LCK, TNFAIP9, RIPK3, TNFSF12, TNFSF13, EIF2AK2, TNFAIP3, TRAF1, FADD, PRF1, TNF, GSDMA, GPR85, ITGB2, TNFSF18, TRAM9, PTX2B, PYCARD, TNFSF18, XAF1, MDC2/506, CD27, SIRPB1, RNF148, IL2RA, BIRC7, CD5L, BIRC3, CARD6, STAT1, VAV1, SOD2, TRADD, PLEKHA7, RASSF5, TNFSF10, P2RX1, CD14, IFI6
158	GO:0045954	positive regulation of natural killer cell mediated cytotoxicity	9	771	16	13528	9.86965	1.63E-05	SH2D1A, CRAM, GIMAP5, STAS1A, KLRK1, CD228, LAG3, NCR3, GIMAP1
159	GO:0002717	positive regulation of natural killer cell mediated immunity	9	771	16	13528	9.86965	1.63E-05	SH2D1A, CRAM, GIMAP5, STAS1A, KLRK1, CD228, LAG3, NCR3, GIMAP1
160	GO:0001816	cytokine production	14	771	46	13528	5.34010	1.89E-05	IL12RB2, IRF9, NOD2, LIPA, IL1B, CD4, TLR4, IDO1, FNAT2, NLRP3, CD226, PTAFR, CD28, LCP2
161	GO:0012501	programmed cell death	65	771	611	13528	1.86660	2.57E-05	TSPO, LY8E, TNFSF15, FASLG, TNFSF13, TNFSF12, PDCD1, CASP5, MAP3K5, CASP4, IFNG, IL1B, FAS, CASP1, LTB, LTA, CD24, APOH3, BCL2L1, TNFSF14, CD28B, L24, DAPK2, NLRP3, G2M1, NLRP1, OSM, RASGEF1, GADD45G, LCK, TNFAIP9, RIPK3, TNFSF12, TNFSF13, EIF2AK2, TNFAIP3, TRAF1, FADD, PRF1, TNF, GSDMA, GPR85, ITGB2, TNFSF18, TRAM9, PTX2B, PYCARD, TNFSF18, XAF1, MDC2/506, CD27, SIRPB1, RNF148, IL2RA, BIRC7, CD5L, BIRC3, CARD6, STAT1, VAV1, SOD2, TRADD, PLEKHA7, RASSF5, TNFSF10, P2RX1, CD14, IFI6
162	GO:0051223	regulation of protein transport	22	771	114	13528	3.38608	2.79E-05	CRAM, TNF, TNFSF15, TNFSF14, CD40, NLRP3, FOXP3, TNFSF4, IL10, KCNN4, PRRX7, NOD2, CD40LG, IFNG, PYCARD, BCL3, IL1B, CASP1, LTB, LTA, SRGN, CD27
163	GO:0002715	regulation of natural killer cell mediated immunity	9	771	17	13528	9.28908	2.93E-05	SH2D1A, CRAM, GIMAP5, STAS1A, KLRK1, CD228, LAG3, NCR3, GIMAP1
164	GO:0042269	regulation of natural killer cell mediated cytotoxicity	9	771	17	13528	9.28908	2.93E-05	SH2D1A, CRAM, GIMAP5, STAS1A, KLRK1, CD228, LAG3, NCR3, GIMAP1
165	GO:0050715	positive regulation of cytokine secretion	10	771	23	13528	7.62871	4.26E-05	PRRX7, NOD2, CRAM, TNF, IFNG, PYCARD, TNFSF15, CASP1, NLRP3, IL10
166	GO:0045086	positive regulation of interleukin-2 biosynthetic process	8	771	13	13528	10.79757	4.29E-05	CD88, CD80, CD3E, STAS1A, IL1B, CD4, IRF4, CD28
167	GO:0043368	positive T cell selection	7	771	9	13528	13.64692	4.33E-05	PTPRC, DOCK2, CD3D, THEMIS, ZAP70, HLA-DMA, CD74
168	GO:0010740	positive regulation of protein kinase cascade	27	771	167	13528	2.83679	4.74E-05	CSF2, TNF, FASLG, TLR4, TLR6, NOD2, IFNG, TICAM2, IL1B, CASP1, LTB, CD27, LTA, PTPRC, SECTM1, CARD9, IL2B, HCLS1, CD40, LGALS9, TRADD, OSM, APOL3, IKKKE, ADRB2, PRRX7, TNFSF10
169	GO:0006873	cellular ion homeostasis	45	771	374	13528	2.11116	6.50E-05	CCL1, CSAR1, CCL3, GNA15, CYSLTR1, COR1, CD52, CXCR3, CCL5, FTH1, VDR, CCL23, FTHL3, PTX2B, HAMP, S1PR4, KCNE1, IL1B, LIT, XCR1, FTL, KNNM1, PTPRC, GIMAP5, CSAR1, EGR2, CCR9, IL1B, MAL, GIMAP1, PRKCB, SOD2, CCR9, CD38, PRRX7, COR7, CCL13, CCR6, P2RX1, CCR5, CCR4, CXCL13, CCR2, PLOD2, LCK, XCL1, IFI6
170	GO:0030595	leukocyte chemotaxis	12	771	37	13528	5.69061	7.41E-05	COR10A, DOK2, IL16, LYST, CXCL16, IFNG, IL1B, ITGB2, CCL5, ITGAM, IL10, SYK
171	GO:0042592	homeostatic process	74	771	751	13528	1.72890	7.41E-05	BLOSAM, GNA15, GPR7, ADR2, STAS1A, TNFSF14, CD52, CXCR3, HAMP, BHEMATE, S1PR4, IFNG, IL1B, LIT, CETP, FAS, XCR1, FTL, KNNM1, EGR2, CSAR1, PRKCB, CCR9, CD38, ADRB2, COR7, CCR9, CCR5, TNFSF13B, CCR4, LCK, COR2, CCL1, CSAR1, CCL3, CYSLTR1, CSF1, COR1, APOC2, ACP5, IL1R3, CCL23, CYP27B1, RAC2, FTHL3, PTX2B, KONE1, CD7, GPR1, PTPRC, GIMAP5, IL2RA, LIPA, IL1, HCLS1, TNFSF13B, TNFSF13C, CCL19, MAL, FOXP3, ABOG1, GIMAP1, SOD2, KCNN4, COR10A, PRRX7, CCL13, P2RX1, CXCL13, PLOD2, XCL1, IFI6
172	GO:0070201	regulation of establishment of protein localization	22	771	121	13528	3.19019	7.54E-05	CRAM, TNF, TNFSF15, TNFSF14, CD40, NLRP3, FOXP3, TNFSF4, IL10, KCNN4, PRRX7, NOD2, CD40LG, IFNG, PYCARD, BCL3, IL1B, CASP1, LTB, LTA, SRGN, CD27
173	GO:0010647	positive regulation of cell communication	41	771	329	13528	2.18659	8.08E-05	CSF2, TNF, CD8A, CSF1, FASLG, TLR4, TLR6, NOD2, CYP27B1, IFNG, ZAP70, TICAM2, IL1B, CD4, CASP1, LTB, CD27, LTA, SYK, SECTM1, PTPRC, CARD9, IL2B, CD28, HCLS1, ESR1, CD40, NFAM1, MEO2, LGALS9, TRAF1, TRADD, OSM, APOL3, IKKKE, TNFSF10, PRRX7, ADRB2, CD80, LCK, CD226
174	GO:0042742	defense response to bacterium	21	771	112	13528	3.28988	8.10E-05	CARD9, TNF, FGR, GNLV, HCK, LY2, TLR2, MYD88, TLR4, TLR6, IL10, TLR8, NOD2, BPI, PRRX7, HAMP, LYST, IFNG, LIT, BCL3, SPN
175	GO:0007155	cell adhesion	70	771	700	13528	1.75460	8.72E-05	FERMT3, CXCR3, LY9, CD96, CD44, CLEC4A, VNN1, CSF3R, SYK, PARV6, ICAM1, ICAM2, SIGLEC10, SIGLEC12, CCL4/2, SIGLEC14, SIRPB1, CD84, SIGLEC1, SIRPB2, SIGLEC8, CD84, SIGLEC5, SIGLEC6, CD33, SIGLEC7, CD226, ITGAL, PLXNC1, TNF, COR1, NUN1, IL32, ITGB2, FPR2, CD72, CCL5, CCL4, ITGAM, SIGLEC9, ICAM1, LGALS9, LPA, ITGA4, PTX2B, ITGB7, P51RP1, CD2, CD22, CD4, SP18A, AMICA1, GPNMB, CD6, SELPLG, PTPRC, HAPLN3, PLEK, SELL, ITGA4, SLAMF7, COR10A, CAS5A, EMR1, CD300A, CD209, PECAM1, ITGAD, CLEC7A, SELE
176	GO:0022610	biological adhesion	70	771	701	13528	1.75210	9.14E-05	FERMT3, CXCR3, LY9, CD96, CD44, CLEC4A, VNN1, CSF3R, SYK, PARV6, ICAM1, ICAM2, SIGLEC10, SIGLEC12, CCL4/2, SIGLEC14, SIRPB1, CD84, SIGLEC1, SIRPB2, SIGLEC8, CD84, SIGLEC5, SIGLEC6, CD33, SIGLEC7, CD226, ITGAL, PLXNC1, TNF, COR1, NUN1, IL32, ITGB2, FPR2, CD72, CCL5, CCL4, ITGAM, SIGLEC9, ICAM1, LGALS9, LPA, ITGA4, PTX2B, ITGB7, P51RP1, CD2, CD22, CD4, SP18A, AMICA1, GPNMB, CD6, SELPLG, PTPRC, HAPLN3, PLEK, SELL, ITGA4, SLAMF7, COR10A, CAS5A, EMR1, CD300A, CD209, PECAM1, ITGAD, CLEC7A, SELE
177	GO:0055082	cellular chemical homeostasis	45	771	380	13528	2.07782	9.85E-05	CCL1, CSAR1, CCL3, GNA15, CYSLTR1, COR1, CD52, CXCR3, CCL5, FTH1, VDR, CCL23, FTHL3, PTX2B, HAMP, S1PR4, KCNE1, IL1B, LIT, XCR1, FTL, KNNM1, PTPRC, GIMAP5, CSAR1, EGR2, CCR9, IL1B, MAL, GIMAP1, PRKCB, SOD2, CCR9, CD38, PRRX7, COR7, CCL13, CCR6, P2RX1, CCR5, CCR4, CXCL13, CCR2, PLOD2, LCK, XCL1, IFI6
178	GO:0042088	T-helper 1 type immune response	7	771	10	13528	12.28223	1.03E-04	IL18BP1, IL18, RELB, BCL3, TLR4, TLR6, EB3
179	GO:0018108	peptidyl-tyrosine phosphorylation	13	771	46	13528	4.95866	1.23E-04	STAS1A, AB31, STAT1, BTK, OSM, IL12RB2, IL12RB1, PTX2B, IFNG, ZAP70, JAK3, CD6, SYK
180	GO:0019221	cytokine-mediated signaling pathway	16	771	70	13528	4.01052	1.28E-04	CEBPA, IL2RB, IL1R1, SP100, TNF, COR1, STAS1A, STAT1, TRADD, IRAK3, STAT4, CCR2, PYCARD, CSF2RB, IL1B, JAK3
181	GO:0046638	positive regulation of alpha-beta T cell differentiation	9	771	20	13528	7.89572	1.30E-04	CD88, GIMAP5, CD80, IKZF1, ZAP70, IL2RG, SASH3, GIMAP1, SYK
182	GO:0051607	defense response to virus	9	771	20	13528	7.89572	1.30E-04	PTPRC, UNC13D, CARD9, IL2B, R5AD2, NLRP3, TLR7, TLR8
183	GO:0060326	cell chemotaxis	12	771	39	13528	5.39878	1.31E-04	COR10A, DOK2, IL16, LYST, CXCL16, IFNG, IL1B, ITGB2, CCL5, ITGAM, IL10, SYK
184	GO:0050801	ion homeostasis	47	771	409	13528	2.01629	1.31E-04	CCL1, CSAR1, CCL3, GNA15, CYSLTR1, COR1, CD52, CXCR3, CCL5, FTH1, VDR, CCL23, FTHL3, PTX2B, HAMP, S1PR4, KCNE1, IL1B, LIT, XCR1, FTL, KNNM1, PTPRC, GIMAP5, CSAR1, EGR2, CCR9, IL1B, MAL, GIMAP1, PRKCB, SOD2, CCR9, CD38, PRRX7, COR7, CCL13, CCR6, P2RX1, CCR5, CCR4, CXCL13, CCR2, PLOD2, LCK, XCL1, IFI6
185	GO:0032760	positive regulation of tumor necrosis factor production	8	771	15	13528	9.35789	1.45E-04	NOD2, CARD9, TLR2, FOER1G, TLR4, CLEC7A, SASH3, CD14
186	GO:0043370	regulation of CD4-positive, alpha beta T cell differentiation	8	771	15	13528	9.35789	1.45E-04	CD88, GIMAP5, CD80, IL27, IL2RG, IRF4, SASH3, GIMAP1
187	GO:0043122	regulation of I-kappaB kinase/NF-kappaB cascade	20	771	107	13528	3.27963	1.52E-04	SECTM1, CARD9, TNF, FASLG, TLR4, CD40, TLR6, LGALS9, TRADD, APOL3, IKKKE, TNFSF10, NOD2, TICAM2, IL1B, TNFAIP3, CASP1, LTB, LTA, RHOB
188	GO:0018212	peptidyl-tyrosine modification	13	771	48	13528	4.75205	1.98E-04	STAS1A, AB31, STAT1, BTK, OSM, IL12RB2, IL12RB1, PTX2B, IFNG, ZAP70, JAK3, CD6, SYK
189	GO:0033077	T cell differentiation in the thymus	10	771	27	13528	6.49853	1.99E-04	PTPRC, DOCK2, CD3D, CD3E, STAS1A, ZAP70, FAS, HLA-DMA, CD74, SPN
190	GO:0042130	negative regulation of T cell proliferation	10	771	27	13528	6.49853	1.99E-04	IL2RA, CD274, CTLL4, TNFSF14, IDO1, FOXP3, VSIG4, PDCD1LG2, IL10, SPN
191	GO:0002709	regulation of T cell mediated immunity	9	771	21	13528	7.51973	2.00E-04	PTPRC, PRRX7, TAP2, IL1B, IL7R, FOXP3, SASH3, SPN, B2M
192	GO:0030101	natural killer cell activation	9	771	21	13528	7.51973	2.00E-04	UNC13D, IKZF1, STAS1A, IL21R, KLRK1, CD2, KIR2DS4, SLAMF7, NKG2D1
193	GO:0043029	T cell homeostasis	9	771	21	13528	7.51973	2.00E-04	COR10A, PRRX7, IL2RA, GIMAP5, STAS1A, TNFSF14, FAS, FOXP3, GIMAP1
194	GO:0060558	regulation of calcidiol 1-monooxygenase activity	6	771	7	13528	15.03947	2.02E-04	VDR, CYP27B1, TNF, IFNG, IL1B, GFI1
195	GO:0045059	positive thymic T cell selection	6	771	7	13528	15.03947	2.02E-04	PTPRC, DOCK2, CD3D, ZAP70, HLA-DMA, CD74
196	GO:0048872	homeostasis of number of cells	19	771	100	13528	3.33375	2.15E-04	LPA, IL2RA, GIMAP5, IL7, HCLS1, STAS1A, CSF1, TNFSF13B, TNFSF13C, TNFSF14, FOXP3, IL7R, GIMAP1, COR10A, PRRX7, TNFSF13B, IFNG, FAS, CD7

197	GO:0002891	positive regulation of immunoglobulin mediated immune response	7	771	11	13528	11.16566	2.16E-04	PTPRC, NOD2, GIMAP5, FCER2, FCER1G, CD226, GIMAP1
198	GO:0002714	positive regulation of B cell mediated immunity	7	771	11	13528	11.16566	2.16E-04	PTPRC, NOD2, GIMAP5, FCER2, FCER1G, CD226, GIMAP1
199	GO:0032653	regulation of interleukin-10 production	7	771	11	13528	11.16566	2.16E-04	TIGIT, FCER1G, BCL3, IRF4, IDO1, FOXP3, SASH3
200	GO:0008219	cell death	70	771	719	13528	1.70824	2.16E-04	TSPO, LY86, TNFSF15, FASLG, TNFSF13, TNFSF12, PDCD1, CASP5, MAP3K5, CASP4, IFNG, IL1B, FAS, CASP1, LTB, LTA, GZMA, ARHGAP6, BCL2A1, LY2, TNFSF14, GZMB, IL2, DAPK2, NLRP3, GZMH, NLRP1, OSM, GZMI, RASGEF1, GADD45G, LCK, TNFAIP1, RIPK3, TNFSF12, TNFSF13, EIF2AK2, TNFAIP3, TRAF1, FGD2, PRF1, TNF, GSDMA, GPR85, ITGB2, TNFSF18, TRIM6, PTK2B, PYCARD, TNFSF18, MGC29506, XAF1, CD27, SRGN, RNF148, IL2RA, BIRC7, TREX1, CD5L, BIRC3, CARD6, STAT1, VAV1, SOD2, TRADD, PLEKHA7, RASSF5, TNFSF10, PRRX7, APOL1, P2RX1, CD14, IFB
201	GO:0050714	positive regulation of protein secretion	12	771	41	13528	5.13543	2.22E-04	KCNNA, P2RX7, NOD2, CRTAM, TNF, IFNG, PYCARD, TNFSF15, CASP1, NLRP3, TNFSF4, IL10
202	GO:0002573	myeloid leukocyte differentiation	11	771	34	13528	5.67666	2.27E-04	CEBPA, CSF2, TM7SF4, TNF, GIMAP5, MMP9, CSF1, RELB, IRF4, IFI16, GIMAP1
203	GO:0010627	regulation of protein kinase cascade	33	771	249	13528	2.32538	2.35E-04	CSF2, TNF, FASLG, TLRA, TLRE, MAP3K5, NOD2, PTX2B, IFNG, TICAM2, IL1B, CASP1, LTB, CD27, LTA, SYK, RHOM, SECTM1, PTPRC, CARD9, IL29, HCL1, BIRC7, CD40, LGLA59, TRADD, OSM, APOL3, IKKKE, ADRB2, P2RX7, TNFSF10, TNFAIP3
204	GO:0016265	death	70	771	724	13528	1.69644	2.72E-04	TSPO, LY86, TNFSF15, FASLG, TNFSF13, TNFSF12, PDCD1, CASP5, MAP3K5, CASP4, IFNG, IL1B, FAS, CASP1, LTB, LTA, GZMA, ARHGAP6, BCL2A1, LY2, TNFSF14, GZMB, IL2, DAPK2, NLRP3, GZMH, NLRP1, OSM, GZMI, RASGEF1, GADD45G, LCK, TNFAIP1, RIPK3, TNFSF12, TNFSF13, EIF2AK2, TNFAIP3, TRAF1, FGD2, PRF1, TNF, GSDMA, GPR85, ITGB2, TNFSF18, TRIM6, PTK2B, PYCARD, TNFSF18, MGC29506, XAF1, CD27, SRGN, RNF148, IL2RA, BIRC7, TREX1, CD5L, BIRC3, CARD6, STAT1, VAV1, SOD2, TRADD, PLEKHA7, RASSF5, TNFSF10, PRRX7, APOL1, P2RX1, CD14, IFB
205	GO:0030888	regulation of B cell proliferation	10	771	28	13528	6.26644	2.78E-04	CD38, PTPRC, TNFSF13B, IL7, TNFSF13B, TNFSF13C, CD40, TNFSF4, SASH3, IL10
206	GO:0008285	negative regulation of cell proliferation	42	771	361	13528	2.04137	3.29E-04	RARRES3, RARRES1, LST1, TNF, AIF1, TNFSF15, IFI30, FTH1, IL10, VDR, CYP27B1, CCL23, FTH3, CCL3L1, IFNG, CCL3L3, IL1B, GPNMB, LTB, RUNX3, SPN, LTA, CEBPA, IL2RA, IL29, FLT3, TNFSF13B, CTLA4, TNFSF14, IDO1, FOXP3, PDCD1LG2, SOD2, OSM, TNFRSF9, SIRPG, NUPR1, BTG1, ALCX15B, CD33, CD274, EMP3, VSI04, EIF2AK2
207	GO:0008284	positive regulation of cell proliferation	46	771	414	13528	1.94956	3.94E-04	CSF2, FGF7, TNF, STAS2, CSF1, IL18, TNFSF13, TNFSF12, TNFSF4, CXCL10, FLT3L, IL2RB2, VCAM1, IL12RB1, RAC2, PTX2B, IFNG, ZAP70, IL1B, EBI3, SPN, CD28, SYK, TCRG1, PTPRC, IL2RA, IL7, CD5E, FLT3, HCL1, TNFSF13C, CD40, STAT1, SLAMF1, MMP12, PDCD1LG2, OSM, CD38, POLD4, CDOR1A, SIRPG, ADRB2, CD86, TNFSF13B, CD80, TNFSF12, TNFSF13, TSHR, SASH3
208	GO:0002920	regulation of humoral immune response	7	771	12	13528	10.23519	4.11E-04	PTPRC, NOD2, CD37, GIMAP5, FCER2, SERPING1, GIMAP1
209	GO:0002495	antigen processing and presentation of peptide antigen via MHC class II	6	771	8	13528	13.15953	5.13E-04	IFI30, FCER1G, HLA-DOA, HLA-DMA, CD74, HLA-DRA
210	GO:0019886	antigen processing and presentation of exogenous peptide antigen via MHC class II	6	771	8	13528	13.15953	5.13E-04	IFI30, FCER1G, HLA-DOA, HLA-DMA, CD74, HLA-DRA
211	GO:0043123	positive regulation of I-kappaB kinase/NF-kappaB cascade	18	771	97	13528	3.25597	5.35E-04	SECTM1, CARD9, TNF, FASLG, TLRA, CD40, TLRE, LGLA59, TRADD, APOL3, IKKKE, TNFSF10, NOD2, TICAM2, IL1B, CASP1, LTB, LTA
212	GO:0034097	response to cytokine stimulus	16	771	79	13528	3.55363	5.90E-04	CITA, IL1R1, KYNJ, SP100, ACP5, STAT1, CCL5, IL12RB2, CD38, IRAK3, CORO1A, CYP27B1, CXCL16, SERPINA1, XCR1, SELE
213	GO:0048878	chemical homeostasis	53	771	512	13528	1.81629	5.97E-04	SLC9A9, GNA15, FGF7, AQP9, CD52, CXCR3, BHLHA15, HAMP, S1PR4, IL1B, LTF, CETR, XCR1, FTL, KCNMA1, CSAR1, ERG2, PRKCB, COR9, CD38, CCR7, COR8, CCR5, COR4, COR2, LCK, CCL1, CSAR1, CCL3, CYSLTR1, CCR1, APOC2, CCL5, FTH1, VDR, CYP27B1, CCL23, PTX2B, FTH3, KONE1, PTPRC, GIMAP5, CCL19, MAL, ABCG1, SOD2, GIMAP1, P2RX7, CCL13, P2RX1, CXCL13, PLCG2, NGL1, IFB
214	GO:0032880	regulation of protein localization	22	771	138	13528	2.79720	6.06E-04	CRTAM, TNF, TNFSF15, TNFSF14, CD40, NLRP3, FOXP3, TNFSF4, IL10, KCNNA, PRRX7, NOD2, CD40LG, IFNG, PYCARD, BCL3, IL1B, CASP1, LTB, LTA, SRGN, CD27
215	GO:0002718	regulation of cytokine production during immune response	8	771	18	13528	7.79824	6.18E-04	IRAK3, TNF, GIMAP5, FCER1G, FOXP3, SASH3, IL10, GIMAP1
216	GO:0001818	negative regulation of cytokine production	11	771	38	13528	5.07912	6.64E-04	TIGIT, IRAK3, BPI, NOD2, TNF, GIMAP5, IDO1, FOXP3, VSI04, IL10, GIMAP1
217	GO:0046640	regulation of alpha-beta T cell proliferation	7	771	13	13528	9.44787	7.26E-04	PTPRC, CD80, CD3E, ZAP70, TNFSF14, EBI3, SYK
218	GO:0050731	positive regulation of peptidyl-tyrosine phosphorylation	12	771	47	13528	4.47984	8.95E-04	OSM, CSF2, NOD2, CD80, IL29, CD5E, HCL1, IFNG, TNFSF14, CD4, TLRA, SYK
219	GO:0002758	innate immune response-activating signal transduction	8	771	19	13528	7.38781	9.30E-04	IRAK3, NOD2, TLR2, KLRK1, TLRA, CLECTA, TLRE, TLR7
220	GO:0002218	activation of innate immune response	8	771	19	13528	7.38781	9.30E-04	IRAK3, NOD2, TLR2, KLRK1, TLRA, CLECTA, TLRE, TLR7
221	GO:0032755	positive regulation of interleukin-6 production	8	771	19	13528	7.38781	9.30E-04	P2RX7, NOD2, CARD9, TNF, TLR2, IL1B, TLRA, TLR7
222	GO:0050853	B cell receptor signaling pathway	6	771	9	13528	11.69736	1.10E-03	PTPRC, LAT2, CD19, NFAM1, CD79A, SYK
223	GO:0046641	positive regulation of alpha-beta T cell proliferation	6	771	9	13528	11.69736	1.10E-03	PTPRC, CD80, CD3E, ZAP70, EBI3, SYK
224	GO:0030183	B cell differentiation	12	771	48	13528	4.38651	1.10E-03	VCAM1, GPR183, IKZF1, CD40LG, PLCG2, BCL3, NFAM1, CD79A, ITGAM, TSHR, IL10, BLNK
225	GO:0051050	positive regulation of transport	29	771	223	13528	2.28177	1.22E-03	TNF, TNFSF15, TNFSF14, TNFSF4, IL10, NOD2, IFNG, PYCARD, IL1B, CASP1, LTB, CD27, LTA, SYK, NR1H3, CRTAM, GIMAP5, NLRP3, GIMAP1, P2RX1, KCNNA, CD38, ADRB2, P2RX7, UNC119, P2RX1, PLCG2, CLECTA, SELE
226	GO:0030890	positive regulation of B cell proliferation	8	771	20	13528	7.01842	1.36E-03	CD38, PTPRC, TNFSF13B, IL7, TNFSF13C, CD40, TNFSF4, SASH3
227	GO:0050848	regulation of calcium-mediated signaling	8	771	20	13528	7.01842	1.36E-03	PLEK, CDMA, CD3E, SLA2, ZAP70, CD4, TRAT1, SYK
228	GO:0042098	T cell proliferation	9	771	27	13528	5.84868	1.60E-03	ZBTB32, PTPRC, P2RX7, CD86, DOK2, CRTAM, TNFSF14, TNFSF4, ITGAM
229	GO:0045428	regulation of nitric oxide biosynthetic process	9	771	27	13528	5.84868	1.60E-03	ICAM1, TNF, GIMAP5, IFNG, KLRK1, IL1B, IL10, SOD2, GIMAP1
230	GO:0050730	regulation of peptidyl-tyrosine phosphorylation	14	771	68	13528	3.61242	1.82E-03	CSF2, PTPRC, IL29, CD3E, HCL1, TNFSF14, TLRA, ITGB2, OSM, NOD2, CD80, IFNG, CD4, SYK
231	GO:0019835	cytolysis	8	771	21	13528	6.68421	1.94E-03	GZMM, PRF1, P2RX7, APOL1, GZMA, LY2, GZMB, GZMH
232	GO:0048535	lymph node development	6	771	10	13528	10.52763	2.09E-03	CXCR5, IKZF1, CXCL13, IL7R, LTB, LTA
233	GO:0042534	regulation of tumor necrosis factor biosynthetic process	6	771	10	13528	10.52763	2.09E-03	CARD9, TLRA, BCL3, TLRA, IL10, SPN
234	GO:0002526	acute inflammatory response	17	771	98	13528	3.04370	2.19E-03	CR1, CR2, TLRA, SERPING1, IDO1, C1QC, APOL2, C1QA, C1QB, ORMI, NUPR1, P2RX1, IL1B, VNN1, SERPINA1, C2, VSI04
235	GO:0052509	positive regulation by symbiont of host defense response	5	771	6	13528	14.62170	2.55E-03	IRF7, TLR2, TLRA, TLR6, TLR7
236	GO:0046218	indolalkylamine catabolic process	5	771	6	13528	14.62170	2.55E-03	TD02, KYNJ, IDO2, KMO, IDO1
237	GO:0002925	positive regulation of humoral immune response mediated by circulating immunoglobulin	5	771	6	13528	14.62170	2.55E-03	PTPRC, NOD2, GIMAP5, FCER2, GIMAP1
238	GO:0052031	modulation by symbiont of host defense response	5	771	6	13528	14.62170	2.55E-03	IRF7, TLR2, TLRA, TLR6, TLR7

239	GO:0052255	modulation by organism of defense response of other organism during symbiotic interaction	5	771	6	13528	14.62170	2.55E-03	IRF7, TLR2, TLR4, TLR6, TLR7
240	GO:0045588	positive regulation of gamma-delta T cell differentiation	5	771	6	13528	14.62170	2.55E-03	PTPRC, GIMAP5, STAT5A, GIMAP1, SYK
241	GO:0046643	regulation of gamma-delta T cell activation	5	771	6	13528	14.62170	2.55E-03	PTPRC, GIMAP5, STAT5A, GIMAP1, SYK
242	GO:0045586	regulation of gamma-delta T cell differentiation	5	771	6	13528	14.62170	2.55E-03	PTPRC, GIMAP5, STAT5A, GIMAP1, SYK
243	GO:0006569	tryptophan catabolic process	5	771	6	13528	14.62170	2.55E-03	TDO2, KYNU, IDO2, KMO, IDO1
244	GO:0042436	indole derivative catabolic process	5	771	6	13528	14.62170	2.55E-03	TDO2, KYNU, IDO2, KMO, IDO1
245	GO:0019441	tryptophan catabolic process to kynurenine	5	771	6	13528	14.62170	2.55E-03	TDO2, KYNU, IDO2, KMO, IDO1
246	GO:0046645	positive regulation of gamma-delta T cell activation	5	771	6	13528	14.62170	2.55E-03	PTPRC, GIMAP5, STAT5A, GIMAP1, SYK
247	GO:0002922	positive regulation of humoral immune response	5	771	6	13528	14.62170	2.55E-03	PTPRC, NOD2, GIMAP5, FCER2, GIMAP1
248	GO:0052510	positive regulation by organism of defense response of other organism during symbiotic interaction	5	771	6	13528	14.62170	2.55E-03	IRF7, TLR2, TLR4, TLR6, TLR7
249	GO:0002544	chronic inflammatory response	5	771	6	13528	14.62170	2.55E-03	UNC13D, TNF, VNN1, IL1B, CCL5
250	GO:0032735	positive regulation of interleukin-12 production	5	771	6	13528	14.62170	2.55E-03	NOD2, CD40LG, IFNG, IDO1, CD40
251	GO:0045577	regulation of B cell differentiation	7	771	16	13528	7.67639	2.92E-03	PTPRC, FLT3, STAT5A, IL2RG, NFAM1, CD27, SYK
252	GO:0044093	positive regulation of molecular function	56	771	586	13528	1.67676	3.01E-03	GNAT5, GMA2, TLR2, TNFSF15, TLR4, TLR6, IL10, NOD2, MAP3K5, NLRD3, CERK1, S1PR4, IFNG, IL1B, PLCB2, SYK, ICAM1, CSAR1, SP100, NFAM1, NLRP3, NLRP1, ADRB2, PSME1, RASGRF1, GADD45G, LCK, TSHR, PSMB10, TNF, FCER2, CSF1, FPR1, APOC2, CD74, DOXA, IRAK3, VDR, P2RY6, CYP27B1, PTK2B, DDG, PYCARD, CD4, NR1H3, PTPRC, PLEK, BIRC7, STAT1, PSMB8, PSMB9, P2RX7, P2RX1, PLOG2, IRF4, SELE
253	GO:0019725	cellular homeostasis	47	771	466	13528	1.76967	3.29E-03	CCL1, CSAR1, CCL3, GNA15, CYS1TR1, CCR1, CD52, CXCR3, CCL5, FTH1, VDR, CCL23, FTH5, PTK2B, HAMP, S1PR4, KCNE1, IL1B, LIT, XCR1, GSD, FTL, KCNM1A, PTPRC, GIMAP5, CSAR1, EGR2, CCL19, MAL, GIMAP1, PRKCB, SOD2, CCR9, KCNM4, CD38, P2RX7, CCR7, CCL13, CCR6, P2RX1, CCR5, CCR4, CXCL13, CCR2, PLOG2, LCK, XCL1, IFB
254	GO:0045078	positive regulation of interferon-gamma biosynthetic process	6	771	11	13528	9.57057	3.66E-03	IL27, TNFRSF13C, TLR7, TLR8, EB13, TLR9
255	GO:0043372	positive regulation of CD4-positive, alpha beta T cell differentiation	6	771	11	13528	9.57057	3.66E-03	CD86, GIMAP5, CD80, IL2RG, SASH3, GIMAP1
256	GO:0050852	T cell receptor signaling pathway	8	771	23	13528	6.10297	3.70E-03	PTPRC, CD3E, THEM5, PLOG2, CD247, ZAP70, PTPN22, SKAP1
257	GO:0002221	pattern recognition receptor signaling pathway	7	771	17	13528	7.22484	4.30E-03	IRAK3, NOD2, TLR2, TLR4, CLEC7A, TLR6, TLR7
258	GO:0006909	phagocytosis	11	771	48	13528	4.02097	5.47E-03	CORO1A, P2RX7, UNC13D, FCGRI2, HCK, FCGRI4, MYO7A, FCN1, FCER1G, CLEC7A, VAV1, CD14
259	GO:0006568	tryptophan metabolic process	5	771	7	13528	12.53289	5.68E-03	TDO2, KYNU, IDO2, KMO, IDO1
260	GO:0002923	regulation of humoral immune response mediated by circulating immunoglobulin	5	771	7	13528	12.53289	5.68E-03	PTPRC, NOD2, GIMAP5, FCER2, GIMAP1
261	GO:0050727	regulation of inflammatory response	14	771	76	13528	3.23217	5.80E-03	IL2RA, STAT5A, TLR4, SERPINC1, IDO1, CCL5, IL10, OSM, TNFRSF1B, ADRB2, AOH, FCER1G, SELE, SPN
262	GO:0050718	positive regulation of interleukin-1 beta secretion	6	771	12	13528	8.77302	5.97E-03	P2RX7, NOD2, IFNG, PYCARD, CASP1, NLRP3
263	GO:0002275	myeloid cell activation during immune response	7	771	18	13528	6.82346	6.13E-03	LAT, LAT2, TLR2, MYO1F, TLR4, TLR6, TLR7
264	GO:0002285	lymphocyte activation during immune response	7	771	18	13528	6.82346	6.13E-03	ICAM1, GPR183, ITGAL, UNC13D, RELB, PLOG2, BCL3
265	GO:0009595	detection of biotic stimulus	7	771	18	13528	6.82346	6.13E-03	NOD2, CRTAM, LY96, TLR4, CLEC7A, NLRP3, TLR8
266	GO:0010033	response to organic substance	64	771	721	13528	1.55749	7.51E-03	KYNU, AQP9, STAT5A, TLR2, FASLG, TLR4, GRIN3A, TLR6, IL10, B2M, CD48, NOD2, CD44, IFNG, IL1B, SERPINA1, FAS, CASP1, XCR1, LTA, KCNM1A, CHTA, EGR2, SP100, LY96, ESR1, FBP1, C1QB, CD38, CCR4, CTSC, EP2A2, PYAFR, PRR1, IL1R1, TNF, ADPS, ACP2, CCL5, OER3, IL12RB2, IRAK3, ACSL1, CYP27B1, PTK2B, TAP2, CD4, CD27, TXNP, CARD9, SELL, HCLS1, IDO1, STAT1, ABCG1, CORO1A, P2RX7, P2RX1, CXCL16, PLOG2, ARSA, CLEC7A, SELE, CD14
267	GO:0001934	positive regulation of protein amino acid phosphorylation	15	771	89	13528	2.95720	8.46E-03	OSM, CSF2, P2RX7, NOD2, TNF, CD40, IL29, CD3E, HCLS1, IFNG, IL1B, CD4, TLR4, TNFRSF14, SYK
268	GO:0051091	positive regulation of transcription factor activity	12	771	60	13528	3.50921	8.93E-03	ICAM1, IRAK3, NOD2, SP100, TNF, NLRD3, PYCARD, TLR2, IL1B, TLR4, NFAM1, IL10
269	GO:0033198	response to ATP	6	771	13	13528	8.09817	9.23E-03	P2RX7, P2RX1, SELL, PLOG2, IL1B, CASP1
270	GO:0050706	regulation of interleukin-1 beta secretion	6	771	13	13528	8.09817	9.23E-03	P2RX7, NOD2, IFNG, PYCARD, CASP1, NLRP3
271	GO:0045072	regulation of interferon-gamma biosynthetic process	6	771	13	13528	8.09817	9.23E-03	IL27, TNFRSF13C, TLR7, TLR8, EB13, TLR9
272	GO:0042100	B cell proliferation	6	771	13	13528	8.09817	9.23E-03	PTPRC, CD40LG, CD79A, CD40, IL7R, IL10
273	GO:0045191	regulation of isotype switching	6	771	13	13528	8.09817	9.23E-03	PTPRC, TBX21, IFNG, TNFSF13, TNFSF12-TNFSF13, TNFSF12, CD40, IL10
274	GO:0043388	positive regulation of DNA binding	13	771	70	13528	3.25855	9.54E-03	ICAM1, TNF, SP100, TLR2, TLR4, NFAM1, IL10, IRAK3, NOD2, NLRD3, PYCARD, IL1B, IRF4
275	GO:0007229	integrin-mediated signaling pathway	13	771	70	13528	3.25855	9.54E-03	LAT, ITGAL, ITGA5, PLEK, PRAM1, ITGB2, ITGA2, ITGA4, VAV1, ITGAM, ADAMDEC1, SYK
276	GO:0051094	positive regulation of developmental process	31	771	278	13528	1.95657	1.01E-02	CSF2, TNF, STAT5A, CSF1, TNFSF13, TNFSF12, CCL5, IL7R, HLA-DMA, CD74, CYP27B1, ZAP70, VNN1, IL1B, IL30G, GF11, CD27, SYK, PTPRC, GIMAP5, IL2RA, ARHGEF1, HCP1, IL7, GIMAP1, TRADD, ADRB2, P2RX7, CD86, CD80, BTG1, TNFSF12-TNFSF13, SASH3
277	GO:0019883	antigen processing and presentation of endogenous antigen	5	771	8	13528	10.96628	1.08E-02	TAP2, ERAP2, TAPBP1, CD74, TAPBP
278	GO:0032731	positive regulation of interleukin-1 beta production	6	771	14	13528	7.51973	1.37E-02	P2RX7, NOD2, IFNG, PYCARD, CASP1, NLRP3
279	GO:0050716	positive regulation of interleukin-1 secretion	6	771	14	13528	7.51973	1.37E-02	P2RX7, NOD2, IFNG, PYCARD, CASP1, NLRP3
280	GO:0032270	positive regulation of cellular protein metabolic process	27	771	233	13528	2.03323	1.40E-02	PSMB10, CSF2, TNF, HSD3B7, CSF1, TLR4, NOD2, PTK2B, IFNG, IL1B, BCL3, CD4, CD28, SYK, NR1H3, IL29, CD3E, HCLS1, TNFSF14, FOXO3, PSMB8, PSMB9, OSM, P2RX7, PSME1, CD80, LRRK2
281	GO:0001932	regulation of protein amino acid phosphorylation	22	771	173	13528	2.23129	1.49E-02	CSF2, PTPRC, TNF, IL29, CD3E, HCLS1, BIRC7, ITGB2, TLR4, TNFRSF14, TLR6, OSM, MAP3K5, NOD2, P2RX7, CD80, PTK2B, IFNG, IL1B, CD4, CD8, SYK
282	GO:0019722	calcium-mediated signaling	9	771	37	13528	4.26796	1.67E-02	LAT, LAT2, TNF, BHLHA15, SELE, LTB, LTA, MCTP1, BTK
283	GO:0051241	negative regulation of multicellular organismal process	21	771	164	13528	2.24675	1.84E-02	CHTA, KCNM1A, TNF, GIMAP5, CST3, APOC2, IDO1, FOXO3, IL10, GIMAP1, TIGIT, CD38, IRAK3, NOD2, BPL, P2RX7, ADRB2, IFNG, GP1BA, VSIG4, SRGN

284	GO:0001773	myeloid dendritic cell activation	5	771	9	13528	9.74780	1.85E-02	CSF2, GIMAP5, RELB, IRF4, GIMAP1
285	GO:0001914	regulation of T cell mediated cytotoxicity	5	771	9	13528	9.74780	1.85E-02	PTPRC, P2RX7, TAP2, IL7R, B2M
286	GO:0045911	positive regulation of DNA recombination	5	771	9	13528	9.74780	1.85E-02	PTPRC, TBX21, IFNG, TNFSF13, TNFSF12, TNFSF13, TNFSF12, CD40
287	GO:0052200	response to host defenses	5	771	9	13528	9.74780	1.85E-02	IRF7, TLR2, TLR4, TLR6, TLR7
288	GO:0052173	response to defenses of other organism during symbiotic interaction	5	771	9	13528	9.74780	1.85E-02	IRF7, TLR2, TLR4, TLR6, TLR7
289	GO:0043011	myeloid dendritic cell differentiation	5	771	9	13528	9.74780	1.85E-02	CSF2, GIMAP5, RELB, IRF4, GIMAP1
290	GO:0045830	positive regulation of isotype switching	5	771	9	13528	9.74780	1.85E-02	PTPRC, TBX21, IFNG, TNFSF13, TNFSF12, TNFSF13, TNFSF12, CD40
291	GO:0044003	modification by symbiont of host morphology or physiology	5	771	9	13528	9.74780	1.85E-02	IRF7, TLR2, TLR4, TLR6, TLR7
292	GO:0075136	response to host	5	771	9	13528	9.74780	1.85E-02	IRF7, TLR2, TLR4, TLR6, TLR7
293	GO:0008283	cell proliferation	42	771	436	13528	1.69022	1.88E-02	ZBTB32, TSPD, CSF1, LY96, SIPA1, TNFSF14, IL7R, TNFSF4, FTH1, CD74, IL10, ITGAM, ISG20, STAT4, DOCK2, FTHL3, PTK2B, IL15RA, BHLHE41, CD5, RUNX3, SYK, CSF1R, PTPRC, CRTAM, IL2RA, LIPA, ARHGAP1, CD160, TNFSF17, IPT16, CD40, TNFSF8, OSM, P2RX7, CD86, LAMP3, TNFSF13B, RASSF1, CD40LG, CD274, IRF3, CD74
294	GO:0002711	positive regulation of T cell mediated immunity	6	771	15	13528	7.01842	1.95E-02	PTPRC, P2RX7, TAP2, IL1B, SASH3, B2M
295	GO:0050704	regulation of interleukin-1 secretion	6	771	15	13528	7.01842	1.95E-02	P2RX7, NOD2, IFNG, PYCARD, CASP1, NLRP3
296	GO:0042327	positive regulation of phosphorylation	15	771	97	13528	2.71331	2.03E-02	OSM, CSF2, P2RX7, NOD2, TNF, CD80, IL29, CD3E, HCLS1, IFNG, IL1B, CD4, TLR4, TNFRSF14, SYK
297	GO:0043410	positive regulation of MAPKKK cascade	10	771	48	13528	3.65543	2.40E-02	OSM, PTPRC, ADRB2, P2RX7, NOD2, CARD9, TNF, IL1B, TLR4, CD27
298	GO:0051101	regulation of DNA binding	17	771	121	13528	2.46515	2.42E-02	ICAM1, SP100, TNF, TLR2, TLR4, NFAM1, NLRP3, FOXO3, TNFRSF4, IL10, IRAK3, NOD2, NLR3, PYCARD, BCL3, IL1B, IRF4
299	GO:0051099	positive regulation of binding	13	771	78	13528	2.92434	2.55E-02	ICAM1, TNF, SP100, TLR2, TLR4, NFAM1, IL10, IRAK3, NOD2, NLR3, PYCARD, IL1B, IRF4
300	GO:0051247	positive regulation of protein metabolic process	27	771	243	13528	1.94956	2.57E-02	PSMB10, CSF2, TNF, HSD3B7, CSF1, TLR4, NOD2, PTK2B, IFNG, IL1B, BCL3, CD4, CD28, SYK, NR1H3, IL29, CD3E, HCLS1, TNFRSF14, FOXO3, PSMB8, PSMB9, OSM, P2RX7, PSME1, CD80, LRRK2
301	GO:0002455	humoral immune response mediated by circulating immunoglobulin	8	771	31	13528	4.52801	2.64E-02	C1QA, C1QB, CR1, CR2, BCL3, SERPING1, C2, C1QC
302	GO:0046456	icosanoid biosynthetic process	8	771	31	13528	4.52801	2.64E-02	GGT5, TBXAS1, PTGDS, ALOX15B, ALOX5AP, ALOX5, CD74, SYK
303	GO:0043900	regulation of multi-organism process	8	771	31	13528	4.52801	2.64E-02	P2RX7, NOD2, CD88, IL27, FCER2, IFNG, SPN, CD28
304	GO:0002698	negative regulation of immune effector process	6	771	16	13528	6.57977	2.69E-02	IRAK3, PTPRC, SERPING1, IL7R, FOXO3, SPN
305	GO:0045937	positive regulation of phosphate metabolic process	15	771	100	13528	2.63191	2.73E-02	OSM, CSF2, P2RX7, NOD2, TNF, CD80, IL29, CD3E, HCLS1, IFNG, IL1B, CD4, TLR4, TNFRSF14, SYK
306	GO:0010562	positive regulation of phosphorus metabolic process	15	771	100	13528	2.63191	2.73E-02	OSM, CSF2, P2RX7, NOD2, TNF, CD80, IL29, CD3E, HCLS1, IFNG, IL1B, CD4, TLR4, TNFRSF14, SYK
307	GO:0050710	negative regulation of cytokine secretion	5	771	10	13528	8.77302	2.93E-02	TNF, FOXO3, TNFRSF4, IL10, SRGN
308	GO:0034341	response to interferon-gamma	5	771	10	13528	8.77302	2.93E-02	CITA, KYNJ, CYP27B1, SP100, CXCL16
309	GO:0045123	cellular extravasation	5	771	10	13528	8.77302	2.93E-02	VCAM1, TNF, SELE, SELPLG, ITGAM
310	GO:0052167	modulation by symbiont of host innate immunity	4	771	5	13528	14.03684	2.98E-02	TLR2, TLR4, TLR6, TLR7
311	GO:0052306	modulation by organism of innate immunity in other organism during symbiotic interaction	4	771	5	13528	14.03684	2.98E-02	TLR2, TLR4, TLR6, TLR7
312	GO:0032715	negative regulation of interleukin-6 production	4	771	5	13528	14.03684	2.98E-02	IRAK3, BPI, TNF, IL10
313	GO:0052556	positive regulation by symbiont of host immune response	4	771	5	13528	14.03684	2.98E-02	TLR2, TLR4, TLR6, TLR7
314	GO:0052305	positive regulation by organism of innate immunity in other organism during symbiotic interaction	4	771	5	13528	14.03684	2.98E-02	TLR2, TLR4, TLR6, TLR7
315	GO:0052555	positive regulation by organism of immune response of other organism during symbiotic interaction	4	771	5	13528	14.03684	2.98E-02	TLR2, TLR4, TLR6, TLR7
316	GO:0052552	modulation by organism of immune response of other organism during symbiotic interaction	4	771	5	13528	14.03684	2.98E-02	TLR2, TLR4, TLR6, TLR7
317	GO:0001562	response to protozoan	4	771	5	13528	14.03684	2.98E-02	LYST, BCL3, CLEC7A, SPN
318	GO:0002282	microglial cell activation during immune response	4	771	5	13528	14.03684	2.98E-02	TLR2, TLR4, TLR6, TLR7
319	GO:0045589	regulation of regulatory T cell differentiation	4	771	5	13528	14.03684	2.98E-02	GIMAP5, CTLA4, IL2RG, GIMAP1
320	GO:0052166	positive regulation by symbiont of host innate immunity	4	771	5	13528	14.03684	2.98E-02	TLR2, TLR4, TLR6, TLR7
321	GO:0050857	positive regulation of antigen receptor-mediated signaling pathway	4	771	5	13528	14.03684	2.98E-02	PTPRC, LCK, NFAM1, TRAT1
322	GO:0052553	modulation by symbiont of host immune response	4	771	5	13528	14.03684	2.98E-02	TLR2, TLR4, TLR6, TLR7
323	GO:0045354	regulation of interferon-alpha biosynthetic process	4	771	5	13528	14.03684	2.98E-02	TLR7, TLR8, IL10, TLR9
324	GO:0032695	negative regulation of interleukin-12 production	4	771	5	13528	14.03684	2.98E-02	TIGIT, IRAK3, NOD2, IL10
325	GO:0032101	regulation of response to external stimulus	20	771	159	13528	2.20705	3.08E-02	IL2RA, IL16, PLEK, STAT5A, SERPING1, TLR4, IDO1, GRIN3A, CCL5, IL10, OSM, TNFRSF1B, ADRB2, CYP27B1, CCR4, A2M, FCER1G, GP1BA, SELE, SPN
326	GO:0009593	detection of chemical stimulus	8	771	32	13528	4.38651	3.20E-02	NOD2, RTP4, LY96, TASHR3, TLR4, PLCB2, ABCG1, SOD2
327	GO:0009620	response to fungus	7	771	24	13528	5.11760	3.27E-02	CARD8, HAMP, GNLV, TLR2, TLR4, CLEC7A, COTL1
328	GO:0001906	cell killing	7	771	24	13528	5.11760	3.27E-02	CRTAM, LINC130, APOC1, HAMP, LYST, GNLV, SLAMF7

329	GO:0051092	positive regulation of NF-kappaB transcription factor activity	9	771	41	13528	3.85157	3.35E-02	ICAM1, IRAK3, NOD2, TNF, NLR3, PYCARD, TLR2, IL1B, TLR4
330	GO:0051090	regulation of transcription factor activity	15	771	103	13528	2.55525	3.61E-02	ICAM1, TNF, SP100, TLR2, TLR4, NFAM1, NLRP3, FOXP3, TNFRSF4, IL10, IRAK3, NOD2, NLR3, PYCARD, IL1B
331	GO:0048873	homeostasis of number of cells within a tissue	6	771	17	13528	6.19272	3.62E-02	CORO1A, P2RX7, LPA, IL7, CSF1, CD7
332	GO:0032732	positive regulation of interleukin-1 production	6	771	17	13528	6.19272	3.62E-02	P2RX7, NOD2, IFNG, PYCARD, CASP1, NLRP3
333	GO:0046330	positive regulation of JNK cascade	6	771	17	13528	6.19272	3.62E-02	NOD2, CARD9, TNF, IL1B, TLR4, CD27
334	GO:0050850	positive regulation of calcium-mediated signaling	6	771	17	13528	6.19272	3.62E-02	CD8A, CD3E, ZAP70, CD4, TRAT1, SYK
335	GO:0050777	negative regulation of immune response	7	771	25	13528	4.91289	4.09E-02	IRAK3, PTPRC, CTLA4, SERPING1, IL7R, FOXP3, SPN
336	GO:0032768	regulation of monooxygenase activity	7	771	25	13528	4.91289	4.09E-02	VDR, CYP27B1, TNF, FCER2, IFNG, IL1B, GF11
337	GO:0006636	unsaturated fatty acid biosynthetic process	8	771	34	13528	4.12848	4.60E-02	GGT5, TBXAS1, PTGDS, ALOX15B, ALOX5AP, ALOX5, CD74, SYK
338	GO:0042345	regulation of NF-kappaB import into nucleus	6	771	18	13528	5.84868	4.76E-02	TNF, TNFSF14, BCL3, NLRP3, CD27, IL10
339	GO:0046631	alpha-beta T cell activation	6	771	18	13528	5.84868	4.76E-02	DOCK2, RELB, ZAP70, IRF1, BCL3, SYK