Supplemental Material

1. **Supplementary Figures**
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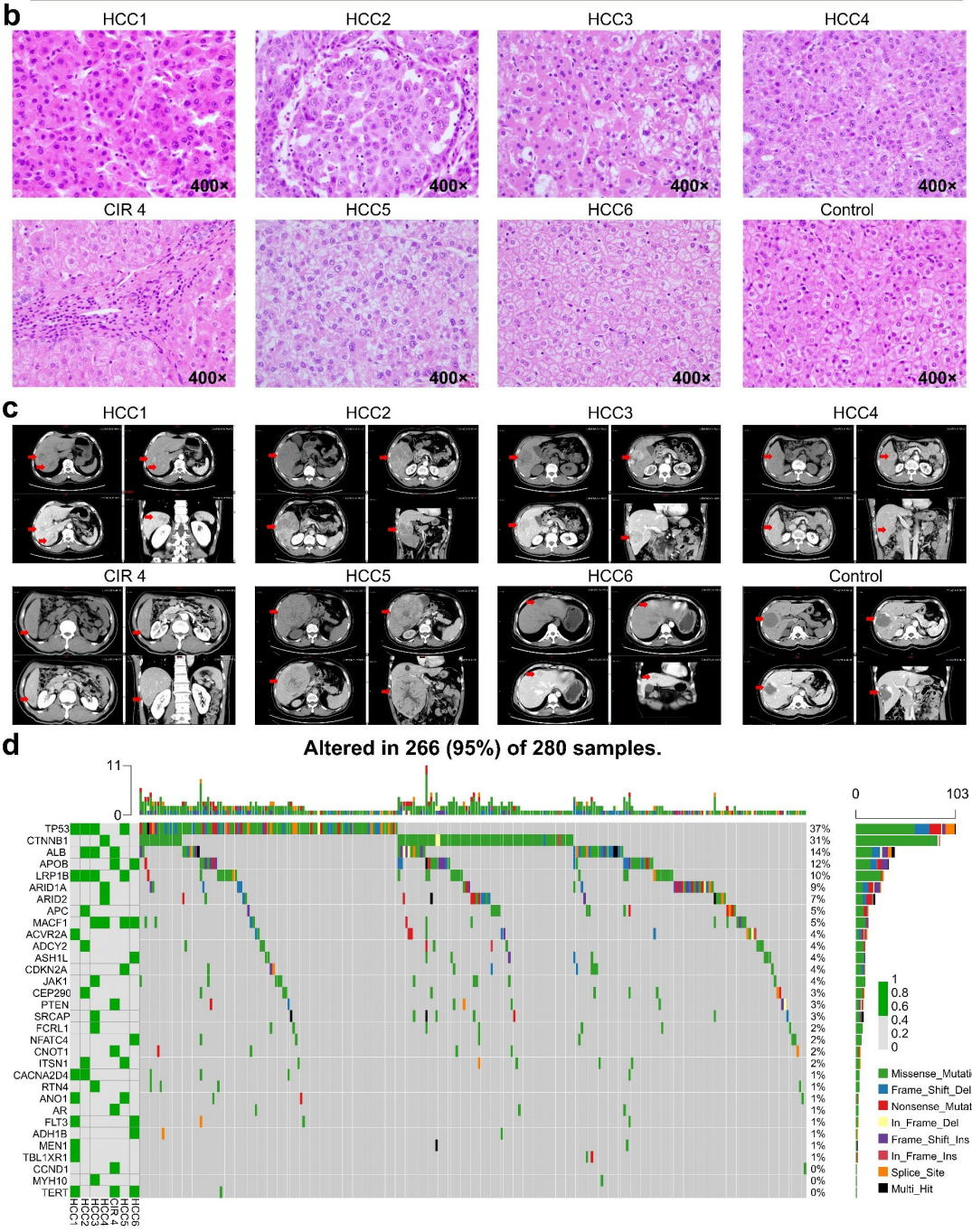
1. Supplementary Figures

a

Sample	Gender	CNLC	Hepatitis	AFP/(ug/L)	TD/mm	ES	RFS/days	MVD	Spots	Cells	Cells Ratio
HCC1	M	III-A	B	2.35	48*33	II	/	<50	3,320	9,759	
HCC2	M	III-A	B	35496	118*75	III-IV	66	<50	2,811	10,346	
HCC3	M	I-B	-	3.31	62*55	II	/	>200	2,870	9,111	
HCC4	M	II-A	B	9.22	35*27	II	/	>50	2,461	12,744	
CIR 4					14*13			-	3,679	10,689	
HCC5	M	I-B	B	131.6	155*124	II-III	248	>50	4,046	8,098	
HCC6	F	I-A	B	3.29	31*18	II	/	<50	2,408	9,536	
Control	F	/	B	1.66	/	/	/	-	4,029	11,415	



Supplementary Figure 1. Clinicopathological and genomic characteristics of HCC patients and control donor (related to Fig. 2)

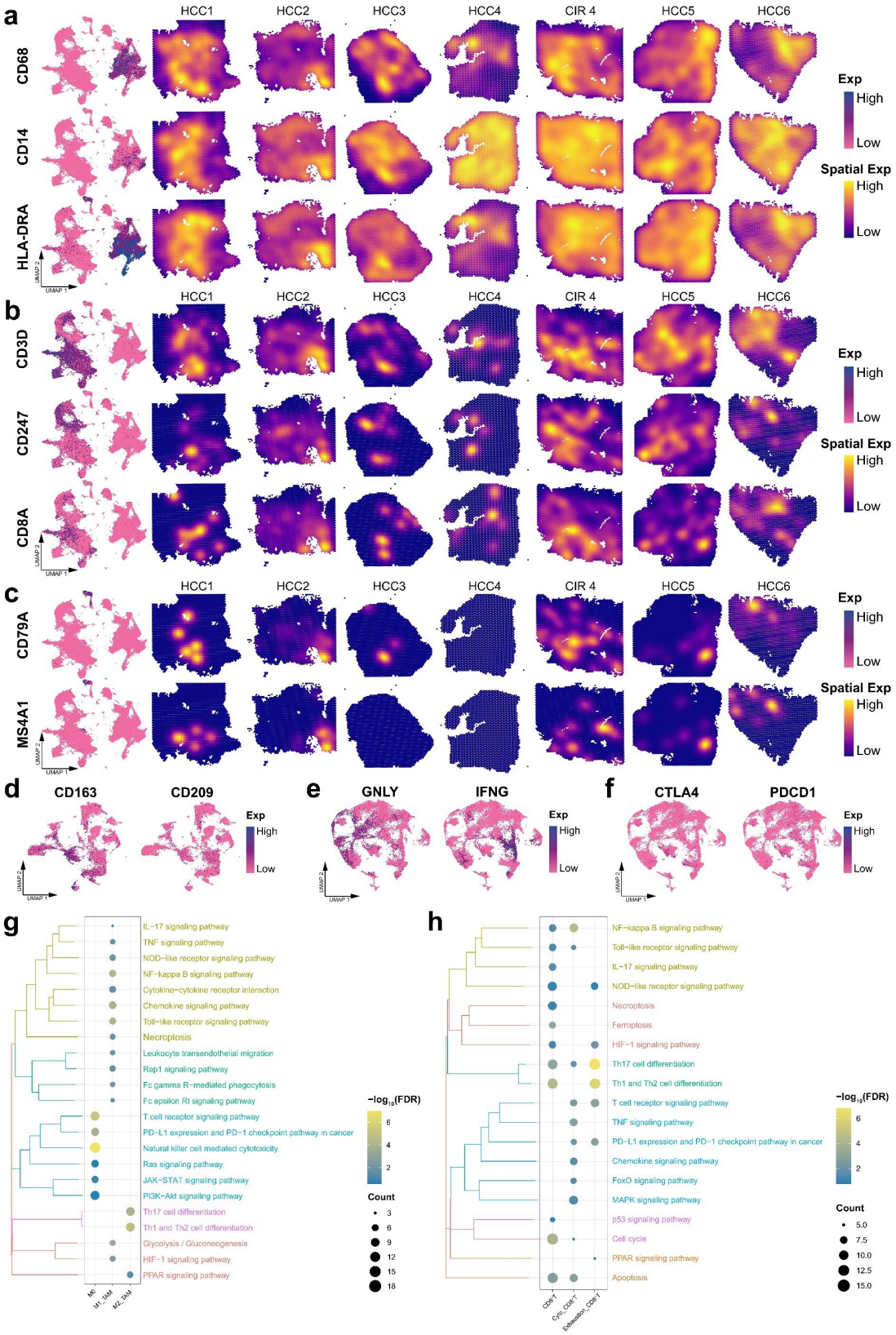
(a) Clinicopathological characteristics of HCC patients and control donor. MVD was determined by unit: 200×/HPF. Cell ratio was divided by a pie chart, with red color denoting the HCC cells and blue color denoting CIR cells.

Abbreviation: CNLC: China liver cancer staging, AFP: alpha-fetoprotein, TD: tumor dimension, ES grade: Edmondson-Steiner grade, RFS: relapse-free survival, MVD: microvascular density.

(b) H&E stained pathological sections of the HCC patients and control donor, the scale bars represent 20μm.

(c) Contrast enhanced computed tomography images of the patients and control donor.

(d) Waterfall plot showing the 32 genes (rows) most frequently altered among the HCC patients in our study and the Cancer Genome Atlas Liver Hepatocellular Carcinoma (TCGA-LIHC) cohort (columns). The upper panel shows the mutational burden per sample from TCGA-LIHC. The right panel showing the percentages the of mutations frequency per gene and the mutation types labeled in colors.



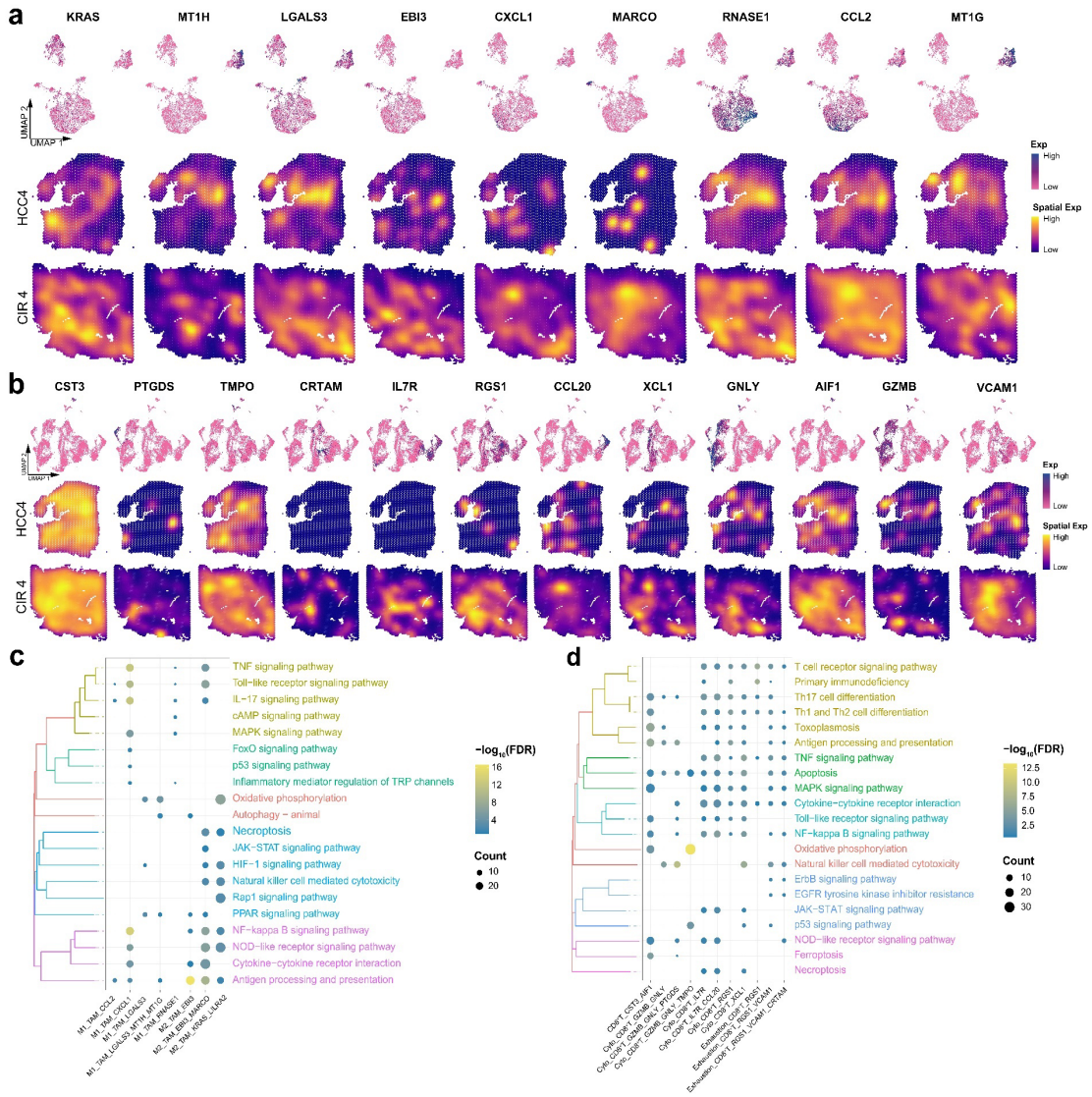
Supplementary Figure 2. Marker gene expression and pathways enrichment of immune cell subpopulations of HCC and CIR (related to Fig. 4, Supplementary Table 2 and Supplementary Table 3)

(a and b and c) UMAP plot and spatial feature plot showing the visualized distribution of specific markers of macrophage (a), $CD8^+$ T cell (b) and B cell (c).

(d) UMAP plots showing the distribution of specific markers of M2 macrophages.

(e and f) UMAP plots showing the distribution of specific markers of cytotoxic $CD8^+$ T cells (e) and exhausted $CD8^+$ T cells (f).

(g and h) Bubble plot showing the pathway enrichment of the macrophages (g) and $CD8^+$ T cell (h) subpopulations.

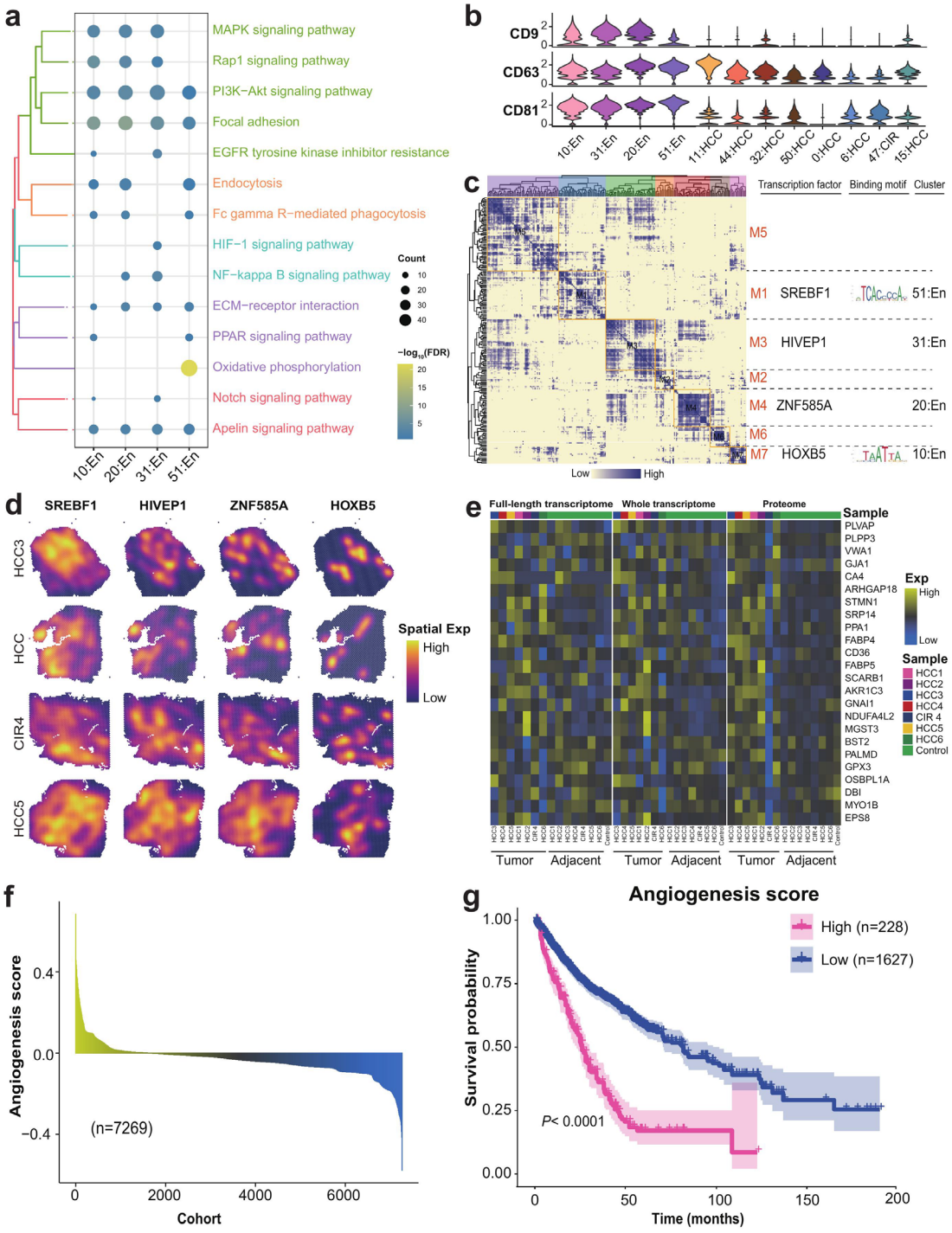


Supplementary Figure 3. Marker gene expression and pathways enrichment of immune cell subpopulations of HCC4 and CIR4 (related to Fig. 6, Supplementary Table 6 and Supplementary Table 7)

(a) UMAP plot and spatial feature plot showing the visualized distribution of specific markers of macrophage subpopulations of HCC4 and CIR4.

(b) UMAP plot and spatial feature plot showing the visualized distribution of $CD8^+$ T cell subpopulations of HCC4 and CIR4.

(c and d) Bubble plot showing the pathways enrichment of macrophage (c) and $CD8^+$ T cell (d) subpopulations of HCC4 and CIR4.



Supplementary Figure 4. Analysis of the ecological niche of angiogenesis in HCC (related to Fig. 7 and Supplementary Table 8)

(a) Bubble plot showing the pathways with significant participation of specific markers of endothelial cell subpopulations.

(b) Violin plot showing the expression of exosome marker genes (CD9, CD63, CD81) in the endothelial cell, HCC cell, and CIR subpopulations.

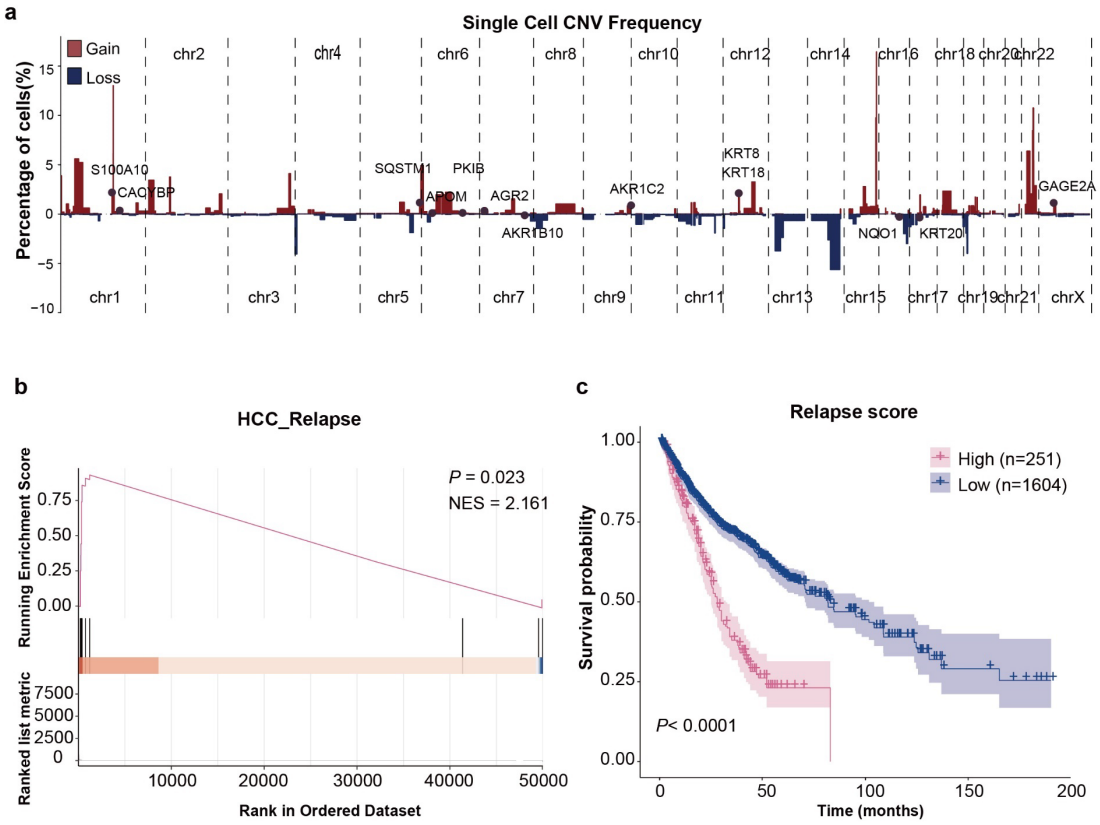
(c) Heatmap representing the gene regulatory network (GRN) of endothelial cell subpopulations. Left: Identification of the regulon modules based on the Connection specificity index (CSI) matrix of regulons; Middle: Representative transcription factors (TFs) of modules and their binding motifs; Right: Relationships of modules with endothelial cell clusters.

(d) Spatial feature plot showing the distribution of TFs that regulate endothelial cell cluster of HCC3, HCC4, CIR4 and HCC5.

(e) Heatmap representing the average expression of ecological niche genes of angiogenesis at the full-length transcriptome, whole transcriptome, proteome, and single-cell RNA levels.

(f) Bar chart showing the ecological niche gene set scores of angiogenesis of the HCC cohorts from The Cancer Genome Atlas (TCGA-LIHC), Gene Expression Omnibus (GEO) and International Cancer Genome Consortium (ICGC-LIRI).

(g) Survival curves demonstrating the HCC patients had significant better overall survival with lower angiogenesis scores compared to that with higher angiogenesis scores from the TCGA-LIHC, GEO and ICGC-LIRI cohorts.



Supplementary Figure 5. Prognostic value of recurrence score in HCC patients (related to Fig. 8)

(a) CNV frequencies of ecological niche genes of HCC recurrence in HCC2 at the single-cell level, with red color denoting copy number gain and blue denoting copy number loss.

(b) Gene set enrichment analysis (GSEA) plot indicating significant enrichment of ecological niche genes of HCC relapse in the independent HCC cohort. NES: normalized enrichment score.

(c) Survival curves demonstrating the HCC patients had significant better overall survival with lower recurrence scores compared to that with higher angiogenesis scores from the TCGA-LIHC, GEO and ICGC-LIRI cohorts.

2. Supplementary Table

Supplementary Table 1. Metabolites expressed in both HCC and cirrhosis (related to Figure 3)

Group	ID	KEGG_annotation	HMDB_ID	Name	AveExpr_Metabolome_Tissue	Control_Metabolome_Tissue	Case_Metabolome_Tissue	logFC_Metabolome_Tissue	AveExpr_Metabolome_Blood	Control_Metabolome_Blood	Case_Metabolome_Blood	logFC_Metabolome_Blood
HCC4	neg_149	--	--		0.00000376	2.80308E-06	0.0000162	2.530910572	3.19771E-05	1.99301E-05	0.000116306	2.544901568
HCC4	pos_3062	--	--		2.01101E-06	1.65032E-06	0.0000067	2.021419338	2.19375E-07	8.07143E-08	0.00000119	3.881993723
HCC4	pos_1922	--	--		1.87864E-06	1.54931E-06	0.00000616	1.991306659	4.20706E-05	2.19614E-05	0.000182835	3.057498463
HCC4	pos_247	C04555	--	Dehydroepiandrosterone sulfate	2.32866E-06	1.95E-06	0.00000729	1.904649971	2.20763E-07	1.51014E-07	0.000000709	2.231100595
HCC4	neg_945	C05466	--	Glycochenodeoxycholate	2.22429E-06	1.87769E-06	0.00000673	1.841645833	0.000007675	4.62857E-06	0.000029	2.647414009
HCC4	pos_4059	--	--		4.2115E-06	3.56E-06	0.0000127	1.835471763	5.25875E-07	2.93857E-07	0.00000215	2.871149788
HCC4	pos_2997	--	--		2.65786E-06	2.25231E-06	0.00000793	1.815916936	3.4375E-07	0.00000017	0.00000156	3.197939378
HCC4	neg_413	--	--		4.86433E-05	0.00004124	0.000144886	1.81280196	0.0000132	8.31429E-06	0.0000474	2.511222828
HCC4	neg_2128	C18043	HMDB0000653	Cholesterol sulfate	2.66349E-05	2.30298E-05	0.0000735	1.674239476	1.34538E-05	8.44714E-06	0.0000485	2.521449392
HCC4	pos_1844	--	--		0.000005125	4.51154E-06	0.0000131	1.537875422	0.000152466	7.89924E-05	0.000666779	3.077422124
HCC4	pos_329	--	--		0.000011881	1.05642E-05	0.000029	1.456875683	1.95538E-05	9.06143E-06	0.000093	3.359420296
HCC4	pos_1451	--	--		1.01619E-05	9.26661E-06	0.0000218	1.234214934	0.00000259	1.40286E-06	0.0000109	2.957888127
HCC4	pos_3618	--	--		0.000022555	2.09823E-05	0.000043	1.035163302	3.19465E-05	1.93433E-05	0.000120169	2.63515999
CIR4	neg_2128	C18043	HMDB0000653	Cholesterol sulfate	2.66349E-05	0.0000157	0.000168788	3.426375875	1.34538E-05	7.20429E-06	0.0000572	2.989087844
CIR4	neg_149	--	--		0.00000376	2.63385E-06	0.0000184	2.804462783	3.19771E-05	1.87694E-05	0.000124431	2.728889321
CIR4	pos_2997	--	--		2.65786E-06	0.00000197	0.0000116	2.557857271	3.4375E-07	2.22857E-07	0.00000119	2.416770467
CIR4	neg_413	--	--		4.86433E-05	3.65693E-05	0.000205605	2.491170129	0.0000132	6.77143E-06	0.0000582	3.103487016
CIR4	pos_1451	--	--		1.01619E-05	7.72045E-06	0.0000419	2.44019268	0.00000259	1.84571E-06	0.0000078	2.079294881
CIR4	pos_247	C04555	--	Dehydroepiandrosterone sulfate	2.32866E-06	1.7801E-06	0.00000946	2.409883141	2.20763E-07	1.95586E-07	0.000000397	1.021338009
CIR4	pos_4059	--	--		4.2115E-06	3.22777E-06	0.000017	2.396925404	5.25875E-07	3.52429E-07	0.00000174	2.303684512
CIR4	pos_3062	--	--		2.01101E-06	1.57032E-06	0.00000774	2.301279225	2.19375E-07	0.00000017	0.000000565	1.732716121
CIR4	pos_1922	--	--		1.87864E-06	1.56315E-06	0.00000598	1.935685709	4.20706E-05	2.67629E-05	0.000149225	2.479185206
CIR4	pos_3618	--	--		0.000022555	1.90977E-05	0.0000675	1.821489183	3.19465E-05	2.20656E-05	0.000101113	2.196099481
CIR4	neg_945	C05466	--	Glycochenodeoxycholate	2.22429E-06	1.90154E-06	0.00000642	1.755406177	0.000007675	4.14286E-06	0.0000324	2.967295835
CIR4	pos_1844	--	--		0.000005125	4.51923E-06	0.000013	1.52436249	0.000152466	9.67896E-05	0.000542199	2.485898721
CIR4	pos_329	--	--		0.000011881	1.09565E-05	0.0000239	1.125228673	1.95538E-05	1.34329E-05	0.0000624	2.215779833

Supplementary Table 2.Differential expression genes and enrichment pathways of macrophages subpopulations of HCC and cirrhosis (related to Figure 3)

a. M0

Gene symbol	avg_log2FC	p_val_adj	egulated gr	Description	pvalue	geneID	Count
CTSW	1.11542818	0	M0	Ribosome	5.46E-62	FAU/RPSA/RPL10A/RPL3/RPL4/RPL5/RPL6/RPL7A/RPL8/RPL10/RPL11/RPL13/RPL17/RPL18/RPL18A/RPL19/RPL23A/RPL24/RPL26/RPL30/RPL28/RPL29/RPL32/RPL34/RPL35A/RPL36AL/RPL37/RPL39/RPL41/RPL36A/RPLP0/RPLP1/RPLP2/RPS2/RPS3/RPS3A/RPS4X/RPS4Y1/RPS5/RPS6/RPS7/RPS8/RPS10/RPS12/RPS13/RPS14/RPS15/RPS15A/RPS16/RPS18/RPS19/RPS21/RPS23/RPS24/RPS25/RPS26/RPS27/RPS27A/RPS28/RPS29/RPL14/MRPS6	62
PRF1	0.992391387	0	M0	Coronavirus disease - COVID-19	2.26E-51	FAU/JAK1/RPSA/RPL10A/PIK3R1/RPL3/RPL4/RPL5/RPL6/RPL7A/RPL8/RPL10/RPL11/RPL13/RPL17/RPL18/RPL18A/RPL19/RPL23A/RPL24/RPL26/RPL30/RPL28/RPL29/RPL32/RPL34/RPL35A/RPL36AL/RPL37/RPL39/RPL41/RPL36A/RPLP0/RPLP1/RPLP2/RPS2/RPS3/RPS3A/RPS4X/RPS4Y1/RPS5/RPS6/RPS7/RPS8/RPS10/RPS12/RPS13/RPS14/RPS15/RPS15A/RPS16/RPS18/RPS19/RPS21/RPS23/RPS24/RPS25/RPS26/RPS27/RPS27A/RPS28/RPS29/RPL14	63
LCK	0.541155198	0	M0	Natural killer cell mediated cytotoxicity	1.52E-09	CD247/CD48/FYN/GZMB/HLA-B/HLA-C/IFNG/KLRD1/LCK/SH2D1A/PIK3R1/PRF1/RAC2/ZAP70/HCST/KLRK1/LAT/NCR3	18
CD3E	0.818628773	4.14E-303	M0	T cell receptor signaling pathway	1.41E-07	CD3D/CD3E/CD3G/CD247/CD8A/CD8B/CTLA4/FYN/IFNG/LCK/PIK3R1/PTPRC/ZAP70/LAT	14
TRBC2	1.168084505	3.67E-284	M0	Primary immunodeficiency	1.82E-07	CD3D/CD3E/CD8A/CD8B/IL2RG/IL7R/LCK/PTPRC/ZAP70	9
CST7	1.652801669	1.12E-269	M0	Th1 and Th2 cell differentiation	2.24E-07	RUNX3/CD3D/CD3E/CD3G/CD247/IFNG/IL2RB/IL2RG/JAK1/LCK/STAT4/ZAP70/LAT	13
CD247	0.728244053	5.51E-266	M0	Th17 cell differentiation	2.28E-07	CD3D/CD3E/CD3G/CD247/HSP90AB1/IFNG/IL2RB/IL2RG/JAK1/LCK/RORA/TGFB1/ZAP70/LAT	14
CD7	1.101954601	1.50E-256	M0	Antigen processing and presentation	2.57E-07	B2M/CD8A/CD8B/HLA-B/HLA-C/HLA-F/HSPA8/HSP90AB1/IFNG/KLRD1/PSME1/PSME2	12
GZMH	0.975527396	7.89E-253	M0	PD-L1 expression and PD-1 checkpoint pathway in cancer	7.52E-06	CD3D/CD3E/CD3G/CD247/IFNG/JAK1/LCK/PIK3R1/ZAP70/BATF/LAT	11
S1PR5	0.328782818	2.75E-244	M0	Human immunodeficiency virus 1 infection	4.21E-05	B2M/CALM1/CD3D/CD3E/CD3G/CD247/CFL1/HLA-B/HLA-C/HLA-F/PIK3R1/RAC2/SKP1/CXCR4/GNG2/APOBEC3G	16
SKAP1	0.440364275	2.07E-242	M0	Graft-versus-host disease	5.15E-05	GZMB/HLA-B/HLA-C/HLA-F/IFNG/KLRD1/PRF1	7
GZMM	0.691965856	2.88E-231	M0	Type I diabetes mellitus	6.03E-05	GZMB/HLA-B/HLA-C/HLA-F/HSPD1/IFNG/PRF1	7
ZAP70	0.310202545	2.15E-229	M0	Human T-cell leukemia virus 1 infection	7.35E-05	B2M/CCND2/CCND3/CD3D/CD3E/CD3G/ETS1/HLA-B/HLA-C/HLA-F/IL2RB/IL2RG/JAK1/LCK/PIK3R1/TGFB1	16
PYHIN1	0.401531827	2.56E-225	M0	Hematopoietic cell lineage	0.00011397	CD1C/CD2/CD3D/CD3E/CD3G/CD7/CD8A/CD8B/CD37/IL7R	10
CD2	0.611382783	2.43E-212	M0	Cell adhesion molecules	0.000214542	CD2/CD8A/CD8B/CTLA4/HLA-B/HLA-C/HLA-F/ICAM3/CD99/PTPRC/SPN/TIGIT	12
SYNE2	0.464282316	2.73E-208	M0	Allograft rejection	0.000245421	GZMB/HLA-B/HLA-C/HLA-F/IFNG/PRF1	6
CD3G	0.421441945	5.22E-207	M0	Measles	0.000457276	CCND2/CCND3/CD3D/CD3E/CD3G/HSPA8/IL2RB/IL2RG/JAK1/PIK3R1/RACK1	11
TRBC1	1.022430122	7.30E-201	M0	Viral myocarditis	0.000513892	ACTG1/FYN/HLA-B/HLA-C/HLA-F/PRF1/RAC2	7
TRAC	1.031342757	7.18E-197	M0	Epstein-Barr virus infection	0.001029885	B2M/RUNX3/CCND2/CCND3/CD3D/CD3E/CD3G/CD247/HLA-B/HLA-C/HLA-F/JAK1/PIK3R1	13
RORA	0.460438877	1.57E-193	M0	Autoimmune thyroid disease	0.00151886	CTLA4/GZMB/HLA-B/HLA-C/HLA-F/PRF1	6
ACAP1	0.462507217	2.47E-185	M0	Chagas disease	0.002884196	CD3D/CD3E/CD3G/CD247/IFNG/PIK3R1/CCL5/TGFB1	8
KLRK1	0.369578816	2.91E-182	M0	Cellular senescence	0.003986129	ZFP36L2/CALM1/CCND2/CCND3/ETS1/HLA-B/HLA-C/HLA-F/PIK3R1/TGFB1	10
SPOCK2	0.440016961	2.97E-180	M0	Yersinia infection	0.0052904	ACTG1/ARF6/CD8A/CD8B/LCK/PIK3R1/RAC2/ZAP70/LAT	9
GZMA	1.124965626	1.18E-171	M0	Leukocyte transendothelial migration	0.005688395	ACTG1/RHOH/CD99/PIK3R1/RAC2/EZR/CXCR4/MYL12A	8
FYN	0.550675756	2.41E-171	M0	Cytokine-cytokine receptor interaction	0.010596005	CD27/IFNG/IL2RB/IL2RG/IL7R/LTB/CCL5/XCL1/XCL2/TGFB1/TNFRSF4/CXCR4/TNFRSF18/IL32	14
KLRD1	0.639037868	1.71E-170	M0	JAK-STAT signaling pathway	0.015064562	CCND2/CCND3/IFNG/IL2RB/IL2RG/IL7R/JAK1/PIK3R1/STAT4	9
CD3D	0.860633257	1.32E-165	M0	Salmonella infection	0.015596999	ACTG1/ARF6/RHOH/FLNA/GAPDH/HSP90AB1/PFN1/PTPRC/RPS3/SKP1/TUBA4A/MYL12A	12
FGFBP2	0.808200478	9.81E-164	M0	Human cytomegalovirus infection	0.018357275	B2M/CALM1/HLA-B/HLA-C/HLA-F/JAK1/PIK3R1/RAC2/CCL5/CXCR4/GNG2	11
IL2RB	0.41918853	1.75E-162	M0	Inflammatory bowel disease	0.0188792	IFNG/IL2RG/RORA/STAT4/TGFB1	5
IL32	1.81227871	1.18E-158	M0	Fc epsilon RI signaling pathway	0.022514911	ALOX5AP/FYN/PIK3R1/RAC2/LAT	5
TIGIT	0.461234433	1.67E-158	M0	Proteasome	0.023272802	IFNG/PSMB9/PSME1/PSME2	4
TENT5C	0.410309452	3.14E-154	M0	Fc gamma R-mediated phagocytosis	0.027790349	ARF6/CFL1/PIK3R1/PTPRC/RAC2/LAT	6
SLC38A1	0.345263813	2.49E-152	M0	Malaria	0.030539988	IFNG/KLRB1/TGFB1/KLRK1	4
HOPX	0.484181233	4.52E-151	M0	Viral protein interaction with cytokine and cytokine receptor	0.031645764	IL2RB/IL2RG/CCL5/XCL1/XCL2/CXCR4	6
NKG7	2.360814911	1.05E-149	M0	Osteoclast differentiation	0.032767129	FYN/IFNG/JAK1/JUND/LCK/PIK3R1/TGFB1	7
NCR3	0.287203005	1.35E-146	M0	Kaposi sarcoma-associated herpesvirus infection	0.041765727	CALM1/HLA-B/HLA-C/HLA-F/JAK1/PIK3R1/RPS27A/UBB/GNG2	9
IL2RG	0.768375131	2.29E-145	M0	PI3K-Akt signaling pathway	0.042552901	AREG/CCND2/CCND3/HSP90AB1/IL2RB/IL2RG/IL7R/JAK1/PIK3R1/PPP2R5C/RPS6/YWHAZ/GNG2/DDIT4	14
SH2D2A	0.420350347	5.88E-143	M0	Pathogenic Escherichia coli infection	0.045302647	ACTG1/ARF6/FYN/GAPDH/NCL/RPS3/TUBA4A/EZR/SLC9A3R1	9
TRGC2	0.388828641	8.60E-139	M0	Ras signaling pathway	0.049986664	ARF6/CALM1/ETS1/PIK3R1/RAC2/REL/STK4/ZAP70/LAT/GNG2	10
IFITM1	0.507157197	1.23E-135	M0				
SYTL3	0.349129247	5.89E-133	M0				
ETS1	0.424953761	7.68E-129	M0				
GZMB	1.108354325	1.02E-128	M0				
MYBL1	0.255796893	4.04E-127	M0				
SPON2	0.591564452	1.95E-126	M0				
KLRF1	0.382639964	1.71E-124	M0				
LBH	0.38680712	4.19E-122	M0				
TRDC	0.365140016	7.97E-121	M0				
BCL11B	0.324824842	1.76E-120	M0				
LAIR2	0.396180118	7.92E-119	M0				
SH2D1A	0.260367861	9.63E-119	M0				
CD69	0.715343429	2.51E-111	M0				
CLIC3	0.40277092	1.21E-110	M0				

RPS3	0.752071956	3.40E-108	M0
GNLY	2.281121116	9.46E-105	M0
CCL5	1.508617688	5.16E-101	M0
PDE4D	0.253993223	1.37E-100	M0
RUNX3	0.635812663	2.02E-99	M0
MYOM2	0.300927795	7.12E-99	M0
CD8A	0.369521396	3.94E-97	M0
SEPTIN1	0.335146295	3.17E-96	M0
RAC2	0.692358477	5.23E-96	M0
PTPN7	0.456007933	3.79E-95	M0
KLRB1	0.742661962	1.17E-93	M0
CORO1A	0.702939464	6.97E-89	M0
CD27	0.333600785	1.27E-87	M0
PRKCH	0.305893668	1.28E-87	M0
RPS15A	0.611533455	1.58E-87	M0
STAT4	0.269450924	5.36E-87	M0
RHOH	0.33666151	5.40E-80	M0
BTG1	0.732405913	5.74E-76	M0
RPL30	0.547941935	2.10E-74	M0
CYTIP	0.518351902	8.60E-74	M0
CD8B	0.297136151	1.04E-72	M0
RPS27A	0.534805891	2.20E-70	M0
CRIP1	0.556136684	5.16E-70	M0
CCND2	0.369147651	7.68E-68	M0
OPTN	0.304426136	1.19E-67	M0
RPL6	0.531279524	4.42E-67	M0
LAT	0.272816051	4.01E-66	M0
HIST1H4C	0.570594755	7.22E-64	M0
ITM2A	0.39090304	7.38E-64	M0
ENC1	0.268098989	3.70E-62	M0
TUBA4A	0.464175574	5.11E-61	M0
ICAM3	0.314642251	1.02E-60	M0
ABHD17A	0.515193821	1.25E-59	M0
XCL2	1.155246538	2.48E-59	M0
RPSA	0.568191576	8.59E-59	M0
RPS7	0.497813132	3.42E-57	M0
LIMD2	0.469277826	1.03E-56	M0
RPS4X	0.5735972	9.05E-56	M0
JUND	0.621495048	4.50E-55	M0
S100A4	0.653735208	8.03E-55	M0
AKNA	0.409434822	8.59E-55	M0
CTLA4	0.255126515	1.78E-54	M0
RPL18	0.460942233	2.59E-54	M0
RPS27	0.505996396	1.43E-53	M0
C12orf75	0.255889869	2.29E-53	M0
RPS12	0.448313037	4.74E-53	M0
RAB27A	0.252418835	1.15E-52	M0
IFITM2	0.620628569	1.19E-52	M0
RPL5	0.56705761	4.09E-52	M0
RPL14	0.458475726	4.23E-52	M0
RPL28	0.422099601	4.55E-52	M0
ISG20	0.550186877	5.65E-52	M0
RPL34	0.448973562	3.17E-51	M0
CALM1	0.520971724	5.12E-51	M0
RPL11	0.431345171	1.00E-50	M0
IRF1	0.530157686	1.52E-50	M0
C12orf57	0.485788108	1.84E-50	M0
STK17A	0.322379171	4.27E-50	M0
EEF1D	0.483088892	5.60E-50	M0
RPL24	0.421076509	3.17E-49	M0
TLE5	0.542295702	3.37E-49	M0
CNOT6L	0.385082351	6.73E-49	M0
ZFP36L2	0.786453167	1.25E-48	M0
RPL10	0.422593829	1.44E-48	M0

PFN1	0.497531678	4.94E-48	M0
PLAC8	0.359962454	4.98E-48	M0
PCED1B-AS1	0.448959856	2.00E-47	M0
RPLP1	0.374137532	2.77E-47	M0
RPL7A	0.444162578	2.82E-47	M0
IL7R	0.696007202	5.96E-47	M0
RPL39	0.413530671	1.97E-46	M0
PLAAT4	0.556057481	5.50E-46	M0
RPL41	0.409875275	6.15E-46	M0
MYL12A	0.514928687	1.33E-45	M0
LTB	0.689343328	6.02E-45	M0
DUSP2	0.757066342	6.95E-45	M0
RPL32	0.392682657	3.00E-44	M0
FAU	0.367845378	4.19E-43	M0
RPS21	0.405585674	1.09E-41	M0
SPN	0.26437703	1.98E-41	M0
ALOX5AP	0.3969526	3.32E-41	M0
RPL35A	0.412946257	3.98E-40	M0
RPS10	0.428793958	4.73E-40	M0
RPS15	0.382561602	7.15E-40	M0
RPS8	0.412401218	8.65E-40	M0
DUSP4	0.433297164	2.67E-39	M0
STK17B	0.358412542	4.20E-39	M0
SLC9A3R1	0.271491567	1.26E-38	M0
TNFRSF18	0.36026968	1.95E-38	M0
PSMB9	0.444058332	4.86E-38	M0
CLEC2D	0.264801137	1.04E-37	M0
PPP2R5C	0.419768851	1.12E-37	M0
STK4	0.472694505	2.55E-37	M0
PTPRC	0.475000596	3.18E-37	M0
DDX24	0.446040598	1.36E-36	M0
H3F3B	0.424315611	1.68E-36	M0
RPLP2	0.346236142	1.35E-35	M0
RPL19	0.362260666	2.00E-35	M0
RPS26	0.600759148	2.62E-33	M0
EEF1A1	0.39488672	8.10E-33	M0
LIME1	0.305224796	9.55E-33	M0
CD1C	0.319917291	9.35E-32	M0
PTMA	0.311390494	2.04E-31	M0
RNF19A	0.336603947	2.71E-31	M0
JAK1	0.390739054	3.07E-31	M0
HLA-B	0.325169372	3.36E-31	M0
RPL37	0.321839505	4.24E-31	M0
DDIT4	0.459874188	6.28E-31	M0
BATF	0.303955013	7.71E-31	M0
RPL4	0.399085501	1.45E-30	M0
VPS37B	0.45224277	3.69E-30	M0
TERF2IP	0.32313082	5.53E-30	M0
CCND3	0.254563179	5.32E-29	M0
RPS24	0.307181239	6.00E-29	M0
ANXA6	0.255933382	6.57E-29	M0
S100A6	0.334979534	2.15E-28	M0
TMA7	0.360236022	2.16E-28	M0
TAGLN2	0.417876716	3.36E-28	M0
DUSP5	0.363787639	6.28E-28	M0
EEF1B2	0.390816615	6.36E-28	M0
CD52	0.437741084	2.29E-27	M0
NSD3	0.324463231	6.77E-27	M0
RPL8	0.320718957	1.33E-26	M0
RPL13	0.33539024	1.40E-26	M0
PDE7A	0.258660179	4.65E-26	M0
VAMP2	0.325232942	4.92E-26	M0
CFL1	0.30842055	1.47E-25	M0
RPL10A	0.420833424	1.90E-25	M0

RPS3A	0.393657834	2.00E-25	M0
SEPTIN7	0.336616937	2.04E-25	M0
APOBEC3G	0.250203411	2.73E-25	M0
RPS28	0.296026787	3.20E-25	M0
PSME1	0.354714393	3.20E-25	M0
CEMIP2	0.406481252	4.61E-25	M0
RPS25	0.331731627	9.91E-25	M0
IFNG	0.781102347	1.20E-24	M0
B2M	0.272734614	6.38E-24	M0
KMT2E	0.361349616	6.58E-24	M0
HLA-C	0.334972899	7.13E-24	M0
AREG	0.636195202	1.44E-23	M0
RPL29	0.334494892	2.18E-23	M0
UBB	0.332528187	3.11E-23	M0
RPS2	0.341773932	3.45E-23	M0
ARHGDIB	0.360325154	3.70E-23	M0
HLA-F	0.325400161	1.07E-22	M0
RPL3	0.40488093	2.11E-22	M0
HNRNPA2B1	0.343322415	2.80E-22	M0
SLC2A3	0.35769427	3.67E-22	M0
ACTG1	0.342322758	6.10E-22	M0
CIB1	0.308489985	1.67E-21	M0
H2AFZ	0.358283504	2.68E-21	M0
LSP1	0.290907051	3.60E-21	M0
SARAF	0.361252419	5.07E-21	M0
EVL	0.342170808	7.95E-21	M0
RPS13	0.28580806	1.24E-20	M0
RBM8A	0.324938569	1.45E-20	M0
TSC22D3	0.459140791	1.83E-20	M0
TSPYL2	0.318092538	3.13E-20	M0
UBALD2	0.258045659	3.23E-20	M0
FMNL1	0.301137487	4.29E-20	M0
YPEL3	0.297249144	1.38E-19	M0
RSBN1L	0.253905925	2.13E-19	M0
PNISR	0.312294945	2.87E-19	M0
RPL23A	0.324376278	2.89E-19	M0
GNG2	0.314971845	3.67E-19	M0
RPL36AL	0.297418622	3.69E-19	M0
CDC42SE2	0.280927572	5.08E-19	M0
SUB1	0.318078646	1.01E-18	M0
FLNA	0.33754393	1.36E-18	M0
SLA	0.353598766	2.85E-18	M0
YWHAZ	0.32934367	4.69E-18	M0
RPS29	0.345754431	1.13E-17	M0
SMCHD1	0.270684741	1.40E-17	M0
LDHB	0.337660847	2.12E-17	M0
RPL36A	0.269538471	2.41E-17	M0
HSPA8	0.386470947	4.32E-17	M0
CREM	0.441623576	4.77E-17	M0
HMGB1	0.294050891	4.93E-17	M0
GIMAP7	0.265509431	8.82E-17	M0
TRIR	0.293429596	9.18E-17	M0
HCST	0.355724654	1.06E-16	M0
GZMK	0.557345949	1.54E-16	M0
RPS5	0.345732866	2.14E-16	M0
ARF6	0.291103539	2.38E-16	M0
RPS19	0.329643055	3.00E-16	M0
CD37	0.282572481	8.20E-16	M0
RPS14	0.28464598	8.51E-16	M0
HMGB2	0.291986693	1.19E-15	M0
RBM39	0.302605165	3.14E-15	M0
NACA	0.278174097	4.03E-15	M0
RPL18A	0.299564451	4.44E-15	M0
NCL	0.318384504	1.95E-14	M0

RPS23	0.297609724	4.03E-14	M0
TGFB1	0.331954662	4.14E-14	M0
RPS18	0.37144039	5.68E-14	M0
TNFRSF4	0.362285567	1.90E-13	M0
CD48	0.286879252	2.01E-13	M0
BRD2	0.27955171	3.40E-13	M0
LINC-PINT	0.3272674	3.85E-13	M0
MALAT1	0.334743271	6.10E-13	M0
SNRPD2	0.280546839	6.18E-13	M0
RPS16	0.258937035	9.32E-13	M0
RPL17	0.277832093	1.15E-12	M0
RACK1	0.279895987	1.28E-12	M0
PIK3R1	0.319281378	1.73E-12	M0
ARL4C	0.309799639	2.46E-12	M0
SRSF7	0.337578132	4.66E-12	M0
RPLP0	0.277917148	5.09E-12	M0
RPS4Y1	0.323873301	8.61E-12	M0
SKP1	0.272257442	3.87E-11	M0
CXCR4	0.407332953	5.05E-11	M0
PSME2	0.287783382	5.81E-11	M0
CD99	0.253463322	1.12E-10	M0
REL	0.332483631	1.34E-10	M0
EZR	0.335465019	1.55E-10	M0
RPL26	0.279532997	4.85E-10	M0
RPS6	0.272155388	1.11E-09	M0
SSR2	0.253466681	1.34E-09	M0
ADGRE5	0.280853552	8.13E-09	M0
METRNL	0.330836048	1.03E-08	M0
MRPS6	0.258996165	1.23E-08	M0
LEPROTL1	0.264432743	1.67E-08	M0
CACYBP	0.348490421	5.22E-08	M0
NPM1	0.270189308	1.07E-07	M0
RSRP1	0.264229082	6.47E-07	M0
RGCC	0.25242679	1.24E-06	M0
ELF1	0.272288919	1.80E-06	M0
HSP90AB1	0.26409967	3.92E-06	M0
GAPDH	0.264190577	4.54E-06	M0
HSPD1	0.375175	4.94E-06	M0
XCL1	0.374733104	0.000203073	M0

b. M1_TAM

Gene symbol	avg_log2FC	p_val_adj	egulated gr	Description	pvalue	geneID	Count
RPS26	0.737618126	0	M1_TAM	Coronavirus disease - COVID-19	3.97E-07	C3/IL1B/RPL4/RPL31/RPL34/RPL36A/RPLP2/RPS3A/RPS8/RPS24/RPS26/NLRP3	12
PFN1	0.674831918	0	M1_TAM	Salmonella infection	8.48E-07	ACTB/BIRC3/RHOA/GAPDH/IL1B/PFN1/MAP2K3/RAC1/S100A10/ARPC2/TUBA1B/NLRP3	12
RPS8	0.457698755	0	M1_TAM	Lipid and atherosclerosis	1.43E-06	RHOA/CXCL1/CXCL3/IL1B/LYN/POU2F2/MAP2K3/RAC1/CCL3/CCL3L1/NLRP3	11
EEF1A1	0.383467984	0	M1_TAM	NF-kappa B signaling pathway	2.18E-06	BIRC3/BCL2A1/CXCL1/CXCL3/IL1B/LYN/CCL4/CCL4L2	8
CHI3L1	0.462346412	5.34E-246	M1_TAM	Toll-like receptor signaling pathway	2.18E-06	IL1B/MAP2K3/RAC1/CCL3/CCL3L1/CCL4/SPP1/CCL4L2	8
RPLP2	0.374670716	1.20E-244	M1_TAM	Pertussis	2.93E-06	RHOA/C3/CFL1/GNAI2/IL1A/IL1B/NLRP3	7
ACTB	0.584439097	2.65E-223	M1_TAM	Chemokine signaling pathway	3.85E-06	RHOA/GNAI2/CXCL1/CXCL3/LYN/RAC1/CCL3/CCL3L1/CCL4/CCL4L2	10
CCNI	0.398620413	2.06E-203	M1_TAM	Ribosome	5.92E-06	RPL4/RPL31/RPL34/RPL36A/RPLP2/RPS3A/RPS8/RPS24/RPS26	9
CRP	0.657352771	2.11E-202	M1_TAM	Glycolysis / Gluconeogenesis	1.85E-05	ENO1/GAPDH/LDHA/PGK1/PKM/TPI1	6
S100A6	0.938877324	4.12E-195	M1_TAM	Legionellosis	0.000106508	C3/EEF1A1/CXCL1/CXCL3/IL1B	5
PABPC1	0.393176067	1.81E-185	M1_TAM	Rheumatoid arthritis	0.000119197	CXCL1/CXCL3/IL1A/IL1B/CCL3/CCL3L1	6
TPT1	0.285777133	3.73E-176	M1_TAM	Yersinia infection	0.000137992	ACTB/RHOA/IL1B/MAP2K3/RAC1/ARPC2/NLRP3	7
PPIA	0.317282228	3.32E-163	M1_TAM	Viral protein interaction with cytokine and cytokine receptor	0.000178051	CXCL1/CXCL3/CCL3/CCL3L1/CCL4/CCL4L2	6
RAC1	0.358537409	4.25E-159	M1_TAM	Pathogenic Escherichia coli infection	0.000222363	ACTB/RHOA/GAPDH/IL1B/RAC1/ARPC2/TUBA1B/NLRP3	8
GABARAP	0.333607662	4.78E-158	M1_TAM	HIF-1 signaling pathway	0.000285152	EIF4E/ENO1/GAPDH/LDHA/PGK1/TIMP1	6
RHOA	0.338086518	4.28E-153	M1_TAM	Biosynthesis of amino acids	0.000390832	ENO1/GAPDH/PGK1/PKM/TPI1	5
RPL4	0.33662242	3.08E-142	M1_TAM	Human cytomegalovirus infection	0.000544668	RHOA/GNAI2/IL1B/RAC1/CCL3/CCL3L1/CCL4/CCL4L2	8
CFL1	0.323963934	2.23E-135	M1_TAM	NOD-like receptor signaling pathway	0.000830537	BIRC3/RHOA/CXCL1/CXCL3/IL1B/GABARAP/NLRP3	7
S100A4	0.919787494	2.27E-131	M1_TAM	Shigellosis	0.001004372	ACTB/RHOA/C3/IL1B/PFN1/RAC1/ARPC2/NLRP3	8
RPL36A	0.323073571	9.32E-130	M1_TAM	Fc gamma R-mediated phagocytosis	0.001266385	CFL1/LYN/RAC1/VASP/ARPC2	5
COTL1	0.735897135	3.31E-128	M1_TAM	Viral carcinogenesis	0.001516228	RHOA/C3/LYN/PKM/PMAIP1/RAC1/YWHAH	7
FXYD5	0.388879372	2.64E-127	M1_TAM	Chagas disease	0.001584869	C3/GNAI2/IL1B/CCL3/CCL3L1	5
RPS3A	0.299174439	1.45E-124	M1_TAM	Rap1 signaling pathway	0.001790707	ACTB/RHOA/GNAI2/PFN1/MAP2K3/RAC1/VASP	7

PLAUR	0.616240539	2.16E-117	M1_TAM	Necroptosis	0.002071367	BIRC3/HMGB1/IL1A/IL1B/PPIA/NLRP3	6
RPL34	0.308505976	1.26E-115	M1_TAM	TNF signaling pathway	0.002393663	BIRC3/CXCL1/CXCL3/IL1B/MAP2K3	5
HTRA1	0.336684364	2.20E-114	M1_TAM	Fc epsilon RI signaling pathway	0.002456813	ALOX5AP/LYN/MAP2K3/RAC1	4
S100A11	0.45360936	2.08E-109	M1_TAM	Leukocyte transendothelial migration	0.002585912	ACTB/RHOA/GNAI2/RAC1/VASP	5
RPL31	0.29201131	1.86E-108	M1_TAM	Carbon metabolism	0.002686137	ENO1/GAPDH/PGK1/PKM/TPI1	5
ARPC2	0.290540905	3.73E-108	M1_TAM	Epithelial cell signaling in Helicobacter pylori infection	0.00273164	CXCL1/CXCL3/LYN/RAC1	4
SLC11A1	0.255358478	6.42E-107	M1_TAM	Tight junction	0.002814056	ACTB/RHOA/RAC1/VASP/ARPC2/TUBA1B	6
GAPDH	0.697473149	8.15E-106	M1_TAM	Cytokine-cytokine receptor interaction	0.003083525	CXCL1/CXCL3/IL1A/IL1B/CCL3/CCL3L1/CCL4/CCL4L2	8
EEF2	0.281935771	2.03E-105	M1_TAM	Platelet activation	0.003719279	ACTB/RHOA/GNAI2/LYN/VASP	5
GNAI2	0.270528726	1.44E-103	M1_TAM	Tuberculosis	0.003845046	RHOA/C3/IL1A/IL1B/LSP1/CORO1A	6
RPS24	0.266083771	7.06E-103	M1_TAM	Bacterial invasion of epithelial cells	0.003858982	ACTB/RHOA/RAC1/ARPC2	4
TPM3	0.28201965	2.22E-100	M1_TAM	Leishmaniasis	0.003858982	C3/EEF1A1/IL1A/IL1B	4
AIF1	0.329568874	5.77E-94	M1_TAM	Apoptosis	0.005505352	ACTB/BIRC3/BCL2A1/PMAIP1/TUBA1B	5
SPI1	0.317986668	3.21E-93	M1_TAM	Fluid shear stress and atherosclerosis	0.006032833	ACTB/RHOA/IL1A/IL1B/RAC1	5
NLRP3	0.402176634	6.99E-93	M1_TAM	Focal adhesion	0.006559926	ACTB/BIRC3/RHOA/RAC1/SPP1/VASP	6
SERPINA1	0.464700105	9.30E-93	M1_TAM	Alcoholic liver disease	0.006595064	C3/CXCL1/CXCL3/IL1B/MAP2K3	5
CORO1A	0.365943773	1.92E-89	M1_TAM	Phagosome	0.008734905	ACTB/C3/RAC1/TUBA1B/CORO1A	5
ZFP36L1	0.396926346	5.55E-89	M1_TAM	Regulation of actin cytoskeleton	0.009616642	ACTB/RHOA/CFL1/PFN1/RAC1/ARPC2	6
CD93	0.269211801	3.92E-84	M1_TAM	C-type lectin receptor signaling pathway	0.011080797	RHOA/IL1B/LSP1/NLRP3	4
S100A10	0.658026485	3.54E-79	M1_TAM	Cytosolic DNA-sensing pathway	0.015632504	IL1B/CCL4/CCL4L2	3
TIMP1	0.386553134	2.10E-78	M1_TAM	Adherens junction	0.021461557	ACTB/RHOA/RAC1	3
NINJ1	0.383457799	1.20E-77	M1_TAM	Osteoclast differentiation	0.022154235	IL1A/IL1B/RAC1/SPI1	4
CAPZB	0.290986314	5.83E-77	M1_TAM	Kaposi sarcoma-associated herpesvirus infection	0.022964111	C3/CXCL1/CXCL3/LYN/RAC1	5
FCGBP	0.467269159	1.11E-71	M1_TAM	RNA degradation	0.028328066	BTG1/ENO1/PABPC1	3
TPI1	0.39052615	7.22E-71	M1_TAM	Apoptosis - multiple species	0.029208072	BIRC3/PMAIP1	2
C3	0.570334476	4.16E-68	M1_TAM	Complement and coagulation cascades	0.034157182	C3/SERPINA1/PLAUR	3
VASP	0.253138985	6.20E-66	M1_TAM	Colorectal cancer	0.035184868	RHOA/PMAIP1/RAC1	3
ATP5MC2	0.259691599	4.32E-65	M1_TAM	Oxytocin signaling pathway	0.039865753	ACTB/RHOA/EEF2/GNAI2	4
POU2F2	0.311899098	1.15E-64	M1_TAM	IL-17 signaling pathway	0.043976526	CXCL1/CXCL3/IL1B	3
IL1B	1.55196524	1.72E-64	M1_TAM	Graft-versus-host disease	0.048072493	IL1A/IL1B	2
LUCAT1	0.333854947	4.72E-63	M1_TAM	Hematopoietic cell lineage	0.049977704	CD37/IL1A/IL1B	3
PTGDS	0.299100695	2.96E-62	M1_TAM				
HMGB1	0.251824056	2.74E-60	M1_TAM				
MAP2K3	0.286955756	2.74E-59	M1_TAM				
PDE4B	0.267052818	5.70E-59	M1_TAM				
IL1A	0.290547024	1.91E-55	M1_TAM				
SMIM25	0.387548737	3.00E-52	M1_TAM				
NAP1L1	0.333752744	3.08E-50	M1_TAM				
STXBP2	0.385312715	1.67E-49	M1_TAM				
ALOX5AP	0.429718258	4.08E-48	M1_TAM				
PTP4A2	0.317244414	1.18E-47	M1_TAM				
BCL2A1	0.821896459	1.26E-46	M1_TAM				
LSP1	0.263032066	3.23E-39	M1_TAM				
YWHAH	0.386191582	2.03E-38	M1_TAM				
NFKBIZ	0.434781302	2.12E-38	M1_TAM				
LYN	0.293309286	4.50E-37	M1_TAM				
LRRFIP1	0.254226997	4.52E-37	M1_TAM				
CCL4L2	0.580806914	4.33E-34	M1_TAM				
MIF	0.600549646	5.74E-34	M1_TAM				
PMAIP1	0.290339949	2.19E-32	M1_TAM				
PKM	0.292830823	3.98E-32	M1_TAM				
CXCL3	0.506429373	1.65E-29	M1_TAM				
G0S2	0.686166632	1.28E-28	M1_TAM				
SPP1	1.690337828	1.09E-25	M1_TAM				
CCL4	0.496588851	1.52E-24	M1_TAM				
CCL3	0.701819204	3.28E-24	M1_TAM				
NEAT1	0.346659014	4.26E-24	M1_TAM				
CCL3L1	0.656917075	1.23E-23	M1_TAM				
LDHA	0.42661825	2.02E-23	M1_TAM				
CD37	0.252924497	1.68E-16	M1_TAM				
FCN1	0.491108921	1.94E-15	M1_TAM				
LGALS1	0.457712411	4.51E-15	M1_TAM				
BTG1	0.254553103	3.57E-13	M1_TAM				
EIF4E	0.270379634	5.22E-13	M1_TAM				

IFITM2	0.436441336	5.64E-13	M1_TAM
ENO1	0.2676715	6.79E-13	M1_TAM
PGK1	0.279286274	1.59E-12	M1_TAM
PLEK	0.294139671	2.04E-08	M1_TAM
TNFAIP2	0.28288518	3.57E-08	M1_TAM
BIRC3	0.388633904	3.73E-08	M1_TAM
RNASE1	0.615304935	4.08E-07	M1_TAM
TUBA1B	0.257175319	1.58E-06	M1_TAM
CXCL1	0.434693857	0.006483147	M1_TAM

c. M2_TAM

Gene symbol	avg_log2FC	p_val_adj	egulated gr	Description	pvalue	geneID	Count
APOC3	2.685739585	0	M2_TAM	Lysosome	9.57E-19	ACP5/ASAH1/ATP6AP1/CD63/CD68/CTSC/TPP1/CTSB/CTSD/CTSH/CTSL/CTSS/CTSZ/FUCA1/GLA/GM2A/GNS/GUSB/HEXA/LAMP1/LAMP2/LIPA/MAN2B1/CTSA/PPT1/LGMN/PSAP/LAPTM4A/MCOLN1	29
IGKC	2.238345421	0	M2_TAM	Antigen processing and presentation	1.25E-14	B2M/CALR/CD4/CTSB/CTSL/CTSS/HLA-A/HLA-B/HLA-C/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/HSPA5/LGMN	20
APOH	1.91595982	0	M2_TAM	Phagosome	2.51E-12	ATP6AP1/CALR/CTSL/CTSS/CYBA/FCGR2A/FCGR2B/HLA-A/HLA-B/HLA-C/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/LAMP1/LAMP2/MSR1/ATP6V0E1/CD209	24
AMBP	1.557892739	0	M2_TAM	Staphylococcus aureus infection	8.29E-11	C1QA/C1QB/C1QC/C2/C3AR1/CFD/FCGR2A/FCGR2B/FPR3/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5	18
APOE	1.513499426	0	M2_TAM	Complement and coagulation cascades	9.68E-11	A2M/SERPINC1/SERPING1/C1QA/C1QB/C1QC/C2/C3AR1/CD59/CLU/CFD/FGB/CFHR1/CFHR2/KNG1/VTN/VSIG4	17
TTR	1.495095512	0	M2_TAM	Allograft rejection	2.00E-10	HLA-A/HLA-B/HLA-C/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5	12
GSTA1	1.356746831	0	M2_TAM	Mineral absorption	5.29E-10	ATOX1/ATP1B1/HMOX1/MT1A/MT1B/MT1E/MT1F/MT1G/MT1H/MT1M/MT1X/MT2A/TF/SLC40A1	14
MT1H	1.332326953	0	M2_TAM	Graft-versus-host disease	7.40E-10	HLA-A/HLA-B/HLA-C/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5	12
LGMN	1.292719854	0	M2_TAM	Type I diabetes mellitus	1.00E-09	HLA-A/HLA-B/HLA-C/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5	12
IFI27	1.289213208	0	M2_TAM	Viral myocarditis	5.94E-09	HLA-A/HLA-B/HLA-C/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/CYCS	13
MT1G	1.270709383	0	M2_TAM	Autoimmune thyroid disease	1.37E-08	HLA-A/HLA-B/HLA-C/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5	12
GPNMB	1.241857536	0	M2_TAM	Leishmaniasis	1.69E-08	CYBA/FCGR2A/FOS/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR1/JUN	14
CTSD	1.217118757	0	M2_TAM	Tuberculosis	1.83E-08	ATP6AP1/CALM3/CTSD/CTSS/FCGR2A/FCGR2B/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/HSPA9/IFNGR1/LAMP1/LAMP2/CD209/CYCS	21
ACP5	1.152773182	0	M2_TAM	Rheumatoid arthritis	2.82E-08	ACP5/ATP6AP1/CTSL/FOS/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/JUN/ATP6V0E1	15
PLD3	1.112303888	0	M2_TAM	Asthma	9.08E-08	HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5	9
CHMP1B	1.112094842	0	M2_TAM	Chemical carcinogenesis - reactive oxygen species	7.35E-07	ATP5MC1/ATP5MC3/COX7B/CYBA/AKR1C1/EPHX1/FOS/GSTA1/HMOX1/JUN/MGST1/MGST3/NDUFA1/NDUFA4/NDUFB7/NDUFC2/NDUFS6/SOD2/UQCRH/AKR1C3/NDUFB11	21
RARRES2	1.080801192	0	M2_TAM	Cholesterol metabolism	7.89E-07	ABCA1/APOA1/APOC1/APOC2/APOC3/APOE/APOH/LIPA/LRP1/LRPAP1	10
MGST1	1.043744388	0	M2_TAM	Fluid shear stress and atherosclerosis	1.17E-06	ASS1/CALM3/CTSL/CYBA/DUSP1/FOS/GSTA1/HMOX1/JUN/MGST1/MGST3/MMP9/HSP90B1/TXN/VCAM1/KLF2	16
VTN	1.033612405	0	M2_TAM	Th1 and Th2 cell differentiation	1.18E-06	CD4/FOS/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR1/JUN	13
HSPA5	1.027095474	0	M2_TAM	Inflammatory bowel disease	1.28E-06	HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR1/JUN	11
A2M	0.977486565	0	M2_TAM	Epstein-Barr virus infection	2.59E-06	B2M/CALR/HLA-A/HLA-B/HLA-C/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/HES1/JUN/GADD45B/ISG15/CYCS	19
FOLR2	0.974901877	0	M2_TAM	Hematopoietic cell lineage	2.76E-06	CD4/CD9/CD59/CSF1R/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5	13
LIPA	0.962861681	0	M2_TAM	Intestinal immune network for IgA production	6.01E-06	HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5	9
C1QC	0.961885147	0	M2_TAM	Th17 cell differentiation	7.37E-06	CD4/FOS/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR1/JUN	13
SLC40A1	0.938547432	0	M2_TAM	Cell adhesion molecules	1.35E-05	CD4/HLA-A/HLA-B/HLA-C/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/SIGLEC1/VCAM1	15
SELENOP	0.92655092	0	M2_TAM	Systemic lupus erythematosus	2.04E-05	C1QA/C1QB/C1QC/C2/FCGR2A/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5	14
ORM1	0.920935045	0	M2_TAM	Human T-cell leukemia virus 1 infection	3.70E-05	B2M/CALR/CD4/FOS/HLA-A/HLA-B/HLA-C/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/JUN/NRP1	18
CYB5A	0.918487735	0	M2_TAM	Toxoplasmosis	5.41E-05	HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR1/LY96/CYCS	12

VCAM1	0.907459049	0	M2_TAM	Oxidative phosphorylation	7.53E-05	ATP5MC1/ATP5MC3/ATP6AP1/COX7B/NDUFA1/NDUFA4/NDUFB7/NDUFC2/NDUFS6/UQCRH/ATP6V0E1/CYCS/NDUFB11	13
C1QB	0.903949333	0	M2_TAM	Pertussis	0.000219044	SERPING1/C1QA/C1QB/C1QC/C2/CALM3/FOS/JUN/LY96	9
CD163	0.902149073	0	M2_TAM	Apoptosis	0.000347836	CTSC/CTSB/CTSD/CTSH/CTSL/CTSS/CTSZ/FOS/JUN/LMNA/GADD45B/CYCS	12
IFI6	0.889962751	0	M2_TAM	Parkinson disease	0.001021224	ATP5MC1/ATP5MC3/CALM3/COX7B/DUSP1/HSPA5/NDUFA1/NDUFA4/NDUFB7/NDUFC2/NDUFS6/PSMB1/TXN/UBB/UQCRH/CYCS/NDUFB11	17
IGHG1	0.882368834	0	M2_TAM	Prion disease	0.001357696	ATP5MC1/ATP5MC3/C1QA/C1QB/C1QC/COX7B/CYBA/HSPA5/NDUFA1/NDUFA4/NDUFB7/NDUFC2/NDUFS6/PSMB1/UQCRH/CYCS/NDUFB11	17
MT1M	0.881186737	0	M2_TAM	Diabetic cardiomyopathy	0.001380077	ATP5MC1/ATP5MC3/COX7B/CTSD/CYBA/MMP9/NDUFA1/NDUFA4/NDUFB7/NDUFC2/NDUFS6/UQCRH/MPC2/NDUFB11	14
C1QA	0.877923791	0	M2_TAM	Lipid and atherosclerosis	0.002367945	ABCA1/APOA1/CALM3/CYBA/CYP2A6/FOS/HSPA5/JUN/MMP9/SOD2/HSP90B1/VCAM1/LY96/CYCS	14
APOC1	0.872905091	0	M2_TAM	Influenza A	0.002596861	HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR1/MX1/CYCS	12
HES1	0.862241615	0	M2_TAM	Osteoclast differentiation	0.002692974	ACP5/CSF1R/CYBA/FCGR2A/FCGR2B/FOS/IFNGR1/JUN/JUNB/LILRB5	10
HLA-DRB1	0.840065902	0	M2_TAM	Arginine biosynthesis	0.00275278	ARG1/ASS1/CPS1/GLUL	4
IGLC2	0.827587333	0	M2_TAM	Non-alcoholic fatty liver disease	0.003558002	COX7B/FOS/JUN/NDUFA1/NDUFA4/NDUFB7/NDUFC2/NDUFS6/UQCRH/CYCS/NDUFB11	11
LYZ	0.820146141	0	M2_TAM	PPAR signaling pathway	0.004385655	APOA1/APOC3/DBI/FABP4/FABP5/HMGCS1/PCK1	7
PSAP	0.818326557	0	M2_TAM	Coronavirus disease - COVID-19	0.004707141	C1QA/C1QB/C1QC/C2/C3AR1/CFD/FCGR2A/FGB/FOS/JUN/MX1/RPS9/NRP1/ISG15	14
IGLC1	0.817778702	0	M2_TAM	Chagas disease	0.006871661	C1QA/C1QB/C1QC/CALR/FOS/IFNGR1/JUN/KNG1	8
FOS	0.812110655	0	M2_TAM	Other glycan degradation	0.012322508	FUCA1/HEXA/MAN2B1	3
ILF3-DT	0.808234994	0	M2_TAM	Glycosaminoglycan degradation	0.014341231	GNS/GUSB/HEXA	3
SDS	0.786250022	0	M2_TAM	Biosynthesis of amino acids	0.016789172	ALDOB/ARG1/ASS1/CPS1/GLUL/SDS	6
SAA1	0.783164416	0	M2_TAM	Thyroid hormone synthesis	0.016789172	ALB/ATP1B1/HSPA5/SERPINA7/HSP90B1/TTR	6
BLVRB	0.778169164	0	M2_TAM	Kaposi sarcoma-associated herpesvirus infection	0.017902887	CALM3/CCR1/RCAN1/FOS/HLA-A/HLA-B/HLA-C/IFNGR1/JUN/UBB/CYCS	11
MT1E	0.772074094	0	M2_TAM	Alanine, aspartate and glutamate metabolism	0.018041206	AGXT/ASS1/CPS1/GLUL	4
GADD45B	0.762229999	0	M2_TAM	African trypanosomiasis	0.018041206	APOA1/HPR/KNG1/VCAM1	4
PLA2G7	0.757933249	0	M2_TAM	Riboflavin metabolism	0.018880245	ACP5/BLVRB	2
CD59	0.756950494	0	M2_TAM	Metabolism of xenobiotics by cytochrome P450	0.020022152	CYP2A6/AKR1C1/EPHX1/GSTA1/MGST1/MGST3	6
BST2	0.745819345	0	M2_TAM	Renin-angiotensin system	0.024189234	CTSA/PRCP/ATP6AP2	3
MSR1	0.740330483	0	M2_TAM	Proximal tubule bicarbonate reclamation	0.024189234	ATP1B1/MDH1/PCK1	3
FCGRT	0.731472349	0	M2_TAM	Ferroptosis	0.025418747	HMOX1/SLC3A2/TF/SLC40A1	4
IGHG4	0.731049025	0	M2_TAM	Human immunodeficiency virus 1 infection	0.031840126	B2M/BST2/CALM3/CALR/CD4/FOS/HLA-A/HLA-B/HLA-C/JUN/CYCS	11
MT-ND3	0.729114164	0	M2_TAM	Chemical carcinogenesis - DNA adducts	0.04072842	CYP2A6/EPHX1/GSTA1/MGST1/MGST3	5
HULC	0.726932768	0	M2_TAM	Huntington disease	0.042379739	ATP5MC1/ATP5MC3/COX7B/NDUFA1/NDUFA4/NDUFB7/NDUFC2/NDUFS6/PSMB1/SLC1A3/SOD2/UQCRH/CYCS/NDUFB11	14
ATF3	0.722019079	0	M2_TAM	Sphingolipid metabolism	0.04494831	ASAH1/GLA/PSAP/DEGS1	4
GDF15	0.714665597	0	M2_TAM	Glyoxylate and dicarboxylate metabolism	0.048241558	AGXT/GLUL/MDH1	3
CPVL	0.712044972	0	M2_TAM				
GRN	0.686708552	0	M2_TAM				
HLA-DRB5	0.686665263	0	M2_TAM				
LY6E	0.686443355	0	M2_TAM				
CALM3	0.683490586	0	M2_TAM				
JUNB	0.679361084	0	M2_TAM				
ISG15	0.66877338	0	M2_TAM				
MT-ND5	0.658938914	0	M2_TAM				
MMP9	0.653791486	0	M2_TAM				
ZNF331	0.650937754	0	M2_TAM				
FGL1	0.647347552	0	M2_TAM				
EPHX1	0.639246457	0	M2_TAM				
MS4A4A	0.636934501	0	M2_TAM				
ASAH1	0.635409923	0	M2_TAM				
HLA-DQA1	0.624713852	0	M2_TAM				
CTSL	0.617293517	0	M2_TAM				
GLA	0.608570598	0	M2_TAM				
ANG	0.604668563	0	M2_TAM				
LGALS3BP	0.603234557	0	M2_TAM				
CD83	0.603059929	0	M2_TAM				
HLA-DRA	0.602894272	0	M2_TAM				
SGK1	0.601236043	0	M2_TAM				
MT-ATP6	0.601108019	0	M2_TAM				
FUCA1	0.600464582	0	M2_TAM				
ADI1	0.599873834	0	M2_TAM				
CTSS	0.597617564	0	M2_TAM				
TF	0.597438886	0	M2_TAM				

TIMP2	0.596963757	0	M2_TAM
ORM2	0.582248886	0	M2_TAM
MT-CYB	0.579491656	0	M2_TAM
ALDOB	0.578580354	0	M2_TAM
AGXT	0.578552568	0	M2_TAM
HLA-C	0.566578915	0	M2_TAM
MT2A	0.56251918	0	M2_TAM
CFD	0.557404983	0	M2_TAM
CFHR1	0.555654507	0	M2_TAM
KNG1	0.553328689	0	M2_TAM
CTSB	0.54919287	0	M2_TAM
FABP5	0.548944969	0	M2_TAM
CD68	0.539207142	0	M2_TAM
IFI44L	0.538741773	0	M2_TAM
TSPAN4	0.527268521	0	M2_TAM
MT1F	0.520980776	0	M2_TAM
MPC2	0.516973914	0	M2_TAM
ATP5MC1	0.516290537	0	M2_TAM
KLF2	0.510360695	0	M2_TAM
MT1B	0.509163485	0	M2_TAM
NUPR1	0.505132765	0	M2_TAM
C2	0.503384886	0	M2_TAM
GPR34	0.502139737	0	M2_TAM
CREG1	0.502063054	0	M2_TAM
TSC22D1	0.501614417	0	M2_TAM
EBP	0.498726926	0	M2_TAM
HLA-DPB1	0.494507366	0	M2_TAM
CCL18	0.49182256	0	M2_TAM
HLA-DMA	0.491351902	0	M2_TAM
B2M	0.491178017	0	M2_TAM
PRDX1	0.490654622	0	M2_TAM
HLA-DPA1	0.490096841	0	M2_TAM
TMEM176B	0.481601311	0	M2_TAM
PCK1	0.480131199	0	M2_TAM
MT-ND4L	0.479445451	0	M2_TAM
GPR183	0.477358896	0	M2_TAM
EIF4A3	0.47685682	0	M2_TAM
PEBP1	0.476758624	0	M2_TAM
DHRS9	0.462618658	0	M2_TAM
AL355881.1	0.461824117	0	M2_TAM
LY96	0.457784079	0	M2_TAM
CD63	0.456958361	0	M2_TAM
CTSC	0.452363151	0	M2_TAM
LRP1	0.452217649	0	M2_TAM
SLCO2B1	0.449212429	0	M2_TAM
PRMT9	0.448645571	0	M2_TAM
PGRMC1	0.447761918	0	M2_TAM
HLA-DQB1	0.438655334	0	M2_TAM
NDUFA4	0.438422368	0	M2_TAM
SIGLEC1	0.436796474	0	M2_TAM
AKR1C3	0.43539119	0	M2_TAM
FPR3	0.433367551	0	M2_TAM
ADA2	0.432594199	0	M2_TAM
ATP1B1	0.432179709	0	M2_TAM
PRAP1	0.430631738	0	M2_TAM
IGFBP3	0.42738984	0	M2_TAM
GC	0.404746958	0	M2_TAM
CTSA	0.398935916	0	M2_TAM
MT1X	0.398794631	0	M2_TAM
ARG1	0.398147569	0	M2_TAM
SAA4	0.393428099	0	M2_TAM
LAMP2	0.392802073	0	M2_TAM
CYBA	0.381790889	0	M2_TAM
BEX3	0.376135937	0	M2_TAM

SERPINC1	0.370635968	0	M2_TAM
CYP2A6	0.362828107	0	M2_TAM
TMBIM6	0.360621468	0	M2_TAM
ALDH1A1	0.35503761	0	M2_TAM
LGALS4	0.349978299	0	M2_TAM
CFHR2	0.349245899	0	M2_TAM
CPS1	0.346029374	0	M2_TAM
HGD	0.342745735	0	M2_TAM
XCL2	0.340082482	0	M2_TAM
XCL1	0.339551603	0	M2_TAM
PXMP2	0.338121762	0	M2_TAM
HTR2B	0.336701765	0	M2_TAM
ENPP2	0.330985993	0	M2_TAM
HSD17B6	0.314776972	0	M2_TAM
AZGP1	0.304342016	0	M2_TAM
STC1	0.28885993	0	M2_TAM
HPR	0.288658353	0	M2_TAM
SERPINA7	0.267481112	0	M2_TAM
IGFBP2	0.263881082	0	M2_TAM
C2CD4B	0.262281959	0	M2_TAM
ASS1	0.26125025	0	M2_TAM
MT1A	0.258110207	4.47E-303	M2_TAM
HERPUD1	0.466412431	5.60E-302	M2_TAM
C1orf56	0.308087219	3.10E-301	M2_TAM
FABP4	0.405035452	7.64E-301	M2_TAM
LAMP1	0.413795059	4.02E-297	M2_TAM
APOA1	1.409973367	1.91E-294	M2_TAM
FCGR2B	0.355743999	6.35E-294	M2_TAM
TM4SF1	0.259492564	4.48E-293	M2_TAM
CALR	0.395504644	7.56E-291	M2_TAM
UBB	0.361486866	3.41E-290	M2_TAM
MCOLN1	0.410254407	2.38E-288	M2_TAM
IGFBP7	0.426102479	1.83E-287	M2_TAM
RGS2	0.524074729	1.55E-285	M2_TAM
MDH1	0.345161875	2.31E-285	M2_TAM
NDUFC2	0.439568546	5.41E-285	M2_TAM
CYCS	0.537200876	8.43E-285	M2_TAM
APLP2	0.466431955	1.54E-283	M2_TAM
ATP6V0E1	0.358779185	1.03E-282	M2_TAM
CLU	0.551788322	1.63E-282	M2_TAM
MX1	0.330751221	1.16E-279	M2_TAM
FGL2	0.423915411	1.25E-279	M2_TAM
C3AR1	0.388299854	2.50E-279	M2_TAM
NR4A2	0.664235682	8.77E-277	M2_TAM
UNC93B1	0.354689349	2.71E-274	M2_TAM
LILRB5	0.349883306	3.34E-273	M2_TAM
DDT	0.638873805	6.43E-273	M2_TAM
SCPEP1	0.352922833	8.50E-272	M2_TAM
SOD2	0.40437661	9.36E-271	M2_TAM
HP	1.171733535	2.98E-270	M2_TAM
CTSZ	0.458852349	5.70E-270	M2_TAM
MPEG1	0.416323628	4.21E-269	M2_TAM
LMNA	0.288163121	3.32E-268	M2_TAM
HSPE1	0.48112281	5.51E-266	M2_TAM
GCHFR	0.278119996	3.55E-265	M2_TAM
PRCP	0.393751379	1.78E-262	M2_TAM
PIK3IP1	0.295817385	2.15E-262	M2_TAM
PRDX2	0.405936663	7.29E-261	M2_TAM
CTSH	0.362926882	3.55E-258	M2_TAM
IGSF6	0.462598524	9.92E-258	M2_TAM
NDUFS6	0.50605299	1.09E-257	M2_TAM
MAN2B1	0.344961083	3.51E-257	M2_TAM
CKS2	0.366537071	1.05E-256	M2_TAM
RCAN1	0.334973736	3.67E-256	M2_TAM

HEXA	0.363214635	1.89E-255	M2_TAM
LGALS3	0.357384583	1.86E-254	M2_TAM
DUSP1	0.412470035	1.45E-253	M2_TAM
HINT1	0.429501613	3.08E-253	M2_TAM
AKR1C1	0.250875769	1.78E-252	M2_TAM
TCHH	0.309505953	1.82E-252	M2_TAM
RHOB	0.388571056	5.04E-252	M2_TAM
CCDC107	0.33483832	5.67E-252	M2_TAM
TPP1	0.39299861	1.55E-248	M2_TAM
TMEM59	0.343217115	1.27E-247	M2_TAM
HMOX1	0.293590079	1.78E-247	M2_TAM
PRDX6	0.374706351	2.73E-247	M2_TAM
PDIA6	0.335829451	1.39E-246	M2_TAM
TCEAL9	0.299538338	7.36E-246	M2_TAM
CD209	0.331323565	2.34E-245	M2_TAM
TMEM205	0.313671278	8.81E-245	M2_TAM
FCGR2A	0.451492575	2.70E-244	M2_TAM
ZNF141	0.520336112	1.70E-242	M2_TAM
IGHA1	0.315096568	1.22E-240	M2_TAM
DAD1	0.333243101	3.39E-240	M2_TAM
ABCC5	0.312303434	1.43E-238	M2_TAM
DCXR	0.491102171	2.21E-237	M2_TAM
GNS	0.3487122	1.55E-235	M2_TAM
AL118558.3	0.332829756	4.57E-233	M2_TAM
MS4A6A	0.370890508	1.82E-229	M2_TAM
RBP4	0.880556997	6.39E-229	M2_TAM
IFNGR1	0.350884306	3.90E-227	M2_TAM
COX7B	0.480543517	2.09E-226	M2_TAM
TWISTNB	0.263172441	3.02E-226	M2_TAM
CCR1	0.337017102	1.49E-225	M2_TAM
TIMP3	0.328470617	1.19E-224	M2_TAM
SLAMF8	0.26832611	3.58E-224	M2_TAM
NPL	0.321140831	4.85E-223	M2_TAM
MGST3	0.321411083	1.31E-221	M2_TAM
DBI	0.332117553	7.27E-221	M2_TAM
ACAA2	0.289841412	2.36E-217	M2_TAM
RASGEF1B	0.347871472	5.59E-215	M2_TAM
LAPTM4A	0.302344316	7.54E-215	M2_TAM
AIG1	0.272069803	2.62E-214	M2_TAM
ALG13	0.350877001	1.80E-212	M2_TAM
SLC3A2	0.303001249	8.42E-212	M2_TAM
SERPING1	0.317871678	1.72E-211	M2_TAM
HCST	0.333287505	2.08E-208	M2_TAM
MT-CO3	0.31643984	8.34E-208	M2_TAM
CD84	0.36977943	1.55E-207	M2_TAM
HMGCS1	0.253836796	2.16E-207	M2_TAM
SELENOK	0.407666449	6.14E-207	M2_TAM
LRPAP1	0.294777208	7.21E-207	M2_TAM
RPS9	0.253708092	6.60E-206	M2_TAM
HES4	0.261483178	1.06E-205	M2_TAM
ATOX1	0.289631327	1.91E-205	M2_TAM
CD53	0.305596299	4.01E-203	M2_TAM
HLA-B	0.297667135	8.81E-202	M2_TAM
TXN	0.330160956	9.39E-201	M2_TAM
SLC18B1	0.259246266	9.65E-201	M2_TAM
PCBD1	0.271135736	1.12E-200	M2_TAM
CPM	0.364367039	6.39E-200	M2_TAM
AXL	0.280696704	2.12E-197	M2_TAM
MAFF	0.280677166	1.66E-195	M2_TAM
ATP6AP1	0.27817329	2.52E-194	M2_TAM
SLC1A3	0.296463921	3.85E-194	M2_TAM
TMEM37	0.250420176	1.60E-193	M2_TAM
GM2A	0.286700986	1.01E-187	M2_TAM
EPB41L2	0.334919636	3.27E-186	M2_TAM

HAX1	0.294487003	6.53E-185	M2_TAM
IER2	0.32288294	2.13E-184	M2_TAM
ANXA1	0.260841094	4.22E-184	M2_TAM
JUN	0.254303257	7.56E-184	M2_TAM
CREM	0.34896711	2.85E-181	M2_TAM
ZBTB10	0.272154823	4.59E-180	M2_TAM
GUSB	0.256820285	1.11E-179	M2_TAM
MZT2A	0.296534541	4.71E-177	M2_TAM
GAMT	0.252220978	5.89E-177	M2_TAM
ATP6AP2	0.281753325	1.02E-174	M2_TAM
DEGS1	0.259266202	9.83E-174	M2_TAM
VMO1	0.252389314	4.25E-173	M2_TAM
PPT1	0.289890373	1.01E-172	M2_TAM
MGLL	0.255701366	2.58E-168	M2_TAM
EPSTI1	0.251927253	3.10E-168	M2_TAM
ALB	1.060267478	1.08E-167	M2_TAM
SSR4	0.30392534	4.44E-167	M2_TAM
BCAS2	0.274114103	1.93E-165	M2_TAM
RAB5IF	0.306446075	2.73E-165	M2_TAM
VSIG4	0.288894199	2.09E-164	M2_TAM
RGS1	0.254842325	3.74E-164	M2_TAM
MERTK	0.27433095	1.35E-162	M2_TAM
FCHO2	0.291374858	3.97E-161	M2_TAM
DNASE1L3	0.533994484	7.34E-160	M2_TAM
NRP1	0.280624191	7.63E-159	M2_TAM
AL499604.1	0.250899112	2.10E-156	M2_TAM
ARL5B	0.256233085	3.16E-156	M2_TAM
CENPX	0.263758708	1.53E-154	M2_TAM
PSMB1	0.267153562	1.50E-152	M2_TAM
CSF1R	0.264137725	1.11E-146	M2_TAM
ABCA1	0.294428833	2.47E-146	M2_TAM
ETFB	0.263845179	3.26E-145	M2_TAM
UQCRH	0.307980449	1.94E-142	M2_TAM
GLUL	0.274423674	3.05E-142	M2_TAM
ATP5MC3	0.272142783	4.64E-142	M2_TAM
HLA-A	0.253742561	3.51E-140	M2_TAM
CD4	0.26688095	3.56E-138	M2_TAM
APOC2	0.736685417	5.49E-136	M2_TAM
NDUFB11	0.343689923	1.63E-132	M2_TAM
FGB	0.265530136	6.95E-132	M2_TAM
HSP90B1	0.282276191	1.72E-128	M2_TAM
IQGAP2	0.30477964	2.36E-126	M2_TAM
CD9	0.250193925	5.62E-120	M2_TAM
MT-ND2	0.253592879	1.75E-119	M2_TAM
RANBP2	0.310433651	5.46E-118	M2_TAM
NDUFB7	0.250092422	1.07E-115	M2_TAM
NDUFA1	0.266164206	7.07E-114	M2_TAM
HSPA9	0.26147252	1.62E-111	M2_TAM
CCNT1	0.260770391	3.75E-111	M2_TAM
YBX3	0.265966039	1.17E-109	M2_TAM
HLA-DQA2	0.492419967	2.25E-83	M2_TAM
CD5L	0.467089454	2.68E-55	M2_TAM

Supplementary Table 3. Differential expression genes and enrichment pathways of CD8+T cells subpopulations of HCC and cirrhosis (related to Figure 3)

a. CD8.T

Gene symbol	avg_log2FC	p_val_adj	Upregulated group	Description	pvalue	geneID	Count
AIF1	2.015098743	0	CD8.T	Phagosome	6.65E-16	ACTB/ATP6V1B2/ATP6V0B/CALR/CANX/CD14/CTSL/CTSS/CYBB/FCGR2A/FCGR2B/HLA-DMA/HLA-DMB/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/MRC1/MSR1/NCF4/RAC1/TUBA1A/ATP6V1F/TUBA1B/TUBB4B/CLEC7A/TUBA1C/TUBB	31
MARCKS	1.495946344	0	CD8.T	Rheumatoid arthritis	5.39E-13	ATP6V1B2/ATP6V0B/CD86/CSF1/CTLA4/CTSL/FOS/CXCL2/HLA-DMA/HLA-DMB/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IL1B/CXCL8/CCL2/CCL3L1/ATP6V1F	22
TOP2A	1.4123273	0	CD8.T	Antigen processing and presentation	1.25E-12	CALR/CANX/CD4/CD74/CTSB/CTSL/CTSS/HLA-DMA/HLA-DMB/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/HSPA1A/HSPA1B/LGMN/IFI30	20
MKI67	1.278237834	0	CD8.T	Tuberculosis	1.10E-10	RHOA/ATP6V0B/CALM2/CALM3/CD14/CD74/CEBPB/CTSD/CTSS/FCER1G/FCGR2A/FCGR2B/HLA-DMA/HLA-DMB/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/HSPD1/IFNGR2/IL1B/MRC1/SYK/CLEC7A	27
UBE2C	1.246710354	0	CD8.T	Lysosome	4.79E-09	ASAH1/ATP6V0B/CD68/TPP1/CLTA/CTSB/CTSD/CTSH/CTSL/CTSS/CTSZ/HEXA/HEXB/LIPA/MAN2B1/PPT1/LGMN/PSAP/LAPTM5/AP1S2/NPC2	21
CD14	1.161936441	0	CD8.T	Leishmaniasis	6.66E-09	CYBB/FCGR2A/FOS/HLA-DMA/HLA-DMB/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR2/IL1B/NCF4/PTGS2	16
CENPF	1.141770403	0	CD8.T	Human T-cell leukemia virus 1 infection	1.26E-08	SLC25A5/TSPO/CALR/CANX/CCNA2/CD4/CDC20/CDKN2C/FOS/HLA-DMA/HLA-DMB/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/MAD2L1/RAN/RANBP1/RB1/SPI1/NRP1/CCNB2/PTTG1/ANAPC11	27
CPVL	1.040283119	0	CD8.T	Type I diabetes mellitus	1.56E-08	CD86/HLA-DMA/HLA-DMB/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/HSPD1/IL1B	12
CD68	1.011864119	0	CD8.T	Asthma	5.46E-08	FCER1G/HLA-DMA/HLA-DMB/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5	10
PCLAF	0.874879178	0	CD8.T	Graft-versus-host disease	1.30E-07	CD86/HLA-DMA/HLA-DMB/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IL1B	11
BIRC5	0.821988004	0	CD8.T	Prion disease	2.69E-07	SLC25A5/ATP5PB/ATP5MC3/ATP5PF/ATP5PO/C1QA/C1QB/C1QC/COX5B/COX8A/CYBB/HSPA1A/HSPA1B/IL1B/NCF4/NDUFA4/NDUFB1/PSMB3/RAC1/TUBA1A/COX5A/TUBA1B/TUBB4B/ATP5PD/UQCRQ/UQCR10/TUBA1C/TUBB	28
CDK1	0.81599768	0	CD8.T	Hematopoietic cell lineage	2.74E-07	CD4/CD9/CD14/CD59/CSF1/CSF1R/HLA-DMA/HLA-DMB/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IL1B	16
SPI1	0.802039842	0	CD8.T	Allograft rejection	4.68E-07	CD86/HLA-DMA/HLA-DMB/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5	10
IGSF6	0.744233472	0	CD8.T	Viral myocarditis	8.35E-07	ACTB/CD86/HLA-DMA/HLA-DMB/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/RAC1	12
ASPM	0.729000891	0	CD8.T	Staphylococcus aureus infection	1.02E-06	C1QA/C1QB/C1QC/C5AR1/FCGR2A/FCGR2B/HLA-DMA/HLA-DMB/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5	15
MAFB	0.721258287	0	CD8.T	Autoimmune thyroid disease	1.64E-06	CD86/CTLA4/HLA-DMA/HLA-DMB/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5	11
FCGR2A	0.717818945	0	CD8.T	Pertussis	1.90E-06	RHOA/C1QA/C1QB/C1QC/CALM2/CALM3/CD14/FOS/GNAI2/IL1B/CXCL8/LY96/PYCARD	13
CYBB	0.716232667	0	CD8.T	Osteoclast differentiation	2.04E-06	CSF1/CSF1R/FCGR2A/FCGR2B/FOS/FOSB/GRB2/IFNGR2/IL1B/NCF4/RAC1/SPI1/SYK/TYROBP/LILRB4/TREM2/SIRPA	17
TK1	0.707065886	0	CD8.T	Inflammatory bowel disease	2.06E-06	HLA-DMA/HLA-DMB/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR2/IL1B/MAF	12
MS4A4A	0.703997842	0	CD8.T	Th1 and Th2 cell differentiation	3.26E-06	CD4/FOS/HLA-DMA/HLA-DMB/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR2/RBPJ/MAF	14
TPX2	0.70056979	0	CD8.T	Intestinal immune network for IgA production	5.78E-06	CD86/HLA-DMA/HLA-DMB/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5	10
CDKN3	0.692694691	0	CD8.T	Salmonella infection	5.98E-06	ACTB/ANXA2/RHOA/RHOB/CD14/FOS/GAPDH/IL1B/CXCL8/PAK1/PFN1/RAC1/TXN/TUBA1A/ARPC5/ARPC3/ARPC1B/TUBA1B/TUBB4B/CYFIP1/LY96/PYCARD/TUBA1C/TUBB	24
TREM2	0.687392745	0	CD8.T	Cell cycle	7.39E-06	CCNA2/CCNB1/CDK1/CDC20/CDKN2C/MAD2L1/MCM7/PCNA/PLK1/RAD21/RB1/YWHAE/YWHAH/CCNB2/PTTG1/ANAPC11	16
TIMP2	0.679056022	0	CD8.T	Oxidative phosphorylation	1.63E-05	ATP5PB/ATP5MC3/ATP5PF/ATP6V1B2/ATP6V0B/ATP5PO/COX5B/COX8A/NDUFA4/NDUFB1/ATP6V1F/COX5A/ATP5MF/ATP5PD/UQCRQ/UQCR10	16
RNASE6	0.645422202	0	CD8.T	Parkinson disease	1.84E-05	SLC25A5/ATP5PB/ATP5MC3/ATP5PF/ATP5PO/CALM2/CALM3/COX5B/COX8A/GNAI2/GNAS/NDUFA4/NDUFB1/PSMB3/TXN/TUBA1A/COX5A/TUBA1B/TUBB4B/ATP5PD/UQCRQ/UQCR10/TUBA1C/TUBB	24
STAB1	0.641009744	0	CD8.T	Systemic lupus erythematosus	1.97E-05	ACTN1/C1QA/C1QB/C1QC/CD86/FCGR2A/HLA-DMA/HLA-DMB/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/SNRPD1	16
TGFBI	0.626693535	0	CD8.T	Pyrimidine metabolism	2.78E-05	DCK/DTYMK/DUT/TYMP/NME2/NME4/RRM1/RRM2/TK1/TYMS	10
CDC20	0.609207111	0	CD8.T	Chemical carcinogenesis - reactive oxygen species	3.30E-05	SLC25A5/ATP5PB/ATP5MC3/ATP5PF/ATP5PO/COX5B/COX8A/FOS/GRB2/HMOX1/MGST3/NDUFA4/NDUFB1/RAC1/SOD2/COX5A/GSTO1/AKR1A1/ATP5PD/UQCRQ/UQCR10	21
HMMR	0.597126631	0	CD8.T	Toxoplasmosis	3.31E-05	GNAI2/HLA-DMA/HLA-DMB/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/HSPA1A/HSPA1B/IFNGR2/LY96	14
GTSE1	0.557528839	0	CD8.T	Biosynthesis of amino acids	5.31E-05	ENO1/GAPDH/GLUL/IDH2/PFKL/PGAM1/PGK1/PKM/TALDO1/TPI1/SDS	11
ADAP2	0.55665441	0	CD8.T	Pathogenic Escherichia coli infection	5.68E-05	ACTB/RHOA/FCGR2A/FOS/GAPDH/IL1B/CXCL8/PAK1/RAC1/TUBA1A/ARPC5/ARPC3/ARPC1B/TUBA1B/TUBB4B/CYFIP1/PYCARD/TUBA1C/TUBB	19
KCTD12	0.555047245	0	CD8.T	Ferroptosis	7.13E-05	CYBB/FTH1/FTL/GPX4/HMOX1/PCBP2/SAT1/SLC40A1	8
CCNB2	0.541799116	0	CD8.T	Diabetic cardiomyopathy	8.53E-05	PARP1/SLC25A5/ATP5PB/ATP5MC3/ATP5PF/ATP5PO/COX5B/COX8A/CTSD/CYBB/GAPDH/NCF4/NDUFA4/NDUFB1/RAC1/COX5A/ATP5PD/UQCRQ/UQCR10	19
RAB32	0.532679233	0	CD8.T	Th17 cell differentiation	9.40E-05	CD4/FOS/HLA-DMA/HLA-DMB/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR2/IL1B	13
MNDA	0.52777589	0	CD8.T	Influenza A	9.61E-05	ACTB/SLC25A5/HLA-DMA/HLA-DMB/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR2/IL1B/CXCL8/KPNA2/CCL2/PYCARD	17

RAB31	0.458929955	0	CD8.T	Fluid shear stress and atherosclerosis	9.83E-05	ACTB/RHOA/CALM2/CALM3/CTSL/FOS/HMOX1/IL1B/MEF2C/MGST3/RAC1/CCL2/SUMO3/TXN/GSTO1	15
CENPW	0.457778274	0	CD8.T	Lipid and atherosclerosis	0.000183	RHOA/CALM2/CALM3/CD14/CYBB/FOS/CXCL2/HSPA1A/HSPA1B/HSPD1/IL1B/CXCL8/NCF4/RAC1/CCL2/CCL3L1/SOD2/LY96/PYCARD	19
CEP55	0.444897177	0	CD8.T	Chagas disease	0.000217	C1QA/C1QB/C1QC/CALR/FOS/GNAI2/GNAS/IFNGR2/IL1B/CXCL8/CCL2/CCL3L1	12
MEF2C	0.443910161	0	CD8.T	Apoptosis	0.000276	ACTB/PARP1/BIRC5/CTSB/CTSD/CTSH/CTSL/CTSS/CTSZ/FOS/LMNB1/TUBA1A/TUBA1B/TUBA1C	14
LY86	0.433262998	0	CD8.T	Cholesterol metabolism	0.000305	APOA2/APOC1/APOC2/APOE/TSPO/LIPA/PLTP/NPC2	8
AURKB	0.432794542	0	CD8.T	Human cytomegalovirus infection	0.000328	RHOA/CALM2/CALM3/CALR/EIF4EBP1/GNAI2/GNAS/GNB2/GNG5/GRB2/IL1B/CXCL8/PTGS2/RAC1/RB1/RHEB/CCL2/CCL3L1/GNB4	19
CSF1R	0.415847131	0	CD8.T	Alzheimer disease	0.000405	SLC25A5/APOE/ATP5PB/ATP5MC3/ATP5PF/ATP5PO/CALM2/CALM3/COX5B/COX8A/CSF1/CYBB/GAPDH/IL1B/NDUFA4/NDUFB1/PSMB3/PTGS2/TUBA1A/COX5A/TUBA1B/TUBB4B/ATP5PD/UQCRQ/UQCR10/TUBA1C/TUBB	27
IFNGR2	0.39163009	0	CD8.T	Fc gamma R-mediated phagocytosis	0.000545	FCGR2A/FCGR2B/GSN/HCK/MARCKS/PAK1/RAC1/SYK/ARPC5/ARPC3/ARPC1B	11
VSIG4	0.387784697	0	CD8.T	Epstein-Barr virus infection	0.000699	CALR/CCNA2/HLA-DMA/HLA-DMB/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/HES1/RBPJ/RAC1/RB1/SYK/VIM	17
CCNA2	0.384636712	0	CD8.T	Complement and coagulation cascades	0.000724	A2M/C1QA/C1QB/C1QC/C5AR1/CD59/SERPINA1/PLAU/PLAUR/VSIG4	10
CDCA3	0.367691744	0	CD8.T	Legionellosis	0.000759	CD14/CXCL2/HSPA1A/HSPA1B/HSPD1/IL1B/CXCL8/PYCARD	8
PLK1	0.355535493	0	CD8.T	Yersinia infection	0.000986	ACTB/RHOA/CD4/FCGR2A/FOS/IL1B/CXCL8/RAC1/CCL2/ARPC5/ARPC3/ARPC1B/PYCARD	13
CENPA	0.32828689	0	CD8.T	Huntington disease	0.001045	SLC25A5/ATP5PB/ATP5MC3/ATP5PF/ATP5PO/AP2S1/CLTA/COX5B/COX8A/NDUFA4/NDUFB1/PSMB3/SOD2/TUBA1A/COX5A/TUBA1B/TUBB4B/ATP5PD/UQCRQ/UQCR10/TUBA1C/TUBB	22
GNB4	0.316046357	0	CD8.T	Drug metabolism - other enzymes	0.001824	DUT/TYMP/MGST3/NME2/NME4/RRM1/RRM2/TK1/GSTO1	9
ANLN	0.307118708	0	CD8.T	Oocyte meiosis	0.002072	CALM2/CALM3/CCNB1/CDK1/CDC20/MAD2L1/PLK1/YWHAE/YWHAH/CCNB2/PTTG1/ANAPC11	12
SIRPA	0.306590211	0	CD8.T	Glycolysis / Gluconeogenesis	0.002217	ENO1/GAPDH/PFKL/PGAM1/PGK1/PKM/TPI1/AKR1A1	8
HCK	0.292342271	0	CD8.T	Epithelial cell signaling in Helicobacter pylori infection	0.002932	ATP6V1B2/ATP6V0B/HBEGF/CXCL2/CXCL8/PAK1/RAC1/ATP6V1F	8
PLD4	0.288504968	0	CD8.T	Human immunodeficiency virus 1 infection	0.003078	CALM2/CALM3/CALR/CCNB1/CD4/CDK1/FOS/GNAI2/GNB2/GNG5/PAK1/RAC1/AP1S2/CCNB2/SAMHD1/GNB4	16
CD86	0.286045856	0	CD8.T	Thermogenesis	0.003141	ACTB/ATP5PB/ATP5MC3/ATP5PF/ATP5PO/COX5B/COX8A/GNAS/GRB2/NDUFA4/NDUFB1/RHEB/COX5A/ATP5MF/ATP5PD/UQCRQ/UQCR10	17
LILRB4	0.262546297	0	CD8.T	Kaposi sarcoma-associated herpesvirus infection	0.003269	CALM2/CALM3/CD86/FOS/GNB2/GNG5/CXCL2/HCK/CXCL8/PTGS2/RAC1/RB1/SYK/GNB4/ATG3	15
DEPDC1	0.260796223	0	CD8.T	C-type lectin receptor signaling pathway	0.003373	RHOA/CALM2/CALM3/FCER1G/IL1B/PAK1/PTGS2/SYK/PYCARD/CLEC7A	10
1-Mar	0.252275499	0	CD8.T	Antifolate resistance	0.003522	DHFR/FOLR2/IL1B/TYMS/GGH	5
SHCBP1	0.270651515	5.77E-301	CD8.T	Gap junction	0.003524	CDK1/GNAI2/GNAS/GRB2/TUBA1A/TUBA1B/TUBB4B/TUBA1C/TUBB	9
MS4A7	0.862011012	1.18E-293	CD8.T	Glutathione metabolism	0.003897	GPX4/IDH2/MGST3/RRM1/RRM2/GSTO1/LAP3	7
GPR34	0.305290225	6.12E-293	CD8.T	Viral carcinogenesis	0.005229	ACTN1/RHOA/CCNA2/CDK1/CDC20/GRB2/GSN/RBPJ/PKM/RAC1/RANBP1/RB1/SYK/YWHAE/YWHAH	15
MPEG1	0.35691546	9.57E-292	CD8.T	IL-17 signaling pathway	0.00547	CEBPB/FOS/FOSB/CXCL2/IL1B/CXCL8/PTGS2/S100A9/CCL2	9
PRC1	0.592718262	1.16E-291	CD8.T	Cell adhesion molecules	0.00594	CD4/CD86/CTLA4/HLA-DMA/HLA-DMB/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5	12
LYZ	1.764085572	5.49E-281	CD8.T	Tight junction	0.006268	ACTB/ACTN1/RHOA/MYL6/PCNA/RAC1/TUBA1A/YBX3/ARPC5/ARPC3/ARPC1B/TUBA1B/TUBA1C	13
PLXDC2	0.270130297	6.89E-281	CD8.T	Carbon metabolism	0.006888	ENO1/GAPDH/IDH2/PFKL/PGAM1/PGK1/PKM/TALDO1/TPI1/SDS	10
RRM2	0.741486466	4.60E-279	CD8.T	Coronavirus disease - COVID-19	0.00733	C1QA/C1QB/C1QC/C5AR1/CYBB/HBEGF/FCGR2A/FOS/IL1B/CXCL8/RPLP0/RPS17/CCL2/SYK/NRP1/RPS27L	16
MS4A6A	1.14743787	1.03E-274	CD8.T	Chemokine signaling pathway	0.007384	RHOA/GNAI2/GNB2/GNG5/GRB2/CXCL2/HCK/CXCL8/PAK1/RAC1/CCL2/CCL3L1/CXCL16/GNB4	14
MSR1	0.312126454	3.87E-273	CD8.T	Cellular senescence	0.008482	SLC25A5/CALM2/CALM3/CCNA2/CCNB1/CDK1/EIF4EBP1/CXCL8/MYBL2/RB1/RHEB/CCNB2	12
CLEC7A	0.262977233	1.34E-272	CD8.T	Amyotrophic lateral sclerosis	0.008626	ACTB/ATP5PB/ATP5MC3/ATP5PF/ATP5PO/COX5B/COX8A/NDUFA4/NDUFB1/PFN1/PSMB3/RAC1/TUBA1A/COX5A/ALYREF/TUBA1B/TUBB4B/ATP5PD/UQCRQ/UQCR10/TUBA1C/TUBB	22
C1orf54	0.340298592	3.46E-271	CD8.T	Progesterone-mediated oocyte maturation	0.009251	CCNA2/CCNB1/CDK1/GNAI2/KIF22/MAD2L1/PLK1/CCNB2/ANAPC11	9
ZWINT	0.390095863	5.51E-271	CD8.T	NF-kappa B signaling pathway	0.010447	PARP1/CD14/CXCL2/IL1B/CXCL8/PLAU/PTGS2/SYK/LY96	9
RAD51AP1	0.368017543	5.87E-271	CD8.T	Toll-like receptor signaling pathway	0.010447	CD14/CD86/FOS/IL1B/CXCL8/RAC1/CCL3L1/SPP1/LY96	9
CKAP2L	0.290388749	1.62E-267	CD8.T	HIF-1 signaling pathway	0.013947	CYBB/EIF4EBP1/ENO1/GAPDH/HMOX1/IFNGR2/PFKL/PGK1/TIMP1	9
CD163	0.358325709	8.94E-267	CD8.T	Endocytosis	0.014876	RHOA/CAPZA2/AP2S1/CLTA/DAB2/FOLR2/HSPA1A/HSPA1B/SNX2/SNX3/ARPC5/ARPC3/ARPC1B/RAB31/VPS29/VPS35	16
PHACTR1	0.524368388	5.08E-265	CD8.T	Pathways of neurodegeneration - multiple diseases	0.015607	SLC25A5/ATP5PB/ATP5MC3/ATP5PF/ATP5PO/CALM2/CALM3/COX5B/COX8A/CSF1/CYBB/IL1B/NDUFA4/NDUFB1/PSMB3/PTGS2/RAC1/TUBA1A/COX5A/TUBA1B/TUBB4B/ATP5PD/UQCRQ/UQCR10/TUBA1C/TUBB	26
HMGB3	0.445064795	3.79E-261	CD8.T	Transcriptional misregulation in cancer	0.01715	CCNA2/CD14/CD86/CDKN2C/CEBPB/CSF1R/ETV5/CXCL8/MAF/MEF2C/PLAU/SPI1/BMP2K	13
PLAU	0.437840687	6.86E-260	CD8.T	Bacterial invasion of epithelial cells	0.017804	ACTB/RHOA/CLTA/RAC1/ARPC5/ARPC3/ARPC1B	7
DLGAP5	0.31229646	1.16E-258	CD8.T	Mineral absorption	0.017932	ATOX1/FTH1/FTL/HMOX1/MT2A/SLC40A1	6
GRN	1.122340711	3.04E-252	CD8.T	Oxytocin signaling pathway	0.019116	ACTB/RHOA/CALM2/CALM3/FOS/GNAI2/GNAS/MEF2C/MYL6/PTGS2/CAMK1	11
BMP2K	0.404021391	5.90E-247	CD8.T	Non-alcoholic fatty liver disease	0.01996	COX5B/COX8A/FOS/IL1B/CXCL8/NDUFA4/NDUFB1/RAC1/COX5A/UQCRQ/UQCR10	11
TROAP	0.277152968	4.02E-244	CD8.T	Circadian entrainment	0.020039	CALM2/CALM3/FOS/GNAI2/GNAS/GNB2/GNG5/GNB4	8
TYMS	0.917112432	5.22E-244	CD8.T	Estrogen signaling pathway	0.022745	CALM2/CALM3/CTSD/HBEGF/FOS/GNAI2/GNAS/GRB2/HSPA1A/HSPA1B	10
C1QC	2.022483758	2.92E-243	CD8.T	Other glycan degradation	0.023455	HEXA/HEXB/MAN2B1	3
NUSAP1	0.921898961	1.97E-241	CD8.T	Necroptosis	0.023611	PARP1/SLC25A5/CYBB/FTH1/FTL/GLUL/HMGB1/IFNGR2/IL1B/PPIA/PYCARD	11
CENPE	0.508467424	8.75E-241	CD8.T	Amoebiasis	0.026222	ACTN1/CD14/GNAS/CXCL2/HSPB1/IL1B/CXCL8/PRDX1	8
NRP1	0.261106285	3.78E-240	CD8.T	NOD-like receptor signaling pathway	0.027886	RHOA/CTSB/CYBB/CXCL2/IL1B/CXCL8/CCL2/TXN/YWHAE/NAMPT/GABARAP/PYCARD	12
CCNB1	0.552584392	1.53E-239	CD8.T	Acute myeloid leukemia	0.029234	CCNA2/CD14/CSF1R/EIF4EBP1/GRB2/SPI1	6
KIF11	0.35046072	2.92E-239	CD8.T	Vibrio cholerae infection	0.029767	ACTB/ATP6V1B2/ATP6V0B/GNAS/ATP6V1F	5

HNMT	0.304551301	1.63E-231	CD8.T	p53 signaling pathway	0.042012	CCNB1/CDK1/RRM2/CCNB2/SIVA1/GTSE1	6
KIF2C	0.266034333	3.75E-222	CD8.T				
CD4	0.496600526	1.71E-217	CD8.T				
NCAPG	0.290271442	7.00E-211	CD8.T				
CD302	0.306851521	1.87E-209	CD8.T				
CALHM6	0.513872458	3.01E-209	CD8.T				
TACC3	0.531990539	4.40E-209	CD8.T				
LGMN	0.767919748	6.56E-207	CD8.T				
FOLR2	0.586364429	9.16E-205	CD8.T				
ETV5	0.250830422	1.39E-203	CD8.T				
CDCA8	0.269175536	2.83E-201	CD8.T				
MYBL2	0.291969439	5.71E-199	CD8.T				
C1QA	2.420101977	7.84E-195	CD8.T				
PLTP	0.363388671	8.29E-195	CD8.T				
KNL1	0.315246395	4.55E-190	CD8.T				
C1QB	2.538814307	4.92E-190	CD8.T				
MRC1	0.376662949	1.94E-189	CD8.T				
CTSB	1.79835627	4.47E-189	CD8.T				
NUF2	0.357816471	7.90E-188	CD8.T				
LY96	0.287884794	9.33E-183	CD8.T				
ZFHX3	0.25316457	4.96E-182	CD8.T				
CCDC88A	0.639492175	4.02E-179	CD8.T				
ACTN1	0.285955596	1.06E-178	CD8.T				
KIFC1	0.315013481	1.05E-177	CD8.T				
CTSL	0.574128444	1.94E-173	CD8.T				
GPNMB	0.481073664	2.78E-171	CD8.T				
NCAPH	0.254714588	7.43E-171	CD8.T				
RACGAP1	0.290981952	3.35E-168	CD8.T				
FCGRT	0.942604968	1.01E-165	CD8.T				
CENPU	0.263299453	1.50E-164	CD8.T				
NCAPD2	0.358485598	5.76E-163	CD8.T				
IFI30	1.298807557	1.06E-162	CD8.T				
CXCL16	0.403672978	4.73E-162	CD8.T				
SGO2	0.372679919	4.02E-158	CD8.T				
DAB2	0.933786176	2.07E-157	CD8.T				
CENPM	0.550868867	6.77E-157	CD8.T				
DPYSL2	0.324045358	5.92E-154	CD8.T				
SPINT2	0.284389024	4.07E-152	CD8.T				
NCF4	0.340746738	1.21E-149	CD8.T				
BASP1	0.435689779	1.26E-147	CD8.T				
CST3	3.065432464	1.75E-147	CD8.T				
ASF1B	0.250463417	1.15E-146	CD8.T				
CYFIP1	0.26884247	1.22E-141	CD8.T				
CTSZ	1.25752626	3.73E-139	CD8.T				
TNFAIP2	0.353910797	9.89E-139	CD8.T				
DTYMK	0.517156025	3.36E-133	CD8.T				
CKS1B	0.720248474	6.79E-132	CD8.T				
RNASE1	1.945643497	2.22E-129	CD8.T				
SLC43A3	0.316487055	2.31E-128	CD8.T				
GSN	0.682534819	4.09E-128	CD8.T				
HBEGF	0.290776587	3.21E-125	CD8.T				
TUBA1C	1.093430606	6.37E-125	CD8.T				
KLF4	0.322233264	9.60E-124	CD8.T				
SLC40A1	0.704127664	1.37E-122	CD8.T				
NPC2	1.631792146	3.96E-122	CD8.T				
HIST1H1B	0.412474378	2.37E-121	CD8.T				
NDC80	0.271300781	1.82E-115	CD8.T				
CLSPN	0.385476821	2.29E-115	CD8.T				
PTGS2	0.364702643	1.69E-114	CD8.T				
STMN1	1.605778509	4.49E-112	CD8.T				
SYK	0.347010739	8.25E-112	CD8.T				
TTYH3	0.367573945	1.89E-110	CD8.T				
OGFRL1	0.396422028	3.52E-110	CD8.T				
IL1RN	0.364337012	2.27E-109	CD8.T				

PPT1	0.576891886	8.54E-109	CD8.T
CREG1	0.504384037	9.52E-109	CD8.T
HLA-DRA	2.564609109	2.64E-108	CD8.T
SMC2	0.455390695	9.78E-108	CD8.T
TUBB	2.046738122	3.41E-106	CD8.T
HLA-DMB	0.509518288	6.64E-106	CD8.T
SAC3D1	0.301101662	1.13E-105	CD8.T
A2M	0.6514671	4.13E-105	CD8.T
RNF130	0.482197169	1.25E-103	CD8.T
FCGBP	0.686699158	2.03E-103	CD8.T
PLAUR	0.720317524	2.53E-103	CD8.T
FCGR2B	0.253543148	1.18E-102	CD8.T
TUBA1B	2.234167184	3.90E-102	CD8.T
CTSH	0.462709319	8.99E-101	CD8.T
MAD2L1	0.315294411	5.47E-99	CD8.T
ANXA5	0.829366562	3.34E-97	CD8.T
GGH	0.250460292	3.32E-96	CD8.T
UBE2T	0.297888625	7.32E-96	CD8.T
RGS10	0.796646739	7.62E-96	CD8.T
HLA-DMA	1.008693276	1.94E-95	CD8.T
PSAP	1.608086783	2.09E-94	CD8.T
C5AR1	0.272739229	1.94E-92	CD8.T
SPP1	2.376907064	2.58E-90	CD8.T
SMC4	0.661075223	3.22E-90	CD8.T
CCL2	1.099477205	6.98E-90	CD8.T
PAK1	0.330824641	8.88E-90	CD8.T
HMGB2	1.319154657	3.70E-89	CD8.T
CAMK1	0.292189417	3.83E-89	CD8.T
HMGN2	1.388880843	1.34E-88	CD8.T
KIF20B	0.403222405	3.42E-88	CD8.T
RAC1	0.920679088	7.67E-88	CD8.T
CAPG	0.883083642	8.91E-88	CD8.T
DHFR	0.333102364	8.06E-86	CD8.T
SELENOP	1.48090328	2.08E-82	CD8.T
CD74	2.400020792	7.53E-82	CD8.T
SGK1	0.783547539	1.63E-80	CD8.T
HLA-DPA1	1.745049168	9.86E-80	CD8.T
COTL1	0.922791282	1.54E-78	CD8.T
YWHAH	0.75856524	7.74E-78	CD8.T
BRI3	0.824028777	2.83E-77	CD8.T
LGALS3	0.849378938	6.73E-77	CD8.T
HMOX1	0.480833695	7.84E-77	CD8.T
LGALS9	0.378596703	3.67E-75	CD8.T
GABARAP	0.800350305	1.39E-74	CD8.T
TMEM14C	0.48178297	2.35E-71	CD8.T
HLA-DQA1	1.208068408	2.95E-71	CD8.T
VIM	1.049761004	1.71E-70	CD8.T
FTL	1.840904655	2.34E-69	CD8.T
PTTG1	0.851778371	7.65E-69	CD8.T
CKAP5	0.302157102	1.34E-68	CD8.T
HMGB1	0.903584355	2.24E-68	CD8.T
AP2S1	0.786426494	5.66E-68	CD8.T
SDS	0.375770596	1.32E-67	CD8.T
MFSD1	0.312128186	1.38E-67	CD8.T
NUDT1	0.503652104	9.37E-67	CD8.T
IL1B	0.937040745	2.76E-65	CD8.T
PRDX3	0.41246447	3.50E-65	CD8.T
GAPDH	1.050301023	1.20E-64	CD8.T
HLA-DRB1	1.771448634	1.37E-64	CD8.T
YBX1	0.752909689	2.09E-62	CD8.T
BLVRB	0.627737837	2.95E-60	CD8.T
H2AFY	0.585599451	2.14E-59	CD8.T
CDK2AP1	0.315541653	4.24E-59	CD8.T
HES1	0.251275787	1.39E-58	CD8.T

APOE	2.127502149	1.41E-58	CD8.T
NUCKS1	0.767705437	1.58E-57	CD8.T
FGL2	0.638961351	3.16E-57	CD8.T
CALM3	0.80930693	4.28E-57	CD8.T
GNAS	0.563263477	1.44E-56	CD8.T
H2AFV	0.825101511	2.36E-56	CD8.T
TYMP	0.677080332	3.88E-56	CD8.T
CKAP2	0.406003083	2.15E-55	CD8.T
CD9	0.299754937	5.24E-55	CD8.T
HLA-DPB1	1.417471841	2.78E-54	CD8.T
FTH1	0.756999462	1.81E-53	CD8.T
RASSF4	0.273803455	3.42E-53	CD8.T
EIF4EBP1	0.308618191	3.65E-53	CD8.T
ANP32B	0.658975861	6.13E-52	CD8.T
S100A9	0.42330329	4.85E-51	CD8.T
KIF22	0.322462371	6.87E-51	CD8.T
C1orf162	0.499197298	2.41E-50	CD8.T
CDKN2C	0.305127515	4.51E-49	CD8.T
PYCARD	0.579455759	1.16E-48	CD8.T
PKM	0.794328037	1.19E-48	CD8.T
S100A11	0.982260203	1.29E-48	CD8.T
HSBP1	0.430940461	2.23E-48	CD8.T
TMEM106C	0.368109723	2.76E-48	CD8.T
NAGK	0.33544738	3.84E-48	CD8.T
TMPO	0.516762563	3.97E-48	CD8.T
PLD3	0.552049081	3.16E-47	CD8.T
COX8A	0.529425277	4.30E-47	CD8.T
SKA2	0.317667767	6.37E-47	CD8.T
LAP3	0.364196928	9.39E-47	CD8.T
ACTB	0.783595789	1.65E-46	CD8.T
SNRNP25	0.270065593	1.65E-46	CD8.T
GNG5	0.565980876	2.32E-46	CD8.T
PFKL	0.268344005	2.79E-46	CD8.T
PHF19	0.357856193	3.72E-46	CD8.T
H2AFZ	0.757742923	1.80E-45	CD8.T
SOD2	0.79170054	2.02E-45	CD8.T
TIMP1	0.530778116	3.02E-45	CD8.T
LST1	0.472478718	4.05E-45	CD8.T
APOC1	1.471255448	4.38E-45	CD8.T
DUSP4	0.982734888	1.03E-44	CD8.T
MAN2B1	0.287022848	1.51E-44	CD8.T
CENPK	0.280927421	1.92E-44	CD8.T
ANAPC11	0.564261534	2.57E-44	CD8.T
PRDX1	0.604171618	6.74E-44	CD8.T
TPP1	0.303551677	4.90E-43	CD8.T
CD59	0.343117646	1.05E-42	CD8.T
NFIC	0.280423817	1.30E-42	CD8.T
GPR183	0.606883112	1.89E-42	CD8.T
LSM5	0.36821758	2.35E-42	CD8.T
IER3	1.057844826	7.05E-42	CD8.T
ENO1	0.670511559	9.90E-41	CD8.T
C15orf48	0.39591345	1.32E-39	CD8.T
HEXB	0.28402359	6.81E-39	CD8.T
NENF	0.375546446	9.73E-39	CD8.T
FABP5	0.906965179	1.23E-38	CD8.T
SAMHD1	0.50533259	2.13E-38	CD8.T
RRM1	0.27616296	7.01E-38	CD8.T
ATP6V1B2	0.264157526	7.34E-38	CD8.T
AP1S2	0.389321305	8.06E-38	CD8.T
DNPH1	0.372497898	8.48E-38	CD8.T
DBNDD2	0.257962353	1.47E-37	CD8.T
GNAI2	0.538632792	1.82E-37	CD8.T
SPATS2L	0.28957925	3.17E-37	CD8.T
YWHAE	0.423532956	3.48E-37	CD8.T

CIAO2A	0.295043208	5.84E-37	CD8.T
LGALS1	1.25415321	1.27E-36	CD8.T
CXCL2	0.560919552	1.68E-36	CD8.T
DEK	0.64838259	1.68E-36	CD8.T
TALDO1	0.436237619	2.70E-36	CD8.T
LIPA	0.519162113	3.94E-36	CD8.T
FAM111A	0.392740726	7.58E-36	CD8.T
FKBP1A	0.423635126	1.68E-35	CD8.T
CORO1B	0.459197777	2.14E-35	CD8.T
ATAD2	0.34905028	2.39E-35	CD8.T
HLA-DQB1	1.161623948	2.73E-35	CD8.T
HLA-DRB5	1.567678011	3.60E-35	CD8.T
LAPTM5	0.607704868	5.25E-35	CD8.T
ARL6IP1	0.775687681	7.04E-35	CD8.T
AKR1A1	0.364698465	1.24E-34	CD8.T
HSPB1	0.613200356	1.47E-34	CD8.T
ATP5MF	0.434434696	6.70E-34	CD8.T
NME4	0.275976198	1.15E-33	CD8.T
SAT1	0.852762717	1.19E-33	CD8.T
VAMP8	0.503112018	1.48E-33	CD8.T
LMNB1	0.281467259	3.19E-33	CD8.T
MZT2B	0.442489177	3.39E-33	CD8.T
RHOA	0.467949016	4.79E-33	CD8.T
ANXA2	0.586704805	9.41E-33	CD8.T
G0S2	0.752622959	9.44E-33	CD8.T
PTTG1IP	0.280246354	1.15E-32	CD8.T
ATOX1	0.332147197	2.01E-32	CD8.T
VPS35	0.269691579	2.57E-32	CD8.T
C20orf27	0.257323884	2.89E-32	CD8.T
LAIR1	0.300494463	3.80E-32	CD8.T
UQCC2	0.321989828	5.12E-32	CD8.T
RB1	0.272501475	7.23E-32	CD8.T
LIMS1	0.359057855	7.71E-32	CD8.T
UQCRQ	0.417912139	1.10E-31	CD8.T
LSM4	0.384644209	4.58E-31	CD8.T
COX5A	0.443423043	5.45E-31	CD8.T
TMEM176B	0.291793799	1.01E-30	CD8.T
HSPA1B	0.446202365	1.14E-30	CD8.T
COMMD4	0.274045699	1.89E-30	CD8.T
BLOC1S1	0.428916735	2.52E-30	CD8.T
ZYX	0.392309366	2.78E-30	CD8.T
ATP6V0B	0.473750175	8.20E-30	CD8.T
MIS18BP1	0.354765364	3.19E-29	CD8.T
GLUL	0.509446748	6.27E-29	CD8.T
YBX3	0.283372201	1.39E-28	CD8.T
CTLA4	0.544513093	4.28E-28	CD8.T
SERF2	0.349696311	1.02E-27	CD8.T
RAN	0.458591254	1.52E-27	CD8.T
GSTO1	0.408139604	1.75E-27	CD8.T
KPNA2	0.519607762	2.76E-27	CD8.T
PCNA	0.532842447	5.91E-27	CD8.T
CTSS	0.617989593	9.93E-27	CD8.T
HIST1H4C	1.449753655	1.01E-26	CD8.T
PPIA	0.460294501	1.40E-26	CD8.T
SERPINA1	0.504107051	1.47E-26	CD8.T
CD84	0.260522804	5.67E-26	CD8.T
ARPC5	0.43965626	6.90E-26	CD8.T
CSTB	0.54280401	7.14E-26	CD8.T
APLP2	0.429894848	1.34E-25	CD8.T
CAPZA2	0.283429999	2.08E-25	CD8.T
RAD21	0.361750775	3.36E-25	CD8.T
CNTRL	0.268543473	3.62E-25	CD8.T
IDH2	0.383266213	4.27E-25	CD8.T
NME2	0.518719228	5.33E-25	CD8.T

RPA3	0.341119075	7.12E-25	CD8.T
RNASET2	0.485188524	9.81E-25	CD8.T
IFITM3	0.486826789	1.83E-24	CD8.T
SOX4	0.282153074	2.03E-24	CD8.T
H2AFX	0.393081074	2.35E-24	CD8.T
CLTA	0.418641131	3.80E-24	CD8.T
DUT	0.559157157	1.70E-23	CD8.T
VMA21	0.254031555	2.07E-23	CD8.T
MRPL23	0.252571227	4.71E-23	CD8.T
MYL6	0.355240332	7.59E-23	CD8.T
DDX39A	0.310922158	9.93E-23	CD8.T
ATP5PD	0.348123557	1.02E-22	CD8.T
ATG3	0.331713721	1.26E-22	CD8.T
HSPA1A	0.462548654	1.27E-22	CD8.T
SNX2	0.252756058	1.85E-22	CD8.T
ATF3	0.491645874	2.34E-22	CD8.T
CXCL8	0.82918165	2.58E-22	CD8.T
SLC25A5	0.431147137	3.16E-22	CD8.T
CALM2	0.377688067	4.08E-22	CD8.T
RHEB	0.369444631	6.46E-22	CD8.T
RPLP0	0.337057418	1.09E-21	CD8.T
CKS2	0.40478321	1.12E-21	CD8.T
APOA2	0.617797553	1.24E-21	CD8.T
ATP5PF	0.322031103	1.34E-21	CD8.T
GPX4	0.380767732	1.61E-21	CD8.T
PTMS	0.422702577	1.82E-21	CD8.T
GRB2	0.307281212	2.04E-21	CD8.T
PARP1	0.337775664	2.22E-21	CD8.T
DNAJA4	0.373064513	2.70E-21	CD8.T
ARPC3	0.399409716	4.62E-21	CD8.T
NAP1L1	0.414206966	4.97E-21	CD8.T
H3F3A	0.393855754	5.68E-21	CD8.T
TXNDC17	0.286750943	5.82E-21	CD8.T
SNRPD1	0.307502508	8.48E-21	CD8.T
SIVA1	0.398096133	1.51E-20	CD8.T
SUMO3	0.266055738	1.72E-20	CD8.T
CTSD	1.077061399	1.91E-20	CD8.T
RHOB	0.389781696	2.45E-20	CD8.T
ARHGAP18	0.282604466	2.60E-20	CD8.T
RANBP1	0.437590138	1.05E-19	CD8.T
GDI2	0.32285741	1.21E-19	CD8.T
DCK	0.251387123	1.38E-19	CD8.T
ARPC1B	0.412236058	2.23E-19	CD8.T
CCL3L1	1.363125466	2.28E-19	CD8.T
RBPJ	0.259648312	2.33E-19	CD8.T
MRPL51	0.313172927	2.81E-19	CD8.T
MCM7	0.284778575	5.03E-19	CD8.T
TMSB10	0.383064222	7.16E-19	CD8.T
POMP	0.355957646	7.73E-19	CD8.T
SNX3	0.517891525	9.17E-19	CD8.T
TPM3	0.307008615	1.32E-18	CD8.T
JPT1	0.543674333	1.35E-18	CD8.T
VPS29	0.327015259	1.75E-18	CD8.T
UQCR10	0.303884659	1.86E-18	CD8.T
MGST3	0.32001468	5.37E-18	CD8.T
LAMTOR2	0.255202532	5.54E-18	CD8.T
NAMPT	0.400670921	7.55E-18	CD8.T
COX5B	0.282792629	1.22E-17	CD8.T
RPS17	0.317462383	2.25E-17	CD8.T
NDUFB1	0.336346232	4.18E-17	CD8.T
BAG3	0.5035699	5.65E-17	CD8.T
HMGA1	0.279363549	6.35E-17	CD8.T
GEM	0.252211815	6.98E-17	CD8.T
CEBPB	0.584727496	1.36E-16	CD8.T

CNPY3	0.278032215	1.59E-16	CD8.T
CKLF	0.331650795	1.66E-16	CD8.T
H1FX	0.330550673	2.69E-16	CD8.T
ATP5PB	0.281304646	5.19E-16	CD8.T
APOC2	0.595397976	6.57E-16	CD8.T
TUBA1A	0.418400577	6.78E-16	CD8.T
ATP5MC3	0.310384634	9.39E-16	CD8.T
TXN	0.336992356	1.18E-15	CD8.T
ALYREF	0.304246299	1.79E-15	CD8.T
CARHSP1	0.273909883	2.65E-15	CD8.T
LSM3	0.26048121	3.37E-15	CD8.T
AKR1B1	0.273884975	3.98E-15	CD8.T
TUBB4B	0.394450098	4.63E-15	CD8.T
PCBP2	0.29481761	7.20E-15	CD8.T
RPS27L	0.301055596	8.12E-15	CD8.T
ATP6V1F	0.386826644	8.78E-15	CD8.T
CANX	0.305407366	9.45E-15	CD8.T
BANF1	0.293143373	1.08E-14	CD8.T
ASAH1	0.37537465	1.34E-14	CD8.T
ANP32E	0.291905484	2.12E-14	CD8.T
CBX3	0.250828351	2.80E-14	CD8.T
TRAPPC5	0.271448988	3.25E-14	CD8.T
P4HB	0.321872174	3.73E-14	CD8.T
UCP2	0.340185646	4.03E-14	CD8.T
DDT	0.261702418	4.12E-14	CD8.T
HEXA	0.265780879	4.40E-14	CD8.T
DNMT1	0.296422943	9.68E-14	CD8.T
ATP5PO	0.293865141	1.06E-13	CD8.T
MICOS10	0.32064298	1.50E-13	CD8.T
GNB2	0.293192284	2.05E-13	CD8.T
TPI1	0.440814564	5.52E-13	CD8.T
MRPL18	0.253429719	1.49E-12	CD8.T
LAMTOR4	0.262091985	1.54E-12	CD8.T
FOS	0.552243423	2.55E-12	CD8.T
XRCC6	0.251132305	9.51E-12	CD8.T
PFN1	0.331958118	1.29E-11	CD8.T
MAF	0.380994334	1.97E-11	CD8.T
FCER1G	0.514615562	7.85E-11	CD8.T
WSB1	0.317082674	1.89E-10	CD8.T
FOSB	0.469289784	3.01E-10	CD8.T
NDUFA4	0.266127875	3.48E-10	CD8.T
UBE2S	0.355363174	1.18E-09	CD8.T
TSPO	0.289944231	1.32E-09	CD8.T
CD83	0.44866136	1.85E-09	CD8.T
DBI	0.264818981	1.85E-09	CD8.T
PPP1R15A	0.334743679	2.21E-09	CD8.T
HP1BP3	0.270055476	2.29E-09	CD8.T
PSMB3	0.262162569	3.02E-09	CD8.T
CSF1	0.441989003	1.15E-08	CD8.T
KLF6	0.408821033	1.53E-08	CD8.T
HMGN1	0.251692985	3.15E-08	CD8.T
HERPUD1	0.250979037	1.04E-07	CD8.T
RNH1	0.254901031	1.05E-07	CD8.T
PLP2	0.255310579	5.76E-07	CD8.T
MT-ND1	0.283127805	7.80E-07	CD8.T
MIF	0.360356698	2.03E-06	CD8.T
PGAM1	0.263291226	5.60E-06	CD8.T
PGK1	0.307075934	7.99E-06	CD8.T
CALR	0.280180418	1.21E-05	CD8.T
HSPD1	0.314080633	2.99E-05	CD8.T
MT2A	0.750920423	4.33E-05	CD8.T
HSPH1	0.388408526	7.39E-05	CD8.T
CACYBP	0.265665443	0.00216586	CD8.T
TYROBP	0.613525108	0.00277566	CD8.T

b. Cyto_CD8.T

Gene symbol	avg_log2FC	p_val_adj	Upregulated group	Description	pvalue	geneID	Count
KLRB1	1.409517471	0	Cyto_CD8.T	Coronavirus disease - COVID-19	2.56E-24	JAK1/NFKB1/NFKBIA/PIK3R1/RPL3/RPL5/RPL10/RPL11/RPL13/RPL17/RPL21/RPL23A/RPL30/RPL27A/RPL32/RPL34/RPL37A/RPL39/RPL41/RPS3/RPS3A/RPS6/RPS10/RPS12/RPS14/RPS18/RPS21/RPS26/RPS27/RPS27A/RPS29/TNF/RPL14/RPL13A	34
GZMM	0.905311179	1.36E-300	Cyto_CD8.T	Ribosome	1.32E-23	RPL3/RPL5/RPL10/RPL11/RPL13/RPL17/RPL21/RPL23A/RPL30/RPL27A/RPL32/RPL34/RPL37A/RPL39/RPL41/RPS3/RPS3A/RPS6/RPS10/RPS12/RPS14/RPS18/RPS21/RPS26/RPS27/RPS27A/RPS29/RPL14/RPL13A	29
REL	1.130444916	1.53E-262	Cyto_CD8.T	Natural killer cell mediated cytotoxicity	1.44E-11	CD247/CD48/FCER1G/FCGR3A/FYN/HLA-B/HLA-E/IFNGR1/KLRC1/KLRC3/KLRD1/PIK3R1/PRF1/TNF/TYROBP/HCST/NCR3	17
RPS27A	0.456533439	1.63E-243	Cyto_CD8.T	Osteoclast differentiation	8.42E-08	FCGR3A/FOSL2/FYN/IFNGR1/JAK1/JUNB/NFKB1/NFKBIA/PIK3R1/RELB/TGFB1/TNF/TYROBP	13
RPL3	0.631210347	5.38E-232	Cyto_CD8.T	NF-kappa B signaling pathway	5.82E-07	BIRC3/BCL2A1/LTB/GADD45B/NFKB1/NFKBIA/RELB/CCL4/TNF/TNFAIP3/TNFSF14	11
RPS3	0.469516436	4.03E-220	Cyto_CD8.T	Graft-versus-host disease	4.32E-05	HLA-B/HLA-E/KLRC1/KLRD1/PRF1/TNF	6
XCL2	1.603762493	2.04E-218	Cyto_CD8.T	Apoptosis	4.97E-05	BIRC3/BCL2A1/CTSW/ERN1/GADD45B/NFKB1/NFKBIA/PIK3R1/PRF1/TNF	10
RPL10	0.430603778	2.45E-217	Cyto_CD8.T	TNF signaling pathway	6.00E-05	BIRC3/MAP3K8/IRF1/JUNB/NFKB1/NFKBIA/PIK3R1/TNF/TNFAIP3	9
DUSP2	0.846139467	1.46E-193	Cyto_CD8.T	Epstein-Barr virus infection	7.15E-05	RUNX3/CD247/HLA-B/HLA-E/JAK1/GADD45B/NFKB1/NFKBIA/PIK3R1/RELB/TNF/TNFAIP3	12
KLRF1	0.813367301	2.14E-178	Cyto_CD8.T	Leishmaniasis	0.000189	FCGR3A/IFNGR1/JAK1/NFKB1/NFKBIA/TGFB1/TNF	7
BTG1	0.673146955	4.76E-177	Cyto_CD8.T	Human cytomegalovirus infection	0.000199	CALM1/HLA-B/HLA-E/JAK1/NFKB1/NFKBIA/PIK3R1/PTGER4/CCL4/TNF/CXCR4/GNG2	12
PLAC8	0.691784827	1.02E-172	Cyto_CD8.T	C-type lectin receptor signaling pathway	0.000212	CALM1/FCER1G/IRF1/NFKB1/NFKBIA/PIK3R1/RELB/TNF	8
RORA	0.703322731	1.40E-171	Cyto_CD8.T	T cell receptor signaling pathway	0.000212	CD247/MAP3K8/FYN/NFKB1/NFKBIA/PIK3R1/PTPRC/TNF	8
RPL34	0.441759228	1.27E-169	Cyto_CD8.T	Kaposi sarcoma-associated herpesvirus infection	0.000218	CALM1/HLA-B/HLA-E/IFNGR1/JAK1/NFKB1/NFKBIA/PIK3R1/RPS27A/ZFP36/GNG2	11
IER2	0.692840002	9.20E-169	Cyto_CD8.T	PD-L1 expression and PD-1 checkpoint pathway in cancer	0.000464	CD247/IFNGR1/JAK1/NFKB1/NFKBIA/PIK3R1/EML4	7
CD69	0.945822323	8.26E-167	Cyto_CD8.T	Inflammatory bowel disease	0.000507	IFNGR1/NFKB1/RORA/STAT4/TGFB1/TNF	6
CST7	0.656055003	1.29E-164	Cyto_CD8.T	Th1 and Th2 cell differentiation	0.000568	RUNX3/CD247/IFNGR1/JAK1/NFKB1/NFKBIA/STAT4	7
TRDC	0.917620929	8.27E-164	Cyto_CD8.T	Hepatitis B	0.000958	DDX3X/JAK1/NFKB1/NFKBIA/PIK3R1/STAT4/TGFB1/TNF/YWHAZ	9
RPS27	0.423592256	8.64E-163	Cyto_CD8.T	Chagas disease	0.001052	CD247/IFNGR1/NFKB1/NFKBIA/PIK3R1/TGFB1/TNF	7
RPL30	0.377379853	9.38E-162	Cyto_CD8.T	Antigen processing and presentation	0.001337	HLA-B/HLA-E/KLRC1/KLRC3/KLRD1/TNF	6
MATK	0.572821786	1.70E-160	Cyto_CD8.T	Th17 cell differentiation	0.00147	CD247/IFNGR1/JAK1/NFKB1/NFKBIA/RORA/TGFB1	7
RPS29	0.490069975	1.72E-158	Cyto_CD8.T	Human immunodeficiency virus 1 infection	0.001752	CALM1/CD247/HLA-B/HLA-E/NFKB1/NFKBIA/PIK3R1/TNF/CXCR4/GNG2	10
NCR3	0.673076068	2.81E-155	Cyto_CD8.T	Toxoplasmosis	0.001814	BIRC3/IFNGR1/JAK1/NFKB1/NFKBIA/TGFB1/TNF	7
RPS12	0.419212651	4.59E-151	Cyto_CD8.T	Viral myocarditis	0.002384	CD55/FYN/HLA-B/HLA-E/PRF1	5
CD160	0.666744818	1.18E-149	Cyto_CD8.T	Human T-cell leukemia virus 1 infection	0.00246	HLA-B/HLA-E/JAK1/NFKB1/NFKBIA/PIK3R1/RELB/TGFB1/TNF/ZFP36	10
CD48	0.580218297	1.71E-149	Cyto_CD8.T	Sphingolipid signaling pathway	0.002564	FCER1G/FYN/NFKB1/PIK3R1/PPP2R5C/TNF/S1PR5	7
RPS18	0.482131132	3.55E-146	Cyto_CD8.T	Allograft rejection	0.002801	HLA-B/HLA-E/PRF1/TNF	4
ISG20	0.63824243	1.01E-144	Cyto_CD8.T	Cellular senescence	0.00303	ZFP36L2/CALM1/HLA-B/HLA-E/GADD45B/NFKB1/PIK3R1/TGFB1	8
HLA-B	0.333423927	8.09E-144	Cyto_CD8.T	Chemokine signaling pathway	0.003096	NFKB1/NFKBIA/PIK3R1/RAP1B/CCL4/XCL1/XCL2/CXCR4/GNG2	9
CALM1	0.442197117	6.53E-140	Cyto_CD8.T	Transcriptional misregulation in cancer	0.003096	BIRC3/BCL2A1/GADD45B/NFKB1/REL/ZBTB16/NR4A3/KLF3/NFKBIZ	9
FGFBP2	1.202661057	7.89E-138	Cyto_CD8.T	FoxO signaling pathway	0.004379	CDKN2D/IL7R/GADD45B/PIK3R1/STK4/TGFB1/KLF2	7
S1PR5	0.506229872	2.45E-136	Cyto_CD8.T	Type I diabetes mellitus	0.004409	HLA-B/HLA-E/PRF1/TNF	4
HCST	0.480357491	1.18E-133	Cyto_CD8.T	Viral carcinogenesis	0.00462	DDX3X/HLA-B/HLA-E/JAK1/NFKB1/NFKBIA/PIK3R1/REL/YWHAZ	9
RPL17	0.417469294	1.43E-130	Cyto_CD8.T	Viral protein interaction with cytokine and cytokine receptor	0.004696	CCL4/XCL1/XCL2/TNF/CXCR4/TNFSF14	6
GNLY	2.612102501	8.51E-129	Cyto_CD8.T	Toll-like receptor signaling pathway	0.005684	MAP3K8/NFKB1/NFKBIA/PIK3R1/CCL4/TNF	6
LTB	1.217374645	8.58E-128	Cyto_CD8.T	MAPK signaling pathway	0.006243	AREG/MAP3K8/DUSP2/FLNA/GADD45B/NFKB1/RAP1B/RELB/STK4/TGFB1/TNF	11
NFKBIA	0.999811495	2.33E-127	Cyto_CD8.T	Pancreatic cancer	0.006613	JAK1/GADD45B/NFKB1/PIK3R1/TGFB1	5
MYBL1	0.491012539	5.48E-127	Cyto_CD8.T	Chronic myeloid leukemia	0.006613	GADD45B/NFKB1/NFKBIA/PIK3R1/TGFB1	5
PIK3R1	0.777459097	4.46E-126	Cyto_CD8.T	Tuberculosis	0.007154	CALM1/FCER1G/FCGR3A/IFNGR1/JAK1/NFKB1/TGFB1/TNF	8
CXCR4	0.714427731	4.91E-123	Cyto_CD8.T	RNA degradation	0.007774	BTG1/BTG2/PABPC1/DHX36/CNOT6L	5
RPL39	0.340859166	1.07E-119	Cyto_CD8.T	Neurotrophin signaling pathway	0.010761	CALM1/MATK/NFKB1/NFKBIA/PIK3R1/RAP1B	6
RPL13	0.35953876	1.91E-118	Cyto_CD8.T	Small cell lung cancer	0.014455	BIRC3/GADD45B/NFKB1/NFKBIA/PIK3R1	5
FOSL2	0.639357106	3.44E-118	Cyto_CD8.T	Salmonella infection	0.015991	BIRC3/FLNA/NFKB1/NFKBIA/PTPRC/RPS3/TNF/RAB9A/MYL12A	9
RPS14	0.355173654	1.00E-117	Cyto_CD8.T	Cytokine-cytokine receptor interaction	0.017103	IFNGR1/IL7R/LTB/CCL4/XCL1/XCL2/TGFB1/TNF/CXCR4/TNFSF14	10
SATB1	0.507219043	2.77E-116	Cyto_CD8.T	Lipid and atherosclerosis	0.01938	CALM1/ERN1/NFE2L2/NFKB1/NFKBIA/PIK3R1/RAP1B/TNF	8
BTG2	0.599528667	2.31E-115	Cyto_CD8.T	Acute myeloid leukemia	0.020567	BCL2A1/NFKB1/PIK3R1/ZBTB16	4
TGFB1	0.570168922	4.02E-114	Cyto_CD8.T	Fc epsilon RI signaling pathway	0.021595	FCER1G/FYN/PIK3R1/TNF	4
BIN2	0.475098918	8.30E-114	Cyto_CD8.T	Measles	0.021671	JAK1/NFKB1/NFKBIA/PIK3R1/TNFAIP3/RAB9A	6
SPON2	0.83944332	1.13E-109	Cyto_CD8.T	Fluid shear stress and atherosclerosis	0.021671	CALM1/NFE2L2/NFKB1/PIK3R1/TNF/KLF2	6
IRF1	0.616061917	2.48E-107	Cyto_CD8.T	RIG-I-like receptor signaling pathway	0.023744	DDX3X/NFKB1/NFKBIA/TNF	4
MYL12A	0.42040918	2.96E-106	Cyto_CD8.T	Non-small cell lung cancer	0.026019	GADD45B/PIK3R1/STK4/EML4	4
CTSW	0.564861529	3.34E-105	Cyto_CD8.T	Pertussis	0.03095	CALM1/IRF1/NFKB1/TNF	4
RPL41	0.279053398	2.84E-103	Cyto_CD8.T	Hepatitis C	0.036415	JAK1/NFKB1/NFKBIA/PIK3R1/TNF/YWHAZ	6
TPT1	0.367156233	3.07E-103	Cyto_CD8.T	Necroptosis	0.038371	BIRC3/IFNGR1/JAK1/STAT4/TNF/TNFAIP3	6
KLF3	0.451410533	4.46E-103	Cyto_CD8.T	B cell receptor signaling pathway	0.039315	NFKB1/NFKBIA/PIK3R1/IFITM1	4

VPS37B	0.556765702	2.43E-101	Cyto_CD8.T	Malaria	0.043093	KLRB1/TGFB1/TNF	3
KDM6B	0.559654401	2.74E-101	Cyto_CD8.T	Platelet activation	0.044785	FCER1G/FYN/PIK3R1/RAP1B/MYL12A	5
FKBP11	0.422708234	2.76E-101	Cyto_CD8.T	Colorectal cancer	0.045542	AREG/GADD45B/PIK3R1/TGFB1	4
RPL27A	0.493574788	3.03E-101	Cyto_CD8.T	Cell cycle	0.047415	CCNH/CDKN2D/GADD45B/TGFB1/YWHAZ	5
RUNX3	0.520172973	1.22E-100	Cyto_CD8.T	Autoimmune thyroid disease	0.049814	HLA-B/HLA-E/PRF1	3
NFE2L2	0.620360075	1.93E-100	Cyto_CD8.T				
CMC1	0.702775631	9.39E-99	Cyto_CD8.T				
KLRG1	0.516399333	3.43E-98	Cyto_CD8.T				
STAT4	0.415862779	3.43E-96	Cyto_CD8.T				
GPR65	0.573829083	6.93E-96	Cyto_CD8.T				
ARL4C	0.611195128	5.78E-95	Cyto_CD8.T				
HLA-E	0.357708941	1.64E-94	Cyto_CD8.T				
CD247	0.654808752	1.48E-93	Cyto_CD8.T				
GZMK	0.6476144	6.29E-92	Cyto_CD8.T				
RAB8B	0.476083262	3.88E-91	Cyto_CD8.T				
SRGN	0.426920682	1.22E-89	Cyto_CD8.T				
RPL37A	0.378064558	2.50E-89	Cyto_CD8.T				
DDIT4	0.537303457	5.11E-89	Cyto_CD8.T				
CCL4	0.626957151	2.93E-88	Cyto_CD8.T				
GNG2	0.517404346	3.32E-88	Cyto_CD8.T				
RPL5	0.31838278	3.55E-87	Cyto_CD8.T				
XCL1	1.16908713	4.00E-86	Cyto_CD8.T				
EIF1	0.284052117	1.93E-85	Cyto_CD8.T				
ZFP36L2	0.525366698	1.22E-84	Cyto_CD8.T				
SYTL3	0.478005203	2.10E-84	Cyto_CD8.T				
FAM177A1	0.62972454	5.91E-84	Cyto_CD8.T				
MBP	0.393025743	1.05E-83	Cyto_CD8.T				
AOAH	0.36176879	7.02E-83	Cyto_CD8.T				
NR4A2	0.583895837	8.70E-83	Cyto_CD8.T				
RPS3A	0.329835167	2.10E-82	Cyto_CD8.T				
PNRC1	0.375963147	4.82E-82	Cyto_CD8.T				
TENT5C	0.410292373	8.41E-82	Cyto_CD8.T				
LYAR	0.428453326	1.70E-81	Cyto_CD8.T				
PLEK	0.41895751	3.01E-81	Cyto_CD8.T				
RPS6	0.352277437	9.53E-81	Cyto_CD8.T				
KLF2	0.621458862	7.82E-80	Cyto_CD8.T				
RPL32	0.283106235	1.29E-79	Cyto_CD8.T				
MALAT1	0.273307659	7.52E-79	Cyto_CD8.T				
PDCD4	0.455730429	3.90E-78	Cyto_CD8.T				
TIPARP	0.479364528	8.49E-78	Cyto_CD8.T				
GADD45B	0.726622697	1.94E-77	Cyto_CD8.T				
LINC00623	0.356129786	2.69E-77	Cyto_CD8.T				
PIP4K2A	0.367422946	3.60E-77	Cyto_CD8.T				
RPL21	0.328759965	1.76E-76	Cyto_CD8.T				
FYN	0.423150696	3.25E-76	Cyto_CD8.T				
RPL11	0.26739107	7.27E-76	Cyto_CD8.T				
RPL23A	0.313611705	9.31E-76	Cyto_CD8.T				
ZBTB16	0.358865705	4.50E-75	Cyto_CD8.T				
PPP2R5C	0.433803311	1.32E-73	Cyto_CD8.T				
ABHD17A	0.428392184	3.98E-73	Cyto_CD8.T				
TYROBP	0.421691549	3.99E-73	Cyto_CD8.T				
ARL5B	0.419551678	1.17E-72	Cyto_CD8.T				
FEZ1	0.342105363	1.83E-70	Cyto_CD8.T				
KMT2E	0.434484357	4.93E-70	Cyto_CD8.T				
FCRL6	0.286943412	6.92E-70	Cyto_CD8.T				
RPL14	0.274288139	7.43E-70	Cyto_CD8.T				
AREG	0.783144567	1.07E-68	Cyto_CD8.T				
RPS21	0.263304522	2.11E-68	Cyto_CD8.T				
NFKB1	0.543199886	4.47E-68	Cyto_CD8.T				
CD55	0.3759	1.41E-67	Cyto_CD8.T				
PDE7A	0.387091123	8.72E-66	Cyto_CD8.T				
FCGR3A	0.590022994	1.16E-65	Cyto_CD8.T				
CEMIP2	0.548904151	1.28E-65	Cyto_CD8.T				
TLE5	0.384057369	1.32E-64	Cyto_CD8.T				

TC2N	0.319189576	1.90E-64	Cyto_CD8.T
CDKN2D	0.344372211	1.39E-63	Cyto_CD8.T
RPS10	0.294633866	1.27E-62	Cyto_CD8.T
IFITM2	0.467869893	1.34E-61	Cyto_CD8.T
EEF1B2	0.307547641	1.46E-61	Cyto_CD8.T
GIMAP7	0.418707187	3.64E-61	Cyto_CD8.T
PITPNC1	0.288440813	4.80E-61	Cyto_CD8.T
CD300A	0.324996012	6.26E-61	Cyto_CD8.T
NKG7	0.442274804	7.37E-61	Cyto_CD8.T
AUTS2	0.268580788	1.30E-60	Cyto_CD8.T
FLNA	0.358620376	3.81E-60	Cyto_CD8.T
LINC00861	0.267687499	5.72E-60	Cyto_CD8.T
SYNGR1	0.275806594	2.99E-59	Cyto_CD8.T
IL7R	0.872969401	7.82E-59	Cyto_CD8.T
TRGC1	0.354519815	1.03E-58	Cyto_CD8.T
JAK1	0.3832006	1.04E-58	Cyto_CD8.T
AC245297.3	0.312627295	1.98E-58	Cyto_CD8.T
MAP3K8	0.351945558	5.94E-58	Cyto_CD8.T
ANXA1	0.388510097	6.38E-58	Cyto_CD8.T
PRR7	0.308798584	8.98E-57	Cyto_CD8.T
NR4A3	0.364827328	6.74E-56	Cyto_CD8.T
RBM39	0.338552624	1.81E-55	Cyto_CD8.T
GPR35	0.279213093	1.84E-55	Cyto_CD8.T
SAMD3	0.293403262	2.17E-55	Cyto_CD8.T
SELENOK	0.394302837	4.00E-55	Cyto_CD8.T
IFNGR1	0.346827945	8.17E-55	Cyto_CD8.T
LITAF	0.418408784	2.90E-54	Cyto_CD8.T
C1orf21	0.259086724	1.14E-53	Cyto_CD8.T
SLC38A1	0.329848705	2.20E-53	Cyto_CD8.T
KLRD1	0.413413943	5.00E-53	Cyto_CD8.T
IFITM1	0.377632533	1.12E-52	Cyto_CD8.T
PTPRC	0.290459319	2.13E-51	Cyto_CD8.T
PARP8	0.266706575	7.06E-51	Cyto_CD8.T
GIMAP1	0.272266623	9.90E-50	Cyto_CD8.T
LCP1	0.339503533	1.33E-49	Cyto_CD8.T
EMP3	0.38836019	3.88E-49	Cyto_CD8.T
PABPC1	0.362061091	1.19E-48	Cyto_CD8.T
CDC42SE2	0.327797572	1.82E-48	Cyto_CD8.T
CLIC3	0.489922668	3.37E-48	Cyto_CD8.T
STK17A	0.339210625	1.07E-47	Cyto_CD8.T
PTGER4	0.313244514	1.48E-46	Cyto_CD8.T
ADGRE5	0.35998721	2.78E-46	Cyto_CD8.T
UTRN	0.292197586	7.61E-46	Cyto_CD8.T
ERN1	0.260212696	1.43E-44	Cyto_CD8.T
EML4	0.31969378	1.45E-44	Cyto_CD8.T
TNFAIP3	0.482022949	3.00E-44	Cyto_CD8.T
RPL13A	0.262283608	3.18E-44	Cyto_CD8.T
BCL2A1	0.496784545	4.14E-44	Cyto_CD8.T
IQGAP2	0.27119841	6.43E-44	Cyto_CD8.T
KLRC3	0.304163098	2.84E-43	Cyto_CD8.T
APMAP	0.314057503	4.29E-43	Cyto_CD8.T
SMAD7	0.287090194	1.59E-42	Cyto_CD8.T
SLC2A3	0.318630118	2.82E-42	Cyto_CD8.T
RELB	0.295734886	7.58E-42	Cyto_CD8.T
STOM	0.265470866	2.67E-41	Cyto_CD8.T
RALGAPA1	0.257981458	5.75E-41	Cyto_CD8.T
RAB29	0.265097688	1.82E-40	Cyto_CD8.T
NFKBID	0.339454334	3.70E-40	Cyto_CD8.T
EFHD2	0.433223329	3.89E-40	Cyto_CD8.T
RAP1B	0.315434581	6.48E-40	Cyto_CD8.T
RBM38	0.264515294	4.73E-38	Cyto_CD8.T
S100A4	0.341815638	6.47E-38	Cyto_CD8.T
PYHIN1	0.290820308	1.40E-37	Cyto_CD8.T
CCNH	0.297354153	2.06E-37	Cyto_CD8.T

BZW1	0.28416045	2.25E-37	Cyto_CD8.T
SNHG16	0.317125188	5.56E-37	Cyto_CD8.T
CCDC107	0.32161204	5.52E-36	Cyto_CD8.T
YWHAZ	0.278924962	1.11E-35	Cyto_CD8.T
STK4	0.270765401	1.24E-35	Cyto_CD8.T
MT-ND3	0.276997819	1.68E-35	Cyto_CD8.T
SKIL	0.252081246	3.62E-35	Cyto_CD8.T
TAGAP	0.293392837	3.64E-35	Cyto_CD8.T
SMAP2	0.285467035	2.86E-34	Cyto_CD8.T
PRF1	0.410441245	2.00E-33	Cyto_CD8.T
TNFSF14	0.291825419	6.99E-33	Cyto_CD8.T
SLC38A2	0.264449714	8.42E-33	Cyto_CD8.T
TNF	0.326773414	2.56E-32	Cyto_CD8.T
RAB9A	0.25138034	3.21E-32	Cyto_CD8.T
CREM	0.339284205	3.60E-31	Cyto_CD8.T
FCER1G	0.436447939	4.64E-31	Cyto_CD8.T
CDC42SE1	0.290497261	8.08E-31	Cyto_CD8.T
NOP53	0.256040134	9.29E-31	Cyto_CD8.T
GZMH	0.437140141	2.08E-30	Cyto_CD8.T
KLRC1	0.327459068	8.41E-30	Cyto_CD8.T
ZFAS1	0.282038476	9.82E-30	Cyto_CD8.T
NFKBIZ	0.3037041	1.27E-27	Cyto_CD8.T
BAZ1A	0.312278772	2.43E-27	Cyto_CD8.T
SRSF2	0.284330094	6.09E-27	Cyto_CD8.T
CNOT6L	0.251090256	1.05E-26	Cyto_CD8.T
CAST	0.257127376	1.32E-25	Cyto_CD8.T
DHX36	0.2510258	1.57E-25	Cyto_CD8.T
BIRC3	0.340332094	1.52E-24	Cyto_CD8.T
JUNB	0.283815124	7.55E-24	Cyto_CD8.T
OTULIN	0.277329342	8.02E-23	Cyto_CD8.T
METRNL	0.420465604	8.78E-22	Cyto_CD8.T
DDX3X	0.261968439	2.28E-20	Cyto_CD8.T
RPS26	0.399531935	1.79E-19	Cyto_CD8.T
ZFP36	0.256543412	9.61E-14	Cyto_CD8.T
ATP1B3	0.254724753	0.00184625	Cyto_CD8.T

c. Exhaustion_CD8.T

Gene symbol	avg_log2FC	p_val_adj	Upregulated group	Description	pvalue	geneID	Count
CXCL13	3.163700817	0	Exhaustion_CD8.T	Antigen processing and presentation	5.87E-14	CD8A/CD8B/CD74/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HSPA1A/HSPA1B/HSPA6/HSPA8/HSP90AA1/HSP90AB1/KIR2DL4	13
DUSP4	1.636977612	0	Exhaustion_CD8.T	Hematopoietic cell lineage	4.74E-10	CD2/CD3D/CD3E/CD3G/CD7/CD8A/CD8B/CSF1/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1	15
SERPINA1	1.566077695	0	Exhaustion_CD8.T	Th17 cell differentiation	1.79E-09	CD3D/CD3E/CD3G/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HSP90AA1/HSP90AB1/JUN/LCK/STAT3	12
REG1A	1.551540143	0	Exhaustion_CD8.T	Th1 and Th2 cell differentiation	1.36E-08	CD3D/CD3E/CD3G/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/RBPJ/JUN/LCK	11
GAPDH	1.380910014	0	Exhaustion_CD8.T	Human T-cell leukemia virus 1 infection	1.04E-07	TSPO/CD3D/CD3E/CD3G/CDKN2A/CDKN2C/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/JUN/LCK/RAN/RANBP1/PTTG1/ANAPC11	13
LAG3	1.33357325	0	Exhaustion_CD8.T	Rheumatoid arthritis	1.29E-07	ACP5/CSF1/CTLA4/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/JUN/CCL5	11
CD27	1.12119676	0	Exhaustion_CD8.T	Asthma	2.79E-07	HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1	14
CTLA4	1.070303101	0	Exhaustion_CD8.T	Type I diabetes mellitus	3.45E-07	HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HSPD1	9
PDCD1	0.80582057	0	Exhaustion_CD8.T	Chemical carcinogenesis - reactive oxygen species	5.26E-07	ATP5F1C/ATP5MC1/ATP5MC2/ATP5MC3/COX8A/AKR1C1/AKR1C2/HMOX1/JUN/MGST1/MGST3/NDUFC2/NDUFV2/SOD1/AKR1C3/COX5A/GSTO1/UQCR10/NDUFA13	15
GEM	0.752919455	0	Exhaustion_CD8.T	Cell adhesion molecules	1.09E-06	CD2/CD8A/CD8B/CTLA4/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/PDCD1/ICOS/TIGIT	13
REG3A	0.747643464	0	Exhaustion_CD8.T	Intestinal immune network for IgA production	1.12E-06	HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/ICOS	9
LINC01480	0.745198744	0	Exhaustion_CD8.T	Toxoplasmosis	1.16E-06	HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HSPA1A/HSPA1B/HSPA6/HSPA8/STAT3	11
SIRPG	0.680164113	0	Exhaustion_CD8.T	Staphylococcus aureus infection	1.37E-06	C3/FGG/CFH/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/KRT18	8
AGT	0.677439718	0	Exhaustion_CD8.T	Allograft rejection	1.51E-06	HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1	7
NBL1	0.635583916	0	Exhaustion_CD8.T	Inflammatory bowel disease	1.55E-06	HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/JUN/STAT3	9
LINC01943	0.627682214	0	Exhaustion_CD8.T	Autoimmune thyroid disease	2.24E-06	CTLA4/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1	8

CD82	0.610494397	0	Exhaustion_CD8.T	Epstein-Barr virus infection	2.56E-06	CD3D/CD3E/CD3G/ENTPD1/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/RBPJ/JUN/STAT3/TRAF5/SEM1	11
TSHZ2	0.584107196	0	Exhaustion_CD8.T	Graft-versus-host disease	3.38E-06	HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1	10
NTS	0.583902443	0	Exhaustion_CD8.T	Leishmaniasis	7.52E-06	C3/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/JUN	12
KRT18	0.576147846	0	Exhaustion_CD8.T	Diabetic cardiomyopathy	1.19E-05	AGT/ATP5F1C/ATP5MC1/ATP5MC2/ATP5MC3/COX8A/CTSD/GAPDH/NDUFC2/NDUFV2/PRKCA/COX5A/TBC1D4/MPC2/UQCR10/NDUFA13	15
AHSG	0.570473942	0	Exhaustion_CD8.T	Glycolysis / Gluconeogenesis	1.65E-05	ENO1/GAPDH/LDHA/LDHB/PGAM1/PGK1/PKM/TPI1/GALM	8
PTGR1	0.512510522	0	Exhaustion_CD8.T	Complement and coagulation cascades	1.84E-05	A2M/C3/CLU/FGA/FGB/FGG/CFH/CFHR1/SERPINA1/VTN	10
APOM	0.497764557	0	Exhaustion_CD8.T	Parkinson disease	2.70E-05	ATP5F1C/ATP5MC1/ATP5MC2/ATP5MC3/CALM3/COX8A/NDUFC2/NDUFV2/SOD1/TXN/UBB/UBC/SEM1/UBE2L6/COX5A/PARK7/UQCR10/NDUFA13	14
NPW	0.472442164	0	Exhaustion_CD8.T	Prion disease	3.82E-05	ATP5F1C/ATP5MC1/ATP5MC2/ATP5MC3/COX8A/CSNK2B/HSPA1A/HSPA1B/HSPA6/HSPA8/NDUFC2/NDUFV2/CCL5/SOD1/SEM1/COX5A/UQCR10/NDUFA13	16
KIR2DL4	0.449403179	0	Exhaustion_CD8.T	Tuberculosis	4.92E-05	C3/CALM3/CD74/CTSD/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/HSPD1/LSP1	13
AKR1B10	0.446403755	0	Exhaustion_CD8.T	Viral myocarditis	5.19E-05	HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1	8
SRGAP3	0.438321983	0	Exhaustion_CD8.T	Estrogen signaling pathway	5.87E-05	CALM3/CTSD/FKBP4/FKBP5/HSPA1A/HSPA1B/HSPA6/HSPA8/HSP90AA1/HSP90AB1/JUN/KRT18	10
KRT8	0.436278719	0	Exhaustion_CD8.T	Lipid and atherosclerosis	9.22E-05	APOA1/APOA4/CALM3/HSPA1A/HSPA1B/HSPA6/HSPA8/HSP90AA1/HSP90AB1/HSPD1/JUN/PRKCA/CCL5/STAT3/PYCARD	13
ZBED2	0.430102466	0	Exhaustion_CD8.T	T cell receptor signaling pathway	0.000106	CD3D/CD3E/CD3G/CD8A/CD8B/CTLA4/JUN/LCK/PDCD1/ICOS	10
HLA-DQA2	0.312561696	0	Exhaustion_CD8.T	PD-L1 expression and PD-1 checkpoint pathway in cancer	0.00016	CD3D/CD3E/CD3G/CSNK2B/JUN/LCK/PDCD1/STAT3/BATF	9
AFAP1L2	0.302069882	0	Exhaustion_CD8.T	Primary immunodeficiency	0.000178	CD3D/CD3E/CD8A/CD8B/LCK/ICOS	6
LAYN	0.300214908	0	Exhaustion_CD8.T	Legionellosis	0.000261	C3/HSPA1A/HSPA1B/HSPA6/HSPA8/HSPD1/PYCARD	7
TBC1D4	0.501083947	4.82E-298	Exhaustion_CD8.T	Influenza A	0.000446	HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1/DNAJB1/PRKCA/CCL5/PYCARD	9
RBPJ	0.991488995	3.85E-288	Exhaustion_CD8.T	HIF-1 signaling pathway	0.000732	ENO1/GAPDH/HMOX1/LDHA/LDHB/PGK1/PRKCA/STAT3/TF	8
CD200	0.274241536	1.59E-281	Exhaustion_CD8.T	Cholesterol metabolism	0.000822	APOA1/APOA2/APOA4/APOC2/APOE/TSPO	6
AKR1C1	0.377745291	8.29E-277	Exhaustion_CD8.T	Oxidative phosphorylation	0.000831	ATP5F1C/ATP5MC1/ATP5MC2/ATP5MC3/COX8A/NDUFC2/NDUFV2/COX5A/UQCR10/NDUFA13	11
FGL1	0.540211708	1.77E-275	Exhaustion_CD8.T	Measles	0.001102	CD3D/CD3E/CD3G/CSNK2B/HSPA1A/HSPA1B/HSPA6/HSPA8/JUN/STAT3	12
FABP1	0.713265305	2.64E-272	Exhaustion_CD8.T	Protein export	0.001554	SRP14/SPCS2/SEC11A/SPCS1	4
CD8B	0.995537284	1.56E-268	Exhaustion_CD8.T	Protein processing in endoplasmic reticulum	0.00157	DNAJA1/HSPA1A/HSPA1B/HSPA6/HSPA8/HSP90AA1/HSP90AB1/DNAJB1/HERPUD1/PDIA6/HSPH1	10
PLA2G2A	0.925653952	4.08E-267	Exhaustion_CD8.T	Fat digestion and absorption	0.002594	APOA1/APOA4/FABP1/PLA2G2A/PLPP1	5
SPINK1	0.560788528	1.35E-262	Exhaustion_CD8.T	Systemic lupus erythematosus	0.00343	C3/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1	9
APOA4	0.538480621	6.94E-259	Exhaustion_CD8.T	Fluid shear stress and atherosclerosis	0.003966	CALM3/HMOX1/HSP90AA1/HSP90AB1/JUN/MGST1/MGST3/TXN/GSTO1	10
IGKC	0.834864073	6.59E-256	Exhaustion_CD8.T	Pathways of neurodegeneration - multiple diseases	0.004857	ATP5F1C/ATP5MC1/ATP5MC2/ATP5MC3/CALM3/COX8A/CSF1/CSNK2B/NDUFC2/NDUFV2/PRKCA/SOD1/UBB/UBC/SEM1/UBE2L6/COX5A/PARK7/UQCR10/NDUFA13	12
FKBP1A	0.860231406	1.84E-247	Exhaustion_CD8.T	Biosynthesis of amino acids	0.006567	ENO1/GAPDH/PGAM1/PGK1/PKM/TPI1	6
ENTPD1	0.344405313	7.70E-247	Exhaustion_CD8.T	Phagosome	0.007086	C3/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQA2/HLA-DQB1/HLA-DRA/HLA-DRB1	9
FABP5	1.076830029	6.51E-244	Exhaustion_CD8.T	Human immunodeficiency virus 1 infection	0.00808	BST2/CALM3/CD3D/CD3E/CD3G/GNG5/JUN/PRKCA/TRAF5/APOBEC3C/APOBEC3G	10
TNFSF4	0.277558975	1.05E-243	Exhaustion_CD8.T	Alzheimer disease	0.012311	APOE/ATP5F1C/ATP5MC1/ATP5MC2/ATP5MC3/CALM3/COX8A/CSF1/CSNK2B/GAPDH/NDUFC2/NDUFV2/SEM1/COX5A/UQCR10/NDUFA13	14
AKR1C2	0.273921062	3.34E-242	Exhaustion_CD8.T	Longevity regulating pathway - multiple species	0.0124	HSPA1A/HSPA1B/HSPA6/HSPA8/SOD1	5
TRAC	0.985815748	5.36E-241	Exhaustion_CD8.T	Huntington disease	0.020014	ATP5F1C/ATP5MC1/ATP5MC2/ATP5MC3/CLTA/COX8A/NDUFC2/NDUFV2/SOD1/SEM1/COX5A/UQCR10/NDUFA13	13
DNPH1	0.622359488	1.05E-234	Exhaustion_CD8.T	NOD-like receptor signaling pathway	0.022524	GBP2/HSP90AA1/HSP90AB1/JUN/CCL5/TRAF5/TXN/PYCARD/CARD16	9
HAVCR2	0.665923894	1.30E-231	Exhaustion_CD8.T	Salmonella infection	0.024273	RHOB/GAPDH/HSP90AA1/HSP90AB1/JUN/RALA/TXN/DYNLL1/PYCARD/SNX9/DYNLRB1	10
SNAP47	0.42736222	9.03E-227	Exhaustion_CD8.T	PPAR signaling pathway	0.026248	APOA1/APOA2/FABP1/FABP5/UBC	5
CD3D	0.871163799	1.68E-224	Exhaustion_CD8.T	Chagas disease	0.026848	C3/CD3D/CD3E/CD3G/JUN/CCL5	6
MGST1	0.463777607	4.65E-223	Exhaustion_CD8.T	Drug metabolism - other enzymes	0.033466	TYMP/MGST1/MGST3/NME1/GSTO1	5
TIGIT	0.905399361	3.57E-222	Exhaustion_CD8.T	Yersinia infection	0.034245	CD8A/CD8B/FN1/FYB1/JUN/LCK/PYCARD	7
CDKN2C	0.632378236	1.16E-221	Exhaustion_CD8.T	Thermogenesis	0.035793	ATP5F1C/ATP5MC1/ATP5MC2/ATP5MC3/COX8A/NDUFC2/NDUFV2/COX5A/UQCR10/NDUFA13	10
IGHG4	0.429964118	3.02E-213	Exhaustion_CD8.T	Glutathione metabolism	0.040681	MGST1/MGST3/GSTO1/PRDX6	4
COTL1	0.863029423	3.77E-208	Exhaustion_CD8.T	Carbon metabolism	0.044366	ENO1/GAPDH/PGAM1/PGK1/PKM/TPI1	7
PON2	0.311824935	3.71E-206	Exhaustion_CD8.T				
PRRG4	0.30681407	7.43E-203	Exhaustion_CD8.T				
SOD1	0.930883646	8.53E-202	Exhaustion_CD8.T				
HMOX1	0.366543242	2.82E-200	Exhaustion_CD8.T				
SERPINH1	0.681991247	3.40E-193	Exhaustion_CD8.T				
INPP5F	0.261930407	6.19E-190	Exhaustion_CD8.T				
ACP5	0.442278671	6.63E-188	Exhaustion_CD8.T				
DGKH	0.399650547	1.88E-187	Exhaustion_CD8.T				
PTMS	0.808216112	1.91E-185	Exhaustion_CD8.T				
ALB	0.961020828	2.81E-180	Exhaustion_CD8.T				

CD2	0.747389641	6.00E-179	Exhaustion_CD8.T
HSPA1A	1.170007595	2.14E-175	Exhaustion_CD8.T
NDFIP2	0.330981577	2.15E-175	Exhaustion_CD8.T
HSPA1B	1.09548967	2.34E-175	Exhaustion_CD8.T
AMBP	0.539796758	2.23E-174	Exhaustion_CD8.T
BAG3	0.64038212	2.50E-171	Exhaustion_CD8.T
PHLDA1	0.72716126	3.27E-168	Exhaustion_CD8.T
SIT1	0.578682355	8.42E-167	Exhaustion_CD8.T
CLU	0.411199789	4.55E-166	Exhaustion_CD8.T
MIR155HG	0.567841525	3.94E-164	Exhaustion_CD8.T
FAM3C	0.766345125	1.06E-159	Exhaustion_CD8.T
PLPP1	0.266287498	3.16E-155	Exhaustion_CD8.T
FTL	0.968477127	7.83E-155	Exhaustion_CD8.T
HSPB1	0.851125894	4.54E-149	Exhaustion_CD8.T
FN1	0.313816162	2.66E-148	Exhaustion_CD8.T
CD8A	0.728923145	6.93E-146	Exhaustion_CD8.T
STAT3	0.855346349	7.13E-145	Exhaustion_CD8.T
GALNT2	0.308499295	3.38E-143	Exhaustion_CD8.T
ARL3	0.366209244	1.99E-138	Exhaustion_CD8.T
IGLC1	0.29353079	8.12E-138	Exhaustion_CD8.T
RGS1	0.808699721	2.19E-137	Exhaustion_CD8.T
APOA2	1.164479791	1.55E-136	Exhaustion_CD8.T
MS4A6A	0.318354109	1.04E-132	Exhaustion_CD8.T
IGHA1	0.439930735	1.10E-129	Exhaustion_CD8.T
TPI1	0.691630306	8.60E-125	Exhaustion_CD8.T
A2M	0.452870819	1.47E-124	Exhaustion_CD8.T
CXCR3	0.38349699	2.27E-121	Exhaustion_CD8.T
CTSD	0.58679904	6.69E-121	Exhaustion_CD8.T
TRBC2	0.799500938	2.98E-120	Exhaustion_CD8.T
ITM2A	0.718872306	1.15E-118	Exhaustion_CD8.T
HLA-DRA	0.696012609	5.95E-118	Exhaustion_CD8.T
TRAF5	0.448019333	6.32E-118	Exhaustion_CD8.T
PRDX1	0.642626091	1.06E-117	Exhaustion_CD8.T
PKM	0.702768141	1.28E-116	Exhaustion_CD8.T
BATF	0.612700304	7.11E-116	Exhaustion_CD8.T
TF	0.361053843	1.31E-114	Exhaustion_CD8.T
HLA-DPA1	0.549196741	8.68E-114	Exhaustion_CD8.T
APOA1	0.635947517	6.98E-112	Exhaustion_CD8.T
SLF1	0.359172455	2.30E-109	Exhaustion_CD8.T
APOE	0.465575002	4.21E-109	Exhaustion_CD8.T
TNFRSF9	0.642756021	1.53E-108	Exhaustion_CD8.T
RHOB	0.411427943	5.58E-108	Exhaustion_CD8.T
ID3	0.630283114	4.28E-107	Exhaustion_CD8.T
PCED1B	0.348695957	2.39E-106	Exhaustion_CD8.T
SNX9	0.323252756	1.12E-105	Exhaustion_CD8.T
TYMP	0.518768045	2.39E-105	Exhaustion_CD8.T
CD3E	0.521708033	8.61E-97	Exhaustion_CD8.T
OASL	0.439344415	1.51E-96	Exhaustion_CD8.T
FGG	0.4092412	2.85E-96	Exhaustion_CD8.T
HLA-DMA	0.448109825	2.78E-95	Exhaustion_CD8.T
MIF	0.546427512	2.88E-95	Exhaustion_CD8.T
TOX	0.418107014	1.29E-94	Exhaustion_CD8.T
PARK7	0.609652695	3.05E-94	Exhaustion_CD8.T
CACYBP	0.899511477	4.42E-94	Exhaustion_CD8.T
VTN	0.396528764	2.36E-93	Exhaustion_CD8.T
H1FX	0.603833122	1.17E-91	Exhaustion_CD8.T
AKR1C3	0.305404027	1.70E-91	Exhaustion_CD8.T
DYNLL1	0.604426393	2.95E-91	Exhaustion_CD8.T
IGFLR1	0.559148566	2.01E-90	Exhaustion_CD8.T
CFH	0.35768552	2.07E-90	Exhaustion_CD8.T
RGS2	0.781591168	7.86E-90	Exhaustion_CD8.T
SH3BGRL3	0.528397248	9.71E-88	Exhaustion_CD8.T
AKAP5	0.253359569	6.59E-86	Exhaustion_CD8.T
BST2	0.532675953	6.62E-86	Exhaustion_CD8.T

PTTG1	0.496740638	1.26E-85	Exhaustion_CD8.T
RHBDD2	0.290521962	1.88E-85	Exhaustion_CD8.T
BICDL1	0.346409267	2.19E-85	Exhaustion_CD8.T
CD74	0.439909503	2.50E-85	Exhaustion_CD8.T
FKBP4	0.552989364	5.34E-84	Exhaustion_CD8.T
HMGB2	0.695345634	4.17E-83	Exhaustion_CD8.T
PGAM1	0.513379527	1.48E-81	Exhaustion_CD8.T
CFHR1	0.310967054	1.74E-80	Exhaustion_CD8.T
CD3G	0.465591437	2.20E-80	Exhaustion_CD8.T
HSPE1	0.625028779	3.16E-79	Exhaustion_CD8.T
AHI1	0.445066932	3.33E-79	Exhaustion_CD8.T
HLA-DRB1	0.704768709	4.22E-79	Exhaustion_CD8.T
UBE2F	0.464749568	6.62E-79	Exhaustion_CD8.T
FAM118A	0.522695216	1.81E-78	Exhaustion_CD8.T
HSP90AA1	0.760219344	2.45E-78	Exhaustion_CD8.T
CYTOR	0.469524533	3.09E-78	Exhaustion_CD8.T
CORO1B	0.446463866	1.97E-77	Exhaustion_CD8.T
IGLC2	0.381314039	3.31E-77	Exhaustion_CD8.T
RGS10	0.42735566	3.32E-77	Exhaustion_CD8.T
C3	0.448350038	5.44E-77	Exhaustion_CD8.T
CD7	0.506930398	9.11E-75	Exhaustion_CD8.T
TOX2	0.268788446	1.40E-74	Exhaustion_CD8.T
CD70	0.319264001	1.45E-73	Exhaustion_CD8.T
NAB1	0.260513467	2.40E-73	Exhaustion_CD8.T
SPATS2L	0.299547526	9.63E-73	Exhaustion_CD8.T
CD2BP2	0.3074475	1.43E-72	Exhaustion_CD8.T
C12orf57	0.492581171	1.54E-72	Exhaustion_CD8.T
SEM1	0.442841218	3.49E-72	Exhaustion_CD8.T
GALM	0.297890051	1.66E-71	Exhaustion_CD8.T
HLA-DPB1	0.427846382	1.54E-70	Exhaustion_CD8.T
FGB	0.433355102	9.78E-70	Exhaustion_CD8.T
FGA	0.335325009	2.13E-69	Exhaustion_CD8.T
APOC2	0.372261146	2.61E-69	Exhaustion_CD8.T
SMC4	0.378937091	4.04E-67	Exhaustion_CD8.T
CLEC2D	0.417030222	1.57E-66	Exhaustion_CD8.T
KDM5B	0.322526422	4.65E-66	Exhaustion_CD8.T
DNAJA4	0.310601644	7.55E-66	Exhaustion_CD8.T
NUSAP1	0.331920912	1.06E-65	Exhaustion_CD8.T
UBC	0.430228954	1.09E-63	Exhaustion_CD8.T
LSP1	0.428002956	1.36E-63	Exhaustion_CD8.T
MPST	0.289067045	1.53E-63	Exhaustion_CD8.T
LAIR2	0.341334508	4.41E-63	Exhaustion_CD8.T
BTG3	0.427156386	6.17E-63	Exhaustion_CD8.T
ICOS	0.332120604	9.19E-63	Exhaustion_CD8.T
CSF1	0.262646518	1.59E-62	Exhaustion_CD8.T
LYST	0.411617165	2.28E-62	Exhaustion_CD8.T
SYNGR2	0.297705484	1.29E-61	Exhaustion_CD8.T
EID1	0.447440129	3.47E-60	Exhaustion_CD8.T
SFXN1	0.273008952	5.24E-60	Exhaustion_CD8.T
HSPD1	0.937201708	1.08E-59	Exhaustion_CD8.T
RALA	0.329447461	9.43E-59	Exhaustion_CD8.T
DNAJB1	0.730454067	1.62E-58	Exhaustion_CD8.T
CRIP1	0.425725278	1.65E-58	Exhaustion_CD8.T
PMF1	0.33117566	2.84E-57	Exhaustion_CD8.T
NME1	0.274602975	3.83E-57	Exhaustion_CD8.T
APOBEC3G	0.514681593	6.11E-56	Exhaustion_CD8.T
PHPT1	0.416097749	2.83E-55	Exhaustion_CD8.T
LSM2	0.368891498	2.09E-54	Exhaustion_CD8.T
CD84	0.291075009	4.05E-54	Exhaustion_CD8.T
SAMSN1	0.429857791	9.82E-54	Exhaustion_CD8.T
PPP1R2	0.508799436	4.79E-53	Exhaustion_CD8.T
LGALS3	0.2873916	5.64E-52	Exhaustion_CD8.T
NDUFA13	0.369620774	2.61E-51	Exhaustion_CD8.T
JUN	0.512366457	3.78E-51	Exhaustion_CD8.T

UBB	0.45158401	1.71E-50	Exhaustion_CD8.T
ANXA5	0.356128508	2.49E-49	Exhaustion_CD8.T
CD63	0.432201849	3.90E-49	Exhaustion_CD8.T
SELENOH	0.371144563	8.32E-49	Exhaustion_CD8.T
SELENOM	0.282159387	7.40E-48	Exhaustion_CD8.T
TXN	0.371205195	1.25E-47	Exhaustion_CD8.T
MPC2	0.343191748	1.27E-47	Exhaustion_CD8.T
HSPH1	0.63017115	8.76E-47	Exhaustion_CD8.T
RABAC1	0.396048591	1.68E-46	Exhaustion_CD8.T
TNFRSF18	0.471569375	3.71E-46	Exhaustion_CD8.T
CDKN2A	0.25420881	5.51E-46	Exhaustion_CD8.T
WDR83OS	0.349721373	1.13E-44	Exhaustion_CD8.T
SRP14	0.312136691	1.51E-44	Exhaustion_CD8.T
LINC00299	0.289005493	1.60E-44	Exhaustion_CD8.T
ATP5MC2	0.317212243	1.93E-43	Exhaustion_CD8.T
TMEM14C	0.276177634	4.89E-43	Exhaustion_CD8.T
ETFB	0.315281519	5.02E-43	Exhaustion_CD8.T
ATP5MC3	0.361286116	5.70E-43	Exhaustion_CD8.T
RAB27A	0.380751819	7.50E-43	Exhaustion_CD8.T
CALM3	0.383076283	2.42E-42	Exhaustion_CD8.T
FYB1	0.382310515	9.74E-42	Exhaustion_CD8.T
DNAJB4	0.360982708	1.31E-41	Exhaustion_CD8.T
MSI2	0.278510693	1.49E-41	Exhaustion_CD8.T
PRDX6	0.339680926	2.32E-41	Exhaustion_CD8.T
HLA-DQA1	0.31332628	1.64E-40	Exhaustion_CD8.T
ARID5B	0.340117256	2.46E-40	Exhaustion_CD8.T
MRPL51	0.313083025	1.39E-38	Exhaustion_CD8.T
NDUFV2	0.33444884	6.48E-38	Exhaustion_CD8.T
ZFAND2A	0.435181914	2.48E-37	Exhaustion_CD8.T
PGK1	0.387651886	2.87E-37	Exhaustion_CD8.T
EVL	0.33962731	3.09E-37	Exhaustion_CD8.T
PRKCA	0.255874565	4.08E-37	Exhaustion_CD8.T
PRDX5	0.33888931	1.28E-36	Exhaustion_CD8.T
PYCARD	0.292197737	4.17E-36	Exhaustion_CD8.T
ST13	0.342991814	1.13E-35	Exhaustion_CD8.T
GBP2	0.353061463	1.48E-35	Exhaustion_CD8.T
TSPO	0.346814238	2.52E-35	Exhaustion_CD8.T
SPCS2	0.290493826	3.00E-35	Exhaustion_CD8.T
TMEM141	0.253484716	1.75E-34	Exhaustion_CD8.T
C19orf53	0.310443268	4.74E-34	Exhaustion_CD8.T
ZNHIT1	0.275596123	1.33E-33	Exhaustion_CD8.T
SRI	0.302390914	5.31E-33	Exhaustion_CD8.T
TXNDC17	0.255494421	7.43E-33	Exhaustion_CD8.T
KLRK1	0.324332356	9.53E-33	Exhaustion_CD8.T
S100A11	0.360784804	3.69E-32	Exhaustion_CD8.T
LDHB	0.318576596	4.26E-32	Exhaustion_CD8.T
COX5A	0.304564379	6.83E-32	Exhaustion_CD8.T
FKBP5	0.284069341	1.75E-31	Exhaustion_CD8.T
APOBEC3C	0.27202116	5.81E-31	Exhaustion_CD8.T
UQCR10	0.295764728	2.61E-30	Exhaustion_CD8.T
LY6E	0.323796939	2.93E-30	Exhaustion_CD8.T
TMPO	0.250869192	8.53E-30	Exhaustion_CD8.T
DEDD2	0.25827501	8.70E-30	Exhaustion_CD8.T
LCK	0.28358332	4.00E-29	Exhaustion_CD8.T
UBE2L6	0.263059697	4.93E-29	Exhaustion_CD8.T
SEPTIN1	0.284272344	5.59E-29	Exhaustion_CD8.T
SEC11A	0.291618781	4.04E-28	Exhaustion_CD8.T
GNG5	0.296924265	1.85E-27	Exhaustion_CD8.T
ATP5MC1	0.266075295	2.19E-27	Exhaustion_CD8.T
CARD16	0.325898429	2.61E-27	Exhaustion_CD8.T
PDIA6	0.298164802	4.95E-27	Exhaustion_CD8.T
CCL5	0.380307218	7.35E-27	Exhaustion_CD8.T
CSNK2B	0.259960984	2.62E-26	Exhaustion_CD8.T
RANBP1	0.323014043	2.64E-26	Exhaustion_CD8.T

CIB1	0.283695683	1.08E-25	Exhaustion_CD8.T
POLD4	0.263813644	1.35E-25	Exhaustion_CD8.T
TRBC1	0.703258768	1.93E-25	Exhaustion_CD8.T
PPM1G	0.253114112	2.14E-25	Exhaustion_CD8.T
NDUFC2	0.267625786	2.65E-25	Exhaustion_CD8.T
GSTO1	0.267517661	4.87E-25	Exhaustion_CD8.T
NUDC	0.290781712	6.16E-25	Exhaustion_CD8.T
NOP10	0.271925309	1.10E-24	Exhaustion_CD8.T
SDF2L1	0.25849613	1.28E-24	Exhaustion_CD8.T
NSD3	0.291026931	2.47E-24	Exhaustion_CD8.T
CENPX	0.259188136	4.51E-24	Exhaustion_CD8.T
DYNLRB1	0.272941625	5.19E-24	Exhaustion_CD8.T
COPE	0.286376408	7.92E-24	Exhaustion_CD8.T
MPHOSPH8	0.266056036	1.34E-23	Exhaustion_CD8.T
COX8A	0.272364734	2.09E-23	Exhaustion_CD8.T
AHSA1	0.272760032	4.27E-23	Exhaustion_CD8.T
MRPL18	0.256241543	4.39E-23	Exhaustion_CD8.T
HSPA8	0.526362493	7.80E-23	Exhaustion_CD8.T
MGST3	0.259011037	1.06E-22	Exhaustion_CD8.T
SPCS1	0.253108099	2.52E-22	Exhaustion_CD8.T
CLTA	0.259724948	3.35E-22	Exhaustion_CD8.T
PSMB9	0.286057457	4.52E-22	Exhaustion_CD8.T
ANAPC11	0.253407339	6.51E-22	Exhaustion_CD8.T
LAPTM5	0.271118653	7.81E-22	Exhaustion_CD8.T
ATP5F1C	0.256791338	1.08E-21	Exhaustion_CD8.T
ENO1	0.314841913	1.32E-20	Exhaustion_CD8.T
SLBP	0.271454387	1.61E-20	Exhaustion_CD8.T
CCT4	0.273955421	3.33E-20	Exhaustion_CD8.T
HSPA6	0.279812441	7.57E-20	Exhaustion_CD8.T
LDHA	0.269983482	1.70E-19	Exhaustion_CD8.T
PLP2	0.253474255	3.49E-18	Exhaustion_CD8.T
CHORDC1	0.303451917	4.76E-18	Exhaustion_CD8.T
BLOC1S1	0.254322454	5.91E-18	Exhaustion_CD8.T
ARL6IP1	0.287888538	1.11E-17	Exhaustion_CD8.T
NMB	0.484811662	1.35E-17	Exhaustion_CD8.T
TSC22D3	0.263993775	3.57E-16	Exhaustion_CD8.T
HSP90AB1	0.525203841	5.57E-16	Exhaustion_CD8.T
C17orf49	0.27361953	3.77E-15	Exhaustion_CD8.T
DOK2	0.314902852	7.05E-15	Exhaustion_CD8.T
RAN	0.255271752	4.30E-14	Exhaustion_CD8.T
CDK2AP2	0.261280989	9.70E-14	Exhaustion_CD8.T
C9orf16	0.265167406	5.35E-12	Exhaustion_CD8.T
XIST	0.340532298	8.78E-11	Exhaustion_CD8.T
HERPUD1	0.3154508	5.11E-10	Exhaustion_CD8.T
DNAJA1	0.367239465	1.50E-05	Exhaustion_CD8.T
TNFSF9	0.340622262	2.46E-05	Exhaustion_CD8.T
HLA-DQB1	0.314143655	0.00041786	Exhaustion_CD8.T
GOLGA4	0.279120667	0.00421563	Exhaustion_CD8.T

Supplementary Table 4.Genes related to the common progenitor cell of HCC and cirrhosis (related to Fig. 5)

P_val	avg_log2FC	Pct.1	Pct.2	P_val_adj	Gene
0	3.697584059	0.954	0.118	0	NKG7
0	3.079557991	0.922	0.075	0	CCL5
0	2.920501052	0.971	0.134	0	DUSP2
0	2.733925283	0.968	0.068	0	CST7
0	2.283404923	0.959	0.053	0	GZMA
0	2.181786541	0.905	0.041	0	CTSW
0	2.064304556	0.862	0.035	0	CD7
0	1.923354336	0.951	0.123	0	HCST
0	1.75128566	0.701	0.034	0	GZMH
0	1.739540845	0.905	0.094	0	PTPRC
0	1.705769122	0.733	0.039	0	KLRB1
0	1.679420959	0.743	0.033	0	TRBC2
0	1.654348147	0.743	0.033	0	PRF1
0	1.601168373	0.867	0.047	0	IL2RG
0	1.452658182	0.738	0.039	0	ALOX5AP
0	1.439328252	0.869	0.084	0	CORO1A
0	1.406001891	0.837	0.077	0	RAC2
0	1.373504642	0.774	0.028	0	GZMM
0	1.341278908	0.663	0.025	0	CD3E
0	1.270609743	0.665	0.025	0	CD247
0	1.232411677	0.689	0.03	0	KLRD1
0	1.003918161	0.636	0.019	0	LCK
1.58E-307	1.494317595	0.675	0.037	2.47E-303	CD69
1.65E-305	2.654410975	0.711	0.049	2.57E-301	XCL2
5.57E-296	0.941847862	0.587	0.02	8.72E-292	PTPN7
1.23E-293	1.020764636	0.66	0.038	1.92E-289	PCED1B-AS1
8.19E-287	0.860464293	0.561	0.018	1.28E-282	ACAP1
5.27E-283	1.813849814	0.927	0.153	8.25E-279	ARHGDIB
3.14E-281	1.177075071	0.731	0.064	4.91E-277	STK4
6.01E-279	1.292402887	0.779	0.082	9.39E-275	TGFB1
3.13E-276	1.4542233	0.794	0.091	4.90E-272	DDIT4
1.32E-271	1.077419177	0.755	0.071	2.06E-267	LSP1
3.58E-271	1.776471071	0.619	0.038	5.60E-267	TRBC1
1.96E-269	0.866399623	0.558	0.023	3.06E-265	MATK
8.27E-268	2.141460335	0.922	0.165	1.29E-263	S100A4
2.46E-267	1.09436058	0.755	0.074	3.85E-263	CD37
1.10E-266	1.441191829	0.811	0.102	1.72E-262	CLEC2B
1.98E-266	1.654949953	0.867	0.124	3.09E-262	REL
5.66E-266	0.858753021	0.529	0.018	8.85E-262	SH2D2A
5.22E-264	1.181142145	0.74	0.074	8.17E-260	ISG20
9.07E-264	1.618807844	0.947	0.168	1.42E-259	CYBA
1.48E-260	1.098130847	0.539	0.021	2.32E-256	HOPX
7.89E-257	1.662494932	0.59	0.037	1.23E-252	GZMB
2.36E-254	1.494229642	0.801	0.104	3.68E-250	ARL4C
1.88E-251	1.793991676	0.864	0.155	2.94E-247	CREM
6.48E-251	1.177380227	0.731	0.079	1.01E-246	ITGB2
1.91E-249	1.077312707	0.653	0.054	2.99E-245	LIMD2
4.84E-246	1.014876937	0.59	0.038	7.58E-242	RUNX3
1.20E-242	1.049770836	0.502	0.019	1.88E-238	CLIC3
2.26E-238	0.780032532	0.476	0.015	3.53E-234	SYTL3
6.53E-237	1.046299849	0.578	0.04	1.02E-232	CEMIP2
8.48E-237	0.79324081	0.495	0.02	1.33E-232	RHOH
2.11E-236	0.852260007	0.529	0.027	3.30E-232	TENT5C
2.77E-236	0.953717348	0.481	0.017	4.33E-232	CD2
5.78E-236	1.110873198	0.672	0.069	9.04E-232	IFITM1
1.14E-235	1.935983958	0.99	0.251	1.79E-231	SRGN
1.48E-234	0.734413109	0.49	0.019	2.32E-230	LBH
4.46E-234	0.942882384	0.578	0.039	6.97E-230	CYTIP
1.87E-229	0.912262591	0.658	0.064	2.92E-225	CD53
3.05E-229	1.237668686	0.767	0.105	4.78E-225	EMP3
7.43E-228	1.05455641	0.638	0.061	1.16E-223	VPS37B
1.59E-227	1.110001427	0.604	0.05	2.49E-223	CRIP1

3.04E-227	0.848523082	0.609	0.052	4.76E-223	SKAP1
3.76E-226	1.473708004	0.716	0.09	5.88E-222	METRNL
2.18E-224	1.3320704	0.49	0.024	3.40E-220	CD3D
2.25E-223	0.945488395	0.607	0.051	3.52E-219	CD48
2.39E-223	1.522492115	0.854	0.149	3.74E-219	NR4A2
5.66E-223	2.402338477	0.99	0.426	8.86E-219	BTG1
4.70E-220	1.267908116	0.456	0.018	7.34E-216	FGFBP2
4.33E-218	1.524041491	0.755	0.113	6.76E-214	CXCR4
4.98E-217	1.29928379	0.449	0.017	7.79E-213	TRAC
5.86E-213	0.64752755	0.4	0.009	9.17E-209	PYHIN1
7.53E-213	0.652294488	0.413	0.011	1.18E-208	KLRK1
1.58E-210	2.12695597	0.905	0.263	2.48E-206	ZFP36L2
1.10E-209	0.936095222	0.621	0.067	1.71E-205	STK17A
1.79E-209	0.717000178	0.495	0.029	2.81E-205	APOBEC3G
2.15E-209	0.931190231	0.621	0.066	3.35E-205	FYN
7.67E-209	0.896082272	0.422	0.014	1.20E-204	TRDC
9.52E-209	1.13339371	0.784	0.127	1.49E-204	FXYD5
4.84E-208	1.771402204	0.985	0.356	7.57E-204	HLA-E
5.59E-206	1.867263725	1	0.995	8.74E-202	B2M
8.34E-205	1.457246013	0.847	0.185	1.30E-200	IER2
6.74E-203	0.922449102	0.57	0.053	1.05E-198	GNG2
6.16E-202	1.236069097	0.83	0.181	9.64E-198	TLE5
3.09E-200	0.613439709	0.408	0.014	4.84E-196	IL2RB
1.73E-199	1.055151455	0.723	0.115	2.70E-195	KMT2E
1.38E-197	0.674933738	0.417	0.016	2.15E-193	SPOCK2
9.74E-197	1.380425822	0.823	0.173	1.52E-192	IRF1
1.19E-196	1.366976434	0.806	0.168	1.87E-192	HIST1H4C
8.74E-196	0.739380105	0.488	0.033	1.37E-191	C12orf75
1.26E-195	1.016489127	0.697	0.106	1.97E-191	ABHD17A
4.73E-194	0.601863454	0.369	0.009	7.40E-190	S1PR5
1.54E-193	0.797411196	0.517	0.041	2.41E-189	SLA
1.59E-193	0.78348086	0.519	0.043	2.49E-189	RAB8B
6.05E-193	0.684728845	0.374	0.01	9.46E-189	NCR3
9.53E-191	1.821676703	1	0.837	1.49E-186	HLA-B
1.51E-190	1.275078703	0.84	0.169	2.36E-186	GSTP1
2.57E-189	2.768278869	1	0.774	4.02E-185	MALAT1
1.74E-188	1.038776089	0.818	0.148	2.73E-184	S100A6
1.95E-188	0.723670938	0.468	0.031	3.04E-184	STK17B
1.95E-188	0.87311564	0.553	0.055	3.05E-184	ADGRE5
1.11E-187	0.597366206	0.379	0.012	1.73E-183	SH2D1A
2.08E-185	0.949083183	0.663	0.097	3.25E-181	ELF1
1.36E-184	1.002852216	0.607	0.072	2.13E-180	SLC2A3
4.27E-184	1.339091653	0.663	0.1	6.67E-180	ANXA1
7.26E-184	0.535116299	0.357	0.009	1.14E-179	CD96
4.24E-183	0.628240299	0.381	0.014	6.63E-179	LINC01871
4.78E-183	0.731779983	0.51	0.043	7.48E-179	ETS1
1.38E-182	0.677756081	0.517	0.045	2.15E-178	FMNL1
3.73E-182	1.059254294	0.682	0.107	5.84E-178	FOSL2
6.00E-182	0.746832368	0.367	0.012	9.38E-178	CD8A
3.49E-180	0.714159886	0.381	0.015	5.45E-176	KLRF1
3.22E-179	0.503892972	0.345	0.008	5.04E-175	SAMD3
1.68E-177	0.494820007	0.357	0.011	2.62E-173	TBC1D10C
8.63E-177	0.58330881	0.413	0.022	1.35E-172	PRKCH
9.37E-177	0.52751934	0.364	0.012	1.47E-172	STAT4
1.07E-175	2.054632524	0.99	0.696	1.67E-171	JUND
1.19E-175	1.318338106	0.893	0.293	1.86E-171	SARAF
1.44E-175	1.080385294	0.544	0.059	2.25E-171	DUSP5
2.06E-175	0.80942565	0.595	0.075	3.21E-171	GPSM3
6.62E-175	1.70816317	0.405	0.022	1.03E-170	XCL1
9.75E-175	0.636775927	0.408	0.022	1.52E-170	PDE7A
2.26E-174	1.307040868	0.437	0.029	3.53E-170	AREG
9.79E-174	0.651727948	0.439	0.03	1.53E-169	RBM38
2.50E-173	0.670569625	0.488	0.042	3.91E-169	BIN2
7.27E-173	0.969235731	0.723	0.141	1.14E-168	EVL

2.46E-172	0.86244793	0.536	0.056	3.85E-168	GIMAP7
4.10E-172	0.567358429	0.364	0.014	6.42E-168	SLC38A1
1.67E-170	0.802906841	0.5	0.049	2.61E-166	DOK2
7.65E-170	2.858584025	0.937	0.403	1.20E-165	CCL4
8.44E-170	0.695580795	0.447	0.033	1.32E-165	GPR65
9.08E-170	0.880968053	0.585	0.076	1.42E-165	EZR
1.51E-169	1.662372734	0.968	0.445	2.37E-165	SH3BGRL3
1.61E-169	0.51223362	0.352	0.012	2.51E-165	LAT
1.07E-167	0.891063355	0.595	0.084	1.67E-163	RORA
1.90E-167	0.711464587	0.425	0.029	2.97E-163	PLAC8
8.02E-167	0.631727907	0.325	0.008	1.25E-162	CD3G
3.81E-165	1.784416489	0.437	0.036	5.96E-161	GZMK
1.08E-164	0.503204392	0.33	0.01	1.69E-160	PTPN22
1.68E-164	0.718081051	0.534	0.061	2.63E-160	WIPF1
2.19E-164	0.805032292	0.609	0.084	3.42E-160	FYB1
1.58E-163	0.678148829	0.415	0.028	2.47E-159	TAGAP
1.84E-163	0.883413714	0.706	0.124	2.88E-159	GMFG
1.32E-162	1.155077279	0.364	0.018	2.06E-158	IFNG
2.55E-161	1.00052058	0.726	0.148	3.99E-157	CTSC
1.43E-160	0.904983459	0.68	0.127	2.24E-156	UBE2S
1.76E-160	0.628355194	0.408	0.028	2.75E-156	AKNA
4.24E-160	0.946609365	0.718	0.146	6.64E-156	FUS
1.33E-159	0.769316244	0.609	0.091	2.08E-155	PPDPF
7.80E-159	0.808374467	0.595	0.09	1.22E-154	PRPF38B
1.55E-157	0.535198928	0.333	0.012	2.43E-153	TIGIT
5.26E-157	1.680427548	0.998	0.614	8.23E-153	TMSB10
1.50E-156	0.618087497	0.359	0.018	2.35E-152	CLEC2D
2.00E-156	0.620268419	0.381	0.023	3.12E-152	CCND2
2.25E-156	0.739426492	0.556	0.076	3.52E-152	LDHB
7.52E-156	0.525734021	0.313	0.01	1.18E-151	BCL11B
2.38E-155	0.507904579	0.294	0.006	3.73E-151	KLRC3
6.01E-153	1.701840554	1	0.562	9.39E-149	TMSB4X
3.97E-152	0.626212626	0.437	0.04	6.20E-148	ITGA4
5.76E-152	1.788108456	0.915	0.327	9.01E-148	JUNB
1.71E-151	0.582306969	0.449	0.042	2.67E-147	APBB1IP
1.74E-151	0.898533652	0.592	0.097	2.72E-147	LEPROTL1
2.49E-151	1.308606233	0.636	0.116	3.90E-147	ZNF331
2.77E-150	1.006363403	0.473	0.051	4.34E-146	CD52
3.84E-150	0.707274783	0.553	0.077	6.01E-146	FLNA
1.74E-148	1.318662531	0.993	0.684	2.72E-144	HLA-C
2.90E-148	0.789893612	0.604	0.095	4.54E-144	LCP1
1.04E-147	0.470157497	0.333	0.015	1.62E-143	RHOF
3.30E-147	0.67725799	0.539	0.074	5.16E-143	PPP1R18
1.85E-146	0.929228341	0.658	0.133	2.89E-142	SRSF7
1.89E-146	1.235187255	0.964	0.473	2.96E-142	ARPC2
2.26E-146	0.408892665	0.282	0.007	3.54E-142	FCRL6
5.10E-146	1.188131369	1	0.968	7.97E-142	PFN1
8.18E-146	2.834324056	0.481	0.064	1.28E-141	GNLY
8.97E-146	0.476620649	0.303	0.011	1.40E-141	MYBL1
2.07E-145	1.115587156	0.602	0.1	3.24E-141	RGCC
1.05E-144	1.043084441	0.794	0.227	1.65E-140	DDX24
1.38E-144	0.422973318	0.272	0.005	2.15E-140	FASLG
1.39E-143	0.700059028	0.502	0.065	2.18E-139	CDC42SE2
3.08E-143	0.612982487	0.442	0.045	4.81E-139	C5orf56
5.16E-143	0.397838238	0.267	0.005	8.07E-139	TBX21
8.16E-143	0.749897735	0.306	0.012	1.28E-138	TRGC2
4.17E-142	1.290741214	0.988	0.719	6.52E-138	MYL12A
1.00E-141	1.177199284	1	0.925	1.57E-137	H3F3B
1.38E-140	0.409412824	0.282	0.008	2.16E-136	ZAP70
2.13E-140	0.792620279	0.6	0.106	3.33E-136	PNISR
7.56E-140	0.698317796	0.51	0.07	1.18E-135	CNOT6L
3.77E-139	0.873070841	0.575	0.099	5.89E-135	RSRP1
7.66E-139	0.481329707	0.299	0.012	1.20E-134	KLRG1
1.29E-138	0.770064558	0.461	0.054	2.02E-134	TUBA4A

1.44E-138	1.265269037	0.942	0.488	2.26E-134	CLIC1
1.12E-137	0.463219251	0.325	0.018	1.74E-133	IL27RA
1.66E-137	0.900759983	0.663	0.145	2.59E-133	BRD2
3.85E-137	0.701747014	0.536	0.083	6.02E-133	CD47
1.74E-135	1.224873265	0.985	0.747	2.72E-131	CFL1
2.13E-135	0.777716497	0.709	0.147	3.34E-131	GYPC
9.22E-135	1.10916417	0.638	0.128	1.44E-130	TNFAIP3
2.93E-134	0.788255179	0.609	0.118	4.59E-130	RBM25
3.92E-134	0.891950264	0.553	0.091	6.14E-130	BTG2
2.61E-133	0.877638716	0.694	0.164	4.08E-129	ARL6IP5
2.87E-133	1.069481889	0.587	0.109	4.49E-129	ATP1B3
5.29E-133	0.591280953	0.398	0.038	8.28E-129	SOCS1
1.14E-132	0.582885574	0.442	0.052	1.79E-128	CCND3
1.64E-132	0.515945711	0.34	0.023	2.56E-128	CHST12
3.38E-132	1.235380787	0.978	0.674	5.29E-128	CALM1
1.01E-131	1.057995409	0.765	0.231	1.58E-127	RBM39
2.99E-131	0.840479918	0.658	0.138	4.67E-127	LY6E
4.32E-130	0.989746384	0.728	0.2	6.76E-126	JAK1
1.17E-129	0.565087098	0.43	0.049	1.82E-125	SEPTIN6
2.40E-129	0.618718961	0.481	0.067	3.76E-125	NSD3
4.15E-129	1.299470406	0.981	0.74	6.48E-125	HLA-A
5.51E-129	0.868159806	0.76	0.209	8.61E-125	SON
5.88E-129	0.888225586	0.772	0.219	9.19E-125	YWHAZ
9.37E-129	0.385217941	0.265	0.008	1.47E-124	IKZF3
7.23E-128	0.70918058	0.57	0.106	1.13E-123	HLA-F
2.79E-127	0.946433982	0.748	0.221	4.37E-123	SEPTIN7
8.50E-127	0.610709304	0.456	0.06	1.33E-122	PPP1R12A
2.67E-126	1.071721271	0.922	0.434	4.17E-122	CD99
4.94E-126	0.549854721	0.478	0.067	7.72E-122	CSK
5.26E-126	0.582739812	0.371	0.033	8.23E-122	ITM2A
6.02E-126	0.907598128	0.376	0.035	9.41E-122	RGS1
2.47E-125	0.609073027	0.26	0.009	3.86E-121	CXCR6
1.21E-124	0.51772002	0.362	0.032	1.89E-120	AOAH
1.77E-124	0.714084013	0.466	0.067	2.77E-120	RNF19A
6.26E-124	0.442535509	0.245	0.007	9.78E-120	TRGC1
9.00E-124	0.785600283	0.556	0.104	1.41E-119	AKAP13
1.94E-123	0.655250997	0.493	0.078	3.04E-119	TAP1
1.97E-123	0.656398887	0.444	0.058	3.09E-119	SYNE2
2.18E-123	0.386863146	0.269	0.011	3.41E-119	ADAM8
4.15E-123	0.414047798	0.301	0.018	6.49E-119	PARP8
6.17E-123	0.760475149	0.517	0.087	9.64E-119	TSC22D3
9.38E-123	0.589838143	0.451	0.061	1.47E-118	ARHGEF1
1.51E-122	0.651423979	0.252	0.008	2.36E-118	CD8B
1.05E-121	0.850123743	0.59	0.121	1.64E-117	ANKRD12
1.38E-121	0.665691545	0.529	0.093	2.15E-117	SEPTIN1
5.14E-121	0.773530498	0.549	0.104	8.04E-117	ARID4B
1.42E-120	0.398489175	0.296	0.018	2.22E-116	AC245297.3
2.42E-120	0.858478486	0.701	0.192	3.78E-116	DNAJB6
2.45E-120	0.532298151	0.379	0.04	3.83E-116	PIP4K2A
4.55E-120	0.723198856	0.621	0.135	7.11E-116	MSN
8.75E-120	0.404223227	0.294	0.017	1.37E-115	DENND2D
1.11E-119	0.572555463	0.243	0.007	1.73E-115	KLRC1
2.30E-119	1.027780565	0.881	0.373	3.59E-115	PLAAT4
5.15E-119	0.482369487	0.357	0.033	8.05E-115	CDKN2D
1.05E-118	0.329548903	0.214	0.003	1.64E-114	EOMES
1.17E-118	0.582409397	0.449	0.063	1.83E-114	AAK1
2.49E-117	0.751670651	0.493	0.084	3.90E-113	PDCD4
1.75E-116	1.085732763	0.968	0.663	2.73E-112	OAZ1
5.73E-116	0.413577197	0.252	0.01	8.96E-112	TRG-AS1
3.77E-115	0.684782341	0.507	0.089	5.89E-111	SERTAD1
9.92E-115	0.691181853	0.539	0.106	1.55E-110	CDC42SE1
2.59E-114	0.391128455	0.272	0.015	4.05E-110	ITGB7
1.25E-113	0.475252584	0.35	0.034	1.95E-109	RAB27A
2.46E-113	0.415131145	0.25	0.011	3.85E-109	PDE4D

3.16E-113	1.176203325	0.325	0.028	4.94E-109	LTB
3.59E-112	0.697875523	0.466	0.075	5.62E-108	BAZ1A
4.23E-112	0.691564606	0.488	0.086	6.61E-108	DHX36
7.93E-112	0.886219306	0.631	0.16	1.24E-107	EFHD2
2.75E-111	0.334699382	0.216	0.005	4.30E-107	TC2N
5.51E-111	0.60485638	0.381	0.045	8.61E-107	PDE4B
1.07E-110	0.325661097	0.24	0.01	1.67E-106	SYTL1
1.70E-110	0.769017019	0.454	0.07	2.66E-106	SAMSN1
6.21E-110	0.398344654	0.204	0.004	9.70E-106	LAIR2
7.73E-110	0.291447746	0.214	0.005	1.21E-105	CD6
2.27E-109	0.440222236	0.308	0.025	3.55E-105	SPN
4.85E-109	0.662893654	0.476	0.079	7.58E-105	UCP2
6.27E-109	0.409935066	0.233	0.009	9.81E-105	LAG3
1.42E-108	1.013430576	0.937	0.512	2.23E-104	PNRC1
2.00E-107	0.500729053	0.383	0.048	3.13E-103	CELF2
4.00E-107	0.614664144	0.485	0.084	6.25E-103	CARD16
7.36E-107	0.594341848	0.434	0.067	1.15E-102	LINC-PINT
8.47E-107	0.304886047	0.201	0.004	1.32E-102	PRKCQ-AS1
2.29E-106	0.544117585	0.228	0.009	3.58E-102	MYOM2
1.68E-105	0.468405077	0.248	0.013	2.63E-101	CD160
1.76E-105	0.679342811	0.558	0.124	2.76E-101	TERF2IP
1.80E-105	0.320840533	0.209	0.005	2.81E-101	GATA3
2.54E-105	0.349692998	0.223	0.008	3.97E-101	RASGRP1
4.42E-105	0.270602572	0.194	0.003	6.91E-101	PPP2R2B
8.58E-105	1.093064623	1	0.989	1.34E-100	ACTB
2.79E-102	0.389706403	0.274	0.02	4.36E-98	ODF2L
3.23E-102	0.661972722	0.612	0.149	5.05E-98	RHOG
3.24E-102	0.964259814	0.859	0.377	5.06E-98	H2AFZ
3.72E-102	0.348049436	0.255	0.015	5.82E-98	RASAL3
6.75E-102	0.506224487	0.34	0.038	1.06E-97	TIPARP
2.14E-101	1.041547693	0.791	0.313	3.35E-97	LITAF
2.96E-101	0.58022645	0.466	0.082	4.62E-97	IFI16
4.21E-101	0.749117756	0.655	0.189	6.58E-97	RAP1B
8.05E-101	0.303637582	0.182	0.003	1.26E-96	LINC00299
8.20E-101	0.363322426	0.223	0.01	1.28E-96	CD38
1.61E-100	0.60640509	0.527	0.105	2.52E-96	PLEK
2.58E-100	0.591330853	0.507	0.099	4.03E-96	SELENOW
2.76E-100	0.679542551	0.566	0.134	4.32E-96	APMAP
1.51E-99	0.591347649	0.442	0.076	2.36E-95	CHD1
1.53E-99	0.644548456	0.556	0.132	2.39E-95	PAXX
3.57E-99	0.573077545	0.578	0.127	5.58E-95	LAPTM5
4.76E-99	0.363460548	0.279	0.022	7.45E-95	LPXN
5.78E-99	0.495657238	0.383	0.054	9.04E-95	SMCHD1
1.08E-98	2.030379795	0.82	0.392	1.69E-94	CCL4L2
1.10E-98	0.488885569	0.396	0.059	1.73E-94	SH3KBP1
1.28E-98	0.493399983	0.367	0.048	2.01E-94	GIMAP5
1.44E-97	0.872425829	0.585	0.162	2.25E-93	YPEL5
1.10E-96	0.412931993	0.318	0.034	1.72E-92	DOCK8
1.54E-96	0.950284467	0.502	0.105	2.42E-92	KLF2
3.28E-96	0.517522582	0.42	0.068	5.13E-92	HCLS1
4.43E-96	0.814792884	1	0.987	6.93E-92	PTMA
7.41E-96	0.433966184	0.313	0.033	1.16E-91	PTGER4
1.61E-95	0.351785377	0.243	0.015	2.51E-91	FCMR
2.57E-95	0.980967194	0.993	0.906	4.02E-91	ACTG1
4.43E-95	0.50040341	0.434	0.074	6.93E-91	IQGAP1
5.97E-95	0.660179597	0.546	0.131	9.34E-91	UBALD2
8.47E-95	0.359852658	0.243	0.016	1.32E-90	AUTS2
1.06E-94	0.330337686	0.25	0.017	1.66E-90	TRAF3IP3
1.13E-94	0.396566604	0.296	0.029	1.77E-90	SUN2
1.23E-94	0.914993325	0.519	0.123	1.93E-90	PIK3R1
1.52E-94	0.421452382	0.323	0.037	2.38E-90	THUMPD3-AS1
5.52E-94	0.735721457	0.631	0.18	8.64E-90	PRRC2C
1.43E-93	0.642162566	0.563	0.145	2.23E-89	OSTF1
2.90E-93	0.358660986	0.267	0.022	4.54E-89	ARHGAP9

6.85E-93	0.489793428	0.318	0.037	1.07E-88	CD300A
1.11E-92	0.515891838	0.345	0.046	1.74E-88	LYAR
1.47E-92	0.370880675	0.269	0.023	2.29E-88	ARAP2
2.25E-92	0.614363162	0.51	0.113	3.52E-88	ARGLU1
2.53E-92	0.504568867	0.398	0.063	3.96E-88	CD44
2.55E-92	0.472385398	0.197	0.007	3.99E-88	TKTL1
2.94E-92	0.607600276	0.4	0.066	4.59E-88	HMGB2
5.04E-92	0.492241463	0.301	0.033	7.89E-88	TSPYL2
8.37E-92	0.936828767	0.745	0.255	1.31E-87	ZFP36
1.95E-91	0.523578131	0.347	0.047	3.05E-87	ZC3H12A
2.39E-91	0.918529098	0.701	0.224	3.74E-87	TYROBP
4.00E-91	0.400220942	0.306	0.034	6.25E-87	RNF168
1.18E-90	0.335899267	0.226	0.014	1.84E-86	IL16
1.20E-90	0.645684773	0.524	0.124	1.88E-86	GPBP1
2.50E-90	0.671335501	0.648	0.189	3.91E-86	LRRFIP1
3.28E-90	0.251574548	0.175	0.004	5.13E-86	TOX
1.18E-89	0.471136404	0.35	0.049	1.85E-85	UTRN
1.35E-89	0.268768441	0.187	0.006	2.10E-85	ATP8A1
1.42E-89	0.387209343	0.277	0.027	2.22E-85	RALGAPA1
1.77E-89	0.775582536	0.653	0.215	2.77E-85	CCDC107
2.36E-89	0.50141763	0.403	0.069	3.69E-85	BOD1L1
2.42E-89	0.906141467	0.803	0.371	3.78E-85	SELENOK
3.68E-89	0.281749786	0.218	0.012	5.75E-85	CCDC88C
5.37E-89	0.562226363	0.437	0.082	8.39E-85	TNFRSF1B
6.85E-89	0.419680361	0.335	0.044	1.07E-84	PRDM1
7.29E-89	0.279947942	0.211	0.011	1.14E-84	PSTPIP1
7.88E-89	0.573453982	0.425	0.079	1.23E-84	CD55
1.22E-88	0.333338195	0.25	0.02	1.90E-84	MYO1G
1.26E-88	0.454365181	0.265	0.024	1.96E-84	ENC1
1.37E-88	0.475055899	0.362	0.054	2.14E-84	CYLD
1.43E-88	0.606285713	0.585	0.161	2.24E-84	SF1
1.84E-88	0.321455767	0.243	0.018	2.87E-84	PTPN4
2.90E-88	0.633777941	0.58	0.158	4.54E-84	ARF6
4.52E-88	0.924980743	0.772	0.327	7.07E-84	NFE2L2
5.00E-88	0.433256711	0.267	0.025	7.81E-84	SATB1
1.67E-87	0.696189146	0.604	0.172	2.62E-83	RNF213
2.37E-87	0.630091029	0.507	0.111	3.70E-83	KDM6B
3.10E-87	0.582346424	0.481	0.104	4.85E-83	TPM4
3.30E-87	0.378967989	0.211	0.012	5.15E-83	TNFSF9
5.17E-87	0.408368906	0.313	0.039	8.09E-83	WAS
5.76E-87	0.368897465	0.269	0.026	9.01E-83	ABI3
7.56E-87	0.59949677	0.42	0.077	1.18E-82	ZEB2
1.26E-86	0.547307401	0.478	0.104	1.97E-82	SLC3A2
1.33E-86	0.409877738	0.33	0.045	2.09E-82	CCSER2
1.60E-86	0.822201184	0.694	0.24	2.50E-82	MCL1
4.40E-86	0.589292906	0.51	0.124	6.88E-82	LINC01578
5.57E-86	0.695571432	0.665	0.223	8.71E-82	ACTR3
5.87E-86	0.524513162	0.415	0.078	9.18E-82	MYCBP2
1.04E-85	0.344610325	0.272	0.027	1.62E-81	ITGAL
1.18E-85	0.531275053	0.413	0.078	1.85E-81	G3BP2
1.24E-85	0.425324383	0.32	0.042	1.94E-81	IKZF1
1.59E-85	0.770778917	0.733	0.242	2.49E-81	VIM
1.85E-85	0.362598245	0.272	0.027	2.90E-81	ANKRD44
1.18E-84	0.55583807	0.536	0.137	1.84E-80	NCOR1
1.45E-84	0.421272353	0.325	0.044	2.27E-80	GIMAP1
1.60E-84	0.805113201	0.998	0.988	2.50E-80	RPS19
2.73E-84	0.880061001	0.964	0.702	4.28E-80	UBC
6.01E-84	0.529805793	0.432	0.086	9.41E-80	CCNH
1.44E-83	0.298062644	0.223	0.016	2.25E-79	SAMD9
1.48E-83	0.455189762	0.33	0.048	2.31E-79	NSMCE3
1.82E-83	0.609583557	1	0.997	2.84E-79	FAU
2.66E-83	0.912830096	0.757	0.307	4.16E-79	DDX5
4.87E-83	0.630332017	0.587	0.17	7.62E-79	SRSF11
6.98E-83	0.444831548	0.299	0.037	1.09E-78	PCSK7

9.21E-83	0.367365931	0.296	0.036	1.44E-78	TLE4
4.57E-82	0.528758616	0.42	0.084	7.15E-78	ANKRD11
5.52E-82	0.721579783	0.575	0.176	8.64E-78	PPP2R5C
3.31E-81	0.730297	0.471	0.105	5.17E-77	FCGR3A
4.67E-81	0.47584712	0.316	0.044	7.31E-77	ZBTB1
2.23E-80	0.756358702	0.944	0.601	3.48E-76	ARPC3
3.09E-80	0.349003334	0.243	0.022	4.83E-76	EMB
8.35E-80	0.676913115	0.602	0.187	1.31E-75	TUBB4B
3.77E-79	0.532441066	0.444	0.1	5.89E-75	FGFR1OP2
6.56E-79	0.437218878	0.333	0.051	1.03E-74	GLIPR1
9.73E-79	0.328857105	0.245	0.023	1.52E-74	AC008875.3
1.73E-78	0.305717259	0.214	0.016	2.70E-74	AC092821.3
2.63E-78	0.347499838	0.272	0.031	4.11E-74	ARHGAP30
2.64E-78	0.400964124	0.359	0.061	4.13E-74	PITPNC1
3.00E-78	0.284171823	0.167	0.006	4.68E-74	HSH2D
3.62E-78	0.4585629	0.386	0.072	5.66E-74	GCC2
5.11E-78	0.484047179	0.393	0.076	7.99E-74	IFRD1
5.20E-78	0.45277788	0.364	0.064	8.14E-74	RELB
1.60E-77	0.320743882	0.782	0.255	2.50E-73	NEAT1
1.89E-77	0.334503668	0.24	0.023	2.96E-73	RASA2
2.36E-77	0.620714584	1	0.996	3.70E-73	RPS3
4.41E-77	0.463234501	0.374	0.071	6.89E-73	JMJD6
5.06E-77	0.322252705	0.146	0.003	7.91E-73	KLRC2
8.76E-77	0.510352938	0.488	0.123	1.37E-72	GTF2B
1.21E-76	0.280468676	0.189	0.011	1.89E-72	SASH3
2.78E-76	0.377036219	0.699	0.217	4.35E-72	HLA-DRB1
3.07E-76	0.409350665	0.362	0.065	4.80E-72	SLBP
4.15E-76	0.328346822	0.197	0.013	6.49E-72	GBP5
8.62E-76	0.40341969	0.335	0.054	1.35E-71	FERMT3
1.32E-75	0.293710777	0.216	0.018	2.07E-71	DEF6
3.20E-75	0.258279086	0.18	0.01	5.01E-71	AC008105.3
3.58E-75	0.277074983	0.206	0.015	5.60E-71	TMEM243
3.81E-75	0.309721318	0.209	0.016	5.96E-71	GPRIN3
4.10E-75	0.565319672	0.507	0.137	6.41E-71	LUC7L3
5.19E-75	0.484679648	0.354	0.063	8.12E-71	GIMAP4
5.32E-75	0.342959016	0.248	0.026	8.32E-71	SYNE1
6.33E-75	0.690809211	0.995	0.918	9.90E-71	MYL6
6.53E-75	0.930013659	0.677	0.271	1.02E-70	FAM177A1
2.08E-74	0.457837582	0.4	0.083	3.25E-70	IDS
2.22E-74	0.592793477	0.515	0.144	3.48E-70	SRSF2
2.58E-74	0.335418428	0.245	0.026	4.03E-70	TESC
2.72E-74	0.334906744	0.25	0.027	4.26E-70	CCDC186
3.07E-74	0.285799713	0.206	0.016	4.80E-70	GTF3C1
3.65E-74	0.438270391	0.413	0.087	5.71E-70	PKM
1.19E-73	0.662816822	0.631	0.221	1.87E-69	SFPQ
1.27E-73	0.310268365	0.221	0.02	1.99E-69	SELPLG
4.13E-73	0.260086198	0.153	0.005	6.46E-69	TMIGD2
9.39E-73	0.456630468	0.367	0.071	1.47E-68	CDKN1B
1.16E-72	0.612194595	0.444	0.109	1.82E-68	SMAP2
1.99E-72	0.488018402	0.369	0.071	3.11E-68	MYADM
2.37E-72	0.295474849	0.211	0.018	3.71E-68	ADGRG1
2.65E-72	0.472091456	0.333	0.058	4.15E-68	KMT2A
2.83E-72	0.506201005	0.451	0.111	4.42E-68	N4BP2L2
3.25E-72	0.373185696	0.286	0.04	5.09E-68	ERN1
5.58E-72	0.548432386	0.5	0.135	8.72E-68	TLN1
7.18E-72	0.369526735	0.284	0.04	1.12E-67	FNBP4
1.17E-71	0.975352716	0.461	0.131	1.82E-67	SPON2
1.24E-71	0.337726095	0.272	0.036	1.93E-67	MAPRE2
1.72E-71	0.490162997	0.398	0.088	2.69E-67	ORAI1
5.15E-71	0.43241438	0.379	0.077	8.06E-67	NXT1
5.50E-71	0.522288497	0.682	0.229	8.60E-67	GNAI2
6.58E-71	0.253813601	0.177	0.011	1.03E-66	PTGER2
1.15E-70	0.453060782	0.447	0.109	1.80E-66	DNAJC1
1.25E-70	0.393010729	0.391	0.08	1.96E-66	DPP7

1.34E-70	0.427601837	0.32	0.054	2.10E-66	STARD3NL
3.79E-70	0.644666929	0.604	0.21	5.92E-66	HNRNPH1
3.95E-70	0.512589394	0.447	0.109	6.18E-66	SLC38A2
5.06E-70	0.349078725	0.284	0.041	7.91E-66	FAM53C
1.43E-69	0.48987169	0.335	0.062	2.24E-65	CLDND1
1.46E-69	0.291859717	0.209	0.019	2.29E-65	BATF
1.85E-69	0.368298512	0.299	0.047	2.89E-65	BBX
2.07E-69	0.337077611	0.214	0.02	3.23E-65	HCG18
2.42E-69	0.434069416	0.374	0.074	3.78E-65	STX11
4.83E-69	0.371040317	0.282	0.041	7.55E-65	ZNF292
7.03E-69	0.27473562	0.206	0.018	1.10E-64	SEMA4D
8.23E-69	0.413251127	0.337	0.063	1.29E-64	ZC3HAV1
8.97E-69	0.46897567	0.405	0.093	1.40E-64	TPST2
1.07E-68	0.492529353	0.449	0.116	1.68E-64	RSRC2
1.16E-68	0.505575021	0.43	0.105	1.81E-64	MBP
1.22E-68	0.685162088	0.74	0.306	1.91E-64	HSPA5
1.45E-68	0.327105744	0.25	0.031	2.27E-64	TRAPPC10
2.42E-68	0.296102673	0.218	0.022	3.78E-64	GFOD1
3.75E-68	0.785828947	0.862	0.485	5.86E-64	DNAJA1
4.22E-68	0.592553873	0.641	0.236	6.60E-64	MAP1LC3B
4.36E-68	0.472319042	0.461	0.12	6.81E-64	WDR1
5.04E-68	0.570950928	0.495	0.139	7.88E-64	DDX3X
5.27E-68	0.333099095	0.223	0.023	8.25E-64	HAVCR2
8.66E-68	0.327762148	0.248	0.031	1.35E-63	GLIPR2
8.67E-68	0.514006069	0.459	0.123	1.36E-63	SLTM
1.15E-67	0.586541719	0.595	0.205	1.80E-63	PSMB10
1.32E-67	0.32440854	0.175	0.011	2.07E-63	CRTAM
1.82E-67	0.394255736	0.357	0.071	2.85E-63	USP15
1.96E-67	0.415710881	0.337	0.064	3.06E-63	EPC1
2.51E-67	0.310503733	0.252	0.033	3.93E-63	ANKRD13D
2.91E-67	0.256020298	0.201	0.018	4.55E-63	ARHGAP15
3.15E-67	0.290750873	0.218	0.022	4.93E-63	ARMCX3
3.34E-67	0.344513306	0.274	0.04	5.22E-63	IL10RA
6.38E-67	0.262529093	0.184	0.014	9.98E-63	FBXO34
6.38E-67	0.85039	0.983	0.816	9.98E-63	HSP90AA1
6.95E-67	0.5316443	0.427	0.108	1.09E-62	PNN
1.44E-66	0.703148261	0.765	0.355	2.26E-62	PSMB9
1.74E-66	0.283832349	0.163	0.009	2.71E-62	TNFRSF18
2.11E-66	0.528027851	0.471	0.131	3.30E-62	ICAM3
4.49E-66	0.332936947	0.265	0.037	7.02E-62	CDC42EP3
5.04E-66	0.557255184	0.65	0.238	7.88E-62	SRRM2
9.81E-66	0.299595654	0.221	0.024	1.53E-61	SH3BP1
1.07E-65	0.296201165	0.194	0.017	1.67E-61	LMNB1
2.35E-65	0.386380748	0.303	0.052	3.68E-61	POLR2A
2.50E-65	0.404983999	0.359	0.074	3.92E-61	GRK2
4.30E-65	0.392265597	0.347	0.069	6.73E-61	CKS2
4.43E-65	0.322134681	0.267	0.039	6.93E-61	DGKZ
1.19E-64	0.702400928	0.799	0.39	1.86E-60	YWHAB
1.20E-64	0.275235241	0.206	0.02	1.87E-60	CBLB
2.08E-64	0.557452829	0.573	0.194	3.25E-60	SRRM1
2.50E-64	0.694271766	0.857	0.471	3.92E-60	ARPC1B
2.66E-64	0.672288193	0.803	0.402	4.16E-60	CCNI
8.45E-64	0.498425909	0.43	0.112	1.32E-59	PPP1R2
9.37E-64	0.501001001	0.493	0.149	1.47E-59	RBM4
9.88E-64	0.31966468	0.245	0.033	1.55E-59	RASSF1
2.68E-63	0.310202731	0.255	0.036	4.20E-59	PRKCB
2.77E-63	0.326725141	0.201	0.02	4.33E-59	SMAD7
3.01E-63	0.261768094	0.189	0.017	4.70E-59	PRKX
3.40E-63	0.518179122	1	1	5.32E-59	RPL41
4.64E-63	0.42424665	0.359	0.078	7.26E-59	DDX6
5.01E-63	0.308722896	0.206	0.022	7.84E-59	AC004687.1
9.82E-63	0.480369583	0.408	0.104	1.53E-58	BCLAF1
1.25E-62	0.428506551	0.362	0.08	1.96E-58	RSF1
1.80E-62	0.329290157	0.24	0.032	2.81E-58	CASP3

1.88E-62	0.464356863	0.323	0.063	2.94E-58	NFKBID
2.83E-62	0.714809491	0.667	0.259	4.42E-58	DNAJB1
3.45E-62	0.303275654	0.26	0.038	5.39E-58	LPIN1
4.54E-62	0.760347845	0.954	0.801	7.11E-58	IFITM2
5.52E-62	0.420720009	0.359	0.078	8.63E-58	CSRNP1
1.49E-61	0.515442883	0.466	0.136	2.33E-57	FAM133B
2.15E-61	0.371152008	0.33	0.067	3.36E-57	SFT2D1
2.62E-61	0.404514007	0.357	0.079	4.09E-57	CNN2
3.44E-61	0.330338631	0.274	0.044	5.38E-57	RASSF5
4.09E-61	0.383303568	0.34	0.072	6.39E-57	MECP2
4.47E-61	0.254628672	0.163	0.011	6.99E-57	TRAF1
5.12E-61	0.468042219	0.325	0.066	8.00E-57	MAP3K8
6.39E-61	0.416567429	0.33	0.067	1.00E-56	CHD2
7.35E-61	0.893383325	0.563	0.202	1.15E-56	FCER1G
8.05E-61	0.353163404	0.316	0.061	1.26E-56	RNF139
8.09E-61	0.460628678	0.481	0.142	1.27E-56	DDX46
1.09E-60	0.33872381	0.296	0.053	1.71E-56	AGTRAP
1.57E-60	0.293745606	0.221	0.027	2.46E-56	HIPK1
1.82E-60	0.512080255	0.483	0.151	2.84E-56	ANXA6
1.82E-60	0.294349259	0.204	0.022	2.85E-56	LAT2
2.14E-60	0.460371764	0.43	0.118	3.35E-56	BUB3
2.90E-60	0.647004738	0.682	0.303	4.54E-56	TCF25
3.14E-60	0.3055581	0.233	0.031	4.91E-56	C1orf21
3.25E-60	0.356029617	0.303	0.057	5.08E-56	ISG20L2
3.45E-60	0.326616733	0.257	0.04	5.40E-56	TNFAIP8
4.78E-60	0.412293274	0.303	0.057	7.47E-56	INTS6
5.31E-60	0.715658481	0.93	0.722	8.30E-56	HNRNPA2B1
6.11E-60	0.416302232	0.4	0.1	9.56E-56	ACTN4
6.86E-60	0.512471519	0.439	0.126	1.07E-55	GABARAPL1
1.00E-59	0.250468049	0.172	0.014	1.57E-55	NFATC2
1.22E-59	0.302680534	0.206	0.024	1.91E-55	OASL
1.62E-59	0.322134681	0.262	0.042	2.54E-55	GNPTAB
2.16E-59	0.631196376	0.745	0.337	3.38E-55	PDIA3
2.34E-59	0.255562945	0.194	0.02	3.67E-55	JADE2
3.46E-59	0.25871031	0.204	0.023	5.42E-55	LNPEP
3.98E-59	0.344513306	0.26	0.042	6.22E-55	GLS
5.56E-59	0.434713901	0.388	0.097	8.70E-55	ROCK1
7.31E-59	0.438547054	0.388	0.097	1.14E-54	BPTF
8.38E-59	0.649138253	0.405	0.106	1.31E-54	BIRC3
8.70E-59	0.500582668	0.561	0.199	1.36E-54	VAMP2
9.67E-59	0.653008519	1	0.905	1.51E-54	MT-CO1
9.89E-59	0.607495243	0.709	0.323	1.55E-54	CAPZB
1.13E-58	0.350589514	0.631	0.213	1.77E-54	S100A11
1.73E-58	0.265690717	0.187	0.019	2.71E-54	CHD3
2.12E-58	0.383939751	0.379	0.09	3.31E-54	SH3BGRL
2.26E-58	0.257732324	0.214	0.026	3.54E-54	MFSD10
3.51E-58	0.671177467	0.74	0.367	5.49E-54	SET
6.78E-58	0.349940188	0.301	0.057	1.06E-53	USP36
7.39E-58	0.592184295	0.646	0.268	1.16E-53	DEK
9.16E-58	0.57443833	0.374	0.09	1.43E-53	NFKB1
1.31E-57	0.383334366	0.388	0.095	2.04E-53	MIDN
3.52E-57	0.578119468	0.631	0.256	5.50E-53	FAM49B
8.17E-57	0.312915017	0.26	0.043	1.28E-52	TNFSF12
8.83E-57	0.35906292	0.267	0.046	1.38E-52	BRAF
8.93E-57	0.368614712	0.362	0.086	1.40E-52	DNTTIP2
1.09E-56	0.25074674	0.114	0.003	1.70E-52	KRT86
1.36E-56	0.584279538	0.57	0.223	2.13E-52	MRPS6
1.65E-56	0.397494862	0.371	0.09	2.59E-52	AMD1
1.71E-56	0.271629589	0.223	0.031	2.68E-52	CCNT1
2.43E-56	0.480459728	1	0.997	3.80E-52	RPS27A
2.70E-56	0.299156881	0.233	0.034	4.23E-52	DANCR
2.87E-56	0.723764459	0.818	0.477	4.48E-52	NCL
4.02E-56	0.28681252	0.223	0.031	6.29E-52	TES
4.38E-56	0.290230707	0.24	0.037	6.86E-52	RNF166

4.77E-56	0.657709832	0.908	0.653	7.47E-52	SUB1
4.78E-56	0.279499738	0.223	0.031	7.47E-52	KIF2A
7.64E-56	0.285004613	0.231	0.034	1.19E-51	OFD1
9.15E-56	0.364005466	0.311	0.065	1.43E-51	PTPN2
9.23E-56	0.402109915	0.345	0.08	1.44E-51	RAB9A
1.55E-55	0.316917962	0.284	0.054	2.42E-51	NFKBIB
1.77E-55	0.490451833	0.515	0.173	2.77E-51	CKLF
1.92E-55	0.392110321	0.359	0.087	3.00E-51	FNBP1
4.76E-55	0.364532997	0.286	0.056	7.44E-51	DIAPH1
5.68E-55	0.524411258	0.578	0.217	8.88E-51	ABRACL
5.73E-55	0.495927419	0.561	0.202	8.96E-51	CAP1
6.09E-55	0.654321618	0.932	0.742	9.52E-51	HMGB1
6.57E-55	0.618474954	0.667	0.311	1.03E-50	HNRNPDL
7.05E-55	0.278451876	0.231	0.034	1.10E-50	PPM1K
7.54E-55	0.57811519	0.789	0.422	1.18E-50	RBM8A
7.76E-55	0.350674018	0.245	0.04	1.21E-50	ATM
7.95E-55	0.339798177	0.32	0.069	1.24E-50	NKTR
1.12E-54	0.263470199	0.226	0.033	1.75E-50	TMC6
1.14E-54	0.31308639	0.267	0.048	1.78E-50	ARID5A
1.27E-54	0.388589128	0.352	0.086	1.99E-50	KPNA2
1.98E-54	0.309614238	0.282	0.054	3.09E-50	LRP10
2.21E-54	0.522281394	0.653	0.273	3.46E-50	UBE2B
3.44E-54	0.449476655	0.444	0.137	5.38E-50	SF3B1
3.69E-54	0.268548212	0.175	0.018	5.76E-50	TNFSF14
3.78E-54	0.365168276	0.342	0.082	5.92E-50	SSBP4
3.86E-54	0.361472199	0.306	0.065	6.03E-50	LYST
6.39E-54	0.343009173	0.296	0.061	9.99E-50	BDP1
8.19E-54	0.548671857	0.675	0.301	1.28E-49	PPP1CA
9.95E-54	0.579037756	0.665	0.303	1.56E-49	BZW1
1.00E-53	0.283253447	0.204	0.026	1.57E-49	PTTG1
4.81E-53	0.411881251	0.459	0.14	7.52E-49	ACTR2
9.85E-53	0.661248052	0.524	0.189	1.54E-48	LGALS1
1.22E-52	0.604436902	0.143	0.011	1.90E-48	IL7R
1.34E-52	0.267545611	0.211	0.03	2.09E-48	INPP5D
1.67E-52	0.324054932	0.269	0.052	2.61E-48	SYNRG
2.10E-52	0.458547006	0.454	0.147	3.29E-48	HNRNPA0
2.31E-52	0.254107937	0.143	0.011	3.61E-48	GPR35
4.43E-52	0.446388513	0.473	0.158	6.92E-48	C9orf78
4.60E-52	0.34253483	0.325	0.075	7.20E-48	IVNS1ABP
5.04E-52	0.38112489	0.371	0.099	7.88E-48	CSNK1D
5.28E-52	0.306270718	0.248	0.042	8.25E-48	ICAM2
6.15E-52	0.296137348	0.267	0.051	9.61E-48	PHF1
6.98E-52	0.342850387	0.257	0.048	1.09E-47	TOPORS
1.28E-51	0.410720487	0.318	0.071	1.99E-47	AC020916.1
1.41E-51	0.485030113	0.379	0.106	2.21E-47	ATRX
1.64E-51	0.314594205	0.262	0.049	2.57E-47	RAB11FIP1
2.57E-51	0.387765634	0.316	0.074	4.02E-47	PHF20
2.68E-51	0.434521193	0.485	0.166	4.19E-47	LINC00623
3.13E-51	0.341969434	0.316	0.072	4.90E-47	CLK1
3.29E-51	0.455705057	0.359	0.096	5.14E-47	TANK
4.37E-51	0.424335654	0.337	0.081	6.83E-47	RGS2
7.25E-51	0.300057095	0.233	0.039	1.13E-46	CMTM3
7.40E-51	0.659856935	0.84	0.496	1.16E-46	TAGLN2
7.98E-51	0.450579615	0.415	0.127	1.25E-46	ARPC5L
8.61E-51	0.492735111	0.413	0.128	1.35E-46	EML4
9.69E-51	0.264730596	0.209	0.03	1.52E-46	H2AFX
1.13E-50	0.527799207	0.687	0.322	1.77E-46	TMEM50A
1.14E-50	0.338846321	0.272	0.054	1.78E-46	ARID1B
1.20E-50	0.346946931	0.289	0.062	1.87E-46	ADD3
1.37E-50	0.33434195	0.252	0.047	2.15E-46	BTN3A2
1.68E-50	0.408368906	0.408	0.121	2.63E-46	RSBN1L
1.69E-50	0.355727426	0.383	0.106	2.65E-46	CCDC12
2.26E-50	0.517049432	0.561	0.221	3.54E-46	PTP4A2
2.78E-50	0.383846586	0.35	0.09	4.35E-46	CHORDC1

3.20E-50	0.294433274	0.257	0.049	5.00E-46	GRK6
3.79E-50	0.574836478	0.718	0.364	5.93E-46	TPM3
4.81E-50	0.337853064	0.231	0.039	7.53E-46	PRR7
4.95E-50	0.252249704	0.187	0.024	7.73E-46	ANKRD28
6.56E-50	0.562684853	0.483	0.169	1.03E-45	PIM3
6.65E-50	0.293989212	0.223	0.037	1.04E-45	RSBN1
7.58E-50	0.25750224	0.199	0.028	1.19E-45	PRDM2
8.33E-50	0.345471603	0.306	0.069	1.30E-45	RESF1
9.44E-50	0.411609358	0.398	0.118	1.48E-45	ANP32E
1.03E-49	0.423290254	0.374	0.106	1.60E-45	KLF3
1.07E-49	0.652392468	0.915	0.636	1.68E-45	CD81
1.85E-49	0.424669498	1	0.997	2.89E-45	EIF1
1.94E-49	0.318059412	0.277	0.058	3.03E-45	TAF7
2.96E-49	0.421985553	0.481	0.166	4.63E-45	SNRPN
3.66E-49	0.388655052	0.345	0.09	5.72E-45	RAB29
4.53E-49	0.455660393	0.461	0.157	7.08E-45	BSG
7.22E-49	0.526006385	0.597	0.259	1.13E-44	YPEL3
7.27E-49	0.311174164	0.291	0.064	1.14E-44	UPP1
7.50E-49	0.282883737	0.245	0.045	1.17E-44	MLLT6
7.65E-49	0.358810488	0.328	0.082	1.20E-44	PRMT2
3.26E-48	0.272892351	0.214	0.034	5.09E-44	RABGAP1L
4.28E-48	0.377610751	0.34	0.089	6.70E-44	RBBP6
4.74E-48	0.36717427	0.32	0.08	7.42E-44	BTG3
5.61E-48	0.573357641	0.83	0.501	8.78E-44	TRIR
8.39E-48	0.406465614	0.325	0.083	1.31E-43	GOLGB1
2.16E-47	0.495437637	1	0.885	3.38E-43	MT-CO2
2.55E-47	0.363139652	0.34	0.087	3.99E-43	NR4A3
2.77E-47	0.438316032	0.442	0.148	4.33E-43	MPHOSPH8
6.19E-47	0.274154298	0.218	0.037	9.68E-43	KDM2A
6.71E-47	0.559847669	0.697	0.353	1.05E-42	CIRBP
7.94E-47	0.544256248	0.697	0.353	1.24E-42	DRAP1
9.40E-47	0.397477015	0.35	0.096	1.47E-42	MBNL1
1.15E-46	0.327211761	0.272	0.059	1.79E-42	CYTH1
1.18E-46	0.333531508	0.316	0.077	1.85E-42	TUBA1A
1.58E-46	0.276908092	0.228	0.041	2.47E-42	USP34
1.87E-46	0.454953161	1	0.999	2.92E-42	RPL28
2.19E-46	0.468109495	0.505	0.194	3.43E-42	TAF1D
2.56E-46	0.290500867	0.272	0.059	4.01E-42	MAP7D1
2.82E-46	0.317815206	0.318	0.079	4.41E-42	RBMS1
3.95E-46	0.378336502	0.362	0.104	6.18E-42	CCNDBP1
3.98E-46	0.250572533	0.204	0.033	6.22E-42	TSEN54
4.24E-46	0.278897108	0.231	0.042	6.63E-42	ARID5B
4.71E-46	0.521731919	0.738	0.373	7.37E-42	CALM2
5.50E-46	0.309563895	0.299	0.071	8.61E-42	TSC22D4
5.95E-46	0.490853848	0.51	0.194	9.31E-42	DDX17
6.45E-46	0.296842927	0.269	0.059	1.01E-41	PPP2R2A
6.64E-46	0.480370173	0.6	0.257	1.04E-41	ARL6IP1
9.52E-46	0.351880885	0.335	0.09	1.49E-41	ITSN2
1.37E-45	0.277124372	0.238	0.046	2.14E-41	TFDP2
1.52E-45	0.581597225	0.684	0.343	2.38E-41	CDC42
1.87E-45	0.291776154	0.265	0.057	2.92E-41	PPP4R3A
2.49E-45	0.328662206	0.5	0.169	3.89E-41	HLA-DQB1
3.06E-45	0.363974786	0.289	0.069	4.79E-41	MACF1
3.32E-45	0.379028052	0.405	0.128	5.20E-41	KIF5B
3.95E-45	0.366090804	0.393	0.121	6.18E-41	MXD4
4.67E-45	0.279869749	0.233	0.044	7.30E-41	TMF1
5.64E-45	0.410530247	0.473	0.171	8.81E-41	ARPC4
1.06E-44	0.275151242	0.221	0.04	1.66E-40	KANSL1
1.19E-44	0.427619384	0.408	0.127	1.87E-40	PPP1R15A
1.34E-44	0.408368906	0.41	0.132	2.09E-40	SCAF11
1.96E-44	0.343457419	0.311	0.079	3.07E-40	C1orf56
2.00E-44	0.511926592	0.694	0.343	3.13E-40	JPT1
2.27E-44	0.250788303	0.189	0.029	3.56E-40	TTC14
2.59E-44	0.250944688	0.214	0.038	4.04E-40	C1orf52

2.78E-44	0.251159972	0.204	0.034	4.34E-40	CDK13
2.94E-44	0.259681643	0.214	0.038	4.60E-40	STK10
3.02E-44	0.401162172	0.425	0.143	4.72E-40	THRAP3
3.18E-44	0.264246335	0.206	0.035	4.98E-40	AKAP17A
4.02E-44	0.571429717	0.617	0.272	6.29E-40	ID2
4.33E-44	0.251236575	0.216	0.039	6.77E-40	NUTM2B-AS1
4.83E-44	0.423877	0.396	0.129	7.55E-40	PDCL3
6.19E-44	0.412359766	0.524	0.204	9.68E-40	TSPO
7.44E-44	0.536834917	0.612	0.258	1.16E-39	DUSP1
7.95E-44	0.346697516	0.328	0.09	1.24E-39	SIRT2
8.19E-44	0.360274617	0.345	0.098	1.28E-39	SRPK2
8.53E-44	0.510830939	0.653	0.326	1.33E-39	SNRPB
1.40E-43	0.281256988	0.255	0.055	2.18E-39	SPTAN1
2.07E-43	0.327562962	0.25	0.053	3.24E-39	IRF8
2.14E-43	0.275102375	0.243	0.05	3.35E-39	TUT4
2.90E-43	0.520569897	0.774	0.437	4.54E-39	HNRNPK
5.28E-43	0.514105625	0.951	0.835	8.26E-39	RPL36AL
5.29E-43	0.366805954	0.391	0.126	8.28E-39	HNRNPL
5.49E-43	0.463405791	0.51	0.206	8.59E-39	EIF4A2
7.57E-43	0.270116124	0.248	0.053	1.18E-38	TAP2
8.51E-43	0.270865382	0.26	0.058	1.33E-38	ASH1L
9.15E-43	0.367455712	0.328	0.091	1.43E-38	CHD4
1.21E-42	0.303178472	0.282	0.068	1.89E-38	MIER1
1.61E-42	0.27502336	0.279	0.067	2.52E-38	TMEM109
1.85E-42	0.296756915	0.286	0.07	2.89E-38	CITED2
2.01E-42	0.262878122	0.233	0.047	3.15E-38	CASP1
2.19E-42	0.328880392	0.32	0.088	3.42E-38	MAPK1
3.48E-42	0.393694195	0.357	0.108	5.44E-38	AKAP9
5.52E-42	0.271116176	0.228	0.046	8.63E-38	TENT4B
6.39E-42	0.563126111	0.91	0.731	9.99E-38	PSME1
9.31E-42	0.411355411	0.493	0.193	1.46E-37	RALY
1.01E-41	0.329149889	0.325	0.091	1.58E-37	YTHDC1
1.25E-41	0.552879947	0.74	0.422	1.95E-37	HNRNPA3
1.65E-41	0.303602954	0.274	0.067	2.58E-37	G6PD
1.73E-41	0.272367928	0.231	0.048	2.71E-37	CSNK1G2
1.90E-41	0.549701893	0.672	0.344	2.96E-37	CYCS
1.97E-41	0.481952669	0.845	0.527	3.08E-37	GNAS
2.27E-41	0.301304632	0.291	0.075	3.54E-37	TRA2A
2.53E-41	0.300662678	0.25	0.055	3.95E-37	RANBP2
3.16E-41	0.310538689	0.282	0.071	4.95E-37	PRKAR2A
3.37E-41	0.315095865	0.274	0.068	5.27E-37	GYG1
3.66E-41	0.404278729	0.393	0.133	5.72E-37	TAPBP
4.05E-41	0.256583594	0.25	0.055	6.33E-37	VSIR
4.07E-41	0.25059536	0.214	0.041	6.37E-37	IFI27L2
4.71E-41	0.468571557	0.626	0.288	7.36E-37	HNRNPU
7.28E-41	0.487127334	0.774	0.402	1.14E-36	HSP90B1
1.21E-40	0.308833232	0.299	0.079	1.89E-36	CREBRF
1.62E-40	0.331005957	0.301	0.081	2.54E-36	TNRC6B
1.76E-40	0.274307983	0.257	0.06	2.75E-36	PCM1
1.77E-40	0.342171669	0.255	0.06	2.76E-36	OTULIN
2.19E-40	0.316039716	0.328	0.093	3.42E-36	RNF149
2.74E-40	0.348309467	0.274	0.068	4.28E-36	RASGEF1B
3.33E-40	0.37966441	0.381	0.124	5.21E-36	MYH9
3.61E-40	0.281647719	0.209	0.04	5.65E-36	SKIL
3.91E-40	0.250462021	0.223	0.045	6.11E-36	PREX1
4.44E-40	0.39810057	0.417	0.149	6.94E-36	NR3C1
6.08E-40	0.336919422	0.333	0.098	9.51E-36	IGFLR1
6.28E-40	0.254594683	0.238	0.052	9.82E-36	RBL2
6.55E-40	0.323976718	0.354	0.11	1.02E-35	COMMD7
7.44E-40	0.254314206	0.228	0.048	1.16E-35	IGF2R
9.95E-40	0.311724079	1	0.874	1.56E-35	MT-ATP6
1.03E-39	0.326274322	0.303	0.084	1.62E-35	NAA50
1.05E-39	0.349642495	0.371	0.117	1.65E-35	BHLHE40
1.09E-39	0.342835745	0.33	0.098	1.70E-35	MOB4

1.10E-39	0.297239011	0.265	0.065	1.73E-35	MTFP1
1.32E-39	0.318334955	0.345	0.103	2.07E-35	CCNL1
1.74E-39	0.28490692	0.255	0.061	2.72E-35	PDCD7
2.26E-39	0.257190445	0.238	0.052	3.54E-35	VEGFB
2.40E-39	0.310949372	0.286	0.075	3.76E-35	MARCKSL1
3.03E-39	0.303972012	0.279	0.072	4.74E-35	JOSD1
3.32E-39	0.323079006	0.26	0.064	5.20E-35	ANKRD37
4.34E-39	0.364940742	0.447	0.161	6.79E-35	WASF2
4.45E-39	0.327521775	0.33	0.099	6.95E-35	SPCS3
5.48E-39	0.336940796	0.342	0.105	8.57E-35	ZBTB7A
5.70E-39	0.267898907	0.25	0.059	8.92E-35	MAPRE1
7.30E-39	0.430558766	0.583	0.267	1.14E-34	CCDC85B
7.44E-39	0.435134333	0.551	0.247	1.16E-34	UBE2I
9.91E-39	0.417888823	0.449	0.174	1.55E-34	OPTN
1.02E-38	1.472499243	0.15	0.021	1.59E-34	PTGDS
1.10E-38	0.353725539	0.352	0.112	1.72E-34	NUCB2
1.13E-38	0.253967965	0.218	0.045	1.76E-34	RGS19
1.21E-38	0.27765683	0.272	0.069	1.89E-34	ZC3H13
1.79E-38	0.297533332	0.265	0.066	2.80E-34	ZNF644
1.79E-38	0.361584517	0.408	0.144	2.80E-34	SEPTIN9
3.94E-38	0.329235945	0.277	0.074	6.16E-34	SMARCA5
4.05E-38	0.852845346	0.76	0.464	6.33E-34	NFKBIA
4.82E-38	0.326747817	0.359	0.116	7.54E-34	BRD4
5.71E-38	0.253317181	0.226	0.049	8.93E-34	VPS13C
5.86E-38	0.266434648	0.257	0.063	9.16E-34	SMC3
1.06E-37	0.31605206	0.306	0.088	1.66E-33	PTPN12
1.06E-37	0.335237729	0.998	0.888	1.66E-33	MT-CO3
1.10E-37	0.330342553	0.408	0.139	1.73E-33	IQGAP2
1.11E-37	0.334148641	0.352	0.114	1.74E-33	ZNF207
1.17E-37	0.365954205	0.371	0.127	1.83E-33	FAM89B
1.36E-37	0.344627954	0.311	0.093	2.12E-33	HNRNPUL1
1.60E-37	0.38378655	0.473	0.191	2.51E-33	TOP1
1.73E-37	0.344182059	0.553	0.234	2.70E-33	KLF6
2.59E-37	0.421602774	0.444	0.178	4.04E-33	SRSF5
3.74E-37	0.27698421	0.262	0.067	5.85E-33	KLF13
3.96E-37	0.309345826	0.306	0.089	6.19E-33	TAOK3
4.34E-37	0.355650604	0.262	0.068	6.79E-33	ARL5B
4.36E-37	0.320729886	0.345	0.112	6.82E-33	RNPEPL1
6.48E-37	0.278400324	0.248	0.06	1.01E-32	GBP4
1.35E-36	0.486874186	0.643	0.349	2.12E-32	CIB1
1.70E-36	0.46682601	0.621	0.317	2.66E-32	H2AFV
1.71E-36	0.295985489	0.289	0.082	2.67E-32	IRF2
1.97E-36	0.322715306	0.333	0.105	3.08E-32	TNFRSF14
2.27E-36	0.334440341	0.379	0.133	3.55E-32	WTAP
4.02E-36	0.334473634	0.311	0.09	6.29E-32	BCL2A1
4.17E-36	0.331419291	0.393	0.141	6.52E-32	LRPAP1
6.22E-36	0.310758109	0.265	0.07	9.73E-32	NFKB2
6.72E-36	0.464361538	0.818	0.51	1.05E-31	SSR2
7.12E-36	0.31871958	0.318	0.098	1.11E-31	CNOT2
7.45E-36	0.327413701	0.374	0.13	1.17E-31	HNRNPR
8.14E-36	0.265588602	0.211	0.046	1.27E-31	HERPUD2
8.72E-36	0.295638271	0.973	0.772	1.36E-31	MT-ND3
8.89E-36	0.395992769	0.403	0.151	1.39E-31	TPR
1.05E-35	0.276238554	0.255	0.065	1.64E-31	PHIP
1.28E-35	0.282188897	0.998	0.84	2.01E-31	MT-ND4
2.24E-35	0.27259538	0.231	0.055	3.50E-31	DNMT1
4.48E-35	0.435434941	0.631	0.297	7.01E-31	ZFP36L1
4.58E-35	0.370637495	0.4	0.151	7.16E-31	HP1BP3
8.26E-35	0.477779701	0.723	0.431	1.29E-30	UBE2D3
9.49E-35	0.274713854	0.291	0.086	1.48E-30	MAPKAPK2
1.05E-34	0.284089975	0.24	0.06	1.64E-30	AKIRIN1
1.11E-34	0.391445602	0.473	0.202	1.74E-30	SF3B2
1.46E-34	0.263703221	0.291	0.084	2.29E-30	DDX3Y
1.78E-34	0.32398763	0.379	0.137	2.78E-30	PRMT1

2.17E-34	0.282498206	0.328	0.105	3.40E-30	WAC
2.19E-34	0.393252478	0.932	0.682	3.43E-30	ITM2B
2.41E-34	0.315891292	0.294	0.088	3.77E-30	WNK1
2.55E-34	0.382052205	0.371	0.134	4.00E-30	GOLGA4
2.61E-34	0.445171558	0.602	0.312	4.08E-30	MORF4L1
2.84E-34	0.408368906	0.461	0.193	4.44E-30	PAK2
3.24E-34	0.423505785	0.493	0.22	5.07E-30	CDK2AP2
4.85E-34	0.26689648	0.226	0.054	7.58E-30	TRIM22
5.38E-34	0.372845824	0.522	0.236	8.41E-30	TBCB
6.09E-34	0.306477644	0.299	0.092	9.52E-30	KRAS
7.91E-34	0.308120966	0.296	0.09	1.24E-29	RAB21
9.16E-34	0.276749938	0.245	0.065	1.43E-29	PBDC1
1.05E-33	0.281244528	0.311	0.098	1.64E-29	NRBF2
1.20E-33	0.321138588	0.325	0.106	1.87E-29	TRA2B
1.36E-33	0.370731248	0.451	0.185	2.12E-29	ISG15
1.48E-33	0.381888458	0.383	0.145	2.31E-29	CYTOR
1.79E-33	0.389255762	1	0.986	2.80E-29	RPS21
2.25E-33	0.438485249	0.396	0.158	3.51E-29	IFNGR1
2.30E-33	0.311556673	0.398	0.149	3.60E-29	SH3GLB1
2.43E-33	0.42501418	0.619	0.326	3.80E-29	UBXN1
2.91E-33	0.385124856	0.371	0.139	4.55E-29	BCAS2
2.92E-33	0.362297971	0.42	0.167	4.57E-29	YY1
5.38E-33	0.322704313	0.369	0.135	8.41E-29	AIP
5.86E-33	0.416285935	0.609	0.307	9.17E-29	ZFAS1
6.55E-33	0.424084116	0.939	0.823	1.02E-28	TMA7
7.54E-33	0.306239712	0.308	0.098	1.18E-28	YME1L1
8.05E-33	0.272491216	0.325	0.106	1.26E-28	GBP2
9.32E-33	0.373614089	0.427	0.177	1.46E-28	ISCA1
1.21E-32	0.259834612	0.248	0.067	1.89E-28	ERICH1
2.15E-32	0.278907972	0.303	0.097	3.37E-28	BIN1
3.77E-32	0.407981136	0.544	0.272	5.90E-28	RABAC1
4.39E-32	0.435054014	0.527	0.255	6.87E-28	HNRNPAB
5.31E-32	0.428247371	0.74	0.425	8.30E-28	PCBP1
6.85E-32	0.273065171	0.255	0.072	1.07E-27	CTBP1
7.81E-32	0.304898712	0.347	0.124	1.22E-27	PKN1
8.76E-32	0.386207256	0.398	0.161	1.37E-27	ABCF1
9.88E-32	0.3108524	0.299	0.096	1.54E-27	B4GALT1
1.04E-31	0.308996534	0.354	0.128	1.63E-27	AKIRIN2
1.07E-31	0.418861279	0.638	0.347	1.67E-27	HNRNPF
1.10E-31	0.358120716	0.403	0.162	1.72E-27	CASP4
1.43E-31	0.344372237	0.459	0.198	2.24E-27	SNX6
1.56E-31	0.329871557	0.318	0.109	2.43E-27	LMO4
2.98E-31	0.46627009	0.308	0.103	4.66E-27	STMN1
3.11E-31	0.33455419	0.405	0.164	4.87E-27	UBE2N
3.12E-31	0.263369589	0.262	0.076	4.88E-27	MYO1F
3.82E-31	0.409084173	0.612	0.319	5.98E-27	CAST
4.81E-31	0.267082502	0.279	0.085	7.52E-27	PTPN6
6.07E-31	0.281856061	0.318	0.108	9.49E-27	DDX39A
7.78E-31	0.340767395	0.318	0.111	1.22E-26	PPP1R10
8.27E-31	0.425893275	0.546	0.27	1.29E-26	HNRNPC
8.29E-31	0.322078023	0.398	0.156	1.30E-26	STAT3
9.54E-31	0.529405648	0.553	0.253	1.49E-26	GADD45B
9.82E-31	0.546314702	0.473	0.232	1.54E-26	CMC1
1.03E-30	0.361482518	0.447	0.193	1.60E-26	DAZAP2
1.27E-30	0.342453054	0.427	0.181	1.98E-26	SYAP1
1.56E-30	0.314943709	0.294	0.096	2.45E-26	NASP
1.87E-30	0.298856919	0.291	0.095	2.93E-26	CHMP4A
1.90E-30	0.278858173	0.248	0.071	2.97E-26	ARL4A
1.91E-30	0.318802641	0.451	0.194	2.99E-26	CTDNEP1
2.07E-30	0.278601031	0.308	0.103	3.23E-26	IRF9
2.87E-30	0.253628097	0.267	0.081	4.49E-26	PDLIM2
3.47E-30	0.371288253	0.699	0.398	5.43E-26	UBE2D2
3.70E-30	0.339919119	0.427	0.182	5.78E-26	HNRNPM
4.23E-30	0.282137431	0.262	0.08	6.62E-26	PNPLA8

5.10E-30	0.324903527	0.335	0.122	7.97E-26	PAFAH1B1
5.42E-30	0.259653301	0.255	0.075	8.48E-26	COQ10B
5.49E-30	0.392667311	0.697	0.394	8.58E-26	ARF1
5.84E-30	0.278927082	0.33	0.117	9.14E-26	MOB1A
6.07E-30	0.391758177	0.655	0.355	9.49E-26	TRAPPC1
6.66E-30	0.367841099	0.515	0.247	1.04E-25	MAZ
7.53E-30	0.251683969	0.214	0.055	1.18E-25	POLR2J3
1.44E-29	0.25441094	0.245	0.072	2.25E-25	THOC2
1.44E-29	0.386468775	0.461	0.21	2.26E-25	EIF4G2
1.87E-29	0.271103431	0.291	0.097	2.93E-25	MED10
3.41E-29	0.274414449	0.272	0.085	5.33E-25	BCL3
3.49E-29	0.349614278	0.459	0.207	5.46E-25	FKBP11
4.51E-29	0.404717281	0.728	0.425	7.05E-25	SLC25A6
5.02E-29	0.3753081	0.553	0.278	7.85E-25	DHRS7
5.26E-29	0.269709283	0.333	0.121	8.23E-25	TWF2
5.43E-29	0.354704113	0.369	0.147	8.49E-25	PPP1CB
5.55E-29	0.256632509	0.277	0.089	8.67E-25	TMEM9B
5.73E-29	0.272781312	0.272	0.087	8.95E-25	NAP1L4
6.90E-29	0.315993959	0.381	0.151	1.08E-24	CD164
7.45E-29	0.317146421	1	0.994	1.16E-24	RPL6
9.38E-29	0.285059263	0.359	0.138	1.47E-24	PPP2CA
1.54E-28	0.335956829	0.998	0.98	2.41E-24	ATP5F1E
1.54E-28	0.283095671	0.299	0.103	2.41E-24	HDAC1
2.33E-28	0.276437433	0.32	0.116	3.64E-24	LYSMD2
2.51E-28	0.358875632	0.434	0.195	3.92E-24	RAP1A
2.64E-28	0.313543029	0.415	0.177	4.13E-24	MTPN
3.54E-28	0.277908659	0.286	0.096	5.53E-24	TGIF1
4.80E-28	0.326574814	0.481	0.224	7.51E-24	TAX1BP1
4.82E-28	0.375526891	0.556	0.286	7.53E-24	BAX
5.07E-28	0.299068153	0.35	0.136	7.93E-24	RNPS1
8.86E-28	0.267647644	0.33	0.123	1.39E-23	PURA
1.25E-27	0.328378807	0.454	0.21	1.96E-23	EMD
2.96E-27	0.303374532	0.393	0.165	4.63E-23	SIAH2
3.59E-27	0.263624133	0.26	0.084	5.62E-23	STAG2
3.76E-27	0.263278887	0.328	0.122	5.88E-23	CAPZA1
4.23E-27	0.411802144	0.425	0.184	6.62E-23	CCL3
5.12E-27	0.298957689	0.362	0.147	8.01E-23	ORMDL1
5.57E-27	0.276330592	0.279	0.096	8.71E-23	MAPK1IP1L
6.10E-27	0.338350976	0.573	0.301	9.55E-23	COPE
6.20E-27	0.360598544	0.5	0.251	9.69E-23	SLC9A3R1
7.91E-27	0.380918927	0.658	0.372	1.24E-22	CALR
1.17E-26	0.287663232	0.357	0.145	1.82E-22	IK
1.77E-26	0.321979099	0.141	0.027	2.76E-22	TNF
2.00E-26	0.282545332	0.32	0.12	3.12E-22	PNRC2
3.03E-26	0.347642675	0.522	0.248	4.73E-22	JUN
3.44E-26	0.251432428	0.272	0.093	5.38E-22	SAR1A
4.19E-26	0.290833798	0.333	0.131	6.55E-22	SRSF4
5.11E-26	0.329572559	1	0.996	7.99E-22	RPL18A
6.96E-26	0.277322468	0.323	0.125	1.09E-21	SNW1
7.23E-26	0.312221589	1	1	1.13E-21	RPS27
7.52E-26	0.423672191	0.985	0.903	1.18E-21	HSPA8
7.88E-26	0.417444803	0.825	0.612	1.23E-21	HNRNPA1
9.95E-26	0.282963046	0.328	0.128	1.56E-21	PHF20L1
1.06E-25	0.356583702	0.451	0.214	1.66E-21	ITGB1
1.06E-25	0.310614896	0.468	0.226	1.66E-21	HNRNPD
1.13E-25	0.384371913	0.556	0.294	1.77E-21	HERPUD1
1.42E-25	0.360318766	0.563	0.307	2.22E-21	RAB5IF
3.06E-25	0.332781879	0.648	0.368	4.78E-21	VAMP8
3.38E-25	0.385033834	0.24	0.078	5.28E-21	TWISTNB
6.29E-25	0.34482025	0.277	0.099	9.83E-21	NFKBIZ
8.80E-25	0.302681435	0.274	0.099	1.38E-20	NFIL3
9.06E-25	0.355887133	0.507	0.265	1.42E-20	CAPNS1
1.23E-24	0.250700772	0.284	0.104	1.92E-20	HNRNPH3
1.25E-24	0.283701433	0.345	0.143	1.95E-20	SNRNP70

1.47E-24	0.331783312	0.505	0.259	2.29E-20	ANXA11
2.05E-24	0.387188361	0.675	0.409	3.20E-20	PSMB8
2.56E-24	0.379003612	0.602	0.346	4.00E-20	EIF5
2.76E-24	0.315641621	0.539	0.287	4.31E-20	PAIP2
2.79E-24	0.254446955	0.294	0.11	4.36E-20	TMOD3
3.71E-24	0.263196698	0.369	0.157	5.80E-20	STOM
3.78E-24	0.325193423	0.483	0.244	5.92E-20	UBE2M
4.14E-24	0.279331805	0.454	0.218	6.48E-20	AP2M1
4.61E-24	0.291080963	0.335	0.138	7.21E-20	MKNK2
4.68E-24	0.291986041	0.284	0.104	7.31E-20	CHMP1B
4.73E-24	0.250757808	0.335	0.135	7.40E-20	PCMT1
5.01E-24	0.259957799	0.299	0.114	7.83E-20	RAD21
1.04E-23	0.250714996	0.226	0.073	1.63E-19	LBR
1.07E-23	0.251869045	0.359	0.152	1.67E-19	PPP4R2
1.27E-23	0.342659436	0.607	0.344	1.99E-19	PGK1
1.67E-23	0.262605655	0.311	0.123	2.60E-19	ATP1A1
1.83E-23	0.307125073	0.381	0.174	2.86E-19	UBE2L6
2.39E-23	0.251216772	0.245	0.085	3.74E-19	TMEM259
2.60E-23	0.258488984	0.422	0.196	4.06E-19	CMC2
4.47E-23	0.29806974	0.466	0.235	6.99E-19	PAPOLA
5.07E-23	0.254508621	0.381	0.17	7.92E-19	SPSB3
5.33E-23	0.265053211	0.294	0.114	8.34E-19	PLP2
5.45E-23	0.263558194	0.282	0.108	8.52E-19	TERF1
5.74E-23	0.274592428	0.376	0.168	8.98E-19	SRSF10
6.05E-23	0.298647422	0.449	0.224	9.46E-19	EIF1B
6.29E-23	0.352276507	0.803	0.578	9.84E-19	ATP6V0C
6.56E-23	0.302060003	0.447	0.222	1.03E-18	STRAP
9.67E-23	0.350610612	0.4	0.195	1.51E-18	PPIG
1.10E-22	0.252949038	0.352	0.151	1.72E-18	DGUOK
1.12E-22	0.325506052	0.471	0.247	1.74E-18	CDC37
1.67E-22	0.427470797	0.752	0.537	2.61E-18	SDCBP
1.88E-22	0.349170004	0.988	0.951	2.94E-18	RPSA
2.78E-22	0.394141258	0.981	0.945	4.35E-18	RPS9
3.37E-22	0.338493633	0.621	0.376	5.27E-18	SRSF9
4.11E-22	0.332126851	0.42	0.208	6.43E-18	PRPF40A
1.04E-21	0.275860041	0.328	0.136	1.62E-17	AHNAK
1.95E-21	0.338895865	0.687	0.444	3.04E-17	HMGN1
2.02E-21	0.296760832	0.549	0.302	3.16E-17	SEC62
2.41E-21	0.313692206	0.483	0.258	3.76E-17	SYF2
2.61E-21	0.287696636	0.26	0.097	4.07E-17	IER5
6.46E-21	0.317108941	0.449	0.23	1.01E-16	DDX21
7.54E-21	0.271268989	0.456	0.234	1.18E-16	SSB
1.56E-20	0.254316737	0.364	0.169	2.44E-16	TMED9
2.06E-20	0.313266717	0.949	0.85	3.23E-16	PFDN5
2.19E-20	0.288911535	0.362	0.173	3.43E-16	ZNRD1
2.35E-20	0.309702587	0.42	0.213	3.68E-16	EIF3A
2.46E-20	0.275891199	1	0.996	3.84E-16	RPL18
2.95E-20	0.356482164	0.558	0.336	4.62E-16	XRCC5
3.24E-20	0.266031524	0.42	0.21	5.06E-16	MAGOH
4.35E-20	0.313305642	0.563	0.323	6.80E-16	KTN1
5.47E-20	0.352755715	0.993	0.982	8.56E-16	RPS29
6.96E-20	0.299804808	1	0.993	1.09E-15	RPS26
8.24E-20	0.318653281	0.854	0.662	1.29E-15	RHOA
2.01E-19	0.253670804	0.371	0.178	3.14E-15	RNF167
2.44E-19	0.273755314	0.415	0.212	3.82E-15	MANF
2.77E-19	0.347350705	0.675	0.447	4.33E-15	C12orf57
3.99E-19	0.264597327	0.527	0.298	6.24E-15	DCTN3
5.42E-19	0.356561003	0.784	0.589	8.47E-15	RAN
7.58E-19	0.27811252	0.42	0.222	1.18E-14	SSNA1
8.29E-19	0.302151071	0.871	0.683	1.30E-14	COMMD6
1.01E-18	0.287329154	0.473	0.263	1.58E-14	SP100
1.29E-18	0.258200504	0.364	0.178	2.01E-14	POLR2G
1.76E-18	0.311267414	0.862	0.703	2.76E-14	UBL5
2.06E-18	0.300162994	0.587	0.35	3.22E-14	MTDH

2.33E-18	0.292929117	0.318	0.149	3.64E-14	SYNGR1
3.22E-18	0.25975441	0.49	0.272	5.04E-14	SERPINB1
5.06E-18	0.337604608	0.995	0.994	7.91E-14	RPL3
6.12E-18	0.321590908	0.643	0.397	9.57E-14	TUBA1B
8.14E-18	0.279813832	0.483	0.274	1.27E-13	CDV3
8.83E-18	0.283005945	0.524	0.307	1.38E-13	TMBIM4
1.27E-17	0.303465174	0.57	0.357	1.98E-13	RNF7
1.47E-17	0.285693635	0.405	0.217	2.31E-13	FAM107B
5.15E-17	0.306893296	0.556	0.346	8.06E-13	YWHAQ
6.95E-17	0.298806284	0.709	0.489	1.09E-12	ATP6V1G1
1.00E-16	0.382027854	0.947	0.921	1.56E-12	IL32
1.44E-16	0.270678298	0.498	0.29	2.25E-12	SRSF3
1.47E-16	0.263039818	0.524	0.315	2.29E-12	FKBP8
1.91E-16	0.264692094	0.658	0.424	2.98E-12	TMEM59
3.46E-16	0.279213798	0.498	0.295	5.41E-12	NOP53
5.13E-16	0.291197768	0.609	0.389	8.02E-12	RHOC
5.34E-16	0.265522061	0.561	0.348	8.36E-12	NAP1L1
6.74E-16	0.273149657	0.561	0.353	1.05E-11	REX1BD
9.86E-16	0.274498723	0.573	0.366	1.54E-11	DYNLRB1
5.79E-15	0.261894763	0.859	0.659	9.05E-11	PPIB
8.63E-15	0.279864845	0.706	0.479	1.35E-10	EIF5A
8.78E-15	0.258727543	0.624	0.414	1.37E-10	SNRPG
1.39E-14	0.256327545	0.539	0.34	2.17E-10	CALM3
1.78E-14	0.281485812	0.716	0.516	2.78E-10	EIF3G
2.21E-14	0.275015869	0.75	0.542	3.46E-10	SERP1
2.41E-14	0.260716455	0.381	0.214	3.77E-10	GSPT1
5.92E-14	0.259474688	0.541	0.344	9.26E-10	PRR13
6.88E-14	0.265683902	0.549	0.362	1.08E-09	ANAPC16
1.62E-13	0.326072256	0.398	0.239	2.54E-09	ANP32A
2.26E-13	0.262747664	0.903	0.781	3.54E-09	EIF4A1
2.32E-13	0.250659519	0.422	0.253	3.63E-09	UBE2F
3.64E-11	0.271743521	0.481	0.325	5.69E-07	LIME1
8.12E-11	0.323538065	0.41	0.262	1.27E-06	H1FX
3.14E-08	0.255243193	0.842	0.754	0.00049106	LDHA

Supplementary Table 5.Genes of pseudo-time series-related modules (related to Fig. 5)

Group	Gene	Group	Gene	Group	Gene	Group	Gene	Group	Gene
Module 1	ISG15	Module 2	HES4	Module 3	VWA1	Module 4	MASP2	Module 5	RPL22
Module 1	TNFRSF18	Module 2	CCNL2	Module 3	ESPN	Module 4	ALDH4A1	Module 5	SRM
Module 1	SDF4	Module 2	CDK11B	Module 3	RBP7	Module 4	CAMK2N1	Module 5	AKR7A2
Module 1	GNB1	Module 2	ERRFI1	Module 3	DDI2	Module 4	SERINC2	Module 5	RPL11
Module 1	TNFRSF14	Module 2	H6PD	Module 3	HSPG2	Module 4	ECHDC2	Module 5	ZNF593
Module 1	KCNAB2	Module 2	KIF1B	Module 3	CLIC4	Module 4	SCP2	Module 5	EIF3I
Module 1	ENO1	Module 2	MTHFR	Module 3	FAM110D	Module 4	CPT2	Module 5	MEAF6
Module 1	CLSTN1	Module 2	DHRS3	Module 3	TINAGL1	Module 4	ANGPTL3	Module 5	RPS8
Module 1	AGTRAP	Module 2	PLEKHM2	Module 3	FAM167B	Module 4	AK4	Module 5	UQCRH
Module 1	TNFRSF1B	Module 2	IGSF21	Module 3	GJA4	Module 4	ACADM	Module 5	PDZK1IP1
Module 1	PRDM2	Module 2	MICOS10	Module 3	PABPC4	Module 4	CNN3	Module 5	MRPL37
Module 1	EFHD2	Module 2	PLA2G2A	Module 3	TIE1	Module 4	PHGDH	Module 5	RPL5
Module 1	SPEN	Module 2	CDA	Module 3	PLPP3	Module 4	PDZK1	Module 5	MRPS21
Module 1	SZRD1	Module 2	ECE1	Module 3	C8B	Module 4	HJV	Module 5	PSMD4
Module 1	NECAP2	Module 2	C1QA	Module 3	NFIA	Module 4	FMO5	Module 5	S100A10
Module 1	RCC2	Module 2	C1QC	Module 3	LINC01702	Module 4	CERS2	Module 5	RPS27
Module 1	CAPZB	Module 2	C1QB	Module 3	ADGRL4	Module 4	SELENBP1	Module 5	CCT3
Module 1	HP1BP3	Module 2	ID3	Module 3	DDAH1	Module 4	RAB13	Module 5	MRPL24
Module 1	CDC42	Module 2	SELENON	Module 3	CCN1	Module 4	KRTCAP2	Module 5	UFC1
Module 1	LUZP1	Module 2	UBXN11	Module 3	ARHGAP29	Module 4	FDPS	Module 5	GAS5
Module 1	HNRNPR	Module 2	NR0B2	Module 3	ABCD3	Module 4	GLMP	Module 5	GLUL
Module 1	PNRC2	Module 2	WASF2	Module 3	TLCD4	Module 4	RHBG	Module 5	ARPC5
Module 1	SRSF10	Module 2	IFI6	Module 3	PALMD	Module 4	APOA2	Module 5	SNRPE
Module 1	SRRM1	Module 2	THEMIS2	Module 3	HMGCS2	Module 4	ALDH9A1	Module 5	NENF
Module 1	RUNX3	Module 2	PTAFR	Module 3	PDE4DIP	Module 4	MPC2	Module 5	SMYD2
Module 1	SYF2	Module 2	ATP5IF1	Module 3	RORC	Module 4	FMO3	Module 5	GUK1
Module 1	RSRP1	Module 2	PHACTR4	Module 3	S100A13	Module 4	PRDX6	Module 5	RAB4A
Module 1	TMEM50A	Module 2	SDC3	Module 3	NPR1	Module 4	SERPINC1	Module 5	NTPCR
Module 1	STMN1	Module 2	PUM1	Module 3	SHE	Module 4	CFHR1	Module 5	COX20
Module 1	SH3BGRL3	Module 2	PHC2	Module 3	ADAM15	Module 4	TIMM17A	Module 5	RPS7
Module 1	CD52	Module 2	TMEM35B	Module 3	EFNA1	Module 4	ETNK2	Module 5	IAH1
Module 1	HMGN2	Module 2	EVA1B	Module 3	NES	Module 4	GOLT1A	Module 5	ODC1
Module 1	ARID1A	Module 2	RRAGC	Module 3	APCS	Module 4	C4BPB	Module 5	SF3B6
Module 1	SYTL1	Module 2	MFSD2A	Module 3	PEX19	Module 4	C4BPA	Module 5	TP53I3
Module 1	FGR	Module 2	PPT1	Module 3	ADAMTS4	Module 4	HSD11B1	Module 5	OST4
Module 1	SNHG12	Module 2	PTPRF	Module 3	CREG1	Module 4	IRF6	Module 5	RPS27A
Module 1	SRSF4	Module 2	ATP6V0B	Module 3	ATP1B1	Module 4	KCTD3	Module 5	ANXA4
Module 1	LAPTM5	Module 2	MKNK1	Module 3	F5	Module 4	EPRS	Module 5	RPL31
Module 1	PTP4A2	Module 2	EFCAB14	Module 3	SELE	Module 4	ENAH	Module 5	CHCHD5
Module 1	KHDRBS1	Module 2	CYP4A11	Module 3	RASAL2	Module 4	SRP9	Module 5	MZT2B
Module 1	LCK	Module 2	CYP4A22	Module 3	RALGPS2	Module 4	EPHX1	Module 5	MZT2A
Module 1	HDAC1	Module 2	TMEM59	Module 3	TOR1AIP2	Module 4	COQ8A	Module 5	METTL5
Module 1	MARCKSL1	Module 2	DHCR24	Module 3	NPL	Module 4	SCCPDH	Module 5	OLA1
Module 1	RNF19B	Module 2	C8A	Module 3	LAMC1	Module 4	ADI1	Module 5	ATP5MC3
Module 1	SFPQ	Module 2	JUN	Module 3	CFH	Module 4	LAPTM4A	Module 5	HSPD1
Module 1	MAP7D1	Module 2	HOOK1	Module 3	CFHR2	Module 4	HADHB	Module 5	HSPE1
Module 1	THRAP3	Module 2	LEPROT	Module 3	CFHR5	Module 4	KHK	Module 5	EEF1B2
Module 1	CSF3R	Module 2	LEPR	Module 3	F13B	Module 4	COX5B	Module 5	RPL37A
Module 1	ZC3H12A	Module 2	SLC35D1	Module 3	CD34	Module 4	PROC	Module 5	COPS9
Module 1	AKIRIN1	Module 2	GADD45A	Module 3	ATF3	Module 4	ACMSD	Module 5	RPL32
Module 1	NDUFS5	Module 2	CTH	Module 3	SLC30A10	Module 4	DPP4	Module 5	RPL15
Module 1	MACF1	Module 2	IFI44L	Module 3	C1orf115	Module 4	TFPI	Module 5	CRTAP
Module 1	CAP1	Module 2	IFI44	Module 3	MARC2	Module 4	MYO1B	Module 5	RPSA
Module 1	SMAP2	Module 2	GNG5	Module 3	RHOU	Module 4	SPATS2L	Module 5	RPL14
Module 1	NFYC	Module 2	GBP3	Module 3	AGT	Module 4	AOX1	Module 5	IMPDH2
Module 1	YBX1	Module 2	GBP1	Module 3	CHRM3	Module 4	NDUFB3	Module 5	RPL29
Module 1	PLK3	Module 2	GBP7	Module 3	PXDN	Module 4	IDH1	Module 5	TKT
Module 1	NASP	Module 2	SLC35A3	Module 3	ASAP2	Module 4	IGFBP2	Module 5	RPL24
Module 1	PIK3R3	Module 2	DBT	Module 3	ROCK2	Module 4	CYP27A1	Module 5	FAM162A
Module 1	NRDC	Module 2	S1PR1	Module 3	SDC1	Module 4	CHPF	Module 5	SSR3
Module 1	TUT4	Module 2	AMPD2	Module 3	RHOB	Module 4	PSMD1	Module 5	RPL22L1
Module 1	MAGOH	Module 2	AHCYL1	Module 3	HADHA	Module 4	SPP2	Module 5	RPL35A

Module 1	JAK1	Module 2	C1orf162	Module 3	RASGRP3	Module 4	RAMP1	Module 5	RPL9
Module 1	PDE4B	Module 2	RHOC	Module 3	HAAO	Module 4	HDLBP	Module 5	OCIAD2
Module 1	MIER1	Module 2	HAO2	Module 3	MCFD2	Module 4	ACAA1	Module 5	RPL34
Module 1	SRSF11	Module 2	NOTCH2	Module 3	RTN4	Module 4	ACY1	Module 5	SNHG8
Module 1	CTBS	Module 2	TXNIP	Module 3	EVA1A	Module 4	SPCS1	Module 5	RPS3A
Module 1	C1orf52	Module 2	NBPF19	Module 3	TCF7L1	Module 4	ACOX2	Module 5	RPL37
Module 1	BCL10	Module 2	APH1A	Module 3	PLGLB2	Module 4	SUCLG2	Module 5	BTF3
Module 1	ODF2L	Module 2	C1orf54	Module 3	MALL	Module 4	NDUFB4	Module 5	TBCA
Module 1	SH3GLB1	Module 2	CTSS	Module 3	STEAP3	Module 4	HGD	Module 5	RPS23
Module 1	LMO4	Module 2	POGZ	Module 3	TMEM37	Module 4	ALDH1L1	Module 5	COX7C
Module 1	PKN2	Module 2	CGN	Module 3	LIMS2	Module 4	SLC2A2	Module 5	HINT1
Module 1	GTF2B	Module 2	S100A16	Module 3	KYNU	Module 4	AHSG	Module 5	VDAC1
Module 1	GBP2	Module 2	SLC27A3	Module 3	COBLL1	Module 4	KNG1	Module 5	SKP1
Module 1	GBP4	Module 2	UBAP2L	Module 3	NOSTRIN	Module 4	CPN2	Module 5	HSPA9
Module 1	GBP5	Module 2	IL6R	Module 3	ABCB11	Module 4	SLC51A	Module 5	RPS14
Module 1	ZNF644	Module 2	ADAR	Module 3	ITGA6	Module 4	BDH1	Module 5	ATOX1
Module 1	TGFBR3	Module 2	LMNA	Module 3	MAP3K20	Module 4	HGFAC	Module 5	CCNG1
Module 1	TMED5	Module 2	ACKR1	Module 3	NCKAP1	Module 4	FAM114A1	Module 5	NPM1
Module 1	DNTTIP2	Module 2	CRP	Module 3	CALCRL	Module 4	SMIM14	Module 5	HIGD2A
Module 1	AGL	Module 2	IGSF8	Module 3	SLC40A1	Module 4	UGT2B4	Module 5	PRELID1
Module 1	VCAM1	Module 2	PEA15	Module 3	INPP1	Module 4	ALB	Module 5	NHP2
Module 1	PRPF38B	Module 2	DCAF8	Module 3	CAVIN2	Module 4	STBD1	Module 5	SQSTM1
Module 1	GNAI3	Module 2	CD84	Module 3	HECW2	Module 4	SPP1	Module 5	RACK1
Module 1	CD53	Module 2	F11R	Module 3	RAPH1	Module 4	ADH4	Module 5	CAP2
Module 1	DRAM2	Module 2	FCER1G	Module 3	FN1	Module 4	ADH6	Module 5	HIST1H1C
Module 1	DENND2D	Module 2	NR1I3	Module 3	IGFBP5	Module 4	ADH1A	Module 5	UBD
Module 1	RAP1A	Module 2	FCGR2A	Module 3	IRS1	Module 4	ADH1B	Module 5	TUBB
Module 1	CAPZA1	Module 2	HSPA6	Module 3	C2orf72	Module 4	ADH1C	Module 5	CSNK2B
Module 1	RSBN1	Module 2	ATF6	Module 3	AGXT	Module 4	MGST2	Module 5	LSM2
Module 1	PTPN22	Module 2	UAP1	Module 3	LMCD1	Module 4	FGG	Module 5	RPS18
Module 1	HIPK1	Module 2	TMCO1	Module 3	CAMK1	Module 4	MSMO1	Module 5	UQCC2
Module 1	BCAS2	Module 2	DCAF6	Module 3	SLC6A1	Module 4	NDUFS6	Module 5	RPS10
Module 1	CSDE1	Module 2	SEC16B	Module 3	FBLN2	Module 4	AMACR	Module 5	SNRPC
Module 1	ATP1A1	Module 2	ABL2	Module 3	FGD5	Module 4	NADK2	Module 5	RPL10A
Module 1	CD2	Module 2	QSOX1	Module 3	CLEC3B	Module 4	HMGCS1	Module 5	TOMM6
Module 1	MAN1A2	Module 2	RGS16	Module 3	MST1	Module 4	BHMT2	Module 5	DNPH1
Module 1	TENT5C	Module 2	NCF2	Module 3	SEMA3F	Module 4	RHOBTB3	Module 5	HSP90AB1
Module 1	LINC00623	Module 2	RGL1	Module 3	SLC38A3	Module 4	LINC01554	Module 5	GCLC
Module 1	CD160	Module 2	EDEM3	Module 3	HYAL1	Module 4	CDO1	Module 5	EEF1A1
Module 1	RBM8A	Module 2	PRG4	Module 3	HYAL2	Module 4	HSD17B4	Module 5	SNHG5
Module 1	AC245297.3	Module 2	PTGS2	Module 3	ALAS1	Module 4	UQCRQ	Module 5	SNX3
Module 1	PLEKHO1	Module 2	CFHR3	Module 3	GLYCTK	Module 4	LEAP2	Module 5	RPS12
Module 1	ANP32E	Module 2	CFHR4	Module 3	ITIH1	Module 4	SIL1	Module 5	SF3B5
Module 1	MCL1	Module 2	ZNF281	Module 3	ITIH3	Module 4	LINC01485	Module 5	PSMB1
Module 1	C1orf56	Module 2	CSRP1	Module 3	CHDH	Module 4	ECI2	Module 5	TOMM7
Module 1	CDC42SE1	Module 2	ELF3	Module 3	DNASE1L3	Module 4	HULC	Module 5	MRPS24
Module 1	S100A11	Module 2	CHI3L1	Module 3	FAM107A	Module 4	TMEM14C	Module 5	PPIA
Module 1	S100A9	Module 2	PPP1R15B	Module 3	ROBO1	Module 4	APOM	Module 5	CCT6A
Module 1	S100A8	Module 2	NUCKS1	Module 3	COL8A1	Module 4	YIPF3	Module 5	MDH2
Module 1	S100A6	Module 2	RAB7B	Module 3	MYLK	Module 4	TMEM14A	Module 5	HSPB1
Module 1	S100A4	Module 2	PIGR	Module 3	GATA2	Module 4	GSTA1	Module 5	ARPC1A
Module 1	TPM3	Module 2	CD46	Module 3	ACAD11	Module 4	ARG1	Module 5	STMP1
Module 1	ASH1L	Module 2	G0S2	Module 3	TF	Module 4	AIG1	Module 5	SSBP1
Module 1	SSR2	Module 2	SLC30A1	Module 3	SLCO2A1	Module 4	CLDN3	Module 5	DEFB1
Module 1	MEF2D	Module 2	LPGAT1	Module 3	RBP1	Module 4	PON2	Module 5	LYPLA1
Module 1	ISG20L2	Module 2	BATF3	Module 3	PLOD2	Module 4	SLC25A13	Module 5	RPS20
Module 1	SH2D2A	Module 2	PROX1	Module 3	AGTR1	Module 4	SEM1	Module 5	SNHG6
Module 1	ETV3	Module 2	IARS2	Module 3	TM4SF18	Module 4	BRI3	Module 5	RPL7
Module 1	MNDA	Module 2	DUSP10	Module 3	TM4SF1	Module 4	ATP5MF	Module 5	ZFAND1
Module 1	PYHIN1	Module 2	MIA3	Module 3	TM4SF4	Module 4	CYP3A4	Module 5	RBIS
Module 1	IFI16	Module 2	ACBD3	Module 3	WWTR1	Module 4	ZNHIT1	Module 5	UQCRB
Module 1	FCRL6	Module 2	ITPKB	Module 3	AADAC	Module 4	CALD1	Module 5	RPL30
Module 1	TAGLN2	Module 2	IRF2BP2	Module 3	MECOM	Module 4	TMEM176B	Module 5	POLR2K
Module 1	COPA	Module 2	NID1	Module 3	GNB4	Module 4	TMEM176A	Module 5	PABPC1

Module 1	CD48	Module 2	CEP170	Module 3	EHHADH	Module 4	INSIG1	Module 5	EIF3E
Module 1	SLAMF7	Module 2	AKT3	Module 3	FETUB	Module 4	CLU	Module 5	EIF3H
Module 1	ARHGAP30	Module 2	CNST	Module 3	HRG	Module 4	CYP7A1	Module 5	MRPL13
Module 1	FCGR3A	Module 2	NLRP3	Module 3	CLDN1	Module 4	ASPH	Module 5	TATDN1
Module 1	FCGR3B	Module 2	ID2	Module 3	HES1	Module 4	GGH	Module 5	GSDMD
Module 1	UHMK1	Module 2	ADAM17	Module 3	LIMCH1	Module 4	DECR1	Module 5	EEF1D
Module 1	CD247	Module 2	HPCAL1	Module 3	KDR	Module 4	SDC2	Module 5	EXOSC4
Module 1	RCSD1	Module 2	PDIA6	Module 3	IGFBP7	Module 4	CPQ	Module 5	CYC1
Module 1	XCL2	Module 2	APOB	Module 3	UGT2B15	Module 4	COX6C	Module 5	VPS28
Module 1	XCL1	Module 2	RAB10	Module 3	UGT2B10	Module 4	DPYS	Module 5	RPL8
Module 1	PRRC2C	Module 2	CRIM1	Module 3	GC	Module 4	NDUFB9	Module 5	RPS6
Module 1	FASLG	Module 2	FEZ2	Module 3	SPARCL1	Module 4	NAPRT	Module 5	CLTA
Module 1	RABGAP1L	Module 2	SLC8A1	Module 3	ABCG2	Module 4	GPAA1	Module 5	ALDH1A1
Module 1	CEP350	Module 2	ABCG8	Module 3	MTTP	Module 4	AK3	Module 5	TLE1
Module 1	IER5	Module 2	EPAS1	Module 3	EMCN	Module 4	GRHPR	Module 5	SEC61B
Module 1	DHX9	Module 2	RHOQ	Module 3	PLA2G12A	Module 4	BAAT	Module 5	CTNNAL1
Module 1	C1orf21	Module 2	SPTBN1	Module 3	CFI	Module 4	GNG10	Module 5	TXN
Module 1	IVNS1ABP	Module 2	CCDC88A	Module 3	FAM241A	Module 4	HSDL2	Module 5	PTGR1
Module 1	TPR	Module 2	UGP2	Module 3	NDUFC1	Module 4	AMBP	Module 5	RPL35
Module 1	RGS1	Module 2	PELI1	Module 3	FGB	Module 4	LCN2	Module 5	RPL12
Module 1	RGS2	Module 2	RAB1A	Module 3	FGA	Module 4	C8G	Module 5	C9orf16
Module 1	PTPRC	Module 2	PCYOX1	Module 3	ETFDH	Module 4	AKR1C4	Module 5	RPL7A
Module 1	ARL8A	Module 2	NAGK	Module 3	TMEM192	Module 4	PHYH	Module 5	PHPT1
Module 1	PTPN7	Module 2	ZNF638	Module 3	CPE	Module 4	A1CF	Module 5	EDF1
Module 1	BTG2	Module 2	DYSF	Module 3	F11	Module 4	PCBD1	Module 5	AKR1C1
Module 1	ATP2B4	Module 2	NAT8	Module 3	LINC01018	Module 4	ADK	Module 5	AKR1C2
Module 1	RAB29	Module 2	TGOLN2	Module 3	AGXT2	Module 4	GLUD1	Module 5	AKR1C3
Module 1	RASSF5	Module 2	RETSAT	Module 3	LIFR	Module 4	PANK1	Module 5	ATP5F1C
Module 1	MAPKAPK2	Module 2	GGCX	Module 3	SELENOP	Module 4	RBP4	Module 5	PPA1
Module 1	FCMR	Module 2	VAMP8	Module 3	ESM1	Module 4	GSTO1	Module 5	VDAC2
Module 1	CD55	Module 2	VAMP5	Module 3	PLPP1	Module 4	PRDX3	Module 5	COMTD1
Module 1	TRAF3IP3	Module 2	CHMP3	Module 3	MAP1B	Module 4	HTRA1	Module 5	RPS24
Module 1	CAPN2	Module 2	PLGLB1	Module 3	HEXB	Module 4	ACADSB	Module 5	PDLIM1
Module 1	WDR26	Module 2	FABP1	Module 3	DMGDH	Module 4	BNIP3	Module 5	TALDO1
Module 1	LBR	Module 2	IGKC	Module 3	NR2F1	Module 4	PRAP1	Module 5	RPLP2
Module 1	H3F3A	Module 2	TMEM127	Module 3	SEMA6A	Module 4	FUOM	Module 5	TAF10
Module 1	PARP1	Module 2	MAP4K4	Module 3	PPIC	Module 4	CYP2E1	Module 5	EIF3F
Module 1	ARF1	Module 2	LIMS1	Module 3	ZNF608	Module 4	IFITM3	Module 5	PSMA1
Module 1	ARID4B	Module 2	MERTK	Module 3	SHROOM1	Module 4	SLC22A18	Module 5	RPS13
Module 1	LYST	Module 2	IL1B	Module 3	SAR1B	Module 4	MRPL17	Module 5	EIF3M
Module 1	HNRNPU	Module 2	IL1RN	Module 3	LECT2	Module 4	CAT	Module 5	FTH1
Module 1	AHCTF1	Module 2	DBI	Module 3	TGFBI	Module 4	MDK	Module 5	EEF1G
Module 1	LINC01871	Module 2	RALB	Module 3	CTNNA1	Module 4	TM7SF2	Module 5	PPP1R14B
Module 1	LINC00299	Module 2	PTPN18	Module 3	ECSCR	Module 4	CTSF	Module 5	TRMT112
Module 1	YWHAQ	Module 2	PLEKHB2	Module 3	CD14	Module 4	CTTN	Module 5	ARL2
Module 1	SLC66A3	Module 2	UBXN4	Module 3	PCDH12	Module 4	ACAT1	Module 5	STARD10
Module 1	LPIN1	Module 2	RND3	Module 3	SYNPO	Module 4	SDHD	Module 5	RPS3
Module 1	FAM49A	Module 2	FMNL2	Module 3	SPARC	Module 4	MGST1	Module 5	CLNS1A
Module 1	ITSN2	Module 2	BAZ2B	Module 3	F12	Module 4	SLCO1B3	Module 5	CRYAB
Module 1	FOSL2	Module 2	CD302	Module 3	BTNL9	Module 4	KRT8	Module 5	RPS25
Module 1	PPP1CB	Module 2	DYNC1I2	Module 3	FOXC1	Module 4	PPP1R1A	Module 5	HSPA8
Module 1	YPEL5	Module 2	ITPRID2	Module 3	NRN1	Module 4	HSD17B6	Module 5	GAPDH
Module 1	LBH	Module 2	CFLAR	Module 3	DSP	Module 4	NR1H4	Module 5	TM7SF3
Module 1	BIRC6	Module 2	BMPR2	Module 3	EDN1	Module 4	PAH	Module 5	KRT7
Module 1	CDC42EP3	Module 2	NRP2	Module 3	ALDH5A1	Module 4	ALDH2	Module 5	KRT18
Module 1	SRSF7	Module 2	KLF7	Module 3	C2	Module 4	PEBP1	Module 5	ATP5MC2
Module 1	EML4	Module 2	FZD5	Module 3	CFB	Module 4	HPD	Module 5	RPS26
Module 1	ZFP36L2	Module 2	CPS1	Module 3	GNMT	Module 4	PXMP2	Module 5	PTGES3
Module 1	CALM2	Module 2	GPBAR1	Module 3	ADGRF5	Module 4	CRYL1	Module 5	NACA
Module 1	REL	Module 2	SLC11A1	Module 3	MMUT	Module 4	EBPL	Module 5	SLC25A3
Module 1	USP34	Module 2	EPHA4	Module 3	COL21A1	Module 4	RNASE4	Module 5	RPL6
Module 1	ACTR2	Module 2	UGT1A1	Module 3	FILIP1	Module 4	DHRS2	Module 5	RPLP0
Module 1	PLEK	Module 2	SEPTIN2	Module 3	NT5E	Module 4	PCK2	Module 5	RPL21
Module 1	AAK1	Module 2	STK25	Module 3	LAMA4	Module 4	CFL2	Module 5	GTF3A

Module 1	MXD1	Module 2	ARL8B	Module 3	GJA1	Module 4	MTHFD1	Module 5	POLR1D
Module 1	PCBP1	Module 2	EDEM1	Module 3	CCN2	Module 4	SERPINA6	Module 5	ESD
Module 1	SNRPG	Module 2	HRH1	Module 3	PERP	Module 4	SERPINA1	Module 5	APEX1
Module 1	DGUOK	Module 2	XPC	Module 3	RAB32	Module 4	SERPINA5	Module 5	MRPL52
Module 1	MOB1A	Module 2	FGD5-AS1	Module 3	AKAP12	Module 4	SORD	Module 5	PSMB5
Module 1	MTHFD2	Module 2	SH3BP5	Module 3	MYCT1	Module 4	GATM	Module 5	PSME2
Module 1	POLE4	Module 2	UBE2E1	Module 3	SLC22A1	Module 4	AQP9	Module 5	SPTSSA
Module 1	TMSB10	Module 2	TGFBR2	Module 3	PLG	Module 4	HACD3	Module 5	PSMA6
Module 1	CAPG	Module 2	CMTM6	Module 3	MPC1	Module 4	FAH	Module 5	RTRAF
Module 1	MAT2A	Module 2	CTNNB1	Module 3	RPS6KA2	Module 4	GNPTG	Module 5	GPX2
Module 1	GNLY	Module 2	CCR1	Module 3	AFDN	Module 4	SLC9A3R2	Module 5	ERH
Module 1	CD8A	Module 2	CCRL2	Module 3	FAM20C	Module 4	ECI1	Module 5	RPS27L
Module 1	CD8B	Module 2	MAP4	Module 3	NDUFA4	Module 4	CPPED1	Module 5	RPL4
Module 1	CYTOR	Module 2	SLC25A20	Module 3	THSD7A	Module 4	ACSM2A	Module 5	RPLP1
Module 1	DUSP2	Module 2	LAMB2	Module 3	AGMO	Module 4	ACSM2B	Module 5	COX5A
Module 1	ARID5A	Module 2	MAPKAPK3	Module 3	AQP1	Module 4	ACSM1	Module 5	RPS17
Module 1	SEMA4C	Module 2	MANF	Module 3	LSM5	Module 4	NUPR1	Module 5	SEC11A
Module 1	ZAP70	Module 2	STAB1	Module 3	RAMP3	Module 4	QPRT	Module 5	NME4
Module 1	EIF5B	Module 2	ITIH4	Module 3	GRB10	Module 4	CES1	Module 5	METRN
Module 1	PDCL3	Module 2	FLNB	Module 3	POR	Module 4	NQO1	Module 5	RPS2
Module 1	RNF149	Module 2	PTPRG	Module 3	ABCB4	Module 4	GCSH	Module 5	ELOB
Module 1	GCC2	Module 2	FRMD4B	Module 3	GNG11	Module 4	OSGIN1	Module 5	TNFRSF12A
Module 1	RANBP2	Module 2	LINC00877	Module 3	PON3	Module 4	FBXO31	Module 5	IL32
Module 1	SLC20A1	Module 2	PROS1	Module 3	AGFG2	Module 4	SERPINF2	Module 5	RSL1D1
Module 1	ACTR3	Module 2	FILIP1L	Module 3	EPHB4	Module 4	SERPINF1	Module 5	RPS15A
Module 1	DDX18	Module 2	ALCAM	Module 3	SERPINE1	Module 4	TM4SF5	Module 5	UQCRC2
Module 1	PTPN4	Module 2	ATP6V1A	Module 3	PLOD3	Module 4	SLC13A5	Module 5	TUFM
Module 1	GYPC	Module 2	ZBTB20	Module 3	CAV2	Module 4	ASGR2	Module 5	TMEM219
Module 1	BIN1	Module 2	COX17	Module 3	CAV1	Module 4	ASGR1	Module 5	SEPHS2
Module 1	MAP3K2	Module 2	FSTL1	Module 3	MET	Module 4	SAT2	Module 5	MT1A
Module 1	CCDC115	Module 2	CD86	Module 3	PODXL	Module 4	SHMT1	Module 5	NUTF2
Module 1	CXCR4	Module 2	CSTA	Module 3	NDUFB2	Module 4	VTN	Module 5	NOB1
Module 1	ARHGAP15	Module 2	ITGB5	Module 3	PDIA4	Module 4	PIPOX	Module 5	COX4I1
Module 1	ZEB2	Module 2	HEG1	Module 3	RARRES2	Module 4	TMEM98	Module 5	APRT
Module 1	TNFAIP6	Module 2	OSBPL11	Module 3	ANGPT2	Module 4	CCL16	Module 5	RPL13
Module 1	PRPF40A	Module 2	MGLL	Module 3	SOX7	Module 4	CISD3	Module 5	C1QBP
Module 1	NR4A2	Module 2	RPN1	Module 3	DLC1	Module 4	IGFBP4	Module 5	TXNDC17
Module 1	CYTIP	Module 2	RAB7A	Module 3	MTUS1	Module 4	KAT2A	Module 5	RNASEK
Module 1	RBMS1	Module 2	PLXND1	Module 3	FGL1	Module 4	HLF	Module 5	C17orf49
Module 1	TANK	Module 2	CHST2	Module 3	TNFRSF10D	Module 4	SNHG25	Module 5	GABARAP
Module 1	GCA	Module 2	PLSCR4	Module 3	STC1	Module 4	APOH	Module 5	CLDN7
Module 1	PPIG	Module 2	PLSCR1	Module 3	RBPMS	Module 4	GALK1	Module 5	EIF5A
Module 1	SSB	Module 2	CP	Module 3	TCIM	Module 4	P4HB	Module 5	TMEM256
Module 1	CIR1	Module 2	RNF13	Module 3	CEBPD	Module 4	ANAPC11	Module 5	RPL26
Module 1	WIPF1	Module 2	LXN	Module 3	SOX17	Module 4	NOTUM	Module 5	UBB
Module 1	HNRNPA3	Module 2	MFSD1	Module 3	TRIM55	Module 4	DCXR	Module 5	SNHG29
Module 1	NFE2L2	Module 2	BCHE	Module 3	FABP4	Module 4	NDUFV2	Module 5	ALDH3A2
Module 1	ITGA4	Module 2	GOLIM4	Module 3	WWP1	Module 4	ACAA2	Module 5	ALDH3A1
Module 1	ORMDL1	Module 2	SEC62	Module 3	RUNX1T1	Module 4	SEC11C	Module 5	RPL23A
Module 1	GLS	Module 2	TNFSF10	Module 3	RIDA	Module 4	CYB5A	Module 5	PSMB3
Module 1	STAT1	Module 2	TBL1XR1	Module 3	EXT1	Module 4	GAMT	Module 5	RPL23
Module 1	STAT4	Module 2	ZMAT3	Module 3	SNTB1	Module 4	REEP6	Module 5	RPL19
Module 1	NABP1	Module 2	ABCC5	Module 3	SQLE	Module 4	UQCR11	Module 5	NT5C3B
Module 1	STK17B	Module 2	AP2M1	Module 3	TRIB1	Module 4	PRDX2	Module 5	RPL27
Module 1	ANKRD44	Module 2	EIF4G1	Module 3	MYC	Module 4	NFIX	Module 5	SLC25A39
Module 1	SF3B1	Module 2	ETV5	Module 3	GPIHBP1	Module 4	NDUFB7	Module 5	CALCOCO2
Module 1	COQ10B	Module 2	ST6GAL1	Module 3	NRBP2	Module 4	HPN	Module 5	ATP5MC1
Module 1	MOB4	Module 2	MASP1	Module 3	GRINA	Module 4	PRODH2	Module 5	SNF8
Module 1	BZW1	Module 2	LPP	Module 3	RCL1	Module 4	BLVRB	Module 5	PHB
Module 1	CLK1	Module 2	IL1RAP	Module 3	IL33	Module 4	APOE	Module 5	NME1
Module 1	CD28	Module 2	CCDC50	Module 3	ACO1	Module 4	APOC1	Module 5	NME2
Module 1	XRCC5	Module 2	ATP13A3	Module 3	CHMP5	Module 4	APOC4	Module 5	TOM1L1
Module 1	ARPC2	Module 2	TMEM44	Module 3	SIGMAR1	Module 4	APOC2	Module 5	RPL38
Module 1	TUBA4A	Module 2	FAM43A	Module 3	GNE	Module 4	SULT2A1	Module 5	FDXR

Module 1	CCL20	Module 2	ATP5ME	Module 3	COL15A1	Module 4	ETFB	Module 5	ATP5PD
Module 1	SP110	Module 2	C4orf48	Module 3	SLC44A1	Module 4	SLC27A5	Module 5	SUMO2
Module 1	SP100	Module 2	SH3BP2	Module 3	EPB41L4B	Module 4	LINC00261	Module 5	SNHG16
Module 1	CAB39	Module 2	RGS12	Module 3	GSN	Module 4	FOXA2	Module 5	MRPL12
Module 1	NCL	Module 2	MSX1	Module 3	NIBAN2	Module 4	PCK1	Module 5	CENPX
Module 1	PTMA	Module 2	MRFAP1	Module 3	ENG	Module 4	SOD1	Module 5	MYL12B
Module 1	INPP5D	Module 2	LDB2	Module 3	AIF1L	Module 4	FTCD	Module 5	ANKRD29
Module 1	ARL4C	Module 2	QDPR	Module 3	EGFL7	Module 4	SLC25A18	Module 5	RPL17
Module 1	LRRFIP1	Module 2	LAP3	Module 3	DIPK1B	Module 4	SDF2L1	Module 5	TXNL4A
Module 1	UBE2F	Module 2	ADGRA3	Module 3	NPDC1	Module 4	CHCHD10	Module 5	GPX4
Module 1	RNPEPL1	Module 2	PPARGC1A	Module 3	MRPL41	Module 4	UPB1	Module 5	ATP5F1D
Module 1	GPR35	Module 2	RBPJ	Module 3	ITIH2	Module 4	UQCR10	Module 5	RPS15
Module 1	CRBN	Module 2	RBM47	Module 3	KIAA1217	Module 4	TST	Module 5	TIMM13
Module 1	BHLHE40	Module 2	OCIAD1	Module 3	JCAD	Module 4	CDC42EP1	Module 5	EEF2
Module 1	THUMPD3-AS1	Module 2	UGT2B7	Module 3	DEPP1	Module 4	ARSE	Module 5	RPL36
Module 1	SETD5	Module 2	AFM	Module 3	MBL2	Module 4	MAOA	Module 5	MICOS13
Module 1	ARPC4	Module 2	CXCL8	Module 3	LINC00844	Module 4	RGN	Module 5	NDUFA11
Module 1	IQSEC1	Module 2	CXCL1	Module 3	PBLD	Module 4	PGRMC1	Module 5	ALKBH7
Module 1	ANKRD28	Module 2	CXCL3	Module 3	PALD1	Module 4	SMARCA1	Module 5	RPS28
Module 1	SATB1	Module 2	CXCL2	Module 3	CDH23	Module 4	GPC3	Module 5	EIF3G
Module 1	EOMES	Module 2	EREG	Module 3	ZNF503			Module 5	PGLS
Module 1	CMC1	Module 2	NAAA	Module 3	MAT1A			Module 5	RPL18A
Module 1	CMTM7	Module 2	SCARB2	Module 3	PRXL2A			Module 5	UBA52
Module 1	PDCD6IP	Module 2	CXCL13	Module 3	MMRN2			Module 5	PDCD5
Module 1	GOLGA4	Module 2	BMP2K	Module 3	SNCG			Module 5	EIF3K
Module 1	MYD88	Module 2	SEC31A	Module 3	ADIRF			Module 5	LGALS4
Module 1	OXSR1	Module 2	HSD17B13	Module 3	HHEX			Module 5	ECH1
Module 1	CSRNP1	Module 2	FAM13A	Module 3	CYP2C18			Module 5	RPS16
Module 1	CX3CR1	Module 2	PDLIM5	Module 3	CYP2C9			Module 5	SNRPD2
Module 1	EIF1B	Module 2	MANBA	Module 3	GOT1			Module 5	RPL18
Module 1	NKTR	Module 2	LINC02428	Module 3	ABCC2			Module 5	FTL
Module 1	SNRK	Module 2	PAPSS1	Module 3	CPN1			Module 5	RPL13A
Module 1	ABHD5	Module 2	ANXA5	Module 3	SCD			Module 5	RPS11
Module 1	CXCR6	Module 2	SPRY1	Module 3	ATP5MD			Module 5	TMEM238
Module 1	CCDC12	Module 2	PGRMC2	Module 3	ECHS1			Module 5	RPL28
Module 1	SETD2	Module 2	TBC1D9	Module 3	CDHR5			Module 5	RPS5
Module 1	CAMP	Module 2	TLR2	Module 3	CD151			Module 5	FKBP1A
Module 1	TMA7	Module 2	TDO2	Module 3	CAVIN3			Module 5	C20orf27
Module 1	SHISA5	Module 2	CTSO	Module 3	HPX			Module 5	SMIM26
Module 1	PRKAR2A	Module 2	GASK1B	Module 3	DCHS1			Module 5	AHCY
Module 1	RHOA	Module 2	FNIP2	Module 3	SWAP70			Module 5	RPS21
Module 1	RBM6	Module 2	1-Mar	Module 3	TEAD1			Module 5	CCT8
Module 1	GNAI2	Module 2	ANXA10	Module 3	BBOX1			Module 5	CBR1
Module 1	RASSF1	Module 2	HPGD	Module 3	CD59			Module 5	SNAP29
Module 1	TWF2	Module 2	LINC02362	Module 3	SLC1A2			Module 5	MIF
Module 1	WDR82	Module 2	ACSL1	Module 3	C11orf96			Module 5	EIF3L
Module 1	PBRM1	Module 2	MIR3945HG	Module 3	TSPAN18			Module 5	TOMM22
Module 1	PRKCD	Module 2	LINC01093	Module 3	F2			Module 5	ST13
Module 1	DCP1A	Module 2	SORBS2	Module 3	SERPING1			Module 5	RPS4X
Module 1	SELENOK	Module 2	CYP4V2	Module 3	GLYATL1			Module 5	RPL36A
Module 1	ARHGEF3	Module 2	KLKB1	Module 3	TKFC			Module 5	SLC25A5
Module 1	TMF1	Module 2	FAT1	Module 3	TMEM179B			Module 5	RPL39
Module 1	ARL6IP5	Module 2	SDHA	Module 3	PC			Module 5	MCTS1
Module 1	FOXP1	Module 2	SLC12A7	Module 3	LRP5			Module 5	NAA10
Module 1	RYBP	Module 2	SRD5A1	Module 3	CCND1			Module 5	RPL10
Module 1	PPP4R2	Module 2	ANKH	Module 3	ANO1			Module 5	LAGE3
Module 1	CLDND1	Module 2	RETREG1	Module 3	PDE2A			Module 5	FUNDC2
Module 1	NFKBIZ	Module 2	MYO10	Module 3	NDUFC2			Module 5	RPS4Y1
Module 1	CBLB	Module 2	UGT3A1	Module 3	FZD4				
Module 1	BBX	Module 2	SLC1A3	Module 3	C11orf54				
Module 1	CD47	Module 2	C9	Module 3	RDX				
Module 1	CD96	Module 2	DAB2	Module 3	CADM1				
Module 1	ATG3	Module 2	C6	Module 3	APOC3				
Module 1	NAA50	Module 2	GHR	Module 3	APOA1				

Module 1	TIGIT	Module 2	NNT	Module 3	FXYD6
Module 1	HCLS1	Module 2	ITGA1	Module 3	OAF
Module 1	GOLGB1	Module 2	FST	Module 3	ARHGEF12
Module 1	PARP14	Module 2	ARL15	Module 3	ESAM
Module 1	ABTB1	Module 2	SNX18	Module 3	ROBO4
Module 1	H1FX	Module 2	IL6ST	Module 3	AP001783.1
Module 1	CDV3	Module 2	MAP3K1	Module 3	TSPAN9
Module 1	ZBTB38	Module 2	PLK2	Module 3	VWF
Module 1	RASA2	Module 2	ZSWIM6	Module 3	LTBR
Module 1	RNF7	Module 2	IPO11	Module 3	C1S
Module 1	ATP1B3	Module 2	MAST4	Module 3	C1R
Module 1	TFDP2	Module 2	MRPS36	Module 3	RBP5
Module 1	XRN1	Module 2	OCLN	Module 3	EMP1
Module 1	U2SURP	Module 2	NAIP	Module 3	MGP
Module 1	GYG1	Module 2	MCCC2	Module 3	SLCO1B1
Module 1	TSC22D2	Module 2	BHMT	Module 3	ETFRF1
Module 1	SERP1	Module 2	TENT2	Module 3	PPFIBP1
Module 1	SIAH2	Module 2	SERINC5	Module 3	TMTC1
Module 1	GPR171	Module 2	ZFYVE16	Module 3	GPD1
Module 1	MBNL1	Module 2	DHFR	Module 3	METTL7B
Module 1	RAP2B	Module 2	MEF2C	Module 3	ERBB3
Module 1	DHX36	Module 2	ARRDC3	Module 3	SPRYD4
Module 1	TIPARP	Module 2	ELL2	Module 3	RDH16
Module 1	CCNL1	Module 2	MAN2A1	Module 3	PTPRB
Module 1	SMC4	Module 2	AFF4	Module 3	NTN4
Module 1	KPNA4	Module 2	C5orf24	Module 3	AMDHD1
Module 1	SKIL	Module 2	H2AFY	Module 3	LTA4H
Module 1	TTC14	Module 2	SMAD5	Module 3	TXNRD1
Module 1	TRA2B	Module 2	EGR1	Module 3	NUAK1
Module 1	EIF4A2	Module 2	PFDN1	Module 3	CDK2AP1
Module 1	ACAP2	Module 2	HBEGF	Module 3	GJB2
Module 1	PPP1R2	Module 2	GNPDA1	Module 3	FLT1
Module 1	TFRC	Module 2	RBM27	Module 3	LHFPL6
Module 1	RNF168	Module 2	SPINK1	Module 3	SLC25A15
Module 1	PAK2	Module 2	ABLIM3	Module 3	TSC22D1
Module 1	SPON2	Module 2	AFAP1L1	Module 3	TPT1
Module 1	CTBP1	Module 2	CSNK1A1	Module 3	CPB2
Module 1	SLBP	Module 2	CSF1R	Module 3	PCDH17
Module 1	MXD4	Module 2	CD74	Module 3	EDNRB
Module 1	ADD1	Module 2	GM2A	Module 3	GPC6
Module 1	MFSD10	Module 2	FAXDC2	Module 3	COL4A1
Module 1	LRPAP1	Module 2	CLINT1	Module 3	COL4A2
Module 1	LYAR	Module 2	LCP2	Module 3	F10
Module 1	S100P	Module 2	ERGIC1	Module 3	TMEM255B
Module 1	WDR1	Module 2	CPEB4	Module 3	ANG
Module 1	BOD1L1	Module 2	HRH2	Module 3	FOXA1
Module 1	CD38	Module 2	HK3	Module 3	CLEC14A
Module 1	FGFBP2	Module 2	LMAN2	Module 3	FERMT2
Module 1	MED28	Module 2	DBN1	Module 3	RHOJ
Module 1	DHX15	Module 2	TMED9	Module 3	SLC10A1
Module 1	ARAP2	Module 2	CANX	Module 3	ENTPD5
Module 1	TBC1D1	Module 2	LTC4S	Module 3	ALDH6A1
Module 1	KLF3	Module 2	RNF130	Module 3	GSTZ1
Module 1	RFC1	Module 2	MGAT1	Module 3	NDUFB1
Module 1	RHOH	Module 2	HEIH	Module 3	IFI27
Module 1	ATP8A1	Module 2	SERPINB6	Module 3	SERPINA4
Module 1	DANCR	Module 2	PXDC1	Module 3	SERPINA3
Module 1	TMEM165	Module 2	F13A1	Module 3	SLC25A47
Module 1	HOPX	Module 2	LY86	Module 3	CKB
Module 1	YTHDC1	Module 2	NEDD9	Module 3	ATP5MPL
Module 1	AREG	Module 2	HIVEP1	Module 3	CRIP2
Module 1	G3BP2	Module 2	PHACTR1	Module 3	TJP1
Module 1	CCNI	Module 2	CD83	Module 3	MEIS2
Module 1	CNOT6L	Module 2	FAM8A1	Module 3	IVD

Module 1	RASGEF1B	Module 2	RNF144B	Module 3	GCHFR
Module 1	HNRNPD	Module 2	SOX4	Module 3	SERF2
Module 1	HNRNPDL	Module 2	GPLD1	Module 3	SLC27A2
Module 1	PLAC8	Module 2	C6orf62	Module 3	ONECUT1
Module 1	PPM1K	Module 2	IER3	Module 3	C2CD4B
Module 1	GPRIN3	Module 2	LST1	Module 3	SPG21
Module 1	EIF4E	Module 2	AIF1	Module 3	UACA
Module 1	H2AFZ	Module 2	DDAH2	Module 3	ANPEP
Module 1	NFKB1	Module 2	HSPA1A	Module 3	NR2F2
Module 1	UBE2D3	Module 2	HSPA1B	Module 3	MSRB1
Module 1	TET2	Module 2	NEU1	Module 3	EMP2
Module 1	MCUB	Module 2	AGPAT1	Module 3	NTAN1
Module 1	ELF2	Module 2	NOTCH4	Module 3	GPRC5B
Module 1	SMARCA5	Module 2	HLA-DRA	Module 3	GPT2
Module 1	TMEM154	Module 2	HLA-DRB5	Module 3	IRX3
Module 1	HMGB2	Module 2	HLA-DRB1	Module 3	MT1G
Module 1	SPCS3	Module 2	HLA-DQA1	Module 3	MT1H
Module 1	IRF2	Module 2	HLA-DMB	Module 3	MT1X
Module 1	CASP3	Module 2	HLA-DMA	Module 3	CETP
Module 1	ANKRD37	Module 2	HLA-DOA	Module 3	CPNE2
Module 1	LPCAT1	Module 2	HLA-DPA1	Module 3	GOT2
Module 1	MED10	Module 2	HLA-DPB1	Module 3	CDH5
Module 1	6-Mar	Module 2	RGL2	Module 3	CES2
Module 1	OTULIN	Module 2	NUDT3	Module 3	GFOD2
Module 1	BASP1	Module 2	KCTD20	Module 3	DHODH
Module 1	GOLPH3	Module 2	CDKN1A	Module 3	HP
Module 1	SUB1	Module 2	C6orf89	Module 3	HPR
Module 1	DNAJC21	Module 2	FGD2	Module 3	BCAR1
Module 1	IL7R	Module 2	TREM2	Module 3	HSD17B2
Module 1	NIPBL	Module 2	CNPY3	Module 3	CDH13
Module 1	FYB1	Module 2	SLC22A7	Module 3	HSBP1
Module 1	PTGER4	Module 2	VEGFA	Module 3	DOC2B
Module 1	PRKAA1	Module 2	NFKBIE	Module 3	MYO1C
Module 1	AC008875.3	Module 2	PLA2G7	Module 3	CLUH
Module 1	EMB	Module 2	DST	Module 3	GLTPD2
Module 1	PARP8	Module 2	OGFRL1	Module 3	ARHGEF15
Module 1	GZMK	Module 2	TMEM30A	Module 3	SLC47A1
Module 1	GZMA	Module 2	MYO6	Module 3	CCL14
Module 1	GPBP1	Module 2	TENT5A	Module 3	CCL23
Module 1	PDE4D	Module 2	UBE2J1	Module 3	ARHGAP23
Module 1	KIF2A	Module 2	SEC63	Module 3	PCGF2
Module 1	ERBIN	Module 2	FOXO3	Module 3	JUP
Module 1	SREK1	Module 2	MARCKS	Module 3	CAVIN1
Module 1	PIK3R1	Module 2	CALHM6	Module 3	RAMP2
Module 1	BDP1	Module 2	MAN1A1	Module 3	G6PC
Module 1	ENC1	Module 2	SERINC1	Module 3	DUSP3
Module 1	IQGAP2	Module 2	NCOA7	Module 3	ABCC3
Module 1	F2R	Module 2	EPB41L2	Module 3	ABCA6
Module 1	CCNH	Module 2	ENPP1	Module 3	SOX9
Module 1	LUCAT1	Module 2	STX7	Module 3	CASKIN2
Module 1	CAST	Module 2	VNN1	Module 3	ACOX1
Module 1	LNPEP	Module 2	VNN3	Module 3	FASN
Module 1	CHD1	Module 2	SGK1	Module 3	MYOM1
Module 1	TNFAIP8	Module 2	AL355881.1	Module 3	PIEZO2
Module 1	LMNB1	Module 2	ALDH8A1	Module 3	OSBPL1A
Module 1	CDC42SE2	Module 2	ADGRG6	Module 3	CDH2
Module 1	CSF2	Module 2	PHACTR2	Module 3	TTR
Module 1	C5orf56	Module 2	SASH1	Module 3	ONECUT2
Module 1	IRF1	Module 2	GINM1	Module 3	MIR122HG
Module 1	PPP2CA	Module 2	SNX9	Module 3	SLC66A2
Module 1	UBE2B	Module 2	SOD2	Module 3	HSBP1L1
Module 1	JADE2	Module 2	LPA	Module 3	FSTL3
Module 1	DDX46	Module 2	QKI	Module 3	GNA11
Module 1	HNRNPA0	Module 2	SUN1	Module 3	NFIC

Module 1	FAM53C	Module 2	TTYH3	Module 3	SEMA6B
Module 1	ETF1	Module 2	FSCN1	Module 3	TNFAIP8L1
Module 1	PAIP2	Module 2	RAC1	Module 3	INSR
Module 1	TMEM173	Module 2	KDELR2	Module 3	ANGPTL8
Module 1	UBE2D2	Module 2	RPA3	Module 3	TMEM205
Module 1	PURA	Module 2	TMEM106B	Module 3	PGLYRP2
Module 1	IK	Module 2	TSPAN13	Module 3	MRPL34
Module 1	TAF7	Module 2	AHR	Module 3	PLVAP
Module 1	DIAPH1	Module 2	GPNMB	Module 3	IFI30
Module 1	NR3C1	Module 2	SNX10	Module 3	GDF15
Module 1	TCERG1	Module 2	CPVL	Module 3	CEBPA
Module 1	PPP2R2B	Module 2	RALA	Module 3	LSR
Module 1	ANXA6	Module 2	INHBA	Module 3	COX7A1
Module 1	CCDC69	Module 2	PSMA2	Module 3	PPP1R14A
Module 1	G3BP1	Module 2	BLVRA	Module 3	PCAT19
Module 1	LARP1	Module 2	OGDH	Module 3	CEACAM1
Module 1	HAVCR2	Module 2	ADCY1	Module 3	BCAM
Module 1	CYFIP2	Module 2	IGFBP1	Module 3	NECTIN2
Module 1	RNF145	Module 2	IGFBP3	Module 3	EXOC3L2
Module 1	PTTG1	Module 2	EGFR	Module 3	NOVA2
Module 1	DOCK2	Module 2	GUSB	Module 3	RASIP1
Module 1	STK10	Module 2	ASL	Module 3	FGF21
Module 1	DUSP1	Module 2	MLXIPL	Module 3	ASPDH
Module 1	CREBRF	Module 2	GTF2I	Module 3	CDC42EP5
Module 1	GRK6	Module 2	HIP1	Module 3	A1BG
Module 1	PRR7	Module 2	YWHAG	Module 3	ATRN
Module 1	HNRNPAB	Module 2	FGL2	Module 3	HSPA12B
Module 1	HNRNPH1	Module 2	PTPN12	Module 3	MYL9
Module 1	SERPINB1	Module 2	MAGI2-AS3	Module 3	LBP
Module 1	SERPINB9	Module 2	CD36	Module 3	LINC01370
Module 1	GFOD1	Module 2	CLDN12	Module 3	HNF4A
Module 1	MYLIP	Module 2	FZD1	Module 3	SNAI1
Module 1	DEK	Module 2	CYP51A1	Module 3	TSHZ2
Module 1	RIPOR2	Module 2	PON1	Module 3	DOK5
Module 1	TRIM38	Module 2	PDK4	Module 3	FAM210B
Module 1	HIST1H4C	Module 2	CYP3A5	Module 3	SOX18
Module 1	BTN3A2	Module 2	CYP3A7	Module 3	MIR99AHG
Module 1	HLA-F	Module 2	AZGP1	Module 3	CXADR
Module 1	HLA-A	Module 2	ZKSCAN1	Module 3	JAM2
Module 1	ZNRD1	Module 2	LAMTOR4	Module 3	ATP5PF
Module 1	HCG18	Module 2	STAG3	Module 3	CYYR1
Module 1	HLA-E	Module 2	PILRA	Module 3	ADAMTS1
Module 1	ABCF1	Module 2	PCOLCE	Module 3	ERG
Module 1	PPP1R10	Module 2	TFR2	Module 3	BACE2
Module 1	PPP1R18	Module 2	GNB2	Module 3	TFF3
Module 1	FLOT1	Module 2	TRIM56	Module 3	CSTB
Module 1	HLA-C	Module 2	CUX1	Module 3	CLDN5
Module 1	HLA-B	Module 2	NAMPT	Module 3	COMT
Module 1	TNF	Module 2	CCDC71L	Module 3	SERPIND1
Module 1	LTB	Module 2	BCAP29	Module 3	DDT
Module 1	NCR3	Module 2	LAMB1	Module 3	SEC14L2
Module 1	CLIC1	Module 2	THAP5	Module 3	TIMP3
Module 1	SNHG32	Module 2	DNAJB9	Module 3	TMPRSS6
Module 1	GPSM3	Module 2	DOCK4	Module 3	CYP2D6
Module 1	HLA-DQB1	Module 2	CPED1	Module 3	SHANK3
Module 1	TAP2	Module 2	AASS	Module 3	IL3RA
Module 1	PSMB8	Module 2	NDUFA5	Module 3	PRDX4
Module 1	PSMB9	Module 2	UBE2H	Module 3	TSPAN7
Module 1	TAP1	Module 2	MKLN1	Module 3	DIPK2B
Module 1	BRD2	Module 2	AKR1D1	Module 3	SHROOM4
Module 1	TAPBP	Module 2	HIPK2	Module 3	AR
Module 1	PHF1	Module 2	TBXAS1	Module 3	EFNB1
Module 1	HMGA1	Module 2	TCAF1	Module 3	GJB1
Module 1	DEF6	Module 2	GIMAP8	Module 3	TSPAN6

Module 1	SRSF3	Module 2	GIMAP6	Module 3	TCEAL9
Module 1	TREM1	Module 2	PRKAG2	Module 3	RNF128
Module 1	CCND3	Module 2	PTPRN2	Module 3	PLS3
Module 1	PHF3	Module 2	CLN8	Module 3	IL13RA1
Module 1	SMAP1	Module 2	MFHAS1	Module 3	LAMP2
Module 1	PHIP	Module 2	PPP1R3B	Module 3	MPP1
Module 1	SYNCRIP	Module 2	CTSB	Module 3	F8
Module 1	ZNF292	Module 2	MSR1	Module 3	MT-ND2
Module 1	AKIRIN2	Module 2	SLC7A2	Module 3	UROC1
Module 1	PNRC1	Module 2	ASAH1	Module 3	LYPD2
Module 1	PNISR	Module 2	CSGALNACT1		
Module 1	PRDM1	Module 2	ATP6V1B2		
Module 1	CD164	Module 2	SLC39A14		
Module 1	AMD1	Module 2	TNFRSF10B		
Module 1	GTF3C6	Module 2	BNIP3L		
Module 1	FYN	Module 2	DPYSL2		
Module 1	ARHGAP18	Module 2	ZNF703		
Module 1	SAMD3	Module 2	TACC1		
Module 1	BCLAF1	Module 2	PLAT		
Module 1	IFNGR1	Module 2	SMIM19		
Module 1	TNFAIP3	Module 2	HOOK3		
Module 1	ABRACL	Module 2	RB1CC1		
Module 1	HECA	Module 2	LYN		
Module 1	CITED2	Module 2	IMPAD1		
Module 1	STX11	Module 2	YTHDF3		
Module 1	UTRN	Module 2	NCOA2		
Module 1	PCMT1	Module 2	RDH10		
Module 1	SYNE1	Module 2	LY96		
Module 1	ARID1B	Module 2	FABP5		
Module 1	DYNLT1	Module 2	GEM		
Module 1	SYTL3	Module 2	TP53INP1		
Module 1	EZR	Module 2	MTDH		
Module 1	TAGAP	Module 2	KLF10		
Module 1	WTAP	Module 2	BAALC		
Module 1	IGF2R	Module 2	MTSS1		
Module 1	SFT2D1	Module 2	LRATD2		
Module 1	RNASET2	Module 2	ASAP1		
Module 1	NUDT1	Module 2	NDRG1		
Module 1	CHST12	Module 2	ST3GAL1		
Module 1	LFNG	Module 2	PTP4A3		
Module 1	ACTB	Module 2	PLEC		
Module 1	ARL4A	Module 2	DGAT1		
Module 1	TWISTNB	Module 2	GPT		
Module 1	TRA2A	Module 2	KANK1		
Module 1	CYCS	Module 2	SLC1A1		
Module 1	HNRNPA2B1	Module 2	CDC37L1		
Module 1	SKAP2	Module 2	GLDC		
Module 1	HOTAIRM1	Module 2	MPDZ		
Module 1	TAX1BP1	Module 2	NFIB		
Module 1	KBTBD2	Module 2	PLIN2		
Module 1	HERPUD2	Module 2	TEK		
Module 1	SEPTIN7	Module 2	C9orf72		
Module 1	AOAH	Module 2	PGM5		
Module 1	STARD3NL	Module 2	TJP2		
Module 1	TRGC2	Module 2	KLF9		
Module 1	TRGC1	Module 2	GDA		
Module 1	TRG-AS1	Module 2	ZFAND5		
Module 1	CDK13	Module 2	GNAQ		
Module 1	STK17A	Module 2	GOLM1		
Module 1	DBNL	Module 2	DAPK1		
Module 1	TMED4	Module 2	CTSL		
Module 1	H2AFV	Module 2	GADD45G		
Module 1	MYO1G	Module 2	SYK		
Module 1	UPP1	Module 2	CARD19		

Module 1	IKZF1	Module 2	NINJ1
Module 1	VOPP1	Module 2	FAM120A
Module 1	CHCHD2	Module 2	FBP1
Module 1	TMEM248	Module 2	ALDOB
Module 1	AUTS2	Module 2	ABCA1
Module 1	BCL7B	Module 2	KLF4
Module 1	LAT2	Module 2	TMEM245
Module 1	NCF1	Module 2	PALM2-AKAP2
Module 1	RSBN1L	Module 2	UGCG
Module 1	TMEM243	Module 2	SLC31A2
Module 1	SRI	Module 2	FKBP15
Module 1	AKAP9	Module 2	SLC31A1
Module 1	FAM133B	Module 2	ORM1
Module 1	CDK6	Module 2	ORM2
Module 1	SAMD9	Module 2	TLR4
Module 1	SAMD9L	Module 2	C5
Module 1	ARPC1B	Module 2	STOM
Module 1	TSC22D4	Module 2	HSPA5
Module 1	POLR2J3	Module 2	SLC25A25
Module 1	KMT2E	Module 2	LRRC8A
Module 1	SRPK2	Module 2	IER5L
Module 1	PIK3CG	Module 2	LINC00963
Module 1	PNPLA8	Module 2	PTGES
Module 1	IFRD1	Module 2	NUP214
Module 1	TES	Module 2	SLC2A6
Module 1	LSM8	Module 2	RXRA
Module 1	ATP6V1F	Module 2	FCN1
Module 1	AC016831.5	Module 2	AGPAT2
Module 1	LINC-PINT	Module 2	NRARP
Module 1	AKR1B1	Module 2	KLF6
Module 1	MTPN	Module 2	DHTKD1
Module 1	ZC3HAV1	Module 2	FRMD4A
Module 1	BRAF	Module 2	MRC1
Module 1	TRBC1	Module 2	NSUN6
Module 1	TRBC2	Module 2	PLXDC2
Module 1	ZYX	Module 2	OTUD1
Module 1	GIMAP7	Module 2	ZEB1
Module 1	GIMAP4	Module 2	ITGB1
Module 1	GIMAP1	Module 2	NRP1
Module 1	GIMAP5	Module 2	CXCL12
Module 1	KMT2C	Module 2	RASSF4
Module 1	DNAJB6	Module 2	ALOX5
Module 1	ERICH1	Module 2	NCOA4
Module 1	MYOM2	Module 2	OGDHL
Module 1	PCM1	Module 2	JMJD1C
Module 1	DOK2	Module 2	REEP3
Module 1	PDLIM2	Module 2	PSAP
Module 1	SLC25A37	Module 2	P4HA1
Module 1	PPP2R2A	Module 2	PLAU
Module 1	HMBOX1	Module 2	KCNMA1
Module 1	DUSP4	Module 2	ZMIZ1
Module 1	SARAF	Module 2	PPIF
Module 1	LEPROTL1	Module 2	PLAC9
Module 1	RAB11FIP1	Module 2	TSPAN14
Module 1	NSD3	Module 2	PAPSS2
Module 1	PLEKHA2	Module 2	PTEN
Module 1	IDO1	Module 2	LIPA
Module 1	PRKDC	Module 2	PPP1R3C
Module 1	PCMTD1	Module 2	CPEB3
Module 1	SDCBP	Module 2	MYOF
Module 1	TOX	Module 2	CYP2C8
Module 1	PDE7A	Module 2	ENTPD1
Module 1	MYBL1	Module 2	PIK3AP1
Module 1	TERF1	Module 2	RRP12

Module 1	PAG1	Module 2	AVPI1
Module 1	RIPK2	Module 2	ERLIN1
Module 1	NBN	Module 2	NOLC1
Module 1	RNF19A	Module 2	WBP1L
Module 1	YWHAZ	Module 2	GPAM
Module 1	OXR1	Module 2	ACSL5
Module 1	RAD21	Module 2	TCF7L2
Module 1	RNF139	Module 2	HABP2
Module 1	FAM49B	Module 2	EIF3A
Module 1	PHF20L1	Module 2	BAG3
Module 1	SLA	Module 2	CHST15
Module 1	AGO2	Module 2	OAT
Module 1	LY6E	Module 2	CTBP2
Module 1	DOCK8	Module 2	TSPAN4
Module 1	SMARCA2	Module 2	AP2A2
Module 1	PSIP1	Module 2	IFITM10
Module 1	HACD4	Module 2	CTSD
Module 1	TOPORS	Module 2	TNNI2
Module 1	DNAJA1	Module 2	CD81
Module 1	B4GALT1	Module 2	CDKN1C
Module 1	BAG1	Module 2	PHLDA2
Module 1	UBE2R2	Module 2	TPP1
Module 1	DCTN3	Module 2	RPL27A
Module 1	CCDC107	Module 2	IPO7
Module 1	TLN1	Module 2	RNF141
Module 1	GLIPR2	Module 2	LYVE1
Module 1	CEMIP2	Module 2	PIK3C2A
Module 1	ANXA1	Module 2	SAA4
Module 1	OSTF1	Module 2	SAA2
Module 1	TLE4	Module 2	SAA1
Module 1	HNRNPK	Module 2	LGR4
Module 1	ISCA1	Module 2	LIN7C
Module 1	TUT7	Module 2	LMO2
Module 1	CKS2	Module 2	TRIM44
Module 1	SEMA4D	Module 2	HSD17B12
Module 1	NFIL3	Module 2	TP53I11
Module 1	ANP32B	Module 2	SPI1
Module 1	TGFBR1	Module 2	AC090559.1
Module 1	NR4A3	Module 2	CELF1
Module 1	ERP44	Module 2	SLC43A3
Module 1	PTBP3	Module 2	CTNND1
Module 1	POLE3	Module 2	MPEG1
Module 1	RGS3	Module 2	OSBP
Module 1	AKNA	Module 2	MS4A6A
Module 1	ATP6V1G1	Module 2	MS4A4A
Module 1	TRAF1	Module 2	MS4A7
Module 1	RAB14	Module 2	SLC15A3
Module 1	ARPC5L	Module 2	DDB1
Module 1	ZBTB43	Module 2	GANAB
Module 1	SPTAN1	Module 2	CDC42EP2
Module 1	SET	Module 2	NEAT1
Module 1	C9orf78	Module 2	EHBP1L1
Module 1	FNBP1	Module 2	MAP3K11
Module 1	RAPGEF1	Module 2	UNC93B1
Module 1	RALGDS	Module 2	CPT1A
Module 1	SURF4	Module 2	DHCR7
Module 1	UBAC1	Module 2	FOLR2
Module 1	SNHG7	Module 2	ARAP1
Module 1	PTGDS	Module 2	SLCO2B1
Module 1	PAXX	Module 2	ARRB1
Module 1	CLIC3	Module 2	SERPINH1
Module 1	DPP7	Module 2	DGAT2
Module 1	SSNA1	Module 2	LRRC32
Module 1	TUBB4B	Module 2	ACER3

Module 1	ARRDC1	Module 2	PAK1
Module 1	RBM17	Module 2	PRCP
Module 1	PFKFB3	Module 2	PICALM
Module 1	PRKCQ-AS1	Module 2	SMCO4
Module 1	SFMBT2	Module 2	TMEM123
Module 1	GATA3	Module 2	PDGFD
Module 1	CELF2	Module 2	FDX1
Module 1	UPF2	Module 2	PPP2R1B
Module 1	CAMK1D	Module 2	IL18
Module 1	OPTN	Module 2	BCO2
Module 1	FAM107B	Module 2	PTS
Module 1	RSU1	Module 2	NNMT
Module 1	VIM	Module 2	APOA5
Module 1	ARL5B	Module 2	SIDT2
Module 1	DNAJC1	Module 2	TTC36
Module 1	PIP4K2A	Module 2	SLC37A4
Module 1	APBB1IP	Module 2	MCAM
Module 1	ABI1	Module 2	SC5D
Module 1	YME1L1	Module 2	NRGN
Module 1	WAC	Module 2	KCNJ5
Module 1	MAP3K8	Module 2	APLP2
Module 1	KIF5B	Module 2	CD9
Module 1	EPC1	Module 2	TNFRSF1A
Module 1	CREM	Module 2	PTMS
Module 1	CSGALNACT2	Module 2	CD4
Module 1	HNRNPF	Module 2	ATN1
Module 1	UBE2D1	Module 2	C1RL
Module 1	ARID5B	Module 2	CD163
Module 1	EGR2	Module 2	C3AR1
Module 1	NRBF2	Module 2	CLEC4A
Module 1	HNRNPH3	Module 2	A2M
Module 1	DDX21	Module 2	CLEC12A
Module 1	SRGN	Module 2	CLEC7A
Module 1	VPS26A	Module 2	OLR1
Module 1	HK1	Module 2	YBX3
Module 1	SAR1A	Module 2	ETV6
Module 1	PRF1	Module 2	LRP6
Module 1	VSIR	Module 2	CREBL2
Module 1	SPOCK2	Module 2	EPS8
Module 1	ANAPC16	Module 2	BCAT1
Module 1	DDIT4	Module 2	ITPR2
Module 1	KAT6B	Module 2	FGD4
Module 1	NUTM2B-AS1	Module 2	KIF21A
Module 1	ANXA11	Module 2	ANO6
Module 1	CCSER2	Module 2	SLC38A4
Module 1	NUTM2A-AS1	Module 2	RAPGEF3
Module 1	TM9SF3	Module 2	HDAC7
Module 1	HPS1	Module 2	RND1
Module 1	OGA	Module 2	TMBIM6
Module 1	NFKB2	Module 2	LARP4
Module 1	TRIM8	Module 2	METTL7A
Module 1	SLK	Module 2	ACVRL1
Module 1	ITPRIP	Module 2	GRASP
Module 1	ADD3	Module 2	NR4A1
Module 1	DUSP5	Module 2	TNS2
Module 1	SMC3	Module 2	CSAD
Module 1	PDCD4	Module 2	PCBP2
Module 1	CCDC186	Module 2	ZNF385A
Module 1	PDZD8	Module 2	CD63
Module 1	CACUL1	Module 2	MMP19
Module 1	RGS10	Module 2	APOF
Module 1	BUB3	Module 2	GLS2
Module 1	PTPRE	Module 2	LRP1
Module 1	ADAM8	Module 2	STAC3

Module 1	IFITM2	Module 2	INHBC
Module 1	IFITM1	Module 2	OS9
Module 1	RNH1	Module 2	AVPR1A
Module 1	IRF7	Module 2	GNS
Module 1	PNPLA2	Module 2	TMBIM4
Module 1	LSP1	Module 2	IRAK3
Module 1	KCNQ1OT1	Module 2	SLC35E3
Module 1	NAP1L4	Module 2	MDM2
Module 1	RHOG	Module 2	CPM
Module 1	HBB	Module 2	LYZ
Module 1	TRIM22	Module 2	DUSP6
Module 1	ILK	Module 2	HAL
Module 1	TMEM9B	Module 2	ELK3
Module 1	EIF4G2	Module 2	GAS2L3
Module 1	PDE3B	Module 2	DRAM1
Module 1	NUCB2	Module 2	IGF1
Module 1	LDHA	Module 2	HSP90B1
Module 1	PRRG4	Module 2	SLC41A2
Module 1	CD44	Module 2	WASHC4
Module 1	DGKZ	Module 2	CKAP4
Module 1	FNBP4	Module 2	ATP2A2
Module 1	PTPRJ	Module 2	SH2B3
Module 1	UBE2L6	Module 2	PTPN11
Module 1	LPXN	Module 2	OAS1
Module 1	TMEM109	Module 2	SDS
Module 1	CD6	Module 2	COX6A1
Module 1	TMEM258	Module 2	MLEC
Module 1	AHNAK	Module 2	ACADS
Module 1	UBXN1	Module 2	P2RX7
Module 1	POLR2G	Module 2	P2RX4
Module 1	SLC3A2	Module 2	CAMKK2
Module 1	PLAAT4	Module 2	SCARB1
Module 1	OTUB1	Module 2	SLC46A3
Module 1	FERMT3	Module 2	HSPH1
Module 1	VEGFB	Module 2	DGKH
Module 1	RASGRP2	Module 2	DNAJC15
Module 1	SF1	Module 2	LRCH1
Module 1	EHD1	Module 2	ITM2B
Module 1	FAU	Module 2	RB1
Module 1	MALAT1	Module 2	LPAR6
Module 1	FAM89B	Module 2	FNDC3A
Module 1	CFL1	Module 2	LMO7
Module 1	CTSW	Module 2	KCTD12
Module 1	FIBP	Module 2	DNAJC3
Module 1	CCDC85B	Module 2	MBNL2
Module 1	DRAP1	Module 2	DOCK9
Module 1	SF3B2	Module 2	GPR183
Module 1	RAB1B	Module 2	TM9SF2
Module 1	RBM4	Module 2	EFNB2
Module 1	KDM2A	Module 2	TNFSF13B
Module 1	GRK2	Module 2	IRS2
Module 1	ANKRD13D	Module 2	RAB20
Module 1	POLD4	Module 2	ANKRD10
Module 1	PPP1CA	Module 2	ARHGEF7
Module 1	TBC1D10C	Module 2	ATP11A
Module 1	CORO1B	Module 2	F7
Module 1	AIP	Module 2	LAMP1
Module 1	CDK2AP2	Module 2	GAS6
Module 1	GSTP1	Module 2	RNASE6
Module 1	TCIRG1	Module 2	RNASE1
Module 1	NUMA1	Module 2	NDRG2
Module 1	RELT	Module 2	DAD1
Module 1	UCP2	Module 2	SLC7A7
Module 1	RSF1	Module 2	PABPN1

Module 1	PCF11	Module 2	DCAF11
Module 1	PRSS23	Module 2	CIDEB
Module 1	CTSC	Module 2	ADCY4
Module 1	CHORDC1	Module 2	ARHGAP5
Module 1	TAF1D	Module 2	NFKBIA
Module 1	CEP57	Module 2	LGALS3
Module 1	BIRC3	Module 2	KTN1
Module 1	CASP4	Module 2	DAAM1
Module 1	CASP1	Module 2	DHRS7
Module 1	CARD16	Module 2	HIF1A
Module 1	ATM	Module 2	RDH11
Module 1	ZBTB16	Module 2	ZFP36L1
Module 1	PCSK7	Module 2	ACTN1
Module 1	IL10RA	Module 2	NUMB
Module 1	JAML	Module 2	NPC2
Module 1	CD3E	Module 2	TMED10
Module 1	CD3D	Module 2	FOS
Module 1	CD3G	Module 2	JDP2
Module 1	ATP5MG	Module 2	SEL1L
Module 1	KMT2A	Module 2	LINC01146
Module 1	DDX6	Module 2	TRIP11
Module 1	H2AFX	Module 2	LGMN
Module 1	SORL1	Module 2	SERPINA10
Module 1	CRTAM	Module 2	SERPINA11
Module 1	TBRG1	Module 2	EML1
Module 1	SRPRA	Module 2	WARS
Module 1	ETS1	Module 2	DYNC1H1
Module 1	FLI1	Module 2	EXOC3L4
Module 1	KDM5A	Module 2	TNFAIP2
Module 1	WNK1	Module 2	KLC1
Module 1	CCND2	Module 2	ASPG
Module 1	CHD4	Module 2	CYFIP1
Module 1	LAG3	Module 2	NOP10
Module 1	C12orf57	Module 2	SPRED1
Module 1	PTPN6	Module 2	EIF2AK4
Module 1	SLC2A3	Module 2	PLCB2
Module 1	M6PR	Module 2	EHD4
Module 1	KLRG1	Module 2	ZNF106
Module 1	AC092821.3	Module 2	SNAP23
Module 1	KLRB1	Module 2	PDIA3
Module 1	CLEC2D	Module 2	CASC4
Module 1	CD69	Module 2	C15orf48
Module 1	KLRF1	Module 2	BLOC1S6
Module 1	CLEC2B	Module 2	EID1
Module 1	GABARAPL1	Module 2	SPPL2A
Module 1	KLRD1	Module 2	DMXL2
Module 1	KLRK1	Module 2	TMOD3
Module 1	KLRC3	Module 2	MAPK6
Module 1	KLRC2	Module 2	CCPG1
Module 1	KLRC1	Module 2	ADAM10
Module 1	CDKN1B	Module 2	ANXA2
Module 1	ARHGDIB	Module 2	LACTB
Module 1	STRAP	Module 2	PPIB
Module 1	LDHB	Module 2	OAZ2
Module 1	KRAS	Module 2	PLEKHO2
Module 1	FGFR1OP2	Module 2	CLPX
Module 1	RESF1	Module 2	RAB11A
Module 1	SCAF11	Module 2	MAP2K1
Module 1	SLC38A1	Module 2	CALML4
Module 1	SLC38A2	Module 2	HEXA
Module 1	PCED1B-AS1	Module 2	NPTN
Module 1	CCNT1	Module 2	C15orf39
Module 1	FKBP11	Module 2	ETFA
Module 1	ARF3	Module 2	TSPAN3

Module 1	TUBA1B	Module 2	DNAJA4
Module 1	TUBA1A	Module 2	MTHFS
Module 1	TUBA1C	Module 2	MESD
Module 1	LIMA1	Module 2	TLNRD1
Module 1	DAZAP2	Module 2	ABHD2
Module 1	SMAGP	Module 2	IDH2
Module 1	BIN2	Module 2	FURIN
Module 1	KRT86	Module 2	SLCO3A1
Module 1	ITGB7	Module 2	MEF2A
Module 1	PFDN5	Module 2	SELENOS
Module 1	PRR13	Module 2	PCSK6
Module 1	HNRNPA1	Module 2	TMEM204
Module 1	ITGA5	Module 2	NME3
Module 1	NCKAP1L	Module 2	IGFALS
Module 1	RPL41	Module 2	ABAT
Module 1	MYL6	Module 2	CARHSP1
Module 1	SMARCC2	Module 2	SNN
Module 1	BAZ2A	Module 2	SNX29
Module 1	STAT6	Module 2	PDXDC1
Module 1	ARHGAP9	Module 2	ACSM5
Module 1	CTDSP2	Module 2	IGSF6
Module 1	USP15	Module 2	OTOA
Module 1	RASSF3	Module 2	TNRC6A
Module 1	IFNG	Module 2	CLN3
Module 1	RAP1B	Module 2	ZG16
Module 1	CNOT2	Module 2	MAPK3
Module 1	RAB21	Module 2	STX4
Module 1	GLIPR1	Module 2	PYCARD
Module 1	PHLDA1	Module 2	ITGAX
Module 1	NAP1L1	Module 2	VPS35
Module 1	OSBPL8	Module 2	LONP2
Module 1	PPP1R12A	Module 2	CNEP1R1
Module 1	ATP2B1	Module 2	LPCAT2
Module 1	ATP2B1-AS1	Module 2	MT2A
Module 1	BTG1	Module 2	MT1E
Module 1	EEA1	Module 2	CX3CL1
Module 1	UBE2N	Module 2	DYNC1LI2
Module 1	SOCS2	Module 2	ATP6V0D1
Module 1	VEZT	Module 2	RIPOR1
Module 1	TMPO	Module 2	LCAT
Module 1	GNPTAB	Module 2	CDH1
Module 1	C12orf75	Module 2	TAT
Module 1	SELPLG	Module 2	ZFHX3
Module 1	GLTP	Module 2	KARS
Module 1	ARPC3	Module 2	MAF
Module 1	MED13L	Module 2	RFLNB
Module 1	TESC	Module 2	CRK
Module 1	TAOK3	Module 2	SLC43A2
Module 1	PXN	Module 2	SCARF1
Module 1	SRSF9	Module 2	MIR22HG
Module 1	OASL	Module 2	AC090617.10
Module 1	ORAI1	Module 2	TAX1BP3
Module 1	RHOF	Module 2	CXCL16
Module 1	MLXIP	Module 2	VMO1
Module 1	RSRC2	Module 2	RNF167
Module 1	VPS37B	Module 2	SCIMP
Module 1	RILPL2	Module 2	XAF1
Module 1	NCOR2	Module 2	CLEC10A
Module 1	UBC	Module 2	TNFSF13
Module 1	RAN	Module 2	CD68
Module 1	MPHOSPH8	Module 2	SHBG
Module 1	NUP58	Module 2	TMEM88
Module 1	UBL3	Module 2	CYB5D1
Module 1	HMGB1	Module 2	MYH10

Module 1	ALOX5AP	Module 2	GAS7
Module 1	N4BP2L2	Module 2	PMP22
Module 1	ELF1	Module 2	RASD1
Module 1	RGCC	Module 2	MAP2K3
Module 1	EPSTI1	Module 2	WSB1
Module 1	ZC3H13	Module 2	LGALS9
Module 1	LCP1	Module 2	RAB34
Module 1	INTS6	Module 2	TAOK1
Module 1	COMMD6	Module 2	GIT1
Module 1	MYCBP2	Module 2	NSRP1
Module 1	GPR18	Module 2	ADAP2
Module 1	ARGLU1	Module 2	CCL2
Module 1	UPF3A	Module 2	CCL8
Module 1	HNRNPC	Module 2	AP2B1
Module 1	TRDC	Module 2	CCL3
Module 1	TRAC	Module 2	CCL3L1
Module 1	LRP10	Module 2	ATP6V0A1
Module 1	PSME1	Module 2	VAT1
Module 1	IRF9	Module 2	GRN
Module 1	CHMP4A	Module 2	NPEPPS
Module 1	GZMH	Module 2	PNPO
Module 1	GZMB	Module 2	NFE2L1
Module 1	SNX6	Module 2	UBE2Z
Module 1	BAZ1A	Module 2	PPP1R9B
Module 1	FAM177A1	Module 2	TOB1
Module 1	RALGAPA1	Module 2	SPAG9
Module 1	PNN	Module 2	DGKE
Module 1	MIA2	Module 2	SCPEP1
Module 1	MIS18BP1	Module 2	AKAP1
Module 1	RPS29	Module 2	DYNLL2
Module 1	RPL36AL	Module 2	YPEL2
Module 1	ARF6	Module 2	CLTC
Module 1	GNG2	Module 2	VMP1
Module 1	PTGER2	Module 2	DCAF7
Module 1	ERO1A	Module 2	CCDC47
Module 1	GCH1	Module 2	PECAM1
Module 1	MAPK1IP1L	Module 2	GNA13
Module 1	FBXO34	Module 2	FAM20A
Module 1	PCNX4	Module 2	ABCA8
Module 1	PRKCH	Module 2	ABCA5
Module 1	SYNE2	Module 2	CD300E
Module 1	ZBTB1	Module 2	CD300LF
Module 1	SRSF5	Module 2	SEC14L1
Module 1	RBM25	Module 2	SYNGR2
Module 1	PSEN1	Module 2	SOCS3
Module 1	BATF	Module 2	TIMP2
Module 1	IRF2BPL	Module 2	LGALS3BP
Module 1	SPTLC2	Module 2	GAA
Module 1	SNW1	Module 2	SLC38A10
Module 1	GPR65	Module 2	NPLOC4
Module 1	FOXN3	Module 2	GCGR
Module 1	CALM1	Module 2	MAFG
Module 1	CCDC88C	Module 2	SECTM1
Module 1	PPP4R3A	Module 2	WDR45B
Module 1	TC2N	Module 2	COLEC12
Module 1	RIN3	Module 2	EMILIN2
Module 1	DDX24	Module 2	EPB41L3
Module 1	IFI27L2	Module 2	PTPRM
Module 1	PAPOLA	Module 2	RAB31
Module 1	BCL11B	Module 2	TUBB6
Module 1	EVL	Module 2	AFG3L2
Module 1	YY1	Module 2	RIOK3
Module 1	PPP2R5C	Module 2	PSTPIP2
Module 1	HSP90AA1	Module 2	C18orf32

Module 1	RCOR1	Module 2	TCF4
Module 1	EIF5	Module 2	LMAN1
Module 1	GPR132	Module 2	RNF152
Module 1	CRIP1	Module 2	CNDP1
Module 1	SNRPN	Module 2	PARD6G-AS1
Module 1	NSMCE3	Module 2	CFD
Module 1	KLF13	Module 2	GADD45B
Module 1	RASGRP1	Module 2	THOP1
Module 1	SRP14	Module 2	GNA15
Module 1	RTF1	Module 2	MFSD12
Module 1	CCNDBP1	Module 2	CREB3L3
Module 1	B2M	Module 2	EBI3
Module 1	LYSMD2	Module 2	PLIN5
Module 1	RAB27A	Module 2	LRG1
Module 1	SLTM	Module 2	MYDGF
Module 1	BNIP2	Module 2	KHSRP
Module 1	RORA	Module 2	C3
Module 1	VPS13C	Module 2	AC008760.2
Module 1	RAB8B	Module 2	ADGRE1
Module 1	USP3	Module 2	MCOLN1
Module 1	PDCD7	Module 2	PNPLA6
Module 1	ANP32A	Module 2	STXBP2
Module 1	TLE3	Module 2	CD209
Module 1	PKM	Module 2	CD320
Module 1	ADPGK	Module 2	KANK3
Module 1	PML	Module 2	ANGPTL4
Module 1	CSK	Module 2	PRAM1
Module 1	SCAMP2	Module 2	ICAM1
Module 1	UBE2Q2	Module 2	C19orf38
Module 1	PSTPIP1	Module 2	LDLR
Module 1	MORF4L1	Module 2	PRKCSH
Module 1	AC015871.7	Module 2	ACP5
Module 1	BCL2A1	Module 2	MAN2B1
Module 1	IL16	Module 2	CALR
Module 1	AKAP13	Module 2	LYL1
Module 1	ISG20	Module 2	TRMT1
Module 1	CIB1	Module 2	PRKACA
Module 1	IQGAP1	Module 2	ADGRE2
Module 1	LINC01578	Module 2	CYP4F3
Module 1	CHD2	Module 2	CYP4F2
Module 1	HBA2	Module 2	BST2
Module 1	HBA1	Module 2	COLGALT1
Module 1	UBE2I	Module 2	LRRC25
Module 1	SPSB3	Module 2	HOMER3
Module 1	SNHG9	Module 2	KIAA0355
Module 1	RNPS1	Module 2	GRAMD1A
Module 1	ATP6V0C	Module 2	USF2
Module 1	SRRM2	Module 2	HAMP
Module 1	UBN1	Module 2	FFAR2
Module 1	SOCS1	Module 2	TYROBP
Module 1	LITAF	Module 2	FCGBP
Module 1	GSPT1	Module 2	PLD3
Module 1	ARL6IP1	Module 2	CYP2A6
Module 1	PRKCB	Module 2	CYP2B6
Module 1	RBBP6	Module 2	AXL
Module 1	IL4R	Module 2	POU2F2
Module 1	GTF3C1	Module 2	PLAUR
Module 1	APOBR	Module 2	FOSB
Module 1	LAT	Module 2	PPM1N
Module 1	SPN	Module 2	CALM3
Module 1	MAZ	Module 2	AP2S1
Module 1	MVP	Module 2	C5AR1
Module 1	YPEL3	Module 2	FCGRT
Module 1	CORO1A	Module 2	RCN3

Module 1	SEPTIN1	Module 2	RRAS
Module 1	ITGAL	Module 2	AP2A1
Module 1	FUS	Module 2	ATF5
Module 1	ZNF267	Module 2	CD33
Module 1	N4BP1	Module 2	SIGLEC10
Module 1	TENT4B	Module 2	FPR2
Module 1	CYLD	Module 2	FPR3
Module 1	CHD9	Module 2	OSCAR
Module 1	RBL2	Module 2	LILRB3
Module 1	HERPUD1	Module 2	LILRB5
Module 1	NLRC5	Module 2	LILRB2
Module 1	ADGRG1	Module 2	LILRA5
Module 1	CNOT1	Module 2	LAIR1
Module 1	CKLF	Module 2	LENG8
Module 1	CMTM2	Module 2	LILRA2
Module 1	CMTM3	Module 2	LILRA1
Module 1	PSMB10	Module 2	LILRB1
Module 1	SNTB2	Module 2	LILRB4
Module 1	IST1	Module 2	SIRPA
Module 1	TERF2IP	Module 2	C20orf194
Module 1	CMC2	Module 2	SIGLEC1
Module 1	CMIP	Module 2	SLC23A2
Module 1	COTL1	Module 2	BMP2
Module 1	IRF8	Module 2	RRBP1
Module 1	MAP1LC3B	Module 2	THBD
Module 1	CYBA	Module 2	CD93
Module 1	RNF166	Module 2	CST3
Module 1	ANKRD11	Module 2	HM13
Module 1	TCF25	Module 2	ID1
Module 1	PITPNA	Module 2	HCK
Module 1	PRPF8	Module 2	NORAD
Module 1	HIC1	Module 2	SAMHD1
Module 1	PAFAH1B1	Module 2	RPN2
Module 1	ARRB2	Module 2	SRC
Module 1	PFN1	Module 2	TGM2
Module 1	CTDNEP1	Module 2	MAFB
Module 1	ACAP1	Module 2	SERINC3
Module 1	PLSCR3	Module 2	SLPI
Module 1	POLR2A	Module 2	SDC4
Module 1	TNFSF12	Module 2	DBNDD2
Module 1	EIF4A1	Module 2	CTSA
Module 1	TP53	Module 2	PLTP
Module 1	KDM6B	Module 2	CD40
Module 1	CHD3	Module 2	SULF2
Module 1	TRAPPC1	Module 2	ZNFX1
Module 1	PER1	Module 2	CEBPB
Module 1	VAMP2	Module 2	SMIM25
Module 1	NCOR1	Module 2	PFDN4
Module 1	MPRIP	Module 2	GNAS
Module 1	FLII	Module 2	CTSZ
Module 1	UNC119	Module 2	ZGPAT
Module 1	NUFIP2	Module 2	LIME1
Module 1	SSH2	Module 2	TPD52L2
Module 1	EVI2B	Module 2	NRIP1
Module 1	EVI2A	Module 2	APP
Module 1	ZNF207	Module 2	BACH1
Module 1	SLFN5	Module 2	IL10RB
Module 1	CCL5	Module 2	IFNAR1
Module 1	CCL4	Module 2	IFNGR2
Module 1	CCL4L2	Module 2	ITSN1
Module 1	SYNRG	Module 2	RCAN1
Module 1	MLLT6	Module 2	RUNX1
Module 1	CDK12	Module 2	ETS2
Module 1	STARD3	Module 2	ABCG1

Module 1	IKZF3	Module 2	AGPAT3
Module 1	ORMDL3	Module 2	PTTG1IP
Module 1	RARA	Module 2	COL18A1
Module 1	KRT10	Module 2	ADA2
Module 1	EIF1	Module 2	BID
Module 1	STAT3	Module 2	PPM1F
Module 1	IFI35	Module 2	GUCD1
Module 1	HEXIM1	Module 2	GRK3
Module 1	AC008105.3	Module 2	XBP1
Module 1	FMNL1	Module 2	AP1B1
Module 1	KANSL1	Module 2	TCN2
Module 1	KPNB1	Module 2	TUG1
Module 1	TBX21	Module 2	SMTN
Module 1	SKAP1	Module 2	YWHAH
Module 1	ABI3	Module 2	HMOX1
Module 1	SPOP	Module 2	APOL1
Module 1	LUC7L3	Module 2	NCF4
Module 1	MMD	Module 2	CYTH4
Module 1	AC004687.1	Module 2	TRIOBP
Module 1	LIMD2	Module 2	MAFF
Module 1	ICAM2	Module 2	CSNK1E
Module 1	ERN1	Module 2	PDGFB
Module 1	DDX5	Module 2	ATF4
Module 1	PITPNC1	Module 2	NAGA
Module 1	BPTF	Module 2	SMDT1
Module 1	KPNA2	Module 2	CYB5R3
Module 1	CD300A	Module 2	KIAA0930
Module 1	SLC9A3R1	Module 2	PPARA
Module 1	JPT1	Module 2	PLXNB2
Module 1	SLC25A19	Module 2	DENND6B
Module 1	GRB2	Module 2	TYMP
Module 1	TSEN54	Module 2	ARSA
Module 1	LLGL2	Module 2	CSF2RA
Module 1	H3F3B	Module 2	ARSD
Module 1	UBALD2	Module 2	AP1S2
Module 1	RHBDF2	Module 2	ACOT9
Module 1	JMJD6	Module 2	SAT1
Module 1	SRSF2	Module 2	GK
Module 1	SEPTIN9	Module 2	CYBB
Module 1	TMC6	Module 2	GPR34
Module 1	CYTH1	Module 2	UBA1
Module 1	USP36	Module 2	TIMP1
Module 1	EIF4A3	Module 2	CFP
Module 1	RNF213	Module 2	EBP
Module 1	ACTG1	Module 2	HSD17B10
Module 1	ARHGDIA	Module 2	VSIG4
Module 1	SLC16A3	Module 2	NONO
Module 1	CSNK1D	Module 2	SLC16A2
Module 1	CD7	Module 2	COX7B
Module 1	METRNL	Module 2	BTK
Module 1	SMCHD1	Module 2	GLA
Module 1	LPIN2	Module 2	TCEAL8
Module 1	MYL12A	Module 2	BEX3
Module 1	TGIF1	Module 2	SERPINA7
Module 1	ANKRD12	Module 2	XIAP
Module 1	CHMP1B	Module 2	RTL8C
Module 1	PTPN2	Module 2	FHL1
Module 1	ROCK1	Module 2	F9
Module 1	MAPRE2	Module 2	VMA21
Module 1	SMAD2	Module 2	BCAP31
Module 1	SMAD7	Module 2	ATP6AP1
Module 1	ME2	Module 2	MT-ND1
Module 1	MBD2	Module 2	MT-CO1
Module 1	MALT1	Module 2	MT-CO2

Module 1	PMAIP1
Module 1	MBP
Module 1	GZMM
Module 1	BSG
Module 1	PTBP1
Module 1	TMEM259
Module 1	CNN2
Module 1	MIDN
Module 1	CIRBP
Module 1	PWWP3A
Module 1	ABHD17A
Module 1	CSNK1G2
Module 1	MKNK2
Module 1	MOB3A
Module 1	OAZ1
Module 1	LSM7
Module 1	TLE5
Module 1	S1PR4
Module 1	MATK
Module 1	ZBTB7A
Module 1	TMIGD2
Module 1	TICAM1
Module 1	SAFB
Module 1	TNFSF9
Module 1	TNFSF14
Module 1	VAV1
Module 1	MCEMP1
Module 1	TRAPPC5
Module 1	RAB11B
Module 1	HNRNPM
Module 1	MYO1F
Module 1	UBL5
Module 1	SHFL
Module 1	DNMT1
Module 1	ICAM3
Module 1	CDC37
Module 1	PDE4A
Module 1	S1PR5
Module 1	CDKN2D
Module 1	SLC44A2
Module 1	ILF3-DT
Module 1	ILF3
Module 1	SMARCA4
Module 1	TRIR
Module 1	JUNB
Module 1	IER2
Module 1	AC020916.1
Module 1	IL27RA
Module 1	ADGRE5
Module 1	DDX39A
Module 1	PKN1
Module 1	DNAJB1
Module 1	BRD4
Module 1	RASAL3
Module 1	TPM4
Module 1	HSH2D
Module 1	KLF2
Module 1	MYO9B
Module 1	ARRDC2
Module 1	MAST3
Module 1	JUND
Module 1	SSBP4
Module 1	FKBP8
Module 1	REX1BD

Module 2	MT-ATP8
Module 2	MT-ATP6
Module 2	MT-CO3
Module 2	MT-ND3
Module 2	MT-ND4L
Module 2	MT-ND4
Module 2	MT-ND5
Module 2	MT-CYB
Module 2	CYP8B1
Module 2	PPP1R17
Module 2	FAM99A
Module 2	CYP1A2

Module 1	COPE
Module 1	CEBPG
Module 1	FXYD5
Module 1	IGFLR1
Module 1	NFKBID
Module 1	HCST
Module 1	TBCB
Module 1	CAPNS1
Module 1	KCNK6
Module 1	ACTN4
Module 1	HNRNPL
Module 1	SIRT2
Module 1	NFKBIB
Module 1	GMFG
Module 1	PAF1
Module 1	ZFP36
Module 1	SERTAD1
Module 1	SHKBP1
Module 1	EGLN2
Module 1	HNRNPUL1
Module 1	TGFB1
Module 1	RPS19
Module 1	ARHGEF1
Module 1	RABAC1
Module 1	ERF
Module 1	BCL3
Module 1	RELB
Module 1	ERCC1
Module 1	VASP
Module 1	NAPA
Module 1	NOP53
Module 1	SELENOW
Module 1	CARD8
Module 1	EMP3
Module 1	PPP1R15A
Module 1	BAX
Module 1	SNRNP70
Module 1	CD37
Module 1	PRMT1
Module 1	IL4I1
Module 1	NUP62
Module 1	NKG7
Module 1	FPR1
Module 1	PPP2R1A
Module 1	ZNF331
Module 1	MYADM
Module 1	RPS9
Module 1	LAIR2
Module 1	UBE2S
Module 1	UBE2M
Module 1	FAM110A
Module 1	SIRPB1
Module 1	SNRPB
Module 1	PRNP
Module 1	RASSF2
Module 1	GPCPD1
Module 1	PLCB1
Module 1	SNX5
Module 1	NXT1
Module 1	CST7
Module 1	APMAP
Module 1	PLAGL2
Module 1	COMMD7
Module 1	MAPRE1

Module 1	RALY
Module 1	EIF2S2
Module 1	DYNLRB1
Module 1	MMP24OS
Module 1	RBM39
Module 1	PHF20
Module 1	RAB5IF
Module 1	PPP1R16B
Module 1	TOP1
Module 1	ADA
Module 1	YWHAB
Module 1	STK4
Module 1	MMP9
Module 1	NCOA3
Module 1	PREX1
Module 1	DDX27
Module 1	ZFAS1
Module 1	B4GALT5
Module 1	RNF114
Module 1	PTPN1
Module 1	NFATC2
Module 1	RBM38
Module 1	ATP5F1E
Module 1	PSMA7
Module 1	OGFR
Module 1	PPDPF
Module 1	RGS19
Module 1	SAMSN1
Module 1	BTG3
Module 1	MIR155HG
Module 1	USP16
Module 1	SON
Module 1	MRPS6
Module 1	SLC5A3
Module 1	TTC3
Module 1	HMGN1
Module 1	MX2
Module 1	TRAPPC10
Module 1	ITGB2
Module 1	DIP2A
Module 1	S100B
Module 1	PRMT2
Module 1	MAPK1
Module 1	ADORA2A
Module 1	TPST2
Module 1	MTFP1
Module 1	SELENOM
Module 1	APOL6
Module 1	MYH9
Module 1	IL2RB
Module 1	RAC2
Module 1	LGALS2
Module 1	GGA1
Module 1	SH3BP1
Module 1	LGALS1
Module 1	DDX17
Module 1	JOSD1
Module 1	SUN2
Module 1	APOBEC3G
Module 1	RPL3
Module 1	SYNGR1
Module 1	TNRC6B
Module 1	RBX1
Module 1	EP300

Module 1	TOB2
Module 1	ARFGAP3
Module 1	TSPO
Module 1	PARVG
Module 1	NUP50
Module 1	PIM3
Module 1	SLC25A6
Module 1	AKAP17A
Module 1	CD99
Module 1	PRKX
Module 1	TMSB4X
Module 1	RAB9A
Module 1	OFD1
Module 1	SYAP1
Module 1	SH3KBP1
Module 1	SMS
Module 1	EIF2S3
Module 1	ATP6AP2
Module 1	DDX3X
Module 1	CHST7
Module 1	RBM3
Module 1	WAS
Module 1	PLP2
Module 1	TSPYL2
Module 1	SMC1A
Module 1	MAGED2
Module 1	NBDY
Module 1	MSN
Module 1	IGBP1
Module 1	IL2RG
Module 1	PBDC1
Module 1	ATRX
Module 1	PGK1
Module 1	ITM2A
Module 1	SH3BGRL
Module 1	ARMCX3
Module 1	TSC22D3
Module 1	SEPTIN6
Module 1	THOC2
Module 1	STAG2
Module 1	SH2D1A
Module 1	SASH3
Module 1	IDS
Module 1	ARHGAP4
Module 1	MECP2
Module 1	TKTL1
Module 1	FLNA
Module 1	EMD
Module 1	G6PD
Module 1	DDX3Y
Module 1	MT-ND6

Supplementary Table 6.Differential expression genes and enrichment pathways of macrophages subpopulations of HCC 4 and CIR 4. (related to Figure 5)

a.M0_Mac

Gene symbol	avg_log2FC	p_val_adj	Upregulated group	Description	pvalue	geneID	Count
MT-ND1	0.638075911	5.53E-58	M0_Mac	Cocaine addiction	0.00514048	FOSB/GNAS	2
MT-ND2	0.63598162	1.02E-55	M0_Mac	Transcriptional misregulation in cancer	0.00819269	FUS/MAF/NR4A3	3
IL32	0.636932785	3.31E-51	M0_Mac	Amphetamine addiction	0.00998948	FOSB/GNAS	2
MALAT1	0.729412102	3.45E-40	M0_Mac	Thyroid hormone synthesis	0.01172375	ALB/GNAS	2
MT-ATP6	0.488543863	3.06E-38	M0_Mac	Dilated cardiomyopathy	0.01874316	GNAS/LMNA	2
MT-ND3	0.455221932	2.98E-33	M0_Mac	Circadian entrainment	0.01911277	GNAS/PER1	2
MT-CO3	0.435547047	5.80E-32	M0_Mac	Aldosterone synthesis and secretion	0.01948548	GNAS/NR4A2	2
MT-ND4	0.453489109	8.32E-30	M0_Mac	Chagas disease	0.02100709	GNAS/CCL5	2
MT-CO1	0.426585506	4.58E-28	M0_Mac	Parathyroid hormone synthesis, secretion and action	0.02257727	GNAS/NR4A2	2
MT-CYB	0.420153848	1.15E-27	M0_Mac	Apoptosis	0.03581479	LMNA/MCL1	2
ZFP36L2	0.493480876	5.21E-24	M0_Mac	Adrenergic signaling in cardiomyocytes	0.04281097	CREM/GNAS	2
ALB	0.333567985	1.14E-21	M0_Mac				
ARL4C	0.51854184	3.47E-21	M0_Mac				
CCL5	0.466720732	6.13E-21	M0_Mac				
NKG7	0.602495437	1.67E-20	M0_Mac				
NR4A2	0.398062301	3.87E-18	M0_Mac				
FOSB	0.402329213	2.37E-17	M0_Mac				
MT-ND5	0.411850779	2.30E-15	M0_Mac				
MAF	0.375317425	1.71E-13	M0_Mac				
FUS	0.422590595	1.02E-12	M0_Mac				
SON	0.341508686	1.75E-10	M0_Mac				
CREM	0.385405267	2.88E-10	M0_Mac				
ZNF331	0.472376083	7.20E-10	M0_Mac				
SLC40A1	0.299057643	2.02E-09	M0_Mac				
CST7	0.47868897	2.53E-09	M0_Mac				
NRP2	0.38777613	3.62E-07	M0_Mac				
STAB1	0.389679833	6.27E-07	M0_Mac				
GNAS	0.273412678	9.51E-07	M0_Mac				
USP36	0.40446055	1.56E-06	M0_Mac				
KDM6B	0.376709702	7.05E-06	M0_Mac				
MCL1	0.264867791	1.18E-05	M0_Mac				
NEAT1	0.284498215	0.00011718	M0_Mac				
NR4A3	0.310527915	0.00021932	M0_Mac				
NFKBID	0.365816294	0.00033955	M0_Mac				
LMNA	0.359042593	0.00106206	M0_Mac				
VPS37B	0.349096906	0.00118094	M0_Mac				
PER1	0.253347772	0.00247559	M0_Mac				
ZFHX3	0.306837216	0.00314689	M0_Mac				
PRRC2C	0.328719953	0.00796343	M0_Mac				

b. M1_TAM_RNASE1

Gene symbol	avg_log2FC	p_val_adj	Upregulated group	Description	pvalue	geneID	Count
RNASE1	2.21439156	1.68E-198	M1_TAM_RNASE1	Chagas disease	2.88E-06	C1QA/C1QB/FOS/GNAS/JUN	5
C1QA	0.653010234	1.27E-50	M1_TAM_RNASE1	Amphetamine addiction	1.69E-05	FOS/FOSB/GNAS/JUN	4
GYPC	0.752243553	6.89E-42	M1_TAM_RNASE1	Pertussis	2.48E-05	C1QA/C1QB/FOS/JUN	4
SELENOP	0.641021209	1.20E-37	M1_TAM_RNASE1	Endocrine resistance	6.75E-05	FOS/GNAS/IGF1/JUN	4
DAB2	0.676941385	1.37E-33	M1_TAM_RNASE1	Coronavirus disease - COVID-19	0.00015337	C1QA/C1QB/F13A1/FOS/JUN	5
C1QB	0.460244493	2.40E-29	M1_TAM_RNASE1	Cocaine addiction	0.00018745	FOSB/GNAS/JUN	3
SLC40A1	0.60628339	4.18E-26	M1_TAM_RNASE1	Complement and coagulation cascades	0.00095277	C1QA/C1QB/F13A1	3
STAB1	0.612662214	1.58E-25	M1_TAM_RNASE1	Th1 and Th2 cell differentiation	0.0011989	FOS/JUN/MAF	3
MT-ND2	0.462486434	8.46E-23	M1_TAM_RNASE1	IL-17 signaling pathway	0.00127592	FOS/FOSB/JUN	3
MT-ND1	0.428304375	1.46E-21	M1_TAM_RNASE1	Growth hormone synthesis, secretion and action	0.0025117	FOS/GNAS/IGF1	3
FCGRT	0.374568403	8.11E-18	M1_TAM_RNASE1	Osteoclast differentiation	0.00308996	FOS/FOSB/JUN	3
FOSB	0.479858015	3.45E-17	M1_TAM_RNASE1	Relaxin signaling pathway	0.00315885	FOS/GNAS/JUN	3
MAF	0.506574662	6.72E-17	M1_TAM_RNASE1	Estrogen signaling pathway	0.0038219	FOS/GNAS/JUN	3
TPT1	0.284798124	2.57E-14	M1_TAM_RNASE1	Measles	0.00390043	FOS/JUN/CD209	3
F13A1	0.426063166	1.82E-13	M1_TAM_RNASE1	Breast cancer	0.00456452	FOS/IGF1/JUN	3
MS4A6A	0.372022248	3.22E-12	M1_TAM_RNASE1	Oxytocin signaling pathway	0.00519893	FOS/GNAS/JUN	3
FOS	0.366399409	7.17E-12	M1_TAM_RNASE1	Cholesterol metabolism	0.00595336	PLTP/NPC2	2
GNAS	0.332586331	7.51E-12	M1_TAM_RNASE1	Ovarian steroidogenesis	0.00618773	GNAS/IGF1	2
LGMN	0.361267614	6.00E-11	M1_TAM_RNASE1	Long-term depression	0.00848309	GNAS/IGF1	2

ZFP36L1	0.368521472	6.32E-10	M1_TAM_RNASE1	Inflammatory bowel disease	0.00989973	JUN/MAF	2
ITM2B	0.362507025	6.69E-10	M1_TAM_RNASE1	Chemical carcinogenesis - receptor activation	0.01251518	FOS/GNAS/JUN	3
FOLR2	0.405844093	4.90E-09	M1_TAM_RNASE1	Leishmaniasis	0.0136959	FOS/JUN	2
LYVE1	0.320486864	3.04E-08	M1_TAM_RNASE1	cAMP signaling pathway	0.01399844	FOS/GNAS/JUN	3
NPC2	0.280505247	6.19E-08	M1_TAM_RNASE1	B cell receptor signaling pathway	0.01543722	FOS/JUN	2
IGF1	0.305766035	3.97E-07	M1_TAM_RNASE1	Colorectal cancer	0.01689568	FOS/JUN	2
EGFL7	0.326091491	8.60E-07	M1_TAM_RNASE1	PD-L1 expression and PD-1 checkpoint pathway in cancer	0.01802697	FOS/JUN	2
GPR34	0.360901875	1.93E-06	M1_TAM_RNASE1	GnRH signaling pathway	0.01958441	GNAS/JUN	2
IGFBP4	0.310938486	3.75E-06	M1_TAM_RNASE1	Rheumatoid arthritis	0.01958441	FOS/JUN	2
PLTP	0.425075593	4.86E-06	M1_TAM_RNASE1	Staphylococcus aureus infection	0.02078871	C1QA/C1QB	2
JUN	0.329838888	5.87E-05	M1_TAM_RNASE1	Dilated cardiomyopathy	0.02078871	GNAS/IGF1	2
SIGLEC1	0.295534982	8.44E-05	M1_TAM_RNASE1	Circadian entrainment	0.02119695	FOS/GNAS	2
CD209	0.31418113	0.00053519	M1_TAM_RNASE1	Inflammatory mediator regulation of TRP channels	0.02160857	GNAS/IGF1	2
				Choline metabolism in cancer	0.02160857	FOS/JUN	2
				Toll-like receptor signaling pathway	0.02414831	FOS/JUN	2
				C-type lectin receptor signaling pathway	0.02414831	JUN/CD209	2
				T cell receptor signaling pathway	0.02414831	FOS/JUN	2
				Parathyroid hormone synthesis, secretion and action	0.02502119	FOS/GNAS	2
				Th17 cell differentiation	0.02590699	FOS/JUN	2
				TNF signaling pathway	0.02771689	FOS/JUN	2
				MAPK signaling pathway	0.02968753	FOS/IGF1/JUN	3
				Lysosome	0.03750014	LGMN/NPC2	2
				Dopaminergic synapse	0.03750014	FOS/GNAS	2
				Apoptosis	0.03959679	FOS/JUN	2
				Systemic lupus erythematosus	0.03959679	C1QA/C1QB	2

c.M1_TAM_LGALS3

ıent pathways of macrophages subpopulations of HCC 4 and CIR 4. (related to Figure 5)

Gene symbol	avg_log2FC	p_val_adj	Upregulated group	Description	pvalue	geneID	Count
FTL	0.902893061	4.80E-34	M1_TAM_LGALS3	Ribosome	1.63E-07	RPL7A/RPL8/RPL10/RPL11/RPL19/RPL36AL/RPLP1/RPS3A/RPS7/RPL14	10
GAPDH	0.794049268	3.50E-21	M1_TAM_LGALS3	Salmonella infection	1.67E-07	ACTB/ACTG1/ANXA2/RHOA/GAPDH/S100A10/SKP1/TXN/ARPC3/ARPC1B/TUBA1B/MYL12B	12
FTH1	0.576605958	2.46E-15	M1_TAM_LGALS3	Parkinson disease	2.65E-06	ATP5MC3/ATP5PF/COX5B/COX7A2/PSMA7/SOD1/TXN/COX5A/TUBA1B/PARK7/NDUFA13	11
CSTB	0.873872968	9.49E-14	M1_TAM_LGALS3	Coronavirus disease - COVID-19	5.53E-06	RPL7A/RPL8/RPL10/RPL11/RPL19/RPL36AL/RPLP1/RPS3A/RPS7/RPL14	10
VIM	0.719132504	2.21E-13	M1_TAM_LGALS3	Tight junction	2.70E-05	ACTB/ACTG1/RHOA/MYL6/ARPC3/ARPC1B/TUBA1B/MYL12B	8
S100A11	0.744533985	2.17E-12	M1_TAM_LGALS3	Cholesterol metabolism	2.82E-05	APOA1/APOA2/APOC1/APOC2/APOC3	5
LGALS3	1.089557275	7.28E-12	M1_TAM_LGALS3	Thermogenesis	3.96E-05	ACTB/ACTG1/ATP5MC3/ATP5PF/COX5B/COX7A2/COX5A/ATP5MF/NDUFA13	9
RHOA	0.508947878	3.02E-10	M1_TAM_LGALS3	Oxidative phosphorylation	4.78E-05	ATP5MC3/ATP5PF/COX5B/COX7A2/COX5A/ATP5MF/NDUFA13	7
APOA1	0.404869198	1.00E-09	M1_TAM_LGALS3	Amyotrophic lateral sclerosis	5.12E-05	ACTB/ACTG1/ATP5MC3/ATP5PF/COX5B/COX7A2/PSMA7/SOD1/COX5A/TUBA1B/NDUFA13	11
SH3BGRL3	0.605992874	1.09E-09	M1_TAM_LGALS3	Prion disease	0.00013913	ATP5MC3/ATP5PF/COX5B/COX7A2/PSMA7/SOD1/COX5A/TUBA1B/NDUFA13	9
NME2	0.472591123	3.56E-09	M1_TAM_LGALS3	Chemical carcinogenesis - reactive oxygen species	0.00019034	ATP5MC3/ATP5PF/COX5B/COX7A2/MGST3/SOD1/COX5A/NDUFA13	8
ALB	0.707707553	6.18E-09	M1_TAM_LGALS3	PPAR signaling pathway	0.00020022	APOA1/APOA2/APOC3/DBI/FABP5	5
TXN	0.434183931	2.26E-08	M1_TAM_LGALS3	Bacterial invasion of epithelial cells	0.00022668	ACTB/ACTG1/RHOA/ARPC3/ARPC1B	5
ARPC3	0.464921798	2.33E-08	M1_TAM_LGALS3	Huntington disease	0.00032728	ATP5MC3/ATP5PF/COX5B/COX7A2/PSMA7/SOD1/COX5A/TUBA1B/NDUFA13	9
MYL6	0.420174038	6.41E-08	M1_TAM_LGALS3	Fluid shear stress and atherosclerosis	0.00048513	ACTB/ACTG1/RHOA/MGST3/SUMO2/TXN	6
FABP5	0.962681363	1.66E-07	M1_TAM_LGALS3	Pathogenic Escherichia coli infection	0.00052389	ACTB/ACTG1/RHOA/GAPDH/ARPC3/ARPC1B/TUBA1B	7
S100A10	0.481210624	2.03E-07	M1_TAM_LGALS3	Diabetic cardiomyopathy	0.00062684	ATP5MC3/ATP5PF/COX5B/COX7A2/GAPDH/COX5A/NDUFA13	7
LGALS1	0.757372374	2.12E-07	M1_TAM_LGALS3	Alzheimer disease	0.00166551	ATP5MC3/ATP5PF/COX5B/COX7A2/GAPDH/PSMA7/COX5A/TUBA1B/NDUFA13	9
RPL14	0.417631767	3.63E-07	M1_TAM_LGALS3	Shigellosis	0.00196802	ACTB/ACTG1/RHOA/SKP1/ARPC3/ARPC1B/MYL12B	7
APOC1	0.57073464	5.49E-07	M1_TAM_LGALS3	Pathways of neurodegeneration - multiple diseases	0.00205311	ATP5MC3/ATP5PF/COX5B/COX7A2/PSMA7/SOD1/COX5A/TUBA1B/PARK7/NDUFA13	10
APOC3	0.294105808	7.48E-07	M1_TAM_LGALS3	Yersinia infection	0.00307616	ACTB/ACTG1/RHOA/ARPC3/ARPC1B	5
CLIC1	0.514840767	9.62E-07	M1_TAM_LGALS3	Ferroptosis	0.0032007	FTH1/FTL/GPX4	3
HINT1	0.522169609	1.10E-06	M1_TAM_LGALS3	Regulation of actin cytoskeleton	0.00482975	ACTB/ACTG1/RHOA/ARPC3/ARPC1B/MYL12B	6
SERF2	0.309602331	1.15E-06	M1_TAM_LGALS3	Vibrio cholerae infection	0.00561916	ACTB/ACTG1/SEC61B	3
LDHA	0.34608263	1.54E-06	M1_TAM_LGALS3	Leukocyte transendothelial migration	0.00929593	ACTB/ACTG1/RHOA/MYL12B	4
PRDX1	0.541866984	2.41E-06	M1_TAM_LGALS3	Protein export	0.01192553	SRP14/SEC61B	2
PEBP1	0.413135731	2.49E-06	M1_TAM_LGALS3	Platelet activation	0.0123882	ACTB/ACTG1/RHOA/MYL12B	4
ATP5MF	0.479891092	3.24E-06	M1_TAM_LGALS3	Glycolysis / Gluconeogenesis	0.01258982	ENO1/GAPDH/LDHA	3
GUK1	0.372060723	3.29E-06	M1_TAM_LGALS3	Adherens junction	0.0147174	ACTB/ACTG1/RHOA	3
APOC2	0.327752407	3.49E-06	M1_TAM_LGALS3	Phagosome	0.02431102	ACTB/ACTG1/TUBA1B/SEC61B	4
ARPC1B	0.40123025	6.29E-06	M1_TAM_LGALS3	Cardiac muscle contraction	0.02516048	COX5B/COX7A2/COX5A	3

RPL7A	0.348506402	6.75E-06	M1_TAM_LGALS3	Oxytocin signaling pathway	0.02535828	ACTB/ACTG1/RHOA/MYL6	4
PARK7	0.372717582	1.60E-05	M1_TAM_LGALS3	Non-alcoholic fatty liver disease	0.02589203	COX5B/COX7A2/COX5A/NDUFA13	4
YBX1	0.384930744	1.61E-05	M1_TAM_LGALS3	HIF-1 signaling pathway	0.04458613	ENO1/GAPDH/LDHA	3
RPLP1	0.27227867	2.29E-05	M1_TAM_LGALS3				
SKP1	0.449046693	2.50E-05	M1_TAM_LGALS3				
TUBA1B	0.453900693	3.51E-05	M1_TAM_LGALS3				
ATP5PF	0.402006967	3.73E-05	M1_TAM_LGALS3				
CHCHD2	0.434868163	4.20E-05	M1_TAM_LGALS3				
MGST3	0.479847707	4.98E-05	M1_TAM_LGALS3				
APOA2	0.303518606	5.36E-05	M1_TAM_LGALS3				
PTGES3	0.408322713	5.92E-05	M1_TAM_LGALS3				
BLVRB	0.48334155	6.02E-05	M1_TAM_LGALS3				
DBI	0.498429721	7.44E-05	M1_TAM_LGALS3				
ACTG1	0.450963132	7.84E-05	M1_TAM_LGALS3				
SNHG29	0.397850557	8.79E-05	M1_TAM_LGALS3				
SUMO2	0.395420089	0.00011232	M1_TAM_LGALS3				
GPX4	0.409283295	0.00016455	M1_TAM_LGALS3				
MIF	0.371713556	0.00018452	M1_TAM_LGALS3				
SRP14	0.411887517	0.00023838	M1_TAM_LGALS3				
RPS7	0.318989317	0.00024929	M1_TAM_LGALS3				
RPL10	0.280690801	0.00035169	M1_TAM_LGALS3				
RAN	0.389995969	0.00037139	M1_TAM_LGALS3				
CAPG	0.636037462	0.00037989	M1_TAM_LGALS3				
COX7A2	0.407221227	0.00043319	M1_TAM_LGALS3				
RPL8	0.270571851	0.0004674	M1_TAM_LGALS3				
COX5B	0.432254561	0.00049353	M1_TAM_LGALS3				
ENO1	0.411514222	0.00057159	M1_TAM_LGALS3				
MYL12B	0.497598515	0.00070137	M1_TAM_LGALS3				
PSMA7	0.407218586	0.00073789	M1_TAM_LGALS3				
NOP10	0.47858627	0.00088809	M1_TAM_LGALS3				
ANXA2	0.448882273	0.00090491	M1_TAM_LGALS3				
ANXA1	0.318112471	0.0010263	M1_TAM_LGALS3				
ATP5MC3	0.344957429	0.00106182	M1_TAM_LGALS3				
SOD1	0.383808544	0.00111302	M1_TAM_LGALS3				
SLC25A3	0.377802441	0.00153935	M1_TAM_LGALS3				
SEC61B	0.369661731	0.00163088	M1_TAM_LGALS3				
RPS3A	0.308746297	0.00226982	M1_TAM_LGALS3				
RPL11	0.286303626	0.00227543	M1_TAM_LGALS3				
ACTB	0.429132567	0.00250597	M1_TAM_LGALS3				
NDUFA13	0.290278442	0.00406536	M1_TAM_LGALS3				
RPL19	0.28040366	0.00408749	M1_TAM_LGALS3				
RPL36AL	0.361721634	0.0066823	M1_TAM_LGALS3				
COX5A	0.405489872	0.00828404	M1_TAM_LGALS3				

d.M1_TAM_CCL2

Gene symbol	avg_log2FC	p_val_adj	Upregulated group	Description	pvalue	geneID	Count
CCL2	2.115122951	7.01E-139	M1_TAM_CCL2	Antigen processing and presentation	0.00013586	CTSB/HSPA1A/HSPA1B/LGMN	4
CCL8	0.837824581	1.37E-25	M1_TAM_CCL2	Lipid and atherosclerosis	0.00074527	FOS/HSPA1A/HSPA1B/CCL2/CCL3	5
STAB1	0.614515586	1.73E-15	M1_TAM_CCL2	Osteoclast differentiation	0.00090251	FCGR2A/FOS/FOSB/LILRB5	4
RNASE1	0.414864075	1.77E-15	M1_TAM_CCL2	Measles	0.0012274	FOS/HSPA1A/HSPA1B/CD209	4
FCGR2A	0.57012218	2.55E-13	M1_TAM_CCL2	Phagosome	0.00170825	FCGR2A/MRC1/MSR1/CD209	4
DAB2	0.510025707	5.52E-12	M1_TAM_CCL2	Rheumatoid arthritis	0.00388189	FOS/CCL2/CCL3	3
CCL3	0.36460469	1.88E-11	M1_TAM_CCL2	IL-17 signaling pathway	0.00400064	FOS/FOSB/CCL2	3
KLF6	0.664144387	3.90E-11	M1_TAM_CCL2	Viral protein interaction with cytokine and cytokine receptor	0.00475988	CCL2/CCL3/CCL8	3
PLAU	0.395806999	8.61E-11	M1_TAM_CCL2	Chagas disease	0.00503104	FOS/CCL2/CCL3	3
NRP1	0.367461817	8.19E-09	M1_TAM_CCL2	Coronavirus disease - COVID-19	0.00777719	FCGR2A/FOS/CCL2/NRP1	4
MT-ND2	0.366448382	1.15E-08	M1_TAM_CCL2	Endocytosis	0.0102069	DAB2/FOLR2/HSPA1A/HSPA1B	4
HSPA1B	0.571925666	1.69E-08	M1_TAM_CCL2	Yersinia infection	0.01133465	FCGR2A/FOS/CCL2	3
HSPA1A	0.533289288	2.96E-07	M1_TAM_CCL2	Estrogen signaling pathway	0.01155998	FOS/HSPA1A/HSPA1B	3
SGK1	0.489481517	4.46E-07	M1_TAM_CCL2	Malaria	0.01270398	GYPC/CCL2	2
LGMN	0.38251215	7.25E-07	M1_TAM_CCL2	Legionellosis	0.01630771	HSPA1A/HSPA1B	2
RCAN1	0.453795753	1.90E-06	M1_TAM_CCL2	Longevity regulating pathway - multiple species	0.01911851	HSPA1A/HSPA1B	2
GYPC	0.344376089	1.95E-06	M1_TAM_CCL2	Amphetamine addiction	0.02337016	FOS/FOSB	2
MT-ND1	0.317972463	2.82E-06	M1_TAM_CCL2	Tuberculosis	0.02341981	FCGR2A/MRC1/CD209	3

ZFP36L1	0.383363646	5.72E-06	M1_TAM_CCL2	Chemokine signaling pathway	0.0276831	CCL2/CCL3/CCL8	3
SLC40A1	0.365695765	7.51E-06	M1_TAM_CCL2	Transcriptional misregulation in cancer	0.0276831	RUNX1/MAF/PLAU	3
FSCN1	0.333022091	8.43E-06	M1_TAM_CCL2	Leishmaniasis	0.02865967	FCGR2A/FOS	2
MAF	0.379010914	1.22E-05	M1_TAM_CCL2	B cell receptor signaling pathway	0.03218741	FOS/LILRB5	2
FOS	0.512164597	4.76E-05	M1_TAM_CCL2	Th1 and Th2 cell differentiation	0.03972559	FOS/MAF	2
MRC1	0.333594162	7.35E-05	M1_TAM_CCL2	Fc gamma R-mediated phagocytosis	0.0437238	FCGR2A/GSN	2
LILRB5	0.293209187	9.81E-05	M1_TAM_CCL2	Toll-like receptor signaling pathway	0.04956332	FOS/CCL3	2
GSN	0.32830866	0.00018699	M1_TAM_CCL2				
SELENOP	0.266056765	0.00024416	M1_TAM_CCL2				
RUNX1	0.352897239	0.00038946	M1_TAM_CCL2				
FOLR2	0.331058706	0.00071373	M1_TAM_CCL2				
ITSN1	0.268387991	0.00103686	M1_TAM_CCL2				
FOSB	0.29275459	0.00121241	M1_TAM_CCL2				
HOMER3	0.257062463	0.00161717	M1_TAM_CCL2				
CTSB	0.320252305	0.00238742	M1_TAM_CCL2				
CD209	0.298500328	0.0034817	M1_TAM_CCL2				
MSR1	0.36526432	0.00352663	M1_TAM_CCL2				

e.M1_TAM_CXCL1

Gene symbol	avg_log2FC	p_val_adj	Upregulated group	Description	pvalue	geneID	Count
CCL4L2	2.056675159	0	M1_TAM_CXCL1	NF-kappa B signaling pathway	8.18E-17	CD14/CXCL1/CXCL2/CXCL3/ICAM1/IL1B/CXCL8/GADD45B/NFKB1/NFKBIA/PLAU/PTGS2/CCL4/TNF/TNFAIP3/CCL4L2	16
CCL4	1.784516428	9.89E-249	M1_TAM_CXCL1	Lipid and atherosclerosis	2.87E-15	CD14/FOS/CXCL1/CXCL2/CXCL3/HSPA1A/HSPA1B/ICAM1/IL1B/CXCL8/JUN/NFE2L2/NFKB1/NFKBIA/MAP2K3/CCL2/CCL3/CCL3L1/TNF	19
CCL3	1.636508531	2.41E-201	M1_TAM_CXCL1	TNF signaling pathway	7.22E-15	FOS/CXCL1/CXCL2/CXCL3/ICAM1/IL1B/JUN/JUNB/NFKB1/NFKBIA/MAP2K3/PTGS2/C	15
CCL3L1	1.724765644	4.13E-178	M1_TAM_CXCL1	IL-17 signaling pathway	1.37E-14	FOS/FOSB/CXCL1/CXCL2/CXCL3/IL1B/CXCL8/JUN/NFKB1/NFKBIA/PTGS2/CCL2/TNF/	14
CCL2	1.367488216	1.45E-106	M1_TAM_CXCL1	Legionellosis	5.96E-13	CD14/CXCL1/CXCL2/CXCL3/HSPA1A/HSPA1B/IL1B/CXCL8/NFKB1/NFKBIA/TNF	11
IER3	0.811436382	2.54E-75	M1_TAM_CXCL1	Chagas disease	1.06E-12	C1QA/C1QB/C1QC/FOS/IL1B/CXCL8/JUN/NFKB1/NFKBIA/CCL2/CCL3/CCL3L1/TNF	13
CXCL1	1.096817688	1.86E-64	M1_TAM_CXCL1	Toll-like receptor signaling pathway	1.37E-12	CD14/FOS/IL1B/CXCL8/JUN/NFKB1/NFKBIA/MAP2K3/CCL3/CCL3L1/CCL4/TNF/CCL4L2	13
NR4A2	0.663189611	7.49E-64	M1_TAM_CXCL1	Rheumatoid arthritis	7.38E-12	FOS/CXCL1/CXCL2/CXCL3/ICAM1/IL1B/CXCL8/JUN/CCL2/CCL3/CCL3L1/TNF	12
RNASE1	0.563635915	2.94E-63	M1_TAM_CXCL1	Alcoholic liver disease	7.69E-11	C1QA/C1QB/C1QC/CD14/CXCL1/CXCL2/CXCL3/IL1B/CXCL8/NFKB1/NFKBIA/MAP2K3/TNF	13
FOSB	0.662250367	1.83E-58	M1_TAM_CXCL1	Viral protein interaction with cytokine and cytokine receptor	3.49E-10	CXCL1/CXCL2/CXCL3/CXCL8/CCL2/CCL3/CCL3L1/CCL4/CCL8/TNF/CCL4L2	11
CD83	0.548019977	1.88E-56	M1_TAM_CXCL1	Pertussis	3.92E-10	C1QA/C1QB/C1QC/CD14/FOS/IL1B/CXCL8/JUN/NFKB1/TNF	10
SELENOP	0.596507348	7.33E-56	M1_TAM_CXCL1	Chemokine signaling pathway	3.52E-08	CXCL1/CXCL2/CXCL3/CXCL8/NFKB1/NFKBIA/CCL2/CCL3/CCL3L1/CCL4/CCL8/CCL4L2	12
GADD45B	0.547456207	2.33E-48	M1_TAM_CXCL1	Transcriptional misregulation in cancer	3.52E-08	RUNX1/CD14/ID2/IGF1/CXCL8/MAF/MEF2C/GADD45B/NFKB1/PLAU/NR4A3/NFKBIZ	12
KLF6	0.695667459	8.35E-48	M1_TAM_CXCL1	Kaposi sarcoma-associated herpesvirus infection	3.96E-08	RCAN1/FOS/CXCL1/CXCL2/CXCL3/ICAM1/CXCL8/JUN/NFKB1/NFKBIA/PTGS2/ZFP36	12
PLAU	0.558795582	1.48E-45	M1_TAM_CXCL1	Osteoclast differentiation	6.70E-08	FCGR2A/FOS/FOSB/IL1B/JUN/JUNB/NFKB1/NFKBIA/TNF/LILRB5	10
CXCL8	1.068722967	4.97E-45	M1_TAM_CXCL1	Yersinia infection	1.28E-07	FCGR2A/FOS/IL1B/CXCL8/JUN/NFKB1/NFKBIA/MAP2K3/CCL2/TNF	10
GEM	0.583623258	2.14E-43	M1_TAM_CXCL1	Fluid shear stress and atherosclerosis	1.47E-07	FOS/ICAM1/IL1B/JUN/MEF2C/NFE2L2/NFKB1/CCL2/TNF/KLF2	10
C1QA	0.373328471	3.57E-41	M1_TAM_CXCL1	Leishmaniasis	1.68E-07	FCGR2A/FOS/IL1B/JUN/NFKB1/NFKBIA/PTGS2/TNF	8
GYPC	0.455144399	1.20E-38	M1_TAM_CXCL1	NOD-like receptor signaling pathway	2.20E-07	CXCL1/CXCL2/CXCL3/IL1B/CXCL8/JUN/NFKB1/NFKBIA/CCL2/TNF/TNFAIP3	11
ZFP36L1	0.542753921	2.37E-38	M1_TAM_CXCL1	Coronavirus disease - COVID-19	2.83E-07	C1QA/C1QB/C1QC/FCGR2A/FOS/IL1B/CXCL8/JUN/NFKB1/NFKBIA/CCL2/TNF	12
CCL8	0.719230466	3.03E-37	M1_TAM_CXCL1	MAPK signaling pathway	5.19E-07	CD14/FOS/NR4A1/HSPA1A/HSPA1B/IGF1/IL1B/JUN/MEF2C/GADD45B/NFKB1/MAP2K3/TNF	13
C1QB	0.319953887	2.07E-36	M1_TAM_CXCL1	AGE-RAGE signaling pathway in diabetic complications	1.28E-06	EGR1/ICAM1/IL1B/CXCL8/JUN/NFKB1/CCL2/TNF	8
EGR2	0.424205253	6.15E-36	M1_TAM_CXCL1	Epithelial cell signaling in Helicobacter pylori infection	1.36E-06	CXCL1/CXCL2/CXCL3/CXCL8/JUN/NFKB1/NFKBIA	7
TNFAIP3	0.718355112	5.64E-35	M1_TAM_CXCL1	Amoebiasis	1.49E-06	CD14/CXCL1/CXCL2/CXCL3/IL1B/CXCL8/NFKB1/TNF	8
PPP1R15A	0.48893024	7.97E-35	M1_TAM_CXCL1	Human cytomegalovirus infection	1.64E-06	IL1B/CXCL8/NFKB1/NFKBIA/PTGS2/CCL2/CCL3/CCL3L1/CCL4/TNF/CCL4L2	11
DAB2	0.469951091	1.68E-34	M1_TAM_CXCL1	Malaria	2.76E-06	GYPC/ICAM1/IL1B/CXCL8/CCL2/TNF	6
PRDM1	0.484240273	3.89E-33	M1_TAM_CXCL1	Cytokine-cytokine receptor interaction	3.62E-06	CXCL1/CXCL2/CXCL3/IL1B/CXCL8/CCL2/CCL3/CCL3L1/CCL4/CCL8/TNF/CCL4L2	12
EGR1	0.562889964	6.18E-33	M1_TAM_CXCL1	Apoptosis	1.29E-05	FOS/JUN/LMNA/GADD45B/NFKB1/NFKBIA/PMAIP1/TNF	8
ATF3	0.557986798	1.48E-31	M1_TAM_CXCL1	Measles	1.51E-05	FOS/HSPA1A/HSPA1B/IL1B/JUN/NFKB1/NFKBIA/TNFAIP3	8
TNF	0.467894956	1.95E-30	M1_TAM_CXCL1	C-type lectin receptor signaling pathway	1.94E-05	EGR2/IL1B/JUN/NFKB1/NFKBIA/PTGS2/TNF	7
MS4A6A	0.404002284	1.75E-29	M1_TAM_CXCL1	Epstein-Barr virus infection	3.33E-05	HES1/ICAM1/JUN/GADD45B/NFKB1/NFKBIA/MAP2K3/TNF/TNFAIP3	9
ABL2	0.502799849	3.53E-29	M1_TAM_CXCL1	Hepatitis B	4.57E-05	EGR2/FOS/CXCL8/JUN/NFKB1/NFKBIA/MAP2K3/TNF	8
CYB5D1	0.346630841	1.02E-28	M1_TAM_CXCL1	Influenza A	6.70E-05	DNAJB1/ICAM1/IL1B/CXCL8/NFKB1/NFKBIA/CCL2/TNF	8

NFKBIA	0.41098246	1.22E-28	M1_TAM_CXCL1
SGK1	0.472858861	3.57E-28	M1_TAM_CXCL1
CXCL2	0.562080675	6.42E-28	M1_TAM_CXCL1
C1QC	0.307112741	3.12E-27	M1_TAM_CXCL1
LGMN	0.336445777	2.68E-26	M1_TAM_CXCL1
MAF	0.390010093	2.94E-26	M1_TAM_CXCL1
RCAN1	0.566871536	4.65E-26	M1_TAM_CXCL1
CD74	0.30536279	8.11E-26	M1_TAM_CXCL1
NR4A1	0.434406854	8.73E-26	M1_TAM_CXCL1
AL355881.1	0.277519691	1.34E-25	M1_TAM_CXCL1
CD14	0.414431029	3.39E-24	M1_TAM_CXCL1
LILRB5	0.316074081	5.18E-24	M1_TAM_CXCL1
ZFP36	0.4007714	6.04E-24	M1_TAM_CXCL1
FOS	0.679425863	1.22E-23	M1_TAM_CXCL1
SPRED1	0.291023055	1.66E-23	M1_TAM_CXCL1
NR4A3	0.519740985	3.61E-23	M1_TAM_CXCL1
TPT1	0.265519638	3.65E-23	M1_TAM_CXCL1
IGF1	0.283413306	1.10E-22	M1_TAM_CXCL1
GPR34	0.349104107	1.91E-22	M1_TAM_CXCL1
SLC40A1	0.298065536	1.93E-22	M1_TAM_CXCL1
IGSF21	0.251270234	2.59E-21	M1_TAM_CXCL1
FCGR2A	0.349715211	3.28E-21	M1_TAM_CXCL1
IL1B	0.349366572	3.36E-21	M1_TAM_CXCL1
STAB1	0.296215153	4.12E-21	M1_TAM_CXCL1
NFKBIZ	0.37353415	1.43E-20	M1_TAM_CXCL1
CXCL3	0.413627985	4.60E-19	M1_TAM_CXCL1
MRC1	0.310774033	5.86E-19	M1_TAM_CXCL1
NRP2	0.331111591	8.87E-19	M1_TAM_CXCL1
BHLHE40	0.326427271	9.62E-19	M1_TAM_CXCL1
MAFF	0.324010426	3.57E-18	M1_TAM_CXCL1
SLCO2B1	0.281224241	3.62E-18	M1_TAM_CXCL1
KDM6B	0.399292387	9.97E-18	M1_TAM_CXCL1
FRMD4B	0.292626343	1.35E-17	M1_TAM_CXCL1
NFKBID	0.286656564	2.64E-17	M1_TAM_CXCL1
ITM2B	0.296762063	2.65E-17	M1_TAM_CXCL1
WWP1	0.26201982	1.30E-16	M1_TAM_CXCL1
LYVE1	0.279910623	1.35E-16	M1_TAM_CXCL1
PNRC1	0.271465386	3.67E-16	M1_TAM_CXCL1
KLF10	0.277627752	3.86E-16	M1_TAM_CXCL1
RUNX1	0.306634393	4.86E-16	M1_TAM_CXCL1
ICAM1	0.34994722	5.66E-16	M1_TAM_CXCL1
FOLR2	0.267637939	7.29E-16	M1_TAM_CXCL1
AC020916.1	0.343446646	1.32E-15	M1_TAM_CXCL1
MALAT1	0.293647443	2.89E-15	M1_TAM_CXCL1
HSPA1A	0.388801507	7.04E-15	M1_TAM_CXCL1
CSRNP1	0.293866537	9.38E-15	M1_TAM_CXCL1
ARL5B	0.329057655	2.99E-14	M1_TAM_CXCL1
JUN	0.524107626	7.53E-14	M1_TAM_CXCL1
MIR155HG	0.301588559	1.00E-13	M1_TAM_CXCL1
HSPA1B	0.492753883	1.54E-13	M1_TAM_CXCL1
JUNB	0.297608839	3.88E-13	M1_TAM_CXCL1
MS4A4A	0.280189595	9.98E-13	M1_TAM_CXCL1
OTUD1	0.330357289	1.19E-12	M1_TAM_CXCL1
RALGDS	0.294644324	2.11E-12	M1_TAM_CXCL1
RGS10	0.280297511	3.36E-12	M1_TAM_CXCL1
PMAIP1	0.325694885	8.15E-12	M1_TAM_CXCL1
PHACTR1	0.317716223	9.64E-12	M1_TAM_CXCL1
ID2	0.312388311	1.15E-11	M1_TAM_CXCL1
PTGS2	0.294076304	1.16E-11	M1_TAM_CXCL1
IER2	0.342285808	1.27E-11	M1_TAM_CXCL1
DNAJB1	0.423273745	1.31E-11	M1_TAM_CXCL1
RASGEF1B	0.281336314	2.88E-11	M1_TAM_CXCL1
CCNL1	0.28443493	4.92E-11	M1_TAM_CXCL1
MEF2C	0.259178668	2.84E-10	M1_TAM_CXCL1

Human T-cell leukemia virus 1 infection	6.97E-05	EGR1/EGR2/FOS/ICAM1/JUN/NFKB1/NFKBIA/TNF/ZFP36	9
Antifolate resistance	9.34E-05	FOLR2/IL1B/NFKB1/TNF	4
Cytosolic DNA-sensing pathway	0.00014922	IL1B/NFKB1/NFKBIA/CCL4/CCL4L2	5
Salmonella infection	0.0001678	CD14/FOS/IL1B/CXCL8/JUN/NFKB1/NFKBIA/MAP2K3/TNF	9
Inflammatory bowel disease	0.00017317	IL1B/JUN/MAF/NFKB1/TNF	5
Pathogenic Escherichia coli infection	0.00018008	FCGR2A/FOS/IL1B/CXCL8/JUN/NFKB1/NFKBIA/TNF	8
Th17 cell differentiation	0.00023004	RUNX1/FOS/IL1B/JUN/NFKB1/NFKBIA	6
Toxoplasmosis	0.00028041	HSPA1A/HSPA1B/NFKB1/NFKBIA/MAP2K3/TNF	6
Antigen processing and presentation	0.00040804	CD74/HSPA1A/HSPA1B/LGMN/TNF	5
B cell receptor signaling pathway	0.00051436	FOS/JUN/NFKB1/NFKBIA/LILRB5	5
Tuberculosis	0.00060802	CD14/CD74/FCGR2A/IL1B/MRC1/NFKB1/TNF	7
Colorectal cancer	0.00064032	FOS/JUN/GADD45B/PMAIP1/RALGDS	5
PD-L1 expression and PD-1 checkpoint pathway in cancer	0.000749	FOS/JUN/NFKB1/NFKBIA/MAP2K3	5
Th1 and Th2 cell differentiation	0.00087094	FOS/JUN/MAF/NFKB1/NFKBIA	5
Staphylococcus aureus infection	0.00105583	C1QA/C1QB/C1QC/FCGR2A/ICAM1	5
T cell receptor signaling pathway	0.00151123	FOS/JUN/NFKB1/NFKBIA/TNF	5
Non-alcoholic fatty liver disease	0.00155896	FOS/IL1B/CXCL8/JUN/NFKB1/TNF	6
Prion disease	0.00156739	C1QA/C1QB/C1QC/EGR1/HSPA1A/HSPA1B/IL1B/TNF	8
RIG-I-like receptor signaling pathway	0.00244888	CXCL8/NFKB1/NFKBIA/TNF	4
African trypanosomiasis	0.00327961	ICAM1/IL1B/TNF	3
Chronic myeloid leukemia	0.00330419	RUNX1/GADD45B/NFKB1/NFKBIA	4
Shigellosis	0.00375303	CD14/IL1B/CXCL8/JUN/NFKB1/NFKBIA/TNF	7
Systemic lupus erythematosus	0.00484698	C1QA/C1QB/C1QC/FCGR2A/TNF	5
Complement and coagulation cascades	0.00493808	C1QA/C1QB/C1QC/PLAU	4
Small cell lung cancer	0.00653205	GADD45B/NFKB1/NFKBIA/PTGS2	4
Breast cancer	0.00671671	FOS/HES1/IGF1/JUN/GADD45B	5
Cocaine addiction	0.00725607	FOSB/JUN/NFKB1	3
Human immunodeficiency virus 1 infection	0.00731379	FOS/JUN/NFKB1/NFKBIA/MAP2K3/TNF	6
Prostate cancer	0.00785904	IGF1/NFKB1/NFKBIA/PLAU	4
Oxytocin signaling pathway	0.00814137	RCAN1/FOS/JUN/MEF2C/PTGS2	5
Cellular senescence	0.00858428	ZFP36L1/CXCL8/GADD45B/NFKB1/MAP2K3	5
Chemical carcinogenesis - reactive oxygen species	0.00927726	ABL2/FOS/JUN/NFE2L2/NFKB1/NFKBIA	6
Parathyroid hormone synthesis, secretion and action	0.01067263	EGR1/FOS/MEF2C/NR4A2	4
Protein processing in endoplasmic reticulum	0.01245181	HSPA1A/HSPA1B/DNAJB1/NFE2L2/PPP1R15A	5
Longevity regulating pathway - multiple species	0.01382237	HSPA1A/HSPA1B/IGF1	3
Growth hormone synthesis, secretion and action	0.01577652	FOS/IGF1/JUNB/MAP2K3	4
Acute myeloid leukemia	0.0170136	RUNX1/CD14/NFKB1	3
Adipocytokine signaling pathway	0.01839606	NFKB1/NFKBIA/TNF	3
Amphetamine addiction	0.01839606	FOS/FOSB/JUN	3
Relaxin signaling pathway	0.02059908	FOS/JUN/NFKB1/NFKBIA	4
p53 signaling pathway	0.0213438	IGF1/GADD45B/PMAIP1	3
FoxO signaling pathway	0.02166118	IGF1/GADD45B/SGK1/KLF2	4
Pancreatic cancer	0.023715	GADD45B/NFKB1/RALGDS	3
Viral carcinogenesis	0.02478411	EGR2/JUN/NFKB1/NFKBIA/PMAIP1	5
Estrogen signaling pathway	0.02564113	FOS/HSPA1A/HSPA1B/JUN	4
Aldosterone-regulated sodium reabsorption	0.03616129	IGF1/SGK1	2
Hypertrophic cardiomyopathy	0.03659395	IGF1/LMNA/TNF	3
GnRH signaling pathway	0.03973836	EGR1/JUN/MAP2K3	3
Dilated cardiomyopathy	0.04301621	IGF1/LMNA/TNF	3
Endocrine resistance	0.04527491	FOS/IGF1/JUN	3
Inflammatory mediator regulation of TRP channels	0.04527491	IGF1/IL1B/MAP2K3	3
Choline metabolism in cancer	0.04527491	FOS/JUN/RALGDS	3
Graft-versus-host disease	0.04555845	IL1B/TNF	2
Hematopoietic cell lineage	0.04642612	CD14/IL1B/TNF	3
Type I diabetes mellitus	0.04753538	IL1B/TNF	2

HEXA	0.25832519	6.01E-10	M1_TAM_CXCL1
MAP2K3	0.300592207	7.27E-10	M1_TAM_CXCL1
LMNA	0.26933423	5.80E-08	M1_TAM_CXCL1
HES1	0.281266408	7.94E-08	M1_TAM_CXCL1
NFE2L2	0.261637307	7.20E-06	M1_TAM_CXCL1
KLF2	0.259623401	0.00124816	M1_TAM_CXCL1
NFKB1	0.312817824	0.00176193	M1_TAM_CXCL1

f.M1_TAM_LGALS3_MT1H_MT1G

Gene symbol	avg_log2FC	p_val_adj	Upregulated group	Description	pvalue	geneID	Count
MT1G	5.7364888	0	M1_TAM_LGALS3_MT1H_MT1G	Proteasome	1.38E-20	PSMA1/PSMA3/PSMA6/PSMA7/PSMB1/PSMB2/PSMB3/PSMB4/PSMB5/PSMB6/PSMC1/PSMD1/PSMD2/PSMD11/SEM1/ADRM1/POMP	17
MT1X	4.761527992	0	M1_TAM_LGALS3_MT1H_MT1G	Parkinson disease	2.43E-17	ATP5MC3/CALM3/COX6C/NDUFA4/NDUFB2/PSMA1/PSMA3/PSMA6/PSMA7/PSMB1/PSMB2/PSMB3/PSMB4/PSMB5/PSMB6/PSMC1/PSMD1/PSMD2/PSMD11/SOD1/TXN/SEM1/COX5A/TUBA1B/ADRM1/UQCRQ/UQCR10/TUBA1C	28
MT1H	4.688811774	0	M1_TAM_LGALS3_MT1H_MT1G	Prion disease	4.89E-16	ATP5MC3/COX6C/CSNK2B/NDUFA4/NDUFB2/PSMA1/PSMA3/PSMA6/PSMA7/PSMB1/PSMB2/PSMB3/PSMB4/PSMB5/PSMB6/PSMC1/PSMD1/PSMD2/PSMD11/SOD1/SEM1/COX5A/TUBA1B/ADRM1/UQCRQ/UQCR10/TUBA1C	27
MT2A	4.403011745	0	M1_TAM_LGALS3_MT1H_MT1G	Huntington disease	8.62E-15	ATP5MC3/AP2S1/COX6C/NDUFA4/NDUFB2/PSMA1/PSMA3/PSMA6/PSMA7/PSMB1/PSMB2/PSMB3/PSMB4/PSMB5/PSMB6/PSMC1/PSMD1/PSMD2/PSMD11/SOD1/SEM1/COX5A/TUBA1B/ADRM1/UQCRQ/UQCR10/TUBA1C	27
MT1M	3.54827794	0	M1_TAM_LGALS3_MT1H_MT1G	Amyotrophic lateral sclerosis	1.08E-14	ATP5MC3/COX6C/NDUFA4/NDUFB2/PSMA1/PSMA3/PSMA6/PSMA7/PSMB1/PSMB2/PSMB3/PSMB4/PSMB5/PSMB6/PSMC1/PSMD1/PSMD2/PSMD11/SOD1/VCP/SEM1/SQSTM1/COX5A/TUBA1B/ADRM1/UQCRQ/UQCR10/TUBA1C/CHCHD10	29
MT1E	3.284289521	0	M1_TAM_LGALS3_MT1H_MT1G	Alzheimer disease	4.37E-14	APOE/ATP5MC3/CALM3/COX6C/CSNK2B/GAPDH/NDUFA4/NDUFB2/PSMA1/PSMA3/PSMA6/PSMA7/PSMB1/PSMB2/PSMB3/PSMB4/PSMB5/PSMB6/PSMC1/PSMD1/PSMD2/PSMD11/SEM1/COX5A/TUBA1B/ADRM1/UQCRQ/UQCR10/TUBA1C	29
MT1F	2.066658999	1.04E-302	M1_TAM_LGALS3_MT1H_MT1G	Mineral absorption	1.38E-12	ATOX1/FTH1/FTL/HMOX1/MT1A/MT1E/MT1F/MT1G/MT1H/MT1M/MT1X/MT2A/SLC30A1	13
SLC7A11	0.389148301	5.78E-105	M1_TAM_LGALS3_MT1H_MT1G	Pathways of neurodegeneration - multiple diseases	1.71E-12	ATP5MC3/CALM3/COX6C/CSNK2B/NDUFA4/NDUFB2/PSMA1/PSMA3/PSMA6/PSMA7/PSMB1/PSMB2/PSMB3/PSMB4/PSMB5/PSMB6/PSMC1/PSMD1/PSMD2/PSMD11/SOD1/VCP/SEM1/SQSTM1/COX5A/TUBA1B/ADRM1/UQCRQ/UQCR10/TUBA1C	30
MT1A	0.399556661	8.05E-103	M1_TAM_LGALS3_MT1H_MT1G	Spinocerebellar ataxia	1.26E-10	PSMA1/PSMA3/PSMA6/PSMA7/PSMB1/PSMB2/PSMB3/PSMB4/PSMB5/PSMB6/PSMC1/PSMD1/PSMD2/PSMD11/SEM1/ADRM1	16
CSTB	1.297850061	3.59E-91	M1_TAM_LGALS3_MT1H_MT1G	Glutathione metabolism	1.36E-06	GCLM/GPX4/GSR/GSTP1/MGST1/MGST3/PGD/GSTO1	8
TXN	1.14023552	6.51E-84	M1_TAM_LGALS3_MT1H_MT1G	Oxidative phosphorylation	2.73E-06	ATP5MC3/ATP6V1A/ATP6V0B/COX6C/NDUFA4/NDUFB2/ATP6V1F/COX5A/ATP5MF/UQCRQ/UQCR10	11
TALDO1	1.105110723	3.71E-80	M1_TAM_LGALS3_MT1H_MT1G	Chemical carcinogenesis - reactive oxygen species	1.48E-05	ATP5MC3/CBR1/COX6C/HMOX1/MGST1/MGST3/NDUFA4/NDUFB2/SOD1/COX5A/GSTO1/UQCRQ/UQCR10	13
CTSD	0.978330252	1.25E-76	M1_TAM_LGALS3_MT1H_MT1G	Lysosome	1.62E-05	ACP5/ATP6V0B/CD63/CD68/CTSB/CTSD/CTSL/GM2A/LAMP1/CTSA	10
TXNRD1	0.67399553	8.91E-72	M1_TAM_LGALS3_MT1H_MT1G	Ferroptosis	2.14E-05	FTH1/FTL/GCLM/GPX4/HMOX1/SLC7A11	6
FTL	0.67710159	1.26E-66	M1_TAM_LGALS3_MT1H_MT1G	Fluid shear stress and atherosclerosis	2.54E-05	CALM3/CTSL/GSTP1/HMOX1/HSP90AB1/MGST1/MGST3/TXN/SQSTM1/GSTO1	10
SLC30A1	0.355047703	2.08E-66	M1_TAM_LGALS3_MT1H_MT1G	Phagosome	0.00029098	ATP6V1A/ATP6V0B/CALR/CTSL/LAMP1/ATP6V1F/TUBA1B/SEC61B/TUBA1C	9
PRDX1	0.879846659	3.19E-62	M1_TAM_LGALS3_MT1H_MT1G	Diabetic cardiomyopathy	0.00058474	ATP5MC3/COX6C/CTSD/GAPDH/GSR/NDUFA4/NDUFB2/COX5A/UQCRQ/UQCR10	10
OTOA	0.696478612	1.14E-58	M1_TAM_LGALS3_MT1H_MT1G	Chemical carcinogenesis - DNA adducts	0.00286377	CBR1/GSTP1/MGST1/MGST3/GSTO1	5
GCLM	0.641645864	3.49E-56	M1_TAM_LGALS3_MT1H_MT1G	Metabolism of xenobiotics by cytochrome P450	0.00486483	CBR1/GSTP1/MGST1/MGST3/GSTO1	5
PGD	0.6130467	2.22E-55	M1_TAM_LGALS3_MT1H_MT1G	Riboflavin metabolism	0.00527476	ACP5/BLVRB	2
CYP27A1	0.455892999	2.91E-50	M1_TAM_LGALS3_MT1H_MT1G	Vibrio cholerae infection	0.0053419	ATP6V1A/ATP6V0B/ATP6V1F/SEC61B	4
TREM2	0.567852575	3.71E-50	M1_TAM_LGALS3_MT1H_MT1G	Thermogenesis	0.00555435	ATP5MC3/COX6C/NDUFA4/NDUFB2/RHEB/COX5A/ATP5MF/UQCRQ/UQCR10	9
SLC48A1	0.34503094	1.43E-48	M1_TAM_LGALS3_MT1H_MT1G	Cardiac muscle contraction	0.0077022	ASPH/COX6C/COX5A/UQCRQ/UQCR10	5
LGALS3	0.924489731	7.21E-47	M1_TAM_LGALS3_MT1H_MT1G	Epstein-Barr virus infection	0.0078228	CALR/PSMC1/PSMD1/PSMD2/PSMD11/VIM/SEM1/ADRM1	8
LGALS1	0.712344654	7.38E-44	M1_TAM_LGALS3_MT1H_MT1G	Rheumatoid arthritis	0.01013436	ACP5/ATP6V1A/ATP6V0B/CTSL/ATP6V1F	5
GAPDH	0.698563169	2.76E-41	M1_TAM_LGALS3_MT1H_MT1G	Tuberculosis	0.01384305	ATP6V0B/CALM3/CTSD/HSPA9/ITGAX/LAMP1/LSP1	7
GPNMB	0.603197842	4.76E-41	M1_TAM_LGALS3_MT1H_MT1G	Glycolysis / Gluconeogenesis	0.01480303	ENO1/GAPDH/LDHB/PKM	4
HMOX1	1.720063037	1.15E-39	M1_TAM_LGALS3_MT1H_MT1G	Autophagy - animal	0.01484248	CTSB/CTSD/CTSL/LAMP1/RHEB/SQSTM1	6
FABP3	0.455135736	2.18E-37	M1_TAM_LGALS3_MT1H_MT1G	Drug metabolism - cytochrome P450	0.01883194	GSTP1/MGST1/MGST3/GSTO1	4
SRXN1	0.321942667	6.90E-36	M1_TAM_LGALS3_MT1H_MT1G	Platinum drug resistance	0.01971147	GSTP1/MGST1/MGST3/GSTO1	4
BLVRB	0.62499508	1.22E-35	M1_TAM_LGALS3_MT1H_MT1G	Biosynthesis of amino acids	0.0215458	ENO1/GAPDH/PKM/TALDO1	4
APOC1	1.02951045	3.95E-34	M1_TAM_LGALS3_MT1H_MT1G	PPAR signaling pathway	0.0215458	CYP27A1/DBI/FABP3/FABP5	4

CD9	0.457344523	2.51E-32	M1_TAM_LGALS3_MT1H_MT1G
ATP6V1F	0.543960987	5.17E-31	M1_TAM_LGALS3_MT1H_MT1G
ATOX1	0.624433499	2.34E-30	M1_TAM_LGALS3_MT1H_MT1G
SH3BGRL3	0.485276888	1.28E-29	M1_TAM_LGALS3_MT1H_MT1G
TUBA1C	0.536430955	1.36E-29	M1_TAM_LGALS3_MT1H_MT1G
ACOT13	0.307373596	8.05E-29	M1_TAM_LGALS3_MT1H_MT1G
VAT1	0.38451565	1.42E-28	M1_TAM_LGALS3_MT1H_MT1G
GLRX	0.511589269	5.52E-27	M1_TAM_LGALS3_MT1H_MT1G
LAMP1	0.47746829	5.74E-27	M1_TAM_LGALS3_MT1H_MT1G
FABP5	0.67928301	6.63E-26	M1_TAM_LGALS3_MT1H_MT1G
HINT1	0.554436795	6.67E-26	M1_TAM_LGALS3_MT1H_MT1G
ASPH	0.272135604	8.60E-25	M1_TAM_LGALS3_MT1H_MT1G
SERF2	0.328474105	1.05E-24	M1_TAM_LGALS3_MT1H_MT1G
SPP1	0.672022714	2.34E-24	M1_TAM_LGALS3_MT1H_MT1G
PSMD11	0.377791175	1.47E-23	M1_TAM_LGALS3_MT1H_MT1G
TDP2	0.253528279	1.71E-23	M1_TAM_LGALS3_MT1H_MT1G
ENO1	0.531481427	2.88E-23	M1_TAM_LGALS3_MT1H_MT1G
ANXA2	0.427158009	4.64E-23	M1_TAM_LGALS3_MT1H_MT1G
ATP6V1A	0.349948298	4.93E-23	M1_TAM_LGALS3_MT1H_MT1G
GSR	0.357216583	9.04E-23	M1_TAM_LGALS3_MT1H_MT1G
CAPG	0.44335683	2.22E-22	M1_TAM_LGALS3_MT1H_MT1G
GSTO1	0.454276705	4.03E-22	M1_TAM_LGALS3_MT1H_MT1G
VCP	0.377554144	5.48E-22	M1_TAM_LGALS3_MT1H_MT1G
FKBP4	0.357111538	1.27E-21	M1_TAM_LGALS3_MT1H_MT1G
SQSTM1	0.629992279	9.77E-21	M1_TAM_LGALS3_MT1H_MT1G
CD63	0.395229751	1.41E-20	M1_TAM_LGALS3_MT1H_MT1G
PKM	0.47457508	1.58E-20	M1_TAM_LGALS3_MT1H_MT1G
SELENOW	0.390628989	5.53E-20	M1_TAM_LGALS3_MT1H_MT1G
ACP5	0.464136803	7.90E-20	M1_TAM_LGALS3_MT1H_MT1G
MGST3	0.477325376	1.30E-19	M1_TAM_LGALS3_MT1H_MT1G
PLA2G7	0.327660284	1.35E-19	M1_TAM_LGALS3_MT1H_MT1G
UQCRQ	0.401169799	1.92E-19	M1_TAM_LGALS3_MT1H_MT1G
HSPB1	0.651330932	3.16E-19	M1_TAM_LGALS3_MT1H_MT1G
POMP	0.397222659	6.01E-19	M1_TAM_LGALS3_MT1H_MT1G
IL18BP	0.286707519	7.38E-19	M1_TAM_LGALS3_MT1H_MT1G
RIT1	0.32458685	7.50E-19	M1_TAM_LGALS3_MT1H_MT1G
NDUFA4	0.367144828	4.49E-18	M1_TAM_LGALS3_MT1H_MT1G
CBR1	0.371695834	6.31E-18	M1_TAM_LGALS3_MT1H_MT1G
PSMB3	0.416519779	6.43E-18	M1_TAM_LGALS3_MT1H_MT1G
DBI	0.393153433	1.25E-16	M1_TAM_LGALS3_MT1H_MT1G
SEM1	0.380389127	1.70E-16	M1_TAM_LGALS3_MT1H_MT1G
PSMD2	0.285290998	2.37E-16	M1_TAM_LGALS3_MT1H_MT1G
SEC61B	0.388445295	4.82E-16	M1_TAM_LGALS3_MT1H_MT1G
GM2A	0.362548727	4.88E-16	M1_TAM_LGALS3_MT1H_MT1G
TXNDC17	0.334610874	6.15E-16	M1_TAM_LGALS3_MT1H_MT1G
BRI3	0.304187806	2.09E-15	M1_TAM_LGALS3_MT1H_MT1G
CTSA	0.341559863	3.67E-15	M1_TAM_LGALS3_MT1H_MT1G
GDF15	0.268488967	4.49E-15	M1_TAM_LGALS3_MT1H_MT1G
RPS27L	0.352256091	9.44E-15	M1_TAM_LGALS3_MT1H_MT1G
PSMA3	0.313356903	9.67E-15	M1_TAM_LGALS3_MT1H_MT1G
PSMA1	0.309530501	1.66E-14	M1_TAM_LGALS3_MT1H_MT1G
PSMA7	0.376739444	2.20E-14	M1_TAM_LGALS3_MT1H_MT1G
SRP14	0.294376029	2.23E-14	M1_TAM_LGALS3_MT1H_MT1G
PSMC1	0.252105416	4.38E-14	M1_TAM_LGALS3_MT1H_MT1G
PSMB6	0.430538043	4.66E-14	M1_TAM_LGALS3_MT1H_MT1G
PSMD1	0.294147187	5.88E-14	M1_TAM_LGALS3_MT1H_MT1G
PSMB5	0.26616677	7.16E-14	M1_TAM_LGALS3_MT1H_MT1G
S100A9	0.336864263	9.51E-14	M1_TAM_LGALS3_MT1H_MT1G
ALDH1A1	0.310103454	1.10E-13	M1_TAM_LGALS3_MT1H_MT1G
NPL	0.28763535	1.89E-13	M1_TAM_LGALS3_MT1H_MT1G
UQCR10	0.309621311	2.02E-13	M1_TAM_LGALS3_MT1H_MT1G
CYTOR	0.267454784	2.54E-13	M1_TAM_LGALS3_MT1H_MT1G
NOP10	0.359497335	3.00E-13	M1_TAM_LGALS3_MT1H_MT1G
FERMT3	0.33060677	4.57E-13	M1_TAM_LGALS3_MT1H_MT1G

Non-alcoholic fatty liver disease	0.02258656	COX6C/NDUFA4/NDUFB2/COX5A/UQCRQ/UQCR10	6
Carbon metabolism	0.02346029	ENO1/GAPDH/PGD/PKM/TALDO1	5
Antigen processing and presentation	0.02448789	CALR/CTSB/CTSL/HSP90AB1	4
Synaptic vesicle cycle	0.02448789	ATP6V1A/ATP6V0B/AP2S1/ATP6V1F	4
Drug metabolism - other enzymes	0.02657802	GSTP1/MGST1/MGST3/GSTO1	4
Hepatocellular carcinoma	0.03188264	GSTP1/HMOX1/MGST1/MGST3/TXNRD1/GSTO1	6
Cysteine and methionine metabolism	0.03358323	GCLM/LDHB/ADI1	3
Cholesterol metabolism	0.03358323	APOC1/APOE/CYP27A1	3
Protein export	0.04151921	SRP14/SEC61B	2
Apoptosis	0.04368435	CTSB/CTSD/CTSL/TUBA1B/TUBA1C	5

MGST1	0.307168451	9.76E-13	M1_TAM_LGALS3_MT1H_MT1G
NDUFB2	0.298884598	1.06E-12	M1_TAM_LGALS3_MT1H_MT1G
S100A11	0.377933405	1.14E-12	M1_TAM_LGALS3_MT1H_MT1G
CREG1	0.283136406	1.26E-12	M1_TAM_LGALS3_MT1H_MT1G
PLD3	0.314321325	2.42E-12	M1_TAM_LGALS3_MT1H_MT1G
BCAP31	0.330509082	3.85E-12	M1_TAM_LGALS3_MT1H_MT1G
PSMB2	0.359244929	8.99E-12	M1_TAM_LGALS3_MT1H_MT1G
CALR	0.368244154	1.41E-11	M1_TAM_LGALS3_MT1H_MT1G
ADI1	0.346544215	1.57E-11	M1_TAM_LGALS3_MT1H_MT1G
VIM	0.385604458	2.16E-11	M1_TAM_LGALS3_MT1H_MT1G
MYL6	0.276642732	6.48E-11	M1_TAM_LGALS3_MT1H_MT1G
HSP90AB1	0.43090948	6.71E-11	M1_TAM_LGALS3_MT1H_MT1G
GRN	0.277771462	7.74E-11	M1_TAM_LGALS3_MT1H_MT1G
GSTP1	0.369918685	8.66E-11	M1_TAM_LGALS3_MT1H_MT1G
ADRM1	0.302579342	1.17E-10	M1_TAM_LGALS3_MT1H_MT1G
GPX4	0.293672691	1.65E-10	M1_TAM_LGALS3_MT1H_MT1G
HSPA9	0.25402746	1.71E-10	M1_TAM_LGALS3_MT1H_MT1G
COX6C	0.291108654	2.71E-10	M1_TAM_LGALS3_MT1H_MT1G
ITGAX	0.315066847	3.58E-10	M1_TAM_LGALS3_MT1H_MT1G
PLEKHB2	0.301145605	4.33E-10	M1_TAM_LGALS3_MT1H_MT1G
CD68	0.316807862	4.86E-10	M1_TAM_LGALS3_MT1H_MT1G
AP2S1	0.300947886	5.48E-10	M1_TAM_LGALS3_MT1H_MT1G
SOD1	0.335170799	5.78E-10	M1_TAM_LGALS3_MT1H_MT1G
CSNK2B	0.296566671	8.35E-10	M1_TAM_LGALS3_MT1H_MT1G
LDHB	0.274505189	1.18E-09	M1_TAM_LGALS3_MT1H_MT1G
FTH1	0.337330477	2.27E-09	M1_TAM_LGALS3_MT1H_MT1G
RHEB	0.274382421	3.27E-09	M1_TAM_LGALS3_MT1H_MT1G
PSMB4	0.280991638	1.09E-08	M1_TAM_LGALS3_MT1H_MT1G
TOMM5	0.269568911	1.55E-08	M1_TAM_LGALS3_MT1H_MT1G
CHCHD10	0.28979463	1.95E-08	M1_TAM_LGALS3_MT1H_MT1G
TIMP2	0.294347259	2.41E-08	M1_TAM_LGALS3_MT1H_MT1G
CTSB	0.284247001	3.55E-08	M1_TAM_LGALS3_MT1H_MT1G
LSP1	0.308324454	5.30E-08	M1_TAM_LGALS3_MT1H_MT1G
SNX3	0.260289565	8.59E-08	M1_TAM_LGALS3_MT1H_MT1G
APOE	0.31654981	1.30E-07	M1_TAM_LGALS3_MT1H_MT1G
MIF	0.275470199	1.41E-07	M1_TAM_LGALS3_MT1H_MT1G
TUBA1B	0.362938201	1.64E-07	M1_TAM_LGALS3_MT1H_MT1G
ATP5MC3	0.28762932	1.72E-07	M1_TAM_LGALS3_MT1H_MT1G
ATP5MF	0.278758965	2.19E-07	M1_TAM_LGALS3_MT1H_MT1G
ATP6V0B	0.306290964	3.21E-07	M1_TAM_LGALS3_MT1H_MT1G
COX5A	0.280178583	4.77E-07	M1_TAM_LGALS3_MT1H_MT1G
CD99	0.271348454	5.78E-07	M1_TAM_LGALS3_MT1H_MT1G
PSMB1	0.252402508	7.59E-07	M1_TAM_LGALS3_MT1H_MT1G
CTSL	0.310717396	1.19E-06	M1_TAM_LGALS3_MT1H_MT1G
HSPE1	0.402250989	3.30E-06	M1_TAM_LGALS3_MT1H_MT1G
MAFG	0.27309747	5.87E-06	M1_TAM_LGALS3_MT1H_MT1G
CALM3	0.259204034	9.55E-06	M1_TAM_LGALS3_MT1H_MT1G
RGCC	0.401316594	1.03E-05	M1_TAM_LGALS3_MT1H_MT1G
PSMA6	0.269982938	9.20E-05	M1_TAM_LGALS3_MT1H_MT1G
ZFAND2A	0.370505966	0.00033204	M1_TAM_LGALS3_MT1H_MT1G
FGG	0.316874322	0.06134834	M1_TAM_LGALS3_MT1H_MT1G
BAG3	0.287649869	0.08460486	M1_TAM_LGALS3_MT1H_MT1G
TUBB	0.335181128	0.13167602	M1_TAM_LGALS3_MT1H_MT1G
HULC	0.292313621	0.13566591	M1_TAM_LGALS3_MT1H_MT1G
APOH	0.402769844	0.21638508	M1_TAM_LGALS3_MT1H_MT1G
CYP2E1	0.664181296	0.2366479	M1_TAM_LGALS3_MT1H_MT1G
H2AFZ	0.278382266	0.33372301	M1_TAM_LGALS3_MT1H_MT1G
STMN1	0.264264011	0.40521844	M1_TAM_LGALS3_MT1H_MT1G
APOC2	0.663111358	1	M1_TAM_LGALS3_MT1H_MT1G
TTR	0.377571208	1	M1_TAM_LGALS3_MT1H_MT1G
HSP90AA1	0.406851016	1	M1_TAM_LGALS3_MT1H_MT1G
UBC	0.311163984	1	M1_TAM_LGALS3_MT1H_MT1G
GSTA1	0.403142522	1	M1_TAM_LGALS3_MT1H_MT1G

g.M2_TAM_KRAS_LILRA2

Gene symbol	avg_log2FC	p_val_adj	Upregulated group	Description	pvalue	geneID	Count
TIMP1	2.819235923	0	M2_TAM_KRAS_LILRA2	Coronavirus disease - COVID-19	1.93E-47	C5AR1/CASP1/CYBB/CFD/FAU/IL1B/JAK1/RPSA/MX2/MYD88/RPL10A/NFKB1/NFKBIA/OAS1/PRKCB/RPL3/RPL4/RPL5/RPL6/RPL7/RPL7A/RPL8/RPL9/RPL10/RPL11/RPL12/RPL13/RPL15/RPL17/RPL18/RPL18A/RPL19/RPL21/RPL22/RPL23A/RPL24/RPL26/RPL30/RPL28/RPL29/RPL32/RPL34/RPL35A/RPL37/RPL39/RPL41/RPL36A/RPLP0/RPLP1/RPLP2/RPS2/RPS3/RPS3A/RPS4X/RPS4Y1/RPS5/RPS6/RPS7/RPS8/RPS9/RPS10/RPS11/RPS12/RPS13/RPS14/RPS15/RPS15A/RPS16/RPS18/RPS19/RPS21/RPS23/RPS24/RPS25/RPS26/RPS27/RPS27A/RPS28/RPS29/TLR2/UBA52/RPL14/RPL23/ISG15/NLRP3/RPL22L1	86
G0S2	2.729752059	0	M2_TAM_KRAS_LILRA2	Ribosome	6.85E-46	FAU/RPSA/RPL10A/RPL3/RPL4/RPL5/RPL6/RPL7/RPL7A/RPL8/RPL9/RPL10/RPL11/RPL12/RPL13/RPL15/RPL17/RPL18/RPL18A/RPL19/RPL21/RPL22/RPL23A/RPL24/RPL26/RPL30/RPL28/RPL29/RPL32/RPL34/RPL35A/RPL37/RPL39/RPL41/RPL36A/RPLP0/RPLP1/RPLP2/RPS2/RPS3/RPS3A/RPS4X/RPS4Y1/RPS5/RPS6/RPS7/RPS8/RPS9/RPS10/RPS11/RPS12/RPS13/RPS14/RPS15/RPS15A/RPS16/RPS18/RPS19/RPS21/RPS23/RPS24/RPS25/RPS26/RPS27/RPS27A/RPS28/RPS29/UBA52/RPL14/RPL23/RPL22L1	71
LST1	2.443817978	0	M2_TAM_KRAS_LILRA2	Parkinson disease	1.26E-09	ADORA2A/SLC25A5/SLC25A6/ATP5F1A/ATP5F1B/ATP5F1D/ATP5PB/ATP5MC2/ATP5PO/COX4I1/COX5B/COX6A1/COX6B1/COX7A2/COX7B/COX7C/COX8A/CYC1/GNAI2/NDUFB5/PSMA2/PSMA4/PSMA6/PSMB3/RPS27A/SOD1/UBA52/UBC/UQCRB/UQCRC1/UQCRFS1/VDAC2/UBE2L6/COX5A/PPIF/ADRM1/NDUFA13/UBE2J1/CYCS/NDUFA12/CALML4/LRRK2/NDUFS7	43
FCN1	2.39748793	0	M2_TAM_KRAS_LILRA2	Diabetic cardiomyopathy	2.35E-09	SLC25A5/SLC25A6/ATP5F1A/ATP5F1B/ATP5F1D/ATP5PB/ATP5MC2/ATP5PO/COX4I1/COX5B/COX6A1/COX6B1/COX7A2/COX7B/COX7C/COX8A/CYBA/CYBB/CYC1/NCF2/NDUFB5/NFKB1/PPP1CA/PPP1CB/PRKCB/RAC2/TGFB1/UQCRB/UQCRC1/UQCRFS1/VDAC2/COX5A/PPIF/NDUFA13/NDUFA12/NDUFS7	36
S100A4	2.389670899	0	M2_TAM_KRAS_LILRA2	Chemical carcinogenesis - reactive oxygen species	2.68E-09	SLC25A5/SLC25A6/ATP5F1A/ATP5F1B/ATP5F1D/ATP5PB/ATP5MC2/ATP5PO/COX4I1/COX5B/COX6A1/COX6B1/COX7A2/COX7B/COX7C/COX8A/CYBA/CYC1/GRB2/HIF1A/KRAS/NCF2/NDUFB5/NFKB1/NFKBIA/PTPN1/SOD1/SOD2/UQCRB/UQCRC1/UQCRFS1/VDAC2/COX5A/GSTO1/PPIF/NDUFA13/NDUFA12/NDUFS7	38
COTL1	2.379252482	0	M2_TAM_KRAS_LILRA2	Oxidative phosphorylation	3.51E-09	ATP5F1A/ATP5F1B/ATP5F1D/ATP5PB/ATP5MC2/ATP5PO/COX4I1/COX5B/COX6A1/COX6B1/COX7A2/COX7B/COX7C/COX8A/CYC1/NDUFB5/PPA1/UQCRB/UQCRC1/UQCRFS1/COX5A/ATP6V1G1/TCIRG1/ATP5MG/NDUFA13/CYCS/NDUFA12/NDUFS7	28
STXBP2	1.740817147	0	M2_TAM_KRAS_LILRA2	Salmonella infection	1.91E-08	ACTB/ACTG1/BIRC3/RHOA/RHOG/CASP1/CASP4/CDC42/CTNNB1/FLNA/IL1B/MYD88/NFKB1/NFKBIA/PAK1/PFN1/PIK3CG/PKN1/PTPRC/RPS3/RRAS/S100A10/TCF7L2/TLR2/STX10/RIPK2/CYTH1/ARPC3/ARPC1B/ACTR3/ACTR2/ARPC2/CYFIP2/PYCARD/CYCS/BRK1/MYL12B/SNX18/NLRP3	39
CD52	1.566688502	0	M2_TAM_KRAS_LILRA2	Prion disease	2.79E-08	SLC25A5/SLC25A6/ATP5F1A/ATP5F1B/ATP5F1D/ATP5PB/ATP5MC2/ATP5PO/COX4I1/COX5B/COX6A1/COX6B1/COX7A2/COX7B/COX7C/COX8A/CYBA/CYBB/CYC1/FYN/HSPA8/IL1B/NCF2/NDUFB5/PSMA2/PSMA4/PSMA6/PSMB3/RAC2/SOD1/UQCRB/UQCRC1/UQCRFS1/VDAC2/COX5A/PPIF/ADRM1/NDUFA13/CYCS/NDUFA12/NDUFS7	41
SMIM25	1.490206216	0	M2_TAM_KRAS_LILRA2	Shigellosis	4.79E-08	ACTB/ACTG1/RHOA/CAPNS1/CAST/CASP1/CASP4/CD44/CDC42/DIAPH1/HK1/HK3/IL1B/MYD88/NFKB1/NFKBIA/PFN1/RPS27A/TLN1/UBA52/UBC/UBE2D1/RIPK2/CYTH1/RBX1/ARPC3/ARPC1B/ACTR3/ACTR2/ARPC2/WASF2/TNIP1/SEPTIN9/MALT1/PYCARD/CYCS/MYL12B/NLRP3	38
RPS19	1.385750055	0	M2_TAM_KRAS_LILRA2	Viral myocarditis	2.54E-07	ACTB/ACTG1/BID/CD86/CD55/EIF4G2/FYN/HLA-B/HLA-C/HLA-DQB1/HLA-E/HLA-F/ITGAL/ITGB2/RAC2/CYCS	16
WARS	1.354867136	0	M2_TAM_KRAS_LILRA2	Leishmaniasis	3.95E-07	CYBA/CYBB/EEF1A1/FCGR3A/HLA-DQB1/IFNGR2/IL1B/ITGB2/JAK1/MYD88/NCF2/NFKB1/NFKBIA/PRKCB/PTPN6/TGFB1/TLR2/MARCKSL1	18
CD48	1.3509301	0	M2_TAM_KRAS_LILRA2	Osteoclast differentiation	4.04E-07	CYBA/CYLD/FCGR3A/FOSL2/FYN/GRB2/IFNGR2/IL1B/JAK1/JUND/NCF2/NFKB1/NFKBIA/RELB/SPI1/TGFB1/SOCS3/LILRB2/LILRB1/LILRA1/LILRB3/LILRA2/OSCAR/LILRA5	24
LILRA5	1.28211907	0	M2_TAM_KRAS_LILRA2	Pathogenic Escherichia coli infection	5.17E-07	ACTB/ACTG1/RHOA/CASP1/CASP4/CDC42/FYN/IL1B/MYO1F/MYD88/NFKB1/NFKBIA/PAK1/PAK2/PTPN6/RPS3/EZR/ARHGEF1/CYTH1/ARPC3/ARPC1B/ACTR3/ACTR2/ARPC2/WASF2/CYFIP2/PYCARD/CYCS/BRK1/MYO1G/NLRP3	31
CFP	1.189739394	0	M2_TAM_KRAS_LILRA2	B cell receptor signaling pathway	1.07E-06	CD79B/GRB2/KRAS/LYN/NFKB1/NFKBIA/PRKCB/PTPN6/RAC2/IFITM1/LILRB2/LILRB1/MALT1/LILRA1/LILRB3/LILRA2/PIK3AP1/LILRA5	18
CYTIP	1.061453235	0	M2_TAM_KRAS_LILRA2	Yersinia infection	1.46E-06	ACTB/ACTG1/RHOA/RHOG/CASP1/CDC42/FYB1/IL1B/MYD88/NFKB1/NFKBIA/PKN1/RAC2/WAS/ARHGEF1/ARPC3/ARPC1B/ACTR3/ACTR2/ARPC2/WASF2/PYCARD/NLRP3/TICAM1	24

AQP9	1.020655313	0	M2_TAM_KRAS_LILRA2	C-type lectin receptor signaling pathway	2.50E-06	RHOA/BCL3/CASP1/PLK3/CYLD/FCER1G/IL1B/IRF1/KRAS/LSP1/NFKB1/NFKBIA/PAK1/RELB/RRAS/MALT1/PYCARD/CLEC7A/CALML4/NLRP3	20
CDC42EP2	0.876051844	0	M2_TAM_KRAS_LILRA2	Leukocyte transendothelial migration	2.90E-06	ACTB/ACTG1/RHOA/CDC42/CTNNB1/CYBA/CYBB/GNAI2/ITGAL/ITGB2/MSN/NCF2/PECAM1/PRKCB/RAC2/RAP1B/VASP/EZR/CXCR4/RASSF5/MYL12B	21
SLC2A6	0.864081483	0	M2_TAM_KRAS_LILRA2	Fc gamma R-mediated phagocytosis	3.35E-06	CDC42/CFL1/FCGR3A/HCK/LYN/MARCKS/PAK1/PRKCB/PTPRC/RAC2/VASP/WAS/ARPC3/ARPC1B/ACTR3/ACTR2/ARPC2/WASF2/MARCKSL1	19
RPL28	0.985416306	2.27E-299	M2_TAM_KRAS_LILRA2	Non-alcoholic fatty liver disease	4.22E-06	BID/CDC42/COX4I1/COX5B/COX6A1/COX6B1/COX7A2/COX7B/COX7C/COX8A/CYC1/IL1B/NDUFB5/NFKB1/RXRA/TGFB1/UQCRB/UQCRC1/UQCRFS1/SOCS3/COX5A/NDUFA13/CYCS/NDUFA12/NDUFS7	25
IFI30	2.019772811	1.19E-297	M2_TAM_KRAS_LILRA2	Regulation of actin cytoskeleton	4.74E-06	ACTB/ACTG1/RHOA/CDC42/CFL1/DIAPH1/ITGAL/ITGB2/KRAS/MSN/PAK1/PAK2/PFN1/PPP1CA/PPP1CB/RAC2/RRAS/EZR/CXCR4/ARHGEF1/ARPC3/ARPC1B/ACTR3/ACTR2/ARPC2/WASF2/CYFIP2/BRK1/SSH2/MYL12B/SPATA13	31
C19orf38	0.780639126	1.44E-295	M2_TAM_KRAS_LILRA2	Tuberculosis	7.19E-06	RHOA/BID/CEBPB/PLK3/CTSS/FCER1G/FCGR3A/HLA-DQB1/IFNGR2/IL1B/IL10RA/IL10RB/ITGB2/JAK1/LSP1/MYD88/NFKB1/TGFB1/TLR2/VDR/RIPK2/TCIRG1/MALT1/CORO1A/CYCS/CLEC7A/CALML4	27
CD37	1.367441618	2.47E-287	M2_TAM_KRAS_LILRA2	Kaposi sarcoma-associated herpesvirus infection	1.03E-05	BID/CD86/CDKN1A/CTNNB1/GNB2/GNG5/HCK/HIF1A/HLA-B/HLA-C/HLA-E/HLA-F/IRF7/JAK1/KRAS/LYN/NFKB1/NFKBIA/PIK3CG/RPS27A/TCF7L2/UBA52/UBC/CYCS/GNG2/ATG3/CALML4/TICAM1	28
RPL8	1.067812801	7.16E-286	M2_TAM_KRAS_LILRA2	Huntington disease	1.10E-05	AP2A1/SLC25A5/SLC25A6/ATP5F1A/ATP5F1B/ATP5F1D/ATP5PB/ATP5MC2/ATP5PO/CLTB/COX4I1/COX5B/COX6A1/COX6B1/COX7A2/COX7B/COX7C/COX8A/CYC1/NDUFB5/PSMA2/PSMA4/PSMA6/PSMB3/SOD1/SOD2/TGM2/UQCRB/UQCRC1/UQCRFS1/VDAC2/COX5A/PPIF/ADRM1/NDUFA13/CYCS/NDUFA12/NDUFS7	38
CD300E	0.66287768	5.98E-284	M2_TAM_KRAS_LILRA2	Pathways of neurodegeneration - multiple diseases	1.17E-05	SLC25A5/SLC25A6/ATP5F1A/ATP5F1B/ATP5F1D/ATP5PB/ATP5MC2/ATP5PO/BID/COX4I1/COX5B/COX6A1/COX6B1/COX7A2/COX7B/COX7C/COX8A/CTNNB1/CYBB/CYC1/IL1B/KRAS/RAB8A/NDUFB5/NFKB1/PRKCB/PSEN1/PSMA2/PSMA4/PSMA6/PSMB3/RPS27A/SOD1/TNFRSF1B/UBA52/UBC/UQCRB/UQCRC1/UQCRFS1/VDAC2/UBE2L6/COX5A/PPIF/ADRM1/NDUFA13/UBE2J1/CYCS/NDUFA12/CALML4/LRRK2/C9orf72/NDUFS7	52
MYO1G	0.807163485	4.02E-283	M2_TAM_KRAS_LILRA2	NOD-like receptor signaling pathway	3.11E-05	BIRC3/RHOA/CASP1/CASP4/CYBA/CYBB/GBP1/GBP2/IL1B/IRF7/JAK1/MYD88/NFKB1/NFKBIA/OAS1/PKN1/VDAC2/RIPK2/NAMPT/GABARAP/GABARAPL1/PYCARD/NLRP3/CARD16/GBP4/TICAM1	26
BCL2A1	1.796412195	9.39E-281	M2_TAM_KRAS_LILRA2	Thermogenesis	4.41E-05	ACTB/ACTG1/ATP5F1A/ATP5F1B/ATP5F1D/ATP5PB/ATP5MC2/ATP5PO/COX4I1/COX5B/COX6A1/COX6B1/COX7A2/COX7B/COX7C/COX8A/CYC1/ACSL1/GRB2/KRAS/NDUFB5/RPS6/UQCRB/UQCRC1/UQCRFS1/COX5A/ATP5MG/NDUFA13/NDUFA12/NDUFS7	30
PLAC8	1.126125568	4.58E-274	M2_TAM_KRAS_LILRA2	Amyotrophic lateral sclerosis	5.15E-05	ACTB/ACTG1/ATP5F1A/ATP5F1B/ATP5F1D/ATP5PB/ATP5MC2/ATP5PO/BID/CASP1/COX4I1/COX5B/COX6A1/COX6B1/COX7A2/COX7B/COX7C/COX8A/CYC1/RAB8A/NDUFB5/PFN1/PSMA2/PSMA4/PSMA6/PSMB3/SOD1/TNFRSF1B/UQCRB/UQCRC1/UQCRFS1/COX5A/NUP50/ADRM1/NXT1/NDUFA13/CYCS/NDUFA12/C9orf72/NDUFS7/CHCHD10	41
FAU	0.949376087	7.50E-274	M2_TAM_KRAS_LILRA2	Chemokine signaling pathway	6.53E-05	RHOA/ARRB1/CDC42/CX3CR1/DOCK2/FGR/GNAI2/GNB2/GNG5/GRK6/GRB2/HCK/KRAS/LYN/NFKB1/NFKBIA/PAK1/PIK3CG/PRKCB/RAC2/RAP1B/CCL20/WAS/CXCR4/RASGRP2/GNG2	26
RPL41	0.911651828	2.58E-263	M2_TAM_KRAS_LILRA2	Legionellosis	0.00010444	CASP1/EEF1A1/EEF1G/HSPA8/IL1B/ITGB2/MYD88/NFKB1/NFKBIA/TLR2/PYCARD/CYCS	12
CSTA	0.781416444	1.07E-259	M2_TAM_KRAS_LILRA2	Platelet activation	0.00012227	ACTB/ACTG1/RHOA/FCER1G/FYN/GNAI2/LYN/PIK3CG/PPP1CA/PPP1CB/PTGIR/RAP1B/TBXAS1/TLN1/VASP/ARHGEF1/RASGRP2/APBB1IP/MYL12B	19
FTH1	1.201237153	4.64E-258	M2_TAM_KRAS_LILRA2	Human immunodeficiency virus 1 infection	0.00013728	B2M/BID/CFL1/GNAI2/GNB2/GNG5/HLA-B/HLA-C/HLA-E/HLA-F/KRAS/MYD88/NFKB1/NFKBIA/PAK1/PAK2/PRKCB/RAC2/ELOB/TLR2/TNFRSF1B/CXCR4/AP1S2/RBX1/CYCS/GNG2/CALML4	27
FPR1	0.912802738	1.59E-257	M2_TAM_KRAS_LILRA2	Bacterial invasion of epithelial cells	0.00015197	ACTB/ACTG1/RHOA/RHOG/CDC42/CLTB/CTNNB1/ARPC3/ARPC1B/ACTR3/ACTR2/ARPC2/WASF2/SEPTIN9	14
NAMPT	1.343384327	4.33E-257	M2_TAM_KRAS_LILRA2	Human cytomegalovirus infection	0.00015485	RHOA/B2M/BID/CDKN1A/CTNNB1/GNAI2/GNB2/GNG5/GRB2/HLA-B/HLA-C/HLA-E/HLA-F/IL1B/IL10RA/IL10RB/JAK1/KRAS/NFKB1/NFKBIA/PRKCB/PTGER2/RAC2/CXCR4/ARHGEF1/CYCS/GNG2/CALML4	28
RPS8	0.998852092	6.63E-254	M2_TAM_KRAS_LILRA2	Cardiac muscle contraction	0.00016584	ATP1A1/ATP1B3/COX4I1/COX5B/COX6A1/COX6B1/COX7A2/COX7B/COX7C/COX8A/CYC1/UQCRB/UQCRC1/UQCRFS1/COX5A	15

GCH1	0.861167952	6.38E-250	M2_TAM_KRAS_LILRA2	Alzheimer disease	0.00017043	SLC25A5/SLC25A6/ATP5F1A/ATP5F1B/ATP5F1D/ATP5PB/ATP5MC2/ATP5PO/BID/COX4I1/COX5B/COX6A1/COX6B1/COX7A2/COX7B/COX7C/COX8A/CTNNB1/CYBB/CYC1/IL1B/KRAS/NDUFB5/NFKB1/PSEN1/PSMA2/PSMA4/PSMA6/PSMB3/UQCRB/UQCRC1/UQCRFS1/VDAC2/COX5A/PPIF/ADRM1/NDUFA13/CYCS/NDUFA12/CALML4/NDUFS7	41
EMP3	1.488776782	5.83E-249	M2_TAM_KRAS_LILRA2	Lipid and atherosclerosis	0.00017394	RHOA/BID/CASP1/CDC42/CYBA/CYBB/HSPA8/IL1B/IRF7/KRAS/LYN/MYD88/NCF2/NFKB1/NFKBIA/OLR1/POU2F2/RAP1B/RXRA/SOD2/TLR2/ARHGEF1/PYCARD/CYCS/CALML4/NLRP3/TICAM1	27
CLEC12A	0.766617418	9.81E-249	M2_TAM_KRAS_LILRA2	Endocytosis	0.00018829	AP2A1/ARF5/RHOA/ARRB1/CAPZA1/CDC42/CLTB/GRK6/HLA-B/HLA-C/HLA-E/HLA-F/HSPA8/RAB8A/TFRC/CXCR4/CYTH1/IQSEC1/ARPC3/ARPC1B/ACTR3/ACTR2/ARPC2/RAB10/EHD1/ACAP2/VPS29/VPS35/SMAP2/ARAP2	30
PTP4A2	1.234029719	1.64E-248	M2_TAM_KRAS_LILRA2	Influenza A	0.00018939	ACTB/ACTG1/SLC25A5/SLC25A6/BID/CASP1/HLA-DQB1/IFNGR2/IL1B/IRF7/JAK1/MX2/MYD88/NFKB1/NFKBIA/OAS1/PRKCB/SOCS3/NXT1/PYCARD/CYCS/NLRP3/TICAM1	23
CORO1A	1.179892	1.11E-247	M2_TAM_KRAS_LILRA2	Proteoglycans in cancer	0.00019481	ACTB/ACTG1/RHOA/CD44/CDC42/CDKN1A/CTNNB1/DDX5/FLNA/GRB2/HIF1A/KRAS/MSN/PAK1/PLAUR/PPP1CA/PPP1CB/PRKCB/PTPN6/RPS6/RRAS/TGFB1/THBS1/TLR2/EZR/ARHGEF1	26
RPL10	0.91313282	6.34E-246	M2_TAM_KRAS_LILRA2	HIF-1 signaling pathway	0.00022151	CDKN1A/CDKN1B/CYBB/HIF1A/HK1/HK3/IFNGR2/NFKB1/PFKFB3/PGK1/PRKCB/RPS6/ELOB/TFRC/TIMP1/EIF4E2/RBX1	17
RPL18	0.908052448	9.21E-245	M2_TAM_KRAS_LILRA2	Phagosome	0.00024562	ACTB/ACTG1/CTSS/CYBA/CYBB/FCGR3A/HLA-B/HLA-C/HLA-DQB1/HLA-E/HLA-F/ITGB2/NCF2/OLR1/TFRC/THBS1/TLR2/ATP6V1G1/TCIRG1/CORO1A/CLEC7A	21
ADGRE1	0.575921758	2.06E-244	M2_TAM_KRAS_LILRA2	Natural killer cell mediated cytotoxicity	0.00025543	BID/CD48/FCER1G/FCGR3A/FYN/GRB2/HLA-B/HLA-C/HLA-E/ICAM2/IFNGR2/ITGAL/ITGB2/KRAS/PAK1/PRKCB/PTPN6/RAC2/SH3BP2	19
H3F3A	0.943150368	1.21E-238	M2_TAM_KRAS_LILRA2	Rap1 signaling pathway	0.00028721	ACTB/ACTG1/ADORA2A/RHOA/CDC42/CTNNB1/FPR1/FYB1/GNAI2/ITGAL/ITGB2/KRAS/PFN1/PRKCB/RAC2/RALB/RAP1B/RRAS/THBS1/TLN1/VASP/RASGRP2/EVL/APBB1IP/RASSF5/CALML4	26
IFITM2	1.948653633	9.24E-236	M2_TAM_KRAS_LILRA2	Proteasome	0.00029735	PSMA2/PSMA4/PSMA6/PSMB3/PSMB8/PSMB9/PSMB10/PSME1/PSME2/ADRM1	10
EREG	1.157651605	2.94E-235	M2_TAM_KRAS_LILRA2	Neutrophil extracellular trap formation	0.00036211	ACTB/ACTG1/SLC25A5/SLC25A6/AQP9/C5AR1/CASP1/CASP4/CYBA/CYBB/FCGR3A/FPR1/FPR2/ITGAL/ITGB2/NCF2/NFKB1/PRKCB/RAC2/SELPLG/TLR2/VDAC2/PPIF/CLEC7A	24
SERP1	1.096936432	2.05E-232	M2_TAM_KRAS_LILRA2	Pertussis	0.00048396	RHOA/CASP1/CFL1/GNAI2/IL1B/IRF1/ITGB2/MYD88/NFKB1/PYCARD/CALML4/NLRP3/TICAM1	13
RPL11	0.914729156	3.70E-232	M2_TAM_KRAS_LILRA2	Adherens junction	0.00088405	ACTB/ACTG1/RHOA/CDC42/CTNNB1/FYN/PTPN1/PTPN6/RAC2/TCF7L2/WAS/WASF2	12
NACA	1.081438003	3.31E-231	M2_TAM_KRAS_LILRA2	Epstein-Barr virus infection	0.00088602	B2M/BID/RUNX3/CD44/CDKN1A/CDKN1B/HLA-B/HLA-C/HLA-DQB1/HLA-E/HLA-F/IRF7/ITGAL/JAK1/LYN/MYD88/NFKB1/NFKBIA/OAS1/RELB/TLR2/ISG15/ADRM1/CYCS	24
RPS24	0.829270989	1.21E-230	M2_TAM_KRAS_LILRA2	Toxoplasmosis	0.00091191	BIRC3/GNAI2/HLA-DQB1/HSPA8/IFNGR2/IL10RA/IL10RB/JAK1/MYD88/NFKB1/NFKBIA/PIK3CG/TGFB1/TLR2/PPIF/CYCS	16
RPL18A	0.879011377	1.21E-229	M2_TAM_KRAS_LILRA2	NF-kappa B signaling pathway	0.00118267	BIRC3/BCL2A1/CYLD/IL1B/LTB/LYN/MYD88/NFKB1/NFKBIA/PRKCB/RELB/CFLAR/TNFSF13B/MALT1/TICAM1	15
RPS2	0.893969732	7.75E-229	M2_TAM_KRAS_LILRA2	Renal cell carcinoma	0.00233447	CDC42/CDKN1A/GRB2/HIF1A/KRAS/PAK1/PAK2/RAP1B/ELOB/TGFB1/RBX1	11
BID	1.137839548	1.01E-228	M2_TAM_KRAS_LILRA2	Hepatitis C	0.00239585	BID/CDKN1A/CTNNB1/GRB2/EIF3E/IRF7/JAK1/KRAS/MX2/NFKB1/NFKBIA/OAS1/RXRA/YWHAB/YWHAZ/CFLAR/SOCS3/CYCS/TICAM1	19
FGR	0.889122117	1.71E-227	M2_TAM_KRAS_LILRA2	Rheumatoid arthritis	0.00326755	CD86/HLA-DQB1/IL1B/ITGAL/ITGB2/LTB/CCL20/TGFB1/TLR2/TNFSF13/ATP6V1G1/TCIRG1/TNFSF13B	13
CRIP1	1.201509272	2.91E-226	M2_TAM_KRAS_LILRA2	Colorectal cancer	0.00470057	AREG/RHOA/CDKN1A/CTNNB1/EREG/GRB2/KRAS/RAC2/RALB/TCF7L2/TGFB1/CYCS	12
LIMD2	0.881019828	1.39E-225	M2_TAM_KRAS_LILRA2	Antigen processing and presentation	0.00615207	B2M/CTSS/HLA-B/HLA-C/HLA-DQB1/HLA-E/HLA-F/HSPA8/PSME1/PSME2/IFI30	11
IFITM3	1.622927227	3.48E-225	M2_TAM_KRAS_LILRA2	Measles	0.00827524	BID/CDKN1B/HSPA8/IL1B/IRF7/JAK1/MSN/MX2/MYD88/NFKB1/NFKBIA/OAS1/TLR2/EIF3H/RACK1/CYCS	16
FPR2	0.553081416	9.05E-225	M2_TAM_KRAS_LILRA2	Focal adhesion	0.00829283	ACTB/ACTG1/BIRC3/RHOA/CDC42/CTNNB1/DIAPH1/FLNA/FYN/GRB2/PAK1/PAK2/PPP1CA/PPP1CB/PRKCB/RAC2/RAP1B/THBS1/TLN1/VASP/MYL12B	21
BTG1	1.328066123	3.41E-224	M2_TAM_KRAS_LILRA2	Malaria	0.00875185	IL1B/ITGAL/ITGB2/MYD88/PECAM1/TGFB1/THBS1/TLR2	8
RPL30	0.82277999	9.82E-222	M2_TAM_KRAS_LILRA2	Graft-versus-host disease	0.0111337	CD86/HLA-B/HLA-C/HLA-DQB1/HLA-E/HLA-F/IL1B	7

TESC	0.672015993	3.99E-215	M2_TAM_KRAS_LILRA2	Cellular senescence	0.01121622	SLC25A5/SLC25A6/CDKN1A/HLA-B/HLA-C/HLA-E/HLA-F/KRAS/NBN/NFKB1/PPP1CA/PPP1CB/RRAS/TGFB1/VDAC2/RASSF5/CALML4	17
NAP1L1	1.239941304	9.96E-215	M2_TAM_KRAS_LILRA2	Type I diabetes mellitus	0.01263705	CD86/HLA-B/HLA-C/HLA-DQB1/HLA-E/HLA-F/IL1B	7
CKB	0.605259768	4.14E-213	M2_TAM_KRAS_LILRA2	Cell adhesion molecules	0.01554178	CD86/VCAN/HLA-B/HLA-C/HLA-DQB1/HLA-E/HLA-F/ICAM2/ICAM3/ITGAL/ITGB2/PECAM1/PTPRC/SELPLG/SPN/VSIR	16
CD55	0.923175736	3.35E-212	M2_TAM_KRAS_LILRA2	PD-L1 expression and PD-1 checkpoint pathway in cancer	0.0160919	HIF1A/IFNGR2/JAK1/KRAS/MYD88/NFKB1/NFKBIA/PTPN6/TLR2/BATF3/TICAM1	11
SAMSN1	1.136388189	3.99E-212	M2_TAM_KRAS_LILRA2	Viral carcinogenesis	0.01881979	RHOA/CDC42/CDKN1A/CDKN1B/GRB2/GTF2B/HLA-B/HLA-C/HLA-E/HLA-F/IRF7/JAK1/KRAS/LYN/NFKB1/NFKBIA/PKM/REL/YWHAB/YWHAZ	20
S100A8	1.109502408	1.73E-211	M2_TAM_KRAS_LILRA2	T cell receptor signaling pathway	0.02028968	RHOA/CDC42/FYN/GRB2/KRAS/NFKB1/NFKBIA/PAK1/PAK2/PTPN6/PTPRC/MALT1	12
POU2F2	1.06775672	9.24E-211	M2_TAM_KRAS_LILRA2	Oxytocin signaling pathway	0.02066874	ACTB/ACTG1/RHOA/CDKN1A/EEF2/GNAI2/KRAS/MYL6/PIK3CG/PPP1CA/PPP1CB/PRKCB/RGS2/CAMK1/CAMKK2/CALML4	16
RPL34	0.813286989	9.71E-211	M2_TAM_KRAS_LILRA2	Parathyroid hormone synthesis, secretion and action	0.02322561	RHOA/ARRB1/CDKN1A/GNAI2/JUND/NACA/PDE4B/PRKCB/RXRA/VDR/ARHGEF1/MAFB	12
RPS12	0.772932589	2.58E-210	M2_TAM_KRAS_LILRA2	Human T-cell leukemia virus 1 infection	0.0234093	SLC25A5/SLC25A6/B2M/TSPO/CDKN1A/HLA-B/HLA-C/HLA-DQB1/HLA-E/HLA-F/ITGAL/ITGB2/JAK1/KRAS/NFKB1/NFKBIA/RELB/SPI1/TGFB1/TLN1/VDAC2	21
CALHM6	0.973631014	8.26E-210	M2_TAM_KRAS_LILRA2	Allograft rejection	0.02347046	CD86/HLA-B/HLA-C/HLA-DQB1/HLA-E/HLA-F	6
LILRA2	0.625129255	2.90E-209	M2_TAM_KRAS_LILRA2	Necroptosis	0.02699284	SLC25A5/SLC25A6/BIRC3/BID/CASP1/CYBB/CYLD/FTH1/IFNGR2/IL1B/JAK1/VDAC2/CFLAR/PYCARD/NLRP3/TICAM1	16
S100A6	1.829682544	3.69E-209	M2_TAM_KRAS_LILRA2	Neomycin, kanamycin and gentamicin biosynthesis	0.03136183	HK1/HK3	2
LTA4H	0.744526903	2.85E-206	M2_TAM_KRAS_LILRA2	Hepatitis B	0.03142351	BID/CDKN1A/GRB2/IRF7/JAK1/KRAS/MYD88/NFKB1/NFKBIA/PRKCB/TGFB1/TLR2/YWHAB/YWHAZ/CYCS/TICAM1	16
SAT1	1.084554716	1.26E-204	M2_TAM_KRAS_LILRA2	Ferroptosis	0.03293703	CYBB/ACSL1/FTH1/SAT1/TFRC/VDAC2	6
AIF1	0.971222683	2.99E-204	M2_TAM_KRAS_LILRA2	Gastric acid secretion	0.03573687	ACTB/ACTG1/ATP1A1/ATP1B3/GNAI2/HRH2/PRKCB/EZR/CALML4	9
FFAR2	0.705103811	1.12E-203	M2_TAM_KRAS_LILRA2	Endocrine and other factor-regulated calcium reabsorption	0.03641287	AP2A1/ATP1A1/ATP1B3/ATP2B1/CLTB/PRKCB/VDR	7
PTGES	0.540086519	5.37E-203	M2_TAM_KRAS_LILRA2	Chagas disease	0.03954212	GNA15/GNAI2/IFNGR2/IL1B/MYD88/NFKB1/NFKBIA/TGFB1/TLR2/CFLAR/TICAM1	11
RPL6	0.838260852	3.43E-202	M2_TAM_KRAS_LILRA2	Fructose and mannose metabolism	0.04374922	FBP1/HK1/HK3/PFKFB3/TPI1	5
LYN	1.114759857	6.62E-202	M2_TAM_KRAS_LILRA2	Tight junction	0.0438122	ACTB/ACTG1/RHOA/CDC42/RAB8A/MSN/MYL6/VASP/EZR/WAS/ARPC3/ARPC1B/ACTR3/ACTR2/ARPC2/MYL12B	16
EEF1A1	0.705649818	1.89E-201	M2_TAM_KRAS_LILRA2	Acute myeloid leukemia	0.04436917	BCL2A1/GRB2/KRAS/NFKB1/RARA/SPI1/TCF7L2/PIM2	8
TGM2	0.843867168	3.93E-201	M2_TAM_KRAS_LILRA2				
RPS15	0.746482613	2.01E-199	M2_TAM_KRAS_LILRA2				
LILRB2	1.075591256	1.14E-197	M2_TAM_KRAS_LILRA2				
LILRA1	0.586746137	1.71E-196	M2_TAM_KRAS_LILRA2				
CTSS	1.038421912	3.55E-196	M2_TAM_KRAS_LILRA2				
FAM49A	0.842143863	3.73E-196	M2_TAM_KRAS_LILRA2				
PRAM1	0.450376633	1.44E-195	M2_TAM_KRAS_LILRA2				
SOD2	1.436122337	1.05E-194	M2_TAM_KRAS_LILRA2				
B4GALT5	0.734324155	1.08E-194	M2_TAM_KRAS_LILRA2				
LILRB3	0.595406195	7.43E-194	M2_TAM_KRAS_LILRA2				
SPN	0.742355786	3.87E-193	M2_TAM_KRAS_LILRA2				
RPS7	0.810227262	6.19E-193	M2_TAM_KRAS_LILRA2				
RPS3	0.832451682	9.16E-193	M2_TAM_KRAS_LILRA2				
RPL39	0.693215043	9.70E-193	M2_TAM_KRAS_LILRA2				
EHD1	0.797614513	4.65E-192	M2_TAM_KRAS_LILRA2				
CD44	0.989046114	1.30E-190	M2_TAM_KRAS_LILRA2				
RPS10	0.835184088	7.16E-189	M2_TAM_KRAS_LILRA2				
RPL7A	0.797604253	1.15E-188	M2_TAM_KRAS_LILRA2				
EIF1	0.786096156	1.78E-188	M2_TAM_KRAS_LILRA2				
TYMP	1.084291732	1.66E-186	M2_TAM_KRAS_LILRA2				
RPL26	0.819238588	3.21E-186	M2_TAM_KRAS_LILRA2				
RPS27A	0.755023464	4.43E-186	M2_TAM_KRAS_LILRA2				
FLNA	0.901807372	3.14E-185	M2_TAM_KRAS_LILRA2				
SLC11A1	0.515458932	5.16E-185	M2_TAM_KRAS_LILRA2				
RPS15A	0.749683953	1.08E-184	M2_TAM_KRAS_LILRA2				
RPS14	0.72094274	1.44E-184	M2_TAM_KRAS_LILRA2				
RRAS	0.683686206	2.19E-184	M2_TAM_KRAS_LILRA2				
OAZ1	0.721006343	8.61E-184	M2_TAM_KRAS_LILRA2				
RPS27	0.770632919	2.17E-183	M2_TAM_KRAS_LILRA2				
SERPINB9	1.069272802	6.30E-183	M2_TAM_KRAS_LILRA2				
CHST2	0.512479677	8.81E-183	M2_TAM_KRAS_LILRA2				

RPS9	0.854618566	3.23E-182	M2_TAM_KRAS_LILRA2
SERPINB1	1.060791727	3.96E-181	M2_TAM_KRAS_LILRA2
SERPINA1	1.021376579	1.58E-179	M2_TAM_KRAS_LILRA2
PLAGL2	0.520256182	3.26E-179	M2_TAM_KRAS_LILRA2
IRAK3	0.611139432	1.60E-178	M2_TAM_KRAS_LILRA2
SIGLEC10	0.558594745	7.53E-177	M2_TAM_KRAS_LILRA2
RPS4X	0.786667746	1.14E-176	M2_TAM_KRAS_LILRA2
HCK	0.866086874	7.73E-174	M2_TAM_KRAS_LILRA2
ISG20	0.840230015	4.50E-173	M2_TAM_KRAS_LILRA2
CD79B	0.446180841	1.10E-172	M2_TAM_KRAS_LILRA2
TNFAIP6	0.760094512	9.36E-172	M2_TAM_KRAS_LILRA2
CDA	0.39948256	5.96E-171	M2_TAM_KRAS_LILRA2
RPS16	0.772652962	4.16E-169	M2_TAM_KRAS_LILRA2
RNF144B	0.891736416	1.09E-167	M2_TAM_KRAS_LILRA2
UBE2R2	0.760716601	2.64E-167	M2_TAM_KRAS_LILRA2
ATP2B1	0.941657798	5.26E-167	M2_TAM_KRAS_LILRA2
RPL10A	0.80722925	6.85E-167	M2_TAM_KRAS_LILRA2
PILRA	0.957894125	2.84E-164	M2_TAM_KRAS_LILRA2
RPS26	0.782344133	3.55E-164	M2_TAM_KRAS_LILRA2
GPBAR1	0.475533803	4.38E-160	M2_TAM_KRAS_LILRA2
RPS13	0.712837899	1.08E-159	M2_TAM_KRAS_LILRA2
CFD	1.188553195	2.82E-159	M2_TAM_KRAS_LILRA2
JPT1	0.974666533	5.00E-159	M2_TAM_KRAS_LILRA2
PRELID1	0.83727024	3.95E-158	M2_TAM_KRAS_LILRA2
VSIR	0.815127632	3.91E-157	M2_TAM_KRAS_LILRA2
CDKN1C	1.461086572	1.87E-156	M2_TAM_KRAS_LILRA2
ANPEP	0.505404695	5.32E-156	M2_TAM_KRAS_LILRA2
HIGD2A	0.82339683	3.07E-155	M2_TAM_KRAS_LILRA2
ICAM2	0.609482729	4.41E-155	M2_TAM_KRAS_LILRA2
NINJ1	1.020870178	1.40E-153	M2_TAM_KRAS_LILRA2
SLC25A6	0.825288963	1.86E-153	M2_TAM_KRAS_LILRA2
RIPOR2	0.429565227	1.86E-153	M2_TAM_KRAS_LILRA2
ICAM3	0.470756988	6.24E-152	M2_TAM_KRAS_LILRA2
RASSF5	0.669939155	2.95E-151	M2_TAM_KRAS_LILRA2
RPS23	0.656656195	9.00E-151	M2_TAM_KRAS_LILRA2
LILRB1	0.733843647	1.19E-149	M2_TAM_KRAS_LILRA2
RPL35A	0.684685904	3.56E-149	M2_TAM_KRAS_LILRA2
KYNU	0.634182268	1.14E-148	M2_TAM_KRAS_LILRA2
FCER1G	0.842869052	1.26E-147	M2_TAM_KRAS_LILRA2
RPL36A	0.70728819	1.28E-147	M2_TAM_KRAS_LILRA2
PPP1R17	0.417717033	8.09E-147	M2_TAM_KRAS_LILRA2
LSP1	0.796217537	1.45E-146	M2_TAM_KRAS_LILRA2
NRGN	0.342621507	1.63E-146	M2_TAM_KRAS_LILRA2
VAMP5	0.803178137	1.30E-145	M2_TAM_KRAS_LILRA2
PABPC1	0.709008982	6.38E-145	M2_TAM_KRAS_LILRA2
SRGN	0.780732305	5.59E-144	M2_TAM_KRAS_LILRA2
PSMB9	0.849842948	5.13E-143	M2_TAM_KRAS_LILRA2
ATP5MC2	0.734111959	5.73E-143	M2_TAM_KRAS_LILRA2
RPL13	0.63179973	1.27E-141	M2_TAM_KRAS_LILRA2
DUSP5	0.899490636	2.48E-141	M2_TAM_KRAS_LILRA2
CX3CR1	0.405283629	1.28E-139	M2_TAM_KRAS_LILRA2
RAP1B	0.886937485	2.14E-139	M2_TAM_KRAS_LILRA2
LFNG	0.675201092	2.28E-139	M2_TAM_KRAS_LILRA2
STX11	0.856169664	1.43E-138	M2_TAM_KRAS_LILRA2
CARD16	0.794991333	1.43E-138	M2_TAM_KRAS_LILRA2
ADA	0.498746544	3.34E-138	M2_TAM_KRAS_LILRA2
GPR35	0.507819797	1.10E-137	M2_TAM_KRAS_LILRA2
S100A9	0.943985851	1.34E-137	M2_TAM_KRAS_LILRA2
FAM110A	0.66635357	2.84E-136	M2_TAM_KRAS_LILRA2
HEIH	0.510219151	5.53E-136	M2_TAM_KRAS_LILRA2
PTPRC	0.936204327	1.34E-134	M2_TAM_KRAS_LILRA2
RPL19	0.566784914	1.98E-134	M2_TAM_KRAS_LILRA2
TCF7L2	0.79581256	3.48E-134	M2_TAM_KRAS_LILRA2
MYD88	0.546910464	4.37E-134	M2_TAM_KRAS_LILRA2

DRAP1	0.713712197	5.15E-134	M2_TAM_KRAS_LILRA2
TKT	0.863684801	5.64E-133	M2_TAM_KRAS_LILRA2
BIN2	0.596326713	1.58E-132	M2_TAM_KRAS_LILRA2
RPL32	0.560727834	5.88E-132	M2_TAM_KRAS_LILRA2
TSPO	0.794672541	1.07E-131	M2_TAM_KRAS_LILRA2
C5AR1	0.919665271	9.76E-131	M2_TAM_KRAS_LILRA2
LYST	0.649715732	1.15E-130	M2_TAM_KRAS_LILRA2
CDH23	0.315632507	1.40E-130	M2_TAM_KRAS_LILRA2
VASP	0.717689241	6.02E-130	M2_TAM_KRAS_LILRA2
MBD2	0.69110209	8.34E-130	M2_TAM_KRAS_LILRA2
DDX21	0.731657398	7.28E-129	M2_TAM_KRAS_LILRA2
UBE2D1	0.678472316	2.03E-128	M2_TAM_KRAS_LILRA2
SLC43A2	0.682990569	5.35E-128	M2_TAM_KRAS_LILRA2
RPS28	0.589666655	2.08E-127	M2_TAM_KRAS_LILRA2
UNC119	0.52009907	2.89E-127	M2_TAM_KRAS_LILRA2
LYPD2	0.996810425	3.60E-127	M2_TAM_KRAS_LILRA2
LYZ	1.13875002	7.09E-127	M2_TAM_KRAS_LILRA2
PRKCB	0.608286453	1.93E-126	M2_TAM_KRAS_LILRA2
SLC7A7	0.564716825	3.47E-126	M2_TAM_KRAS_LILRA2
AP1S2	0.691490934	2.68E-125	M2_TAM_KRAS_LILRA2
TICAM1	0.489928484	2.96E-125	M2_TAM_KRAS_LILRA2
TREM1	0.498628275	3.30E-125	M2_TAM_KRAS_LILRA2
RPL29	0.611281796	5.95E-125	M2_TAM_KRAS_LILRA2
TNFRSF1B	0.77885965	2.46E-124	M2_TAM_KRAS_LILRA2
RPL14	0.595881526	2.79E-124	M2_TAM_KRAS_LILRA2
FGD4	0.510736565	2.10E-123	M2_TAM_KRAS_LILRA2
BASP1	0.935140304	4.54E-122	M2_TAM_KRAS_LILRA2
BCL3	0.624996957	2.33E-121	M2_TAM_KRAS_LILRA2
METRNL	0.815182523	7.65E-121	M2_TAM_KRAS_LILRA2
PSME2	0.797447767	7.20E-120	M2_TAM_KRAS_LILRA2
RIPK2	0.55346148	9.36E-120	M2_TAM_KRAS_LILRA2
EIF3K	0.686454871	1.40E-119	M2_TAM_KRAS_LILRA2
FBP1	0.567397898	1.11E-118	M2_TAM_KRAS_LILRA2
MNDA	0.559815393	1.94E-118	M2_TAM_KRAS_LILRA2
PTGIR	0.297032121	3.88E-118	M2_TAM_KRAS_LILRA2
RIN3	0.52566476	5.38E-118	M2_TAM_KRAS_LILRA2
PFDN5	0.599527709	8.89E-118	M2_TAM_KRAS_LILRA2
MTPN	0.691893943	1.18E-117	M2_TAM_KRAS_LILRA2
RPS3A	0.581078578	3.02E-117	M2_TAM_KRAS_LILRA2
C11orf21	0.283528305	3.63E-117	M2_TAM_KRAS_LILRA2
RPL5	0.658615901	4.80E-117	M2_TAM_KRAS_LILRA2
GPSM3	0.688639355	5.43E-117	M2_TAM_KRAS_LILRA2
VDR	0.259703339	5.70E-117	M2_TAM_KRAS_LILRA2
IRF7	0.660141446	6.47E-117	M2_TAM_KRAS_LILRA2
C20orf27	0.564714304	7.04E-117	M2_TAM_KRAS_LILRA2
AC026369.3	0.337118103	9.96E-117	M2_TAM_KRAS_LILRA2
RASGRP2	0.467917511	9.45E-116	M2_TAM_KRAS_LILRA2
TAF10	0.630222965	1.30E-115	M2_TAM_KRAS_LILRA2
ADORA2A	0.331850525	4.21E-114	M2_TAM_KRAS_LILRA2
IL3RA	0.35654878	7.66E-114	M2_TAM_KRAS_LILRA2
RPL24	0.573721539	1.07E-113	M2_TAM_KRAS_LILRA2
BACH1	0.547737935	1.10E-113	M2_TAM_KRAS_LILRA2
SVIL	0.30266517	3.87E-113	M2_TAM_KRAS_LILRA2
S1PR4	0.325376302	1.21E-112	M2_TAM_KRAS_LILRA2
CHST7	0.487921108	1.58E-112	M2_TAM_KRAS_LILRA2
ARPC1B	0.61438614	2.00E-112	M2_TAM_KRAS_LILRA2
LRRC25	0.609666848	1.28E-111	M2_TAM_KRAS_LILRA2
PLAUR	1.007155376	1.77E-111	M2_TAM_KRAS_LILRA2
PGK1	0.691623605	5.91E-111	M2_TAM_KRAS_LILRA2
HLA-B	0.542139848	1.81E-110	M2_TAM_KRAS_LILRA2
ARPC3	0.624231655	5.81E-110	M2_TAM_KRAS_LILRA2
RUNX3	0.547054143	2.45E-109	M2_TAM_KRAS_LILRA2
POLE4	0.499535887	3.04E-109	M2_TAM_KRAS_LILRA2
ARPC2	0.593514397	3.12E-109	M2_TAM_KRAS_LILRA2

PSMB8	0.513035091	5.81E-109	M2_TAM_KRAS_LILRA2
CYBA	0.614694897	3.19E-108	M2_TAM_KRAS_LILRA2
CASP1	0.589153938	3.93E-108	M2_TAM_KRAS_LILRA2
PAG1	0.63360445	6.55E-108	M2_TAM_KRAS_LILRA2
CDKN2D	0.421063879	1.20E-107	M2_TAM_KRAS_LILRA2
ATP2B1-AS1	0.668855598	4.73E-107	M2_TAM_KRAS_LILRA2
LINC00877	0.351291678	6.40E-107	M2_TAM_KRAS_LILRA2
RPL4	0.6112259	2.46E-106	M2_TAM_KRAS_LILRA2
ABRACL	0.635083121	3.84E-106	M2_TAM_KRAS_LILRA2
UBA52	0.531298307	6.13E-106	M2_TAM_KRAS_LILRA2
NFIL3	0.445427656	6.38E-106	M2_TAM_KRAS_LILRA2
ACAA1	0.435279189	6.67E-106	M2_TAM_KRAS_LILRA2
SMCO4	0.473112433	9.30E-106	M2_TAM_KRAS_LILRA2
TCIRG1	0.482093116	1.96E-105	M2_TAM_KRAS_LILRA2
RNF149	0.613311928	3.46E-105	M2_TAM_KRAS_LILRA2
ADGRE2	0.527638885	4.98E-105	M2_TAM_KRAS_LILRA2
NOTCH2	0.405684357	1.11E-104	M2_TAM_KRAS_LILRA2
NCF2	0.564103422	1.83E-104	M2_TAM_KRAS_LILRA2
S100A11	0.639221444	4.33E-104	M2_TAM_KRAS_LILRA2
AGTRAP	0.473458121	4.58E-104	M2_TAM_KRAS_LILRA2
CAMK1	0.428959602	8.72E-104	M2_TAM_KRAS_LILRA2
HRH2	0.343486275	1.06E-103	M2_TAM_KRAS_LILRA2
VCAN	0.317974918	7.72E-103	M2_TAM_KRAS_LILRA2
GRK6	0.361462956	1.81E-102	M2_TAM_KRAS_LILRA2
PTPN6	0.693763949	3.21E-102	M2_TAM_KRAS_LILRA2
ACTB	0.62728926	3.38E-102	M2_TAM_KRAS_LILRA2
ATG3	0.623962796	1.04E-101	M2_TAM_KRAS_LILRA2
RACK1	0.546579067	1.34E-101	M2_TAM_KRAS_LILRA2
PTMA	0.479345653	8.93E-101	M2_TAM_KRAS_LILRA2
EEF1D	0.574163533	1.01E-100	M2_TAM_KRAS_LILRA2
RPSA	0.608320374	1.63E-99	M2_TAM_KRAS_LILRA2
HIC1	0.408974943	6.37E-99	M2_TAM_KRAS_LILRA2
MARCKSL1	0.453589955	9.30E-99	M2_TAM_KRAS_LILRA2
ZBTB7A	0.576880187	1.74E-98	M2_TAM_KRAS_LILRA2
CD300LF	0.340309406	1.25E-97	M2_TAM_KRAS_LILRA2
PGLS	0.613771036	7.55E-97	M2_TAM_KRAS_LILRA2
H3F3B	0.534666522	1.59E-96	M2_TAM_KRAS_LILRA2
HK3	0.340770073	3.75E-96	M2_TAM_KRAS_LILRA2
SPI1	0.699599129	4.23E-96	M2_TAM_KRAS_LILRA2
PIM2	0.397876525	8.39E-96	M2_TAM_KRAS_LILRA2
MXD1	0.544508424	9.39E-96	M2_TAM_KRAS_LILRA2
MAPKAPK3	0.392754921	1.50E-95	M2_TAM_KRAS_LILRA2
LIMS1	0.837523859	2.48E-95	M2_TAM_KRAS_LILRA2
CPPED1	0.445701225	5.87E-95	M2_TAM_KRAS_LILRA2
NBN	0.574044404	1.38E-94	M2_TAM_KRAS_LILRA2
FMNL1	0.482133278	3.17E-94	M2_TAM_KRAS_LILRA2
GSTP1	0.661069752	2.20E-93	M2_TAM_KRAS_LILRA2
EIF3F	0.550633876	3.53E-93	M2_TAM_KRAS_LILRA2
EIF3L	0.513487711	3.64E-93	M2_TAM_KRAS_LILRA2
PDE4B	0.557851514	3.89E-93	M2_TAM_KRAS_LILRA2
SYTL1	0.276296102	5.82E-93	M2_TAM_KRAS_LILRA2
TES	0.358435876	2.96E-92	M2_TAM_KRAS_LILRA2
SIDT2	0.361805983	8.31E-92	M2_TAM_KRAS_LILRA2
RPL15	0.493522031	8.48E-92	M2_TAM_KRAS_LILRA2
CYBB	0.625067308	1.16E-91	M2_TAM_KRAS_LILRA2
SNHG8	0.466360085	1.26E-91	M2_TAM_KRAS_LILRA2
RPS4Y1	0.606062976	1.93E-90	M2_TAM_KRAS_LILRA2
SRI	0.506461907	1.02E-88	M2_TAM_KRAS_LILRA2
GBP1	0.560990908	2.77E-88	M2_TAM_KRAS_LILRA2
TMPO	0.417464873	3.03E-87	M2_TAM_KRAS_LILRA2
SNN	0.487822338	3.81E-87	M2_TAM_KRAS_LILRA2
CYFIP2	0.272986927	6.09E-87	M2_TAM_KRAS_LILRA2
LSM7	0.479015095	2.15E-86	M2_TAM_KRAS_LILRA2
SSH2	0.353544142	4.47E-86	M2_TAM_KRAS_LILRA2

ZNRD1	0.45273953	1.04E-85	M2_TAM_KRAS_LILRA2
RPS21	0.464506289	1.66E-85	M2_TAM_KRAS_LILRA2
PAPSS2	0.461106812	1.95E-85	M2_TAM_KRAS_LILRA2
PIK3CG	0.421660062	2.10E-85	M2_TAM_KRAS_LILRA2
RPL37	0.468995005	5.35E-85	M2_TAM_KRAS_LILRA2
THEMIS2	0.536360545	5.65E-85	M2_TAM_KRAS_LILRA2
CMTM6	0.564023443	6.57E-85	M2_TAM_KRAS_LILRA2
MTHFS	0.37396332	7.27E-85	M2_TAM_KRAS_LILRA2
ZFAS1	0.582823613	8.35E-85	M2_TAM_KRAS_LILRA2
PFN1	0.559393676	2.21E-84	M2_TAM_KRAS_LILRA2
SLC16A3	0.410663485	7.91E-84	M2_TAM_KRAS_LILRA2
TRAF3IP3	0.298034048	1.22E-83	M2_TAM_KRAS_LILRA2
BIRC3	0.746407587	4.71E-83	M2_TAM_KRAS_LILRA2
UPP1	0.510932413	4.86E-83	M2_TAM_KRAS_LILRA2
LRRFIP1	0.653696148	5.26E-83	M2_TAM_KRAS_LILRA2
RARA	0.383607918	7.19E-83	M2_TAM_KRAS_LILRA2
GMFG	0.571205155	8.26E-83	M2_TAM_KRAS_LILRA2
ZNF703	0.573003456	9.90E-83	M2_TAM_KRAS_LILRA2
TNIP1	0.44880778	1.46E-82	M2_TAM_KRAS_LILRA2
STX10	0.389745477	2.77E-82	M2_TAM_KRAS_LILRA2
POLD4	0.518461041	9.96E-82	M2_TAM_KRAS_LILRA2
JAML	0.419839091	1.92E-81	M2_TAM_KRAS_LILRA2
WTAP	0.56623433	2.17E-81	M2_TAM_KRAS_LILRA2
AMPD2	0.310417208	2.98E-81	M2_TAM_KRAS_LILRA2
GABARAPL1	0.424489277	3.21E-81	M2_TAM_KRAS_LILRA2
RPL21	0.488048301	5.32E-81	M2_TAM_KRAS_LILRA2
OLR1	0.55761043	1.10E-80	M2_TAM_KRAS_LILRA2
PSME1	0.553963357	1.33E-80	M2_TAM_KRAS_LILRA2
COX4I1	0.491883092	3.22E-80	M2_TAM_KRAS_LILRA2
OAS1	0.51338643	9.29E-80	M2_TAM_KRAS_LILRA2
SNRPB	0.456588677	1.23E-79	M2_TAM_KRAS_LILRA2
DIAPH1	0.326477722	1.33E-79	M2_TAM_KRAS_LILRA2
HLA-C	0.500470711	2.21E-79	M2_TAM_KRAS_LILRA2
IFITM1	0.365396688	3.56E-79	M2_TAM_KRAS_LILRA2
CALML4	0.325365379	3.08E-78	M2_TAM_KRAS_LILRA2
HLA-F	0.419782776	7.70E-78	M2_TAM_KRAS_LILRA2
WAS	0.447355404	1.05E-77	M2_TAM_KRAS_LILRA2
RXRA	0.451859104	1.19E-77	M2_TAM_KRAS_LILRA2
HLA-E	0.536288645	1.47E-77	M2_TAM_KRAS_LILRA2
ZNF385A	0.372213792	2.47E-77	M2_TAM_KRAS_LILRA2
PLXNC1	0.322040492	2.88E-77	M2_TAM_KRAS_LILRA2
NUP50	0.357453756	3.22E-77	M2_TAM_KRAS_LILRA2
TPI1	0.532861764	3.75E-77	M2_TAM_KRAS_LILRA2
ATP1B3	0.667393688	3.82E-77	M2_TAM_KRAS_LILRA2
RPS5	0.495191356	3.85E-77	M2_TAM_KRAS_LILRA2
GRASP	0.415853573	4.02E-77	M2_TAM_KRAS_LILRA2
ITGAL	0.379858064	6.41E-77	M2_TAM_KRAS_LILRA2
RELB	0.39539309	7.10E-77	M2_TAM_KRAS_LILRA2
PYCARD	0.585644098	7.69E-77	M2_TAM_KRAS_LILRA2
CAMKK2	0.335726345	1.27E-76	M2_TAM_KRAS_LILRA2
CTNNB1	0.550020159	1.30E-76	M2_TAM_KRAS_LILRA2
RHOG	0.556383036	2.55E-76	M2_TAM_KRAS_LILRA2
HSBP1	0.59300968	4.46E-76	M2_TAM_KRAS_LILRA2
SLAMF7	0.547406662	4.62E-76	M2_TAM_KRAS_LILRA2
CCDC69	0.28795902	7.19E-76	M2_TAM_KRAS_LILRA2
RBM8A	0.489693785	1.58E-75	M2_TAM_KRAS_LILRA2
C1orf162	0.558901089	7.20E-75	M2_TAM_KRAS_LILRA2
DOCK8	0.399930894	9.21E-75	M2_TAM_KRAS_LILRA2
RPL12	0.396156115	1.62E-74	M2_TAM_KRAS_LILRA2
OSCAR	0.255162348	4.36E-74	M2_TAM_KRAS_LILRA2
CHD1	0.493308684	4.91E-74	M2_TAM_KRAS_LILRA2
UBE2J1	0.423892758	5.50E-74	M2_TAM_KRAS_LILRA2
CAPNS1	0.496239235	6.05E-74	M2_TAM_KRAS_LILRA2
MT-CO2	0.447735093	1.14E-73	M2_TAM_KRAS_LILRA2

DMXL2	0.418309039	1.32E-73	M2_TAM_KRAS_LILRA2
SEPTIN9	0.475298642	1.38E-73	M2_TAM_KRAS_LILRA2
PECAM1	0.531088432	1.53E-73	M2_TAM_KRAS_LILRA2
GPR132	0.312371814	1.89E-73	M2_TAM_KRAS_LILRA2
GSTK1	0.53874834	3.37E-73	M2_TAM_KRAS_LILRA2
NFAT5	0.316493017	6.74E-73	M2_TAM_KRAS_LILRA2
PGAM1	0.401954592	1.17E-72	M2_TAM_KRAS_LILRA2
SPATA13	0.26402315	1.68E-72	M2_TAM_KRAS_LILRA2
SLC25A37	0.359032789	9.81E-72	M2_TAM_KRAS_LILRA2
SLC25A3	0.511156361	1.18E-71	M2_TAM_KRAS_LILRA2
ARAP2	0.327712438	1.85E-71	M2_TAM_KRAS_LILRA2
PKN1	0.436489039	3.04E-71	M2_TAM_KRAS_LILRA2
PLD4	0.260007577	6.18E-71	M2_TAM_KRAS_LILRA2
PSMB10	0.47765436	6.31E-71	M2_TAM_KRAS_LILRA2
RILPL2	0.509512364	6.74E-71	M2_TAM_KRAS_LILRA2
CNIH4	0.369939975	7.24E-71	M2_TAM_KRAS_LILRA2
EMILIN2	0.434712431	8.42E-71	M2_TAM_KRAS_LILRA2
RPLP1	0.427321701	1.70E-70	M2_TAM_KRAS_LILRA2
PIK3AP1	0.519203757	3.98E-70	M2_TAM_KRAS_LILRA2
RPL7	0.50847215	7.06E-70	M2_TAM_KRAS_LILRA2
PTGER2	0.273791617	2.00E-69	M2_TAM_KRAS_LILRA2
GTF2B	0.421889248	2.96E-69	M2_TAM_KRAS_LILRA2
CCDC88C	0.255965631	3.86E-69	M2_TAM_KRAS_LILRA2
PSTPIP2	0.311463539	6.11E-69	M2_TAM_KRAS_LILRA2
DENND6B	0.263204186	6.41E-69	M2_TAM_KRAS_LILRA2
CCNI	0.512453452	9.74E-69	M2_TAM_KRAS_LILRA2
RASSF2	0.339253984	1.98E-68	M2_TAM_KRAS_LILRA2
AC090559.1	0.401405664	2.55E-68	M2_TAM_KRAS_LILRA2
CDKN1B	0.364459187	5.39E-68	M2_TAM_KRAS_LILRA2
MAFB	0.754896559	5.58E-68	M2_TAM_KRAS_LILRA2
PNPLA8	0.421333398	6.35E-68	M2_TAM_KRAS_LILRA2
SLC25A5	0.530117417	9.60E-68	M2_TAM_KRAS_LILRA2
ADK	0.267383835	1.61E-67	M2_TAM_KRAS_LILRA2
REL	0.591533428	2.46E-67	M2_TAM_KRAS_LILRA2
PSEN1	0.321980249	3.09E-67	M2_TAM_KRAS_LILRA2
ASGR1	0.285182727	3.33E-67	M2_TAM_KRAS_LILRA2
SUPT4H1	0.39222767	4.32E-67	M2_TAM_KRAS_LILRA2
SLA	0.558125332	4.93E-67	M2_TAM_KRAS_LILRA2
RAB10	0.466575061	5.05E-67	M2_TAM_KRAS_LILRA2
CHCHD2	0.436954584	7.42E-67	M2_TAM_KRAS_LILRA2
BATF3	0.361008659	1.50E-66	M2_TAM_KRAS_LILRA2
RPL23A	0.463772139	2.04E-66	M2_TAM_KRAS_LILRA2
PHF19	0.294542455	2.07E-66	M2_TAM_KRAS_LILRA2
SECTM1	0.372361403	3.55E-66	M2_TAM_KRAS_LILRA2
PPM1F	0.319351168	4.01E-66	M2_TAM_KRAS_LILRA2
THAP9-AS1	0.272998311	4.36E-66	M2_TAM_KRAS_LILRA2
GABARAP	0.43936802	4.93E-66	M2_TAM_KRAS_LILRA2
ITGB2	0.49983205	6.38E-66	M2_TAM_KRAS_LILRA2
SMDT1	0.444490365	7.38E-66	M2_TAM_KRAS_LILRA2
ADGRE5	0.438165036	8.42E-66	M2_TAM_KRAS_LILRA2
CLTB	0.384922561	1.05E-65	M2_TAM_KRAS_LILRA2
SNX20	0.258539533	1.82E-65	M2_TAM_KRAS_LILRA2
SP3	0.374387173	3.33E-65	M2_TAM_KRAS_LILRA2
COMMD6	0.467811476	3.89E-65	M2_TAM_KRAS_LILRA2
XRCC5	0.396910149	6.14E-65	M2_TAM_KRAS_LILRA2
RPL9	0.419319604	7.09E-65	M2_TAM_KRAS_LILRA2
RNH1	0.498610649	7.17E-65	M2_TAM_KRAS_LILRA2
RHOC	0.661246254	1.49E-64	M2_TAM_KRAS_LILRA2
RAC2	0.445447231	2.88E-64	M2_TAM_KRAS_LILRA2
RPS25	0.40663672	1.29E-63	M2_TAM_KRAS_LILRA2
TIMM17B	0.304634243	2.06E-63	M2_TAM_KRAS_LILRA2
LYSMD2	0.373359532	5.38E-63	M2_TAM_KRAS_LILRA2
ABI3	0.363043793	5.96E-63	M2_TAM_KRAS_LILRA2
C9orf72	0.350215919	6.55E-63	M2_TAM_KRAS_LILRA2

GDI2	0.458452056	1.81E-62	M2_TAM_KRAS_LILRA2
FCGR3A	0.615834859	2.32E-62	M2_TAM_KRAS_LILRA2
LTB	0.32801128	3.17E-62	M2_TAM_KRAS_LILRA2
C15orf39	0.279659857	6.01E-62	M2_TAM_KRAS_LILRA2
CARD19	0.343664497	1.44E-61	M2_TAM_KRAS_LILRA2
JUND	0.462484469	1.50E-61	M2_TAM_KRAS_LILRA2
SORL1	0.263659669	4.78E-61	M2_TAM_KRAS_LILRA2
UBXN1	0.386098181	5.52E-61	M2_TAM_KRAS_LILRA2
CSK	0.423634234	6.07E-61	M2_TAM_KRAS_LILRA2
RNF19B	0.347786175	2.43E-60	M2_TAM_KRAS_LILRA2
LRRK2	0.267378127	2.89E-60	M2_TAM_KRAS_LILRA2
DNAAF1	0.267249945	4.27E-60	M2_TAM_KRAS_LILRA2
NEDD9	0.258293307	4.73E-60	M2_TAM_KRAS_LILRA2
SNX10	0.398955863	1.09E-59	M2_TAM_KRAS_LILRA2
APOL3	0.262826093	1.16E-59	M2_TAM_KRAS_LILRA2
AP2A1	0.279823143	1.31E-59	M2_TAM_KRAS_LILRA2
CLEC7A	0.384832656	3.77E-59	M2_TAM_KRAS_LILRA2
MTF1	0.284020262	5.36E-59	M2_TAM_KRAS_LILRA2
PTX3	0.280099368	1.57E-58	M2_TAM_KRAS_LILRA2
PTPRE	0.473462026	1.70E-58	M2_TAM_KRAS_LILRA2
SH3BP1	0.311290437	2.01E-58	M2_TAM_KRAS_LILRA2
MIR22HG	0.336413368	2.10E-58	M2_TAM_KRAS_LILRA2
HDGF	0.372593278	2.46E-58	M2_TAM_KRAS_LILRA2
GPCPD1	0.376736146	2.82E-58	M2_TAM_KRAS_LILRA2
MX2	0.306386059	5.46E-58	M2_TAM_KRAS_LILRA2
RPS18	0.452875082	1.53E-57	M2_TAM_KRAS_LILRA2
SCLT1	0.273823511	1.83E-57	M2_TAM_KRAS_LILRA2
CASP4	0.379504179	1.94E-57	M2_TAM_KRAS_LILRA2
COX7B	0.43260302	5.27E-57	M2_TAM_KRAS_LILRA2
ATP5MG	0.417510043	5.72E-57	M2_TAM_KRAS_LILRA2
CYCS	0.503264133	1.20E-56	M2_TAM_KRAS_LILRA2
SNX18	0.419744371	1.37E-56	M2_TAM_KRAS_LILRA2
SRSF9	0.39193598	1.48E-56	M2_TAM_KRAS_LILRA2
SLC2A3	0.54491708	2.75E-56	M2_TAM_KRAS_LILRA2
SEC11A	0.432513326	4.73E-56	M2_TAM_KRAS_LILRA2
PKM	0.407187815	5.91E-56	M2_TAM_KRAS_LILRA2
CDC42EP3	0.400024602	2.56E-55	M2_TAM_KRAS_LILRA2
FAM89B	0.334809558	2.97E-55	M2_TAM_KRAS_LILRA2
PPA1	0.282327469	4.88E-55	M2_TAM_KRAS_LILRA2
GNG2	0.489274913	8.22E-55	M2_TAM_KRAS_LILRA2
ARRB1	0.330655273	1.30E-54	M2_TAM_KRAS_LILRA2
IQSEC1	0.317981131	3.58E-54	M2_TAM_KRAS_LILRA2
NUMB	0.31654311	3.60E-54	M2_TAM_KRAS_LILRA2
RPL22	0.374995855	4.28E-54	M2_TAM_KRAS_LILRA2
TRAF4	0.268335725	6.34E-54	M2_TAM_KRAS_LILRA2
NAAA	0.297399625	6.58E-54	M2_TAM_KRAS_LILRA2
ACTR3	0.43148248	7.49E-54	M2_TAM_KRAS_LILRA2
PPP1CA	0.410583322	2.32E-53	M2_TAM_KRAS_LILRA2
CD47	0.3817235	2.46E-53	M2_TAM_KRAS_LILRA2
NXT1	0.324451466	4.78E-53	M2_TAM_KRAS_LILRA2
GSTO1	0.429363325	6.67E-53	M2_TAM_KRAS_LILRA2
RAB5IF	0.337540434	6.91E-53	M2_TAM_KRAS_LILRA2
EIF3H	0.377289949	8.45E-53	M2_TAM_KRAS_LILRA2
NDUFS7	0.377631452	8.55E-53	M2_TAM_KRAS_LILRA2
PRR13	0.414825057	1.03E-52	M2_TAM_KRAS_LILRA2
EIF6	0.302819444	1.22E-52	M2_TAM_KRAS_LILRA2
HES4	0.48842266	1.99E-52	M2_TAM_KRAS_LILRA2
WASF2	0.455845608	3.61E-52	M2_TAM_KRAS_LILRA2
PTPN1	0.360915844	7.49E-52	M2_TAM_KRAS_LILRA2
ARHGDIB	0.471629678	8.15E-52	M2_TAM_KRAS_LILRA2
PDLIM5	0.322690708	9.25E-52	M2_TAM_KRAS_LILRA2
FYN	0.260579917	1.38E-51	M2_TAM_KRAS_LILRA2
DENND10	0.29740751	2.08E-51	M2_TAM_KRAS_LILRA2
ERGIC1	0.33002663	4.67E-51	M2_TAM_KRAS_LILRA2

RPL17	0.38084858	7.44E-51	M2_TAM_KRAS_LILRA2
ABHD5	0.419075781	1.25E-50	M2_TAM_KRAS_LILRA2
SCIMP	0.313102296	1.37E-50	M2_TAM_KRAS_LILRA2
AREG	1.02737587	2.10E-50	M2_TAM_KRAS_LILRA2
EIF4E2	0.30103661	2.12E-50	M2_TAM_KRAS_LILRA2
BAZ1A	0.409179317	3.31E-50	M2_TAM_KRAS_LILRA2
LSM6	0.298742279	3.32E-50	M2_TAM_KRAS_LILRA2
UQCRC1	0.331144172	3.44E-50	M2_TAM_KRAS_LILRA2
BTF3	0.373756102	3.75E-50	M2_TAM_KRAS_LILRA2
MGAT1	0.440772056	4.27E-50	M2_TAM_KRAS_LILRA2
PPM1N	0.256093905	4.92E-50	M2_TAM_KRAS_LILRA2
DOCK2	0.33675367	8.81E-50	M2_TAM_KRAS_LILRA2
MDH2	0.352041267	1.42E-49	M2_TAM_KRAS_LILRA2
RALB	0.275804628	1.78E-49	M2_TAM_KRAS_LILRA2
OXR1	0.287912822	1.83E-49	M2_TAM_KRAS_LILRA2
VDAC2	0.351958642	3.29E-49	M2_TAM_KRAS_LILRA2
GCA	0.304838011	3.52E-49	M2_TAM_KRAS_LILRA2
RNASET2	0.448415116	4.43E-49	M2_TAM_KRAS_LILRA2
RNF141	0.320384294	1.14E-48	M2_TAM_KRAS_LILRA2
EEF1B2	0.398468321	1.26E-48	M2_TAM_KRAS_LILRA2
GNG5	0.407995324	1.82E-48	M2_TAM_KRAS_LILRA2
DENND5A	0.29276578	2.18E-48	M2_TAM_KRAS_LILRA2
PLSCR1	0.408264508	2.55E-48	M2_TAM_KRAS_LILRA2
GHITM	0.3140675	2.76E-48	M2_TAM_KRAS_LILRA2
LMO2	0.336587707	3.03E-48	M2_TAM_KRAS_LILRA2
RABGEF1	0.250544115	3.23E-48	M2_TAM_KRAS_LILRA2
RIOK3	0.333118254	3.58E-48	M2_TAM_KRAS_LILRA2
PLAAT4	0.341717576	4.56E-48	M2_TAM_KRAS_LILRA2
ELF1	0.37590508	7.09E-48	M2_TAM_KRAS_LILRA2
CYC1	0.296228546	7.47E-48	M2_TAM_KRAS_LILRA2
RPS6	0.405114157	8.84E-48	M2_TAM_KRAS_LILRA2
MKRN1	0.269012119	1.35E-47	M2_TAM_KRAS_LILRA2
AOAH	0.318400129	1.71E-47	M2_TAM_KRAS_LILRA2
RELT	0.278171919	1.98E-47	M2_TAM_KRAS_LILRA2
SMCHD1	0.298414265	2.17E-47	M2_TAM_KRAS_LILRA2
C17orf49	0.350745122	2.20E-47	M2_TAM_KRAS_LILRA2
MOB3A	0.298853518	3.78E-47	M2_TAM_KRAS_LILRA2
LACTB	0.323033164	4.24E-47	M2_TAM_KRAS_LILRA2
SH3BGRL3	0.320854307	4.47E-47	M2_TAM_KRAS_LILRA2
SNRPG	0.342102086	4.56E-47	M2_TAM_KRAS_LILRA2
PCMT1	0.306278123	5.50E-47	M2_TAM_KRAS_LILRA2
PHB2	0.313561649	8.25E-47	M2_TAM_KRAS_LILRA2
NDUFA12	0.312726077	1.11E-46	M2_TAM_KRAS_LILRA2
CFL1	0.340485513	1.16E-46	M2_TAM_KRAS_LILRA2
RGS18	0.257528687	1.22E-46	M2_TAM_KRAS_LILRA2
FKBP1A	0.392726881	1.23E-46	M2_TAM_KRAS_LILRA2
IDH3G	0.276087545	1.35E-46	M2_TAM_KRAS_LILRA2
ACOT9	0.30606018	1.38E-46	M2_TAM_KRAS_LILRA2
CUX1	0.299711497	1.95E-46	M2_TAM_KRAS_LILRA2
PTPN2	0.268477448	1.97E-46	M2_TAM_KRAS_LILRA2
FXYD5	0.442978689	2.53E-46	M2_TAM_KRAS_LILRA2
NLRP3	0.404187603	3.89E-46	M2_TAM_KRAS_LILRA2
MOB1A	0.34299764	5.41E-46	M2_TAM_KRAS_LILRA2
SKIL	0.3296591	6.15E-46	M2_TAM_KRAS_LILRA2
CCT5	0.306288002	7.11E-46	M2_TAM_KRAS_LILRA2
TRIM38	0.318947513	8.21E-46	M2_TAM_KRAS_LILRA2
GK	0.42362247	9.78E-46	M2_TAM_KRAS_LILRA2
ACTR2	0.397662773	1.86E-45	M2_TAM_KRAS_LILRA2
PLEK	0.571233044	2.88E-45	M2_TAM_KRAS_LILRA2
SNHG15	0.258019486	2.88E-45	M2_TAM_KRAS_LILRA2
ARHGEF1	0.284227253	3.49E-45	M2_TAM_KRAS_LILRA2
GLTP	0.284699313	4.39E-45	M2_TAM_KRAS_LILRA2
MTHFD2	0.289234685	4.86E-45	M2_TAM_KRAS_LILRA2
NDUFB5	0.325045155	5.18E-45	M2_TAM_KRAS_LILRA2

MALT1	0.286243158	5.98E-45	M2_TAM_KRAS_LILRA2
TSC22D3	0.370782035	6.05E-45	M2_TAM_KRAS_LILRA2
EZR	0.434616465	6.35E-45	M2_TAM_KRAS_LILRA2
SYF2	0.303980632	7.27E-45	M2_TAM_KRAS_LILRA2
SF3B2	0.33305192	7.94E-45	M2_TAM_KRAS_LILRA2
GRB2	0.362750771	9.74E-45	M2_TAM_KRAS_LILRA2
ARL4A	0.34080361	1.09E-44	M2_TAM_KRAS_LILRA2
CHST15	0.306466245	1.17E-44	M2_TAM_KRAS_LILRA2
PSMA6	0.324063723	1.38E-44	M2_TAM_KRAS_LILRA2
DNAJC7	0.271584003	1.68E-44	M2_TAM_KRAS_LILRA2
TNFSF13B	0.383032175	1.77E-44	M2_TAM_KRAS_LILRA2
COX7C	0.367803909	2.33E-44	M2_TAM_KRAS_LILRA2
HIST3H2A	0.281850177	2.46E-44	M2_TAM_KRAS_LILRA2
MRPS24	0.332130826	2.72E-44	M2_TAM_KRAS_LILRA2
FOSL2	0.399624522	3.08E-44	M2_TAM_KRAS_LILRA2
PPP4R2	0.265563275	3.50E-44	M2_TAM_KRAS_LILRA2
IL10RA	0.343271987	3.60E-44	M2_TAM_KRAS_LILRA2
TFRC	0.491199993	3.95E-44	M2_TAM_KRAS_LILRA2
HK1	0.263535892	4.50E-44	M2_TAM_KRAS_LILRA2
CNN2	0.305216429	5.40E-44	M2_TAM_KRAS_LILRA2
UXT	0.350289507	5.98E-44	M2_TAM_KRAS_LILRA2
SELPLG	0.305971228	7.99E-44	M2_TAM_KRAS_LILRA2
UBE2B	0.350071727	9.66E-44	M2_TAM_KRAS_LILRA2
SYAP1	0.445410152	1.11E-43	M2_TAM_KRAS_LILRA2
RPL22L1	0.359570251	1.17E-43	M2_TAM_KRAS_LILRA2
B2M	0.307547782	1.98E-43	M2_TAM_KRAS_LILRA2
LPCAT1	0.348265781	2.96E-43	M2_TAM_KRAS_LILRA2
LINC01578	0.305758323	4.15E-43	M2_TAM_KRAS_LILRA2
TLR2	0.291411595	7.32E-43	M2_TAM_KRAS_LILRA2
EFHD2	0.385802921	9.68E-43	M2_TAM_KRAS_LILRA2
GRAMD1A	0.28968877	9.90E-43	M2_TAM_KRAS_LILRA2
SEC14L1	0.353014111	9.90E-43	M2_TAM_KRAS_LILRA2
UTRN	0.302901525	1.03E-42	M2_TAM_KRAS_LILRA2
LY6E	0.440783949	1.09E-42	M2_TAM_KRAS_LILRA2
PNRC1	0.466381772	1.14E-42	M2_TAM_KRAS_LILRA2
OSER1	0.305579075	1.32E-42	M2_TAM_KRAS_LILRA2
UBE2L6	0.331289518	1.55E-42	M2_TAM_KRAS_LILRA2
DNAJA1	0.509876627	1.92E-42	M2_TAM_KRAS_LILRA2
OTUB1	0.266864238	2.42E-42	M2_TAM_KRAS_LILRA2
CLNS1A	0.257636135	2.51E-42	M2_TAM_KRAS_LILRA2
FGL2	0.378677876	3.11E-42	M2_TAM_KRAS_LILRA2
MYL6	0.314602991	3.11E-42	M2_TAM_KRAS_LILRA2
PIM3	0.371375928	3.41E-42	M2_TAM_KRAS_LILRA2
TET2	0.258153828	4.79E-42	M2_TAM_KRAS_LILRA2
NFKB1	0.403670545	6.32E-42	M2_TAM_KRAS_LILRA2
RPS29	0.384627943	1.13E-41	M2_TAM_KRAS_LILRA2
LAMTOR4	0.389871644	1.21E-41	M2_TAM_KRAS_LILRA2
PSMB3	0.339850175	1.50E-41	M2_TAM_KRAS_LILRA2
WBP1L	0.274492795	1.60E-41	M2_TAM_KRAS_LILRA2
COX7A2	0.356039591	1.97E-41	M2_TAM_KRAS_LILRA2
ARF5	0.307183247	2.81E-41	M2_TAM_KRAS_LILRA2
NRARP	0.35888692	3.25E-41	M2_TAM_KRAS_LILRA2
LCP1	0.408327717	3.47E-41	M2_TAM_KRAS_LILRA2
NDUFA13	0.345053248	4.09E-41	M2_TAM_KRAS_LILRA2
C16orf72	0.268513078	4.49E-41	M2_TAM_KRAS_LILRA2
CCT8	0.269332937	4.50E-41	M2_TAM_KRAS_LILRA2
STK10	0.277908197	5.43E-41	M2_TAM_KRAS_LILRA2
CERT1	0.275124552	5.91E-41	M2_TAM_KRAS_LILRA2
PAK1	0.317627119	5.92E-41	M2_TAM_KRAS_LILRA2
DBNL	0.279910792	8.90E-41	M2_TAM_KRAS_LILRA2
TBC1D1	0.271248602	9.87E-41	M2_TAM_KRAS_LILRA2
POLR1D	0.303568002	1.05E-40	M2_TAM_KRAS_LILRA2
COX5B	0.350164905	1.40E-40	M2_TAM_KRAS_LILRA2
SMAP2	0.321202351	1.76E-40	M2_TAM_KRAS_LILRA2

GBP2	0.334432625	2.43E-40	M2_TAM_KRAS_LILRA2
CST3	0.418078242	3.93E-40	M2_TAM_KRAS_LILRA2
TBCB	0.293696814	5.11E-40	M2_TAM_KRAS_LILRA2
EVI2B	0.36313469	7.14E-40	M2_TAM_KRAS_LILRA2
CD300A	0.286320495	8.45E-40	M2_TAM_KRAS_LILRA2
EIF4G2	0.366240141	1.85E-39	M2_TAM_KRAS_LILRA2
APBB1IP	0.30565127	2.00E-39	M2_TAM_KRAS_LILRA2
IL1B	1.161417455	2.71E-39	M2_TAM_KRAS_LILRA2
SLU7	0.251995913	4.07E-39	M2_TAM_KRAS_LILRA2
TLN1	0.389629535	4.12E-39	M2_TAM_KRAS_LILRA2
PMVK	0.254150258	4.86E-39	M2_TAM_KRAS_LILRA2
WDR1	0.301864965	8.60E-39	M2_TAM_KRAS_LILRA2
HBP1	0.251779023	8.98E-39	M2_TAM_KRAS_LILRA2
MYO1F	0.308404886	9.24E-39	M2_TAM_KRAS_LILRA2
VPS35	0.293288453	1.04E-38	M2_TAM_KRAS_LILRA2
PSMA2	0.265084268	1.82E-38	M2_TAM_KRAS_LILRA2
PPP1CB	0.337784306	2.83E-38	M2_TAM_KRAS_LILRA2
TNFSF13	0.27279775	4.63E-38	M2_TAM_KRAS_LILRA2
SLC31A2	0.279169297	4.67E-38	M2_TAM_KRAS_LILRA2
MICOS10	0.334337302	5.77E-38	M2_TAM_KRAS_LILRA2
AKIRIN2	0.301679785	6.39E-38	M2_TAM_KRAS_LILRA2
RTRAF	0.288988038	7.06E-38	M2_TAM_KRAS_LILRA2
TRIR	0.338870671	8.58E-38	M2_TAM_KRAS_LILRA2
EVL	0.293072103	1.38E-37	M2_TAM_KRAS_LILRA2
ARRDC1	0.252685757	1.62E-37	M2_TAM_KRAS_LILRA2
ENY2	0.337771471	2.05E-37	M2_TAM_KRAS_LILRA2
PFDN1	0.27568163	2.12E-37	M2_TAM_KRAS_LILRA2
CIB1	0.286311549	3.22E-37	M2_TAM_KRAS_LILRA2
VMP1	0.348988542	9.39E-37	M2_TAM_KRAS_LILRA2
HMGN2	0.302819444	1.06E-36	M2_TAM_KRAS_LILRA2
GNA15	0.278407778	1.08E-36	M2_TAM_KRAS_LILRA2
TOB2	0.270581146	1.54E-36	M2_TAM_KRAS_LILRA2
KRAS	0.258633482	1.83E-36	M2_TAM_KRAS_LILRA2
THBS1	0.526219855	1.85E-36	M2_TAM_KRAS_LILRA2
SH3BP2	0.283775026	2.38E-36	M2_TAM_KRAS_LILRA2
RGS19	0.327925948	2.41E-36	M2_TAM_KRAS_LILRA2
UQCRFS1	0.273578182	3.02E-36	M2_TAM_KRAS_LILRA2
VPS29	0.333695453	3.85E-36	M2_TAM_KRAS_LILRA2
RPLP2	0.293398871	3.96E-36	M2_TAM_KRAS_LILRA2
CDKN1A	0.411496617	4.56E-36	M2_TAM_KRAS_LILRA2
SP110	0.282596755	6.98E-36	M2_TAM_KRAS_LILRA2
EHBP1L1	0.28620561	2.12E-35	M2_TAM_KRAS_LILRA2
GNB2	0.348480362	4.22E-35	M2_TAM_KRAS_LILRA2
PFKFB3	0.319041731	5.14E-35	M2_TAM_KRAS_LILRA2
RAB8A	0.262790502	5.24E-35	M2_TAM_KRAS_LILRA2
RPS11	0.360945385	6.06E-35	M2_TAM_KRAS_LILRA2
EIF5A	0.274780225	1.10E-34	M2_TAM_KRAS_LILRA2
MSN	0.342720183	1.99E-34	M2_TAM_KRAS_LILRA2
TSPAN14	0.291224306	2.04E-34	M2_TAM_KRAS_LILRA2
TOMM6	0.279293209	2.32E-34	M2_TAM_KRAS_LILRA2
RBX1	0.303453706	2.75E-34	M2_TAM_KRAS_LILRA2
ADRM1	0.255289595	3.87E-34	M2_TAM_KRAS_LILRA2
SIAH2	0.252099687	6.24E-34	M2_TAM_KRAS_LILRA2
ATP5PO	0.306213791	1.03E-33	M2_TAM_KRAS_LILRA2
ATP5F1A	0.287818881	1.08E-33	M2_TAM_KRAS_LILRA2
ZNF706	0.301335953	1.49E-33	M2_TAM_KRAS_LILRA2
TMSB10	0.281326158	1.58E-33	M2_TAM_KRAS_LILRA2
MYL12B	0.329035705	1.71E-33	M2_TAM_KRAS_LILRA2
RBM4	0.251715308	1.76E-33	M2_TAM_KRAS_LILRA2
YWHAB	0.311106805	2.24E-33	M2_TAM_KRAS_LILRA2
EEF2	0.334075579	3.81E-33	M2_TAM_KRAS_LILRA2
SYNGR2	0.323023015	4.26E-33	M2_TAM_KRAS_LILRA2
PLEKHO1	0.346437047	4.47E-33	M2_TAM_KRAS_LILRA2
PSMA4	0.253249156	4.72E-33	M2_TAM_KRAS_LILRA2

CYTH1	0.28061324	5.40E-33	M2_TAM_KRAS_LILRA2
SPCS1	0.269157277	6.19E-33	M2_TAM_KRAS_LILRA2
CMTM7	0.254289334	9.57E-33	M2_TAM_KRAS_LILRA2
ACAP2	0.26929166	1.02E-32	M2_TAM_KRAS_LILRA2
EEF1G	0.335720103	1.75E-32	M2_TAM_KRAS_LILRA2
SNHG5	0.287772726	2.96E-32	M2_TAM_KRAS_LILRA2
ATP5F1B	0.293691059	3.16E-32	M2_TAM_KRAS_LILRA2
AVPI1	0.279786588	3.62E-32	M2_TAM_KRAS_LILRA2
HLA-DQB1	0.336178456	7.35E-32	M2_TAM_KRAS_LILRA2
ZEB2	0.42898406	9.22E-32	M2_TAM_KRAS_LILRA2
PLK3	0.275965963	9.86E-32	M2_TAM_KRAS_LILRA2
TMOD3	0.250988274	1.13E-31	M2_TAM_KRAS_LILRA2
GBP4	0.281752026	1.17E-31	M2_TAM_KRAS_LILRA2
RNASEK	0.291107906	1.17E-31	M2_TAM_KRAS_LILRA2
NAA38	0.284134881	1.29E-31	M2_TAM_KRAS_LILRA2
RAB20	0.318350239	1.30E-31	M2_TAM_KRAS_LILRA2
ATP1A1	0.307106803	1.33E-31	M2_TAM_KRAS_LILRA2
ATP5PB	0.273929827	1.58E-31	M2_TAM_KRAS_LILRA2
CEBPB	0.387516294	1.76E-31	M2_TAM_KRAS_LILRA2
EIF3E	0.309126723	2.19E-31	M2_TAM_KRAS_LILRA2
MIR3945HG	0.361953437	2.57E-31	M2_TAM_KRAS_LILRA2
TGFB1	0.291239386	2.75E-31	M2_TAM_KRAS_LILRA2
CYLD	0.25445689	3.39E-31	M2_TAM_KRAS_LILRA2
TBXAS1	0.269776608	6.21E-31	M2_TAM_KRAS_LILRA2
DDIT4	0.389104353	1.09E-30	M2_TAM_KRAS_LILRA2
ATP5F1D	0.317008633	2.39E-30	M2_TAM_KRAS_LILRA2
PAK2	0.265195361	2.54E-30	M2_TAM_KRAS_LILRA2
CDC42	0.302819444	2.61E-30	M2_TAM_KRAS_LILRA2
CCL20	0.683808142	3.20E-30	M2_TAM_KRAS_LILRA2
TOP1	0.250065406	8.58E-30	M2_TAM_KRAS_LILRA2
ACSL1	0.381382021	1.24E-29	M2_TAM_KRAS_LILRA2
COX5A	0.286085663	1.81E-29	M2_TAM_KRAS_LILRA2
GRINA	0.305462089	2.06E-29	M2_TAM_KRAS_LILRA2
CAPZA1	0.278999247	2.52E-29	M2_TAM_KRAS_LILRA2
COX6A1	0.30866852	6.09E-29	M2_TAM_KRAS_LILRA2
HIF1A	0.340577768	1.25E-28	M2_TAM_KRAS_LILRA2
TMBIM4	0.292764055	1.73E-28	M2_TAM_KRAS_LILRA2
SOCS3	0.257937987	1.88E-28	M2_TAM_KRAS_LILRA2
REEP5	0.275067809	3.13E-28	M2_TAM_KRAS_LILRA2
GNS	0.286507689	3.53E-28	M2_TAM_KRAS_LILRA2
COX6B1	0.275541086	3.53E-28	M2_TAM_KRAS_LILRA2
H2AFY	0.281506547	3.78E-28	M2_TAM_KRAS_LILRA2
RPL3	0.319213703	4.70E-28	M2_TAM_KRAS_LILRA2
EIF1B	0.377623283	6.19E-28	M2_TAM_KRAS_LILRA2
GNAI2	0.285812163	1.08E-27	M2_TAM_KRAS_LILRA2
COX8A	0.285691133	1.47E-27	M2_TAM_KRAS_LILRA2
CAST	0.28756736	2.16E-27	M2_TAM_KRAS_LILRA2
ELOB	0.305564115	2.34E-27	M2_TAM_KRAS_LILRA2
DDX5	0.296652016	2.50E-27	M2_TAM_KRAS_LILRA2
GLIPR1	0.261503913	4.26E-27	M2_TAM_KRAS_LILRA2
CHCHD10	0.305525443	4.67E-27	M2_TAM_KRAS_LILRA2
WAC	0.289361438	1.10E-26	M2_TAM_KRAS_LILRA2
ALKBH7	0.257083467	1.35E-26	M2_TAM_KRAS_LILRA2
COPE	0.250994221	1.47E-26	M2_TAM_KRAS_LILRA2
HNRNPC	0.286259221	2.44E-26	M2_TAM_KRAS_LILRA2
APRT	0.26847165	4.63E-26	M2_TAM_KRAS_LILRA2
CCRL2	0.254358071	4.78E-26	M2_TAM_KRAS_LILRA2
SH3BGRL	0.295023671	6.70E-26	M2_TAM_KRAS_LILRA2
CTSH	0.267371614	8.84E-26	M2_TAM_KRAS_LILRA2
BRK1	0.25533778	1.11E-25	M2_TAM_KRAS_LILRA2
EIF3A	0.280707413	1.14E-25	M2_TAM_KRAS_LILRA2
NFKBIZ	0.461675686	1.80E-25	M2_TAM_KRAS_LILRA2
ARHGAP30	0.250843992	2.12E-25	M2_TAM_KRAS_LILRA2
NOP53	0.250218633	2.61E-25	M2_TAM_KRAS_LILRA2

IL10RB	0.258829876	2.72E-25	M2_TAM_KRAS_LILRA2
UBC	0.294107633	4.30E-25	M2_TAM_KRAS_LILRA2
HSPA8	0.2795157	4.61E-25	M2_TAM_KRAS_LILRA2
WDR83OS	0.263351534	9.46E-25	M2_TAM_KRAS_LILRA2
CD86	0.290194551	9.63E-25	M2_TAM_KRAS_LILRA2
RHOA	0.256483431	1.41E-24	M2_TAM_KRAS_LILRA2
JAK1	0.267258098	2.88E-24	M2_TAM_KRAS_LILRA2
RPLP0	0.369938343	3.95E-24	M2_TAM_KRAS_LILRA2
ARL6IP4	0.2658709	9.95E-24	M2_TAM_KRAS_LILRA2
RGS2	0.338153453	1.08E-23	M2_TAM_KRAS_LILRA2
UQCRB	0.257250291	1.45E-23	M2_TAM_KRAS_LILRA2
CAP1	0.2761758	2.47E-23	M2_TAM_KRAS_LILRA2
ATP6V1G1	0.252089862	1.51E-22	M2_TAM_KRAS_LILRA2
IFNGR2	0.25799644	1.72E-22	M2_TAM_KRAS_LILRA2
C15orf48	0.659206343	5.29E-22	M2_TAM_KRAS_LILRA2
SNHG29	0.266754935	6.19E-22	M2_TAM_KRAS_LILRA2
TMEM176B	0.285763233	7.19E-22	M2_TAM_KRAS_LILRA2
ACTG1	0.279266336	8.17E-22	M2_TAM_KRAS_LILRA2
DRAM1	0.277986413	9.18E-21	M2_TAM_KRAS_LILRA2
PPDPF	0.268515311	9.42E-21	M2_TAM_KRAS_LILRA2
FYB1	0.280799422	1.57E-20	M2_TAM_KRAS_LILRA2
H2AFZ	0.269516029	1.64E-20	M2_TAM_KRAS_LILRA2
INSIG1	0.351482346	1.73E-20	M2_TAM_KRAS_LILRA2
SELENOK	0.462585186	2.60E-20	M2_TAM_KRAS_LILRA2
NOP10	0.258025025	2.81E-20	M2_TAM_KRAS_LILRA2
NEAT1	0.369389677	3.03E-20	M2_TAM_KRAS_LILRA2
YWHAZ	0.260517397	2.33E-19	M2_TAM_KRAS_LILRA2
PPIF	0.3627099	2.13E-18	M2_TAM_KRAS_LILRA2
UCP2	0.275434384	1.06E-17	M2_TAM_KRAS_LILRA2
RPL23	0.260425746	2.09E-17	M2_TAM_KRAS_LILRA2
S100A10	0.342174356	6.74E-17	M2_TAM_KRAS_LILRA2
CFLAR	0.271938887	6.54E-15	M2_TAM_KRAS_LILRA2
TWISTNB	0.358047134	1.87E-14	M2_TAM_KRAS_LILRA2
MARCKS	0.411834103	1.59E-13	M2_TAM_KRAS_LILRA2
SOD1	0.351962113	9.00E-10	M2_TAM_KRAS_LILRA2
IRF1	0.329652991	1.59E-09	M2_TAM_KRAS_LILRA2
CEBPD	0.450750032	5.98E-07	M2_TAM_KRAS_LILRA2
CXCR4	0.258930861	1.15E-05	M2_TAM_KRAS_LILRA2
ISG15	0.251921024	1.22E-05	M2_TAM_KRAS_LILRA2
TNFAIP2	0.268194586	7.94E-05	M2_TAM_KRAS_LILRA2
NFKBIA	0.40993877	0.00031427	M2_TAM_KRAS_LILRA2

h.M2_TAM_EBI3

Gene symbol	avg_log2FC	p_val_adj	Upregulated group	Description	pvalue	geneID	Count
C1QB	1.32629806	1.06E-137	M2_TAM_EBI3	Lysosome	5.77E-21	ACP5/ASAH1/SCARB2/CD63/CD68/CTSC/TPP1/CTSB/CTSD/CTSH/CTSL/CTSS/CTSZ/FUCA1/GAA/LAMP1/LAMP2/LIPA/MAN2B1/PPT1/LGMN/PSAP/LAPTM5/NPC2	24
C1QC	1.292648102	5.68E-122	M2_TAM_EBI3	Antigen processing and presentation	2.72E-19	B2M/CANX/CD4/CD74/CTSB/CTSL/CTSS/HLA-A/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/LGMN	19
HLA-DRB5	1.129039136	3.81E-117	M2_TAM_EBI3	Phagosome	3.15E-18	CANX/CD14/CTSL/CTSS/CYBA/CYBB/FCGR1A/FCGR3A/HLA-A/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/LAMP1/LAMP2/MRC1/MSR1	23
HLA-DRA	1.035493106	1.28E-110	M2_TAM_EBI3	Tuberculosis	2.37E-14	CD14/CD74/CTSD/CTSS/FCGR1A/FCGR3A/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR1/IL18/LAMP1/LAMP2/MRC1	21
CD74	0.942540281	1.61E-109	M2_TAM_EBI3	Leishmaniasis	7.31E-14	CYBA/CYBB/FCGR1A/FCGR3A/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR1	15
HLA-DPA1	1.08215077	7.41E-109	M2_TAM_EBI3	Staphylococcus aureus infection	1.34E-13	C1QA/C1QB/C1QC/FCGR1A/FCGR3A/FPR3/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5	16
C1QA	1.061568068	3.76E-108	M2_TAM_EBI3	Hematopoietic cell lineage	2.21E-13	CD4/CD9/CD14/CD59/CSF1R/FCGR1A/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5	16

HLA-DRB1	1.24907961	6.47E-102	M2_TAM_EBI3	Allograft rejection	1.68E-12	HLA-A/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5	11
HLA-DPB1	1.03115815	3.54E-101	M2_TAM_EBI3	Asthma	5.31E-12	HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5	10
HLA-DQA1	1.191362769	1.30E-95	M2_TAM_EBI3	Graft-versus-host disease	5.71E-12	HLA-A/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5	11
LIPA	1.129423082	7.04E-92	M2_TAM_EBI3	Type I diabetes mellitus	7.58E-12	HLA-A/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5	11
HLA-DMA	0.764614075	4.95E-60	M2_TAM_EBI3	Rheumatoid arthritis	2.11E-11	ACP5/CTSL/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IL18/CXCL12	14
FCGRT	0.70335831	2.75E-59	M2_TAM_EBI3	Intestinal immune network for IgA production	3.59E-11	HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/CXCL12	11
CST3	0.636970116	6.19E-57	M2_TAM_EBI3	Inflammatory bowel disease	5.17E-11	HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR1/IL18	12
MS4A6A	0.792486099	7.45E-57	M2_TAM_EBI3	Autoimmune thyroid disease	8.97E-11	HLA-A/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5	11
APOE	1.401104596	6.61E-56	M2_TAM_EBI3	Systemic lupus erythematosus	3.69E-10	C1QA/C1QB/C1QC/FCGR1A/FCGR3A/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5	15
HLA-DQB1	0.926437319	4.60E-55	M2_TAM_EBI3	Viral myocarditis	3.72E-10	HLA-A/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5	11
CPVL	0.845759601	1.50E-53	M2_TAM_EBI3	Cell adhesion molecules	1.35E-09	ALCAM/CD4/HLA-A/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/VCAM1/SDC3	15
CD81	0.716474874	1.63E-51	M2_TAM_EBI3	Th17 cell differentiation	2.01E-09	CD4/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR1/EBI3	13
MS4A7	0.717599451	4.15E-51	M2_TAM_EBI3	Th1 and Th2 cell differentiation	3.42E-09	CD4/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR1	12
EBI3	0.534779286	2.17E-47	M2_TAM_EBI3	Toxoplasmosis	3.32E-08	HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR1/LY96	12
CD5L	1.06168014	4.05E-46	M2_TAM_EBI3	Human T-cell leukemia virus 1 infection	2.98E-07	B2M/CANX/CD4/HLA-A/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/NRP1	15
SELENOP	0.788830179	9.00E-44	M2_TAM_EBI3	Epstein-Barr virus infection	5.63E-07	B2M/HLA-A/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/GADD45B/VIM	14
AXL	0.46322384	8.24E-43	M2_TAM_EBI3	Influenza A	3.37E-06	HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR1/IL18	12
CD163	0.72417247	3.52E-42	M2_TAM_EBI3	Osteoclast differentiation	5.95E-05	ACP5/CSF1R/CYBA/FCGR1A/FCGR3A/IFNGR1/TYROBP/LILRB5/TREM2	9
CD63	0.61196207	7.94E-41	M2_TAM_EBI3	Apoptosis	0.00052549	CTSC/CTSB/CTSD/CTSH/CTSL/CTSS/CTSZ/GADD45B	8
LGMN	0.749060868	2.15E-40	M2_TAM_EBI3	Cholesterol metabolism	0.00056836	APOC1/APOE/LIPA/LRP1/NPC2	5
HLA-DMB	0.547464825	2.44E-39	M2_TAM_EBI3	Pertussis	0.00057535	C1QA/C1QB/C1QC/CD14/IRF8/LY96	6
MS4A4A	0.622863766	3.34E-39	M2_TAM_EBI3	Complement and coagulation cascades	0.00104214	A2M/C1QA/C1QB/C1QC/CD59/VSIG4	6
FOLR2	0.667073515	4.30E-39	M2_TAM_EBI3	Malaria	0.00471168	CD81/IL18/LRP1/VCAM1	4
ITM2B	0.527122147	6.29E-39	M2_TAM_EBI3	Riboflavin metabolism	0.00492238	ACP5/BLVRB	2
SLCO2B1	0.484690263	2.99E-36	M2_TAM_EBI3	Herpes simplex virus 1 infection	0.00735413	B2M/CD74/HLA-A/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR1	14
IGSF6	0.737164093	4.08E-36	M2_TAM_EBI3	Alcoholic liver disease	0.01304562	C1QA/C1QB/C1QC/CD14/SCD/LY96	6
VCAM1	0.792569315	7.40E-36	M2_TAM_EBI3	NF-kappa B signaling pathway	0.0137952	CD14/GADD45B/CXCL12/VCAM1/LY96	5
CD68	0.528515856	9.34E-36	M2_TAM_EBI3	Ferroptosis	0.01822613	CYBB/FTL/SLC40A1	3
SLC40A1	0.692089117	6.99E-32	M2_TAM_EBI3	PPAR signaling pathway	0.01918415	FABP4/FABP5/SCD/NR1H3	4
CREG1	0.534134806	1.57E-31	M2_TAM_EBI3	Other glycan degradation	0.02460696	FUCA1/MAN2B1	2
VSIG4	0.511435248	2.14E-31	M2_TAM_EBI3	Sphingolipid metabolism	0.02912965	ASAH1/PSAP/UGCG	3
RNASET2	0.574860282	5.52E-31	M2_TAM_EBI3	Salivary secretion	0.03829949	ATP1B1/CST3/KCNMA1/LYZ	4
A2M	0.555711341	8.81E-31	M2_TAM_EBI3	Autophagy - animal	0.0437847	CTSB/CTSD/CTSL/LAMP1/LAMP2	5
PLD3	0.605357922	2.05E-30	M2_TAM_EBI3	Viral protein interaction with cytokine and cytokine receptor	0.04788566	CSF1R/IL18/CCL18/CXCL12	4
NPC2	0.390450041	4.81E-30	M2_TAM_EBI3	Mineral absorption	0.04861857	ATP1B1/FTL/SLC40A1	3
B2M	0.372294446	1.39E-29	M2_TAM_EBI3	Cytokine-cytokine receptor interaction	0.04875932	CD4/CSF1R/IFNGR1/IL18/CCL18/CXCL12/EBI3/CXCL16	8
CTSB	0.552762022	3.07E-28	M2_TAM_EBI3				
PSAP	0.478107719	3.43E-27	M2_TAM_EBI3				
FCGR3A	0.561333026	4.04E-27	M2_TAM_EBI3				
CD302	0.404228153	5.65E-27	M2_TAM_EBI3				
IL18	0.476647226	6.47E-27	M2_TAM_EBI3				
TYROBP	0.389238046	2.13E-26	M2_TAM_EBI3				
GRN	0.505762557	6.14E-26	M2_TAM_EBI3				
FEZ2	0.317963173	4.57E-25	M2_TAM_EBI3				
TIMP2	0.436838272	4.41E-24	M2_TAM_EBI3				
GPNMB	0.714273794	5.23E-24	M2_TAM_EBI3				

CTSZ	0.519228071	5.87E-24	M2_TAM_EBI3
CD72	0.344226952	1.54E-23	M2_TAM_EBI3
HLA-DOA	0.306988253	7.48E-23	M2_TAM_EBI3
CD59	0.414434641	1.51E-22	M2_TAM_EBI3
CXCL12	0.403794688	1.67E-22	M2_TAM_EBI3
APOC1	0.682222655	2.46E-22	M2_TAM_EBI3
FPR3	0.380385859	3.83E-22	M2_TAM_EBI3
ATP1B1	0.411666337	4.97E-22	M2_TAM_EBI3
FABP5	0.64070223	5.63E-22	M2_TAM_EBI3
MAN2B1	0.35945656	1.77E-21	M2_TAM_EBI3
BLVRB	0.421903408	1.87E-21	M2_TAM_EBI3
LY86	0.37338547	2.25E-21	M2_TAM_EBI3
CD14	0.639463058	2.94E-21	M2_TAM_EBI3
VMO1	0.446272846	5.80E-20	M2_TAM_EBI3
LYZ	0.588944161	6.47E-20	M2_TAM_EBI3
PLA2G7	0.514198214	2.05E-19	M2_TAM_EBI3
CD9	0.481061264	6.28E-19	M2_TAM_EBI3
FABP4	1.074722315	6.39E-19	M2_TAM_EBI3
ALCAM	0.250968645	8.96E-19	M2_TAM_EBI3
FUCA1	0.276848407	1.40E-18	M2_TAM_EBI3
ADAP2	0.365603493	2.88E-18	M2_TAM_EBI3
IFNGR1	0.391976372	8.77E-18	M2_TAM_EBI3
CYBA	0.373184023	8.98E-18	M2_TAM_EBI3
DHRS9	0.300429358	1.60E-17	M2_TAM_EBI3
KCNMA1	0.333317945	1.93E-17	M2_TAM_EBI3
RNASE6	0.291956395	2.90E-17	M2_TAM_EBI3
CTSH	0.407302986	3.03E-17	M2_TAM_EBI3
SNX6	0.355925382	3.39E-17	M2_TAM_EBI3
FTL	0.290675464	3.86E-17	M2_TAM_EBI3
FGL2	0.454450333	4.31E-17	M2_TAM_EBI3
MFSD1	0.355625858	9.46E-17	M2_TAM_EBI3
CTSC	0.407074428	1.40E-16	M2_TAM_EBI3
MPEG1	0.375989489	3.45E-16	M2_TAM_EBI3
IGSF21	0.257388449	4.89E-16	M2_TAM_EBI3
NRP1	0.263581367	6.68E-16	M2_TAM_EBI3
SAMHD1	0.339300394	7.45E-16	M2_TAM_EBI3
RGS1	0.446589986	8.61E-16	M2_TAM_EBI3
RNF130	0.366188107	1.07E-15	M2_TAM_EBI3
FCHO2	0.283532222	1.87E-15	M2_TAM_EBI3
SCARB2	0.333689297	4.16E-15	M2_TAM_EBI3
CYFIP1	0.278006994	6.18E-15	M2_TAM_EBI3
SDC3	0.387687198	7.91E-15	M2_TAM_EBI3
GPR34	0.304459149	1.02E-14	M2_TAM_EBI3
CTSD	0.537449801	1.72E-14	M2_TAM_EBI3
GAA	0.25645567	1.73E-14	M2_TAM_EBI3
LILRB5	0.346840843	2.22E-14	M2_TAM_EBI3
C1orf54	0.289784223	2.27E-14	M2_TAM_EBI3
LAIR1	0.297039423	2.45E-14	M2_TAM_EBI3
CCL18	0.341420346	2.50E-14	M2_TAM_EBI3
TREM2	0.428235293	3.22E-14	M2_TAM_EBI3
MRC1	0.290448731	3.23E-14	M2_TAM_EBI3
NR1H3	0.274392467	4.48E-14	M2_TAM_EBI3
EPB41L2	0.311342017	4.64E-14	M2_TAM_EBI3
LY96	0.300206703	6.46E-14	M2_TAM_EBI3
TSPAN4	0.281047408	6.87E-14	M2_TAM_EBI3
NENF	0.284102207	1.38E-13	M2_TAM_EBI3
MSR1	0.381590832	2.16E-13	M2_TAM_EBI3
ADA2	0.297041723	5.79E-13	M2_TAM_EBI3
FCGR1A	0.256258369	6.46E-13	M2_TAM_EBI3
SCD	0.307396718	8.02E-13	M2_TAM_EBI3
CPM	0.271371576	3.29E-12	M2_TAM_EBI3
YWHAH	0.264586027	5.77E-12	M2_TAM_EBI3
PPT1	0.326446867	8.12E-12	M2_TAM_EBI3
RAB32	0.306544574	8.32E-12	M2_TAM_EBI3

HLA-A	0.29564519	1.28E-11	M2_TAM_EBI3
CD4	0.265862044	1.29E-11	M2_TAM_EBI3
LAPTM5	0.291738952	1.43E-11	M2_TAM_EBI3
ASAH1	0.331803202	1.46E-11	M2_TAM_EBI3
GIMAP4	0.265520203	1.60E-11	M2_TAM_EBI3
PDK4	0.320777105	1.80E-11	M2_TAM_EBI3
RPN2	0.256960666	2.03E-11	M2_TAM_EBI3
CD84	0.267968608	2.64E-11	M2_TAM_EBI3
IQGAP2	0.289570474	4.36E-11	M2_TAM_EBI3
CTSS	0.399871173	6.66E-11	M2_TAM_EBI3
LAMP2	0.257904249	8.77E-11	M2_TAM_EBI3
TPP1	0.305645239	9.01E-11	M2_TAM_EBI3
QKI	0.283718214	2.13E-10	M2_TAM_EBI3
CANX	0.270442374	2.17E-10	M2_TAM_EBI3
LRP1	0.258567245	2.42E-10	M2_TAM_EBI3
PDIA6	0.254533698	2.65E-10	M2_TAM_EBI3
LAMP1	0.292452637	3.02E-10	M2_TAM_EBI3
MARCKS	0.351946153	3.78E-10	M2_TAM_EBI3
DPP7	0.258771772	3.79E-10	M2_TAM_EBI3
SLC15A3	0.272219728	5.33E-10	M2_TAM_EBI3
BNIP3L	0.252689464	6.22E-10	M2_TAM_EBI3
CTSL	0.455235914	7.64E-10	M2_TAM_EBI3
KCTD12	0.255728225	1.50E-09	M2_TAM_EBI3
RGS10	0.309234155	4.92E-09	M2_TAM_EBI3
ACP5	0.399941135	6.86E-09	M2_TAM_EBI3
LGALS3	0.412247834	7.70E-09	M2_TAM_EBI3
SGK1	0.295391866	8.19E-09	M2_TAM_EBI3
CEBPD	0.33063734	8.80E-09	M2_TAM_EBI3
CXCL16	0.266639959	1.04E-08	M2_TAM_EBI3
GLUL	0.31034174	1.41E-08	M2_TAM_EBI3
ANXA5	0.257032166	3.73E-08	M2_TAM_EBI3
ARL4C	0.294950864	3.74E-08	M2_TAM_EBI3
DAB2	0.282416224	4.92E-08	M2_TAM_EBI3
GADD45B	0.361051334	5.68E-07	M2_TAM_EBI3
ZFP36L1	0.361462908	6.73E-07	M2_TAM_EBI3
TMIGD3	0.252830155	7.82E-07	M2_TAM_EBI3
DNASE1L3	0.254395995	1.04E-06	M2_TAM_EBI3
IRF8	0.319324944	1.36E-06	M2_TAM_EBI3
CYBB	0.285314234	1.51E-06	M2_TAM_EBI3
UGCG	0.253083503	5.90E-06	M2_TAM_EBI3
OTOA	0.270582082	6.64E-06	M2_TAM_EBI3
CSF1R	0.257002281	9.23E-06	M2_TAM_EBI3
ID2	0.297471795	1.09E-05	M2_TAM_EBI3
VIM	0.334332076	3.46E-05	M2_TAM_EBI3
MMP19	0.287295565	0.00338354	M2_TAM_EBI3
ID3	0.269656114	0.00374133	M2_TAM_EBI3

i.M2_TAM_EBI3_MARCO

Gene symbol	avg_log2FC	p_val_adj	Upregulated group	Description	pvalue	geneID	Count
MARCO	4.415766896	0	M2_TAM_EBI3_MARCO	Rheumatoid arthritis	5.52E-17	CD80/CTSL/CXCL1/CXCL3/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/ICAM1/IL1A/IL1B/IL6/IL18/JUN/CCL3/CCL3L1/CCL20/CXCL12/TLR2/TNF/TNFSF13B	25
NDST3	0.81211987	0	M2_TAM_EBI3_MARCO	Epstein-Barr virus infection	6.33E-16	B2M/CCND1/CD44/E2F3/HLA-A/HLA-B/HLA-C/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/HLA-E/ICAM1/IFNAR1/IL6/CXCL10/JAK1/JUN/MYD88/GADD45B/NFKBIE/OAS2/RAC1/RELB/STAT1/TLR2/TNF/TNFAIP3/VIM/ISG15	34
CETP	1.783974978	1.43E-289	M2_TAM_EBI3_MARCO	Leishmaniasis	1.08E-15	CR1/CYBA/CYBB/FCGR3A/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR2/IL1A/IL1B/JAK1/JUN/MYD88/STAT1/TLR2/TNF/NCF1	22
TIMD4	0.83443466	7.15E-266	M2_TAM_EBI3_MARCO	Graft-versus-host disease	2.75E-15	CD80/HLA-A/HLA-B/HLA-C/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/HLA-E/IL1A/IL1B/IL6/TNF	17

ITLN1	1.262653183	6.49E-254	M2_TAM_EBI3_MARCO	Phagosome	2.63E-14	CANX/CTSL/CTSS/CYBA/CYBB/FCGR3A/HLA-A/HLA-B/HLA-C/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/HLA-E/LAMP2/M6PR/MRC1/MSR1/RAC1/THBS1/TLR2/MARCO/MRC2/NCF1	28
CD5L	3.371510949	2.45E-169	M2_TAM_EBI3_MARCO	Type I diabetes mellitus	9.00E-14	CD80/HLA-A/HLA-B/HLA-C/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/HLA-E/IL1A/IL1B/TNF	16
IL6	1.327321404	4.18E-116	M2_TAM_EBI3_MARCO	Tuberculosis	2.09E-12	PLK3/CR1/CTSS/FCGR3A/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR2/IL1A/IL1B/IL6/IL18/IRAK2/JAK1/LAMP2/MRC1/MYD88/STAT1/TLR2/TNF/RIPK2/MRC2/CALML4	28
CDH5	0.476779181	6.48E-115	M2_TAM_EBI3_MARCO	Allograft rejection	3.93E-12	CD80/HLA-A/HLA-B/HLA-C/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/HLA-E/TNF	14
TMIGD3	1.384176387	6.34E-103	M2_TAM_EBI3_MARCO	Inflammatory bowel disease	1.04E-11	HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR2/IL1A/IL1B/IL6/IL18/JUN/STAT1/TLR2/TNF	17
KCNJ10	0.401427841	8.99E-88	M2_TAM_EBI3_MARCO	Antigen processing and presentation	2.52E-11	B2M/CANX/CTSB/CTSL/CTSS/HLA-A/HLA-B/HLA-C/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/HLA-E/TNF	18
NR1H3	1.459484846	3.80E-78	M2_TAM_EBI3_MARCO	Viral myocarditis	3.12E-11	CCND1/CD80/HLA-A/HLA-B/HLA-C/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/HLA-E/ICAM1/RAC1	16
PLAC8	1.68972607	1.16E-68	M2_TAM_EBI3_MARCO	Influenza A	7.67E-10	HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/ICAM1/IFNAR1/IFNGR2/IL1A/IL1B/IL6/IL18/CXCL10/JAK1/MYD88/OAS2/STAT1/TNF/TNFSF10/SOCS3/CALCOCO2	24
CFP	1.48022034	1.94E-64	M2_TAM_EBI3_MARCO	Lysosome	8.98E-10	ACP2/SCARB2/CD63/CD68/TPP1/CTSB/CTSL/CTSS/CTSZ/DNASE2/FUCA1/GAA/GNS/GUSB/LAMP2/LIPA/M6PR/MAN2B1/CTSA/CD164/DMXL2	21
ALDH2	1.072450465	4.12E-61	M2_TAM_EBI3_MARCO	Coronavirus disease - COVID-19	9.80E-10	C1QA/C1QB/C1QC/C2/CYBB/CFD/IFNAR1/IL1B/IL6/CXCL10/JAK1/JUN/MYD88/OAS2/RPL21/RPL26/RPL27A/RPS6/RPS9/RPS11/RPS18/RPS20/RPS29/STAT1/TLR2/TNF/RPL23/ISG15	28
AXL	1.208486573	2.61E-54	M2_TAM_EBI3_MARCO	Hematopoietic cell lineage	1.63E-09	CD38/CD44/CD59/CR1/CSF1R/CSF3R/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IL1A/IL1B/IL6/TNF	18
KCNJ2	0.601110771	1.67E-53	M2_TAM_EBI3_MARCO	Lipid and atherosclerosis	3.88E-09	ABCA1/BCL2L1/CYBA/CYBB/CXCL1/CXCL3/ICAM1/IL1B/IL6/IL18/JUN/MYD88/RAC1/RAP1B/CCL3/CCL3L1/SOD2/TLR2/TNF/VCAM1/XBP1/TNFSF10/ABCG1/LY96/CALML4/NCF1	26
C2	1.073172827	6.26E-52	M2_TAM_EBI3_MARCO	Autoimmune thyroid disease	7.13E-09	CD80/HLA-A/HLA-B/HLA-C/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/HLA-E	13
IFI27	2.329096608	2.79E-50	M2_TAM_EBI3_MARCO	Staphylococcus aureus infection	7.16E-09	C1QA/C1QB/C1QC/C2/CFD/FCGR3A/FPR1/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/ICAM1/PTAFR	17
IL18	1.38221341	3.20E-50	M2_TAM_EBI3_MARCO	Pertussis	1.21E-08	SERPING1/C1QA/C1QB/C1QC/C2/IRF8/IL1A/IL1B/IL6/IRF1/JUN/MYD88/TNF/LY96/CALML4	15
C1QB	1.94289944	3.30E-49	M2_TAM_EBI3_MARCO	Osteoclast differentiation	1.90E-08	CSF1R/CYBA/FCGR3A/GRB2/IFNAR1/IFNGR2/IL1A/IL1B/JAK1/JUN/RAC1/RELB/STAT1/TNF/SOCS3/LILRB1/LILRB5/LILRB4/NCF1	19
EXT1	0.528912208	4.52E-47	M2_TAM_EBI3_MARCO	NF-kappa B signaling pathway	2.51E-08	BIRC3/BCL2L1/CXCL1/CXCL3/ICAM1/IL1B/MYD88/GADD45B/RELB/CCL4/CXCL12/TNF/TNFAIP3/VCAM1/CCL4L2/TNFSF13B/LY96	17
FCGRT	1.619498558	5.02E-47	M2_TAM_EBI3_MARCO	Toll-like receptor signaling pathway	2.51E-08	CD80/MAP3K8/IFNAR1/IL1B/IL6/CXCL10/JUN/MYD88/RAC1/CCL3/CCL3L1/CCL4/STAT1/TLR2/TNF/CCL4L2/LY96	17
FTL	1.504344476	3.70E-46	M2_TAM_EBI3_MARCO	Intestinal immune network for IgA production	2.80E-08	CD80/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IL6/CXCL12/TNFSF13B	12
C1QA	1.689191715	7.26E-44	M2_TAM_EBI3_MARCO	Human T-cell leukemia virus 1 infection	3.37E-08	B2M/CCND1/BCL2L1/CANX/E2F3/EGR1/ETS2/HLA-A/HLA-B/HLA-C/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/HLA-E/ICAM1/IL6/JAK1/JUN/RELB/TNF	25
CLIC2	0.720197381	1.07E-43	M2_TAM_EBI3_MARCO	Th17 cell differentiation	4.48E-08	HIF1A/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR2/IL1B/IL6/JAK1/JUN/NFKBIE/STAT1/EBI3	17
STOM	0.953297069	3.47E-43	M2_TAM_EBI3_MARCO	Cell adhesion molecules	4.58E-08	CD80/CDH5/HLA-A/HLA-B/HLA-C/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/HLA-E/ICAM1/NECTIN2/SIGLEC1/VCAM1/SDC3/CD226	20
EPB41L2	1.148836841	5.15E-42	M2_TAM_EBI3_MARCO	Toxoplasmosis	7.80E-08	BIRC3/BCL2L1/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR2/JAK1/MYD88/STAT1/TLR2/TNF/LY96	17
VCAM1	1.540352964	8.14E-42	M2_TAM_EBI3_MARCO	NOD-like receptor signaling pathway	8.01E-08	BIRC3/BCL2L1/CTSB/CYBA/CYBB/GBP1/GBP2/CXCL1/CXCL3/IFNAR1/IL1B/IL6/IL18/JAK1/JUN/MYD88/OAS2/P2RX7/STAT1/TNF/TNFAIP3/RIPK2	22
VSIG4	1.315835142	1.20E-41	M2_TAM_EBI3_MARCO	Viral protein interaction with cytokine and cytokine receptor	8.92E-08	CCR1/CSF1R/CXCL1/CXCL3/IL6/IL18/CXCL10/CCL3/CCL3L1/CCL4/CCL20/CCL23/CXCL12/TNF/TNFSF10/CCL4L2	16
DST	0.923970153	1.73E-41	M2_TAM_EBI3_MARCO	Asthma	3.27E-07	HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/TNF	9
BASP1	1.193919421	1.90E-41	M2_TAM_EBI3_MARCO	Malaria	3.52E-07	CD81/CR1/ICAM1/IL1B/IL6/IL18/MYD88/THBS1/TLR2/TNF/VCAM1	11

RND3	0.955992693	1.43E-39	M2_TAM_EBI3_MARCO	Human cytomegalovirus infection	7.09E-07	B2M/CCND1/CCR1/E2F3/GNG10/GRB2/HLA-A/HLA-B/HLA-C/HLA-E/IL1B/IL6/JAK1/PTGER4/RAC1/CCL3/CCL3L1/CCL4/CXCL12/TNF/CCL4L2/GNB4/CALML4	23
G0S2	1.547701963	3.74E-39	M2_TAM_EBI3_MARCO	Th1 and Th2 cell differentiation	1.09E-06	HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR2/JAK1/JUN/NFKBIE/STAT1/DLL1	14
CXCL12	1.472740942	3.76E-39	M2_TAM_EBI3_MARCO	Cytokine-cytokine receptor interaction	2.28E-06	ACVRL1/CCR1/CSF1R/CSF3R/CXCL1/CXCL3/IFNAR1/IFNGR2/IL1A/IL1B/IL1RN/IL6/IL18/CXCL10/CCL3/CCL3L1/CCL4/CCL20/CCL23/CXCL12/TNF/TNFSF10/TNFSF9/CCL4L2/EBI3/TNFSF13B	26
ACTN1	0.946215201	4.51E-36	M2_TAM_EBI3_MARCO	TNF signaling pathway	2.38E-06	BIRC3/MAP3K8/CXCL1/CXCL3/ICAM1/IL1B/IL6/CXCL10/IRF1/JUN/CCL20/TNF/TNFAIP3/VCAM1/SOCS3	15
PSTPIP2	0.66479969	9.15E-36	M2_TAM_EBI3_MARCO	Kaposi sarcoma-associated herpesvirus infection	3.40E-06	CCND1/CCR1/E2F3/GNG10/CXCL1/CXCL3/HIF1A/HLA-A/HLA-B/HLA-C/HLA-E/ICAM1/IFNAR1/IL6/JAK1/JUN/RAC1/STAT1/GNB4/CALML4	20
CD44	1.277829462	2.62E-35	M2_TAM_EBI3_MARCO	Ferroptosis	4.29E-06	CYBB/ACSL1/FTL/HMOX1/PRNP/SAT1/NCOA4/SLC40A1/SLC39A8	9
CD226	0.293155445	3.03E-35	M2_TAM_EBI3_MARCO	Systemic lupus erythematosus	6.18E-06	ACTN1/C1QA/C1QB/C1QC/C2/CD80/FCGR3A/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/TNF	16
IFT74	0.420765242	6.16E-35	M2_TAM_EBI3_MARCO	Chemokine signaling pathway	3.89E-05	CCR1/GNG10/GRB2/CXCL1/CXCL3/CXCL10/RAC1/RAP1B/CCL3/CCL3L1/CCL4/CCL20/CCL23/CXCL12/STAT1/CCL4L2/GNB4/NCF1	18
TMEM26	0.357255536	6.90E-35	M2_TAM_EBI3_MARCO	Legionellosis	7.04E-05	CR1/CXCL1/CXCL3/IL1B/IL6/IL18/MYD88/TLR2/TNF	9
SERPING1	0.831361361	1.73E-34	M2_TAM_EBI3_MARCO	AGE-RAGE signaling pathway in diabetic complications	7.50E-05	CCND1/CYBB/EGR1/ICAM1/IL1A/IL1B/IL6/JUN/RAC1/STAT1/TNF/VCAM1	12
DLL1	0.267635764	7.52E-34	M2_TAM_EBI3_MARCO	Chagas disease	9.11E-05	C1QA/C1QB/C1QC/IFNGR2/IL1B/IL6/JUN/MYD88/CCL3/CCL3L1/TLR2/TNF	12
FUCA1	0.920377651	1.66E-33	M2_TAM_EBI3_MARCO	Fluid shear stress and atherosclerosis	0.00013299	CDH5/CTSL/CYBA/HMOX1/ICAM1/IL1A/IL1B/JUN/RAC1/TNF/VCAM1/TRPV4/CALML4/NCF1	14
BCAM	0.333886876	2.96E-33	M2_TAM_EBI3_MARCO	African trypanosomiasis	0.00014114	ICAM1/IL1B/IL6/IL18/MYD88/TNF/VCAM1	7
GPR137B	0.69603533	1.60E-31	M2_TAM_EBI3_MARCO	Necroptosis	0.0001611	BIRC3/CYBB/FTL/GLUL/IFNAR1/IFNGR2/IL1A/IL1B/JAK1/PYGL/STAT1/TNF/TNFAIP3/TNFSF10/CHMP5	15
LINC02605	0.44439909	2.62E-31	M2_TAM_EBI3_MARCO	Alcoholic liver disease	0.00016711	ALDH2/CCND1/C1QA/C1QB/C1QC/C2/CXCL1/CXCL3/IL1B/IL6/MYD88/SCD/TNF/LY96	14
NFE2L3	0.435881487	2.84E-31	M2_TAM_EBI3_MARCO	Complement and coagulation cascades	0.00035086	SERPING1/C1QA/C1QB/C1QC/C2/CD59/CR1/CFD/PROS1/VSIG4	10
SDC3	1.243379418	9.00E-31	M2_TAM_EBI3_MARCO	Measles	0.00047757	CCND1/BCL2L1/IFNAR1/IL1A/IL1B/IL6/JAK1/JUN/MYD88/OAS2/STAT1/TLR2/TNFAIP3	13
SCD	1.04686431	1.30E-30	M2_TAM_EBI3_MARCO	Natural killer cell mediated cytotoxicity	0.00094303	FCGR3A/GRB2/HLA-A/HLA-B/HLA-C/HLA-E/ICAM1/IFNAR1/IFNGR2/RAC1/TNF/TNFSF10	12
CMKLR1	0.751844673	1.36E-30	M2_TAM_EBI3_MARCO	Leukocyte transendothelial migration	0.00099581	ACTN1/CDH5/CYBA/CYBB/ICAM1/RAC1/RAP1B/CXCL12/VASP/VCAM1/NCF1	11
CPVL	1.280244838	2.10E-30	M2_TAM_EBI3_MARCO	Herpes simplex virus 1 infection	0.00105531	BIRC3/B2M/BCL2L1/BST2/HLA-A/HLA-B/HLA-C/HLA-DMA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/HLA-E/IFNAR1/IFNGR2/IL1B/IL6/JAK1/MYD88/OAS2/CFP/NECTIN2/STAT1/TLR2/TNF/SOCS3	29
VIM	1.191021392	2.36E-30	M2_TAM_EBI3_MARCO	B cell receptor signaling pathway	0.00114592	CD81/GRB2/JUN/NFKBIE/RAC1/LILRB1/LILRB5/LILRB4/PIK3AP1	9
LIPA	1.417858399	2.69E-29	M2_TAM_EBI3_MARCO	Human immunodeficiency virus 1 infection	0.0012009	B2M/BCL2L1/BST2/GNG10/HLA-A/HLA-B/HLA-C/HLA-E/JUN/LIMK2/MYD88/RAC1/TLR2/TNF/GNB4/CALML4	16
FEZ1	0.35439467	3.68E-29	M2_TAM_EBI3_MARCO	PD-L1 expression and PD-1 checkpoint pathway in cancer	0.00204817	HIF1A/IFNGR2/JAK1/JUN/MYD88/NFKBIE/STAT1/TLR2/BATF	9
TCN2	0.585493348	4.07E-29	M2_TAM_EBI3_MARCO	Mineral absorption	0.00283647	ATP1B1/FXYD2/ATP2B1/FTL/HMOX1/SLC8A1/SLC40A1	7
NBN	0.937078691	4.35E-29	M2_TAM_EBI3_MARCO	IL-17 signaling pathway	0.00298578	CXCL1/CXCL3/IL1B/IL6/CXCL10/JUN/CCL20/TNF/TNFAIP3	9
GBP1	0.97145346	7.53E-29	M2_TAM_EBI3_MARCO	Cellular senescence	0.00413634	CCND1/E2F3/HLA-A/HLA-B/HLA-C/HLA-E/IL1A/IL6/GADD45B/NBN/TRPV4/CALML4	12
CD38	0.491631192	9.32E-29	M2_TAM_EBI3_MARCO	Hepatitis C	0.00435482	CCND1/CD81/E2F3/GRB2/IFNAR1/CXCL10/JAK1/OAS2/STAT1/TNF/SOCS3/NR1H3	12
RAPGEF2	0.896365518	1.23E-28	M2_TAM_EBI3_MARCO	Cholesterol metabolism	0.00488649	ABCA1/APOE/CETP/LIPA/PLTP/NCEH1	6
MYO9A	0.436732092	2.08E-28	M2_TAM_EBI3_MARCO	Shigellosis	0.00556523	ACTN1/BCL2L1/CD44/HCLS1/IL1B/IL18/JUN/MYD88/RAC1/TNF/UBE2D1/RIPK2/ARPC5/ACTR3/CALCOCO2/FNBP1	16
HCAR3	0.454383974	3.31E-28	M2_TAM_EBI3_MARCO	C-type lectin receptor signaling pathway	0.00585667	PLK3/IL1B/IL6/IRF1/JUN/RELB/STAT1/TNF/CALML4	9
DRAM1	0.896939044	4.72E-28	M2_TAM_EBI3_MARCO	Salmonella infection	0.00600673	BIRC3/IL1B/IL6/IL18/JUN/M6PR/MYD88/RAC1/TLR2/TNF/TNFSF10/RIPK2/ABI1/ARPC5/ACTR3/LY96	16
GLUL	1.177204314	3.10E-27	M2_TAM_EBI3_MARCO	Pathogenic Escherichia coli infection	0.01031231	HCLS1/IL1B/IL6/IL18/JUN/MYD88/NCK1/RAC1/TNF/TNFSF10/ABI1/ARPC5/ACTR3	13
CD163	1.86590631	3.69E-27	M2_TAM_EBI3_MARCO	Pancreatic cancer	0.01044398	CCND1/BCL2L1/E2F3/JAK1/GADD45B/RAC1/STAT1	7
SMPDL3A	0.548336829	6.05E-27	M2_TAM_EBI3_MARCO	Apoptosis	0.01155706	BIRC3/BCL2L1/CTSB/CTSL/CTSS/CTSZ/JUN/GADD45B/TNF/TNFSF10	10
MS4A6A	1.148969383	1.16E-26	M2_TAM_EBI3_MARCO	Fc gamma R-mediated phagocytosis	0.01209335	FCGR3A/LIMK2/MARCKS/RAC1/VASP/ARPC5/ACTR3/NCF1	8
CD80	0.366265395	2.03E-26	M2_TAM_EBI3_MARCO	Proteoglycans in cancer	0.01405198	CCND1/CD44/CD63/CTSL/GRB2/HCLS1/HIF1A/RAC1/RPS6/THBS1/TLR2/TNF/IQGAP1	13
CTSB	1.243144177	2.08E-26	M2_TAM_EBI3_MARCO	Antifolate resistance	0.01447278	FOLR2/IL1B/IL6/TNF	4
C1QC	1.288099593	2.27E-26	M2_TAM_EBI3_MARCO	Cytosolic DNA-sensing pathway	0.01483238	IL1B/IL6/IL18/CXCL10/CCL4/CCL4L2	6
CCL4L2	1.380820284	3.40E-26	M2_TAM_EBI3_MARCO	Amoebiasis	0.01602955	ACTN1/CXCL1/CXCL3/IL1B/IL6/PRDX1/TLR2/TNF	8
TMSB4X	0.651348399	6.43E-26	M2_TAM_EBI3_MARCO	Arginine and proline metabolism	0.02267183	ALDH2/P4HA1/SAT1/LAP3/CNDP2	5

SIGLEC9	0.483540951	1.15E-25	M2_TAM_EBI3_MARCO	HIF-1 signaling pathway	0.0229928	CYBB/HIF1A/HMOX1/IFNGR2/IL6/PFKFB3/RPS6/TIMP1	8
C11orf96	0.986405811	1.36E-25	M2_TAM_EBI3_MARCO	Riboflavin metabolism	0.02503248	ACP2/RFK	2
LAP3	0.830582511	2.08E-25	M2_TAM_EBI3_MARCO	Non-alcoholic fatty liver disease	0.02644927	IL1A/IL1B/IL6/JUN/NDUFA4/RAC1/TNF/XBP1/SOCS3/NR1H3	10
PDE4DIP	0.821149884	2.49E-25	M2_TAM_EBI3_MARCO	Mitophagy - animal	0.02695307	BCL2L1/HIF1A/JUN/TAX1BP1/OPTN/CALCOCO2	6
CREG1	1.086322001	4.39E-25	M2_TAM_EBI3_MARCO	Prion disease	0.02829693	C1QA/C1QB/C1QC/CYBA/CYBB/EGR1/IL1A/IL1B/IL6/NDUFA4/PRNP/PSMA6/RAC1/TNF/NCF1	15
CR1	0.616931361	6.84E-25	M2_TAM_EBI3_MARCO	Ribosome	0.02968221	RPL21/RPL26/RPL27A/RPS6/RPS9/RPS11/RPS18/RPS20/RPS29/RPL23	10
RGS1	0.986071937	8.72E-25	M2_TAM_EBI3_MARCO	Yersinia infection	0.03101726	IL1B/IL6/IL18/JUN/MYD88/RAC1/TNF/ARPC5/ACTR3	9
SNX10	0.953536698	2.47E-24	M2_TAM_EBI3_MARCO	Histidine metabolism	0.03163136	ALDH2/HNMT/CNDP2	3
CTSS	1.150499141	3.16E-24	M2_TAM_EBI3_MARCO	PPAR signaling pathway	0.0321266	FABP3/ACSL1/ME1/PLTP/SCD/NR1H3	6
GCH1	0.558727459	6.98E-24	M2_TAM_EBI3_MARCO	JAK-STAT signaling pathway	0.03441625	CCND1/BCL2L1/CSF3R/GRB2/IFNAR1/IFNGR2/IL6/JAK1/STAT1/SOCS3	10
C1orf54	0.744083526	2.55E-23	M2_TAM_EBI3_MARCO	Hepatitis B	0.03441625	E2F3/GRB2/IFNAR1/IL6/JAK1/JUN/MYD88/STAT1/TLR2/TNF	10
CCL4	1.251650299	2.79E-23	M2_TAM_EBI3_MARCO	Renin-angiotensin system	0.03554111	CTSA/PRCP/ATP6AP2	3
NINJ1	0.948516782	8.02E-23	M2_TAM_EBI3_MARCO	Neurotrophin signaling pathway	0.03628691	GRB2/IRAK2/JUN/NFKBIE/RAC1/RAP1B/RIPK2/CALML4	8
ME1	0.546786348	1.32E-22	M2_TAM_EBI3_MARCO	EGFR tyrosine kinase inhibitor resistance	0.03997282	AXL/BCL2L1/GRB2/IL6/JAK1/RPS6	6
TNIP3	0.299572955	1.64E-22	M2_TAM_EBI3_MARCO	Bladder cancer	0.04079311	CCND1/E2F3/TYMP/THBS1	4
IL1B	1.501327352	2.45E-22	M2_TAM_EBI3_MARCO				
DNAJC5B	0.270755654	4.30E-22	M2_TAM_EBI3_MARCO				
MS4A7	1.04032411	4.41E-22	M2_TAM_EBI3_MARCO				
SPIC	0.41378525	5.41E-22	M2_TAM_EBI3_MARCO				
IRF8	1.266836644	1.28E-21	M2_TAM_EBI3_MARCO				
CYBA	0.905310736	3.47E-21	M2_TAM_EBI3_MARCO				
RNASET2	0.990926562	3.97E-21	M2_TAM_EBI3_MARCO				
CXCL10	1.541347775	5.21E-21	M2_TAM_EBI3_MARCO				
SAMSN1	0.909250179	1.67E-20	M2_TAM_EBI3_MARCO				
HLA-A	0.800601927	2.50E-20	M2_TAM_EBI3_MARCO				
KMO	0.42310167	3.03E-20	M2_TAM_EBI3_MARCO				
PROS1	0.251679214	3.65E-20	M2_TAM_EBI3_MARCO				
EBI3	0.72454334	3.69E-20	M2_TAM_EBI3_MARCO				
CALHM6	0.901055849	5.14E-20	M2_TAM_EBI3_MARCO				
AC110995.1	0.391020618	6.46E-20	M2_TAM_EBI3_MARCO				
CD82	0.538400369	7.66E-20	M2_TAM_EBI3_MARCO				
FCGR3A	1.120798677	8.18E-20	M2_TAM_EBI3_MARCO				
SAA1	0.825911629	1.19E-19	M2_TAM_EBI3_MARCO				
PRCP	0.759538272	1.34E-19	M2_TAM_EBI3_MARCO				
CD81	0.861896973	1.65E-19	M2_TAM_EBI3_MARCO				
SLCO4A1	0.276632638	6.71E-19	M2_TAM_EBI3_MARCO				
TNFAIP8	0.653284834	7.52E-19	M2_TAM_EBI3_MARCO				
HLA-E	0.761957557	7.87E-19	M2_TAM_EBI3_MARCO				
ICAM1	1.64823633	9.01E-19	M2_TAM_EBI3_MARCO				
B2M	0.577654617	1.00E-18	M2_TAM_EBI3_MARCO				
CD63	0.907265856	3.36E-18	M2_TAM_EBI3_MARCO				
SOD2	1.071746851	4.52E-18	M2_TAM_EBI3_MARCO				
PLEK	1.099852333	4.94E-18	M2_TAM_EBI3_MARCO				
ACP2	0.504231229	7.25E-18	M2_TAM_EBI3_MARCO				
CCL3	1.239189197	7.78E-18	M2_TAM_EBI3_MARCO				
CCL20	1.020894893	1.05E-17	M2_TAM_EBI3_MARCO				
PRDX1	0.825948486	1.18E-17	M2_TAM_EBI3_MARCO				
P4HA1	0.558469777	1.48E-17	M2_TAM_EBI3_MARCO				
RGL1	0.748901626	1.68E-17	M2_TAM_EBI3_MARCO				
TMEM123	0.698301213	2.08E-17	M2_TAM_EBI3_MARCO				
SIGLEC1	0.603366376	2.52E-17	M2_TAM_EBI3_MARCO				
COMT	0.754614394	3.11E-17	M2_TAM_EBI3_MARCO				
CFD	1.038365442	3.62E-17	M2_TAM_EBI3_MARCO				
BIRC3	1.025587913	3.62E-17	M2_TAM_EBI3_MARCO				
MMD	0.585723473	4.02E-17	M2_TAM_EBI3_MARCO				
SUCNR1	0.366918904	5.77E-17	M2_TAM_EBI3_MARCO				
LILRB4	0.542292076	6.19E-17	M2_TAM_EBI3_MARCO				
MRC1	1.08435329	6.23E-17	M2_TAM_EBI3_MARCO				
TIMP1	0.84954535	6.63E-17	M2_TAM_EBI3_MARCO				
SOCS3	0.87996862	1.21E-16	M2_TAM_EBI3_MARCO				
LILRB1	0.769421593	1.29E-16	M2_TAM_EBI3_MARCO				
PTGER4	0.674401607	1.40E-16	M2_TAM_EBI3_MARCO				
SLC39A8	0.537569986	3.69E-16	M2_TAM_EBI3_MARCO				

MARCKS	0.934503806	4.11E-16	M2_TAM_EBI3_MARCO
IGSF6	0.983292044	8.02E-16	M2_TAM_EBI3_MARCO
LGALS3BP	0.470255536	1.04E-15	M2_TAM_EBI3_MARCO
USP12	0.396250487	1.06E-15	M2_TAM_EBI3_MARCO
CCR1	0.665805084	1.09E-15	M2_TAM_EBI3_MARCO
ARHGAP31	0.28827643	1.80E-15	M2_TAM_EBI3_MARCO
ATP11C	0.312996723	1.84E-15	M2_TAM_EBI3_MARCO
C1orf162	0.722481067	2.08E-15	M2_TAM_EBI3_MARCO
LILRB5	0.810316254	2.71E-15	M2_TAM_EBI3_MARCO
PIK3AP1	0.616710454	3.56E-15	M2_TAM_EBI3_MARCO
PHACTR2	0.588591509	3.76E-15	M2_TAM_EBI3_MARCO
CD68	0.72864486	3.84E-15	M2_TAM_EBI3_MARCO
SCARB2	0.69123847	4.14E-15	M2_TAM_EBI3_MARCO
RNF144B	0.706642766	5.36E-15	M2_TAM_EBI3_MARCO
ACVRL1	0.285726602	8.79E-15	M2_TAM_EBI3_MARCO
TNFSF10	0.522197479	1.65E-14	M2_TAM_EBI3_MARCO
MIR3945HG	0.663554285	1.71E-14	M2_TAM_EBI3_MARCO
ABCA1	0.793190671	1.93E-14	M2_TAM_EBI3_MARCO
SCIMP	0.523722661	2.09E-14	M2_TAM_EBI3_MARCO
GUSB	0.569372479	3.61E-14	M2_TAM_EBI3_MARCO
RUFY3	0.487157715	4.73E-14	M2_TAM_EBI3_MARCO
HMOX1	0.799555172	4.96E-14	M2_TAM_EBI3_MARCO
RAB32	0.715437361	5.67E-14	M2_TAM_EBI3_MARCO
PLD3	0.805803509	6.13E-14	M2_TAM_EBI3_MARCO
IFI6	0.757728333	7.59E-14	M2_TAM_EBI3_MARCO
BCL6	0.529405842	7.65E-14	M2_TAM_EBI3_MARCO
HSD17B12	0.353148515	8.68E-14	M2_TAM_EBI3_MARCO
TPP1	0.833205629	9.66E-14	M2_TAM_EBI3_MARCO
UGCG	0.56245477	1.08E-13	M2_TAM_EBI3_MARCO
SAA2	0.464769178	1.11E-13	M2_TAM_EBI3_MARCO
SLC2A6	0.365673666	1.22E-13	M2_TAM_EBI3_MARCO
NFKBIE	0.388149246	1.22E-13	M2_TAM_EBI3_MARCO
EHD1	0.772411622	1.24E-13	M2_TAM_EBI3_MARCO
TNFAIP2	1.109564723	1.25E-13	M2_TAM_EBI3_MARCO
EGR1	0.926125231	1.39E-13	M2_TAM_EBI3_MARCO
ORM1	0.634826817	1.81E-13	M2_TAM_EBI3_MARCO
VAMP8	0.654746708	8.32E-13	M2_TAM_EBI3_MARCO
HNMT	0.543173873	1.33E-12	M2_TAM_EBI3_MARCO
PLTP	0.597804041	1.49E-12	M2_TAM_EBI3_MARCO
DMXL2	0.573105916	1.77E-12	M2_TAM_EBI3_MARCO
LY96	0.633258058	2.37E-12	M2_TAM_EBI3_MARCO
NBPF19	0.498046031	2.53E-12	M2_TAM_EBI3_MARCO
MIR3142HG	0.257978275	3.01E-12	M2_TAM_EBI3_MARCO
RFK	0.316364873	3.13E-12	M2_TAM_EBI3_MARCO
HLA-DRA	0.665929056	3.46E-12	M2_TAM_EBI3_MARCO
KYNU	0.473719341	5.12E-12	M2_TAM_EBI3_MARCO
ARID5B	0.547935448	5.49E-12	M2_TAM_EBI3_MARCO
CYBB	0.773966241	6.76E-12	M2_TAM_EBI3_MARCO
TNF	1.623343146	7.89E-12	M2_TAM_EBI3_MARCO
ACSL1	0.730058268	1.16E-11	M2_TAM_EBI3_MARCO
GNG10	0.563638546	1.22E-11	M2_TAM_EBI3_MARCO
AOAH	0.442047697	1.27E-11	M2_TAM_EBI3_MARCO
GLRX	0.556926218	1.70E-11	M2_TAM_EBI3_MARCO
NPL	0.505601309	2.41E-11	M2_TAM_EBI3_MARCO
PDE4B	0.578355691	2.70E-11	M2_TAM_EBI3_MARCO
CNDP2	0.528665923	2.71E-11	M2_TAM_EBI3_MARCO
CXCL3	1.561503528	3.55E-11	M2_TAM_EBI3_MARCO
HLA-B	0.538534214	3.93E-11	M2_TAM_EBI3_MARCO
UBE2D1	0.548594083	4.93E-11	M2_TAM_EBI3_MARCO
TFEC	0.427215175	5.58E-11	M2_TAM_EBI3_MARCO
PFKFB3	0.757257935	8.99E-11	M2_TAM_EBI3_MARCO
GRAMD1A	0.458860263	9.24E-11	M2_TAM_EBI3_MARCO
DNASE2	0.412042204	9.57E-11	M2_TAM_EBI3_MARCO
MPEG1	0.74102372	1.08E-10	M2_TAM_EBI3_MARCO

CST3	0.574873151	1.15E-10	M2_TAM_EBI3_MARCO
NCK1	0.325013449	1.21E-10	M2_TAM_EBI3_MARCO
PLA2G7	0.571736275	1.38E-10	M2_TAM_EBI3_MARCO
HLA-DRB1	0.77543641	2.76E-10	M2_TAM_EBI3_MARCO
SKIL	0.45527516	2.81E-10	M2_TAM_EBI3_MARCO
HCAR2	0.274800596	3.16E-10	M2_TAM_EBI3_MARCO
ZBTB10	0.362479303	3.60E-10	M2_TAM_EBI3_MARCO
IFIT3	0.297029332	3.92E-10	M2_TAM_EBI3_MARCO
TSPAN4	0.623637377	4.27E-10	M2_TAM_EBI3_MARCO
LYVE1	0.948804051	4.79E-10	M2_TAM_EBI3_MARCO
HLA-C	0.536593891	4.88E-10	M2_TAM_EBI3_MARCO
C15orf48	0.975331274	5.12E-10	M2_TAM_EBI3_MARCO
RPS29	0.517875096	5.49E-10	M2_TAM_EBI3_MARCO
RPL27A	0.526676406	5.95E-10	M2_TAM_EBI3_MARCO
ADM	0.449865525	6.69E-10	M2_TAM_EBI3_MARCO
MAP3K8	0.780233256	8.14E-10	M2_TAM_EBI3_MARCO
CCL23	0.334893524	9.16E-10	M2_TAM_EBI3_MARCO
TRPV4	0.342824725	1.15E-09	M2_TAM_EBI3_MARCO
MRC2	0.267019862	1.37E-09	M2_TAM_EBI3_MARCO
RPS20	0.542469103	1.44E-09	M2_TAM_EBI3_MARCO
CTSZ	0.734133288	1.54E-09	M2_TAM_EBI3_MARCO
VAMP5	0.584962501	1.76E-09	M2_TAM_EBI3_MARCO
TRIM14	0.404695555	1.81E-09	M2_TAM_EBI3_MARCO
RPL23	0.555167819	1.99E-09	M2_TAM_EBI3_MARCO
LGALS8	0.372119778	2.13E-09	M2_TAM_EBI3_MARCO
IRF1	0.731279157	2.25E-09	M2_TAM_EBI3_MARCO
SIGLEC7	0.413709702	2.30E-09	M2_TAM_EBI3_MARCO
FMNL2	0.464702864	2.71E-09	M2_TAM_EBI3_MARCO
EPB41L3	0.495656102	4.59E-09	M2_TAM_EBI3_MARCO
MYD88	0.366744539	6.00E-09	M2_TAM_EBI3_MARCO
HLA-DQA1	0.641058626	7.27E-09	M2_TAM_EBI3_MARCO
LY6E	0.565751502	7.52E-09	M2_TAM_EBI3_MARCO
GNB4	0.468918937	7.53E-09	M2_TAM_EBI3_MARCO
RPS9	0.441630693	8.27E-09	M2_TAM_EBI3_MARCO
CTBS	0.324728757	1.01E-08	M2_TAM_EBI3_MARCO
CTSL	0.78211752	1.04E-08	M2_TAM_EBI3_MARCO
STAT1	0.556534092	1.20E-08	M2_TAM_EBI3_MARCO
FNDC3B	0.323947666	1.34E-08	M2_TAM_EBI3_MARCO
IFI44L	0.384203579	1.35E-08	M2_TAM_EBI3_MARCO
TNFSF13B	0.46672651	1.46E-08	M2_TAM_EBI3_MARCO
FABP3	0.436618223	1.49E-08	M2_TAM_EBI3_MARCO
CCND1	0.438888929	1.80E-08	M2_TAM_EBI3_MARCO
IFNAR1	0.394373084	2.33E-08	M2_TAM_EBI3_MARCO
HLA-DPA1	0.515538577	2.36E-08	M2_TAM_EBI3_MARCO
RPN2	0.473262723	2.81E-08	M2_TAM_EBI3_MARCO
RNF19B	0.37199139	2.96E-08	M2_TAM_EBI3_MARCO
PYGL	0.370387504	3.49E-08	M2_TAM_EBI3_MARCO
FILIP1L	0.350813312	4.65E-08	M2_TAM_EBI3_MARCO
RPS6	0.458238816	4.69E-08	M2_TAM_EBI3_MARCO
APOE	0.808095718	5.38E-08	M2_TAM_EBI3_MARCO
FCHO2	0.39322513	6.32E-08	M2_TAM_EBI3_MARCO
PCBP1-AS1	0.250761573	6.70E-08	M2_TAM_EBI3_MARCO
BATF	0.341617741	8.45E-08	M2_TAM_EBI3_MARCO
FEZ2	0.402747941	9.33E-08	M2_TAM_EBI3_MARCO
HLA-DRB5	0.586013698	9.45E-08	M2_TAM_EBI3_MARCO
CORO1B	0.478946306	1.15E-07	M2_TAM_EBI3_MARCO
PRKAR1A	0.424317687	1.15E-07	M2_TAM_EBI3_MARCO
EPSTI1	0.365697789	1.18E-07	M2_TAM_EBI3_MARCO
NECTIN2	0.289636604	1.26E-07	M2_TAM_EBI3_MARCO
NCEH1	0.341589276	1.31E-07	M2_TAM_EBI3_MARCO
VMO1	0.634712034	1.53E-07	M2_TAM_EBI3_MARCO
NCOA4	0.566432708	1.66E-07	M2_TAM_EBI3_MARCO
ABCG1	0.268233313	1.68E-07	M2_TAM_EBI3_MARCO
ZFYVE16	0.445462833	1.70E-07	M2_TAM_EBI3_MARCO

XBP1	0.464493472	2.48E-07	M2_TAM_EBI3_MARCO
ADGRE1	0.26003911	2.65E-07	M2_TAM_EBI3_MARCO
CCL3L1	0.743597884	2.77E-07	M2_TAM_EBI3_MARCO
CEBPD	0.498620397	3.36E-07	M2_TAM_EBI3_MARCO
RAP1B	0.423875217	3.73E-07	M2_TAM_EBI3_MARCO
ATP2B1	0.625057727	3.82E-07	M2_TAM_EBI3_MARCO
RPS18	0.394599221	3.86E-07	M2_TAM_EBI3_MARCO
MSR1	0.494790292	4.76E-07	M2_TAM_EBI3_MARCO
ANXA5	0.520203429	5.10E-07	M2_TAM_EBI3_MARCO
PRNP	0.534215254	5.53E-07	M2_TAM_EBI3_MARCO
IL1A	0.406483181	5.74E-07	M2_TAM_EBI3_MARCO
JUN	0.553713038	6.77E-07	M2_TAM_EBI3_MARCO
CD59	0.532111211	6.95E-07	M2_TAM_EBI3_MARCO
OAS2	0.286790239	7.76E-07	M2_TAM_EBI3_MARCO
DNASE1L3	0.348474373	7.84E-07	M2_TAM_EBI3_MARCO
CD52	0.700511797	8.68E-07	M2_TAM_EBI3_MARCO
FRMD4A	0.36872849	1.01E-06	M2_TAM_EBI3_MARCO
E2F3	0.296992561	1.02E-06	M2_TAM_EBI3_MARCO
NABP1	0.582035487	1.03E-06	M2_TAM_EBI3_MARCO
MAFF	0.530880869	1.04E-06	M2_TAM_EBI3_MARCO
GRB2	0.460434341	1.05E-06	M2_TAM_EBI3_MARCO
ETNK1	0.324106001	1.09E-06	M2_TAM_EBI3_MARCO
TRIB1	0.409224296	1.27E-06	M2_TAM_EBI3_MARCO
NUCB1	0.380439335	1.52E-06	M2_TAM_EBI3_MARCO
GPNMB	0.674847051	1.59E-06	M2_TAM_EBI3_MARCO
LIMK2	0.264007775	1.64E-06	M2_TAM_EBI3_MARCO
SQOR	0.361336479	2.14E-06	M2_TAM_EBI3_MARCO
APOL3	0.373174697	2.28E-06	M2_TAM_EBI3_MARCO
SAT1	0.517123037	2.30E-06	M2_TAM_EBI3_MARCO
SRGN	0.587576044	2.40E-06	M2_TAM_EBI3_MARCO
N4BP1	0.314989369	2.54E-06	M2_TAM_EBI3_MARCO
AZIN1-AS1	0.689440959	2.54E-06	M2_TAM_EBI3_MARCO
SLC40A1	0.757016448	2.65E-06	M2_TAM_EBI3_MARCO
LY86	0.385377795	2.75E-06	M2_TAM_EBI3_MARCO
P2RY13	0.26374765	2.90E-06	M2_TAM_EBI3_MARCO
SCN1B	0.295594118	3.22E-06	M2_TAM_EBI3_MARCO
GNS	0.430999711	3.54E-06	M2_TAM_EBI3_MARCO
ARRDC3	0.364927997	4.13E-06	M2_TAM_EBI3_MARCO
GBP2	0.516414029	4.77E-06	M2_TAM_EBI3_MARCO
FOLR2	0.609731841	6.28E-06	M2_TAM_EBI3_MARCO
PTAFR	0.321418101	6.29E-06	M2_TAM_EBI3_MARCO
PLK3	0.3495773	6.37E-06	M2_TAM_EBI3_MARCO
OPTN	0.251095677	6.53E-06	M2_TAM_EBI3_MARCO
PTTG1IP	0.346928531	8.94E-06	M2_TAM_EBI3_MARCO
ABI1	0.358805648	8.97E-06	M2_TAM_EBI3_MARCO
HLA-DQB1	0.5704596	9.55E-06	M2_TAM_EBI3_MARCO
TLR2	0.34827718	1.08E-05	M2_TAM_EBI3_MARCO
AKR1A1	0.375673118	1.24E-05	M2_TAM_EBI3_MARCO
SLC8A1	0.329477095	1.31E-05	M2_TAM_EBI3_MARCO
BST2	0.492786885	1.32E-05	M2_TAM_EBI3_MARCO
IFNGR2	0.448458381	1.43E-05	M2_TAM_EBI3_MARCO
HLA-DPB1	0.429327415	1.45E-05	M2_TAM_EBI3_MARCO
CD84	0.404591939	1.82E-05	M2_TAM_EBI3_MARCO
PDIA6	0.389717823	1.83E-05	M2_TAM_EBI3_MARCO
HIF1A	0.528740195	2.08E-05	M2_TAM_EBI3_MARCO
WTAP	0.545594944	2.20E-05	M2_TAM_EBI3_MARCO
CLEC12A	0.265842299	2.35E-05	M2_TAM_EBI3_MARCO
HP	0.744055861	2.39E-05	M2_TAM_EBI3_MARCO
TYMP	0.469680079	2.40E-05	M2_TAM_EBI3_MARCO
NCF1	0.488961823	2.60E-05	M2_TAM_EBI3_MARCO
FXYD2	0.29150876	3.00E-05	M2_TAM_EBI3_MARCO
CTSA	0.441254765	3.00E-05	M2_TAM_EBI3_MARCO
GALNT1	0.307243196	3.12E-05	M2_TAM_EBI3_MARCO
TAGLN2	0.414716142	3.25E-05	M2_TAM_EBI3_MARCO

TPT1	0.27204806	4.35E-05	M2_TAM_EBI3_MARCO
P2RX7	0.435338704	4.53E-05	M2_TAM_EBI3_MARCO
CHMP5	0.328754134	4.76E-05	M2_TAM_EBI3_MARCO
SHTN1	0.374440537	5.16E-05	M2_TAM_EBI3_MARCO
ATP6AP2	0.399846155	6.18E-05	M2_TAM_EBI3_MARCO
BCL2L1	0.28784355	7.04E-05	M2_TAM_EBI3_MARCO
QKI	0.453522839	7.51E-05	M2_TAM_EBI3_MARCO
GAA	0.350804189	7.89E-05	M2_TAM_EBI3_MARCO
BAZ1A	0.42512227	9.97E-05	M2_TAM_EBI3_MARCO
JAK1	0.428165432	0.00010028	M2_TAM_EBI3_MARCO
RPS11	0.311181811	0.00012681	M2_TAM_EBI3_MARCO
RPL26	0.341951134	0.00014676	M2_TAM_EBI3_MARCO
HLA-DMA	0.4209681	0.00015124	M2_TAM_EBI3_MARCO
ETS2	0.374974665	0.00015167	M2_TAM_EBI3_MARCO
THBS1	0.562331768	0.00015766	M2_TAM_EBI3_MARCO
TMSB10	0.334324407	0.00016097	M2_TAM_EBI3_MARCO
EVA1B	0.274287609	0.00017555	M2_TAM_EBI3_MARCO
DOCK10	0.277697476	0.00018741	M2_TAM_EBI3_MARCO
TMEM37	0.255135178	0.00018869	M2_TAM_EBI3_MARCO
RBP7	0.404576907	0.00019343	M2_TAM_EBI3_MARCO
BHLHE40	0.420855848	0.00021081	M2_TAM_EBI3_MARCO
MPP1	0.381087393	0.00021352	M2_TAM_EBI3_MARCO
SELENOT	0.323760865	0.00022104	M2_TAM_EBI3_MARCO
SPATS2L	0.392107964	0.00023687	M2_TAM_EBI3_MARCO
MTPN	0.367375961	0.00025391	M2_TAM_EBI3_MARCO
IQGAP1	0.497905255	0.00025578	M2_TAM_EBI3_MARCO
FKBP5	0.304466111	0.00028457	M2_TAM_EBI3_MARCO
YBX1	0.368688261	0.00033707	M2_TAM_EBI3_MARCO
MIR155HG	0.576283606	0.00034926	M2_TAM_EBI3_MARCO
WSB1	0.862409564	0.00038895	M2_TAM_EBI3_MARCO
CD300A	0.30547239	0.00039067	M2_TAM_EBI3_MARCO
CXCL1	1.129802065	0.00042529	M2_TAM_EBI3_MARCO
HCLS1	0.447490313	0.0004467	M2_TAM_EBI3_MARCO
GRN	0.477744704	0.00047568	M2_TAM_EBI3_MARCO
SUMF2	0.261471279	0.00050649	M2_TAM_EBI3_MARCO
TAX1BP1	0.327209675	0.00057271	M2_TAM_EBI3_MARCO
GTF2A2	0.296978549	0.00068117	M2_TAM_EBI3_MARCO
HNRNPAB	0.368662824	0.00072588	M2_TAM_EBI3_MARCO
M6PR	0.416239893	0.00072634	M2_TAM_EBI3_MARCO
MFHAS1	0.353543143	0.00074447	M2_TAM_EBI3_MARCO
CSF1R	0.479735527	0.0007563	M2_TAM_EBI3_MARCO
DICER1	0.360549592	0.00080604	M2_TAM_EBI3_MARCO
PSMA6	0.357421054	0.00085776	M2_TAM_EBI3_MARCO
TNFSF9	0.383868365	0.00091146	M2_TAM_EBI3_MARCO
GIMAP5	0.3203066	0.00097241	M2_TAM_EBI3_MARCO
CD164	0.361891233	0.00111819	M2_TAM_EBI3_MARCO
AKR1B1	0.378614902	0.00117494	M2_TAM_EBI3_MARCO
PTPRJ	0.286103462	0.00118019	M2_TAM_EBI3_MARCO
METTL7A	0.319630364	0.00129014	M2_TAM_EBI3_MARCO
CLIC4	0.256850087	0.00150709	M2_TAM_EBI3_MARCO
IL1RN	0.916079196	0.00159252	M2_TAM_EBI3_MARCO
ATP1B1	0.449504187	0.00165487	M2_TAM_EBI3_MARCO
BLOC1S2	0.312566262	0.00166573	M2_TAM_EBI3_MARCO
RIPK2	0.305359025	0.00186016	M2_TAM_EBI3_MARCO
MXD1	0.468757263	0.00190728	M2_TAM_EBI3_MARCO
CALCOCO2	0.298452123	0.00193579	M2_TAM_EBI3_MARCO
SLC31A2	0.282069297	0.00198686	M2_TAM_EBI3_MARCO
IRAK2	0.252997826	0.00220585	M2_TAM_EBI3_MARCO
DENND2D	0.254784841	0.00229064	M2_TAM_EBI3_MARCO
MAN2B1	0.41738207	0.00241382	M2_TAM_EBI3_MARCO
ACTR3	0.369603891	0.00248933	M2_TAM_EBI3_MARCO
RPL21	0.308952694	0.00253145	M2_TAM_EBI3_MARCO
RAC1	0.311378404	0.00254719	M2_TAM_EBI3_MARCO
LAMP2	0.316538944	0.00262239	M2_TAM_EBI3_MARCO

FPR1	0.308555439	0.00273321	M2_TAM_EBI3_MARCO
CALML4	0.284401321	0.00278263	M2_TAM_EBI3_MARCO
SLC7A7	0.304456143	0.0029627	M2_TAM_EBI3_MARCO
ITM2B	0.325111286	0.00315342	M2_TAM_EBI3_MARCO
DBNL	0.282101713	0.00333459	M2_TAM_EBI3_MARCO
HIVEP1	0.276800286	0.00338584	M2_TAM_EBI3_MARCO
TNFAIP3	0.775166276	0.0037196	M2_TAM_EBI3_MARCO
RASSF4	0.307717646	0.00382185	M2_TAM_EBI3_MARCO
GADD45B	0.431831685	0.00387471	M2_TAM_EBI3_MARCO
VASP	0.418818919	0.00411874	M2_TAM_EBI3_MARCO
NFKBIZ	0.578563051	0.00415357	M2_TAM_EBI3_MARCO
SLAMF7	0.56712602	0.00445355	M2_TAM_EBI3_MARCO
RAB10	0.308105582	0.00445993	M2_TAM_EBI3_MARCO
ARPC5	0.399306464	0.00489808	M2_TAM_EBI3_MARCO
EIF3D	0.335572734	0.00492836	M2_TAM_EBI3_MARCO
ISG15	0.497979607	0.00518346	M2_TAM_EBI3_MARCO
TGOLN2	0.342922702	0.0054537	M2_TAM_EBI3_MARCO
FNBP1	0.325650407	0.00548985	M2_TAM_EBI3_MARCO
ICAM4	0.497296162	0.00572174	M2_TAM_EBI3_MARCO
RELB	0.258235965	0.00584092	M2_TAM_EBI3_MARCO
CSF3R	0.253285675	0.00662085	M2_TAM_EBI3_MARCO
RAP2B	0.388842831	0.007651	M2_TAM_EBI3_MARCO
NDUFA4	0.304436037	0.00799365	M2_TAM_EBI3_MARCO
CANX	0.358016475	0.00859784	M2_TAM_EBI3_MARCO

Table S7. Differential expression genes and enrichment pathways of CD8+T cells subpopulations of HCC 4 and CIR 4. (related to Figure 5)

a. CD8.T_CST3_AIF1

Gene symbol	avg_log2FC	p_val_adj	Upregulated group	Description	pvalue	geneID	Count
LYZ	2.790595419	0	CD8.T_CST3_AIF1	Phagosome	7.48E-24	ACTB/ATP6V1B2/ATP6V0C/ATP6V0B/ATP6V0A1/CD14/SCARB1/CTSL/CTSS/CYBB/DYNC1H1/FCGR1A/FCGR2A/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/ITGB5/LAMP2/M6PR/MRC1/MSR1/NCF2/NCF4/RAB5C/RAC1/TLR4/TUBA1A/RAB7A/STX7/ATP6V0D1/ATP6V1F/VAMP3/TUBA1B/TUBB4B/CD209/CLEC7A/COLEC12/TUBB6/TUBA1C/TUBB/RAB7B/NCF1	49
TOP2A	2.13385835	0	CD8.T_CST3_AIF1	Lysosome	3.07E-21	AP1B1/ASAH1/ATP6V0C/ATP6V0B/ATP6V0A1/SCARB2/CD63/CD68/TPP1/CLTA/CLTC/CTSB/CTSD/CTSH/CTSL/CTSS/CTSZ/FUCA2/GAA/GBA/GLA/GM2A/GNS/GUSB/HEXA/HEXB/LAMP2/LIPA/M6PR/MAN2B1/NAGA/SLC11A2/CTSA/PPT1/LGMN/PSAP/LAPTM5/AP1S2/AP1M1/ATP6V0D1/NPC2/DMXL2/MCOLN1	43
CPVL	1.958272641	0	CD8.T_CST3_AIF1	Rheumatoid arthritis	6.14E-16	ATP6V1B2/ATP6V0C/ATP6V0B/ATP6V0A1/CD86/CTSL/FOS/CXCL1/CXCL2/CXCL3/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IL1B/CXCL8/IL18/CCL2/CCL3/CCL3L1/TLR4/VEGFA/TNFSF13/ATP6V0D1/ATP6V1F	31
MS4A6A	1.875807831	0	CD8.T_CST3_AIF1	Tuberculosis	1.27E-15	AKT1/RHOA/ATP6V0C/ATP6V0B/ATP6V0A1/CALM2/CALM3/CD14/CD74/CEBPB/CTSD/CTSS/FCER1G/FCGR1A/FCGR2A/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR1/IFNGR2/IL1B/IL10/IL10RB/IL18/IRAK1/ITGAX/LAMP2/MRC1/MYD88/RAB5C/SYK/TLR4/RAB7A/ATP6V0D1/CD209/CLEC7A	43
UBE2C	1.776380316	0	CD8.T_CST3_AIF1	Leishmaniasis	8.52E-13	CYBB/FCGR1A/FCGR2A/FOS/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR1/IFNGR2/IL1B/IL10/IRAK1/MYD88/NCF2/NCF4/PTGS2/TLR4/NCF1	25
MAFB	1.55387292	0	CD8.T_CST3_AIF1	Antigen processing and presentation	1.71E-08	CD4/CD74/CTSB/CTSL/CTSS/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/HSPA1A/HSPA1B/HSPA6/LGMN/IFI30	20
SPI1	1.498795641	0	CD8.T_CST3_AIF1	Toxoplasmosis	2.93E-08	AKT1/GNAI2/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/HSPA1A/HSPA1B/HSPA6/IFNGR1/IFNGR2/IL10/IL10RB/IRAK1/MYD88/TLR4/PPIF/LY96	24
STAB1	1.393810977	0	CD8.T_CST3_AIF1	Salmonella infection	6.31E-08	ACTB/AKT1/ANXA2/RHOA/RHOB/CD14/DYNC1H1/FOS/GAPDH/IL1B/CXCL8/IL18/IRAK1/M6PR/MYD88/PAK1/RAB5C/RAC1/TLR4/TUBA1A/RAB7A/ARPC5/ARPC3/ARPC1B/ACTR2/TUBA1B/TUBB4B/CYFIP1/LY96/CYTH4/PYCARD/SNX9/ARL8B/TUBB6/TUBA1C/NLRP3/TUBB/RAB7B	38
BIRC5	1.343365266	0	CD8.T_CST3_AIF1	Asthma	8.84E-08	FCER1G/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IL10	12
MS4A4A	1.243460456	0	CD8.T_CST3_AIF1	Inflammatory bowel disease	1.50E-07	HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR1/IFNGR2/IL1B/IL10/IL18/MAF/TLR4	17
CYBB	1.179868011	0	CD8.T_CST3_AIF1	Pertussis	3.30E-07	RHOA/C1QA/C1QB/C1QC/CALM2/CALM3/CD14/FOS/GNAI2/IL1B/CXCL8/IL10/IRAK1/MYD88/TLR4/LY96/PYCARD/NLRP3	18
KCTD12	1.120502887	0	CD8.T_CST3_AIF1	Lipid and atherosclerosis	4.18E-07	ABCA1/AKT1/RHOA/ATF4/CALM2/CALM3/CD14/CYBB/FOS/CXCL1/CXCL2/CXCL3/HSPA1A/HSPA1B/HSPA6/IL1B/CXCL8/IL18/IRAK1/LYN/MYD88/NCF2/NCF4/RAC1/CCL2/CCL3/CCL3L1/SOD2/TLR4/LY96/PYCARD/NLRP3/NCF1	33
RNASE6	1.103078674	0	CD8.T_CST3_AIF1	Osteoclast differentiation	4.20E-07	AKT1/CSF1R/FCGR1A/FCGR2A/FOS/FOSB/GRB2/IFNGR1/IFNGR2/IL1B/MITF/NCF2/NCF4/RAC1/SPI1/STAT2/SYK/TYROBP/LILRB2/LILRB5/LILRB4/TREM2/SIRPA/NCF1	24

ADAP2	1.086025056	0	CD8.T_CST3_AIF1	Pathogenic Escherichia coli infection	5.41E-07	ACTB/RHOA/FCGR2A/FOS/GAPDH/IL1B/CXCL8/IL18/IRAK1/MYD88/MYO5A/PAK1/RAC1/TLR4/TUBA1A/ARPC5/ARPC3/ARPC1B/ACTR2/WASF2/TUBA1B/TUBB4B/BAIAP2/GNA13/CYFIP1/CYTH4/PYCARD/TUBB6/TUBA1C/NLRP3/TUBB	31
PHACTR1	1.060218949	0	CD8.T_CST3_AIF1	Staphylococcus aureus infection	6.83E-07	C1QA/C1QB/C1QC/C3AR1/C5AR1/CFD/FCGR1A/FCGR2A/FPR3/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IL10	20
TGFBI	1.054810193	0	CD8.T_CST3_AIF1	Allograft rejection	1.15E-06	CD86/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IL10	12
MRC1	1.052423617	0	CD8.T_CST3_AIF1	Cell cycle	1.20E-06	BUB1/BUB1B/CCNA2/CCNB1/CDK1/CDC20/CDC25B/CDKN2C/MAD2L1/MCM5/MCM7/PCNA/PLK1/RAD21/RB1/TFDP1/YWHAE/YWHAH/PKMYT1/CCNB2/PTTG1/ORC6/ANAPC11	23
MEF2C	1.04082122	0	CD8.T_CST3_AIF1	Yersinia infection	1.52E-06	ACTB/AKT1/RHOA/CD4/FCGR2A/FOS/GNAQ/IL1B/CXCL8/IL10/IL18/IRAK1/MYD88/RAC1/CCL2/TLR4/ARPC5/ARPC3/ARPC1B/ACTR2/WASF2/BAIAP2/PYCARD/NLRP3	24
MPEG1	0.989826549	0	CD8.T_CST3_AIF1	Chagas disease	1.88E-06	AKT1/C1QA/C1QB/C1QC/FOS/GNA15/GNAI2/GNAQ/GNAS/IFNGR1/IFNGR2/IL1B/CXCL8/IL10/IRAK1/MYD88/CCL2/CCL3/CCL3L1/TLR4	20
RAB32	0.972513862	0	CD8.T_CST3_AIF1	Ferroptosis	2.85E-06	CYBB/ACSL1/FTH1/FTL/GPX4/HMOX1/SLC11A2/PCBP1/PCBP2/SAT1/NCOA4/SLC40A1	12
RAB31	0.966029829	0	CD8.T_CST3_AIF1	Chemokine signaling pathway	2.97E-06	GRK3/AKT1/RHOA/ARRB2/CCR1/GNAI2/GNAQ/GNB1/GNB2/GNG5/GNG10/GRB2/CXCL1/CXCL2/CXCL3/HCK/CXCL8/LYN/PAK1/PRKACA/RAC1/CCL2/CCL3/CCL3L1/CCL8/STAT2/CXCL16/GNB4/NCF1	29
CD163	0.909507272	0	CD8.T_CST3_AIF1	Intestinal immune network for IgA production	3.73E-06	CD86/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IL10/TNFSF13	13
IFNGR2	0.793389271	0	CD8.T_CST3_AIF1	Graft-versus-host disease	3.78E-06	CD86/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IL1B	12
CSF1R	0.753751601	0	CD8.T_CST3_AIF1	Hematopoietic cell lineage	4.74E-06	CD4/CD9/CD14/CD33/CD59/CSF1R/FCGR1A/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IL1B/IL6R	19
LY86	0.708398003	0	CD8.T_CST3_AIF1	Type I diabetes mellitus	4.97E-06	CD86/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IL1B	12
LYVE1	0.655488329	0	CD8.T_CST3_AIF1	Prion disease	5.07E-06	ATF4/ATP5F1E/ATP5PB/ATP5PF/ATP5PO/C1QA/C1QB/C1QC/COX5B/COX6B1/COX8A/CYBB/EGR1/HSPA1A/HSPA1B/HSPA6/IL1B/NCF2/NCF4/NDUFB1/NDUFC1/PRKACA/RAC1/TUBA1A/COX5A/PPIF/TUBA1B/TUBB4B/ATP5PD/UQCR11/UQCRQ/UQCR10/TUBB6/TUBA1C/TUBB/NCF1	36
CLEC7A	0.604947708	0	CD8.T_CST3_AIF1	Human T-cell leukemia virus 1 infection	7.23E-06	AKT1/ATF4/BUB1B/CCNA2/CD4/CDC20/CDKN2C/EGR1/ETS2/FOS/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/MAD2L1/MAP3K3/PRKACA/PTEN/RB1/SPI1/XPO1/NRP1/CCNB2/PTTG1/ANAPC11	31
TMEM37	0.551690126	0	CD8.T_CST3_AIF1	Amoebiasis	7.49E-06	ACTN1/CD14/GNA15/GNAQ/GNAS/CXCL1/CXCL2/CXCL3/HSPB1/IL1B/CXCL8/IL10/PRDX1/SERPINB6/PRKACA/RAB5C/TLR4/RAB7A/RAB7B	19
CD86	0.533816907	0	CD8.T_CST3_AIF1	Viral myocarditis	8.18E-06	ABL2/ACTB/CD86/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/RAC1	14
TUBB6	0.475104021	0	CD8.T_CST3_AIF1	Influenza A	8.58E-06	ACTB/AKT1/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR1/IFNGR2/IL1B/CXCL8/IL18/KPNA2/MYD88/CCL2/STAT2/TLR4/XPO1/HNRNPUL1/PYCARD/NLRP3	26
1-Mar	0.454110082	0	CD8.T_CST3_AIF1	Endocytosis	1.35E-05	GRK3/AP2A2/RHOA/ARRB2/CAPZA2/CAPZB/AP2S1/CLTA/CLTC/DAB2/FOLR2/HSPA1A/HSPA1B/HSPA6/RAB5C/SNX2/RAB7A/SNX3/ARPC5/ARPC3/ARPC1B/ACTR2/RAB31/WWP1/WASHC4/CYTH4/SNX5/EPN1/ASAP1/SPG21/VPS29/VPS35/ARAP1	33

IQGAP3	0.361027615	0	CD8.T_CST3_AIF1	Chemical carcinogenesis - reactive oxygen species	2.14E-05	ABL2/AKT1/ATP5F1E/ATP5PB/ATP5PF/ATP5PO/COX5B/COX6B1/COX8A/FOS/GRB2/HMOX1/MGST2/MGST3/NCF2/NDUFB1/NDUFC1/PTEN/RAC1/SOD2/VEGFA/COX5A/GSTO1/PPIF/AKR1A1/ATP5PD/UQCR11/UQCRQ/UQCR10/NCF1	30
HOMER3	0.593921533	7.46E-299	CD8.T_CST3_AIF1	Legionellosis	2.24E-05	CD14/CXCL1/CXCL2/CXCL3/HSPA1A/HSPA1B/HSPA6/IL1B/CXCL8/IL18/MYD88/TLR4/PYCARD	13
ITSN1	0.642707152	1.47E-298	CD8.T_CST3_AIF1	Human cytomegalovirus infection	2.54E-05	AKT1/RHOA/ATF4/CALM2/CALM3/CCR1/EIF4EBP1/GNAI2/GNAQ/GNAS/GNB1/GNB2/GNG5/GNG10/GRB2/IL1B/IL6R/CXCL8/IL10RB/PRKACA/PTGS2/RAC1/RB1/RHEB/CCL2/CCL3/CCL3L1/VEGFA/GNA13/GNB4	30
MARCKS	2.45137307	2.47E-296	CD8.T_CST3_AIF1	Oxidative phosphorylation	3.98E-05	ATP5F1E/ATP5PB/ATP5PF/ATP6V1B2/ATP6V0C/ATP6V0B/ATP6V0A1/ATP5PO/COX5B/COX6B1/COX8A/NDUFB1/NDUFC1/ATP6V0D1/ATP6V1F/COX5A/ATP5MF/ATP5PD/UQCR11/UQCRQ/UQCR10	21
CD68	1.724729651	1.02E-294	CD8.T_CST3_AIF1	Autoimmune thyroid disease	5.00E-05	CD86/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IL10	12
COLEC12	0.427966535	2.17E-294	CD8.T_CST3_AIF1	Fc gamma R-mediated phagocytosis	5.11E-05	AKT1/FCGR1A/FCGR2A/GSN/HCK/LYN/MARCKS/PAK1/RAC1/SYK/ARPC5/ARPC3/ARPC1B/ACTR2/WASF2/ASAP1/NCF1	17
MS4A7	1.720777812	1.28E-292	CD8.T_CST3_AIF1	Epithelial cell signaling in Helicobacter pylori infection	5.25E-05	ATP6V1B2/ATP6V0C/ATP6V0B/ATP6V0A1/HBEGF/CXCL1/CXCL2/CXCL3/CXCL8/LYN/PAK1/RAC1/ATP6V0D1/ATP6V1F	14
AIF1	3.102687613	2.15E-291	CD8.T_CST3_AIF1	Kaposi sarcoma-associated herpesvirus infection	8.06E-05	AKT1/CALM2/CALM3/CD86/CCR1/RCAN1/FOS/GNB1/GNB2/GNG5/GNG10/CXCL1/CXCL2/CXCL3/HCK/IFNGR1/CXCL8/LYN/PTGS2/RAC1/RB1/STAT2/SYK/VEGFA/GNB4/ATG3	26
DEPDC1	0.541245771	2.45E-291	CD8.T_CST3_AIF1	Th1 and Th2 cell differentiation	9.32E-05	CD4/FOS/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR1/IFNGR2/RBPJ/MAF	16
C1orf54	0.817950001	1.20E-289	CD8.T_CST3_AIF1	Diabetic cardiomyopathy	0.000171583	AKT1/ATP5F1E/ATP5PB/ATP5PF/ATP5PO/COX5B/COX6B1/COX8A/CTSD/CYBB/GAPDH/NCF2/NCF4/NDUFB1/NDUFC1/PDK4/PTPA/PTEN/RAC1/COX5A/PPIF/ATP5PD/UQCR11/UQCRQ/UQCR10/NCF1	26
GTSE1	1.058344579	1.57E-282	CD8.T_CST3_AIF1	Th17 cell differentiation	0.000202527	RUNX1/CD4/FOS/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IFNGR1/IFNGR2/IL1B/IL6R	17
TIMP2	1.256686137	1.35E-279	CD8.T_CST3_AIF1	Fluid shear stress and atherosclerosis	0.000203084	ACTB/AKT1/RHOA/CALM2/CALM3/CTSL/FOS/HMOX1/IL1B/MEF2C/MGST2/MGST3/NCF2/RAC1/CCL2/SUMO3/THBD/VEGFA/GSTO1/NCF1	20
MKI67	1.576455227	1.71E-279	CD8.T_CST3_AIF1	Progesterone-mediated oocyte maturation	0.00032247	AKT1/BUB1/CCNA2/CCNB1/CDK1/CDC25B/GNAI2/KIF22/MAD2L1/PLK1/PRKACA/AURKA/PKMYT1/CCNB2/ANAPC11/CPEB4	16
PRR11	0.619682491	4.98E-278	CD8.T_CST3_AIF1	Systemic lupus erythematosus	0.000426767	ACTN1/C1QA/C1QB/C1QC/CD86/FCGR1A/FCGR2A/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/IL10/SNRPD1	19
SLC15A3	0.607033432	1.23E-270	CD8.T_CST3_AIF1	Complement and coagulation cascades	0.000452876	A2M/C1QA/C1QB/C1QC/C3AR1/C5AR1/CD59/CFD/F13A1/ITGAX/PLAU/PLAUR/THBD/VSIG4	14
GPR34	0.62273846	2.04E-270	CD8.T_CST3_AIF1	Oocyte meiosis	0.000733951	BUB1/CALM2/CALM3/CCNB1/CDK1/CDC20/MAD2L1/PLK1/PRKACA/AURKA/YWHAE/YWHAH/PKMYT1/CCNB2/PTTG1/ANAPC11/CPEB4/SGO1	18
SPRED1	0.655250312	2.64E-265	CD8.T_CST3_AIF1	Parkinson disease	0.001132431	ATF4/ATP5F1E/ATP5PB/ATP5PF/ATP5PO/CALM2/CALM3/COX5B/COX6B1/COX8A/GNAI2/GNAS/NDUFB1/NDUFC1/SLC11A2/PRKACA/SNCA/TUBA1A/COX5A/PPIF/TUBA1B/TUBB4B/ATP5PD/UQCR11/UQCRQ/UQCR10/TUBB6/TUBA1C/TUBB	29
CCNB2	0.808960225	6.32E-265	CD8.T_CST3_AIF1	C-type lectin receptor signaling pathway	0.001207569	AKT1/RHOA/CALM2/CALM3/FCER1G/IL1B/IL10/PAK1/PTGS2/STAT2/SYK/PYCARD/CD209/CLEC7A/NLRP3	15
HCK	0.599317105	4.41E-262	CD8.T_CST3_AIF1	Coronavirus disease - COVID-19	0.001354297	C1QA/C1QB/C1QC/C3AR1/C5AR1/CYBB/CFD/HBEGF/F13A1/FCGR2A/FOS/IL1B/IL6R/CXCL8/IRAK1/MYD88/RPLP0/RPS17/RPS20/CCL2/STAT2/SYK/TLR4/NRP1/RPL26L1/NLRP3	26
SASH1	0.471049344	8.70E-261	CD8.T_CST3_AIF1	Autophagy - animal	0.001737797	AKT1/CTSB/CTSD/CTSL/DAPK1/HMGB1/LAMP2/PRKACA/PTEN/RHEB/RAB7A/VAMP8/GABARAP/WIPI2/RRAGC/MTMR14/ATG3/RAB7B	18

CPM	0.460236526	1.65E-259	CD8.T_CST3_AIF1	Human immunodeficiency virus 1 infection	0.001784956	AP1B1/AKT1/CALM2/CALM3/CCNB1/CD4/CDK1/FOS/GNAI2/GNAQ/GNB1/GNB2/GNG5/GNG10/IRAK1/MYD88/PAK1/RAC1/TLR4/AP1S2/AP1M1/CCNB2/SAMHD1/GNB4	24
C1QC	2.791931651	2.30E-258	CD8.T_CST3_AIF1	Bacterial invasion of epithelial cells	0.001866994	ACTB/RHOA/CLTA/CLTC/CTNNA1/RAC1/ARPC5/ARPC3/ARPC1B/ACTR2/WASF2/SEPTIN11	12
IGSF21	0.602243606	3.38E-257	CD8.T_CST3_AIF1	Viral protein interaction with cytokine and cytokine receptor	0.002319157	CCR1/CSF1R/CXCL1/CXCL2/CXCL3/IL6R/CXCL8/IL10/IL10RB/IL18/CCL2/CCL3/CCL3L1/CCL8	14
LGMN	1.54200798	5.56E-255	CD8.T_CST3_AIF1	Alzheimer disease	0.002448057	AKT1/APOE/ATF4/ATP5F1E/ATP5PB/ATP5PF/ATP5PO/CALM2/CALM3/COX5B/COX6B1/COX8A/CYBB/GAPDH/GNAQ/IL1B/LRP1/NDUFB1/NDUFC1/SLC11A2/PTGS2/SNCA/TUBA1A/COX5A/PPIF/TUBA1B/TUBB4B/ATP5PD/UQCR11/WIPI2/UQCRQ/UQCR10/APH1A/RTN4/TUBB6/TUBA1C/TUBB	37
PLAU	0.880356444	1.73E-252	CD8.T_CST3_AIF1	Cholesterol metabolism	0.002481137	ABCA1/APOA2/APOC1/APOE/SCARB1/LIPA/LRP1/PLTP/NPC2	9
VSIG4	0.740230806	3.05E-252	CD8.T_CST3_AIF1	Vibrio cholerae infection	0.002481137	ACTB/ATP6V1B2/ATP6V0C/ATP6V0B/ATP6V0A1/GNAS/PRKACA/ATP6V0D1/ATP6V1F	9
RAB20	0.621487508	4.67E-249	CD8.T_CST3_AIF1	Malaria	0.002481137	GYPC/IL1B/CXCL8/IL10/IL18/LRP1/MYD88/CCL2/TLR4	9
SDC3	0.607868567	1.21E-248	CD8.T_CST3_AIF1	Other glycan degradation	0.003313008	FUCA2/GBA/HEXA/HEXB/MAN2B1	5
GASK1B	0.41530378	2.56E-245	CD8.T_CST3_AIF1	NF-kappa B signaling pathway	0.003356007	CD14/CXCL1/CXCL2/CXCL3/IL1B/CXCL8/IRAK1/LYN/MYD88/PLAU/PTGS2/SYK/TLR4/LY96	14
NRP2	0.74784399	1.69E-243	CD8.T_CST3_AIF1	Toll-like receptor signaling pathway	0.003356007	AKT1/CD14/CD86/FOS/IL1B/CXCL8/IRAK1/MYD88/RAC1/CCL3/CCL3L1/SPP1/TLR4/LY96	14
RBM47	0.527272167	9.43E-243	CD8.T_CST3_AIF1	Endocrine and other factor-regulated calcium reabsorption	0.003744964	AP2A2/ATP1B1/AP2S1/CLTA/CLTC/GNAQ/GNAS/PRKACA/SLC8A1	9
SLC40A1	1.816173328	7.90E-242	CD8.T_CST3_AIF1	Parathyroid hormone synthesis, secretion and action	0.004001395	RHOA/ARRB2/ATF4/HBEGF/EGR1/FOS/GNAI2/GNAQ/GNAS/MEF2C/MMP14/PRKACA/MAFB/GNA13	14
MSR1	0.685644148	1.61E-241	CD8.T_CST3_AIF1	Relaxin signaling pathway	0.00410384	AKT1/ARRB2/ATF4/FOS/GNA15/GNAI2/GNAS/GNB1/GNB2/GNG5/GNG10/GRB2/PRKACA/VEGFA/VEGFB/GNB4	16
CENPF	1.596312523	3.85E-240	CD8.T_CST3_AIF1	Epstein-Barr virus infection	0.004384798	AKT1/CCNA2/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/HES1/RBPJ/IRAK1/LYN/MYD88/RAC1/RB1/STAT2/SYK/VIM	22
FOLR2	1.251843209	6.85E-240	CD8.T_CST3_AIF1	Collecting duct acid secretion	0.004414049	ATP6V1B2/ATP6V0C/ATP6V0A1/ATP6V0D1/ATP6V1F/SLC12A7	6
NRP1	0.582622485	7.81E-240	CD8.T_CST3_AIF1	Alcoholic liver disease	0.004536643	AKT1/C1QA/C1QB/C1QC/C3AR1/C5AR1/CD14/CXCL1/CXCL2/CXCL3/IL1B/CXCL8/IRAK1/MYD88/TLR4/LY96/ADIPOR1	17
CTSL	1.195551769	2.42E-239	CD8.T_CST3_AIF1	Non-alcoholic fatty liver disease	0.004909989	AKT1/ATF4/COX5B/COX6B1/COX8A/FOS/IL1B/IL6R/CXCL8/MAP3K11/NDUFB1/NDUFC1/RAC1/COX5A/UQCR11/UQCRQ/UQCR10/ADIPOR1	18
VMO1	0.587518206	2.61E-239	CD8.T_CST3_AIF1	Transcriptional misregulation in cancer	0.005058053	RUNX1/CCNA2/CD14/CD86/CDKN2C/CEBPB/CSF1R/ETV5/ETV6/FCGR1A/CXCL8/LMO2/LYL1/MAF/MEF2C/MITF/PLAU/SPI1/NSD2/NR4A3/BMP2K	21
SLC8A1	0.278004967	5.04E-237	CD8.T_CST3_AIF1	African trypanosomiasis	0.005550515	GNAQ/IL1B/IL10/IL18/IDO1/MYD88/THOP1	7
CD14	1.63317442	1.45E-232	CD8.T_CST3_AIF1	Tight junction	0.005571745	ACTB/ACTN1/RHOA/RUNX1/MYL6/PCNA/PRKACA/RAB13/RAC1/RDX/TUBA1A/YBX3/ARPC5/ARPC3/ARPC1B/ACTR2/TUBA1B/ARHGAP17/TUBA1C	19
BCAT1	0.443733238	2.91E-232	CD8.T_CST3_AIF1	Gap junction	0.005763235	CDK1/GNAI2/GNAQ/GNAS/GRB2/PRKACA/TUBA1A/TUBA1B/TUBB4B/TUBB6/TUBA1C/TUBB	12
LILRB2	0.520062193	7.45E-230	CD8.T_CST3_AIF1	Synaptic vesicle cycle	0.006246528	AP2A2/ATP6V1B2/ATP6V0C/ATP6V0B/ATP6V0A1/AP2S1/CLTA/CLTC/SLC1A3/ATP6V0D1/ATP6V1F	11
PID1	0.434412603	1.00E-228	CD8.T_CST3_AIF1	Glutathione metabolism	0.006914052	GPX4/IDH2/MGST2/MGST3/PGD/RRM2/GSTO1/HPGDS/LAP3	9
FCGR2A	1.290163817	2.25E-224	CD8.T_CST3_AIF1	Amino sugar and nucleotide sugar metabolism	0.007837067	CYB5R3/HEXA/HEXB/GNPDA1/NANS/NAGK/NPL/UAP1L1	8
F13A1	0.471747614	2.92E-220	CD8.T_CST3_AIF1	Apelin signaling pathway	0.00843377	AKT1/CALM2/CALM3/EGR1/GNAI2/GNAQ/GNB1/GNB2/GNG5/GNG10/MEF2C/PRKACA/SLC8A1/SPP1/GNA13/GNB4	16
HMMR	1.010580399	3.40E-216	CD8.T_CST3_AIF1	Mineral absorption	0.008640495	ATOX1/ATP1B1/FTH1/FTL/HMOX1/MT1G/SLC11A2/SLC8A1/SLC40A1	9
CXCL16	1.033100853	1.46E-215	CD8.T_CST3_AIF1	Huntington disease	0.008700313	AP2A2/ATP5F1E/ATP5PB/ATP5PF/ATP5PO/AP2S1/CLTA/CLTC/COX5B/COX6B1/COX8A/GNAQ/NDUFB1/NDUFC1/SLC1A3/SOD2/TUBA1A/COX5A/PPIF/TUBA1B/TUBB4B/ATP5PD/UQCR11/WIPI2/UQCRQ/UQCR10/TUBB6/TUBA1C/TUBB	29
HNMT	0.657505262	7.09E-213	CD8.T_CST3_AIF1	Glycosphingolipid biosynthesis - globo and isoglobo series	0.010078027	GLA/HEXA/HEXB/NAGA	4

DAB2	2.030973824	9.47E-213	CD8.T_CST3_AIF1	Dopaminergic synapse	0.011824356	AKT1/ARRB2/ATF4/CALM2/CALM3/FOS/GNAI2/GNAQ/GNAS/GNB1/GNB2/GNG5/GNG10/PRKACA/GNB4	15
GRN	1.906488788	1.05E-212	CD8.T_CST3_AIF1	Circadian entrainment	0.012340071	CALM2/CALM3/FOS/GNAI2/GNAQ/GNAS/GNB1/GNB2/GNG5/GNG10/PRKACA/GNB4	12
GNB4	0.47706018	1.34E-212	CD8.T_CST3_AIF1	HIF-1 signaling pathway	0.012623252	AKT1/CYBB/EIF4EBP1/GAPDH/HMOX1/IFNGR1/IFNGR2/IL6R/PFKL/TIMP1/TLR4/VEGFA/MKNK1	13
EPB41L3	0.338189354	3.15E-210	CD8.T_CST3_AIF1	NOD-like receptor signaling pathway	0.013422604	RHOA/CTSB/CYBB/CXCL1/CXCL2/CXCL3/IL1B/CXCL8/IL18/MYD88/P2RX7/CCL2/STAT2/TLR4/YWHAE/NAMPT/GABARAP/PYCARD/NLRP3	19
ANLN	0.593343203	9.50E-210	CD8.T_CST3_AIF1	Apoptosis	0.015274492	ACTB/AKT1/BIRC5/ATF4/CTSB/CTSD/CTSH/CTSL/CTSS/CTSZ/FOS/LMNB1/TUBA1A/TUBA1B/TUBA1C	15
TLR4	0.458424533	4.12E-208	CD8.T_CST3_AIF1	Platelet activation	0.015521187	ACTB/AKT1/RHOA/FCER1G/FCGR2A/GNAI2/GNAQ/GNAS/LYN/PRKACA/SYK/TBXAS1/VAMP8/GNA13	14
JDP2	0.385598738	3.01E-206	CD8.T_CST3_AIF1	Cell adhesion molecules	0.015821769	CD4/CD86/HLA-DMA/HLA-DMB/HLA-DOA/HLA-DPA1/HLA-DPB1/HLA-DQA1/HLA-DQB1/HLA-DRA/HLA-DRB1/HLA-DRB5/NECTIN2/SIGLEC1/SDC3/CADM1	16
LHFPL2	0.318844813	1.02E-203	CD8.T_CST3_AIF1	MAPK signaling pathway	0.016339368	AKT1/ARRB2/ATF4/CD14/CDC25B/CSF1R/DUSP3/FOS/GRB2/NR4A1/HSPA1A/HSPA1B/HSPA6/HSPB1/IL1B/IRAK1/STMN1/MEF2C/MAP3K3/MAP3K11/MYD88/PAK1/PRKACA/RAC1/VEGFA/VEGFB/MKNK1	27
CD302	0.704013469	5.09E-202	CD8.T_CST3_AIF1	Estrogen signaling pathway	0.017267927	AKT1/ATF4/CALM2/CALM3/CTSD/HBEGF/FOS/GNAI2/GNAQ/GNAS/GRB2/HSPA1A/HSPA1B/HSPA6/PRKACA	15
ZFHX3	0.629387311	2.28E-200	CD8.T_CST3_AIF1	Acute myeloid leukemia	0.017321247	AKT1/RUNX1/CCNA2/CD14/CSF1R/EIF4EBP1/FCGR1A/GRB2/SPI1	9
TPX2	0.943745836	1.67E-198	CD8.T_CST3_AIF1	Glutamatergic synapse	0.017882416	GRK3/GLUL/GNAI2/GNAQ/GNAS/GNB1/GNB2/GNG5/GNG10/PRKACA/SLC1A3/HOMER3/GNB4	13
BMP2K	0.749817159	1.04E-196	CD8.T_CST3_AIF1	Valine, leucine and isoleucine biosynthesis	0.019661381	BCAT1/SDS	2
MMP14	0.277724805	8.90E-195	CD8.T_CST3_AIF1	Pyrimidine metabolism	0.020901818	DCK/DTYMK/TYMP/NME2/NME4/RRM2/TK1/TYMS	8
DPYSL2	0.768596512	1.06E-193	CD8.T_CST3_AIF1	GnRH signaling pathway	0.022035731	ATF4/CALM2/CALM3/HBEGF/EGR1/GNAQ/GNAS/GRB2/MAP3K3/MMP14/PRKACA	11
IGSF6	1.181920422	1.52E-193	CD8.T_CST3_AIF1	B cell receptor signaling pathway	0.023379764	AKT1/FOS/GRB2/LYN/RAC1/SYK/LILRB2/LILRB5/LILRB4/DAPP1	10
RIN2	0.267217635	7.57E-191	CD8.T_CST3_AIF1	IL-17 signaling pathway	0.02366947	CEBPB/FOS/FOSB/CXCL1/CXCL2/CXCL3/IL1B/CXCL8/PTGS2/S100A9/CCL2	11
CDC20	0.915530001	5.04E-189	CD8.T_CST3_AIF1	Glycosaminoglycan degradation	0.023693072	GNS/GUSB/HEXA/HEXB	4
RAB7B	0.425448742	8.81E-188	CD8.T_CST3_AIF1	Adherens junction	0.02449209	ACTB/ACTN1/RHOA/CTNNA1/CTNND1/NECTIN2/RAC1/WASF2/BAIAP2	9
CDK1	1.233512155	1.00E-186	CD8.T_CST3_AIF1	Antifolate resistance	0.030597804	DHFR/FOLR2/IL1B/TYMS/GGH	5
MITF	0.348733305	3.18E-185	CD8.T_CST3_AIF1	Bladder cancer	0.033226567	DAPK1/HBEGF/TYMP/CXCL8/RB1/VEGFA	6
SHTN1	0.60689429	3.51E-185	CD8.T_CST3_AIF1	Cardiac muscle contraction	0.033642493	ATP1B1/COX5B/COX6B1/COX8A/SLC8A1/TPM3/COX5A/UQCR11/UQCRQ/UQCR10	10
SIRPA	0.494904516	5.21E-183	CD8.T_CST3_AIF1	Thermogenesis	0.036351832	ACTB/ATP5F1E/ATP5PB/ATP5PF/ATP5PO/COX5B/COX6B1/COX8A/ACSL1/GNAS/GRB2/NDUFB1/NDUFC1/PRKACA/RHEB/COX5A/ATP5MF/ATP5PD/UQCR11/UQCRQ/UQCR10	21
CCNA2	0.607247769	1.66E-182	CD8.T_CST3_AIF1	Shigellosis	0.038154603	ACTB/ACTN1/AKT1/RHOA/CD14/IL1B/CXCL8/IL18/MYD88/RAC1/TLR4/ARPC5/ARPC3/ARPC1B/ACTR2/WASF2/WIPI2/CYTH4/PYCARD/SEPTIN11/RRAGC/NLRP3	22
SIGLEC1	0.496855611	3.67E-180	CD8.T_CST3_AIF1	PD-L1 expression and PD-1 checkpoint pathway in cancer	0.03851598	AKT1/CD4/FOS/IFNGR1/IFNGR2/MAP3K3/MYD88/PTEN/TLR4/BATF3	10
TTYH3	1.029447871	6.54E-180	CD8.T_CST3_AIF1	Morphine addiction	0.043856036	GRK3/ARRB2/GNAI2/GNAS/GNB1/GNB2/GNG5/GNG10/PRKACA/GNB4	10
KLF4	0.889613266	1.33E-177	CD8.T_CST3_AIF1	Cellular senescence	0.045205311	AKT1/ZFP36L1/CALM2/CALM3/CCNA2/CCNB1/CDK1/EIF4EBP1/FOXM1/CXCL8/MYBL2/PTEN/RB1/RHEB/CCNB2	15
CDCA3	0.639762591	2.68E-177	CD8.T_CST3_AIF1	Drug metabolism - other enzymes	0.047844413	TYMP/GUSB/MGST2/MGST3/NME2/NME4/RRM2/TK1/GSTO1	9
GRK3	0.375611311	5.17E-177	CD8.T_CST3_AIF1				
THBD	0.496855611	7.81E-176	CD8.T_CST3_AIF1				
FCGR1A	0.307803041	2.57E-175	CD8.T_CST3_AIF1				
C1QA	3.360126175	1.64E-173	CD8.T_CST3_AIF1				
SOGA1	0.286474317	4.35E-173	CD8.T_CST3_AIF1				
CDKN3	0.9571715	6.68E-172	CD8.T_CST3_AIF1				
CD209	0.403699117	7.11E-172	CD8.T_CST3_AIF1				
KCNMA1	0.423772652	1.23E-170	CD8.T_CST3_AIF1				
HBEGF	0.779977428	3.03E-170	CD8.T_CST3_AIF1				

LMO2	0.508627525	4.62E-170	CD8.T_CST3_AIF1
ARPIN	0.2662374	7.91E-170	CD8.T_CST3_AIF1
RNASE1	3.196988577	1.02E-169	CD8.T_CST3_AIF1
CEP55	0.668938272	2.32E-169	CD8.T_CST3_AIF1
PLK1	0.605412817	4.16E-169	CD8.T_CST3_AIF1
TFEC	0.306264614	1.00E-168	CD8.T_CST3_AIF1
RGL1	0.423633065	3.10E-165	CD8.T_CST3_AIF1
CD93	0.633398065	1.25E-164	CD8.T_CST3_AIF1
GAS2L3	0.315488731	8.52E-163	CD8.T_CST3_AIF1
CD33	0.306544206	1.99E-162	CD8.T_CST3_AIF1
PLTP	0.458145966	2.10E-162	CD8.T_CST3_AIF1
ETV5	0.525605916	5.81E-162	CD8.T_CST3_AIF1
IFITM10	0.401329358	2.47E-160	CD8.T_CST3_AIF1
AXL	0.255510994	5.16E-160	CD8.T_CST3_AIF1
NAGA	0.55730971	1.12E-159	CD8.T_CST3_AIF1
PRC1	1.066442787	1.30E-159	CD8.T_CST3_AIF1
FCGRT	1.739134656	2.14E-159	CD8.T_CST3_AIF1
LILRB5	0.497002921	4.44E-159	CD8.T_CST3_AIF1
C1QB	3.261768024	8.72E-159	CD8.T_CST3_AIF1
STAC3	0.255231049	1.51E-157	CD8.T_CST3_AIF1
TNFAIP2	1.004918842	6.94E-157	CD8.T_CST3_AIF1
ZNF503	0.265817504	6.46E-154	CD8.T_CST3_AIF1
PLA2G7	0.440802774	2.28E-153	CD8.T_CST3_AIF1
CXorf21	0.547068259	2.79E-153	CD8.T_CST3_AIF1
HMGB3	0.770509901	2.12E-152	CD8.T_CST3_AIF1
CSTA	0.479709502	4.25E-152	CD8.T_CST3_AIF1
WDFY4	0.597553416	1.34E-150	CD8.T_CST3_AIF1
AURKB	0.626143429	3.98E-150	CD8.T_CST3_AIF1
LRRC25	0.326595355	4.23E-150	CD8.T_CST3_AIF1
FPR3	0.370732392	1.08E-148	CD8.T_CST3_AIF1
LRP1	0.499638742	1.54E-148	CD8.T_CST3_AIF1
SLCO2B1	0.363602856	2.34E-148	CD8.T_CST3_AIF1
IL6R	0.474554775	4.12E-148	CD8.T_CST3_AIF1
PCLAF	1.023305393	9.67E-148	CD8.T_CST3_AIF1
CD4	0.852802592	1.47E-145	CD8.T_CST3_AIF1
CCL2	2.409765629	3.40E-145	CD8.T_CST3_AIF1
CST3	4.389403569	6.23E-144	CD8.T_CST3_AIF1
ZC3H12C	0.295708222	5.31E-142	CD8.T_CST3_AIF1
FGD2	0.380719347	3.49E-141	CD8.T_CST3_AIF1
AL355881.1	0.338609088	6.11E-141	CD8.T_CST3_AIF1
HPGDS	0.327294302	9.53E-141	CD8.T_CST3_AIF1
CLEC9A	0.751524248	1.00E-140	CD8.T_CST3_AIF1
OTOA	0.637697789	1.19E-139	CD8.T_CST3_AIF1
TBC1D9	0.30375072	1.20E-138	CD8.T_CST3_AIF1
SDS	1.065996737	1.54E-138	CD8.T_CST3_AIF1
GAS6	0.436765703	2.56E-138	CD8.T_CST3_AIF1
SGK1	1.806824781	2.88E-138	CD8.T_CST3_AIF1
A2M	1.128036032	3.25E-137	CD8.T_CST3_AIF1
ASPM	0.968962266	9.90E-137	CD8.T_CST3_AIF1
TROAP	0.566009365	1.81E-136	CD8.T_CST3_AIF1
CTSB	2.83471215	6.52E-136	CD8.T_CST3_AIF1
LILRB4	0.306264614	1.05E-135	CD8.T_CST3_AIF1
SLC1A3	0.275065974	1.07E-134	CD8.T_CST3_AIF1
MELK	0.440060682	2.44E-133	CD8.T_CST3_AIF1
SLC7A7	0.274926171	7.46E-132	CD8.T_CST3_AIF1
WLS	0.307243423	2.41E-131	CD8.T_CST3_AIF1
C5AR1	0.796259085	1.03E-130	CD8.T_CST3_AIF1
CCDC88A	1.197909554	2.15E-129	CD8.T_CST3_AIF1
CENPA	0.427481651	5.24E-129	CD8.T_CST3_AIF1
TK1	0.9743178	9.44E-129	CD8.T_CST3_AIF1
PTGS2	0.570835128	1.05E-127	CD8.T_CST3_AIF1
ACTN1	0.508011384	1.62E-127	CD8.T_CST3_AIF1
CREG1	1.101476406	5.61E-125	CD8.T_CST3_AIF1
LY96	0.511187455	1.12E-124	CD8.T_CST3_AIF1

KIF20A	0.285355624	3.07E-124	CD8.T_CST3_AIF1
ITGB5	0.263440395	1.26E-123	CD8.T_CST3_AIF1
CCNB1	0.766140164	2.93E-122	CD8.T_CST3_AIF1
NUSAP1	1.098731648	8.96E-122	CD8.T_CST3_AIF1
EMP2	0.323105694	1.30E-120	CD8.T_CST3_AIF1
DMXL2	0.379328261	1.52E-120	CD8.T_CST3_AIF1
KIF14	0.419403214	1.09E-118	CD8.T_CST3_AIF1
IL1RN	0.8827635	3.53E-118	CD8.T_CST3_AIF1
PLXNB2	0.313534616	2.83E-114	CD8.T_CST3_AIF1
PDK4	0.632597837	3.05E-113	CD8.T_CST3_AIF1
LGALS2	0.418660513	1.90E-111	CD8.T_CST3_AIF1
NAV2	0.267217635	2.63E-110	CD8.T_CST3_AIF1
MNDA	0.674454315	2.46E-109	CD8.T_CST3_AIF1
HES1	0.668938272	7.28E-109	CD8.T_CST3_AIF1
SCN1B	0.331490168	1.33E-108	CD8.T_CST3_AIF1
PLAUR	1.556059998	2.16E-108	CD8.T_CST3_AIF1
NCAPD2	0.698022693	2.60E-107	CD8.T_CST3_AIF1
RRM2	0.896594097	2.42E-106	CD8.T_CST3_AIF1
KIF4A	0.419264965	3.31E-105	CD8.T_CST3_AIF1
IFI30	1.817092718	2.58E-104	CD8.T_CST3_AIF1
TNFSF13	0.35817526	6.20E-104	CD8.T_CST3_AIF1
SELENOP	2.888886517	6.66E-104	CD8.T_CST3_AIF1
GPNMB	0.647347393	1.25E-103	CD8.T_CST3_AIF1
DUSP3	0.434672072	5.84E-103	CD8.T_CST3_AIF1
RAD51AP1	0.549449292	5.85E-103	CD8.T_CST3_AIF1
CALHM6	0.603459749	1.67E-102	CD8.T_CST3_AIF1
CENPE	0.695527394	4.40E-102	CD8.T_CST3_AIF1
TACC3	0.864317398	4.54E-102	CD8.T_CST3_AIF1
DIAPH3	0.342507169	5.86E-101	CD8.T_CST3_AIF1
UBE2E2	0.25285371	3.93E-100	CD8.T_CST3_AIF1
NPC2	2.54373592	4.60E-98	CD8.T_CST3_AIF1
ABL2	0.724230758	6.28E-98	CD8.T_CST3_AIF1
SHCBP1	0.429278369	2.24E-96	CD8.T_CST3_AIF1
CTSZ	2.00184696	3.29E-96	CD8.T_CST3_AIF1
BLVRB	1.488141699	4.84E-95	CD8.T_CST3_AIF1
GM2A	0.427343535	1.97E-94	CD8.T_CST3_AIF1
TYMS	1.204500884	3.23E-94	CD8.T_CST3_AIF1
OGFRL1	0.717519499	3.93E-94	CD8.T_CST3_AIF1
NCF4	0.595568716	5.63E-94	CD8.T_CST3_AIF1
CKAP2L	0.413470447	5.67E-94	CD8.T_CST3_AIF1
SCARB1	0.273249594	6.61E-94	CD8.T_CST3_AIF1
SYK	0.808599444	1.40E-93	CD8.T_CST3_AIF1
RNF130	1.092059482	4.06E-92	CD8.T_CST3_AIF1
BUB1B	0.410156977	5.14E-92	CD8.T_CST3_AIF1
TREM2	0.346635856	5.09E-90	CD8.T_CST3_AIF1
BASP1	0.867222377	1.44E-88	CD8.T_CST3_AIF1
CIT	0.315042041	1.95E-88	CD8.T_CST3_AIF1
CENPU	0.482892691	4.91E-88	CD8.T_CST3_AIF1
CCL8	0.420287037	6.94E-85	CD8.T_CST3_AIF1
PSAP	2.463593768	2.55E-83	CD8.T_CST3_AIF1
ATP6V0A1	0.38924833	8.50E-83	CD8.T_CST3_AIF1
FGD4	0.250619787	2.00E-82	CD8.T_CST3_AIF1
ZWINT	0.483484434	2.04E-82	CD8.T_CST3_AIF1
KIF11	0.476767745	2.39E-81	CD8.T_CST3_AIF1
PPT1	0.966807143	8.44E-81	CD8.T_CST3_AIF1
KIFC1	0.535096693	1.50E-80	CD8.T_CST3_AIF1
SLC29A1	0.314626179	1.76E-80	CD8.T_CST3_AIF1
HLA-DMB	0.892049988	1.95E-80	CD8.T_CST3_AIF1
CENPW	0.502157145	5.32E-80	CD8.T_CST3_AIF1
CYFIP1	0.389676758	1.35E-78	CD8.T_CST3_AIF1
LYL1	0.265590111	6.29E-78	CD8.T_CST3_AIF1
STMN1	2.011577651	6.95E-78	CD8.T_CST3_AIF1
RACGAP1	0.526434644	8.78E-78	CD8.T_CST3_AIF1
EMILIN2	0.467809908	3.32E-77	CD8.T_CST3_AIF1

MYBL2	0.452610648	1.20E-76	CD8.T_CST3_AIF1
CXCL2	1.30851525	1.23E-76	CD8.T_CST3_AIF1
HLA-DRA	3.339108106	1.41E-76	CD8.T_CST3_AIF1
KIF23	0.341601901	1.66E-76	CD8.T_CST3_AIF1
PLXDC2	0.261625245	1.79E-76	CD8.T_CST3_AIF1
CXCL1	0.782821002	2.04E-76	CD8.T_CST3_AIF1
IL1B	1.481867969	2.76E-76	CD8.T_CST3_AIF1
HMOX1	0.596615997	3.71E-74	CD8.T_CST3_AIF1
TUBB	2.697199008	6.53E-74	CD8.T_CST3_AIF1
CDCA8	0.474040314	1.24E-73	CD8.T_CST3_AIF1
HLA-DOA	0.258837158	4.24E-72	CD8.T_CST3_AIF1
SLC43A3	0.564394499	1.54E-71	CD8.T_CST3_AIF1
ABCA1	0.400294391	1.76E-71	CD8.T_CST3_AIF1
C15orf48	0.684721912	5.20E-71	CD8.T_CST3_AIF1
TUBA1B	2.919125009	1.13E-70	CD8.T_CST3_AIF1
NCAPH	0.393657855	1.48E-70	CD8.T_CST3_AIF1
PXDC1	0.288597558	6.68E-70	CD8.T_CST3_AIF1
FOXM1	0.3682476	7.72E-70	CD8.T_CST3_AIF1
TUBA1C	1.674711445	1.66E-69	CD8.T_CST3_AIF1
DAPK1	0.279914381	1.69E-69	CD8.T_CST3_AIF1
ANXA5	1.539321397	1.84E-69	CD8.T_CST3_AIF1
SPAG5	0.2636469	3.02E-69	CD8.T_CST3_AIF1
CENPM	0.643132724	1.24E-68	CD8.T_CST3_AIF1
HLA-DRB5	2.977878713	3.27E-68	CD8.T_CST3_AIF1
KNL1	0.482541276	9.20E-68	CD8.T_CST3_AIF1
BATF3	0.425221658	1.83E-67	CD8.T_CST3_AIF1
CXCL3	0.837894138	4.23E-66	CD8.T_CST3_AIF1
LIPA	1.450254462	7.77E-66	CD8.T_CST3_AIF1
NECTIN2	0.26009113	1.10E-65	CD8.T_CST3_AIF1
SPINT2	0.430815701	9.14E-65	CD8.T_CST3_AIF1
CNTLN	0.294154507	1.31E-64	CD8.T_CST3_AIF1
CTSH	0.629758195	3.22E-64	CD8.T_CST3_AIF1
ORC6	0.454933286	2.65E-63	CD8.T_CST3_AIF1
SNX8	0.403454074	3.47E-63	CD8.T_CST3_AIF1
LGALS3	1.422410118	6.44E-63	CD8.T_CST3_AIF1
FSCN1	0.322467655	1.12E-62	CD8.T_CST3_AIF1
IMPA2	0.378802985	1.24E-62	CD8.T_CST3_AIF1
HMGN2	1.896963595	8.18E-62	CD8.T_CST3_AIF1
KIF15	0.362189318	3.19E-61	CD8.T_CST3_AIF1
RUBCNL	0.26274199	4.47E-61	CD8.T_CST3_AIF1
RAB13	0.378718674	6.60E-61	CD8.T_CST3_AIF1
BUB1	0.274493583	4.38E-60	CD8.T_CST3_AIF1
MMP19	0.449225971	2.60E-59	CD8.T_CST3_AIF1
PAK1	0.639022105	4.79E-59	CD8.T_CST3_AIF1
MFSD1	0.731280669	6.53E-59	CD8.T_CST3_AIF1
SLC16A10	0.263300687	1.52E-57	CD8.T_CST3_AIF1
HLA-DMA	1.523017556	3.37E-57	CD8.T_CST3_AIF1
C1orf162	1.0424705	9.80E-57	CD8.T_CST3_AIF1
MND1	0.309368941	1.49E-56	CD8.T_CST3_AIF1
NCF2	0.274771078	2.79E-56	CD8.T_CST3_AIF1
NUF2	0.498654475	3.76E-56	CD8.T_CST3_AIF1
EVI5	0.316567895	5.96E-56	CD8.T_CST3_AIF1
CKS1B	0.880567194	6.11E-56	CD8.T_CST3_AIF1
CCR1	0.37018525	2.14E-55	CD8.T_CST3_AIF1
TCEAL9	0.270180919	4.46E-55	CD8.T_CST3_AIF1
CXCL8	1.673735394	8.26E-55	CD8.T_CST3_AIF1
SH2B3	0.7826977	8.90E-55	CD8.T_CST3_AIF1
TSPAN33	0.363288933	1.06E-54	CD8.T_CST3_AIF1
GPR183	1.361982618	1.48E-54	CD8.T_CST3_AIF1
HMGB2	1.711520482	1.55E-54	CD8.T_CST3_AIF1
CLEC4A	0.259673018	2.01E-54	CD8.T_CST3_AIF1
C21orf58	0.347951433	3.12E-54	CD8.T_CST3_AIF1
GAA	0.424830345	7.24E-54	CD8.T_CST3_AIF1
ASF1B	0.399221492	9.39E-54	CD8.T_CST3_AIF1

CLEC11A	0.268370674	3.35E-53	CD8.T_CST3_AIF1
UNC93B1	0.461815163	5.86E-53	CD8.T_CST3_AIF1
DLGAP5	0.326409027	6.41E-53	CD8.T_CST3_AIF1
GSN	0.716358565	8.45E-53	CD8.T_CST3_AIF1
FTL	2.950558601	9.03E-53	CD8.T_CST3_AIF1
ATF3	1.221030315	4.43E-52	CD8.T_CST3_AIF1
ARHGAP11A	0.368950711	4.46E-52	CD8.T_CST3_AIF1
OTUD1	0.556445746	3.05E-51	CD8.T_CST3_AIF1
NLRP3	0.355882744	3.38E-51	CD8.T_CST3_AIF1
CD74	3.026690038	3.62E-51	CD8.T_CST3_AIF1
PLD3	1.120367076	4.35E-51	CD8.T_CST3_AIF1
IL10	0.256452089	4.59E-51	CD8.T_CST3_AIF1
SLC43A2	0.462044611	1.44E-50	CD8.T_CST3_AIF1
RAC1	1.405602322	1.51E-49	CD8.T_CST3_AIF1
SNX9	0.548813887	6.14E-49	CD8.T_CST3_AIF1
SGO2	0.50779464	1.97E-48	CD8.T_CST3_AIF1
FGL2	1.238225212	1.29E-47	CD8.T_CST3_AIF1
BRI3	1.507138411	3.08E-47	CD8.T_CST3_AIF1
FCGBP	0.653509692	1.30E-46	CD8.T_CST3_AIF1
DTYMK	0.712629356	1.75E-46	CD8.T_CST3_AIF1
FNIP2	0.596635608	5.15E-46	CD8.T_CST3_AIF1
C3AR1	0.49422099	1.22E-45	CD8.T_CST3_AIF1
LGALS9	0.750272443	1.29E-45	CD8.T_CST3_AIF1
H1F0	0.318234306	3.44E-45	CD8.T_CST3_AIF1
ESCO2	0.283520512	5.26E-45	CD8.T_CST3_AIF1
CDCA5	0.294825951	8.97E-45	CD8.T_CST3_AIF1
VEGFA	0.491099948	9.56E-45	CD8.T_CST3_AIF1
AP2S1	1.285650147	1.48E-44	CD8.T_CST3_AIF1
CKAP5	0.574766193	2.10E-44	CD8.T_CST3_AIF1
GABARAP	1.380879353	2.17E-44	CD8.T_CST3_AIF1
FADS1	0.416445428	2.34E-44	CD8.T_CST3_AIF1
NFIC	0.649868677	8.92E-44	CD8.T_CST3_AIF1
BEX3	0.292215214	9.38E-44	CD8.T_CST3_AIF1
SRGAP2B	0.314304428	2.03E-43	CD8.T_CST3_AIF1
NPL	0.358347252	5.78E-43	CD8.T_CST3_AIF1
CLN6	0.315397897	1.01E-42	CD8.T_CST3_AIF1
CEP170	0.369372232	1.46E-42	CD8.T_CST3_AIF1
CRTAP	0.662247046	3.30E-42	CD8.T_CST3_AIF1
CTNND1	0.260598561	5.34E-42	CD8.T_CST3_AIF1
IER3	1.912816203	2.86E-41	CD8.T_CST3_AIF1
CALM3	1.400698779	3.12E-41	CD8.T_CST3_AIF1
ITGAX	0.519818591	4.55E-41	CD8.T_CST3_AIF1
CIP2A	0.344804281	7.07E-41	CD8.T_CST3_AIF1
HLA-DPA1	2.492204835	1.68E-40	CD8.T_CST3_AIF1
CCL3L1	2.664868063	2.02E-40	CD8.T_CST3_AIF1
SAT1	1.759109527	3.44E-40	CD8.T_CST3_AIF1
TCF4	0.377388546	8.66E-40	CD8.T_CST3_AIF1
PYCARD	1.097868158	1.26E-39	CD8.T_CST3_AIF1
HMGB1	1.236906592	2.94E-39	CD8.T_CST3_AIF1
SNN	0.407756103	3.99E-39	CD8.T_CST3_AIF1
GGH	0.365733079	5.90E-39	CD8.T_CST3_AIF1
NEK2	0.274493583	6.44E-39	CD8.T_CST3_AIF1
FTH1	1.424537879	8.51E-39	CD8.T_CST3_AIF1
YBX1	1.096951371	1.91E-38	CD8.T_CST3_AIF1
HJURP	0.305744517	2.75E-38	CD8.T_CST3_AIF1
RCAN1	0.473647229	2.87E-38	CD8.T_CST3_AIF1
CEBPB	1.702199149	3.27E-38	CD8.T_CST3_AIF1
C20orf27	0.629241084	3.59E-38	CD8.T_CST3_AIF1
GPSM2	0.322992422	4.85E-38	CD8.T_CST3_AIF1
KIAA0930	0.508193671	5.89E-38	CD8.T_CST3_AIF1
PHLDA2	0.31034178	7.74E-38	CD8.T_CST3_AIF1
NENF	0.854709742	1.40E-37	CD8.T_CST3_AIF1
ACTB	1.181987827	2.79E-37	CD8.T_CST3_AIF1
SNCA	0.335025502	4.06E-37	CD8.T_CST3_AIF1

RGS10	1.218055911	4.61E-37	CD8.T_CST3_AIF1
GBA	0.375049187	5.76E-37	CD8.T_CST3_AIF1
GNAS	1.120536738	9.68E-37	CD8.T_CST3_AIF1
TMEM14C	0.742647565	1.04E-36	CD8.T_CST3_AIF1
CDKN2C	0.617932524	1.06E-36	CD8.T_CST3_AIF1
SGO1	0.363340034	1.08E-36	CD8.T_CST3_AIF1
YWHAH	0.978672483	1.38E-36	CD8.T_CST3_AIF1
HYI	0.398222049	1.69E-36	CD8.T_CST3_AIF1
EPB41L2	0.364383883	2.31E-36	CD8.T_CST3_AIF1
NUCKS1	1.262839483	8.90E-36	CD8.T_CST3_AIF1
IFITM3	1.30299927	1.16E-35	CD8.T_CST3_AIF1
RASSF4	0.571109122	1.27E-35	CD8.T_CST3_AIF1
EGFL7	0.275444928	1.46E-35	CD8.T_CST3_AIF1
UAP1L1	0.256038096	1.69E-35	CD8.T_CST3_AIF1
IGFBP4	0.555032265	2.00E-35	CD8.T_CST3_AIF1
CCRL2	0.311983556	7.67E-35	CD8.T_CST3_AIF1
RHOU	0.251336127	1.16E-34	CD8.T_CST3_AIF1
CDK2AP1	0.664582281	1.20E-34	CD8.T_CST3_AIF1
CLSPN	0.542052818	5.26E-34	CD8.T_CST3_AIF1
SAMHD1	0.985302656	7.83E-34	CD8.T_CST3_AIF1
BLVRA	0.532768571	9.14E-34	CD8.T_CST3_AIF1
NET1	0.270337554	1.06E-33	CD8.T_CST3_AIF1
TPP1	0.667916218	1.48E-33	CD8.T_CST3_AIF1
CYB5D1	0.563414191	2.02E-33	CD8.T_CST3_AIF1
ATP6V1B2	0.660035421	3.40E-33	CD8.T_CST3_AIF1
ADA2	0.56421413	4.02E-33	CD8.T_CST3_AIF1
PKMYT1	0.262547711	5.34E-33	CD8.T_CST3_AIF1
SPC25	0.290289386	7.30E-33	CD8.T_CST3_AIF1
KIF20B	0.622899252	1.39E-32	CD8.T_CST3_AIF1
SAC3D1	0.407515091	2.26E-32	CD8.T_CST3_AIF1
RNF141	0.354489534	3.31E-32	CD8.T_CST3_AIF1
LGALS3BP	0.287516327	4.30E-32	CD8.T_CST3_AIF1
BRI3BP	0.491528691	4.52E-32	CD8.T_CST3_AIF1
H2AFY	1.010721995	6.81E-32	CD8.T_CST3_AIF1
GNG5	0.979189074	7.40E-32	CD8.T_CST3_AIF1
H2AFV	1.174358241	7.67E-32	CD8.T_CST3_AIF1
NAGK	0.637975631	1.54E-31	CD8.T_CST3_AIF1
TCEAL4	0.514003836	4.83E-31	CD8.T_CST3_AIF1
SMC4	0.853520481	1.01E-30	CD8.T_CST3_AIF1
MCOLN1	0.631513528	1.74E-30	CD8.T_CST3_AIF1
HLA-DQA1	1.857790241	1.80E-30	CD8.T_CST3_AIF1
RNPEP	0.46448186	2.70E-30	CD8.T_CST3_AIF1
HSPA1B	1.379249039	3.58E-30	CD8.T_CST3_AIF1
SKA2	0.563730546	5.87E-30	CD8.T_CST3_AIF1
GNA15	0.401940394	7.71E-30	CD8.T_CST3_AIF1
NUDT1	0.80648579	8.23E-30	CD8.T_CST3_AIF1
MPP1	0.375049187	1.78E-29	CD8.T_CST3_AIF1
CD9	0.501348081	1.80E-29	CD8.T_CST3_AIF1
METTL7A	0.396733968	1.81E-29	CD8.T_CST3_AIF1
SOD2	1.400711857	2.08E-29	CD8.T_CST3_AIF1
PTTG1IP	0.618668826	2.22E-29	CD8.T_CST3_AIF1
COLGALT1	0.270507746	2.86E-29	CD8.T_CST3_AIF1
YBX3	0.793292686	4.30E-29	CD8.T_CST3_AIF1
S100A9	0.535476639	4.39E-29	CD8.T_CST3_AIF1
FABP5	1.529530671	4.62E-29	CD8.T_CST3_AIF1
CTSS	1.157588204	6.70E-29	CD8.T_CST3_AIF1
SPP1	0.31559671	7.72E-29	CD8.T_CST3_AIF1
NCAPG	0.252465175	9.93E-29	CD8.T_CST3_AIF1
AMFR	0.38372741	1.14E-28	CD8.T_CST3_AIF1
TIMP1	1.158435227	1.51E-28	CD8.T_CST3_AIF1
FRMD4B	0.481921666	1.55E-28	CD8.T_CST3_AIF1
GNPDA1	0.471623079	1.79E-28	CD8.T_CST3_AIF1
CD84	0.584662735	2.21E-28	CD8.T_CST3_AIF1
S100A11	1.29839779	3.52E-28	CD8.T_CST3_AIF1

GNS	0.435677454	4.21E-28	CD8.T_CST3_AIF1
DHFR	0.517721437	7.38E-28	CD8.T_CST3_AIF1
ROGDI	0.264539155	8.40E-28	CD8.T_CST3_AIF1
ATOX1	0.724771624	1.07E-27	CD8.T_CST3_AIF1
INCENP	0.25314347	2.13E-27	CD8.T_CST3_AIF1
AP1B1	0.377127087	2.64E-27	CD8.T_CST3_AIF1
SWAP70	0.372719985	3.16E-27	CD8.T_CST3_AIF1
HLA-DPB1	2.102590886	4.46E-27	CD8.T_CST3_AIF1
GNAI2	0.989773714	5.56E-27	CD8.T_CST3_AIF1
MAD2L1	0.360349158	6.19E-27	CD8.T_CST3_AIF1
SLC12A7	0.275677271	6.69E-27	CD8.T_CST3_AIF1
RHOB	0.684503901	1.35E-26	CD8.T_CST3_AIF1
ASAH1	0.94231182	1.89E-26	CD8.T_CST3_AIF1
PTTG1	1.092956642	2.85E-26	CD8.T_CST3_AIF1
CFD	0.266469367	2.89E-26	CD8.T_CST3_AIF1
CTSD	1.870032194	3.43E-26	CD8.T_CST3_AIF1
MT-ND1	1.438895083	4.83E-26	CD8.T_CST3_AIF1
PTPA	0.416704108	5.54E-26	CD8.T_CST3_AIF1
DRAM1	0.446281381	7.42E-26	CD8.T_CST3_AIF1
CORO1C	0.305722203	1.09E-25	CD8.T_CST3_AIF1
APLP2	0.89780194	1.38E-25	CD8.T_CST3_AIF1
CAPG	0.619396835	1.72E-25	CD8.T_CST3_AIF1
MZT2B	0.845237359	1.74E-25	CD8.T_CST3_AIF1
PRDX3	0.7671442	1.85E-25	CD8.T_CST3_AIF1
DEK	1.071193451	1.88E-25	CD8.T_CST3_AIF1
LYN	0.60095315	2.37E-25	CD8.T_CST3_AIF1
SLC11A2	0.324904724	8.03E-25	CD8.T_CST3_AIF1
GAS7	0.309000731	1.08E-24	CD8.T_CST3_AIF1
IDO1	1.043424997	1.18E-24	CD8.T_CST3_AIF1
SERF2	0.769174234	1.26E-24	CD8.T_CST3_AIF1
ADAM15	0.256158957	2.87E-24	CD8.T_CST3_AIF1
HLA-DRB1	1.970110236	4.87E-24	CD8.T_CST3_AIF1
CYTH4	0.407527697	5.83E-24	CD8.T_CST3_AIF1
ZYX	0.834062792	6.27E-24	CD8.T_CST3_AIF1
CAMK1	0.325488339	6.67E-24	CD8.T_CST3_AIF1
HSBP1	0.726374594	8.20E-24	CD8.T_CST3_AIF1
GCA	0.356944015	2.26E-23	CD8.T_CST3_AIF1
KLF6	1.463227758	3.46E-23	CD8.T_CST3_AIF1
TYROBP	1.241368689	4.15E-23	CD8.T_CST3_AIF1
LAIR1	0.681172606	4.48E-23	CD8.T_CST3_AIF1
CENPN	0.403218555	4.49E-23	CD8.T_CST3_AIF1
HEXB	0.52087057	4.74E-23	CD8.T_CST3_AIF1
LST1	0.696788006	6.21E-23	CD8.T_CST3_AIF1
THOP1	0.250963007	6.38E-23	CD8.T_CST3_AIF1
H2AFZ	1.056842048	6.63E-23	CD8.T_CST3_AIF1
EIF4EBP1	0.431061942	7.06E-23	CD8.T_CST3_AIF1
H3F3A	0.759174766	8.41E-23	CD8.T_CST3_AIF1
CIAO2A	0.595744972	8.63E-23	CD8.T_CST3_AIF1
KHSRP	0.546771703	8.84E-23	CD8.T_CST3_AIF1
HSPA1A	1.675276725	1.04E-22	CD8.T_CST3_AIF1
CD83	1.067365055	1.14E-22	CD8.T_CST3_AIF1
BAIAP2	0.289755064	1.31E-22	CD8.T_CST3_AIF1
PTMS	1.066771907	1.45E-22	CD8.T_CST3_AIF1
OAZ2	0.394969658	2.14E-22	CD8.T_CST3_AIF1
ANAPC11	0.916165786	2.36E-22	CD8.T_CST3_AIF1
ANP32B	0.883598675	3.04E-22	CD8.T_CST3_AIF1
FOS	1.435542253	3.14E-22	CD8.T_CST3_AIF1
TMSB10	0.683338635	3.20E-22	CD8.T_CST3_AIF1
FOSB	1.231250127	6.41E-22	CD8.T_CST3_AIF1
TSPAN3	0.300715811	7.20E-22	CD8.T_CST3_AIF1
MCUR1	0.524527913	8.62E-22	CD8.T_CST3_AIF1
VIM	1.270576797	9.90E-22	CD8.T_CST3_AIF1
DNASE1L3	0.537144265	1.12E-21	CD8.T_CST3_AIF1
THEMIS2	0.43817929	1.38E-21	CD8.T_CST3_AIF1

TBXAS1	0.358441298	4.06E-21	CD8.T_CST3_AIF1
SPATS2L	0.538034725	5.24E-21	CD8.T_CST3_AIF1
VPS35	0.515779042	6.64E-21	CD8.T_CST3_AIF1
HSPB1	0.918189578	1.21E-20	CD8.T_CST3_AIF1
COX8A	0.817093561	1.31E-20	CD8.T_CST3_AIF1
GAPDH	0.953079911	2.28E-20	CD8.T_CST3_AIF1
RB1	0.510453954	2.35E-20	CD8.T_CST3_AIF1
ARAP1	0.409222149	5.01E-20	CD8.T_CST3_AIF1
ATP6V0B	0.797200399	7.30E-20	CD8.T_CST3_AIF1
FLCN	0.307405497	7.83E-20	CD8.T_CST3_AIF1
ARL6IP1	1.206365551	8.37E-20	CD8.T_CST3_AIF1
GLA	0.488265904	1.42E-19	CD8.T_CST3_AIF1
NSD2	0.381723367	1.46E-19	CD8.T_CST3_AIF1
FUCA2	0.429645789	1.51E-19	CD8.T_CST3_AIF1
ACER3	0.310896431	2.50E-19	CD8.T_CST3_AIF1
HSPA6	0.464720051	3.05E-19	CD8.T_CST3_AIF1
CSTB	0.882435269	3.83E-19	CD8.T_CST3_AIF1
DBNDD2	0.434521264	3.88E-19	CD8.T_CST3_AIF1
SESN3	0.324177457	4.00E-19	CD8.T_CST3_AIF1
KMT5A	0.45240282	4.17E-19	CD8.T_CST3_AIF1
ACSL1	0.332652239	5.27E-19	CD8.T_CST3_AIF1
IFI6	0.563652009	6.70E-19	CD8.T_CST3_AIF1
CCL3	2.196819275	6.73E-19	CD8.T_CST3_AIF1
UQCRQ	0.818538231	7.34E-19	CD8.T_CST3_AIF1
MYL6	0.670215437	1.12E-18	CD8.T_CST3_AIF1
MAF	1.054803445	1.54E-18	CD8.T_CST3_AIF1
SMCO4	0.256260466	1.93E-18	CD8.T_CST3_AIF1
TRIOBP	0.353596753	2.21E-18	CD8.T_CST3_AIF1
COTL1	1.108249099	4.19E-18	CD8.T_CST3_AIF1
LGALS1	1.720114378	4.23E-18	CD8.T_CST3_AIF1
MT-ND2	1.187649826	5.38E-18	CD8.T_CST3_AIF1
CCDC34	0.31517689	6.83E-18	CD8.T_CST3_AIF1
AP2A2	0.373758527	7.32E-18	CD8.T_CST3_AIF1
GNAQ	0.310638495	7.64E-18	CD8.T_CST3_AIF1
CKAP2	0.594875181	9.93E-18	CD8.T_CST3_AIF1
GATM	0.255720484	1.42E-17	CD8.T_CST3_AIF1
UCP2	0.730567539	1.86E-17	CD8.T_CST3_AIF1
GNB2	0.782944988	2.09E-17	CD8.T_CST3_AIF1
ATP5MF	0.742780242	2.60E-17	CD8.T_CST3_AIF1
SOX4	0.331600998	3.79E-17	CD8.T_CST3_AIF1
SPG21	0.430897904	4.53E-17	CD8.T_CST3_AIF1
DENND1A	0.27775302	5.87E-17	CD8.T_CST3_AIF1
NME2	0.801624848	7.56E-17	CD8.T_CST3_AIF1
DAPP1	0.251645617	8.77E-17	CD8.T_CST3_AIF1
KLF7	0.263777572	1.41E-16	CD8.T_CST3_AIF1
BLOC1S1	0.750715482	1.61E-16	CD8.T_CST3_AIF1
HADH	0.378839025	1.95E-16	CD8.T_CST3_AIF1
RAB34	0.254776003	3.91E-16	CD8.T_CST3_AIF1
SCARB2	0.358359873	5.93E-16	CD8.T_CST3_AIF1
COPS7A	0.262826778	6.20E-16	CD8.T_CST3_AIF1
P2RX7	0.382491007	6.69E-16	CD8.T_CST3_AIF1
APOE	1.329819597	7.83E-16	CD8.T_CST3_AIF1
CD59	0.578044027	7.90E-16	CD8.T_CST3_AIF1
TSPAN4	0.262078065	8.79E-16	CD8.T_CST3_AIF1
GLUL	0.738280537	8.85E-16	CD8.T_CST3_AIF1
TALDO1	0.729212779	1.20E-15	CD8.T_CST3_AIF1
ETS2	0.536977257	1.23E-15	CD8.T_CST3_AIF1
RPL39L	0.34019282	1.40E-15	CD8.T_CST3_AIF1
FCER1G	0.87889447	1.40E-15	CD8.T_CST3_AIF1
VAT1	0.280713336	1.57E-15	CD8.T_CST3_AIF1
NCOA4	0.377496756	1.61E-15	CD8.T_CST3_AIF1
YWHAE	0.684908699	1.62E-15	CD8.T_CST3_AIF1
GRINA	0.338323656	2.13E-15	CD8.T_CST3_AIF1
ATP1B1	0.442329818	2.73E-15	CD8.T_CST3_AIF1

REEP4	0.291396495	3.36E-15	CD8.T_CST3_AIF1
LMNB1	0.45704566	3.66E-15	CD8.T_CST3_AIF1
VAMP8	0.718638166	3.98E-15	CD8.T_CST3_AIF1
SMC2	0.434521264	4.24E-15	CD8.T_CST3_AIF1
COPRS	0.252610724	4.56E-15	CD8.T_CST3_AIF1
VAMP3	0.311033592	4.63E-15	CD8.T_CST3_AIF1
PEA15	0.323913421	4.76E-15	CD8.T_CST3_AIF1
NR4A1	0.912848527	4.84E-15	CD8.T_CST3_AIF1
PCBP2	0.701481528	5.05E-15	CD8.T_CST3_AIF1
CEBPD	0.82593316	5.77E-15	CD8.T_CST3_AIF1
KIF22	0.409498447	7.05E-15	CD8.T_CST3_AIF1
TMPO	0.6091076	7.54E-15	CD8.T_CST3_AIF1
ATP6V0C	0.692896728	8.54E-15	CD8.T_CST3_AIF1
MAFG	0.365488131	1.22E-14	CD8.T_CST3_AIF1
MAN2B1	0.462240332	1.44E-14	CD8.T_CST3_AIF1
FAM111A	0.675473951	1.62E-14	CD8.T_CST3_AIF1
PAPSS1	0.28394005	1.81E-14	CD8.T_CST3_AIF1
COMMD4	0.522508262	2.11E-14	CD8.T_CST3_AIF1
ARPC5	0.690986541	2.15E-14	CD8.T_CST3_AIF1
RHOA	0.696633635	3.18E-14	CD8.T_CST3_AIF1
ANKRD9	0.279928111	4.61E-14	CD8.T_CST3_AIF1
ATP5PD	0.690289394	4.86E-14	CD8.T_CST3_AIF1
MGAT1	0.646263416	4.90E-14	CD8.T_CST3_AIF1
CLTA	0.746994616	6.05E-14	CD8.T_CST3_AIF1
SNX10	0.552778949	7.12E-14	CD8.T_CST3_AIF1
CADM1	0.439922261	7.49E-14	CD8.T_CST3_AIF1
LIMS1	0.585114664	7.94E-14	CD8.T_CST3_AIF1
APOC1	1.283423356	9.34E-14	CD8.T_CST3_AIF1
ETV6	0.346770111	9.44E-14	CD8.T_CST3_AIF1
EMC9	0.256243106	1.43E-13	CD8.T_CST3_AIF1
RANGAP1	0.35056524	1.46E-13	CD8.T_CST3_AIF1
RPS17	0.634389604	1.56E-13	CD8.T_CST3_AIF1
NUP214	0.445812273	1.69E-13	CD8.T_CST3_AIF1
WASHC4	0.403907972	1.70E-13	CD8.T_CST3_AIF1
ICAM4	0.260183377	2.04E-13	CD8.T_CST3_AIF1
RHEB	0.644788948	2.07E-13	CD8.T_CST3_AIF1
PFKL	0.348539362	2.11E-13	CD8.T_CST3_AIF1
IL18	0.307697617	2.26E-13	CD8.T_CST3_AIF1
LAPTM5	0.824740127	2.45E-13	CD8.T_CST3_AIF1
AKR1B1	0.513045461	2.81E-13	CD8.T_CST3_AIF1
DCAF12	0.300199221	3.22E-13	CD8.T_CST3_AIF1
ANXA2	0.832879993	3.78E-13	CD8.T_CST3_AIF1
BARD1	0.362114858	4.36E-13	CD8.T_CST3_AIF1
FKBP1A	0.677100675	4.68E-13	CD8.T_CST3_AIF1
BX284668.5	0.387673518	4.74E-13	CD8.T_CST3_AIF1
HEBP1	0.312093989	5.56E-13	CD8.T_CST3_AIF1
ARL8B	0.445348221	6.34E-13	CD8.T_CST3_AIF1
HLA-DQB1	1.665453044	6.36E-13	CD8.T_CST3_AIF1
NCF1	0.455255496	1.23E-12	CD8.T_CST3_AIF1
AP1S2	0.581551198	1.31E-12	CD8.T_CST3_AIF1
STX7	0.346562839	1.63E-12	CD8.T_CST3_AIF1
ATAD5	0.265841324	2.05E-12	CD8.T_CST3_AIF1
GEM	0.548273332	2.06E-12	CD8.T_CST3_AIF1
PLEKHO2	0.325437979	2.26E-12	CD8.T_CST3_AIF1
HIST1H4C	1.499752859	3.11E-12	CD8.T_CST3_AIF1
PCNA	0.69464808	3.22E-12	CD8.T_CST3_AIF1
NFIA	0.267718437	4.40E-12	CD8.T_CST3_AIF1
VMA21	0.433517523	4.55E-12	CD8.T_CST3_AIF1
MRPL23	0.476466118	4.93E-12	CD8.T_CST3_AIF1
PPIA	0.580965914	9.21E-12	CD8.T_CST3_AIF1
PHACTR4	0.464962248	1.28E-11	CD8.T_CST3_AIF1
C6orf62	0.524472476	1.34E-11	CD8.T_CST3_AIF1
HDLBP	0.432787977	1.50E-11	CD8.T_CST3_AIF1
UQCC2	0.469926101	1.66E-11	CD8.T_CST3_AIF1

DSE	0.31129705	1.73E-11	CD8.T_CST3_AIF1
CENPK	0.40086988	1.99E-11	CD8.T_CST3_AIF1
KPNA2	0.712983759	2.58E-11	CD8.T_CST3_AIF1
MGST2	0.251291595	2.61E-11	CD8.T_CST3_AIF1
MPDU1	0.324132853	2.89E-11	CD8.T_CST3_AIF1
WWP1	0.441642667	3.22E-11	CD8.T_CST3_AIF1
PLEKHO1	0.616424432	4.16E-11	CD8.T_CST3_AIF1
LSM5	0.479507145	4.67E-11	CD8.T_CST3_AIF1
PCBP1	0.576601211	5.54E-11	CD8.T_CST3_AIF1
SLC66A2	0.320300806	6.51E-11	CD8.T_CST3_AIF1
HELLS	0.318365947	7.34E-11	CD8.T_CST3_AIF1
ARHGAP4	0.467666611	7.49E-11	CD8.T_CST3_AIF1
EPS8	0.312878808	7.87E-11	CD8.T_CST3_AIF1
SMIM4	0.311555285	8.00E-11	CD8.T_CST3_AIF1
NADK	0.272956686	8.11E-11	CD8.T_CST3_AIF1
ATP6V0D1	0.560779205	8.90E-11	CD8.T_CST3_AIF1
HIRIP3	0.270075219	9.65E-11	CD8.T_CST3_AIF1
NDUFB1	0.684579889	1.06E-10	CD8.T_CST3_AIF1
RIPOR1	0.260842269	1.06E-10	CD8.T_CST3_AIF1
RNASET2	0.641389372	1.23E-10	CD8.T_CST3_AIF1
APH1A	0.458572543	1.24E-10	CD8.T_CST3_AIF1
AAMDC	0.272018174	1.75E-10	CD8.T_CST3_AIF1
TFDP1	0.387397169	1.98E-10	CD8.T_CST3_AIF1
NME4	0.450817305	2.33E-10	CD8.T_CST3_AIF1
PLIN3	0.303726372	2.47E-10	CD8.T_CST3_AIF1
PGD	0.291541813	2.54E-10	CD8.T_CST3_AIF1
CD63	0.82860311	2.57E-10	CD8.T_CST3_AIF1
RBPJ	0.496224835	2.61E-10	CD8.T_CST3_AIF1
TRPS1	0.255771681	2.63E-10	CD8.T_CST3_AIF1
CALM2	0.607395575	2.68E-10	CD8.T_CST3_AIF1
FUOM	0.315887725	3.01E-10	CD8.T_CST3_AIF1
HERC5	0.357775511	3.02E-10	CD8.T_CST3_AIF1
CCDC50	0.308420187	3.29E-10	CD8.T_CST3_AIF1
RDX	0.3736167	3.66E-10	CD8.T_CST3_AIF1
CNPY3	0.514282724	4.39E-10	CD8.T_CST3_AIF1
P4HB	0.546074261	5.07E-10	CD8.T_CST3_AIF1
WSB1	0.828910973	5.11E-10	CD8.T_CST3_AIF1
CLTC	0.42336024	6.38E-10	CD8.T_CST3_AIF1
PTPRE	0.606126765	6.40E-10	CD8.T_CST3_AIF1
ARPC3	0.566323215	6.71E-10	CD8.T_CST3_AIF1
ATG3	0.687190247	7.09E-10	CD8.T_CST3_AIF1
MIS18BP1	0.543656847	8.22E-10	CD8.T_CST3_AIF1
AURKA	0.273861816	9.01E-10	CD8.T_CST3_AIF1
TPM3	0.501432575	9.68E-10	CD8.T_CST3_AIF1
GPX4	0.651306255	1.01E-09	CD8.T_CST3_AIF1
RPS20	0.569963643	1.31E-09	CD8.T_CST3_AIF1
RAD21	0.500817548	1.69E-09	CD8.T_CST3_AIF1
ACTR2	0.680001304	1.80E-09	CD8.T_CST3_AIF1
PHF19	0.40749268	1.82E-09	CD8.T_CST3_AIF1
ASAP1	0.386803698	1.99E-09	CD8.T_CST3_AIF1
AGGF1	0.256658184	2.16E-09	CD8.T_CST3_AIF1
ZSWIM6	0.265276419	2.80E-09	CD8.T_CST3_AIF1
JPT1	0.885398448	2.90E-09	CD8.T_CST3_AIF1
STAT2	0.29518324	3.78E-09	CD8.T_CST3_AIF1
EPN1	0.325636568	3.79E-09	CD8.T_CST3_AIF1
HAUS4	0.280489895	4.12E-09	CD8.T_CST3_AIF1
EDEM1	0.300804803	4.54E-09	CD8.T_CST3_AIF1
TUBA1A	0.817808058	4.79E-09	CD8.T_CST3_AIF1
RPL26L1	0.314099049	6.05E-09	CD8.T_CST3_AIF1
GRB2	0.540785661	6.05E-09	CD8.T_CST3_AIF1
RPN1	0.39849662	6.24E-09	CD8.T_CST3_AIF1
LAMP2	0.372719985	1.08E-08	CD8.T_CST3_AIF1
HNRNPUL1	0.456627124	1.11E-08	CD8.T_CST3_AIF1
LSM4	0.508858967	1.11E-08	CD8.T_CST3_AIF1

RAP2A	0.297008281	1.35E-08	CD8.T_CST3_AIF1
TMEM219	0.497299953	1.51E-08	CD8.T_CST3_AIF1
MT-ND4	0.641157958	1.74E-08	CD8.T_CST3_AIF1
LRRC58	0.298918033	1.81E-08	CD8.T_CST3_AIF1
SNX2	0.430999881	1.82E-08	CD8.T_CST3_AIF1
TMEM106C	0.360504261	1.83E-08	CD8.T_CST3_AIF1
PGLS	0.487436156	2.42E-08	CD8.T_CST3_AIF1
SLC25A24	0.262645685	2.44E-08	CD8.T_CST3_AIF1
SNX29	0.261583286	2.49E-08	CD8.T_CST3_AIF1
ATP6V1F	0.605678965	2.62E-08	CD8.T_CST3_AIF1
MKNK1	0.346949603	2.67E-08	CD8.T_CST3_AIF1
ATP5F1E	0.425280611	2.92E-08	CD8.T_CST3_AIF1
H2AFX	0.518750039	3.09E-08	CD8.T_CST3_AIF1
MAP3K11	0.316423777	3.87E-08	CD8.T_CST3_AIF1
LINC00963	0.294305471	4.04E-08	CD8.T_CST3_AIF1
TRAPPC5	0.580894968	4.66E-08	CD8.T_CST3_AIF1
MAP3K3	0.26303576	4.66E-08	CD8.T_CST3_AIF1
BNIP3L	0.480924458	4.79E-08	CD8.T_CST3_AIF1
RRAGC	0.378120044	5.18E-08	CD8.T_CST3_AIF1
C4orf48	0.331594	5.61E-08	CD8.T_CST3_AIF1
NCAPH2	0.260974864	6.19E-08	CD8.T_CST3_AIF1
RTN4	0.563891243	7.07E-08	CD8.T_CST3_AIF1
MYO5A	0.258361798	7.44E-08	CD8.T_CST3_AIF1
DCK	0.392030548	7.60E-08	CD8.T_CST3_AIF1
UBAP2L	0.326974097	8.44E-08	CD8.T_CST3_AIF1
EGR1	0.3837557	9.90E-08	CD8.T_CST3_AIF1
ANKRD36C	0.415745694	1.12E-07	CD8.T_CST3_AIF1
M6PR	0.476021236	1.18E-07	CD8.T_CST3_AIF1
SIVA1	0.604438323	1.23E-07	CD8.T_CST3_AIF1
PABPC4	0.410765386	1.24E-07	CD8.T_CST3_AIF1
PKM	0.608026566	1.53E-07	CD8.T_CST3_AIF1
LAP3	0.369648005	1.73E-07	CD8.T_CST3_AIF1
RPLP0	0.514810211	1.78E-07	CD8.T_CST3_AIF1
APOA2	1.034246753	1.82E-07	CD8.T_CST3_AIF1
CTNNA1	0.282148948	2.03E-07	CD8.T_CST3_AIF1
CKS2	0.541697809	2.20E-07	CD8.T_CST3_AIF1
IRAK1	0.262787915	2.22E-07	CD8.T_CST3_AIF1
TYMP	0.576776949	2.30E-07	CD8.T_CST3_AIF1
RNH1	0.587886879	2.40E-07	CD8.T_CST3_AIF1
PTEN	0.379688408	2.60E-07	CD8.T_CST3_AIF1
TMEM176B	0.298835634	2.68E-07	CD8.T_CST3_AIF1
SERPINB6	0.406484546	2.85E-07	CD8.T_CST3_AIF1
ARPC1B	0.484879027	3.54E-07	CD8.T_CST3_AIF1
DCAF7	0.355623567	3.54E-07	CD8.T_CST3_AIF1
GOLIM4	0.284440626	3.61E-07	CD8.T_CST3_AIF1
DDAH2	0.331273303	3.70E-07	CD8.T_CST3_AIF1
HEXA	0.542760592	3.88E-07	CD8.T_CST3_AIF1
CMTM6	0.5392518	4.20E-07	CD8.T_CST3_AIF1
IFI27	0.403808227	4.42E-07	CD8.T_CST3_AIF1
QKI	0.419746128	4.67E-07	CD8.T_CST3_AIF1
PRKACA	0.273345896	5.72E-07	CD8.T_CST3_AIF1
RUNX1	0.434497711	8.48E-07	CD8.T_CST3_AIF1
MGST3	0.568751176	8.82E-07	CD8.T_CST3_AIF1
CDC25B	0.30488999	9.15E-07	CD8.T_CST3_AIF1
PARVB	0.325214093	1.00E-06	CD8.T_CST3_AIF1
SUMO3	0.399904034	1.01E-06	CD8.T_CST3_AIF1
LAMTOR2	0.398561573	1.08E-06	CD8.T_CST3_AIF1
LPAR6	0.285227336	1.17E-06	CD8.T_CST3_AIF1
AKR1A1	0.390516183	1.19E-06	CD8.T_CST3_AIF1
MYD88	0.314678848	1.30E-06	CD8.T_CST3_AIF1
CAPZA2	0.440132461	1.33E-06	CD8.T_CST3_AIF1
MT1G	0.405486152	1.34E-06	CD8.T_CST3_AIF1
CNTRL	0.403408496	1.39E-06	CD8.T_CST3_AIF1
NPTN	0.305427954	1.48E-06	CD8.T_CST3_AIF1

COX5A	0.540914314	1.49E-06	CD8.T_CST3_AIF1
SNRPD1	0.476858295	1.52E-06	CD8.T_CST3_AIF1
RCC2	0.369796216	1.67E-06	CD8.T_CST3_AIF1
MSRA	0.257111441	1.74E-06	CD8.T_CST3_AIF1
SDCCAG8	0.250600717	1.93E-06	CD8.T_CST3_AIF1
PCBD1	0.350819706	2.27E-06	CD8.T_CST3_AIF1
GSTO1	0.503117266	2.56E-06	CD8.T_CST3_AIF1
ALYREF	0.507643378	2.79E-06	CD8.T_CST3_AIF1
IL10RB	0.332796822	2.90E-06	CD8.T_CST3_AIF1
IDH2	0.543026519	3.36E-06	CD8.T_CST3_AIF1
SGK3	0.339179691	4.06E-06	CD8.T_CST3_AIF1
RAB5C	0.499557065	5.41E-06	CD8.T_CST3_AIF1
PPIF	0.517760839	5.42E-06	CD8.T_CST3_AIF1
H1FX	0.469169804	5.74E-06	CD8.T_CST3_AIF1
TACC1	0.467849389	6.68E-06	CD8.T_CST3_AIF1
PPP1R15A	0.547355476	6.88E-06	CD8.T_CST3_AIF1
ZFP36L1	0.620614471	7.11E-06	CD8.T_CST3_AIF1
ENY2	0.476802085	7.19E-06	CD8.T_CST3_AIF1
VOPP1	0.345721854	9.24E-06	CD8.T_CST3_AIF1
GDI2	0.502957543	1.08E-05	CD8.T_CST3_AIF1
ARHGAP17	0.256436753	1.21E-05	CD8.T_CST3_AIF1
CBX5	0.303084281	1.33E-05	CD8.T_CST3_AIF1
GNG10	0.398543148	1.46E-05	CD8.T_CST3_AIF1
PTBP1	0.436481382	1.47E-05	CD8.T_CST3_AIF1
HP1BP3	0.573297036	1.47E-05	CD8.T_CST3_AIF1
ATAD2	0.427190172	1.58E-05	CD8.T_CST3_AIF1
SAMD1	0.257459046	1.66E-05	CD8.T_CST3_AIF1
ITPK1	0.262775698	1.98E-05	CD8.T_CST3_AIF1
SNX3	1.008173931	2.04E-05	CD8.T_CST3_AIF1
GNA13	0.447739801	2.20E-05	CD8.T_CST3_AIF1
COX6B1	0.411358932	3.10E-05	CD8.T_CST3_AIF1
PLEKHB2	0.379733352	3.60E-05	CD8.T_CST3_AIF1
NRIP1	0.274744826	3.83E-05	CD8.T_CST3_AIF1
AGPAT2	0.263485708	4.08E-05	CD8.T_CST3_AIF1
CNDP2	0.277695317	4.34E-05	CD8.T_CST3_AIF1
POMP	0.51141656	5.65E-05	CD8.T_CST3_AIF1
NSL1	0.26291445	5.88E-05	CD8.T_CST3_AIF1
DDX39A	0.451723599	5.92E-05	CD8.T_CST3_AIF1
LAMTOR4	0.465565432	6.20E-05	CD8.T_CST3_AIF1
ADIPOR1	0.330188024	6.49E-05	CD8.T_CST3_AIF1
HMGA1	0.439871267	6.51E-05	CD8.T_CST3_AIF1
NAP1L1	0.582019225	6.76E-05	CD8.T_CST3_AIF1
FAM120A	0.313986753	6.79E-05	CD8.T_CST3_AIF1
GNB1	0.486003104	6.94E-05	CD8.T_CST3_AIF1
VEGFB	0.393488856	7.32E-05	CD8.T_CST3_AIF1
ATF4	0.470347589	7.41E-05	CD8.T_CST3_AIF1
SDCBP	0.476675333	7.45E-05	CD8.T_CST3_AIF1
MCM7	0.392289039	7.98E-05	CD8.T_CST3_AIF1
BANF1	0.403027988	8.30E-05	CD8.T_CST3_AIF1
YTHDF3	0.293662734	8.82E-05	CD8.T_CST3_AIF1
UQCR10	0.396992363	0.000101199	CD8.T_CST3_AIF1
NUP62	0.266816066	0.0001075	CD8.T_CST3_AIF1
PLEK	0.65180388	0.00011266	CD8.T_CST3_AIF1
SEPTIN11	0.357078066	0.000136	CD8.T_CST3_AIF1
MCM5	0.258201999	0.000136301	CD8.T_CST3_AIF1
MTMR14	0.258276523	0.000160975	CD8.T_CST3_AIF1
VPS29	0.417748769	0.000161389	CD8.T_CST3_AIF1
SNX5	0.304307371	0.000189221	CD8.T_CST3_AIF1
NAMPT	0.622267574	0.0002026	CD8.T_CST3_AIF1
CAPZB	0.491422392	0.000216784	CD8.T_CST3_AIF1
TUBB4B	0.474873696	0.000222326	CD8.T_CST3_AIF1
UQCR11	0.409085105	0.000231577	CD8.T_CST3_AIF1
KLF10	0.294115028	0.000258063	CD8.T_CST3_AIF1
NRARP	0.360945176	0.000271238	CD8.T_CST3_AIF1

PTPN18	0.252391606	0.000351154	CD8.T_CST3_AIF1
TXNDC17	0.368895868	0.000460211	CD8.T_CST3_AIF1
DBI	0.439718925	0.000537066	CD8.T_CST3_AIF1
IFNGR1	0.436165306	0.000580852	CD8.T_CST3_AIF1
AZIN1	0.277087639	0.000616604	CD8.T_CST3_AIF1
AKT1	0.324725995	0.000636907	CD8.T_CST3_AIF1
NANS	0.363841441	0.000644704	CD8.T_CST3_AIF1
NDUFC1	0.333846489	0.000675103	CD8.T_CST3_AIF1
USF2	0.330232784	0.000701796	CD8.T_CST3_AIF1
PIEZO1	0.253199296	0.000854774	CD8.T_CST3_AIF1
AP1M1	0.26725966	0.000903507	CD8.T_CST3_AIF1
WASF2	0.445690193	0.000917663	CD8.T_CST3_AIF1
GYPC	0.570648963	0.001045431	CD8.T_CST3_AIF1
ARRB2	0.375456342	0.001245	CD8.T_CST3_AIF1
VKORC1	0.329638242	0.001311755	CD8.T_CST3_AIF1
HADHA	0.332628963	0.001353846	CD8.T_CST3_AIF1
CTSA	0.343645701	0.001423712	CD8.T_CST3_AIF1
SH3BP5	0.355477968	0.001473669	CD8.T_CST3_AIF1
SPAG9	0.455802925	0.001499643	CD8.T_CST3_AIF1
GUSB	0.324302932	0.001521117	CD8.T_CST3_AIF1
CDK5RAP2	0.25420943	0.001614809	CD8.T_CST3_AIF1
AUP1	0.311611004	0.001885703	CD8.T_CST3_AIF1
NR4A3	0.60507362	0.001999846	CD8.T_CST3_AIF1
PTMA	0.28612239	0.002042505	CD8.T_CST3_AIF1
XPO1	0.316163981	0.002083383	CD8.T_CST3_AIF1
ATP5PO	0.39394581	0.002154608	CD8.T_CST3_AIF1
CYB5R3	0.319152162	0.002223997	CD8.T_CST3_AIF1
TMEM258	0.453668437	0.002519053	CD8.T_CST3_AIF1
EZH2	0.283947043	0.002646718	CD8.T_CST3_AIF1
DYNC1H1	0.463187924	0.002928121	CD8.T_CST3_AIF1
TRIM28	0.340597801	0.002992082	CD8.T_CST3_AIF1
WIPI2	0.27067565	0.003769987	CD8.T_CST3_AIF1
CHCHD10	0.435328424	0.003830505	CD8.T_CST3_AIF1
RAB7A	0.376062399	0.004408617	CD8.T_CST3_AIF1
ME2	0.271845047	0.004412315	CD8.T_CST3_AIF1
LSM3	0.379509026	0.004443986	CD8.T_CST3_AIF1
CPEB4	0.29720105	0.005078599	CD8.T_CST3_AIF1
PPP4C	0.363440196	0.005169897	CD8.T_CST3_AIF1
ATP5PF	0.405692445	0.005420383	CD8.T_CST3_AIF1
HMGN3	0.416948156	0.005815961	CD8.T_CST3_AIF1
SCAMP2	0.32111459	0.005897874	CD8.T_CST3_AIF1
ATP5PB	0.417380836	0.006223469	CD8.T_CST3_AIF1
COX5B	0.408372115	0.006409444	CD8.T_CST3_AIF1
PARVG	0.338901702	0.008277583	CD8.T_CST3_AIF1
DNMT1	0.404457791	0.008340311	CD8.T_CST3_AIF1
BLOC1S6	0.326639489	0.008438314	CD8.T_CST3_AIF1
RNF13	0.251751829	0.009168688	CD8.T_CST3_AIF1
PRDX1	0.370102083	0.009480199	CD8.T_CST3_AIF1

b. Cyto_CD8.T_GZMB_GNLY_TMPO

Gene symbol	avg_log2FC	p_val_adj	Upregulated group	Description	pvalue
TYMS	2.520274725	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Spliceosome	1.38E-34
MKI67	2.498314696	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Cell cycle	9.15E-33
HIST1H1B	2.187326678	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Parkinson disease	2.70E-31
RRM2	2.0069173	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Amyotrophic lateral sclerosis	3.86E-26
CENPF	1.994304779	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Prion disease	9.48E-26
PCLAF	1.964005813	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Huntington disease	2.76E-25
TOP2A	1.937509226	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Proteasome	1.52E-24
ASPM	1.866521264	0	Cyto_CD8.T_GZMB_GNLY_TMPO	DNA replication	3.33E-20
UBE2C	1.714117255	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Alzheimer disease	4.62E-17
TPX2	1.547861003	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Oxidative phosphorylation	1.67E-15
CLSPN	1.423236775	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Pathways of neurodegeneration - multiple diseases	2.56E-15
CENPM	1.405178029	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Thermogenesis	5.28E-15
BIRC5	1.265200474	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Diabetic cardiomyopathy	6.98E-15

CDK1	1.188447491	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Mismatch repair	1.75E-11
TK1	1.177084447	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Nucleocytoplasmic transport	6.80E-11
CENPE	1.161083394	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Chemical carcinogenesis - reactive oxygen species	2.55E-10
PRC1	1.143368318	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Homologous recombination	3.58E-10
KNL1	1.130326954	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Oocyte meiosis	4.83E-10
GTSE1	1.075018978	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Spinocerebellar ataxia	4.78E-09
CDKN3	1.056515698	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Fanconi anemia pathway	6.96E-09
ZWINT	1.039559578	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Nucleotide excision repair	3.44E-08
UBE2T	1.029346629	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Cellular senescence	4.20E-08
CENPW	0.953928343	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Non-alcoholic fatty liver disease	1.29E-07
NUF2	0.950392324	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Epstein-Barr virus infection	6.24E-07
RAD51AP1	0.909580645	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Human T-cell leukemia virus 1 infection	7.40E-07
CDT1	0.908346342	0	Cyto_CD8.T_GZMB_GNLY_TMPO	p53 signaling pathway	2.30E-05
KIF11	0.884666981	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Pancreatic cancer	3.91E-05
SPC25	0.879226175	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Progesterone-mediated oocyte maturation	0.000151055
NCAPG	0.842924945	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Bacterial invasion of epithelial cells	0.000171591
MYBL2	0.83766593	0	Cyto_CD8.T_GZMB_GNLY_TMPO	mRNA surveillance pathway	0.00024961
PKMYT1	0.836285757	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Base excision repair	0.000253971
AURKB	0.835458286	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Viral carcinogenesis	0.00060403
KIF23	0.830811441	0	Cyto_CD8.T_GZMB_GNLY_TMPO	RNA degradation	0.00076866
HIST1H3B	0.80471624	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Platinum drug resistance	0.001120036
KIF15	0.781347651	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Bladder cancer	0.00141655
DLGAP5	0.769309519	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Glioma	0.001450854
CCNA2	0.740777857	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Cardiac muscle contraction	0.002024497
CDCA5	0.700371754	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Hepatocellular carcinoma	0.002161096
CEP55	0.696852206	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Shigellosis	0.002585985
CDCA3	0.693589753	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Small cell lung cancer	0.003451007
KIF2C	0.67507169	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Retrograde endocannabinoid signaling	0.005245795
ESCO2	0.637750701	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Non-small cell lung cancer	0.008785586
MND1	0.62866277	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Human immunodeficiency virus 1 infection	0.009116397
CKAP2L	0.615745872	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Non-homologous end-joining	0.009183865
PBK	0.57139494	0	Cyto_CD8.T_GZMB_GNLY_TMPO	One carbon pool by folate	0.009359818
CDCA2	0.552082847	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Regulation of actin cytoskeleton	0.01264212
BUB1B	0.51151866	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Fluid shear stress and atherosclerosis	0.012789652
SPC24	0.479432585	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Colorectal cancer	0.01290509
HIST1H3G	0.415678967	0	Cyto_CD8.T_GZMB_GNLY_TMPO	Chronic myeloid leukemia	0.013043219
NUSAP1	2.214689599	3.67E-301	Cyto_CD8.T_GZMB_GNLY_TMPO	Pathogenic Escherichia coli infection	0.014173352
MCM10	0.46517477	2.94E-300	Cyto_CD8.T_GZMB_GNLY_TMPO	Ubiquitin mediated proteolysis	0.015586723
FAM111B	0.584073672	1.17E-294	Cyto_CD8.T_GZMB_GNLY_TMPO	Protein export	0.017168267
ORC6	0.871846577	3.15E-294	Cyto_CD8.T_GZMB_GNLY_TMPO	Human cytomegalovirus infection	0.018057756
MAD2L1	0.959573493	2.89E-293	Cyto_CD8.T_GZMB_GNLY_TMPO	Tight junction	0.020320463
CDCA8	0.684093324	1.77E-288	Cyto_CD8.T_GZMB_GNLY_TMPO	Adherens junction	0.020890871
FOXM1	0.583518736	1.12E-287	Cyto_CD8.T_GZMB_GNLY_TMPO	Melanoma	0.022843336
MELK	0.504957107	1.62E-286	Cyto_CD8.T_GZMB_GNLY_TMPO	Hepatitis B	0.026115303
UHRF1	0.581162636	9.24E-285	Cyto_CD8.T_GZMB_GNLY_TMPO	Biosynthesis of amino acids	0.029489935
HJURP	0.447262463	1.54E-284	Cyto_CD8.T_GZMB_GNLY_TMPO	Fatty acid elongation	0.03296696
KIF4A	0.510963457	1.81E-282	Cyto_CD8.T_GZMB_GNLY_TMPO	Thyroid cancer	0.036681107
CCNB2	0.690366205	3.49E-278	Cyto_CD8.T_GZMB_GNLY_TMPO	Apoptosis	0.042219687
ASF1B	0.691077569	3.08E-274	Cyto_CD8.T_GZMB_GNLY_TMPO	Drug metabolism - other enzymes	0.043428132
CENPA	0.524804033	2.89E-273	Cyto_CD8.T_GZMB_GNLY_TMPO	Yersinia infection	0.044581983
KIF14	0.511102238	4.22E-270	Cyto_CD8.T_GZMB_GNLY_TMPO	Glyoxylate and dicarboxylate metabolism	0.049306313
SKA1	0.418306884	1.21E-268	Cyto_CD8.T_GZMB_GNLY_TMPO		
NCAPH	0.626710318	3.32E-263	Cyto_CD8.T_GZMB_GNLY_TMPO		
HMMR	0.791014735	1.11E-260	Cyto_CD8.T_GZMB_GNLY_TMPO		
FANCI	0.756535538	1.16E-256	Cyto_CD8.T_GZMB_GNLY_TMPO		
CCDC34	0.848336047	1.95E-256	Cyto_CD8.T_GZMB_GNLY_TMPO		
E2F8	0.372053772	1.21E-241	Cyto_CD8.T_GZMB_GNLY_TMPO		
KIFC1	0.756175224	5.92E-240	Cyto_CD8.T_GZMB_GNLY_TMPO		
SHCBP1	0.495995345	4.66E-236	Cyto_CD8.T_GZMB_GNLY_TMPO		
POC1A	0.466826018	6.90E-234	Cyto_CD8.T_GZMB_GNLY_TMPO		
CENPU	0.663508042	5.38E-233	Cyto_CD8.T_GZMB_GNLY_TMPO		
DEPDC1B	0.496272947	1.43E-230	Cyto_CD8.T_GZMB_GNLY_TMPO		
CKS1B	1.737264188	2.72E-226	Cyto_CD8.T_GZMB_GNLY_TMPO		
NCAPG2	0.554461054	9.96E-222	Cyto_CD8.T_GZMB_GNLY_TMPO		

ECT2	0.553357549	2.57E-221	Cyto_CD8.T_GZMB_GNLY_TMPO
DHFR	0.894437096	2.45E-220	Cyto_CD8.T_GZMB_GNLY_TMPO
SMC2	1.361839217	6.72E-220	Cyto_CD8.T_GZMB_GNLY_TMPO
SGO1	0.611667746	3.31E-219	Cyto_CD8.T_GZMB_GNLY_TMPO
HIST1H2AJ	0.46113419	2.51E-217	Cyto_CD8.T_GZMB_GNLY_TMPO
CDC6	0.446287622	8.39E-217	Cyto_CD8.T_GZMB_GNLY_TMPO
ANLN	0.449979295	6.74E-211	Cyto_CD8.T_GZMB_GNLY_TMPO
TROAP	0.494713403	1.54E-209	Cyto_CD8.T_GZMB_GNLY_TMPO
FBXO43	0.32224929	2.14E-209	Cyto_CD8.T_GZMB_GNLY_TMPO
TTK	0.376318289	2.81E-207	Cyto_CD8.T_GZMB_GNLY_TMPO
TCF19	0.533691987	2.92E-207	Cyto_CD8.T_GZMB_GNLY_TMPO
ATAD5	0.758293298	2.61E-206	Cyto_CD8.T_GZMB_GNLY_TMPO
NDC80	0.660741913	1.76E-203	Cyto_CD8.T_GZMB_GNLY_TMPO
CHEK1	0.745507051	9.81E-203	Cyto_CD8.T_GZMB_GNLY_TMPO
SKA3	0.359639548	5.14E-196	Cyto_CD8.T_GZMB_GNLY_TMPO
SAC3D1	0.72970269	9.31E-196	Cyto_CD8.T_GZMB_GNLY_TMPO
DIAPH3	0.458770825	1.81E-194	Cyto_CD8.T_GZMB_GNLY_TMPO
HIST1H2AL	0.619823932	9.94E-188	Cyto_CD8.T_GZMB_GNLY_TMPO
NCAPD2	0.66268062	1.64E-187	Cyto_CD8.T_GZMB_GNLY_TMPO
DTL	0.381659686	8.25E-187	Cyto_CD8.T_GZMB_GNLY_TMPO
POLQ	0.286993207	1.06E-184	Cyto_CD8.T_GZMB_GNLY_TMPO
TACC3	0.816115878	1.19E-184	Cyto_CD8.T_GZMB_GNLY_TMPO
STIL	0.403817501	2.82E-183	Cyto_CD8.T_GZMB_GNLY_TMPO
SGO2	0.768757767	1.37E-179	Cyto_CD8.T_GZMB_GNLY_TMPO
MXD3	0.439620684	4.12E-177	Cyto_CD8.T_GZMB_GNLY_TMPO
CENPK	1.111977833	3.51E-176	Cyto_CD8.T_GZMB_GNLY_TMPO
RACGAP1	0.597860638	1.49E-174	Cyto_CD8.T_GZMB_GNLY_TMPO
FBXO5	0.739812786	5.22E-173	Cyto_CD8.T_GZMB_GNLY_TMPO
DTYMK	0.972018727	9.66E-171	Cyto_CD8.T_GZMB_GNLY_TMPO
BRCA2	0.508500703	2.23E-167	Cyto_CD8.T_GZMB_GNLY_TMPO
ATAD2	1.738960412	3.42E-164	Cyto_CD8.T_GZMB_GNLY_TMPO
WDR34	0.455615995	5.64E-153	Cyto_CD8.T_GZMB_GNLY_TMPO
GINS2	0.52861714	1.47E-152	Cyto_CD8.T_GZMB_GNLY_TMPO
FEN1	0.665373975	2.37E-152	Cyto_CD8.T_GZMB_GNLY_TMPO
CENPN	0.672995572	1.95E-151	Cyto_CD8.T_GZMB_GNLY_TMPO
CIP2A	0.495366602	2.56E-151	Cyto_CD8.T_GZMB_GNLY_TMPO
E2F1	0.501488973	3.41E-151	Cyto_CD8.T_GZMB_GNLY_TMPO
BRCA1	0.504646907	4.73E-149	Cyto_CD8.T_GZMB_GNLY_TMPO
C21orf58	0.483145513	5.29E-149	Cyto_CD8.T_GZMB_GNLY_TMPO
BUB1	0.356713329	1.05E-146	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMC3IP	0.377212068	5.07E-145	Cyto_CD8.T_GZMB_GNLY_TMPO
ESPL1	0.267363613	4.16E-140	Cyto_CD8.T_GZMB_GNLY_TMPO
E2F2	0.275877451	2.70E-138	Cyto_CD8.T_GZMB_GNLY_TMPO
GMNN	0.906678257	8.25E-138	Cyto_CD8.T_GZMB_GNLY_TMPO
RAD51	0.370888598	4.06E-136	Cyto_CD8.T_GZMB_GNLY_TMPO
HIST1H2AH	0.443055231	2.46E-134	Cyto_CD8.T_GZMB_GNLY_TMPO
SMC4	1.888353184	3.95E-134	Cyto_CD8.T_GZMB_GNLY_TMPO
CDC20	0.530512519	6.91E-134	Cyto_CD8.T_GZMB_GNLY_TMPO
WDR62	0.282660996	2.38E-128	Cyto_CD8.T_GZMB_GNLY_TMPO
NCAPD3	0.857707399	3.59E-128	Cyto_CD8.T_GZMB_GNLY_TMPO
KIF22	0.982965601	3.96E-128	Cyto_CD8.T_GZMB_GNLY_TMPO
NSD2	0.655164067	2.25E-126	Cyto_CD8.T_GZMB_GNLY_TMPO
HIST1H2AM	0.259773332	5.70E-126	Cyto_CD8.T_GZMB_GNLY_TMPO
HMGB3	0.51211681	1.80E-123	Cyto_CD8.T_GZMB_GNLY_TMPO
RRM1	0.888080949	1.22E-121	Cyto_CD8.T_GZMB_GNLY_TMPO
PCNA	1.663933399	1.11E-120	Cyto_CD8.T_GZMB_GNLY_TMPO
NRM	0.594341903	2.13E-120	Cyto_CD8.T_GZMB_GNLY_TMPO
STMN1	3.339168453	4.21E-119	Cyto_CD8.T_GZMB_GNLY_TMPO
TTF2	0.588361891	2.03E-116	Cyto_CD8.T_GZMB_GNLY_TMPO
CIT	0.32938049	3.79E-114	Cyto_CD8.T_GZMB_GNLY_TMPO
CDC45	0.335391892	5.13E-114	Cyto_CD8.T_GZMB_GNLY_TMPO
KIF18B	0.259213769	2.27E-113	Cyto_CD8.T_GZMB_GNLY_TMPO
HELLS	0.944159403	9.89E-112	Cyto_CD8.T_GZMB_GNLY_TMPO
CKAP5	0.672911785	2.73E-111	Cyto_CD8.T_GZMB_GNLY_TMPO

PIMREG	0.28953262	3.76E-110	Cyto_CD8.T_GZMB_GNLY_TMPO
EZH2	1.212553163	8.01E-110	Cyto_CD8.T_GZMB_GNLY_TMPO
KIF20B	0.834955114	1.68E-109	Cyto_CD8.T_GZMB_GNLY_TMPO
HIST1H1D	1.513427021	1.38E-107	Cyto_CD8.T_GZMB_GNLY_TMPO
HIST1H2AI	0.280290779	3.99E-107	Cyto_CD8.T_GZMB_GNLY_TMPO
DNAJC9	1.033116472	4.22E-107	Cyto_CD8.T_GZMB_GNLY_TMPO
ACOT7	0.596523625	1.47E-105	Cyto_CD8.T_GZMB_GNLY_TMPO
HIST1H2AG	0.798647339	2.67E-105	Cyto_CD8.T_GZMB_GNLY_TMPO
BRIP1	0.28070877	3.15E-105	Cyto_CD8.T_GZMB_GNLY_TMPO
CHAF1A	0.528949202	5.42E-105	Cyto_CD8.T_GZMB_GNLY_TMPO
TMEM106C	1.061395956	5.17E-104	Cyto_CD8.T_GZMB_GNLY_TMPO
HIRIP3	0.637157821	1.81E-101	Cyto_CD8.T_GZMB_GNLY_TMPO
PLK1	0.320234569	4.72E-100	Cyto_CD8.T_GZMB_GNLY_TMPO
TUBB	2.703133586	2.36E-99	Cyto_CD8.T_GZMB_GNLY_TMPO
MCM3	1.008380999	1.53E-98	Cyto_CD8.T_GZMB_GNLY_TMPO
CENPH	0.501422498	1.79E-98	Cyto_CD8.T_GZMB_GNLY_TMPO
HMGB2	2.913751459	3.97E-98	Cyto_CD8.T_GZMB_GNLY_TMPO
LIG1	0.576254917	8.69E-98	Cyto_CD8.T_GZMB_GNLY_TMPO
PARPBP	0.291768181	1.64E-97	Cyto_CD8.T_GZMB_GNLY_TMPO
DDX11	0.34575803	3.30E-97	Cyto_CD8.T_GZMB_GNLY_TMPO
SKA2	0.867414707	1.50E-95	Cyto_CD8.T_GZMB_GNLY_TMPO
SPAG5	0.295657598	1.19E-94	Cyto_CD8.T_GZMB_GNLY_TMPO
TMPO	1.648395627	3.62E-94	Cyto_CD8.T_GZMB_GNLY_TMPO
KIF18A	0.307209476	2.14E-93	Cyto_CD8.T_GZMB_GNLY_TMPO
HIST1H1C	1.613643025	3.57E-93	Cyto_CD8.T_GZMB_GNLY_TMPO
HMGN2	2.304999109	1.65E-91	Cyto_CD8.T_GZMB_GNLY_TMPO
GGH	0.476680524	2.50E-91	Cyto_CD8.T_GZMB_GNLY_TMPO
MCM4	0.51879264	2.59E-89	Cyto_CD8.T_GZMB_GNLY_TMPO
CARHSP1	1.135246363	7.00E-89	Cyto_CD8.T_GZMB_GNLY_TMPO
HIST1H3D	1.029504652	1.52E-88	Cyto_CD8.T_GZMB_GNLY_TMPO
CCNB1	0.390226694	3.97E-88	Cyto_CD8.T_GZMB_GNLY_TMPO
TUBG1	0.369698444	3.24E-87	Cyto_CD8.T_GZMB_GNLY_TMPO
NUDT1	0.991915843	6.40E-87	Cyto_CD8.T_GZMB_GNLY_TMPO
TUBA1B	3.006611955	1.84E-86	Cyto_CD8.T_GZMB_GNLY_TMPO
NEK2	0.27792445	1.81E-85	Cyto_CD8.T_GZMB_GNLY_TMPO
SAE1	0.705935311	2.19E-85	Cyto_CD8.T_GZMB_GNLY_TMPO
ITGB3BP	0.579841847	1.04E-84	Cyto_CD8.T_GZMB_GNLY_TMPO
HIST1H4C	3.740411895	1.13E-84	Cyto_CD8.T_GZMB_GNLY_TMPO
MCM7	1.078407178	4.02E-84	Cyto_CD8.T_GZMB_GNLY_TMPO
LRR1	0.525393317	2.52E-82	Cyto_CD8.T_GZMB_GNLY_TMPO
SPDL1	0.332518643	6.78E-82	Cyto_CD8.T_GZMB_GNLY_TMPO
BARD1	0.64490135	8.11E-82	Cyto_CD8.T_GZMB_GNLY_TMPO
LMNB2	0.59835026	1.36E-81	Cyto_CD8.T_GZMB_GNLY_TMPO
CDCA7	0.343825232	4.06E-81	Cyto_CD8.T_GZMB_GNLY_TMPO
HMGB1	2.058984542	4.67E-81	Cyto_CD8.T_GZMB_GNLY_TMPO
CEP152	0.47747148	5.05E-81	Cyto_CD8.T_GZMB_GNLY_TMPO
H2AFV	1.795638435	8.63E-81	Cyto_CD8.T_GZMB_GNLY_TMPO
ASRGL1	0.322861548	2.10E-77	Cyto_CD8.T_GZMB_GNLY_TMPO
FANCD2	0.332518643	3.05E-77	Cyto_CD8.T_GZMB_GNLY_TMPO
CBX5	0.851122581	6.15E-77	Cyto_CD8.T_GZMB_GNLY_TMPO
H2AFZ	1.832026894	2.05E-76	Cyto_CD8.T_GZMB_GNLY_TMPO
CTNNAL1	0.447447973	7.34E-76	Cyto_CD8.T_GZMB_GNLY_TMPO
DEK	1.679687232	3.94E-75	Cyto_CD8.T_GZMB_GNLY_TMPO
RFC3	0.347230512	4.84E-75	Cyto_CD8.T_GZMB_GNLY_TMPO
RFC4	0.501290186	1.94E-74	Cyto_CD8.T_GZMB_GNLY_TMPO
SMC3	1.323915316	2.66E-73	Cyto_CD8.T_GZMB_GNLY_TMPO
ANP32B	1.57786417	3.74E-72	Cyto_CD8.T_GZMB_GNLY_TMPO
PHF19	0.912303018	4.43E-72	Cyto_CD8.T_GZMB_GNLY_TMPO
YEATS4	0.685659948	8.99E-72	Cyto_CD8.T_GZMB_GNLY_TMPO
DUT	1.708623107	9.66E-72	Cyto_CD8.T_GZMB_GNLY_TMPO
TIMELESS	0.293151873	2.31E-71	Cyto_CD8.T_GZMB_GNLY_TMPO
RPA3	0.941631422	3.45E-71	Cyto_CD8.T_GZMB_GNLY_TMPO
H2AFX	1.04965525	1.51E-70	Cyto_CD8.T_GZMB_GNLY_TMPO
HIST2H2AB	0.341206285	1.61E-70	Cyto_CD8.T_GZMB_GNLY_TMPO

DNMT1	1.219186629	7.72E-70	Cyto_CD8.T_GZMB_GNLY_TMPO
PSIP1	1.156228383	7.83E-70	Cyto_CD8.T_GZMB_GNLY_TMPO
HIST2H2AC	0.966696695	9.22E-70	Cyto_CD8.T_GZMB_GNLY_TMPO
RPL39L	0.571767526	1.31E-69	Cyto_CD8.T_GZMB_GNLY_TMPO
SMC1A	1.061419148	2.14E-69	Cyto_CD8.T_GZMB_GNLY_TMPO
INCENP	0.311534426	4.86E-69	Cyto_CD8.T_GZMB_GNLY_TMPO
SNRPD1	0.97330581	8.52E-69	Cyto_CD8.T_GZMB_GNLY_TMPO
CENPS	0.346909735	1.55E-68	Cyto_CD8.T_GZMB_GNLY_TMPO
PTTG1	1.320141184	2.62E-67	Cyto_CD8.T_GZMB_GNLY_TMPO
TEDC1	0.41994165	3.16E-67	Cyto_CD8.T_GZMB_GNLY_TMPO
FANCG	0.269880176	5.26E-66	Cyto_CD8.T_GZMB_GNLY_TMPO
ARHGAP19	0.471398856	1.96E-65	Cyto_CD8.T_GZMB_GNLY_TMPO
ARHGAP11A	0.338179747	3.72E-65	Cyto_CD8.T_GZMB_GNLY_TMPO
DDX39A	0.926271161	7.17E-65	Cyto_CD8.T_GZMB_GNLY_TMPO
HIST1H2BH	0.468508535	1.09E-63	Cyto_CD8.T_GZMB_GNLY_TMPO
NUCB2	1.455515	6.93E-63	Cyto_CD8.T_GZMB_GNLY_TMPO
ZGRF1	0.275664446	8.86E-63	Cyto_CD8.T_GZMB_GNLY_TMPO
LSM4	0.94070424	9.61E-63	Cyto_CD8.T_GZMB_GNLY_TMPO
HIST1H1E	1.046115853	6.17E-62	Cyto_CD8.T_GZMB_GNLY_TMPO
PTMA	1.082223982	2.07E-61	Cyto_CD8.T_GZMB_GNLY_TMPO
SIVA1	1.133886204	4.22E-61	Cyto_CD8.T_GZMB_GNLY_TMPO
HAUS8	0.324828645	3.17E-60	Cyto_CD8.T_GZMB_GNLY_TMPO
COX8A	1.220146086	5.23E-60	Cyto_CD8.T_GZMB_GNLY_TMPO
USP1	0.970230316	1.79E-59	Cyto_CD8.T_GZMB_GNLY_TMPO
C9orf40	0.405286545	2.30E-59	Cyto_CD8.T_GZMB_GNLY_TMPO
NUCKS1	1.342223483	4.13E-59	Cyto_CD8.T_GZMB_GNLY_TMPO
ANP32E	1.253065015	1.35E-58	Cyto_CD8.T_GZMB_GNLY_TMPO
H3F3A	0.922252246	1.50E-58	Cyto_CD8.T_GZMB_GNLY_TMPO
MZT1	0.678167994	2.77E-58	Cyto_CD8.T_GZMB_GNLY_TMPO
RFC5	0.295619285	6.73E-58	Cyto_CD8.T_GZMB_GNLY_TMPO
HADH	0.492190652	1.36E-57	Cyto_CD8.T_GZMB_GNLY_TMPO
ACYP1	0.532478585	6.06E-57	Cyto_CD8.T_GZMB_GNLY_TMPO
CEP57L1	0.385062558	6.55E-57	Cyto_CD8.T_GZMB_GNLY_TMPO
MASTL	0.606075493	1.18E-56	Cyto_CD8.T_GZMB_GNLY_TMPO
LMNB1	0.769151513	1.64E-55	Cyto_CD8.T_GZMB_GNLY_TMPO
WDR76	0.44949607	3.26E-55	Cyto_CD8.T_GZMB_GNLY_TMPO
POLD3	0.394237227	2.21E-54	Cyto_CD8.T_GZMB_GNLY_TMPO
UBE2S	1.264259535	2.91E-54	Cyto_CD8.T_GZMB_GNLY_TMPO
CALM3	1.112976617	1.42E-53	Cyto_CD8.T_GZMB_GNLY_TMPO
CDKN2D	1.281057188	2.33E-53	Cyto_CD8.T_GZMB_GNLY_TMPO
C19orf48	0.390443198	2.40E-53	Cyto_CD8.T_GZMB_GNLY_TMPO
H2AFY	0.896600828	3.17E-53	Cyto_CD8.T_GZMB_GNLY_TMPO
BANF1	0.966620214	7.68E-52	Cyto_CD8.T_GZMB_GNLY_TMPO
FAM111A	0.782277735	8.00E-52	Cyto_CD8.T_GZMB_GNLY_TMPO
RBBP8	0.66862034	8.48E-52	Cyto_CD8.T_GZMB_GNLY_TMPO
MCM8	0.289292554	9.84E-52	Cyto_CD8.T_GZMB_GNLY_TMPO
RANBP1	1.058487096	1.14E-51	Cyto_CD8.T_GZMB_GNLY_TMPO
MCM2	0.272355827	1.88E-51	Cyto_CD8.T_GZMB_GNLY_TMPO
FANCA	0.405990897	5.34E-51	Cyto_CD8.T_GZMB_GNLY_TMPO
MAD2L2	0.655516766	1.64E-50	Cyto_CD8.T_GZMB_GNLY_TMPO
RAN	1.062081136	9.49E-50	Cyto_CD8.T_GZMB_GNLY_TMPO
TUBA1C	0.804141117	6.43E-49	Cyto_CD8.T_GZMB_GNLY_TMPO
NCAPH2	0.389492899	8.17E-49	Cyto_CD8.T_GZMB_GNLY_TMPO
DONSON	0.265461082	2.53E-48	Cyto_CD8.T_GZMB_GNLY_TMPO
SSRP1	0.614952868	1.21E-47	Cyto_CD8.T_GZMB_GNLY_TMPO
BRI3BP	0.421085993	1.39E-47	Cyto_CD8.T_GZMB_GNLY_TMPO
PPIA	0.99849375	1.59E-47	Cyto_CD8.T_GZMB_GNLY_TMPO
HAUS1	0.413868158	2.50E-47	Cyto_CD8.T_GZMB_GNLY_TMPO
MZT2B	0.956398633	5.79E-47	Cyto_CD8.T_GZMB_GNLY_TMPO
IDH2	0.888605355	7.16E-47	Cyto_CD8.T_GZMB_GNLY_TMPO
MCM5	0.497411127	3.56E-46	Cyto_CD8.T_GZMB_GNLY_TMPO
CCDC167	0.735838789	1.35E-45	Cyto_CD8.T_GZMB_GNLY_TMPO
VRK1	0.492635319	1.62E-45	Cyto_CD8.T_GZMB_GNLY_TMPO
BCL2L12	0.434493231	2.32E-45	Cyto_CD8.T_GZMB_GNLY_TMPO

MCM6	0.457662824	7.18E-45	Cyto_CD8.T_GZMB_GNLY_TMPO
MAGOHB	0.457165467	1.34E-44	Cyto_CD8.T_GZMB_GNLY_TMPO
RAD51C	0.431719816	1.78E-44	Cyto_CD8.T_GZMB_GNLY_TMPO
MIS18BP1	0.83351083	4.72E-44	Cyto_CD8.T_GZMB_GNLY_TMPO
CRIP1	1.43429196	1.01E-43	Cyto_CD8.T_GZMB_GNLY_TMPO
ALYREF	0.878384861	1.23E-43	Cyto_CD8.T_GZMB_GNLY_TMPO
CCP110	0.349868559	2.16E-43	Cyto_CD8.T_GZMB_GNLY_TMPO
CDC25B	0.540435848	3.30E-43	Cyto_CD8.T_GZMB_GNLY_TMPO
IMPA2	0.259406845	1.15E-42	Cyto_CD8.T_GZMB_GNLY_TMPO
GPSM2	0.289037886	6.11E-42	Cyto_CD8.T_GZMB_GNLY_TMPO
SUPT16H	0.812285499	2.92E-41	Cyto_CD8.T_GZMB_GNLY_TMPO
HTATSF1	0.554596641	3.48E-40	Cyto_CD8.T_GZMB_GNLY_TMPO
HPRT1	0.674439986	1.24E-39	Cyto_CD8.T_GZMB_GNLY_TMPO
TUBB4B	0.994566338	1.47E-39	Cyto_CD8.T_GZMB_GNLY_TMPO
DDB2	0.522252171	2.00E-39	Cyto_CD8.T_GZMB_GNLY_TMPO
CD38	0.76205364	2.41E-39	Cyto_CD8.T_GZMB_GNLY_TMPO
CDKN2C	0.44271441	7.52E-39	Cyto_CD8.T_GZMB_GNLY_TMPO
AURKA	0.361675648	1.81E-38	Cyto_CD8.T_GZMB_GNLY_TMPO
MIS18A	0.255704285	1.96E-38	Cyto_CD8.T_GZMB_GNLY_TMPO
SUZ12	0.735368304	2.07E-38	Cyto_CD8.T_GZMB_GNLY_TMPO
SLC25A5	0.972860759	2.26E-38	Cyto_CD8.T_GZMB_GNLY_TMPO
RAD21	0.875189863	3.44E-38	Cyto_CD8.T_GZMB_GNLY_TMPO
HNRNPR	0.853045252	6.02E-38	Cyto_CD8.T_GZMB_GNLY_TMPO
CDK2	0.289466264	8.90E-38	Cyto_CD8.T_GZMB_GNLY_TMPO
DCK	0.591716545	1.04E-37	Cyto_CD8.T_GZMB_GNLY_TMPO
TFDP1	0.474434316	1.05E-37	Cyto_CD8.T_GZMB_GNLY_TMPO
CFL1	0.814594142	1.45E-37	Cyto_CD8.T_GZMB_GNLY_TMPO
GNG5	0.786617098	2.24E-37	Cyto_CD8.T_GZMB_GNLY_TMPO
RFC2	0.515365785	2.70E-37	Cyto_CD8.T_GZMB_GNLY_TMPO
RALY	0.763640486	9.23E-37	Cyto_CD8.T_GZMB_GNLY_TMPO
LSM5	0.647304669	9.54E-37	Cyto_CD8.T_GZMB_GNLY_TMPO
DCTN3	0.854438155	1.19E-36	Cyto_CD8.T_GZMB_GNLY_TMPO
GIHCG	0.371285034	2.37E-36	Cyto_CD8.T_GZMB_GNLY_TMPO
ECI1	0.463512934	3.57E-36	Cyto_CD8.T_GZMB_GNLY_TMPO
SNRPB	0.841091807	4.95E-36	Cyto_CD8.T_GZMB_GNLY_TMPO
AP1M1	0.473995196	6.95E-36	Cyto_CD8.T_GZMB_GNLY_TMPO
GAPDH	1.207273234	7.63E-36	Cyto_CD8.T_GZMB_GNLY_TMPO
HNRNPAB	0.96859296	8.95E-36	Cyto_CD8.T_GZMB_GNLY_TMPO
CENPJ	0.267557627	1.09E-35	Cyto_CD8.T_GZMB_GNLY_TMPO
HIST1H2BC	0.41176088	2.61E-35	Cyto_CD8.T_GZMB_GNLY_TMPO
HSPB11	0.738285672	2.68E-35	Cyto_CD8.T_GZMB_GNLY_TMPO
UBL7-AS1	0.269198794	3.22E-35	Cyto_CD8.T_GZMB_GNLY_TMPO
CKS2	0.781445742	5.43E-35	Cyto_CD8.T_GZMB_GNLY_TMPO
NFYB	0.42207726	5.61E-35	Cyto_CD8.T_GZMB_GNLY_TMPO
TOPBP1	0.426586231	6.60E-35	Cyto_CD8.T_GZMB_GNLY_TMPO
CBX3	0.812522413	6.97E-35	Cyto_CD8.T_GZMB_GNLY_TMPO
NONO	0.629059933	8.03E-35	Cyto_CD8.T_GZMB_GNLY_TMPO
RNASEH2C	0.813725819	1.01E-34	Cyto_CD8.T_GZMB_GNLY_TMPO
PRPSAP1	0.476090755	1.57E-34	Cyto_CD8.T_GZMB_GNLY_TMPO
C17orf49	0.809169575	5.01E-34	Cyto_CD8.T_GZMB_GNLY_TMPO
RNASEH2B	0.657580082	6.50E-34	Cyto_CD8.T_GZMB_GNLY_TMPO
AL441992.1	0.264559677	6.64E-34	Cyto_CD8.T_GZMB_GNLY_TMPO
FGFR1OP	0.307182091	8.16E-34	Cyto_CD8.T_GZMB_GNLY_TMPO
CCNE2	0.293546379	8.34E-34	Cyto_CD8.T_GZMB_GNLY_TMPO
RHEB	0.843566354	1.31E-33	Cyto_CD8.T_GZMB_GNLY_TMPO
HIST1H2BN	0.496990225	1.52E-33	Cyto_CD8.T_GZMB_GNLY_TMPO
HMGXB4	0.564977283	2.43E-33	Cyto_CD8.T_GZMB_GNLY_TMPO
PPM1G	0.730342947	2.65E-33	Cyto_CD8.T_GZMB_GNLY_TMPO
DLEU2	0.490221943	3.06E-33	Cyto_CD8.T_GZMB_GNLY_TMPO
BLM	0.290836837	3.72E-33	Cyto_CD8.T_GZMB_GNLY_TMPO
CNTRL	0.640443314	4.32E-33	Cyto_CD8.T_GZMB_GNLY_TMPO
MSH2	0.301677921	4.62E-33	Cyto_CD8.T_GZMB_GNLY_TMPO
EBP	0.581808298	6.85E-33	Cyto_CD8.T_GZMB_GNLY_TMPO
ILF2	0.776737916	9.91E-33	Cyto_CD8.T_GZMB_GNLY_TMPO

HIST1H4E	0.280173163	1.39E-32	Cyto_CD8.T_GZMB_GNLY_TMPO
SRSF10	0.66407717	2.17E-32	Cyto_CD8.T_GZMB_GNLY_TMPO
ATP23	0.308835967	7.03E-32	Cyto_CD8.T_GZMB_GNLY_TMPO
REEP4	0.285028497	1.04E-31	Cyto_CD8.T_GZMB_GNLY_TMPO
TEX30	0.42519775	1.15E-31	Cyto_CD8.T_GZMB_GNLY_TMPO
THRAP3	0.725642393	1.20E-31	Cyto_CD8.T_GZMB_GNLY_TMPO
SNRPF	0.704092849	1.20E-31	Cyto_CD8.T_GZMB_GNLY_TMPO
C12orf75	0.835034228	1.47E-31	Cyto_CD8.T_GZMB_GNLY_TMPO
VDAC3	0.658167644	1.72E-31	Cyto_CD8.T_GZMB_GNLY_TMPO
HLTF	0.482467147	1.83E-31	Cyto_CD8.T_GZMB_GNLY_TMPO
YWHAH	0.657255838	2.62E-31	Cyto_CD8.T_GZMB_GNLY_TMPO
CENPX	0.670375943	2.90E-31	Cyto_CD8.T_GZMB_GNLY_TMPO
NAP1L1	0.791376711	3.28E-31	Cyto_CD8.T_GZMB_GNLY_TMPO
HINT2	0.573090417	5.42E-31	Cyto_CD8.T_GZMB_GNLY_TMPO
JPT1	0.875631665	7.92E-31	Cyto_CD8.T_GZMB_GNLY_TMPO
IFI16	0.871950415	1.07E-30	Cyto_CD8.T_GZMB_GNLY_TMPO
PXMP2	0.299937072	1.34E-30	Cyto_CD8.T_GZMB_GNLY_TMPO
H1FX	0.981751716	1.76E-30	Cyto_CD8.T_GZMB_GNLY_TMPO
CCDC82	0.561299231	1.88E-30	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMB9	0.77802444	3.31E-30	Cyto_CD8.T_GZMB_GNLY_TMPO
HMGN1	0.798744141	7.10E-30	Cyto_CD8.T_GZMB_GNLY_TMPO
RANGAP1	0.380773187	1.38E-29	Cyto_CD8.T_GZMB_GNLY_TMPO
MICB	0.370888598	1.43E-29	Cyto_CD8.T_GZMB_GNLY_TMPO
CDCA4	0.50613938	1.97E-29	Cyto_CD8.T_GZMB_GNLY_TMPO
GMPS	0.459763075	2.56E-29	Cyto_CD8.T_GZMB_GNLY_TMPO
HNRNPD	0.7474873	2.64E-29	Cyto_CD8.T_GZMB_GNLY_TMPO
MGME1	0.299134311	3.02E-29	Cyto_CD8.T_GZMB_GNLY_TMPO
MAZ	0.739333056	9.69E-29	Cyto_CD8.T_GZMB_GNLY_TMPO
CBFB	0.463229895	1.84E-28	Cyto_CD8.T_GZMB_GNLY_TMPO
CTCF	0.609506861	2.02E-28	Cyto_CD8.T_GZMB_GNLY_TMPO
CDKN2A	0.48738797	2.15E-28	Cyto_CD8.T_GZMB_GNLY_TMPO
LBR	0.661369904	2.36E-28	Cyto_CD8.T_GZMB_GNLY_TMPO
TPRKB	0.427206653	3.22E-28	Cyto_CD8.T_GZMB_GNLY_TMPO
ERH	0.687142214	5.68E-28	Cyto_CD8.T_GZMB_GNLY_TMPO
PA2G4	0.756616869	5.72E-28	Cyto_CD8.T_GZMB_GNLY_TMPO
NUDT21	0.460922535	6.79E-28	Cyto_CD8.T_GZMB_GNLY_TMPO
KPNB1	0.630067964	8.84E-28	Cyto_CD8.T_GZMB_GNLY_TMPO
SUMO2	0.643018835	1.01E-27	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMC3	0.589792682	1.12E-27	Cyto_CD8.T_GZMB_GNLY_TMPO
RBBP7	0.621453439	1.13E-27	Cyto_CD8.T_GZMB_GNLY_TMPO
RCC2	0.483457258	1.20E-27	Cyto_CD8.T_GZMB_GNLY_TMPO
CDK5RAP2	0.389748172	1.49E-27	Cyto_CD8.T_GZMB_GNLY_TMPO
IFI27L1	0.306746177	1.74E-27	Cyto_CD8.T_GZMB_GNLY_TMPO
NASP	0.909374189	1.75E-27	Cyto_CD8.T_GZMB_GNLY_TMPO
POLR3K	0.440081313	2.22E-27	Cyto_CD8.T_GZMB_GNLY_TMPO
VIM	1.355876059	4.42E-27	Cyto_CD8.T_GZMB_GNLY_TMPO
PFN1	0.789813114	1.05E-26	Cyto_CD8.T_GZMB_GNLY_TMPO
CDK4	0.428232018	1.63E-26	Cyto_CD8.T_GZMB_GNLY_TMPO
COPS3	0.60121978	1.64E-26	Cyto_CD8.T_GZMB_GNLY_TMPO
HP1BP3	0.749146393	1.65E-26	Cyto_CD8.T_GZMB_GNLY_TMPO
FDXR	0.269473541	2.22E-26	Cyto_CD8.T_GZMB_GNLY_TMPO
PIN1	0.56314993	3.44E-26	Cyto_CD8.T_GZMB_GNLY_TMPO
CBX1	0.397239736	4.73E-26	Cyto_CD8.T_GZMB_GNLY_TMPO
CEP135	0.29941408	5.76E-26	Cyto_CD8.T_GZMB_GNLY_TMPO
SMCO4	0.273932418	9.92E-26	Cyto_CD8.T_GZMB_GNLY_TMPO
CFAP20	0.342865798	1.09E-25	Cyto_CD8.T_GZMB_GNLY_TMPO
HYI	0.257904729	1.11E-25	Cyto_CD8.T_GZMB_GNLY_TMPO
SLBP	0.781267457	2.13E-25	Cyto_CD8.T_GZMB_GNLY_TMPO
ARL6IP1	0.968730747	2.44E-25	Cyto_CD8.T_GZMB_GNLY_TMPO
BUB3	0.705572324	2.79E-25	Cyto_CD8.T_GZMB_GNLY_TMPO
PCNT	0.347083963	3.03E-25	Cyto_CD8.T_GZMB_GNLY_TMPO
INAFM1	0.269339393	4.21E-25	Cyto_CD8.T_GZMB_GNLY_TMPO
NUDT15	0.280193836	5.75E-25	Cyto_CD8.T_GZMB_GNLY_TMPO
ANAPC11	0.655881591	6.47E-25	Cyto_CD8.T_GZMB_GNLY_TMPO

E2F3	0.428971626	8.27E-25	Cyto_CD8.T_GZMB_GNLY_TMPO
HIST1H2BF	0.358698142	1.26E-24	Cyto_CD8.T_GZMB_GNLY_TMPO
XPO1	0.473687646	2.74E-24	Cyto_CD8.T_GZMB_GNLY_TMPO
HNRNPA2B1	0.66590894	2.95E-24	Cyto_CD8.T_GZMB_GNLY_TMPO
SASS6	0.25222482	3.14E-24	Cyto_CD8.T_GZMB_GNLY_TMPO
ACTG1	0.792972237	3.74E-24	Cyto_CD8.T_GZMB_GNLY_TMPO
SAMD1	0.435215795	4.19E-24	Cyto_CD8.T_GZMB_GNLY_TMPO
PDS5B	0.406698364	4.27E-24	Cyto_CD8.T_GZMB_GNLY_TMPO
HNRNPF	0.738158747	4.32E-24	Cyto_CD8.T_GZMB_GNLY_TMPO
PCBP2	0.661288675	4.38E-24	Cyto_CD8.T_GZMB_GNLY_TMPO
NUP160	0.324935766	5.40E-24	Cyto_CD8.T_GZMB_GNLY_TMPO
TAF15	0.587086154	5.59E-24	Cyto_CD8.T_GZMB_GNLY_TMPO
DOCK2	0.494248159	7.76E-24	Cyto_CD8.T_GZMB_GNLY_TMPO
MZT2A	0.610791748	1.14E-23	Cyto_CD8.T_GZMB_GNLY_TMPO
SFMBT1	0.286242263	1.86E-23	Cyto_CD8.T_GZMB_GNLY_TMPO
SRSF3	0.691110355	2.30E-23	Cyto_CD8.T_GZMB_GNLY_TMPO
EXOSC8	0.441537695	4.19E-23	Cyto_CD8.T_GZMB_GNLY_TMPO
MPHOSPH9	0.348882095	4.45E-23	Cyto_CD8.T_GZMB_GNLY_TMPO
BAZ1B	0.519483646	5.38E-23	Cyto_CD8.T_GZMB_GNLY_TMPO
SYNE2	0.840848062	7.33E-23	Cyto_CD8.T_GZMB_GNLY_TMPO
EMC9	0.25461235	8.02E-23	Cyto_CD8.T_GZMB_GNLY_TMPO
CASP8AP2	0.334413096	1.57E-22	Cyto_CD8.T_GZMB_GNLY_TMPO
PPP1CA	0.63981586	1.72E-22	Cyto_CD8.T_GZMB_GNLY_TMPO
ZDHHC12	0.365004272	2.41E-22	Cyto_CD8.T_GZMB_GNLY_TMPO
SSNA1	0.535697414	2.42E-22	Cyto_CD8.T_GZMB_GNLY_TMPO
WEE1	0.335350491	2.58E-22	Cyto_CD8.T_GZMB_GNLY_TMPO
HNRNPUL2	0.442139545	4.89E-22	Cyto_CD8.T_GZMB_GNLY_TMPO
C4orf46	0.275321879	5.68E-22	Cyto_CD8.T_GZMB_GNLY_TMPO
RECQL	0.462498967	7.27E-22	Cyto_CD8.T_GZMB_GNLY_TMPO
XRCC5	0.653767741	8.53E-22	Cyto_CD8.T_GZMB_GNLY_TMPO
RPA1	0.355706683	8.55E-22	Cyto_CD8.T_GZMB_GNLY_TMPO
HAT1	0.512427635	1.06E-21	Cyto_CD8.T_GZMB_GNLY_TMPO
SNRPG	0.715797131	1.15E-21	Cyto_CD8.T_GZMB_GNLY_TMPO
RBM17	0.566081963	1.29E-21	Cyto_CD8.T_GZMB_GNLY_TMPO
NUP50	0.462622245	1.42E-21	Cyto_CD8.T_GZMB_GNLY_TMPO
MRPL51	0.558266088	1.69E-21	Cyto_CD8.T_GZMB_GNLY_TMPO
MED30	0.447708079	1.83E-21	Cyto_CD8.T_GZMB_GNLY_TMPO
TALDO1	0.609435611	1.84E-21	Cyto_CD8.T_GZMB_GNLY_TMPO
MCUB	0.447291089	1.96E-21	Cyto_CD8.T_GZMB_GNLY_TMPO
AKR7A2	0.484721368	2.01E-21	Cyto_CD8.T_GZMB_GNLY_TMPO
CKAP2	0.414203858	2.98E-21	Cyto_CD8.T_GZMB_GNLY_TMPO
CMC2	0.53819066	3.27E-21	Cyto_CD8.T_GZMB_GNLY_TMPO
CEP57	0.552037591	4.42E-21	Cyto_CD8.T_GZMB_GNLY_TMPO
NAA38	0.53456774	4.46E-21	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMB3	0.597895434	6.71E-21	Cyto_CD8.T_GZMB_GNLY_TMPO
OXCT1	0.370677625	7.06E-21	Cyto_CD8.T_GZMB_GNLY_TMPO
GINS4	0.258045918	7.25E-21	Cyto_CD8.T_GZMB_GNLY_TMPO
LSM3	0.560963706	9.63E-21	Cyto_CD8.T_GZMB_GNLY_TMPO
SLF2	0.33823769	1.28E-20	Cyto_CD8.T_GZMB_GNLY_TMPO
CTDSPL2	0.361459876	1.57E-20	Cyto_CD8.T_GZMB_GNLY_TMPO
RPLP1	0.467820147	2.41E-20	Cyto_CD8.T_GZMB_GNLY_TMPO
LUC7L2	0.54669046	2.73E-20	Cyto_CD8.T_GZMB_GNLY_TMPO
GUSB	0.398457245	3.36E-20	Cyto_CD8.T_GZMB_GNLY_TMPO
FDPS	0.531649615	3.43E-20	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMB8	0.657209877	3.53E-20	Cyto_CD8.T_GZMB_GNLY_TMPO
PRKDC	0.696242225	3.69E-20	Cyto_CD8.T_GZMB_GNLY_TMPO
DBI	0.653973327	4.78E-20	Cyto_CD8.T_GZMB_GNLY_TMPO
POLE3	0.466562009	5.58E-20	Cyto_CD8.T_GZMB_GNLY_TMPO
RABL6	0.437443347	6.43E-20	Cyto_CD8.T_GZMB_GNLY_TMPO
TBC1D10B	0.329032995	6.86E-20	Cyto_CD8.T_GZMB_GNLY_TMPO
AP2S1	0.571608329	9.21E-20	Cyto_CD8.T_GZMB_GNLY_TMPO
NUP210	0.411033042	9.63E-20	Cyto_CD8.T_GZMB_GNLY_TMPO
ARPC5L	0.59584475	1.06E-19	Cyto_CD8.T_GZMB_GNLY_TMPO
PBRM1	0.53500527	1.24E-19	Cyto_CD8.T_GZMB_GNLY_TMPO

C1orf35	0.344037556	1.76E-19	Cyto_CD8.T_GZMB_GNLY_TMPO
NOP56	0.528326549	1.89E-19	Cyto_CD8.T_GZMB_GNLY_TMPO
ATL3	0.318361079	2.05E-19	Cyto_CD8.T_GZMB_GNLY_TMPO
HNRNPA3	0.622769712	2.12E-19	Cyto_CD8.T_GZMB_GNLY_TMPO
SRRM1	0.611974855	2.37E-19	Cyto_CD8.T_GZMB_GNLY_TMPO
MRPS11	0.364721266	2.49E-19	Cyto_CD8.T_GZMB_GNLY_TMPO
MT2A	0.994844589	2.65E-19	Cyto_CD8.T_GZMB_GNLY_TMPO
MTHFD1	0.272794918	3.10E-19	Cyto_CD8.T_GZMB_GNLY_TMPO
UBB	0.647250419	3.29E-19	Cyto_CD8.T_GZMB_GNLY_TMPO
CCDC88A	0.29619767	3.29E-19	Cyto_CD8.T_GZMB_GNLY_TMPO
PNN	0.569001438	4.12E-19	Cyto_CD8.T_GZMB_GNLY_TMPO
ARPC5	0.632699411	4.48E-19	Cyto_CD8.T_GZMB_GNLY_TMPO
TRNAU1AP	0.392827925	5.12E-19	Cyto_CD8.T_GZMB_GNLY_TMPO
POP7	0.325810247	5.61E-19	Cyto_CD8.T_GZMB_GNLY_TMPO
POU2F1	0.298851626	8.06E-19	Cyto_CD8.T_GZMB_GNLY_TMPO
REV3L	0.435087096	8.84E-19	Cyto_CD8.T_GZMB_GNLY_TMPO
DPM2	0.325316262	1.06E-18	Cyto_CD8.T_GZMB_GNLY_TMPO
SHMT2	0.310284229	1.11E-18	Cyto_CD8.T_GZMB_GNLY_TMPO
LSM2	0.512519832	1.24E-18	Cyto_CD8.T_GZMB_GNLY_TMPO
PHF5A	0.314909932	1.92E-18	Cyto_CD8.T_GZMB_GNLY_TMPO
RBX1	0.583366787	2.02E-18	Cyto_CD8.T_GZMB_GNLY_TMPO
RUVBL2	0.279928293	2.16E-18	Cyto_CD8.T_GZMB_GNLY_TMPO
TCERG1	0.391259363	2.18E-18	Cyto_CD8.T_GZMB_GNLY_TMPO
HMGN3	0.556219694	2.35E-18	Cyto_CD8.T_GZMB_GNLY_TMPO
SH3GLB2	0.341270748	2.58E-18	Cyto_CD8.T_GZMB_GNLY_TMPO
COMMD4	0.43839023	2.65E-18	Cyto_CD8.T_GZMB_GNLY_TMPO
TMEM107	0.319139446	3.02E-18	Cyto_CD8.T_GZMB_GNLY_TMPO
NIBAN1	0.393739134	3.37E-18	Cyto_CD8.T_GZMB_GNLY_TMPO
NFATC2IP	0.453638561	4.11E-18	Cyto_CD8.T_GZMB_GNLY_TMPO
BAX	0.632287372	4.12E-18	Cyto_CD8.T_GZMB_GNLY_TMPO
TDP1	0.270272375	4.52E-18	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMB2	0.57745863	5.52E-18	Cyto_CD8.T_GZMB_GNLY_TMPO
KIF2A	0.468509589	9.00E-18	Cyto_CD8.T_GZMB_GNLY_TMPO
CASP2	0.28066097	9.87E-18	Cyto_CD8.T_GZMB_GNLY_TMPO
GGCT	0.291427298	1.26E-17	Cyto_CD8.T_GZMB_GNLY_TMPO
ACAT2	0.362234874	1.30E-17	Cyto_CD8.T_GZMB_GNLY_TMPO
TAF1B	0.275843721	1.62E-17	Cyto_CD8.T_GZMB_GNLY_TMPO
ACTL6A	0.27617809	2.08E-17	Cyto_CD8.T_GZMB_GNLY_TMPO
PRDX3	0.394959025	2.19E-17	Cyto_CD8.T_GZMB_GNLY_TMPO
DBF4	0.40315451	2.20E-17	Cyto_CD8.T_GZMB_GNLY_TMPO
SNRPD3	0.482744947	2.46E-17	Cyto_CD8.T_GZMB_GNLY_TMPO
POP4	0.351512984	3.89E-17	Cyto_CD8.T_GZMB_GNLY_TMPO
LRRFIP1	0.664266068	4.58E-17	Cyto_CD8.T_GZMB_GNLY_TMPO
RPA2	0.432695692	4.94E-17	Cyto_CD8.T_GZMB_GNLY_TMPO
SPATS2	0.268029164	5.44E-17	Cyto_CD8.T_GZMB_GNLY_TMPO
SET	0.65932374	5.53E-17	Cyto_CD8.T_GZMB_GNLY_TMPO
UBALD2	0.687476583	6.38E-17	Cyto_CD8.T_GZMB_GNLY_TMPO
BLOC1S1	0.516347691	6.80E-17	Cyto_CD8.T_GZMB_GNLY_TMPO
VBP1	0.407547333	8.06E-17	Cyto_CD8.T_GZMB_GNLY_TMPO
TPR	0.597396899	9.55E-17	Cyto_CD8.T_GZMB_GNLY_TMPO
NUMA1	0.392843119	9.71E-17	Cyto_CD8.T_GZMB_GNLY_TMPO
EIF2S2	0.490393954	9.73E-17	Cyto_CD8.T_GZMB_GNLY_TMPO
STAG2	0.535546176	1.22E-16	Cyto_CD8.T_GZMB_GNLY_TMPO
GLIPR2	0.402654519	1.36E-16	Cyto_CD8.T_GZMB_GNLY_TMPO
MRPL11	0.408372944	1.43E-16	Cyto_CD8.T_GZMB_GNLY_TMPO
MRPS16	0.312546197	1.86E-16	Cyto_CD8.T_GZMB_GNLY_TMPO
FAM76B	0.320060282	1.99E-16	Cyto_CD8.T_GZMB_GNLY_TMPO
UBE2I	0.553227394	2.32E-16	Cyto_CD8.T_GZMB_GNLY_TMPO
MTF2	0.442826228	2.45E-16	Cyto_CD8.T_GZMB_GNLY_TMPO
PARP1	0.480060041	2.78E-16	Cyto_CD8.T_GZMB_GNLY_TMPO
HAUS4	0.255189976	2.79E-16	Cyto_CD8.T_GZMB_GNLY_TMPO
CLIC1	0.508820049	2.82E-16	Cyto_CD8.T_GZMB_GNLY_TMPO
PGAM1	0.490895811	3.06E-16	Cyto_CD8.T_GZMB_GNLY_TMPO
ANKRD36C	0.38587672	3.15E-16	Cyto_CD8.T_GZMB_GNLY_TMPO

DAZAP1	0.434357025	3.36E-16	Cyto_CD8.T_GZMB_GNLY_TMPO
YBX1	0.559467037	3.40E-16	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMA4	0.538165347	3.41E-16	Cyto_CD8.T_GZMB_GNLY_TMPO
DCAF7	0.41270428	3.78E-16	Cyto_CD8.T_GZMB_GNLY_TMPO
CCDC28B	0.434042327	4.19E-16	Cyto_CD8.T_GZMB_GNLY_TMPO
PRIM2	0.271315438	5.55E-16	Cyto_CD8.T_GZMB_GNLY_TMPO
PMM1	0.290771471	6.13E-16	Cyto_CD8.T_GZMB_GNLY_TMPO
SARNP	0.395535991	6.88E-16	Cyto_CD8.T_GZMB_GNLY_TMPO
FAF1	0.318801931	6.93E-16	Cyto_CD8.T_GZMB_GNLY_TMPO
BRD7	0.449930739	8.41E-16	Cyto_CD8.T_GZMB_GNLY_TMPO
EXOSC9	0.319576145	8.49E-16	Cyto_CD8.T_GZMB_GNLY_TMPO
PDCD5	0.461249303	9.00E-16	Cyto_CD8.T_GZMB_GNLY_TMPO
SEPTIN7	0.529280761	1.02E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
PLP2	0.702673982	1.06E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
ACTB	0.789950548	1.31E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
WDR54	0.324377131	1.32E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
SNRNP25	0.298555572	1.40E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
ITGAE	0.386532907	1.48E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
SRSF4	0.495949084	1.57E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
GLRX5	0.39418022	1.99E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
NELFE	0.34874018	2.06E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
HSPA14.1	0.260857291	2.42E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
PAFAH1B3	0.30049927	2.44E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
SF3B2	0.57667271	2.47E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
COX5A	0.600049342	2.54E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
CALM2	0.555317927	3.06E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
SUGP2	0.363096656	4.39E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
LINC00342	0.447861621	4.49E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
CHCHD2	0.579636639	4.79E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
DNAJC8	0.491975213	5.31E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
CTNNBIP1	0.278379272	5.36E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMG2	0.420145355	6.74E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
ISY1	0.370163021	7.10E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
SLFN13	0.409630392	7.20E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
SPINDOC	0.256596801	8.16E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
ILKAP	0.391276853	8.49E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
SNHG6	0.619415375	8.60E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
ARL6IP6	0.346391991	8.94E-15	Cyto_CD8.T_GZMB_GNLY_TMPO
SF3B3	0.274972966	1.09E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
TPI1	0.712302889	1.22E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
SAP30	0.418464264	1.31E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
MAGOH	0.476861223	1.54E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
PMVK	0.344565926	1.55E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
STRN	0.306119394	1.78E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
RBBP4	0.450576539	2.10E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
STAG1	0.336889969	2.12E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
PGP	0.371166547	2.15E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
ATP5MG	0.477394332	2.44E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
RIF1	0.421089687	2.50E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMA1	0.46168848	2.93E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
HIST1H2BG	0.328400769	3.28E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
MTHFD2	0.363555204	3.37E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
COX6A1	0.524325248	3.64E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
ZFP91	0.443818653	3.66E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
PRRC2A	0.326610174	3.88E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
RPLP0	0.555983462	3.97E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
TRIM28	0.373129156	4.41E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
ILF3	0.429319251	5.20E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
NDUFS6	0.481253863	5.62E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
TPP2	0.310166929	5.75E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
NDUFA7	0.419515633	6.01E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
HNRNPUL1	0.416820795	6.51E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
DDX46	0.478696701	6.53E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
PDIA6	0.467328634	6.64E-14	Cyto_CD8.T_GZMB_GNLY_TMPO

ACP1	0.449985031	7.84E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
YWHAQ	0.46060331	7.93E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
CORO1A	0.627396464	8.42E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
DHX15	0.358193375	8.89E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
ARPC2	0.463391685	8.95E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
PPIH	0.377374203	9.02E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
RAB5IF	0.537278728	9.13E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
TXLNA	0.278940812	9.70E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
TMEM18	0.322606488	9.90E-14	Cyto_CD8.T_GZMB_GNLY_TMPO
KHDRBS1	0.466225215	1.01E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
CLTA	0.428530795	1.22E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
NDUFA2	0.427983836	1.26E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
CEP78	0.3517265	1.26E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
COX6C	0.503778267	1.34E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
HMGA1	0.462724491	1.36E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
SMS	0.38963061	1.52E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
TFDP2	0.378672172	1.80E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
HDAC1	0.434260906	1.88E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
SEPHS1	0.251978062	2.09E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
RBMX	0.439146296	2.17E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
ENO1	0.644783719	2.44E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
CCDC14	0.265882679	2.52E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
TMEM238	0.422641416	3.03E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
UQCC2	0.353731368	3.15E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
HDGF	0.415388823	3.18E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
N4BP2	0.294894719	4.32E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
COTL1	0.994018884	4.40E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
PPDPF	0.584843982	4.87E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
AHI1	0.395380618	4.91E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
GANAB	0.290086321	4.99E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
EIF4A3	0.498087895	5.17E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
RAC2	0.568303074	5.26E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
GSTO1	0.446494367	5.31E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
SRPK1	0.376433353	5.82E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
SUDS3	0.327863083	6.10E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
TIPRL	0.374613286	6.66E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
ANAPC15	0.279061241	7.88E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
RHOA	0.507465332	8.03E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
TPM3	0.5260731	8.51E-13	Cyto_CD8.T_GZMB_GNLY_TMPO
POLD2	0.263725732	1.30E-12	Cyto_CD8.T_GZMB_GNLY_TMPO
YPEL1	0.258641712	1.50E-12	Cyto_CD8.T_GZMB_GNLY_TMPO
NDUFB1	0.470876675	1.59E-12	Cyto_CD8.T_GZMB_GNLY_TMPO
LDHB	0.574702953	1.84E-12	Cyto_CD8.T_GZMB_GNLY_TMPO
TMEM242	0.278736885	2.01E-12	Cyto_CD8.T_GZMB_GNLY_TMPO
ATP5MC3	0.484580591	2.54E-12	Cyto_CD8.T_GZMB_GNLY_TMPO
ZNF524	0.27175822	2.55E-12	Cyto_CD8.T_GZMB_GNLY_TMPO
ODF2	0.251056085	3.28E-12	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMD2	0.370329002	3.55E-12	Cyto_CD8.T_GZMB_GNLY_TMPO
TMUB1	0.359806547	3.95E-12	Cyto_CD8.T_GZMB_GNLY_TMPO
ELP6	0.256534869	4.45E-12	Cyto_CD8.T_GZMB_GNLY_TMPO
HPF1	0.282306058	5.09E-12	Cyto_CD8.T_GZMB_GNLY_TMPO
THOC2	0.400310033	5.16E-12	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMD8	0.452147359	5.50E-12	Cyto_CD8.T_GZMB_GNLY_TMPO
NDUFV1	0.348053136	5.71E-12	Cyto_CD8.T_GZMB_GNLY_TMPO
NAP1L4	0.441469695	6.12E-12	Cyto_CD8.T_GZMB_GNLY_TMPO
IMPDH2	0.286114844	7.19E-12	Cyto_CD8.T_GZMB_GNLY_TMPO
TESC	0.430988155	7.72E-12	Cyto_CD8.T_GZMB_GNLY_TMPO
SNRNP40	0.366509798	1.12E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
USP39	0.250733074	1.13E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
BUD31	0.422319633	1.15E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
SRP9	0.449200767	1.30E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
RPS6KA5	0.301152911	1.34E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
SNRPA1	0.382556688	1.35E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
LCP1	0.575992176	1.39E-11	Cyto_CD8.T_GZMB_GNLY_TMPO

CGAS	0.291868811	1.46E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
UFD1	0.377918727	1.57E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
KPNA2	0.509240766	1.63E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
GPAA1	0.343597187	1.63E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
MRPL37	0.265214653	1.64E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
SCCPDH	0.26896477	1.65E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
RPL26L1	0.259857286	1.68E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMD14	0.345017986	1.77E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
NDUFAF3	0.430038175	1.85E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
TES	0.399268995	1.97E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
UPF3B	0.364193946	2.35E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
PSME2	0.55843364	2.48E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
TBC1D15	0.277770936	2.50E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
RBBP6	0.416426808	2.98E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMD7	0.357377747	3.09E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
UBA2	0.35839734	3.13E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
NCBP3	0.328048649	3.19E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
EIF5A	0.521642659	3.19E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
PDS5A	0.315545564	3.53E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
MRPL23	0.327227369	3.89E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
HLA-DRB5	0.714316112	4.02E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
STK39	0.318145932	4.16E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
TMEM181	0.285644079	4.31E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
PIGX	0.298823216	4.77E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
TXN2	0.332599291	5.75E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
DDT	0.46730629	6.56E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
NDUFC2	0.411249859	6.98E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
TRAPPC1	0.389648208	7.73E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
DCP2	0.383290171	8.53E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
ELP5	0.321091134	9.86E-11	Cyto_CD8.T_GZMB_GNLY_TMPO
ATG3	0.398354444	1.11E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
SLC9A3R1	0.469728478	1.16E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
SREK1	0.349020269	1.17E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
ZNF207	0.406724056	1.28E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
ARPP19	0.343885038	1.29E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
SASH3	0.364510503	1.31E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
TXNDC17	0.404812902	1.36E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
NUBP2	0.300317483	1.47E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
ITGB1	0.517114978	1.86E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
SNRPA	0.31101815	1.89E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
IER3IP1	0.334897218	1.98E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
ATXN2L	0.35186345	2.04E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
LSM7	0.463704482	2.11E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
SMC5	0.368817579	2.53E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
MRPL16	0.254749039	2.78E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
PPIG	0.404059137	2.82E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
ING2	0.274677545	2.82E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
BTG3	0.5087908	3.15E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
ELAVL1	0.300986023	3.95E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
HNRNPA1	0.441098597	4.27E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
USP48	0.315909193	4.43E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
RAC1	0.391767397	4.58E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
SEPTIN6	0.450627239	4.99E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
IQGAP1	0.480150696	5.09E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
RAB8A	0.409784798	5.12E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
PRPF38A	0.358234651	5.30E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMA6	0.489563453	5.35E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
PHB2	0.368610548	5.93E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
DCPS	0.251541696	6.47E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
AP1S2	0.293747724	6.50E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
PPIL3	0.261185924	6.68E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
CHD4	0.469169581	6.95E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
APIP	0.251162322	7.42E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
UBE2A	0.379382587	7.92E-10	Cyto_CD8.T_GZMB_GNLY_TMPO

TNFSF10	0.417885157	7.99E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
PRPF40A	0.382484613	8.09E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
NUP58	0.27649579	8.91E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
HNRNPL	0.331494495	8.93E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
PTBP1	0.333292166	9.44E-10	Cyto_CD8.T_GZMB_GNLY_TMPO
ATP5F1B	0.428229285	1.05E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
MAPRE1	0.348433611	1.16E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
CCT6A	0.36813911	1.20E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
DDX23	0.260605393	1.25E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
ARID1A	0.372068556	1.32E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
MRPL54	0.377599485	1.52E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
SEPTIN11	0.333162239	1.57E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
ATP5F1D	0.400275303	1.64E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
TPGS2	0.269869237	1.70E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
APPL1	0.326245453	1.70E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
NDUFB10	0.424124251	1.72E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
CISD2	0.301902143	1.92E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
ELOC	0.372873902	1.94E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
HES6	0.28271744	2.12E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
SFPQ	0.418315115	2.24E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
FABP5	0.602665589	2.25E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
CKLF	0.438821795	2.31E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
NTAN1	0.254171952	2.36E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
RAB1B	0.310762768	2.37E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
MEA1	0.34456013	2.66E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
ABCF1	0.379524295	3.20E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
NELFB	0.262842071	3.25E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
SPN	0.446226249	3.37E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
PDLIM1	0.344565926	3.57E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
DESI2	0.304964128	3.93E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
RAB11A	0.309599999	3.96E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
DCXR	0.511419697	4.08E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
RRP7A	0.26835727	4.99E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
TMEM258	0.368875067	5.17E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
PYCR2	0.290862306	5.17E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
SNRNP27	0.277951534	5.57E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
PPP4C	0.379646522	5.58E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
MRPS18C	0.288788406	5.58E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
PCM1	0.385872004	6.18E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
TAF3	0.289442788	6.21E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
KMT5A	0.300324069	6.36E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
ATP5F1C	0.371114063	6.57E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
SNX5	0.330204837	6.64E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
PRPF3	0.253820036	6.94E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
NDUFS8	0.351389055	7.38E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
STAT1	0.369550777	7.54E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
CDK11B	0.258276688	8.00E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
PKM	0.462557012	8.37E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
TRIR	0.378466439	8.57E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
SMARCA4	0.291731288	8.81E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
LARP7	0.294585946	9.64E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
MED6	0.274379592	9.82E-09	Cyto_CD8.T_GZMB_GNLY_TMPO
RFC1	0.309324168	1.00E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
NDUFB3	0.359580787	1.03E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
PAXX	0.442803637	1.05E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
MRPL52	0.361112907	1.06E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
SPTBN1	0.336523344	1.10E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
EMC8	0.25637999	1.27E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
CACYBP	0.321543954	1.34E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
RPS27L	0.482998276	1.36E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
MBD4	0.342761706	1.39E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
KHSRP	0.288036503	1.41E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
SNRPC	0.312370818	1.49E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMB6	0.417691638	1.49E-08	Cyto_CD8.T_GZMB_GNLY_TMPO

IMMT	0.27668556	1.59E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
MRPL13	0.263069012	1.67E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
BOLA3	0.277116538	1.77E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
ANKLE2	0.278355005	1.86E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
UCP2	0.412842766	1.92E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMC1	0.28411662	1.94E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
NUP62	0.262527182	1.98E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
USP22	0.285844931	2.10E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
KATNBL1	0.281117294	2.12E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
RBM25	0.404611524	2.35E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
NDUFAB1	0.358204914	2.62E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
UQCRQ	0.402238105	2.79E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
SMCHD1	0.341616637	3.01E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
DDX39B	0.363050836	3.47E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
RBM27	0.312144317	3.53E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMD1	0.291989865	3.54E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
RALBP1	0.314243073	3.77E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
NCL	0.512715208	3.86E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
HLA-DRA	0.619373925	3.86E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
RTRAF	0.382558677	3.91E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
ACAA2	0.373289329	3.96E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
EED	0.25105754	4.31E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
CYC1	0.368284393	4.72E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
SERBP1	0.43701912	4.76E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
TRIAP1	0.258962036	4.97E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
CREB1	0.408540063	5.12E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
TIMM10	0.264483476	5.75E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
GTF2F1	0.255587108	6.07E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
ATP2A3	0.276833662	6.29E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
RBM22	0.312162925	6.33E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
SF3B6	0.322912534	6.46E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
TOMM5	0.391284037	6.87E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
HNRNPM	0.401397887	7.03E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
TLN1	0.390975669	7.23E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
S100A10	0.549400617	7.66E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
UQCRH	0.384122917	8.25E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
LDHA	0.481701406	8.63E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
GZMA	0.454945479	8.83E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
HIVEP1	0.266305333	9.49E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
CDKN1A	0.348538499	9.92E-08	Cyto_CD8.T_GZMB_GNLY_TMPO
FKBP3	0.289315132	1.09E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
VPS29	0.3321965	1.10E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
TFAM	0.299336657	1.12E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
RBM8A	0.352560407	1.13E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
TACC1	0.327982668	1.17E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
FKBP5	0.30510616	1.19E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
WAS	0.333030636	1.23E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
RUNX3	0.47377843	1.28E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
EWSR1	0.310036408	1.32E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
SPCS3	0.381776914	1.34E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
GMFG	0.416754192	1.45E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
FIBP	0.293119515	1.46E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
PNKD	0.277275547	1.47E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
TP53I13	0.253781483	1.49E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
PARK7	0.385219092	1.65E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
APOBEC3G	0.438276681	1.69E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
USP14	0.283775016	1.71E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
TRAPPC2L	0.267085509	1.97E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
TMOD3	0.306148169	1.97E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
RAD23A	0.336180521	2.07E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
FUBP1	0.280277804	2.10E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
SUMO3	0.313930547	2.18E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
DOCK8	0.313864428	2.82E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
C12orf65	0.265535598	2.86E-07	Cyto_CD8.T_GZMB_GNLY_TMPO

VDAC2	0.317039083	3.03E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
ZFAND2B	0.284848767	3.32E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
NDUFA6	0.359230007	3.34E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
DAXX	0.263099674	3.45E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
BCLAF1	0.330317315	3.56E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
PAXBP1	0.253572938	3.73E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
RASSF1	0.322271427	4.55E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
SMARCD1	0.253746772	4.71E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
IFI27L2	0.300115524	4.82E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
WDR1	0.339646367	5.01E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
UBXN4	0.348263743	5.41E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
IPO7	0.254791533	5.54E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
SRSF1	0.318245977	5.71E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
GMCL1	0.268036993	5.72E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
CNOT1	0.257932253	5.86E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
ZC3H18	0.272261467	5.88E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
PCBP1	0.34811128	6.55E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
LRRC59	0.271682285	7.02E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMB1	0.393946212	7.84E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
SLC25A11	0.25750903	7.84E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
RNF167	0.327960632	8.10E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
LSM6	0.267533555	8.17E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
SH2D1A	0.453986017	8.21E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMC5	0.296879759	8.22E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
PRPF8	0.306380536	8.63E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
MPC2	0.310093608	8.68E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
TP53	0.251426406	8.72E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
MYO1G	0.307513217	8.83E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
COPE	0.325574195	9.01E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
ITGB1BP1	0.288240456	9.19E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
ILK	0.285639219	9.50E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
UBE2D2	0.349019006	9.56E-07	Cyto_CD8.T_GZMB_GNLY_TMPO
ANAPC5	0.302869174	1.04E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
LEO1	0.25434214	1.04E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
SLC25A3	0.348094108	1.10E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMA7	0.403335944	1.30E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
MRPL57	0.355530872	1.33E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
UBN1	0.283439303	1.38E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
DECR1	0.286055657	1.47E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
CHRAC1	0.266644172	1.60E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
UQCRC1	0.259927987	1.61E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
ATP5MF	0.41615711	1.64E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
SNRNP200	0.331728762	1.66E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
TECR	0.269841183	1.67E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
OSBPL8	0.301482758	1.69E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
SEC11A	0.31505748	1.70E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
RTF1	0.277910425	1.71E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
SNX10	0.294628246	1.74E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
ARL6IP4	0.355365803	1.99E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
DGUOK	0.283465936	2.10E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
MDH1	0.323084557	2.36E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
ATP5PB	0.293362229	2.82E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMA2	0.40536345	2.83E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
HNRNPA0	0.350322333	3.03E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
POLR2A	0.331689551	3.22E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
MYL12B	0.347776822	3.27E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
ADD3	0.35342856	3.31E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
TMSB10	0.357512969	3.88E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
SMARCE1	0.280889319	4.00E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
HADHA	0.27249852	4.14E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
NDUFS3	0.275819286	4.54E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
NSD3	0.325801546	4.72E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
LUC7L3	0.355449907	4.74E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
NDUFA4	0.372647844	4.93E-06	Cyto_CD8.T_GZMB_GNLY_TMPO

XRCC6	0.308628877	5.43E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
DNAJC1	0.362516197	5.59E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
GSTP1	0.746111591	5.73E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
ANP32A	0.382081222	6.13E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
SRSF11	0.358284752	6.25E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
POLR2G	0.30675346	6.39E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
RNF126	0.292243873	6.64E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
GRK6	0.266767683	6.69E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
SEM1	0.336909363	6.75E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
CEP350	0.328227067	6.81E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
DIAPH1	0.382668317	7.32E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
PARP14	0.330457802	7.68E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
IDH3G	0.27863286	7.91E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
ANXA5	0.434109962	8.01E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
MT-ND6	0.304595707	8.24E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
ADRM1	0.343258282	8.72E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
MIEN1	0.283754359	9.60E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
TRDC	0.701672149	9.76E-06	Cyto_CD8.T_GZMB_GNLY_TMPO
EIF4E2	0.251020974	1.02E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
TPM4	0.35696272	1.07E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
AKT1	0.275796778	1.10E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
SNRPE	0.357173268	1.29E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
ZC3H13	0.313599229	1.31E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
STX11	0.327391424	1.36E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
ARHGDIA	0.321021324	1.38E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
CCT8	0.330859047	1.42E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
SRRT	0.258188918	1.42E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
PCMT1	0.301951757	1.49E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
PABPN1	0.290777659	1.52E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
PHIP	0.320247019	1.59E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
KRT10	0.286704096	1.62E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
SMARCC1	0.257592548	1.67E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
RAB27A	0.275964991	1.77E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
COX7A2	0.35447441	2.04E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
LMF2	0.255581106	2.22E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
PPP1CC	0.259172633	2.22E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMB10	0.346654052	2.35E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMA3	0.321467358	2.35E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
C1orf21	0.31807476	2.54E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMA5	0.329005621	2.60E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
HIPK1	0.285243269	2.70E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
NDUFA12	0.350603515	2.71E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
CHD3	0.279598868	3.10E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
ATP5PF	0.352421567	3.38E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
SPAG9	0.282225491	3.56E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMB4	0.305173003	3.65E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
CCAR1	0.277875707	3.71E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
COX17	0.327227369	3.88E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
EIF2S3	0.282562239	3.91E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
ATP5PO	0.296171114	3.96E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
GBP4	0.373167501	4.00E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
ARPC3	0.304998192	4.01E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
CNPY3	0.277099898	4.24E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
RSRC2	0.289194237	4.49E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
GNB2	0.332879821	4.74E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
CTDSP1	0.254677129	4.75E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
NUDT5	0.277391758	5.52E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
RPSA	0.314744126	5.67E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
GNAI2	0.339168788	5.75E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
ATP5F1A	0.283537822	6.01E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
RNPS1	0.323703372	6.02E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
ABRACL	0.359245441	6.33E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
SNW1	0.256678094	6.58E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
MAP2K3	0.25723985	7.28E-05	Cyto_CD8.T_GZMB_GNLY_TMPO

NBN	0.257418596	7.31E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
STOML2	0.277275547	7.54E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
PITHD1	0.29682055	8.28E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
C1D	0.258966556	8.37E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
CDK2AP2	0.389344627	8.61E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
CD70	0.484096218	8.72E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
LNPEP	0.258362813	9.16E-05	Cyto_CD8.T_GZMB_GNLY_TMPO
CAPZA1	0.29498925	0.000103994	Cyto_CD8.T_GZMB_GNLY_TMPO
SRSF2	0.3530157	0.000105248	Cyto_CD8.T_GZMB_GNLY_TMPO
GTF2A2	0.270148096	0.000120533	Cyto_CD8.T_GZMB_GNLY_TMPO
NDUFV2	0.315466688	0.000121286	Cyto_CD8.T_GZMB_GNLY_TMPO
ATP5MPL	0.29024753	0.000126965	Cyto_CD8.T_GZMB_GNLY_TMPO
CCT3	0.292461951	0.000128444	Cyto_CD8.T_GZMB_GNLY_TMPO
BCL7B	0.286696928	0.000130882	Cyto_CD8.T_GZMB_GNLY_TMPO
YY1	0.313984713	0.000133443	Cyto_CD8.T_GZMB_GNLY_TMPO
NUTF2	0.276789521	0.000134026	Cyto_CD8.T_GZMB_GNLY_TMPO
EMB	0.322772548	0.000135766	Cyto_CD8.T_GZMB_GNLY_TMPO
UBE2M	0.27051056	0.000136821	Cyto_CD8.T_GZMB_GNLY_TMPO
TMEM109	0.280329896	0.000141311	Cyto_CD8.T_GZMB_GNLY_TMPO
SRP14	0.265814192	0.000149551	Cyto_CD8.T_GZMB_GNLY_TMPO
HSPA8	0.33328879	0.000151889	Cyto_CD8.T_GZMB_GNLY_TMPO
STK24	0.261862075	0.000180469	Cyto_CD8.T_GZMB_GNLY_TMPO
CCT5	0.287370962	0.000186244	Cyto_CD8.T_GZMB_GNLY_TMPO
STARD3NL	0.337837072	0.000187231	Cyto_CD8.T_GZMB_GNLY_TMPO
ATP5IF1	0.357103482	0.000198364	Cyto_CD8.T_GZMB_GNLY_TMPO
ANKRD10	0.261985733	0.000205663	Cyto_CD8.T_GZMB_GNLY_TMPO
MED4	0.263536725	0.000255899	Cyto_CD8.T_GZMB_GNLY_TMPO
BRK1	0.289174692	0.000257066	Cyto_CD8.T_GZMB_GNLY_TMPO
TEX264	0.276776826	0.000264604	Cyto_CD8.T_GZMB_GNLY_TMPO
TIAL1	0.252456216	0.000281351	Cyto_CD8.T_GZMB_GNLY_TMPO
MSN	0.328241363	0.000299961	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMD11	0.267575991	0.000304021	Cyto_CD8.T_GZMB_GNLY_TMPO
HNRNPK	0.28385948	0.000304147	Cyto_CD8.T_GZMB_GNLY_TMPO
TAP1	0.308189778	0.000323973	Cyto_CD8.T_GZMB_GNLY_TMPO
ACIN1	0.291031416	0.000343623	Cyto_CD8.T_GZMB_GNLY_TMPO
SVIP	0.276720259	0.000350537	Cyto_CD8.T_GZMB_GNLY_TMPO
TIFA	0.299438573	0.000381368	Cyto_CD8.T_GZMB_GNLY_TMPO
SLC20A1	0.283330939	0.000395821	Cyto_CD8.T_GZMB_GNLY_TMPO
GNAS	0.28747213	0.000417521	Cyto_CD8.T_GZMB_GNLY_TMPO
MESD	0.264144185	0.000468198	Cyto_CD8.T_GZMB_GNLY_TMPO
NDUFB11	0.329453069	0.000476392	Cyto_CD8.T_GZMB_GNLY_TMPO
S1PR4	0.27948342	0.000492232	Cyto_CD8.T_GZMB_GNLY_TMPO
HINT1	0.281786343	0.00050798	Cyto_CD8.T_GZMB_GNLY_TMPO
PTGES3	0.286500393	0.000516735	Cyto_CD8.T_GZMB_GNLY_TMPO
POMP	0.301821846	0.000517661	Cyto_CD8.T_GZMB_GNLY_TMPO
BRD2	0.324666303	0.000542427	Cyto_CD8.T_GZMB_GNLY_TMPO
HNRNPU	0.366559387	0.000568782	Cyto_CD8.T_GZMB_GNLY_TMPO
MT-CO3	0.30737517	0.000727097	Cyto_CD8.T_GZMB_GNLY_TMPO
HNRNPC	0.31700766	0.000746084	Cyto_CD8.T_GZMB_GNLY_TMPO
CSNK2B	0.317992885	0.000778583	Cyto_CD8.T_GZMB_GNLY_TMPO
PSME1	0.30310741	0.00080462	Cyto_CD8.T_GZMB_GNLY_TMPO
SSBP1	0.266812544	0.001018667	Cyto_CD8.T_GZMB_GNLY_TMPO
TXN	0.473512717	0.001086365	Cyto_CD8.T_GZMB_GNLY_TMPO
PSMB7	0.25857139	0.001115598	Cyto_CD8.T_GZMB_GNLY_TMPO
G3BP1	0.262247338	0.00123863	Cyto_CD8.T_GZMB_GNLY_TMPO
MRPS6	0.272543446	0.001295136	Cyto_CD8.T_GZMB_GNLY_TMPO
YWHAE	0.296955457	0.001316429	Cyto_CD8.T_GZMB_GNLY_TMPO
CCT2	0.28189545	0.001404302	Cyto_CD8.T_GZMB_GNLY_TMPO
NPM1	0.378761347	0.001455595	Cyto_CD8.T_GZMB_GNLY_TMPO
PRPF4B	0.261118886	0.001581937	Cyto_CD8.T_GZMB_GNLY_TMPO
AURKAIP1	0.256279615	0.001603745	Cyto_CD8.T_GZMB_GNLY_TMPO
SF3B1	0.286785571	0.001670477	Cyto_CD8.T_GZMB_GNLY_TMPO
UXT	0.270936653	0.001813072	Cyto_CD8.T_GZMB_GNLY_TMPO
SPCS2	0.267533555	0.001823659	Cyto_CD8.T_GZMB_GNLY_TMPO

WASF2	0.262163351	0.001872965	Cyto_CD8.T_GZMB_GNLY_TMPO
HIPK2	0.267767886	0.001877008	Cyto_CD8.T_GZMB_GNLY_TMPO
ARRB2	0.262658527	0.001882969	Cyto_CD8.T_GZMB_GNLY_TMPO
ATP5MC2	0.265295008	0.002044144	Cyto_CD8.T_GZMB_GNLY_TMPO
SLC38A2	0.304141972	0.002103123	Cyto_CD8.T_GZMB_GNLY_TMPO
SNHG7	0.252365306	0.002156567	Cyto_CD8.T_GZMB_GNLY_TMPO
BIN2	0.318429403	0.002194802	Cyto_CD8.T_GZMB_GNLY_TMPO
EIF3A	0.358050293	0.002232057	Cyto_CD8.T_GZMB_GNLY_TMPO
ROCK1	0.271165501	0.002535067	Cyto_CD8.T_GZMB_GNLY_TMPO
UQCR10	0.288764311	0.002553297	Cyto_CD8.T_GZMB_GNLY_TMPO
COX7B	0.271130767	0.002586938	Cyto_CD8.T_GZMB_GNLY_TMPO
OSTF1	0.269093845	0.002687872	Cyto_CD8.T_GZMB_GNLY_TMPO
SAFB	0.261558052	0.00295396	Cyto_CD8.T_GZMB_GNLY_TMPO
KLF3	0.271047993	0.003567359	Cyto_CD8.T_GZMB_GNLY_TMPO
AIP	0.296053152	0.003775684	Cyto_CD8.T_GZMB_GNLY_TMPO
NUDC	0.258910556	0.003843424	Cyto_CD8.T_GZMB_GNLY_TMPO
MT-ND4	0.268027733	0.003906405	Cyto_CD8.T_GZMB_GNLY_TMPO
RBM3	0.270060526	0.004117291	Cyto_CD8.T_GZMB_GNLY_TMPO
ANXA6	0.256159827	0.004308788	Cyto_CD8.T_GZMB_GNLY_TMPO
TCEA1	0.256298461	0.004588698	Cyto_CD8.T_GZMB_GNLY_TMPO
PMAIP1	0.270908317	0.004594397	Cyto_CD8.T_GZMB_GNLY_TMPO
BAZ1A	0.277133802	0.004930063	Cyto_CD8.T_GZMB_GNLY_TMPO
TUFM	0.263685575	0.005057672	Cyto_CD8.T_GZMB_GNLY_TMPO
MT-CYB	0.264437929	0.005400758	Cyto_CD8.T_GZMB_GNLY_TMPO
DNAJC7	0.26284547	0.005711802	Cyto_CD8.T_GZMB_GNLY_TMPO
PPP1R12A	0.277063786	0.005801602	Cyto_CD8.T_GZMB_GNLY_TMPO
SAP18	0.262764938	0.005833264	Cyto_CD8.T_GZMB_GNLY_TMPO
LY6E	0.311951703	0.005871081	Cyto_CD8.T_GZMB_GNLY_TMPO
WAC	0.258116836	0.005974767	Cyto_CD8.T_GZMB_GNLY_TMPO
BSG	0.252218518	0.00629924	Cyto_CD8.T_GZMB_GNLY_TMPO
SLC2A4RG	0.270183945	0.006642911	Cyto_CD8.T_GZMB_GNLY_TMPO
PRPF38B	0.255075067	0.007360161	Cyto_CD8.T_GZMB_GNLY_TMPO
CALM1	0.250004383	0.007594067	Cyto_CD8.T_GZMB_GNLY_TMPO
RBM26	0.263892799	0.00780141	Cyto_CD8.T_GZMB_GNLY_TMPO
SSR2	0.266769837	0.008742707	Cyto_CD8.T_GZMB_GNLY_TMPO
MAP3K8	0.334410861	0.008959553	Cyto_CD8.T_GZMB_GNLY_TMPO
RPP21	0.259836933	0.009266228	Cyto_CD8.T_GZMB_GNLY_TMPO
SUMO1	0.257272523	0.009444772	Cyto_CD8.T_GZMB_GNLY_TMPO

c.Cyto_CD8.T_RGS1

Gene symbol	avg_log2FC	p_val_adj	Upregulated group	Description	pvalue	geneID	Count
CCL4L2	1.516114392	2.69E-132	Cyto_CD8.T_RGS1	Antigen processing and presentation	1.19E-07	CD8A/CD8B/CD74/HLA-DPA1/HLA-DQA1/HLA-DRB1/HSPA8	7
CD8B	0.707420611	3.43E-91	Cyto_CD8.T_RGS1	Th1 and Th2 cell differentiation	3.74E-07	CD3D/CD3E/FOS/HLA-DPA1/HLA-DQA1/HLA-DRB1/LCK	7
CD3E	0.56174146	2.80E-83	Cyto_CD8.T_RGS1	Hematopoietic cell lineage	6.19E-07	CD3D/CD3E/CD8A/CD8B/HLA-DPA1/HLA-DQA1/HLA-DRB1	7
CCL4	1.011888595	3.48E-79	Cyto_CD8.T_RGS1	Th17 cell differentiation	1.12E-06	CD3D/CD3E/FOS/HLA-DPA1/HLA-DQA1/HLA-DRB1/LCK	7
DUSP2	0.528556696	3.34E-73	Cyto_CD8.T_RGS1	Primary immunodeficiency	1.29E-06	CD3D/CD3E/CD8A/CD8B/LCK	5
CD3D	0.478397311	7.63E-63	Cyto_CD8.T_RGS1	T cell receptor signaling pathway	1.38E-05	CD3D/CD3E/CD8A/CD8B/FOS/LCK	6
JUND	0.388401729	1.24E-54	Cyto_CD8.T_RGS1	Rheumatoid arthritis	0.000108085	FOS/HLA-DPA1/HLA-DQA1/HLA-DRB1/CCL5	5
CD8A	0.491294937	1.80E-54	Cyto_CD8.T_RGS1	Phagosome	0.000117753	ACTB/HLA-DPA1/HLA-DQA1/HLA-DRB1/TUBA4A/TUBA1A	6
GZMK	0.578533019	5.13E-52	Cyto_CD8.T_RGS1	Human T-cell leukemia virus 1 infection	0.000124649	CD3D/CD3E/FOS/HLA-DPA1/HLA-DQA1/HLA-DRB1/LCK	7
ZFP36L2	0.585546155	6.50E-52	Cyto_CD8.T_RGS1	Influenza A	0.000224485	ACTB/HLA-DPA1/HLA-DQA1/HLA-DRB1/DNAJB1/CCL5	6
SARAF	0.481852176	2.48E-51	Cyto_CD8.T_RGS1	Viral myocarditis	0.000245271	ACTB/HLA-DPA1/HLA-DQA1/HLA-DRB1	4
TRAC	0.591519897	4.34E-49	Cyto_CD8.T_RGS1	Osteoclast differentiation	0.000481595	FOS/FOSB/JUNB/JUND/LCK	5
RGCC	0.792728844	3.46E-48	Cyto_CD8.T_RGS1	Asthma	0.00052431	HLA-DPA1/HLA-DQA1/HLA-DRB1	3
IL32	0.427211654	1.44E-44	Cyto_CD8.T_RGS1	Epstein-Barr virus infection	0.000549227	CD3D/CD3E/HLA-DPA1/HLA-DQA1/HLA-DRB1/VIM	6
COTL1	0.554272244	7.70E-43	Cyto_CD8.T_RGS1	Apoptosis	0.000635552	ACTB/FOS/MCL1/TUBA4A/TUBA1A	5
ARHGDIB	0.456275044	2.59E-41	Cyto_CD8.T_RGS1	Leishmaniasis	0.000638725	FOS/HLA-DPA1/HLA-DQA1/HLA-DRB1	4
GAPDH	0.469099003	2.30E-39	Cyto_CD8.T_RGS1	Yersinia infection	0.000657121	ACTB/CD8A/CD8B/FOS/LCK	5
RPS26	0.297710153	3.77E-39	Cyto_CD8.T_RGS1	MAPK signaling pathway	0.000692266	DUSP1/DUSP2/DUSP4/DUSP5/FOS/HSPA8/JUND	7
SAMSN1	0.513920316	1.96E-37	Cyto_CD8.T_RGS1	Allograft rejection	0.000959536	HLA-DPA1/HLA-DQA1/HLA-DRB1	3
TNFSF9	0.487997105	3.55E-37	Cyto_CD8.T_RGS1	Cell adhesion molecules	0.000961079	CD8A/CD8B/HLA-DPA1/HLA-DQA1/HLA-DRB1	5
ATP5F1E	0.289107853	5.25E-37	Cyto_CD8.T_RGS1	PD-L1 expression and PD-1 checkpoint pathway in cancer	0.001101862	CD3D/CD3E/FOS/LCK	4
LAG3	0.337458325	6.92E-36	Cyto_CD8.T_RGS1	Graft-versus-host disease	0.001287134	HLA-DPA1/HLA-DQA1/HLA-DRB1	3

LEPROTL1	0.533235703	2.11E-35	Cyto_CD8.T_RGS1	Type I diabetes mellitus	0.001378707	HLA-DPA1/HLA-DQA1/HLA-DRB1	3
VIM	0.449415916	4.99E-35	Cyto_CD8.T_RGS1	Chagas disease	0.001826878	CD3D/CD3E/FOS/CCL5	4
HLA-DRB1	0.350357007	3.75E-33	Cyto_CD8.T_RGS1	Toll-like receptor signaling pathway	0.001962018	FOS/CCL4/CCL5/CCL4L2	4
UBC	0.344847852	4.36E-32	Cyto_CD8.T_RGS1	Intestinal immune network for IgA production	0.002014421	HLA-DPA1/HLA-DQA1/HLA-DRB1	3
ITM2A	0.444493498	5.08E-32	Cyto_CD8.T_RGS1	Autoimmune thyroid disease	0.002524831	HLA-DPA1/HLA-DQA1/HLA-DRB1	3
TRBC2	0.582184215	7.44E-32	Cyto_CD8.T_RGS1	Toxoplasmosis	0.002572221	HLA-DPA1/HLA-DQA1/HLA-DRB1/HSPA8	4
HLA-DQA1	0.37240594	1.36E-29	Cyto_CD8.T_RGS1	Pathogenic Escherichia coli infection	0.003289687	ACTB/FOS/GAPDH/TUBA4A/TUBA1A	5
DUSP5	0.546523432	4.40E-29	Cyto_CD8.T_RGS1	Cytokine-cytokine receptor interaction	0.003821411	CCL4/CCL5/TNFSF9/IL32/CCL4L2/CXCR6	6
CCL5	0.300196965	4.72E-29	Cyto_CD8.T_RGS1	Cytosolic DNA-sensing pathway	0.004129356	CCL4/CCL5/CCL4L2	3
CXCR6	0.483824097	9.25E-28	Cyto_CD8.T_RGS1	Inflammatory bowel disease	0.004509668	HLA-DPA1/HLA-DQA1/HLA-DRB1	3
DUSP4	0.311200323	8.32E-27	Cyto_CD8.T_RGS1	Measles	0.005577136	CD3D/CD3E/FOS/HSPA8	4
OAZ1	0.284749377	1.54E-26	Cyto_CD8.T_RGS1	PPAR signaling pathway	0.006726578	APOA2/FABP5/UBC	3
APOA2	0.465729288	7.75E-26	Cyto_CD8.T_RGS1	Salmonella infection	0.008806013	ACTB/FOS/GAPDH/TUBA4A/TUBA1A	5
FABP5	0.42488134	5.27E-23	Cyto_CD8.T_RGS1	Parkinson disease	0.011516845	ATP5F1E/DUSP1/TUBA4A/UBC/TUBA1A	5
ACTB	0.2830964	1.79E-22	Cyto_CD8.T_RGS1	IL-17 signaling pathway	0.012477768	FOS/FOSB/JUND	3
CD74	0.352143707	3.11E-22	Cyto_CD8.T_RGS1	Prion disease	0.012783337	ATP5F1E/HSPA8/CCL5/TUBA4A/TUBA1A	5
HLA-DPA1	0.266269985	6.53E-21	Cyto_CD8.T_RGS1	Staphylococcus aureus infection	0.013205887	HLA-DPA1/HLA-DQA1/HLA-DRB1	3
LIME1	0.277222202	5.42E-20	Cyto_CD8.T_RGS1	Tuberculosis	0.013602521	CD74/HLA-DPA1/HLA-DQA1/HLA-DRB1	4
DNAJB1	0.399542672	3.07E-17	Cyto_CD8.T_RGS1	Viral protein interaction with cytokine and cytokine receptor	0.014734065	CCL4/CCL5/CCL4L2	3
FTH1	0.310430013	8.37E-17	Cyto_CD8.T_RGS1	NF-kappa B signaling pathway	0.01635885	LCK/CCL4/CCL4L2	3
S100A6	0.282144947	3.20E-16	Cyto_CD8.T_RGS1	Chemokine signaling pathway	0.016878476	CCL4/CCL5/CCL4L2/CXCR6	4
HSPA8	0.293198754	1.06E-15	Cyto_CD8.T_RGS1	Parathyroid hormone synthesis, secretion and action	0.017207689	FOS/JUND/NR4A2	3
JUNB	0.326868672	4.67E-15	Cyto_CD8.T_RGS1	TNF signaling pathway	0.019900789	FOS/JUNB/CCL5	3
ELF1	0.280677818	7.88E-14	Cyto_CD8.T_RGS1	Systemic lupus erythematosus	0.032884011	HLA-DPA1/HLA-DQA1/HLA-DRB1	3
MCL1	0.31771856	2.70E-13	Cyto_CD8.T_RGS1	Fluid shear stress and atherosclerosis	0.034754986	ACTB/DUSP1/FOS	3
DUSP1	0.302790558	3.07E-13	Cyto_CD8.T_RGS1	Herpes simplex virus 1 infection	0.040503984	CD74/HLA-DPA1/HLA-DQA1/HLA-DRB1/CCL5/ZNF331	6
ANXA1	0.485122804	3.43E-13	Cyto_CD8.T_RGS1	Amphetamine addiction	0.049348315	FOS/FOSB	2
ZNF331	0.308672758	3.89E-13	Cyto_CD8.T_RGS1				
YPEL5	0.287180137	3.17E-12	Cyto_CD8.T_RGS1				
NR4A2	0.250473896	3.51E-12	Cyto_CD8.T_RGS1				
ALOX5AP	0.260449832	6.88E-12	Cyto_CD8.T_RGS1				
KLF6	0.36354329	7.75E-12	Cyto_CD8.T_RGS1				
TUBA1A	0.262752151	2.12E-11	Cyto_CD8.T_RGS1				
FOS	0.501357224	3.86E-11	Cyto_CD8.T_RGS1				
FOSB	0.312289777	7.46E-11	Cyto_CD8.T_RGS1				
LCK	0.262696182	7.63E-11	Cyto_CD8.T_RGS1				
DDX24	0.259238004	4.12E-10	Cyto_CD8.T_RGS1				
TUBA4A	0.312940534	3.20E-09	Cyto_CD8.T_RGS1				
TRBC1	0.470255649	3.16E-08	Cyto_CD8.T_RGS1				

d.Cyto_CD8.T_XCL1

Gene symbol	avg_log2FC	p_val_adj	Upregulated group	Description	pvalue	geneID	Count
XCL1	2.318865593	0	Cyto_CD8.T_XCL1	Natural killer cell mediated cytotoxicity	2.76E-09	CASP3/CD247/CSF2/FCER1G/ICAM1/IFNG/KLRC1/KLRC3/KLRD1/SH2D1A/PIK3R1/TYROBP/TNFSF10	13
XCL2	1.539118188	0	Cyto_CD8.T_XCL1	TNF signaling pathway	5.59E-08	BIRC2/CASP3/MAP3K8/CSF2/FOS/ICAM1/IRF1/LTA/NFKB1/NFKBIA/PIK3R1	11
FCER1G	1.154651593	0	Cyto_CD8.T_XCL1	Apoptosis	4.13E-07	BIRC2/BCL2A1/CASP3/FOS/GADD45B/NFKB1/NFKBIA/PIK3R1/TNFSF10/BCL2L11/CYCS	11
GSTP1	1.08861014	0	Cyto_CD8.T_XCL1	Fluid shear stress and atherosclerosis	5.15E-07	DUSP1/FOS/GSTP1/HSP90AB1/ICAM1/IFNG/NFE2L2/NFKB1/PIK3R1/HSP90B1/SQSTM1	11
GZMK	1.08561497	0	Cyto_CD8.T_XCL1	Lipid and atherosclerosis	1.00E-06	CASP3/FOS/HSP90AB1/HSPD1/ICAM1/NFE2L2/NFKB1/NFKBIA/PIK3R1/CCL3/HSP90B1/TNFSF10/CYCS	13
TYROBP	0.98789323	0	Cyto_CD8.T_XCL1	IL-17 signaling pathway	1.21E-06	CASP3/CSF2/FOS/HSP90AB1/IFNG/JUND/NFKB1/NFKBIA/HSP90B1	9
CD7	0.884089603	0	Cyto_CD8.T_XCL1	NF-kappa B signaling pathway	2.84E-06	BIRC2/BCL2A1/ICAM1/LTA/GADD45B/NFKB1/NFKBIA/CCL4/TNFSF14	9
B3GNT7	0.545979568	0	Cyto_CD8.T_XCL1	Colorectal cancer	6.08E-06	AREG/CASP3/FOS/GADD45B/PIK3R1/TCF7/BCL2L11/CYCS	8
TRDC	0.840600764	1.31E-286	Cyto_CD8.T_XCL1	Acute myeloid leukemia	1.10E-05	BCL2A1/CSF2/NFKB1/PIK3R1/TCF7/ZBTB16/PIM2	7
LAT2	0.610939726	4.50E-261	Cyto_CD8.T_XCL1	Kaposi sarcoma-associated herpesvirus infection	1.35E-05	CASP3/CSF2/FOS/ICAM1/NFKB1/NFKBIA/PIK3R1/TCF7/UBB/ZFP36/CYCS	11
KLRC1	0.800742989	2.43E-259	Cyto_CD8.T_XCL1	Osteoclast differentiation	1.57E-05	FOS/FOSL2/IFNG/JUND/NFKB1/NFKBIA/PIK3R1/TYROBP/SQSTM1	9

CD81	0.635309696	5.46E-218	Cyto_CD8.T_XCL1	Viral protein interaction with cytokine and cytokine receptor	1.87E-05	IL2RB/LTA/CCL3/CCL4/XCL1/XCL2/TNFSF14/TNFSF10	8
CD160	0.706138368	2.43E-217	Cyto_CD8.T_XCL1	T cell receptor signaling pathway	2.49E-05	CD247/MAP3K8/CSF2/FOS/IFNG/NFKB1/NFKBIA/PIK3R1	8
IL2RB	0.744054116	1.17E-197	Cyto_CD8.T_XCL1	Measles	3.04E-05	CASP3/CCND2/FOS/IL2RB/NFKB1/NFKBIA/PIK3R1/RAB9A/CYCS	9
KLRF1	0.69198983	3.38E-197	Cyto_CD8.T_XCL1	Transcriptional misregulation in cancer	7.02E-05	BIRC2/BCL2A1/CCND2/CSF2/IL2RB/GADD45B/NFKB1/REL/ZBTB16/NFKBIZ	10
IFITM2	0.66863871	4.35E-196	Cyto_CD8.T_XCL1	Small cell lung cancer	8.80E-05	BIRC2/CASP3/GADD45B/NFKB1/NFKBIA/PIK3R1/CYCS	7
IRF8	0.662845867	8.64E-193	Cyto_CD8.T_XCL1	Epstein-Barr virus infection	0.000107305	CASP3/CCND2/CD247/ICAM1/GADD45B/NFKB1/NFKBIA/PIK3R1/BCL2L11/CYCS	10
TOX2	0.301145553	7.85E-186	Cyto_CD8.T_XCL1	Prostate cancer	0.000123088	GSTP1/HSP90AB1/NFKB1/NFKBIA/PIK3R1/TCF7/HSP90B1	7
CMC1	0.785154405	5.35E-180	Cyto_CD8.T_XCL1	Salmonella infection	0.000132507	BIRC2/CASP3/FOS/HSP90AB1/NFKB1/NFKBIA/TCF7/HSP90B1/TNFSF10/RAB9A/CYCS	11
FAM177A1	0.844640268	7.89E-180	Cyto_CD8.T_XCL1	Cytokine-cytokine receptor interaction	0.000141198	CSF2/IFNG/IL2RB/LTA/CCL3/CCL4/XCL1/XCL2/TNFSF14/TNFSF10/TNFRSF18/CXCR6	12
CD63	0.631804459	3.07E-178	Cyto_CD8.T_XCL1	Chagas disease	0.000168831	CD247/FOS/IFNG/NFKB1/NFKBIA/PIK3R1/CCL3	7
TNFSF14	0.715604937	3.04E-175	Cyto_CD8.T_XCL1	Toll-like receptor signaling pathway	0.000190602	MAP3K8/FOS/NFKB1/NFKBIA/PIK3R1/CCL3/CCL4	7
GADD45B	1.060172563	4.07E-174	Cyto_CD8.T_XCL1	Human T-cell leukemia virus 1 infection	0.000232846	CCND2/CSF2/FOS/ICAM1/IL2RB/LTA/NFKB1/NFKBIA/PIK3R1/ZFP36	10
SRGN	0.523862831	6.36E-174	Cyto_CD8.T_XCL1	Th17 cell differentiation	0.000240963	CD247/FOS/HSP90AB1/IFNG/IL2RB/NFKB1/NFKBIA	7
PTMA	0.403740847	5.73E-154	Cyto_CD8.T_XCL1	B cell receptor signaling pathway	0.000355363	CD81/FOS/NFKB1/NFKBIA/PIK3R1/IFITM1	6
AC017104.1	0.384106892	7.95E-153	Cyto_CD8.T_XCL1	Apoptosis - multiple species	0.000474036	BIRC2/CASP3/BCL2L11/CYCS	4
REL	0.636479433	8.37E-149	Cyto_CD8.T_XCL1	Legionellosis	0.000488195	CASP3/HSPD1/NFKB1/NFKBIA/CYCS	5
CLIC3	0.660342122	3.02E-148	Cyto_CD8.T_XCL1	PD-L1 expression and PD-1 checkpoint pathway in cancer	0.000552688	CD247/FOS/IFNG/NFKB1/NFKBIA/PIK3R1	6
TIGIT	0.612580242	2.21E-144	Cyto_CD8.T_XCL1	Th1 and Th2 cell differentiation	0.000659609	CD247/FOS/IFNG/IL2RB/NFKB1/NFKBIA	6
DUSP1	0.685019661	5.42E-144	Cyto_CD8.T_XCL1	Rheumatoid arthritis	0.000698599	ATP6V0C/CSF2/FOS/ICAM1/IFNG/CCL3	6
SERPINE2	0.251693036	1.14E-140	Cyto_CD8.T_XCL1	Human immunodeficiency virus 1 infection	0.000744635	BST2/CASP3/CD247/FOS/NFKB1/NFKBIA/PIK3R1/CYCS/APOBEC3G	9
SLFN13	0.401318484	2.71E-138	Cyto_CD8.T_XCL1	Influenza A	0.000788367	CASP3/ICAM1/IFNG/NFKB1/NFKBIA/PIK3R1/TNFSF10/CYCS	8
ICAM1	0.644591481	1.32E-137	Cyto_CD8.T_XCL1	Prolactin signaling pathway	0.001253788	CCND2/FOS/IRF1/NFKB1/PIK3R1	5
CLDND1	0.547645316	4.88E-134	Cyto_CD8.T_XCL1	Platinum drug resistance	0.001514187	BIRC2/CASP3/GSTP1/PIK3R1/CYCS	5
CSF2	0.728825267	5.65E-133	Cyto_CD8.T_XCL1	Chemokine signaling pathway	0.001664183	NFKB1/NFKBIA/PIK3R1/CCL3/CCL4/XCL1/XCL2/CXCR6	8
DHRS3	0.504150451	8.14E-132	Cyto_CD8.T_XCL1	Pertussis	0.001812413	CASP3/FOS/IRF8/IRF1/NFKB1	5
CCL3	1.022740218	1.99E-131	Cyto_CD8.T_XCL1	Toxoplasmosis	0.001839299	BIRC2/CASP3/IFNG/NFKB1/NFKBIA/CYCS	6
STX11	0.572469857	2.29E-130	Cyto_CD8.T_XCL1	Antigen processing and presentation	0.002033803	HSP90AB1/IFNG/KLRC1/KLRC3/KLRD1	5
ZFP36	0.715164692	4.45E-128	Cyto_CD8.T_XCL1	Hepatitis C	0.002225081	CASP3/CD81/IFNG/NFKB1/NFKBIA/PIK3R1/CYCS	7
NFKBIA	0.822669261	1.17E-119	Cyto_CD8.T_XCL1	Malaria	0.00259	CD81/GYPC/ICAM1/IFNG	4
CCND2	0.671233952	1.89E-118	Cyto_CD8.T_XCL1	cAMP signaling pathway	0.003980275	ATP1B1/ATP1B3/FOS/NFKB1/NFKBIA/PDE4A/PDE4B/PIK3R1	8
ATP1B1	0.33584711	2.74E-116	Cyto_CD8.T_XCL1	Tuberculosis	0.004757506	ATP6V0C/CASP3/FCER1G/HSPD1/IFNG/NFKB1/CYCS	7
ANP32A	0.636825362	9.35E-106	Cyto_CD8.T_XCL1	Cytosolic DNA-sensing pathway	0.005976244	NFKB1/NFKBIA/POLR2K/CCL4	4
CEMIP2	0.656922451	2.24E-99	Cyto_CD8.T_XCL1	Amoebiasis	0.006458403	CASP3/CSF2/IFNG/NFKB1/PIK3R1	5
CXCR6	0.497999893	2.64E-98	Cyto_CD8.T_XCL1	MAPK signaling pathway	0.006825475	AREG/CASP3/MAP3K8/DUSP1/FOS/MKNK2/JUND/GADD45B/NFKB1	9
NR4A2	0.565104091	2.29E-97	Cyto_CD8.T_XCL1	C-type lectin receptor signaling pathway	0.00700327	FCER1G/IRF1/NFKB1/NFKBIA/PIK3R1	5
OTULIN	0.597241699	1.88E-96	Cyto_CD8.T_XCL1	Parathyroid hormone synthesis, secretion and action	0.007579572	FOS/JUND/NR4A2/PDE4A/PDE4B	5
MATK	0.439647619	6.65E-93	Cyto_CD8.T_XCL1	Fc epsilon RI signaling pathway	0.007820659	ALOX5AP/CSF2/FCER1G/PIK3R1	4
TIPARP	0.550234454	2.44E-92	Cyto_CD8.T_XCL1	Epithelial cell signaling in Helicobacter pylori infection	0.00865241	ATP6V0C/CASP3/NFKB1/NFKBIA	4
GNL3	0.63322897	1.37E-89	Cyto_CD8.T_XCL1	Aldosterone-regulated sodium reabsorption	0.008803227	ATP1B1/ATP1B3/PIK3R1	3
NFKB1	0.560331782	1.85E-87	Cyto_CD8.T_XCL1	Non-alcoholic fatty liver disease	0.009036538	CASP3/FOS/NFKB1/PIK3R1/BCL2L11/CYCS	6
PRR7	0.410116634	2.07E-87	Cyto_CD8.T_XCL1	p53 signaling pathway	0.010005379	CASP3/CCND2/GADD45B/CYCS	4
JUND	0.430507236	4.66E-87	Cyto_CD8.T_XCL1	Necroptosis	0.010175192	BIRC2/HSP90AB1/IFNG/TNFSF10/SQSTM1/CHMP1B	6
PDLIM1	0.278094318	1.68E-86	Cyto_CD8.T_XCL1	Hepatitis B	0.011093854	CASP3/FOS/NFKB1/NFKBIA/PIK3R1/CYCS	6
ALOX5AP	0.530979972	8.20E-86	Cyto_CD8.T_XCL1	Chronic myeloid leukemia	0.011488901	GADD45B/NFKB1/NFKBIA/PIK3R1	4
PHLDB2	0.32081692	5.00E-85	Cyto_CD8.T_XCL1	Leishmaniasis	0.012013182	FOS/IFNG/NFKB1/NFKBIA	4
NFKBID	0.533435129	7.09E-85	Cyto_CD8.T_XCL1	Graft-versus-host disease	0.012477768	IFNG/KLRC1/KLRD1	3
CXXC5	0.327064455	1.17E-83	Cyto_CD8.T_XCL1	Type I diabetes mellitus	0.013302888	HSPD1/IFNG/LTA	3
METRNL	0.582899189	3.25E-83	Cyto_CD8.T_XCL1	Human cytomegalovirus infection	0.015291688	CASP3/NFKB1/NFKBIA/PIK3R1/CCL3/CCL4/CYCS	7
NCAM1	0.287763618	5.92E-83	Cyto_CD8.T_XCL1	Carbohydrate digestion and absorption	0.016909622	ATP1B1/ATP1B3/PIK3R1	3
BCL2L11	0.37818169	3.06E-82	Cyto_CD8.T_XCL1	FoxO signaling pathway	0.017780148	CCND2/GADD45B/PIK3R1/TNFSF10/BCL2L11	5

FOSL2	0.507320546	3.96E-79	Cyto_CD8.T_XCL1	PI3K-Akt signaling pathway	0.021063762	AREG/CCND2/HSP90AB1/IL2RB/NFKB1/PIK3R1/HSP90B1/BCL2L11/DDIT4	9
AREG	0.855425194	2.26E-78	Cyto_CD8.T_XCL1	Shigellosis	0.024171382	CSF2/NFKB1/NFKBIA/PIK3R1/UBB/SQSTM1/CYCS	7
TNFSF10	0.39973106	2.07E-75	Cyto_CD8.T_XCL1	Pathogenic Escherichia coli infection	0.026497687	CASP3/FOS/NFKB1/NFKBIA/TNFSF10/CYCS	6
KDM6B	0.502851487	7.25E-75	Cyto_CD8.T_XCL1	Herpes simplex virus 1 infection	0.02737263	BIRC2/BST2/CASP3/IFNG/LTA/NFKB1/NFKBIA/PIK3R1/TNFSF14/CYCS/ZNF331	11
FEZ1	0.393064181	4.85E-74	Cyto_CD8.T_XCL1	AGE-RAGE signaling pathway in diabetic complications	0.028505878	CASP3/ICAM1/NFKB1/PIK3R1	4
IFITM1	0.443893483	1.48E-72	Cyto_CD8.T_XCL1	Proximal tubule bicarbonate reclamation	0.028694664	ATP1B1/ATP1B3	2
CEBPD	0.544473312	2.84E-72	Cyto_CD8.T_XCL1	Endometrial cancer	0.0293884	GADD45B/PIK3R1/TCF7	3
VPS37B	0.43693876	3.96E-72	Cyto_CD8.T_XCL1	Viral carcinogenesis	0.030738412	CASP3/CCND2/NFKB1/NFKBIA/PIK3R1/REL	6
PDE7A	0.43887402	1.06E-71	Cyto_CD8.T_XCL1	Viral myocarditis	0.032061356	CASP3/ICAM1/CYCS	3
BCL2A1	0.617131387	5.53E-71	Cyto_CD8.T_XCL1	Cellular senescence	0.034489014	CCND2/GADD45B/NFKB1/PIK3R1/SQSTM1	5
SLC16A3	0.315475149	8.72E-70	Cyto_CD8.T_XCL1	HIF-1 signaling pathway	0.037418986	MKNK2/IFNG/NFKB1/PIK3R1	4
RAB11FIP1	0.396770707	2.16E-69	Cyto_CD8.T_XCL1	JAK-STAT signaling pathway	0.039583371	CCND2/CSF2/IFNG/IL2RB/PIK3R1	5
CD247	0.401539504	3.14E-69	Cyto_CD8.T_XCL1	Hepatocellular carcinoma	0.045115637	GSTP1/GADD45B/NFE2L2/PIK3R1/TCF7	5
RBBP8	0.343288453	8.12E-69	Cyto_CD8.T_XCL1	Neurotrophin signaling pathway	0.049007544	MATK/NFKB1/NFKBIA/PIK3R1	4
TNFRSF18	0.387891259	2.19E-66	Cyto_CD8.T_XCL1				
KRT86	0.288512837	1.02E-65	Cyto_CD8.T_XCL1				
PABPC1	0.399390013	1.15E-65	Cyto_CD8.T_XCL1				
MKNK2	0.403884785	2.75E-64	Cyto_CD8.T_XCL1				
IFITM3	0.371803201	1.67E-63	Cyto_CD8.T_XCL1				
IRF1	0.415715525	1.77E-63	Cyto_CD8.T_XCL1				
MAP3K8	0.400970282	5.08E-63	Cyto_CD8.T_XCL1				
ZNF331	0.531294122	7.16E-63	Cyto_CD8.T_XCL1				
ATP1B3	0.630145398	3.98E-62	Cyto_CD8.T_XCL1				
BST2	0.369099247	2.50E-60	Cyto_CD8.T_XCL1				
ADGRE5	0.420343956	7.89E-60	Cyto_CD8.T_XCL1				
H3F3B	0.278871805	2.54E-58	Cyto_CD8.T_XCL1				
TCF7	0.311734391	2.08E-56	Cyto_CD8.T_XCL1				
TMIGD2	0.293116712	4.26E-56	Cyto_CD8.T_XCL1				
AOAH	0.330863791	6.37E-56	Cyto_CD8.T_XCL1				
NINJ1	0.447573498	1.64E-55	Cyto_CD8.T_XCL1				
CD38	0.300475752	2.27E-54	Cyto_CD8.T_XCL1				
IFRD1	0.392718418	2.44E-54	Cyto_CD8.T_XCL1				
KLRC3	0.305622064	5.36E-53	Cyto_CD8.T_XCL1				
APMAP	0.326410136	9.38E-53	Cyto_CD8.T_XCL1				
SKIL	0.388419927	1.47E-52	Cyto_CD8.T_XCL1				
CDC42SE1	0.362872651	2.43E-52	Cyto_CD8.T_XCL1				
HSP90AB1	0.321120636	1.92E-51	Cyto_CD8.T_XCL1				
PDE4A	0.269203087	6.11E-51	Cyto_CD8.T_XCL1				
BAZ1A	0.471284814	2.56E-50	Cyto_CD8.T_XCL1				
LTA	0.369400546	7.67E-50	Cyto_CD8.T_XCL1				
NFIL3	0.317750812	1.39E-49	Cyto_CD8.T_XCL1				
MCTP2	0.257934697	1.88E-49	Cyto_CD8.T_XCL1				
SH2D1A	0.330670603	1.04E-48	Cyto_CD8.T_XCL1				
UBB	0.258060943	1.86E-48	Cyto_CD8.T_XCL1				
POLR2K	0.366367339	1.60E-47	Cyto_CD8.T_XCL1				
BIRC2	0.311894657	1.63E-46	Cyto_CD8.T_XCL1				
STK17A	0.33861878	3.45E-46	Cyto_CD8.T_XCL1				
CD83	0.562832062	4.62E-45	Cyto_CD8.T_XCL1				
YPEL5	0.348470133	7.71E-44	Cyto_CD8.T_XCL1				
H2AFJ	0.338441082	1.49E-43	Cyto_CD8.T_XCL1				
CASP3	0.306898304	1.60E-43	Cyto_CD8.T_XCL1				
ZBTB16	0.268973527	3.26E-43	Cyto_CD8.T_XCL1				
PIK3R1	0.361363035	6.73E-43	Cyto_CD8.T_XCL1				
ARL5B	0.394092961	2.00E-42	Cyto_CD8.T_XCL1				
CSRNP1	0.296077031	1.41E-41	Cyto_CD8.T_XCL1				
DNAJA1	0.307863685	2.67E-41	Cyto_CD8.T_XCL1				
SQSTM1	0.312531592	3.33E-41	Cyto_CD8.T_XCL1				
ATP6V0C	0.323554439	4.01E-41	Cyto_CD8.T_XCL1				
STARD3NL	0.287131394	1.47E-40	Cyto_CD8.T_XCL1				
RAB9A	0.347320586	2.33E-40	Cyto_CD8.T_XCL1				
PDE4B	0.309962991	4.92E-40	Cyto_CD8.T_XCL1				

DENND4A	0.295780781	9.46E-40	Cyto_CD8.T_XCL1
HCG18	0.345176788	1.21E-39	Cyto_CD8.T_XCL1
KLRD1	0.250821078	7.12E-39	Cyto_CD8.T_XCL1
RAB21	0.351165678	1.60E-38	Cyto_CD8.T_XCL1
CCDC107	0.346856686	4.14E-38	Cyto_CD8.T_XCL1
OFD1	0.256907914	5.00E-38	Cyto_CD8.T_XCL1
MIR222HG	0.278064402	1.71E-37	Cyto_CD8.T_XCL1
EIF4A1	0.270706806	2.78E-37	Cyto_CD8.T_XCL1
RANBP2	0.356658129	6.85E-36	Cyto_CD8.T_XCL1
RHOC	0.271548567	1.85E-35	Cyto_CD8.T_XCL1
ZC3H12A	0.303018785	4.55E-35	Cyto_CD8.T_XCL1
COTL1	0.291462352	1.41E-34	Cyto_CD8.T_XCL1
RBM39	0.270974757	3.24E-34	Cyto_CD8.T_XCL1
CYCS	0.31020421	6.28E-34	Cyto_CD8.T_XCL1
HSP90B1	0.410723092	8.02E-34	Cyto_CD8.T_XCL1
SYTL3	0.317250925	9.04E-34	Cyto_CD8.T_XCL1
GYPC	0.29481048	9.37E-34	Cyto_CD8.T_XCL1
CCL4	0.46398013	1.21E-33	Cyto_CD8.T_XCL1
SERTAD1	0.294222861	1.18E-32	Cyto_CD8.T_XCL1
APOBEC3G	0.331487432	2.17E-32	Cyto_CD8.T_XCL1
FOS	0.431527704	7.79E-32	Cyto_CD8.T_XCL1
RBM38	0.282323847	2.68E-30	Cyto_CD8.T_XCL1
ARL4A	0.27849193	1.72E-29	Cyto_CD8.T_XCL1
CHMP1B	0.411915139	5.01E-29	Cyto_CD8.T_XCL1
CCNH	0.304148011	6.55E-29	Cyto_CD8.T_XCL1
PIM2	0.251927739	8.70E-29	Cyto_CD8.T_XCL1
NFKBIZ	0.331893908	9.24E-29	Cyto_CD8.T_XCL1
FGFR1OP2	0.254981274	1.03E-27	Cyto_CD8.T_XCL1
DDIT4	0.330199937	1.08E-27	Cyto_CD8.T_XCL1
DNAJB6	0.264704365	1.42E-27	Cyto_CD8.T_XCL1
MIR155HG	0.454449385	3.08E-27	Cyto_CD8.T_XCL1
RAB8B	0.256955112	1.39E-26	Cyto_CD8.T_XCL1
HSPE1	0.335092947	1.93E-26	Cyto_CD8.T_XCL1
GPR35	0.258214656	5.92E-26	Cyto_CD8.T_XCL1
TWISTNB	0.339030836	2.33E-25	Cyto_CD8.T_XCL1
NFE2L2	0.274001569	1.09E-24	Cyto_CD8.T_XCL1
FAM107B	0.295507229	4.46E-24	Cyto_CD8.T_XCL1
PPP1R2	0.253439553	1.16E-23	Cyto_CD8.T_XCL1
PLIN2	0.319737213	2.51E-22	Cyto_CD8.T_XCL1
HSPD1	0.318507586	2.02E-20	Cyto_CD8.T_XCL1
BCAS2	0.257464805	4.73E-20	Cyto_CD8.T_XCL1
TAGAP	0.261959724	8.74E-18	Cyto_CD8.T_XCL1
IFNG	0.373970926	6.03E-07	Cyto_CD8.T_XCL1

e. Cyto_CD8.T_IL7R

Gene symbol	avg_log2FC	p_val_adj	Upregulated group	Description	pvalue	geneID	Count
LTB	2.220384696	0	Cyto_CD8.T_IL7R	Ribosome	2.58E-76	RPSA/RPL10A/RPL3/RPL4/RPL5/RPL6/RPL7/RPL8/RPL9/RPL10/RPL11/RPL12/RPL13/RPL15/RPL17/RPL18/RPL18A/RPL19/RPL21/RPL22/RPL23A/RPL24/RPL26/RPL27/RPL30/RPL27A/RPL28/RPL29/RPL31/RPL32/RPL34/RPL35A/RPL37/RPL37A/RPL38/RPL41/RPL36A/RPLP0/RPLP1/RPLP2/RPS2/RPS3/RPS3A/RPS4X/RPS5/RPS6/RPS8/RPS9/RPS11/RPS12/RPS13/RPS14/RPS16/RPS17/RPS18/RPS19/RPS20/RPS21/RPS23/RPS24/RPS25/RPS27/RPS27A/RPS29/UBA52/RPL23/RPL35/RPL13A/RPL36/RPL22L1	70

IL7R	1.909418567	0	Cyto_CD8.T_IL7R	Coronavirus disease - COVID-19	1.06E-69	JUN/RPSA/RPL10A/NFKB1/NFKBIA/RPL3/RPL4/RPL5/RPL6/RPL7/RPL8/RPL9/RPL10/RPL11/RPL12/RPL13/RPL15/RPL17/RPL18/RPL18A/RPL19/RPL21/RPL22/RPL23A/RPL24/RPL26/RPL27/RPL30/RPL27A/RPL28/RPL29/RPL31/RPL32/RPL34/RPL35A/RPL37/RPL37A/RPL38/RPL41/RPL36A/RPLP0/RPLP1/RPLP2/RPS2/RPS3/RPS3A/RPS4X/RPS5/RPS6/RPS8/RPS9/RPS11/RPS12/RPS13/RPS14/RPS16/RPS17/RPS18/RPS19/RPS20/RPS21/RPS23/RPS24/RPS25/RPS27/RPS27A/RPS29/STAT1/TNF/UBA52/RPL23/RPL35/RPL13A/RPL36/RPL22L1	75
IL4I1	0.973148242	0	Cyto_CD8.T_IL7R	Inflammatory bowel disease	2.19E-08	IFNGR1/JUN/MAF/NFKB1/RORA/RORC/STAT1/STAT4/TNF/IL18RAP/IL23A/IL23R	12
TPT1	0.897286736	0	Cyto_CD8.T_IL7R	Measles	3.46E-06	FAS/BCL2/CD3D/CD3E/CD3G/CD28/JUN/NFKB1/NFKBIA/SLAMF1/STAT1/TNFAIP3/EIF3H/RACK1	14
SLC4A10	0.897016036	0	Cyto_CD8.T_IL7R	Chagas disease	3.49E-06	FAS/CD3D/CD3E/CD3G/GNA15/IFNGR1/JUN/NFKB1/NFKBIA/CCL3L1/TNF/PLCB1	12
CCR6	0.786384738	0	Cyto_CD8.T_IL7R	PD-L1 expression and PD-1 checkpoint pathway in cancer	5.55E-06	CD3D/CD3E/CD3G/CD28/IFNGR1/JUN/NFKB1/NFKBIA/STAT1/RASGRP1/EML4	11
KLRB1	1.256759673	8.20E-287	Cyto_CD8.T_IL7R	Th17 cell differentiation	6.39E-06	CD3D/CD3E/CD3G/IFNGR1/JUN/NFKB1/NFKBIA/RORA/RORC/STAT1/IL23A/IL23R	12
RORC	0.442897519	5.50E-255	Cyto_CD8.T_IL7R	NF-kappa B signaling pathway	2.51E-05	BIRC3/BCL2/BCL2A1/LTA/LTB/NFKB1/NFKB2/NFKBIA/TNF/TNFAIP3/TRAF1	11
TNFRSF25	0.698207647	8.99E-255	Cyto_CD8.T_IL7R	T cell receptor signaling pathway	2.51E-05	CD3D/CD3E/CD3G/CD8A/CD28/JUN/NFKB1/NFKBIA/PAK2/TNF/RASGRP1	11
AQP3	0.712436267	2.76E-247	Cyto_CD8.T_IL7R	Th1 and Th2 cell differentiation	4.66E-05	CD3D/CD3E/CD3G/IFNGR1/JUN/MAF/NFKB1/NFKBIA/STAT1/STAT4	10
LST1	0.623230865	4.36E-239	Cyto_CD8.T_IL7R	TNF signaling pathway	5.03E-05	BIRC3/FAS/JUN/JUNB/LTA/NFKB1/NFKBIA/TNF/TNFAIP3/TRAF1/SOCS3	11
RPL13	0.676811127	1.21E-226	Cyto_CD8.T_IL7R	Hematopoietic cell lineage	8.76E-05	CD2/CD3D/CD3E/CD3G/CD5/CD8A/CD44/FLT3LG/IL7R/TNF	10
KIF5C	0.371904693	3.12E-222	Cyto_CD8.T_IL7R	Cytokine-cytokine receptor interaction	0.00014809	FAS/CD27/CD70/CCR6/IFNGR1/IL7R/LTA/LTB/CCL3L1/TNF/CXCR4/TNFRSF25/TNFRSF18/IL18RAP/IL32/CXCR6/IL23A/IL23R	18
IL23R	0.326461276	1.49E-219	Cyto_CD8.T_IL7R	Epstein-Barr virus infection	0.000226196	FAS/BCL2/CD3D/CD3E/CD3G/CD44/JUN/NFKB1/NFKB2/NFKBIA/STAT1/TNF/TNFAIP3/VIM	14
SLAMF1	0.612949094	2.77E-218	Cyto_CD8.T_IL7R	Osteoclast differentiation	0.000716771	CAMK4/IFNGR1/JUN/JUNB/NFKB1/NFKB2/NFKBIA/STAT1/TNF/SOCS3	10
CD28	0.58794011	1.44E-214	Cyto_CD8.T_IL7R	Legionellosis	0.001891967	EEF1A1/EEF1G/NFKB1/NFKB2/NFKBIA/TNF	6
RPL17	0.684819952	1.97E-204	Cyto_CD8.T_IL7R	Leishmaniasis	0.001904863	EEF1A1/IFNGR1/JUN/NFKB1/NFKBIA/STAT1/TNF	7
DUSP16	0.474693564	8.49E-204	Cyto_CD8.T_IL7R	Apoptosis	0.00410364	BIRC3/FAS/BCL2/BCL2A1/JUN/NFKB1/NFKBIA/TNF/TRAF1	9
DPP4	0.343814217	2.44E-200	Cyto_CD8.T_IL7R	AGE-RAGE signaling pathway in diabetic complications	0.008152472	BCL2/JUN/NFKB1/PIM1/STAT1/TNF/PLCB1	7
EEF1A1	0.54910023	2.85E-200	Cyto_CD8.T_IL7R	Human immunodeficiency virus 1 infection	0.009807042	FAS/BCL2/CD3D/CD3E/CD3G/JUN/NFKB1/NFKBIA/PAK2/TNF/CXCR4	11
RPL3	0.745923988	5.82E-200	Cyto_CD8.T_IL7R	NOD-like receptor signaling pathway	0.009993614	BIRC3/BCL2/JUN/NFKB1/NFKBIA/STAT1/TNF/TNFAIP3/PLCB1/GBP5	10
TRAC	1.006623803	1.80E-199	Cyto_CD8.T_IL7R	C-type lectin receptor signaling pathway	0.010022602	JUN/NFKB1/NFKB2/NFKBIA/STAT1/TNF/IL23A	7
RPS2	0.622027068	2.64E-194	Cyto_CD8.T_IL7R	Primary immunodeficiency	0.010944618	CD3D/CD3E/CD8A/IL7R	4
RPS18	0.743710666	1.07E-185	Cyto_CD8.T_IL7R	JAK-STAT signaling pathway	0.012459548	BCL2/IFNGR1/IL7R/PIM1/STAT1/STAT4/SOCS3/IL23A/IL23R	9
RPS6	0.706366658	6.46E-182	Cyto_CD8.T_IL7R	Transcriptional misregulation in cancer	0.0132107	BIRC3/BCL2A1/HPGD/MAF/NFKB1/REL/TRAF1/ZBTB16/NFKBIZ/BCL11B	10
GPR65	1.015351655	2.14E-179	Cyto_CD8.T_IL7R	Toxoplasmosis	0.014673454	BIRC3/BCL2/IFNGR1/NFKB1/NFKBIA/STAT1/TNF	7
RPS9	0.690426171	9.77E-177	Cyto_CD8.T_IL7R	Type I diabetes mellitus	0.016745034	FAS/CD28/LTA/TNF	4
KLRG1	0.863707025	1.42E-176	Cyto_CD8.T_IL7R	Rheumatoid arthritis	0.020170292	CD28/JUN/LTB/CCL3L1/TNF/IL23A	6
CAMK4	0.46396457	8.59E-174	Cyto_CD8.T_IL7R	Shigellosis	0.027446375	BCL2/CD44/JUN/NFKB1/NFKBIA/RPS27A/TNF/UBA52/FNBP1/PLCB1/TIFA	11
CA2	0.397101993	8.12E-173	Cyto_CD8.T_IL7R	Viral protein interaction with cytokine and cytokine receptor	0.027682962	CCR6/LTA/CCL3L1/TNF/CXCR4/IL18RAP	6
RPL32	0.537062627	8.47E-171	Cyto_CD8.T_IL7R	Hepatitis C	0.028528756	FAS/EIF3E/NFKB1/NFKBIA/STAT1/TNF/YWHAH/SOCS3	8
RPS23	0.52727233	2.61E-169	Cyto_CD8.T_IL7R	Necroptosis	0.030452923	BIRC3/FAS/BCL2/IFNGR1/STAT1/STAT4/TNF/TNFAIP3	8
RPS8	0.566342672	1.72E-168	Cyto_CD8.T_IL7R	Human T-cell leukemia virus 1 infection	0.032425868	CD3D/CD3E/CD3G/JUN/LTA/NFKB1/NFKB2/NFKBIA/RANBP1/TNF	10
PHACTR2	0.609225548	1.54E-167	Cyto_CD8.T_IL7R	Toll-like receptor signaling pathway	0.032711596	JUN/NFKB1/NFKBIA/CCL3L1/STAT1/TNF	6
RPL10A	0.657411564	2.74E-167	Cyto_CD8.T_IL7R	Hepatitis B	0.033503923	FAS/BCL2/JUN/NFKB1/NFKBIA/STAT1/STAT4/TNF	8

NCR3	0.872300044	6.26E-166	Cyto_CD8.T_IL7R	Circadian rhythm	0.033751648	RORA/RORC/BHLHE40	3
RPL27A	0.861306703	3.53E-165	Cyto_CD8.T_IL7R	MAPK signaling pathway	0.038978667	FAS/DUSP5/FLT3LG/NR4A1/JUN/NFKB1/NFKB2/PAK2/RPS6KA3/ TNF/RASGRP1/DUSP16	12
RPLP0	0.743541416	1.45E-163	Cyto_CD8.T_IL7R				
RPL26	0.552032523	6.20E-155	Cyto_CD8.T_IL7R				
RPLP1	0.493404172	7.99E-154	Cyto_CD8.T_IL7R				
JAML	0.479759306	6.18E-150	Cyto_CD8.T_IL7R				
ME1	0.279163965	3.88E-148	Cyto_CD8.T_IL7R				
RPL21	0.586383775	1.14E-147	Cyto_CD8.T_IL7R				
RPL18A	0.517109784	2.99E-142	Cyto_CD8.T_IL7R				
RPS12	0.499443407	6.47E-140	Cyto_CD8.T_IL7R				
RPS16	0.560809116	8.54E-140	Cyto_CD8.T_IL7R				
RPS14	0.497767388	1.74E-137	Cyto_CD8.T_IL7R				
RPL10	0.421595443	6.14E-134	Cyto_CD8.T_IL7R				
TNFAIP3	0.956061716	8.44E-134	Cyto_CD8.T_IL7R				
CD52	0.676291251	2.83E-133	Cyto_CD8.T_IL7R				
PDE4D	0.707967604	5.54E-128	Cyto_CD8.T_IL7R				
RPS29	0.557016142	3.44E-127	Cyto_CD8.T_IL7R				
RPL34	0.4715373	1.83E-125	Cyto_CD8.T_IL7R				
FEZ1	0.695479786	1.30E-124	Cyto_CD8.T_IL7R				
RPS4X	0.454780437	3.36E-122	Cyto_CD8.T_IL7R				
GPR171	0.562706434	4.91E-122	Cyto_CD8.T_IL7R				
RPS20	0.685309853	1.59E-121	Cyto_CD8.T_IL7R				
RPL15	0.470315792	9.65E-121	Cyto_CD8.T_IL7R				
RPL9	0.520436284	2.52E-120	Cyto_CD8.T_IL7R				
SPOCK2	0.641926095	4.65E-120	Cyto_CD8.T_IL7R				
RPS13	0.444061412	5.89E-118	Cyto_CD8.T_IL7R				
RCAN3	0.486826872	3.77E-116	Cyto_CD8.T_IL7R				
CD8A	0.683128553	8.39E-116	Cyto_CD8.T_IL7R				
FURIN	0.448161617	2.37E-113	Cyto_CD8.T_IL7R				
RPL13A	0.573209417	3.29E-113	Cyto_CD8.T_IL7R				
LINC01871	0.6819128	1.01E-110	Cyto_CD8.T_IL7R				
PBX4	0.348729306	2.10E-110	Cyto_CD8.T_IL7R				
RPL28	0.396654009	2.50E-110	Cyto_CD8.T_IL7R				
RPS5	0.488818595	2.91E-110	Cyto_CD8.T_IL7R				
RPS19	0.531123845	4.55E-110	Cyto_CD8.T_IL7R				
RPS25	0.452218766	5.24E-109	Cyto_CD8.T_IL7R				
RPS27A	0.365529543	1.35E-108	Cyto_CD8.T_IL7R				
CD3D	0.674361211	1.93E-107	Cyto_CD8.T_IL7R				
IL23A	0.283122439	2.17E-106	Cyto_CD8.T_IL7R				
HPGD	0.314926168	3.22E-105	Cyto_CD8.T_IL7R				
SERPINB9	0.771331511	7.88E-105	Cyto_CD8.T_IL7R				
RORA	0.74860601	9.47E-105	Cyto_CD8.T_IL7R				
RPL23	0.606667572	5.61E-104	Cyto_CD8.T_IL7R				
RPS3A	0.411604082	4.40E-101	Cyto_CD8.T_IL7R				
RPL23A	0.469912484	9.75E-101	Cyto_CD8.T_IL7R				
TNF	0.576567435	3.36E-100	Cyto_CD8.T_IL7R				
RPS11	0.553874368	4.01E-100	Cyto_CD8.T_IL7R				
RPL19	0.365958881	1.76E-96	Cyto_CD8.T_IL7R				
EEF1B2	0.517896284	9.50E-95	Cyto_CD8.T_IL7R				
RPL37A	0.5056979	8.21E-94	Cyto_CD8.T_IL7R				
PFKFB3	0.529622167	4.96E-93	Cyto_CD8.T_IL7R				
RPL37	0.400186788	4.79E-92	Cyto_CD8.T_IL7R				
SLC7A5	0.568182052	1.06E-91	Cyto_CD8.T_IL7R				
SPTY2D1	0.559420863	5.80E-90	Cyto_CD8.T_IL7R				
SNHG16	0.605481614	5.90E-89	Cyto_CD8.T_IL7R				
TRGC2	0.563621661	8.80E-88	Cyto_CD8.T_IL7R				
CD160	0.584921244	2.02E-87	Cyto_CD8.T_IL7R				
G3BP2	0.604786351	2.08E-87	Cyto_CD8.T_IL7R				
PTMS	0.552159265	4.10E-86	Cyto_CD8.T_IL7R				
RPL35A	0.387424001	2.83E-85	Cyto_CD8.T_IL7R				
RPL12	0.39239082	1.05E-84	Cyto_CD8.T_IL7R				
RPSA	0.453288056	1.09E-84	Cyto_CD8.T_IL7R				
RPL36A	0.489435324	5.10E-84	Cyto_CD8.T_IL7R				

RPL29	0.369198043	5.13E-84	Cyto_CD8.T_IL7R
NFKBIZ	0.650757922	4.22E-83	Cyto_CD8.T_IL7R
AC253572.2	0.721543212	4.57E-83	Cyto_CD8.T_IL7R
SATB1	0.573401243	3.43E-82	Cyto_CD8.T_IL7R
ODF2L	0.506979742	3.07E-81	Cyto_CD8.T_IL7R
APOL3	0.435423094	7.01E-81	Cyto_CD8.T_IL7R
EEF1G	0.495176583	1.06E-80	Cyto_CD8.T_IL7R
RPL18	0.339917741	2.72E-80	Cyto_CD8.T_IL7R
COLQ	0.254056208	1.28E-79	Cyto_CD8.T_IL7R
STAT1	0.62645859	1.98E-79	Cyto_CD8.T_IL7R
SYNGAP1	0.268053664	2.50E-79	Cyto_CD8.T_IL7R
RPL30	0.3137648	4.40E-78	Cyto_CD8.T_IL7R
AC007952.4	0.342163224	1.01E-76	Cyto_CD8.T_IL7R
GNA15	0.257827834	1.46E-76	Cyto_CD8.T_IL7R
AC245014.3	0.395729172	1.99E-76	Cyto_CD8.T_IL7R
CD27	0.335699743	1.45E-75	Cyto_CD8.T_IL7R
IKZF2	0.37156269	1.49E-75	Cyto_CD8.T_IL7R
CCSAP	0.316449106	2.67E-74	Cyto_CD8.T_IL7R
SNX9	0.266479444	3.48E-74	Cyto_CD8.T_IL7R
FLT3LG	0.359932473	2.44E-73	Cyto_CD8.T_IL7R
GPR35	0.452852569	9.50E-73	Cyto_CD8.T_IL7R
RPL5	0.338654476	7.82E-71	Cyto_CD8.T_IL7R
TRAT1	0.346871763	2.81E-70	Cyto_CD8.T_IL7R
RPS21	0.344140246	5.52E-70	Cyto_CD8.T_IL7R
RPS24	0.319349213	1.27E-69	Cyto_CD8.T_IL7R
TTC39C	0.373304518	2.71E-69	Cyto_CD8.T_IL7R
RPS3	0.309129966	3.19E-69	Cyto_CD8.T_IL7R
S100A4	0.427171965	4.18E-69	Cyto_CD8.T_IL7R
RPL41	0.307022659	1.48E-67	Cyto_CD8.T_IL7R
CD6	0.370412752	1.51E-67	Cyto_CD8.T_IL7R
ZDBF2	0.361960593	5.84E-67	Cyto_CD8.T_IL7R
RPL7	0.439169792	7.09E-67	Cyto_CD8.T_IL7R
ZBTB16	0.383487912	1.19E-66	Cyto_CD8.T_IL7R
FAS	0.441673999	7.07E-66	Cyto_CD8.T_IL7R
CXCR6	0.457483229	1.35E-64	Cyto_CD8.T_IL7R
GTF3C1	0.40111419	1.36E-64	Cyto_CD8.T_IL7R
UBA52	0.356990425	2.99E-64	Cyto_CD8.T_IL7R
CD3G	0.415485796	3.09E-64	Cyto_CD8.T_IL7R
NFKBIA	0.769868167	5.84E-64	Cyto_CD8.T_IL7R
RPL8	0.317889122	7.13E-64	Cyto_CD8.T_IL7R
CERK	0.289888186	1.73E-62	Cyto_CD8.T_IL7R
SNHG8	0.449327786	2.91E-62	Cyto_CD8.T_IL7R
LCP1	0.521795283	6.86E-62	Cyto_CD8.T_IL7R
RPL4	0.428197075	1.13E-61	Cyto_CD8.T_IL7R
SIT1	0.339796544	1.74E-61	Cyto_CD8.T_IL7R
JUN	0.662591242	4.64E-61	Cyto_CD8.T_IL7R
TRBC2	0.468702395	4.73E-61	Cyto_CD8.T_IL7R
NFKB1	0.637204164	6.56E-61	Cyto_CD8.T_IL7R
BCL2	0.353765647	1.07E-60	Cyto_CD8.T_IL7R
RACK1	0.334445723	6.88E-59	Cyto_CD8.T_IL7R
GAS5	0.409259554	3.37E-58	Cyto_CD8.T_IL7R
TRAF1	0.449881382	6.15E-58	Cyto_CD8.T_IL7R
RPL27	0.383315188	1.09E-57	Cyto_CD8.T_IL7R
RPL11	0.276351675	1.68E-57	Cyto_CD8.T_IL7R
IFNGR1	0.462031651	2.29E-57	Cyto_CD8.T_IL7R
CD2	0.428512827	2.59E-57	Cyto_CD8.T_IL7R
CEBPD	0.514657446	3.15E-57	Cyto_CD8.T_IL7R
RPL31	0.434888857	1.34E-56	Cyto_CD8.T_IL7R
RPS6KA3	0.405804042	1.62E-56	Cyto_CD8.T_IL7R
RPS27	0.294624058	1.72E-56	Cyto_CD8.T_IL7R
RPS17	0.446946109	3.26E-56	Cyto_CD8.T_IL7R
EIF3E	0.422014244	1.03E-55	Cyto_CD8.T_IL7R
RPL36	0.331977744	1.13E-55	Cyto_CD8.T_IL7R
ATF7IP2	0.273780243	1.25E-55	Cyto_CD8.T_IL7R

IL32	0.461650822	1.37E-55	Cyto_CD8.T_IL7R
RPL24	0.308665235	1.17E-53	Cyto_CD8.T_IL7R
BTG1	0.406360997	4.29E-53	Cyto_CD8.T_IL7R
MDFIC	0.342274284	2.07E-52	Cyto_CD8.T_IL7R
PIM3	0.503843002	2.21E-52	Cyto_CD8.T_IL7R
FKBP11	0.401649365	2.39E-52	Cyto_CD8.T_IL7R
CD5	0.267429013	7.12E-52	Cyto_CD8.T_IL7R
CD69	0.88941862	1.18E-51	Cyto_CD8.T_IL7R
POU2F2	0.364150618	1.07E-50	Cyto_CD8.T_IL7R
ABRACL	0.434574483	1.73E-50	Cyto_CD8.T_IL7R
PLCB1	0.26940792	3.62E-50	Cyto_CD8.T_IL7R
NUP62	0.305709898	5.30E-50	Cyto_CD8.T_IL7R
SOCS3	0.314502265	3.51E-49	Cyto_CD8.T_IL7R
RPL35	0.340601543	4.63E-49	Cyto_CD8.T_IL7R
EML4	0.410494038	2.20E-48	Cyto_CD8.T_IL7R
GPRIN3	0.378136865	8.66E-48	Cyto_CD8.T_IL7R
DDX21	0.39357793	1.52E-46	Cyto_CD8.T_IL7R
BIRC3	0.542572934	2.15E-46	Cyto_CD8.T_IL7R
CCNG2	0.330320625	6.60E-45	Cyto_CD8.T_IL7R
RPLP2	0.261361001	2.57E-43	Cyto_CD8.T_IL7R
NINJ1	0.366413395	4.05E-43	Cyto_CD8.T_IL7R
FNBP1	0.389065086	7.49E-43	Cyto_CD8.T_IL7R
SYTL2	0.293324891	7.74E-43	Cyto_CD8.T_IL7R
ZFAS1	0.383383978	1.49E-42	Cyto_CD8.T_IL7R
OSTC	0.312918665	2.03E-42	Cyto_CD8.T_IL7R
TNFRSF18	0.316790371	3.98E-42	Cyto_CD8.T_IL7R
RPL38	0.351141189	4.02E-42	Cyto_CD8.T_IL7R
PPA1	0.331248241	4.39E-42	Cyto_CD8.T_IL7R
CD96	0.375325335	5.05E-42	Cyto_CD8.T_IL7R
ZNF267	0.387282659	1.71E-41	Cyto_CD8.T_IL7R
PHLDA1	0.362728658	1.85E-41	Cyto_CD8.T_IL7R
SEC14L1	0.312447456	3.25E-41	Cyto_CD8.T_IL7R
GBP5	0.376233122	7.13E-41	Cyto_CD8.T_IL7R
CD48	0.375307901	1.09E-40	Cyto_CD8.T_IL7R
PDCD4	0.367675398	4.85E-40	Cyto_CD8.T_IL7R
TRIM69	0.259804265	9.13E-40	Cyto_CD8.T_IL7R
CD3E	0.322684116	1.41E-39	Cyto_CD8.T_IL7R
MT-ND5	0.403463652	6.95E-39	Cyto_CD8.T_IL7R
PBXIP1	0.30883877	7.04E-39	Cyto_CD8.T_IL7R
MT-ND1	0.277029023	7.64E-39	Cyto_CD8.T_IL7R
RPL22	0.290440692	4.09E-38	Cyto_CD8.T_IL7R
MT-ND2	0.341329496	4.45E-38	Cyto_CD8.T_IL7R
LAPTM5	0.356508488	5.35E-38	Cyto_CD8.T_IL7R
PRR5	0.269651808	9.35E-38	Cyto_CD8.T_IL7R
IL18RAP	0.251485622	1.34E-37	Cyto_CD8.T_IL7R
PAK2	0.351537784	2.43E-37	Cyto_CD8.T_IL7R
TIFA	0.325579724	3.27E-37	Cyto_CD8.T_IL7R
RPL6	0.253587545	3.39E-37	Cyto_CD8.T_IL7R
CD83	0.47452472	4.08E-37	Cyto_CD8.T_IL7R
DYNLT3	0.269829064	6.08E-37	Cyto_CD8.T_IL7R
RAPGEF6	0.288092729	8.55E-37	Cyto_CD8.T_IL7R
HNRNPA1	0.340349064	1.60E-36	Cyto_CD8.T_IL7R
PAG1	0.267482769	1.91E-36	Cyto_CD8.T_IL7R
LTA	0.340887099	2.46E-36	Cyto_CD8.T_IL7R
CD44	0.310562304	9.70E-36	Cyto_CD8.T_IL7R
NPM1	0.304187183	1.96E-35	Cyto_CD8.T_IL7R
SNHG5	0.328254355	2.05E-35	Cyto_CD8.T_IL7R
NAP1L1	0.34675926	2.39E-35	Cyto_CD8.T_IL7R
YWHAH	0.26947238	2.74E-35	Cyto_CD8.T_IL7R
MT-ND3	0.304023232	1.01E-34	Cyto_CD8.T_IL7R
RAB18	0.269755433	1.98E-34	Cyto_CD8.T_IL7R
CD70	0.264685709	2.77E-34	Cyto_CD8.T_IL7R
SNHG6	0.317316769	3.59E-34	Cyto_CD8.T_IL7R
BCL2A1	0.563716648	5.08E-34	Cyto_CD8.T_IL7R

HIVEP2	0.256592247	3.01E-33	Cyto_CD8.T_IL7R
NOP53	0.310987719	3.17E-33	Cyto_CD8.T_IL7R
AC020916.1	0.436304961	3.35E-33	Cyto_CD8.T_IL7R
RASGRP1	0.303664421	5.00E-33	Cyto_CD8.T_IL7R
PABPC1	0.362155917	2.07E-32	Cyto_CD8.T_IL7R
MGAT4A	0.297761113	3.07E-32	Cyto_CD8.T_IL7R
PARP8	0.296920291	3.08E-32	Cyto_CD8.T_IL7R
IGFLR1	0.301564792	3.16E-32	Cyto_CD8.T_IL7R
LAG3	0.274362195	3.19E-32	Cyto_CD8.T_IL7R
SRSF7	0.354190514	1.98E-31	Cyto_CD8.T_IL7R
IER3	0.419580621	2.42E-31	Cyto_CD8.T_IL7R
MYBL1	0.328266521	2.44E-31	Cyto_CD8.T_IL7R
CCDC107	0.309054528	2.89E-31	Cyto_CD8.T_IL7R
TMEM123	0.266611458	4.65E-31	Cyto_CD8.T_IL7R
PFDN5	0.272271311	8.44E-31	Cyto_CD8.T_IL7R
TC2N	0.276873336	1.39E-30	Cyto_CD8.T_IL7R
RPL22L1	0.326635875	1.48E-30	Cyto_CD8.T_IL7R
NFAT5	0.285991575	3.34E-30	Cyto_CD8.T_IL7R
VIM	0.343888235	6.85E-30	Cyto_CD8.T_IL7R
MAF	0.300453078	8.98E-30	Cyto_CD8.T_IL7R
CKLF	0.31079387	1.64E-29	Cyto_CD8.T_IL7R
HNRNPC	0.310261898	3.92E-29	Cyto_CD8.T_IL7R
EMB	0.292870664	1.48E-28	Cyto_CD8.T_IL7R
RGS2	0.397106727	1.72E-28	Cyto_CD8.T_IL7R
PIM1	0.30239415	3.09E-28	Cyto_CD8.T_IL7R
CLINT1	0.260048238	6.93E-28	Cyto_CD8.T_IL7R
BTG2	0.479643927	5.21E-27	Cyto_CD8.T_IL7R
KDM6B	0.31757169	1.01E-26	Cyto_CD8.T_IL7R
NDUFV2	0.295624835	1.02E-26	Cyto_CD8.T_IL7R
S100A6	0.292126968	1.96E-26	Cyto_CD8.T_IL7R
NR4A1	0.391249996	2.18E-26	Cyto_CD8.T_IL7R
TERF2IP	0.31137882	2.48E-26	Cyto_CD8.T_IL7R
SMAP2	0.293664647	2.80E-26	Cyto_CD8.T_IL7R
RANBP1	0.260449527	5.16E-26	Cyto_CD8.T_IL7R
NSUN6	0.264536055	5.79E-26	Cyto_CD8.T_IL7R
INTS6	0.309724884	2.04E-25	Cyto_CD8.T_IL7R
NFKB2	0.264290268	3.48E-25	Cyto_CD8.T_IL7R
TOMM20	0.269701563	4.53E-25	Cyto_CD8.T_IL7R
CYB5A	0.250924136	6.21E-25	Cyto_CD8.T_IL7R
JUNB	0.375968042	6.53E-25	Cyto_CD8.T_IL7R
CXCR4	0.386337625	7.18E-25	Cyto_CD8.T_IL7R
SYNE2	0.331009119	7.33E-25	Cyto_CD8.T_IL7R
EIF3H	0.27942358	1.10E-24	Cyto_CD8.T_IL7R
DUSP5	0.324385977	5.07E-24	Cyto_CD8.T_IL7R
HOPX	0.286215591	6.01E-24	Cyto_CD8.T_IL7R
SERBP1	0.284886245	1.26E-23	Cyto_CD8.T_IL7R
ANKRD12	0.330667754	3.76E-23	Cyto_CD8.T_IL7R
BCL11B	0.275482797	4.44E-23	Cyto_CD8.T_IL7R
ANP32E	0.250259225	1.18E-22	Cyto_CD8.T_IL7R
CCNI	0.268083467	1.98E-22	Cyto_CD8.T_IL7R
STAT4	0.270565514	3.13E-22	Cyto_CD8.T_IL7R
CCL3L1	0.648185921	3.88E-22	Cyto_CD8.T_IL7R
SPCS3	0.261904626	9.78E-22	Cyto_CD8.T_IL7R
EIF5A	0.273660966	1.31E-21	Cyto_CD8.T_IL7R
SELENOH	0.26224159	1.91E-21	Cyto_CD8.T_IL7R
RNF19A	0.335877555	1.94E-21	Cyto_CD8.T_IL7R
VPS13C	0.262933785	2.05E-21	Cyto_CD8.T_IL7R
BHLHE40	0.286780383	1.26E-20	Cyto_CD8.T_IL7R
GSPT1	0.271617525	5.07E-20	Cyto_CD8.T_IL7R
CUTA	0.263877675	4.96E-19	Cyto_CD8.T_IL7R
GPX4	0.264354501	3.57E-18	Cyto_CD8.T_IL7R
GLIPR1	0.264759086	1.12E-16	Cyto_CD8.T_IL7R
EZR	0.252211045	3.88E-16	Cyto_CD8.T_IL7R
PDE4B	0.251435695	8.21E-16	Cyto_CD8.T_IL7R

REL	0.271632641	3.07E-14	Cyto_CD8.T_IL7R
PPP1R15A	0.313526265	3.33E-13	Cyto_CD8.T_IL7R
TWISTNB	0.269632225	0.001449079	Cyto_CD8.T_IL7R

f. Cyto_CD8.T_IL7R_CCL20

Gene symbol	avg_log2FC	p_val_adj	Upregulated group	Description	pvalue	geneID	Count
CCL20	5.305285998	0	Cyto_CD8.T_IL7R_CCL20	Ribosome	2.96E-66	RPSA/RPL10A/RPL3/RPL4/RPL5/RPL7/RPL8/RPL9/RPL10/RPL12/RPL13/RPL15/RPL17/RPL18/RPL18A/RPL19/RPL21/RPL23A/RPL24/RPL26/RPL27/RPL30/RPL27A/RPL28/RPL29/RPL31/RPL32/RPL34/RPL35A/RPL37/RPL37A/RPL38/RPL41/RPL36A/RPLP0/RPLP1/RPS2/RPS3/RPS3A/RPS4X/RPS5/RPS6/RPS8/RPS9/RPS11/RPS12/RPS13/RPS14/RPS16/RPS17/RPS18/RPS19/RPS20/RPS21/RPS23/RPS24/RPS25/RPS27/RPS27A/RPS29/UBA52/RPL23/RPL35/RPL13A/RPL36/RPL22L1	66
IL7R	1.646358464	0	Cyto_CD8.T_IL7R_CCL20	Coronavirus disease - COVID-19	1.32E-61	JUN/RPSA/RPL10A/NFKB1/NFKBIA/RPL3/RPL4/RPL5/RPL7/RPL8/RPL9/RPL10/RPL12/RPL13/RPL15/RPL17/RPL18/RPL18A/RPL19/RPL21/RPL23A/RPL24/RPL26/RPL27/RPL30/RPL27A/RPL28/RPL29/RPL31/RPL32/RPL34/RPL35A/RPL37/RPL37A/RPL38/RPL41/RPL36A/RPLP0/RPLP1/RPS2/RPS3/RPS3A/RPS4X/RPS5/RPS6/RPS8/RPS9/RPS11/RPS12/RPS13/RPS14/RPS16/RPS17/RPS18/RPS19/RPS20/RPS21/RPS23/RPS24/RPS25/RPS27/RPS27A/RPS29/STAT1/TNF/UBA52/RPL23/ISG15/RPL35/RPL13A/RPL36/RPL22L1	72
IL4I1	1.070697941	0	Cyto_CD8.T_IL7R_CCL20	NF-kappa B signaling pathway	3.16E-07	BIRC2/BIRC3/BCL2/BCL2A1/LTA/LTB/NFKB1/NFKB2/NFKBIA/RELB/TNF/TNFAIP3/TRAF1/CCL4L2	14
CCR6	0.751618908	0	Cyto_CD8.T_IL7R_CCL20	Inflammatory bowel disease	5.83E-07	IFNGR1/JUN/SMAD3/NFKB1/RORA/RORC/STAT1/STAT4/TNF/IL23A/IL23R	11
SLC4A10	0.749470841	0	Cyto_CD8.T_IL7R_CCL20	TNF signaling pathway	7.99E-07	BIRC2/BIRC3/FAS/CREB1/JUN/JUNB/LTA/NFKB1/NFKBIA/CCL20/TNF/TNFAIP3/TRAF1/SOCS3	14
LTB	2.082150887	2.31E-278	Cyto_CD8.T_IL7R_CCL20	Th17 cell differentiation	3.08E-06	CD3D/CD3G/HSP90AB1/IFNGR1/JUN/SMAD3/NFKB1/NFKBIA/RORA/RORC/STAT1/IL23A/IL23R	13
RORC	0.546272457	1.09E-271	Cyto_CD8.T_IL7R_CCL20	Epstein-Barr virus infection	3.36E-06	FAS/BCL2/CD3D/CD3G/CD44/CDKN1A/HLA-A/JUN/MYC/NFKB1/NFKB2/NFKBIA/RELB/STAT1/TNF/TNFAIP3/VIM/ISG15	18
TPT1	0.847418133	7.52E-219	Cyto_CD8.T_IL7R_CCL20	Osteoclast differentiation	2.03E-05	CAMK4/CREB1/IFNGR1/JUN/JUNB/JUND/NFKB1/NFKB2/NFKBIA/RELB/STAT1/TNF/SOCS3	13
GPR65	1.254553071	4.15E-204	Cyto_CD8.T_IL7R_CCL20	PD-L1 expression and PD-1 checkpoint pathway in cancer	7.93E-05	CD3D/CD3G/CD28/IFNGR1/JUN/NFKB1/NFKBIA/STAT1/RASGRP1/EML4	10
SLC7A5	0.855038062	1.22E-199	Cyto_CD8.T_IL7R_CCL20	Cytokine-cytokine receptor interaction	0.000171078	FAS/CD70/CCR6/IFNGR1/IL7R/LTA/LTB/CCL3L1/CCL20/TNF/TNFRSF4/CXCR4/TNFRSF25/TNFRSF18/IL32/CCL4L2/CXCR6/IL23A/IL23R	19
KLRB1	1.220333975	1.55E-198	Cyto_CD8.T_IL7R_CCL20	Measles	0.000205084	FAS/BCL2/CD3D/CD3G/CD28/JUN/NFKB1/NFKBIA/SLAMF1/STAT1/TNFAIP3/RACK1	12
CA2	0.437734369	1.41E-194	Cyto_CD8.T_IL7R_CCL20	Hepatitis B	0.000232501	FAS/BCL2/CDKN1A/CREB1/DDX3X/JUN/SMAD3/MYC/NFKB1/NFKBIA/STAT1/STAT4/TNF	13
AQP3	0.648816282	6.20E-162	Cyto_CD8.T_IL7R_CCL20	Chagas disease	0.000249378	FAS/CD3D/CD3G/GNA15/IFNGR1/JUN/NFKB1/NFKBIA/CCL3L1/TNF	10
TNFRSF25	0.564021488	3.01E-154	Cyto_CD8.T_IL7R_CCL20	T cell receptor signaling pathway	0.000292417	CD3D/CD3G/CD8A/CD28/JUN/NFKB1/NFKBIA/PAK2/TNF/RASGRP1	10
PFKFB3	0.769587964	5.24E-151	Cyto_CD8.T_IL7R_CCL20	Human T-cell leukemia virus 1 infection	0.00050848	CD3D/CD3G/CDKN1A/CREB1/HLA-A/JUN/LTA/SMAD3/MYC/NFKB1/NFKB2/NFKBIA/RANBP1/RELB/TNF	15
DUSP16	0.485943539	1.27E-150	Cyto_CD8.T_IL7R_CCL20	Small cell lung cancer	0.00051673	BIRC2/BIRC3/BCL2/CDKN1A/MYC/NFKB1/NFKBIA/TRAF1/TRAF4	9
SERPINB9	1.103148487	6.10E-149	Cyto_CD8.T_IL7R_CCL20	IL-17 signaling pathway	0.000605637	HSP90AB1/JUN/JUND/NFKB1/NFKBIA/CCL20/TNF/TNFAIP3/TRAF4	9
TNFAIP3	1.113632138	4.94E-148	Cyto_CD8.T_IL7R_CCL20	Apoptosis	0.0006578	BIRC2/BIRC3/FAS/BCL2/BCL2A1/JUN/MCL1/NFKB1/NFKBIA/TNF/TRAF1	11
BCL2A1	1.252491058	5.71E-145	Cyto_CD8.T_IL7R_CCL20	JAK-STAT signaling pathway	0.000830369	BCL2/CDKN1A/IFNGR1/IL7R/MCL1/MYC/PIM1/STAT1/STAT4/SOCS3/IL23A/IL23R	12
TNF	0.894704988	2.34E-142	Cyto_CD8.T_IL7R_CCL20	C-type lectin receptor signaling pathway	0.00125787	PLK3/JUN/NFKB1/NFKB2/NFKBIA/RELB/STAT1/TNF/IL23A	9
EEF1A1	0.538197995	2.47E-140	Cyto_CD8.T_IL7R_CCL20	Viral carcinogenesis	0.002030891	CDKN1A/CHD4/CREB1/DDX3X/HLA-A/JUN/NFKB1/NFKB2/NFKBIA/PKM/RANBP1/REL/TRAF1	13

RPL13	0.590077976	1.25E-137	Cyto_CD8.T_IL7R_CCL20	Th1 and Th2 cell differentiation	0.00225897	CD3D/CD3G/IFNGR1/JUN/NFKB1/NFKBIA/STAT1/STAT4	8
NFKBIZ	0.963823392	1.17E-135	Cyto_CD8.T_IL7R_CCL20	NOD-like receptor signaling pathway	0.002475589	BIRC2/BIRC3/BCL2/GBP2/HSP90AB1/JUN/NFKB1/NFKBIA/STAT1/TNF/TNFAIP3/GBP5	12
IL23R	0.301518199	2.47E-135	Cyto_CD8.T_IL7R_CCL20	Legionellosis	0.003075452	EEF1A1/EEF1G/NFKB1/NFKB2/NFKBIA/TNF	6
LST1	0.614252716	1.00E-133	Cyto_CD8.T_IL7R_CCL20	Leishmaniasis	0.003284364	EEF1A1/IFNGR1/JUN/NFKB1/NFKBIA/STAT1/TNF	7
IL23A	0.390889086	7.35E-133	Cyto_CD8.T_IL7R_CCL20	Transcriptional misregulation in cancer	0.003511801	BIRC2/BIRC3/BCL2A1/CCNT1/CDKN1A/HPGD/MYC/NFKB1/REL/TRAF1/ZBTB16/NFKBIZ	12
NCR3	0.876457321	4.92E-130	Cyto_CD8.T_IL7R_CCL20	Hematopoietic cell lineage	0.003573669	CD2/CD3D/CD3G/CD8A/CD44/FLT3LG/IL7R/TNF	8
RPL32	0.538866397	5.96E-130	Cyto_CD8.T_IL7R_CCL20	Kaposi sarcoma-associated herpesvirus infection	0.003819201	FAS/CDKN1A/CREB1/HLA-A/IFNGR1/JUN/MYC/NFKB1/NFKBIA/RPS27A/STAT1/UBA52	12
RPL3	0.682094939	6.05E-126	Cyto_CD8.T_IL7R_CCL20	Type I diabetes mellitus	0.004416704	FAS/CD28/HLA-A/LTA/TNF	5
RPS6	0.662741684	1.09E-125	Cyto_CD8.T_IL7R_CCL20	Necroptosis	0.007162489	BIRC2/BIRC3/FAS/BCL2/HSP90AB1/IFNGR1/STAT1/STAT4/TNF/TNFAIP3	10
FURIN	0.502302399	1.41E-125	Cyto_CD8.T_IL7R_CCL20	Circadian rhythm	0.00742244	CREB1/RORA/RORC/BHLHE40	4
RPS9	0.655376703	1.36E-121	Cyto_CD8.T_IL7R_CCL20	Toxoplasmosis	0.007509028	BIRC2/BIRC3/BCL2/IFNGR1/NFKB1/NFKBIA/STAT1/TNF	8
PHACTR2	0.598998824	1.41E-120	Cyto_CD8.T_IL7R_CCL20	MAPK signaling pathway	0.007792284	FAS/DUSP5/FLT3LG/NR4A1/JUN/JUND/MYC/NFKB1/NFKB2/PAK2/RELB/RPS6KA3/TNF/RASGRP1/DUSP16	15
DPP4	0.305415822	1.21E-119	Cyto_CD8.T_IL7R_CCL20	Rheumatoid arthritis	0.009216772	CD28/JUN/LTB/CCL3L1/CCL20/TNF/IL23A	7
TRAC	0.834111126	1.69E-119	Cyto_CD8.T_IL7R_CCL20	Viral protein interaction with cytokine and cytokine receptor	0.013434953	CCR6/LTA/CCL3L1/CCL20/TNF/CXCR4/CCL4L2	7
FEZ1	0.703033387	4.08E-119	Cyto_CD8.T_IL7R_CCL20	AGE-RAGE signaling pathway in diabetic complications	0.013434953	BCL2/JUN/SMAD3/NFKB1/PIM1/STAT1/TNF	7
KIF5C	0.319440857	8.69E-119	Cyto_CD8.T_IL7R_CCL20	Allograft rejection	0.015176193	FAS/CD28/HLA-A/TNF	4
RPS18	0.674067376	3.58E-118	Cyto_CD8.T_IL7R_CCL20	Toll-like receptor signaling pathway	0.016389301	JUN/NFKB1/NFKBIA/CCL3L1/STAT1/TNF/CCL4L2	7
RORA	0.903872041	1.97E-117	Cyto_CD8.T_IL7R_CCL20	Hepatitis C	0.018385539	FAS/CDKN1A/EIF3E/MYC/NFKB1/NFKBIA/STAT1/TNF/SOCS3	9
RPS2	0.570724242	4.11E-116	Cyto_CD8.T_IL7R_CCL20	Human immunodeficiency virus 1 infection	0.019073152	FAS/BCL2/CD3D/CD3G/HLA-A/JUN/NFKB1/NFKBIA/PAK2/TNF/CXCR4	11
NFKBIA	1.111031226	1.56E-114	Cyto_CD8.T_IL7R_CCL20	Graft-versus-host disease	0.021282432	FAS/CD28/HLA-A/TNF	4
RPLP0	0.751722346	9.36E-114	Cyto_CD8.T_IL7R_CCL20	Salmonella infection	0.024651321	BIRC2/BIRC3/BCL2/HSP90AB1/JUN/KIF5C/MYC/NFKB1/NFKBIA/RPS3/DYNLT3/TNF	12
NFKB1	0.949808218	1.08E-113	Cyto_CD8.T_IL7R_CCL20	Acute myeloid leukemia	0.027237702	BCL2A1/MYC/NFKB1/PIM1/ZBTB16	5
RPS23	0.500136966	1.20E-113	Cyto_CD8.T_IL7R_CCL20	Human cytomegalovirus infection	0.02809607	FAS/CDKN1A/CREB1/HLA-A/MYC/NFKB1/NFKBIA/CCL3L1/TNF/CXCR4/CCL4L2	11
PDE4D	0.754871279	2.63E-113	Cyto_CD8.T_IL7R_CCL20	RIG-I-like receptor signaling pathway	0.032138135	DDX3X/NFKB1/NFKBIA/TNF/ISG15	5
CD28	0.466033652	1.63E-111	Cyto_CD8.T_IL7R_CCL20	Prostate cancer	0.036549298	BCL2/CDKN1A/CREB1/HSP90AB1/NFKB1/NFKBIA	6
SLAMF1	0.461175926	1.92E-110	Cyto_CD8.T_IL7R_CCL20	Platinum drug resistance	0.037557144	BIRC2/BIRC3/FAS/BCL2/CDKN1A	5
RPL17	0.567995465	2.58E-109	Cyto_CD8.T_IL7R_CCL20	Chronic myeloid leukemia	0.043504897	CDKN1A/SMAD3/MYC/NFKB1/NFKBIA	5
TRAF1	0.674598673	9.74E-109	Cyto_CD8.T_IL7R_CCL20	Apoptosis - multiple species	0.046646191	BIRC2/BIRC3/BCL2	3
SYNGAP1	0.376561468	1.02E-108	Cyto_CD8.T_IL7R_CCL20	Lipid and atherosclerosis	0.047053498	FAS/BCL2/HSP90AB1/JUN/NFE2L2/NFKB1/NFKBIA/POU2F2/CCL3L1/TNF	10
RPLP1	0.475674825	3.62E-108	Cyto_CD8.T_IL7R_CCL20	Antigen processing and presentation	0.047767312	CD8A/CREB1/HLA-A/HSP90AB1/TNF	5
RPL10A	0.592708168	1.55E-104	Cyto_CD8.T_IL7R_CCL20				
RPL27A	0.740746954	2.41E-103	Cyto_CD8.T_IL7R_CCL20				
RPS12	0.467522408	9.68E-103	Cyto_CD8.T_IL7R_CCL20				
BIRC3	1.018137383	1.17E-102	Cyto_CD8.T_IL7R_CCL20				
TNFRSF18	0.609864747	3.08E-102	Cyto_CD8.T_IL7R_CCL20				
RPS16	0.553098807	1.77E-101	Cyto_CD8.T_IL7R_CCL20				
RPS8	0.484790231	3.50E-99	Cyto_CD8.T_IL7R_CCL20				
NR4A1	0.852703767	5.00E-97	Cyto_CD8.T_IL7R_CCL20				
RPL10	0.399238059	2.90E-96	Cyto_CD8.T_IL7R_CCL20				
RPL9	0.527552045	3.76E-94	Cyto_CD8.T_IL7R_CCL20				
PIM3	0.770677103	5.11E-94	Cyto_CD8.T_IL7R_CCL20				
RPL26	0.488690963	1.09E-93	Cyto_CD8.T_IL7R_CCL20				
JAML	0.449751781	1.48E-91	Cyto_CD8.T_IL7R_CCL20				
LINC01871	0.717465439	2.79E-91	Cyto_CD8.T_IL7R_CCL20				
RPL18A	0.471214662	2.87E-90	Cyto_CD8.T_IL7R_CCL20				
KLRG1	0.61890946	7.53E-90	Cyto_CD8.T_IL7R_CCL20				
RPL21	0.522349826	1.34E-89	Cyto_CD8.T_IL7R_CCL20				
RPL28	0.393465907	3.31E-89	Cyto_CD8.T_IL7R_CCL20				
GPR171	0.5532373	3.15E-88	Cyto_CD8.T_IL7R_CCL20				
CD52	0.6178516	3.34E-86	Cyto_CD8.T_IL7R_CCL20				
DSE	0.292765453	1.33E-85	Cyto_CD8.T_IL7R_CCL20				
KDM6B	0.657919655	7.76E-85	Cyto_CD8.T_IL7R_CCL20				

SNHG16	0.676458309	8.28E-85	Cyto_CD8.T_IL7R_CCL20
RPS4X	0.425666638	8.72E-85	Cyto_CD8.T_IL7R_CCL20
GNA15	0.335894718	1.46E-82	Cyto_CD8.T_IL7R_CCL20
MYC	0.59307943	1.06E-80	Cyto_CD8.T_IL7R_CCL20
RPS14	0.426228073	1.39E-79	Cyto_CD8.T_IL7R_CCL20
RPS20	0.648901914	1.15E-78	Cyto_CD8.T_IL7R_CCL20
EEF1B2	0.514774451	1.24E-78	Cyto_CD8.T_IL7R_CCL20
RPS5	0.478586477	4.42E-78	Cyto_CD8.T_IL7R_CCL20
RPL15	0.440585214	9.86E-78	Cyto_CD8.T_IL7R_CCL20
CD3D	0.661790759	2.32E-77	Cyto_CD8.T_IL7R_CCL20
TIFA	0.517546694	6.10E-77	Cyto_CD8.T_IL7R_CCL20
CD8A	0.605931951	7.81E-77	Cyto_CD8.T_IL7R_CCL20
PBX4	0.36726032	1.65E-76	Cyto_CD8.T_IL7R_CCL20
PTMS	0.59486314	6.16E-76	Cyto_CD8.T_IL7R_CCL20
RPS13	0.400324287	2.25E-75	Cyto_CD8.T_IL7R_CCL20
CD160	0.683253831	1.32E-74	Cyto_CD8.T_IL7R_CCL20
CAMK4	0.364103902	6.05E-72	Cyto_CD8.T_IL7R_CCL20
RPS29	0.449412664	6.78E-71	Cyto_CD8.T_IL7R_CCL20
RPS19	0.463415129	2.23E-70	Cyto_CD8.T_IL7R_CCL20
SPTY2D1	0.586915513	5.67E-70	Cyto_CD8.T_IL7R_CCL20
HPGD	0.32539108	1.04E-69	Cyto_CD8.T_IL7R_CCL20
RPS27A	0.330141292	4.96E-69	Cyto_CD8.T_IL7R_CCL20
BTG1	0.555989483	1.16E-68	Cyto_CD8.T_IL7R_CCL20
RPL19	0.342051318	2.70E-68	Cyto_CD8.T_IL7R_CCL20
SPOCK2	0.561525706	8.15E-68	Cyto_CD8.T_IL7R_CCL20
RPL12	0.398488004	2.05E-67	Cyto_CD8.T_IL7R_CCL20
RPS3A	0.376382376	1.29E-65	Cyto_CD8.T_IL7R_CCL20
IER3	0.725689104	2.47E-65	Cyto_CD8.T_IL7R_CCL20
REL	0.603202838	8.48E-65	Cyto_CD8.T_IL7R_CCL20
DUSP5	0.654486092	5.13E-64	Cyto_CD8.T_IL7R_CCL20
JUN	0.809688761	1.34E-63	Cyto_CD8.T_IL7R_CCL20
PHLDA1	0.543612723	3.77E-63	Cyto_CD8.T_IL7R_CCL20
CD83	0.758741506	6.78E-63	Cyto_CD8.T_IL7R_CCL20
RPL34	0.372461385	1.99E-62	Cyto_CD8.T_IL7R_CCL20
SATB1	0.559234541	3.65E-62	Cyto_CD8.T_IL7R_CCL20
NINJ1	0.542030412	2.46E-61	Cyto_CD8.T_IL7R_CCL20
RPS25	0.372637395	6.40E-61	Cyto_CD8.T_IL7R_CCL20
RPL23	0.530893509	4.21E-60	Cyto_CD8.T_IL7R_CCL20
NFKBID	0.555663998	8.66E-59	Cyto_CD8.T_IL7R_CCL20
RPL29	0.358999096	1.07E-58	Cyto_CD8.T_IL7R_CCL20
RPL23A	0.412508608	2.53E-58	Cyto_CD8.T_IL7R_CCL20
GPR35	0.459784857	3.42E-58	Cyto_CD8.T_IL7R_CCL20
RPL18	0.315296792	2.02E-56	Cyto_CD8.T_IL7R_CCL20
PPP1R15B	0.474881681	4.79E-56	Cyto_CD8.T_IL7R_CCL20
DDX21	0.549017217	3.12E-54	Cyto_CD8.T_IL7R_CCL20
RCAN3	0.379644581	3.38E-54	Cyto_CD8.T_IL7R_CCL20
FAS	0.503808397	4.07E-54	Cyto_CD8.T_IL7R_CCL20
ZNF267	0.52467165	5.00E-54	Cyto_CD8.T_IL7R_CCL20
POU2F2	0.402603887	1.48E-53	Cyto_CD8.T_IL7R_CCL20
RPL37A	0.432509808	1.85E-53	Cyto_CD8.T_IL7R_CCL20
ZDBF2	0.324184452	1.87E-52	Cyto_CD8.T_IL7R_CCL20
RPL37	0.342397487	7.05E-52	Cyto_CD8.T_IL7R_CCL20
RPL41	0.295443585	9.00E-52	Cyto_CD8.T_IL7R_CCL20
CCL3L1	1.170499051	9.65E-52	Cyto_CD8.T_IL7R_CCL20
STAT1	0.613247046	1.43E-51	Cyto_CD8.T_IL7R_CCL20
G3BP2	0.538001337	4.86E-51	Cyto_CD8.T_IL7R_CCL20
RPL13A	0.453023807	7.78E-51	Cyto_CD8.T_IL7R_CCL20
S100A4	0.433485195	1.54E-50	Cyto_CD8.T_IL7R_CCL20
RPSA	0.40191346	5.41E-50	Cyto_CD8.T_IL7R_CCL20
RPS24	0.304842048	1.47E-49	Cyto_CD8.T_IL7R_CCL20
CCSAP	0.343508179	1.59E-49	Cyto_CD8.T_IL7R_CCL20
SNHG8	0.457287039	2.90E-49	Cyto_CD8.T_IL7R_CCL20
GTF3C1	0.426776289	7.40E-49	Cyto_CD8.T_IL7R_CCL20
SPRY1	0.370715611	8.76E-49	Cyto_CD8.T_IL7R_CCL20

JUND	0.406973186	1.13E-48	Cyto_CD8.T_IL7R_CCL20
PLK3	0.347084264	1.30E-48	Cyto_CD8.T_IL7R_CCL20
SYNJ2	0.260650078	9.28E-48	Cyto_CD8.T_IL7R_CCL20
RPL36A	0.414829685	5.96E-47	Cyto_CD8.T_IL7R_CCL20
GALC	0.276899772	7.13E-47	Cyto_CD8.T_IL7R_CCL20
ICE2	0.404344783	1.03E-46	Cyto_CD8.T_IL7R_CCL20
EEF1G	0.424168743	8.11E-46	Cyto_CD8.T_IL7R_CCL20
RPL35A	0.338825704	8.98E-46	Cyto_CD8.T_IL7R_CCL20
LTA	0.340374271	3.80E-45	Cyto_CD8.T_IL7R_CCL20
EML4	0.464295671	6.05E-45	Cyto_CD8.T_IL7R_CCL20
RPS3	0.276901091	6.69E-45	Cyto_CD8.T_IL7R_CCL20
FNBP1	0.466984934	4.63E-44	Cyto_CD8.T_IL7R_CCL20
BHLHE40	0.460634491	8.36E-44	Cyto_CD8.T_IL7R_CCL20
RPS11	0.401881756	2.24E-43	Cyto_CD8.T_IL7R_CCL20
CDKN1A	0.384924564	3.12E-43	Cyto_CD8.T_IL7R_CCL20
RPS21	0.3171374	3.52E-43	Cyto_CD8.T_IL7R_CCL20
IL32	0.476463535	4.66E-43	Cyto_CD8.T_IL7R_CCL20
CCNG2	0.361257255	1.28E-42	Cyto_CD8.T_IL7R_CCL20
STAT4	0.4637717	2.42E-42	Cyto_CD8.T_IL7R_CCL20
SDC4	0.255822861	2.97E-42	Cyto_CD8.T_IL7R_CCL20
RPL30	0.262490732	7.53E-42	Cyto_CD8.T_IL7R_CCL20
DYNLT3	0.333389889	1.06E-41	Cyto_CD8.T_IL7R_CCL20
A2M-AS1	0.253484708	2.59E-41	Cyto_CD8.T_IL7R_CCL20
HNRNPC	0.44591603	5.97E-41	Cyto_CD8.T_IL7R_CCL20
APOL3	0.362865969	2.04E-40	Cyto_CD8.T_IL7R_CCL20
IKZF2	0.300672093	2.52E-40	Cyto_CD8.T_IL7R_CCL20
RPL24	0.300456671	7.76E-40	Cyto_CD8.T_IL7R_CCL20
TTC39C	0.32792004	3.27E-39	Cyto_CD8.T_IL7R_CCL20
ODF2L	0.404965691	4.90E-39	Cyto_CD8.T_IL7R_CCL20
PABPC1	0.467674882	9.37E-39	Cyto_CD8.T_IL7R_CCL20
UBA52	0.313942143	9.94E-39	Cyto_CD8.T_IL7R_CCL20
PPP1R15A	0.549498955	1.03E-38	Cyto_CD8.T_IL7R_CCL20
MT-ND2	0.415926631	1.50E-38	Cyto_CD8.T_IL7R_CCL20
TRAT1	0.286282496	1.68E-38	Cyto_CD8.T_IL7R_CCL20
ZC3H12A	0.404733287	5.99E-38	Cyto_CD8.T_IL7R_CCL20
CD70	0.391429927	1.65E-37	Cyto_CD8.T_IL7R_CCL20
HNRNPLL	0.274712379	2.15E-37	Cyto_CD8.T_IL7R_CCL20
NPM1	0.386098652	2.58E-37	Cyto_CD8.T_IL7R_CCL20
ABRACL	0.420298893	7.90E-37	Cyto_CD8.T_IL7R_CCL20
TRBC2	0.423883892	1.23E-36	Cyto_CD8.T_IL7R_CCL20
CD2	0.399546863	1.60E-36	Cyto_CD8.T_IL7R_CCL20
BCL2	0.348259341	2.17E-36	Cyto_CD8.T_IL7R_CCL20
TNFRSF4	0.297446813	2.29E-36	Cyto_CD8.T_IL7R_CCL20
MT-ND5	0.429667009	3.07E-36	Cyto_CD8.T_IL7R_CCL20
CAMK2N1	0.257710842	3.14E-36	Cyto_CD8.T_IL7R_CCL20
CXCR4	0.468163776	4.86E-36	Cyto_CD8.T_IL7R_CCL20
HLA-A	0.290777424	4.45E-35	Cyto_CD8.T_IL7R_CCL20
ZBTB16	0.347460644	1.10E-34	Cyto_CD8.T_IL7R_CCL20
CCDC107	0.385413713	1.54E-34	Cyto_CD8.T_IL7R_CCL20
RPS27	0.268670397	2.58E-34	Cyto_CD8.T_IL7R_CCL20
RANBP1	0.369154716	2.60E-34	Cyto_CD8.T_IL7R_CCL20
TRAF4	0.336880627	3.32E-34	Cyto_CD8.T_IL7R_CCL20
PDE4B	0.382961909	4.56E-34	Cyto_CD8.T_IL7R_CCL20
SOCS3	0.283057568	5.98E-34	Cyto_CD8.T_IL7R_CCL20
IGFLR1	0.347034323	4.91E-33	Cyto_CD8.T_IL7R_CCL20
IER5	0.350181493	5.36E-33	Cyto_CD8.T_IL7R_CCL20
INTS6	0.426786881	5.57E-33	Cyto_CD8.T_IL7R_CCL20
NAP1L1	0.415567174	9.22E-33	Cyto_CD8.T_IL7R_CCL20
RPS17	0.406393064	1.49E-32	Cyto_CD8.T_IL7R_CCL20
NDUFV2	0.358501813	1.92E-32	Cyto_CD8.T_IL7R_CCL20
FKBP11	0.381445765	2.31E-32	Cyto_CD8.T_IL7R_CCL20
VIM	0.486533822	2.36E-32	Cyto_CD8.T_IL7R_CCL20
MT-ND3	0.337327714	3.11E-32	Cyto_CD8.T_IL7R_CCL20
RPL8	0.259126874	4.39E-32	Cyto_CD8.T_IL7R_CCL20

CD96	0.365733288	4.52E-32	Cyto_CD8.T_IL7R_CCL20
RPL5	0.277158425	5.45E-32	Cyto_CD8.T_IL7R_CCL20
RPL7	0.349904074	1.17E-31	Cyto_CD8.T_IL7R_CCL20
TRGC2	0.319858977	1.80E-31	Cyto_CD8.T_IL7R_CCL20
EIF3E	0.367230556	2.54E-31	Cyto_CD8.T_IL7R_CCL20
MDFIC	0.341997374	7.98E-31	Cyto_CD8.T_IL7R_CCL20
HIVEP2	0.293400917	1.03E-30	Cyto_CD8.T_IL7R_CCL20
PIM1	0.332883908	1.39E-30	Cyto_CD8.T_IL7R_CCL20
RNF19A	0.520411141	2.16E-30	Cyto_CD8.T_IL7R_CCL20
MT-ND1	0.308987585	3.12E-30	Cyto_CD8.T_IL7R_CCL20
CUTA	0.367723178	6.22E-30	Cyto_CD8.T_IL7R_CCL20
PPA1	0.330325576	7.69E-30	Cyto_CD8.T_IL7R_CCL20
BTG2	0.511042555	9.43E-30	Cyto_CD8.T_IL7R_CCL20
RPL4	0.344832038	1.14E-29	Cyto_CD8.T_IL7R_CCL20
RGS2	0.413270889	1.44E-29	Cyto_CD8.T_IL7R_CCL20
EZR	0.450273422	1.53E-29	Cyto_CD8.T_IL7R_CCL20
CXCR6	0.322405976	1.57E-29	Cyto_CD8.T_IL7R_CCL20
MIR155HG	0.602797319	5.14E-29	Cyto_CD8.T_IL7R_CCL20
RPL27	0.324326491	6.62E-29	Cyto_CD8.T_IL7R_CCL20
SYTL2	0.322911715	7.77E-29	Cyto_CD8.T_IL7R_CCL20
RACK1	0.273315806	7.89E-29	Cyto_CD8.T_IL7R_CCL20
RASSF2	0.278127844	1.33E-28	Cyto_CD8.T_IL7R_CCL20
RPS6KA3	0.313869619	1.78E-28	Cyto_CD8.T_IL7R_CCL20
RAB21	0.343266989	2.73E-28	Cyto_CD8.T_IL7R_CCL20
HSP90AB1	0.329827747	4.34E-28	Cyto_CD8.T_IL7R_CCL20
CD6	0.288430752	5.08E-28	Cyto_CD8.T_IL7R_CCL20
SEC14L1	0.321296355	5.37E-28	Cyto_CD8.T_IL7R_CCL20
RGS10	0.285386786	5.96E-28	Cyto_CD8.T_IL7R_CCL20
RPL36	0.267922867	6.54E-28	Cyto_CD8.T_IL7R_CCL20
CYB5A	0.317531779	9.55E-28	Cyto_CD8.T_IL7R_CCL20
KMT2E	0.389177233	1.05E-27	Cyto_CD8.T_IL7R_CCL20
SRSF7	0.436754652	1.55E-27	Cyto_CD8.T_IL7R_CCL20
GPX4	0.38341927	5.09E-27	Cyto_CD8.T_IL7R_CCL20
NFAT5	0.324260402	7.17E-27	Cyto_CD8.T_IL7R_CCL20
CCNI	0.332002969	1.23E-25	Cyto_CD8.T_IL7R_CCL20
CD3G	0.268435376	2.75E-25	Cyto_CD8.T_IL7R_CCL20
ZFAS1	0.344409392	4.16E-25	Cyto_CD8.T_IL7R_CCL20
RPL35	0.283050592	5.32E-25	Cyto_CD8.T_IL7R_CCL20
NSUN6	0.294613976	1.22E-24	Cyto_CD8.T_IL7R_CCL20
RPL31	0.315978729	1.24E-24	Cyto_CD8.T_IL7R_CCL20
CHD4	0.345318005	1.47E-24	Cyto_CD8.T_IL7R_CCL20
CKLF	0.339014598	2.86E-24	Cyto_CD8.T_IL7R_CCL20
GSPT1	0.316665666	1.78E-23	Cyto_CD8.T_IL7R_CCL20
GPBP1	0.325361962	2.24E-23	Cyto_CD8.T_IL7R_CCL20
FLT3LG	0.255470163	2.29E-23	Cyto_CD8.T_IL7R_CCL20
CEBPD	0.349731961	2.31E-23	Cyto_CD8.T_IL7R_CCL20
LCP1	0.348495981	2.39E-23	Cyto_CD8.T_IL7R_CCL20
SNHG6	0.31856062	2.73E-23	Cyto_CD8.T_IL7R_CCL20
DENND4A	0.300650609	3.05E-23	Cyto_CD8.T_IL7R_CCL20
PTMA	0.278313111	4.25E-23	Cyto_CD8.T_IL7R_CCL20
RAPGEF6	0.264029102	7.46E-23	Cyto_CD8.T_IL7R_CCL20
OTULIN	0.283968921	7.82E-23	Cyto_CD8.T_IL7R_CCL20
SMAP2	0.30266319	1.47E-22	Cyto_CD8.T_IL7R_CCL20
PAK2	0.350035771	1.91E-22	Cyto_CD8.T_IL7R_CCL20
SMAD3	0.277953259	2.16E-22	Cyto_CD8.T_IL7R_CCL20
TMEM123	0.257993128	2.25E-22	Cyto_CD8.T_IL7R_CCL20
PKM	0.311407418	3.46E-22	Cyto_CD8.T_IL7R_CCL20
GBP5	0.32918778	3.64E-22	Cyto_CD8.T_IL7R_CCL20
PRR5	0.257206397	3.79E-22	Cyto_CD8.T_IL7R_CCL20
UBALD2	0.339922116	3.84E-22	Cyto_CD8.T_IL7R_CCL20
DDX3Y	0.310997944	7.17E-22	Cyto_CD8.T_IL7R_CCL20
PDCD4	0.324494113	9.23E-22	Cyto_CD8.T_IL7R_CCL20
GPRIN3	0.35687966	1.50E-21	Cyto_CD8.T_IL7R_CCL20
LUZP1	0.273943953	1.52E-21	Cyto_CD8.T_IL7R_CCL20

IFNGR1	0.309885986	2.09E-21	Cyto_CD8.T_IL7R_CCL20
CREB1	0.293653523	3.23E-21	Cyto_CD8.T_IL7R_CCL20
PHF1	0.270187626	3.51E-21	Cyto_CD8.T_IL7R_CCL20
TWISTNB	0.435515253	4.14E-21	Cyto_CD8.T_IL7R_CCL20
BIRC2	0.295733421	5.35E-21	Cyto_CD8.T_IL7R_CCL20
MGAT4A	0.263212911	7.27E-21	Cyto_CD8.T_IL7R_CCL20
ELOVL5	0.304282265	7.84E-21	Cyto_CD8.T_IL7R_CCL20
GLIPR1	0.330174716	8.23E-21	Cyto_CD8.T_IL7R_CCL20
VMP1	0.267423631	2.50E-20	Cyto_CD8.T_IL7R_CCL20
CD48	0.319044333	2.68E-20	Cyto_CD8.T_IL7R_CCL20
RELB	0.265592666	6.34E-20	Cyto_CD8.T_IL7R_CCL20
DNAJA1	0.271019056	6.63E-20	Cyto_CD8.T_IL7R_CCL20
GBP2	0.310660056	7.26E-20	Cyto_CD8.T_IL7R_CCL20
EHD1	0.311969875	9.14E-20	Cyto_CD8.T_IL7R_CCL20
ANKRD12	0.364985217	1.01E-19	Cyto_CD8.T_IL7R_CCL20
OSTC	0.276767443	1.02E-19	Cyto_CD8.T_IL7R_CCL20
NFKB2	0.295278515	1.03E-19	Cyto_CD8.T_IL7R_CCL20
CDC37	0.307211262	1.27E-19	Cyto_CD8.T_IL7R_CCL20
MT-ATP6	0.257663265	1.45E-19	Cyto_CD8.T_IL7R_CCL20
CD44	0.314164615	1.97E-19	Cyto_CD8.T_IL7R_CCL20
PFDN5	0.252106499	2.05E-19	Cyto_CD8.T_IL7R_CCL20
GAS5	0.262454438	2.19E-19	Cyto_CD8.T_IL7R_CCL20
PAG1	0.250366806	2.20E-19	Cyto_CD8.T_IL7R_CCL20
TIPARP	0.321226893	3.16E-19	Cyto_CD8.T_IL7R_CCL20
METTL21A	0.262045697	3.81E-19	Cyto_CD8.T_IL7R_CCL20
AC020916.1	0.384068322	3.86E-19	Cyto_CD8.T_IL7R_CCL20
NOP53	0.282380544	3.95E-19	Cyto_CD8.T_IL7R_CCL20
DDX3X	0.348192926	4.46E-19	Cyto_CD8.T_IL7R_CCL20
LAG3	0.251631684	4.79E-19	Cyto_CD8.T_IL7R_CCL20
ARL5B	0.305115477	6.49E-18	Cyto_CD8.T_IL7R_CCL20
SEC61B	0.287268997	7.42E-18	Cyto_CD8.T_IL7R_CCL20
BZW1	0.274603919	7.98E-18	Cyto_CD8.T_IL7R_CCL20
CD69	0.552964768	1.11E-17	Cyto_CD8.T_IL7R_CCL20
HOPX	0.27783396	1.38E-17	Cyto_CD8.T_IL7R_CCL20
RASGRP1	0.274868042	2.17E-17	Cyto_CD8.T_IL7R_CCL20
NFE2L2	0.301224255	2.27E-17	Cyto_CD8.T_IL7R_CCL20
S100A6	0.268649721	4.03E-17	Cyto_CD8.T_IL7R_CCL20
EMB	0.252921023	5.26E-17	Cyto_CD8.T_IL7R_CCL20
ANP32E	0.28466005	5.46E-17	Cyto_CD8.T_IL7R_CCL20
RGCC	0.464902266	1.05E-16	Cyto_CD8.T_IL7R_CCL20
GLS	0.262207078	1.12E-16	Cyto_CD8.T_IL7R_CCL20
ADGRE5	0.277577736	1.23E-16	Cyto_CD8.T_IL7R_CCL20
RPL22L1	0.294222786	3.14E-16	Cyto_CD8.T_IL7R_CCL20
SKIL	0.259267792	3.67E-16	Cyto_CD8.T_IL7R_CCL20
LPXN	0.250147887	3.97E-16	Cyto_CD8.T_IL7R_CCL20
MCL1	0.296263479	4.78E-16	Cyto_CD8.T_IL7R_CCL20
RPL38	0.253893809	4.79E-16	Cyto_CD8.T_IL7R_CCL20
SRSF2	0.297037479	7.74E-16	Cyto_CD8.T_IL7R_CCL20
CCNT1	0.268360377	1.20E-15	Cyto_CD8.T_IL7R_CCL20
EIF4A1	0.251397819	1.36E-15	Cyto_CD8.T_IL7R_CCL20
AC008105.3	0.253089337	2.46E-15	Cyto_CD8.T_IL7R_CCL20
SERBP1	0.269367494	1.00E-14	Cyto_CD8.T_IL7R_CCL20
GPSM3	0.263577116	1.20E-14	Cyto_CD8.T_IL7R_CCL20
FAM107B	0.271951301	2.34E-14	Cyto_CD8.T_IL7R_CCL20
LAPTM5	0.261979556	5.46E-14	Cyto_CD8.T_IL7R_CCL20
LINC-PINT	0.298579644	2.76E-13	Cyto_CD8.T_IL7R_CCL20
SYNE2	0.278614317	2.02E-12	Cyto_CD8.T_IL7R_CCL20
TERF2IP	0.254991693	3.01E-12	Cyto_CD8.T_IL7R_CCL20
JUNB	0.263801046	6.42E-11	Cyto_CD8.T_IL7R_CCL20
PRRC2C	0.251517544	1.69E-10	Cyto_CD8.T_IL7R_CCL20
CCL4L2	0.415568731	2.66E-07	Cyto_CD8.T_IL7R_CCL20
ISG15	0.289534891	1.47E-06	Cyto_CD8.T_IL7R_CCL20
MT2A	0.37919795	3.86E-05	Cyto_CD8.T_IL7R_CCL20
KLF6	0.298730013	0.000104145	Cyto_CD8.T_IL7R_CCL20

INSIG1	0.260435385	0.001815987	Cyto_CD8.T_IL7R_CCL20				

g. Cyto_CD8.T_GZMB_GNLY_PTGDS

Gene symbol	avg_log2FC	p_val_adj	Upregulated group	Description	pvalue	geneID	Count
PTGDS	4.953153969	0	Cyto_CD8.T_GZMB_GNLY_PTGDS	Natural killer cell mediated cytotoxicity	1.18E-11	CD247/FCER1G/FCGR3A/GZMB/HLA-E/ICAM2/ITGB2/KIR2DL1/KLRD1/PRF1/RAC2/TYROBP/NCR3	13
MYOM2	1.308717221	1.33E-164	Cyto_CD8.T_GZMB_GNLY_PTGDS	Antigen processing and presentation	1.13E-07	B2M/PDIA3/HLA-E/HSPA1A/HSPA5/KIR2DL1/KLRD1/PSME1	8
FGFBP2	1.500623967	1.82E-155	Cyto_CD8.T_GZMB_GNLY_PTGDS	Leukocyte transendothelial migration	2.13E-06	ACTB/ACTG1/RHOA/CYBA/ITGB2/CD99/RAC2/MYL12A	8
SPON2	1.584737846	1.29E-152	Cyto_CD8.T_GZMB_GNLY_PTGDS	Viral myocarditis	5.65E-06	ACTB/ACTG1/HLA-E/ITGB2/PRF1/RAC2	6
GZMB	1.358775167	9.63E-111	Cyto_CD8.T_GZMB_GNLY_PTGDS	Graft-versus-host disease	1.51E-05	GZMB/HLA-E/KIR2DL1/KLRD1/PRF1	5
FCGR3A	1.222344038	4.18E-104	Cyto_CD8.T_GZMB_GNLY_PTGDS	Apoptosis	7.27E-05	ACTB/ACTG1/CTSC/CTSD/CTSW/GZMB/PRF1	7
IGFBP7	0.755461217	8.34E-102	Cyto_CD8.T_GZMB_GNLY_PTGDS	Fluid shear stress and atherosclerosis	8.35E-05	ACTB/ACTG1/RHOA/CYBA/NFE2L2/RAC2/KLF2	7
LAIR2	0.838291434	3.28E-100	Cyto_CD8.T_GZMB_GNLY_PTGDS	Chemokine signaling pathway	9.62E-05	RHOA/CX3CR1/LYN/RAC2/CCL3/CCL4/XCL2/CCL4L2	8
NKG7	0.982167523	9.37E-94	Cyto_CD8.T_GZMB_GNLY_PTGDS	Viral protein interaction with cytokine and cytokine receptor	0.000106135	CX3CR1/IL2RG/CCL3/CCL4/XCL2/CCL4L2	6
PRF1	1.129177003	9.99E-82	Cyto_CD8.T_GZMB_GNLY_PTGDS	Human cytomegalovirus infection	0.000287308	RHOA/B2M/PDIA3/HLA-E/RAC2/CCL3/CCL4/CCL4L2	8
FCER1G	1.131985904	4.18E-76	Cyto_CD8.T_GZMB_GNLY_PTGDS	Platelet activation	0.000344913	ACTB/ACTG1/RHOA/FCER1G/LYN/MYL12A	6
CST7	0.778996641	8.28E-65	Cyto_CD8.T_GZMB_GNLY_PTGDS	Lysosome	0.000482326	CTSC/CTSD/CTSW/PSAP/LITAF/GNPTAB	6
TYROBP	0.865887218	4.89E-60	Cyto_CD8.T_GZMB_GNLY_PTGDS	Neutrophil extracellular trap formation	0.000572574	ACTB/ACTG1/CYBA/FCGR3A/ITGB2/RAC2/SELPLG	7
CD247	0.89194687	6.31E-60	Cyto_CD8.T_GZMB_GNLY_PTGDS	Phagosome	0.001014503	ACTB/ACTG1/CYBA/FCGR3A/HLA-E/ITGB2	6
B2M	0.383150671	6.72E-59	Cyto_CD8.T_GZMB_GNLY_PTGDS	Lipid and atherosclerosis	0.001187599	RHOA/CYBA/HSPA1A/HSPA5/LYN/NFE2L2/CCL3	7
AKR1C3	0.440681527	1.04E-51	Cyto_CD8.T_GZMB_GNLY_PTGDS	Hippo signaling pathway	0.00119992	ACTB/ACTG1/AREG/CCND3/ITGB2/TGFB1	6
CTSW	0.840156677	1.59E-51	Cyto_CD8.T_GZMB_GNLY_PTGDS	Regulation of actin cytoskeleton	0.001287166	ACTB/ACTG1/RHOA/ITGB2/PFN1/RAC2/MYL12A	7
ARL4C	0.732839998	9.16E-47	Cyto_CD8.T_GZMB_GNLY_PTGDS	Adherens junction	0.002049527	ACTB/ACTG1/RHOA/RAC2	4
PLAC8	0.723529398	3.84E-45	Cyto_CD8.T_GZMB_GNLY_PTGDS	Sphingolipid signaling pathway	0.002073374	RHOA/CTSD/FCER1G/RAC2/S1PR5	5
CX3CR1	0.45097515	5.87E-45	Cyto_CD8.T_GZMB_GNLY_PTGDS	Tuberculosis	0.002408833	RHOA/CTSD/FCER1G/FCGR3A/ITGB2/TGFB1	6
PRSS23	0.356529437	4.19E-43	Cyto_CD8.T_GZMB_GNLY_PTGDS	Shigellosis	0.002626382	ACTB/ACTG1/RHOA/CAPNS1/PFN1/UBB/MYL12A	7
LINC00299	0.418076673	1.84E-42	Cyto_CD8.T_GZMB_GNLY_PTGDS	Leishmaniasis	0.002758933	CYBA/FCGR3A/ITGB2/TGFB1	4
EFHD2	0.733718375	3.67E-42	Cyto_CD8.T_GZMB_GNLY_PTGDS	Allograft rejection	0.002963811	GZMB/HLA-E/PRF1	3
RASSF4	0.381517041	3.61E-41	Cyto_CD8.T_GZMB_GNLY_PTGDS	Colorectal cancer	0.004113901	AREG/RHOA/RAC2/TGFB1	4
CHST2	0.371814874	4.33E-41	Cyto_CD8.T_GZMB_GNLY_PTGDS	Focal adhesion	0.004162888	ACTB/ACTG1/RHOA/CCND3/RAC2/MYL12A	6
HLA-E	0.460635708	3.21E-38	Cyto_CD8.T_GZMB_GNLY_PTGDS	Type I diabetes mellitus	0.004219942	GZMB/HLA-E/PRF1	3
KIR2DL1	0.337664887	1.11E-36	Cyto_CD8.T_GZMB_GNLY_PTGDS	Epstein-Barr virus infection	0.004265101	B2M/CCND3/CD247/PDIA3/HLA-E/LYN	6
MTSS1	0.346816008	2.30E-33	Cyto_CD8.T_GZMB_GNLY_PTGDS	Rap1 signaling pathway	0.00515119	ACTB/ACTG1/RHOA/ITGB2/PFN1/RAC2	6
KLRD1	0.625610037	2.68E-32	Cyto_CD8.T_GZMB_GNLY_PTGDS	Cell adhesion molecules	0.005453076	HLA-E/ICAM2/ITGB2/CD99/SELPLG	5
CTSD	0.651916025	8.42E-32	Cyto_CD8.T_GZMB_GNLY_PTGDS	Human T-cell leukemia virus 1 infection	0.006725338	B2M/CCND3/HLA-E/IL2RG/ITGB2/TGFB1	6
KLRF1	0.538003329	1.59E-31	Cyto_CD8.T_GZMB_GNLY_PTGDS	Cytokine-cytokine receptor interaction	0.006940292	CX3CR1/IL2RG/CCL3/CCL4/XCL2/TGFB1/CCL4L2	7
EMP3	0.587376	1.94E-31	Cyto_CD8.T_GZMB_GNLY_PTGDS	Autoimmune thyroid disease	0.007589109	GZMB/HLA-E/PRF1	3
ADGRG1	0.397830084	9.23E-29	Cyto_CD8.T_GZMB_GNLY_PTGDS	NOD-like receptor signaling pathway	0.012953272	RHOA/CYBA/TXNIP/GABARAP/CARD16	5
GNLY	0.73335709	1.09E-28	Cyto_CD8.T_GZMB_GNLY_PTGDS	Fc epsilon RI signaling pathway	0.014976393	FCER1G/LYN/RAC2	3
UBE2F	0.49107339	8.12E-28	Cyto_CD8.T_GZMB_GNLY_PTGDS	Osteoclast differentiation	0.016304566	CYBA/FCGR3A/TGFB1/TYROBP	4
TMSB10	0.346376095	1.35E-27	Cyto_CD8.T_GZMB_GNLY_PTGDS	Yersinia infection	0.020405894	ACTB/ACTG1/RHOA/RAC2	4
GK5	0.394093767	2.38E-26	Cyto_CD8.T_GZMB_GNLY_PTGDS	Bacterial invasion of epithelial cells	0.020829876	ACTB/ACTG1/RHOA	3
TLE5	0.516085583	6.94E-26	Cyto_CD8.T_GZMB_GNLY_PTGDS	Human immunodeficiency virus 1 infection	0.022539558	B2M/CD247/PDIA3/HLA-E/RAC2	5
ITGB2	0.594812472	1.67E-25	Cyto_CD8.T_GZMB_GNLY_PTGDS	Hypertrophic cardiomyopathy	0.031208272	ACTB/ACTG1/TGFB1	3
LITAF	0.524200765	5.53E-24	Cyto_CD8.T_GZMB_GNLY_PTGDS	Rheumatoid arthritis	0.033925277	ITGB2/CCL3/TGFB1	3
PTPN12	0.433064635	8.72E-24	Cyto_CD8.T_GZMB_GNLY_PTGDS	Staphylococcus aureus infection	0.036761865	FCGR3A/ITGB2/SELPLG	3
FTL	0.43042795	1.07E-23	Cyto_CD8.T_GZMB_GNLY_PTGDS	Dilated cardiomyopathy	0.036761865	ACTB/ACTG1/TGFB1	3
LAIR1	0.323362407	6.87E-23	Cyto_CD8.T_GZMB_GNLY_PTGDS	Fc gamma R-mediated phagocytosis	0.037733826	FCGR3A/LYN/RAC2	3
PFN1	0.418129796	8.04E-23	Cyto_CD8.T_GZMB_GNLY_PTGDS	Ferroptosis	0.038935761	FTH1/FTL	2
TCF25	0.535688519	8.97E-23	Cyto_CD8.T_GZMB_GNLY_PTGDS	Hepatocellular carcinoma	0.039115696	ACTB/ACTG1/NFE2L2/TGFB1	4
UBB	0.405019031	1.34E-22	Cyto_CD8.T_GZMB_GNLY_PTGDS	Tight junction	0.039841179	ACTB/ACTG1/RHOA/MYL12A	4
SELPLG	0.364113564	2.01E-22	Cyto_CD8.T_GZMB_GNLY_PTGDS	Salmonella infection	0.041019703	ACTB/ACTG1/RHOA/PFN1/MYL12A	5
CYBA	0.41848975	3.95E-22	Cyto_CD8.T_GZMB_GNLY_PTGDS	Protein processing in endoplasmic reticulum	0.041315304	PDIA3/HSPA1A/HSPA5/NFE2L2	4
CD300A	0.466088826	4.32E-22	Cyto_CD8.T_GZMB_GNLY_PTGDS	Chagas disease	0.042790223	CD247/CCL3/TGFB1	3
PLEK	0.53539548	1.72E-21	Cyto_CD8.T_GZMB_GNLY_PTGDS	NF-kappa B signaling pathway	0.04490376	LYN/CCL4/CCL4L2	3
LYN	0.37652531	1.76E-21	Cyto_CD8.T_GZMB_GNLY_PTGDS	Toll-like receptor signaling pathway	0.04490376	CCL3/CCL4/CCL4L2	3
SLC15A4	0.302006772	1.36E-20	Cyto_CD8.T_GZMB_GNLY_PTGDS	Th17 cell differentiation	0.04928477	CD247/IL2RG/TGFB1	3
HAVCR2	0.379390271	1.60E-20	Cyto_CD8.T_GZMB_GNLY_PTGDS				
C1orf21	0.385128095	4.66E-20	Cyto_CD8.T_GZMB_GNLY_PTGDS				
MT-CO2	0.331319679	8.06E-20	Cyto_CD8.T_GZMB_GNLY_PTGDS				
ICAM2	0.408553466	8.81E-20	Cyto_CD8.T_GZMB_GNLY_PTGDS				

AREG	0.77106926	1.20E-19	Cyto_CD8.T_GZMB_GNLY_PTGDS
C1orf162	0.383791812	3.39E-19	Cyto_CD8.T_GZMB_GNLY_PTGDS
TMIGD2	0.401319949	1.82E-18	Cyto_CD8.T_GZMB_GNLY_PTGDS
S1PR5	0.433445626	5.29E-18	Cyto_CD8.T_GZMB_GNLY_PTGDS
ACTB	0.503457943	2.08E-17	Cyto_CD8.T_GZMB_GNLY_PTGDS
APOA2	0.49125535	2.15E-16	Cyto_CD8.T_GZMB_GNLY_PTGDS
ABHD17A	0.44696447	9.20E-16	Cyto_CD8.T_GZMB_GNLY_PTGDS
KLF2	0.626224287	2.62E-15	Cyto_CD8.T_GZMB_GNLY_PTGDS
AC092821.3	0.36099766	1.56E-14	Cyto_CD8.T_GZMB_GNLY_PTGDS
SERF2	0.293615856	2.64E-14	Cyto_CD8.T_GZMB_GNLY_PTGDS
LGALS1	0.479407498	2.37E-13	Cyto_CD8.T_GZMB_GNLY_PTGDS
HSH2D	0.303512053	2.58E-13	Cyto_CD8.T_GZMB_GNLY_PTGDS
GNPTAB	0.324737713	3.07E-13	Cyto_CD8.T_GZMB_GNLY_PTGDS
CARD16	0.49242867	1.97E-12	Cyto_CD8.T_GZMB_GNLY_PTGDS
APMAP	0.385104526	1.17E-11	Cyto_CD8.T_GZMB_GNLY_PTGDS
UCP2	0.428123616	2.78E-11	Cyto_CD8.T_GZMB_GNLY_PTGDS
TIMP1	0.314014098	5.78E-11	Cyto_CD8.T_GZMB_GNLY_PTGDS
FTH1	0.432893971	9.76E-11	Cyto_CD8.T_GZMB_GNLY_PTGDS
CEP78	0.301638262	1.06E-09	Cyto_CD8.T_GZMB_GNLY_PTGDS
BIN2	0.370321263	1.59E-09	Cyto_CD8.T_GZMB_GNLY_PTGDS
GFOD1	0.262955139	1.59E-09	Cyto_CD8.T_GZMB_GNLY_PTGDS
TXNIP	0.372380229	1.98E-09	Cyto_CD8.T_GZMB_GNLY_PTGDS
CCL4	0.564201045	3.02E-09	Cyto_CD8.T_GZMB_GNLY_PTGDS
HOPX	0.453559432	3.36E-09	Cyto_CD8.T_GZMB_GNLY_PTGDS
CD99	0.340224818	3.85E-09	Cyto_CD8.T_GZMB_GNLY_PTGDS
MYL12A	0.282004837	4.23E-09	Cyto_CD8.T_GZMB_GNLY_PTGDS
CAPNS1	0.313566707	1.11E-08	Cyto_CD8.T_GZMB_GNLY_PTGDS
CCND3	0.401933912	1.93E-08	Cyto_CD8.T_GZMB_GNLY_PTGDS
CTSC	0.306981271	4.00E-08	Cyto_CD8.T_GZMB_GNLY_PTGDS
CLIC1	0.275909705	4.05E-08	Cyto_CD8.T_GZMB_GNLY_PTGDS
CCL4L2	0.477369796	5.26E-08	Cyto_CD8.T_GZMB_GNLY_PTGDS
C1orf56	0.314057724	6.19E-08	Cyto_CD8.T_GZMB_GNLY_PTGDS
GLIPR2	0.260093889	6.52E-08	Cyto_CD8.T_GZMB_GNLY_PTGDS
ABI3	0.294354622	7.01E-08	Cyto_CD8.T_GZMB_GNLY_PTGDS
METRNL	0.342713684	1.37E-07	Cyto_CD8.T_GZMB_GNLY_PTGDS
DBI	0.299021661	1.63E-07	Cyto_CD8.T_GZMB_GNLY_PTGDS
SRGN	0.253770641	2.02E-07	Cyto_CD8.T_GZMB_GNLY_PTGDS
NCR3	0.28113002	3.11E-07	Cyto_CD8.T_GZMB_GNLY_PTGDS
TPST2	0.310758988	3.48E-07	Cyto_CD8.T_GZMB_GNLY_PTGDS
PSAP	0.322111376	4.08E-07	Cyto_CD8.T_GZMB_GNLY_PTGDS
TGFB1	0.328588088	4.80E-07	Cyto_CD8.T_GZMB_GNLY_PTGDS
CD53	0.329728954	6.84E-07	Cyto_CD8.T_GZMB_GNLY_PTGDS
FGL2	0.273660966	7.23E-07	Cyto_CD8.T_GZMB_GNLY_PTGDS
DHRS7	0.304598708	1.19E-06	Cyto_CD8.T_GZMB_GNLY_PTGDS
ACTG1	0.257681699	1.63E-06	Cyto_CD8.T_GZMB_GNLY_PTGDS
GABARAP	0.287528907	3.93E-06	Cyto_CD8.T_GZMB_GNLY_PTGDS
IL2RG	0.308915662	5.68E-06	Cyto_CD8.T_GZMB_GNLY_PTGDS
CD7	0.257291484	2.79E-05	Cyto_CD8.T_GZMB_GNLY_PTGDS
PSME1	0.291347811	3.45E-05	Cyto_CD8.T_GZMB_GNLY_PTGDS
CDC42SE1	0.336417405	4.01E-05	Cyto_CD8.T_GZMB_GNLY_PTGDS
XCL2	0.493006068	0.000112515	Cyto_CD8.T_GZMB_GNLY_PTGDS
CLIC3	0.252121985	0.000116851	Cyto_CD8.T_GZMB_GNLY_PTGDS
RHOC	0.280464212	0.000141463	Cyto_CD8.T_GZMB_GNLY_PTGDS
RHOA	0.273895398	0.00014291	Cyto_CD8.T_GZMB_GNLY_PTGDS
SDCBP	0.335687951	0.000301086	Cyto_CD8.T_GZMB_GNLY_PTGDS
BSG	0.257979625	0.000302555	Cyto_CD8.T_GZMB_GNLY_PTGDS
SYNE1	0.268574892	0.000310654	Cyto_CD8.T_GZMB_GNLY_PTGDS
RAC2	0.263739125	0.000489539	Cyto_CD8.T_GZMB_GNLY_PTGDS
PYHIN1	0.312945872	0.00088381	Cyto_CD8.T_GZMB_GNLY_PTGDS
PDIA3	0.278915972	0.000964802	Cyto_CD8.T_GZMB_GNLY_PTGDS
HSPA1A	0.279171363	0.001053304	Cyto_CD8.T_GZMB_GNLY_PTGDS
NFE2L2	0.304983954	0.001656578	Cyto_CD8.T_GZMB_GNLY_PTGDS
HSPA5	0.298477403	0.002439437	Cyto_CD8.T_GZMB_GNLY_PTGDS
CCL3	0.322138391	0.002527555	Cyto_CD8.T_GZMB_GNLY_PTGDS

DOK2	0.287508381	0.004379652	Cyto_CD8.T_GZMB_GNLY_PTGDS
KLF3	0.290000354	0.005031642	Cyto_CD8.T_GZMB_GNLY_PTGDS
C5orf56	0.271525867	0.005077114	Cyto_CD8.T_GZMB_GNLY_PTGDS

i. Cyto_CD8.T_GZMB_GNLY

Gene symbol	avg_log2FC	p_val_adj	Upregulated group	Description	pvalue	geneID	Count
GNLY	3.565850516	0	Cyto_CD8.T_GZMB_GNLY	Natural killer cell mediated cytotoxicity	2.26E-07	CD247/FCER1G/FCGR3A/GZMB/HLA-E/ITGB2/KLRD1/PRF1/TYROBP	9
GZMB	1.966918782	0	Cyto_CD8.T_GZMB_GNLY	Cell adhesion molecules	7.22E-06	HLA-DPB1/HLA-E/ITGB1/ITGB2/ITGB7/CD99/SELL/SELPLG	8
FGFBP2	1.89869062	0	Cyto_CD8.T_GZMB_GNLY	Graft-versus-host disease	9.15E-06	GZMB/HLA-DPB1/HLA-E/KLRD1/PRF1	5
SPON2	1.357860719	0	Cyto_CD8.T_GZMB_GNLY	Leukocyte transendothelial migration	1.18E-05	ACTB/CYBA/ITGB1/ITGB2/CD99/RAP1B/MYL12A	7
FCGR3A	1.288420517	0	Cyto_CD8.T_GZMB_GNLY	Leishmaniasis	1.34E-05	CYBA/FCGR3A/HLA-DPB1/ITGB1/ITGB2/TGFB1	6
NKG7	1.216199025	0	Cyto_CD8.T_GZMB_GNLY	Antigen processing and presentation	1.44E-05	B2M/HLA-DPB1/HLA-E/HSPA1A/KLRD1/PSME1	6
PRF1	1.203108861	0	Cyto_CD8.T_GZMB_GNLY	Viral myocarditis	5.34E-05	ACTB/HLA-DPB1/HLA-E/ITGB2/PRF1	5
GZMH	1.134849038	0	Cyto_CD8.T_GZMB_GNLY	Phagosome	7.58E-05	ACTB/CYBA/FCGR3A/HLA-DPB1/HLA-E/ITGB1/ITGB2	7
MYOM2	1.083556665	0	Cyto_CD8.T_GZMB_GNLY	Allograft rejection	0.000126229	GZMB/HLA-DPB1/HLA-E/PRF1	4
KLF2	0.995492805	0	Cyto_CD8.T_GZMB_GNLY	Platelet activation	0.000196285	ACTB/FCER1G/ITGB1/RAP1B/RASGRP2/MYL12A	6
CTSW	0.891362246	0	Cyto_CD8.T_GZMB_GNLY	Type I diabetes mellitus	0.000205705	GZMB/HLA-DPB1/HLA-E/PRF1	4
ARL4C	0.86674591	0	Cyto_CD8.T_GZMB_GNLY	Tuberculosis	0.000218124	CTSD/FCER1G/FCGR3A/HLA-DPB1/ITGB2/LSP1/TGFB1	7
EFHD2	0.86057031	0	Cyto_CD8.T_GZMB_GNLY	Apoptosis	0.000324176	ACTB/CTSC/CTSD/CTSW/GZMB/PRF1	6
EMP3	0.767676559	0	Cyto_CD8.T_GZMB_GNLY	Focal adhesion	0.000427648	ACTB/CCND3/FLNA/ITGB1/ITGB7/RAP1B/MYL12A	7
LAIR2	0.56373733	0	Cyto_CD8.T_GZMB_GNLY	Autoimmune thyroid disease	0.000463747	GZMB/HLA-DPB1/HLA-E/PRF1	4
ADGRG1	0.509527501	0	Cyto_CD8.T_GZMB_GNLY	Regulation of actin cytoskeleton	0.000695442	ACTB/ITGB1/ITGB2/ITGB7/PFN1/ARPC2/MYL12A	7
CX3CR1	0.493059103	0	Cyto_CD8.T_GZMB_GNLY	Shigellosis	0.001445357	ACTB/CAPNS1/ITGB1/PFN1/UBB/ARPC2/MYL12A	7
B2M	0.327181147	0	Cyto_CD8.T_GZMB_GNLY	Rap1 signaling pathway	0.003092108	ACTB/ITGB1/ITGB2/PFN1/RAP1B/RASGRP2	6
CST7	0.658293579	9.94E-295	Cyto_CD8.T_GZMB_GNLY	Hypertrophic cardiomyopathy	0.003350702	ACTB/ITGB1/ITGB7/TGFB1	4
PRSS23	0.378465725	5.90E-288	Cyto_CD8.T_GZMB_GNLY	Human T-cell leukemia virus 1 infection	0.004066838	B2M/CCND3/HLA-DPB1/HLA-E/ITGB2/TGFB1	6
IGFBP7	0.58103433	2.03E-264	Cyto_CD8.T_GZMB_GNLY	Staphylococcus aureus infection	0.004225284	FCGR3A/HLA-DPB1/ITGB2/SELPLG	4
TMSB10	0.432194523	1.14E-257	Cyto_CD8.T_GZMB_GNLY	Dilated cardiomyopathy	0.004225284	ACTB/ITGB1/ITGB7/TGFB1	4
LGALS1	0.849597702	3.42E-253	Cyto_CD8.T_GZMB_GNLY	Intestinal immune network for IgA production	0.004584712	HLA-DPB1/ITGB7/TGFB1	3
SH3BGRL3	0.643107143	2.87E-250	Cyto_CD8.T_GZMB_GNLY	Salmonella infection	0.007075071	ACTB/FLNA/PFN1/S100A10/ARPC2/MYL12A	6
PLAC8	0.719238489	7.87E-241	Cyto_CD8.T_GZMB_GNLY	Toxoplasmosis	0.007283355	HLA-DPB1/HSPA1A/ITGB1/TGFB1	4
C12orf75	0.622639465	1.25E-236	Cyto_CD8.T_GZMB_GNLY	Neutrophil extracellular trap formation	0.009715264	ACTB/CYBA/FCGR3A/ITGB2/SELPLG	5
PLEK	0.719961887	6.24E-235	Cyto_CD8.T_GZMB_GNLY	Cell cycle	0.01093402	CCND3/CDKN2D/TFDP2/TGFB1	4
CD300A	0.550718286	1.12E-218	Cyto_CD8.T_GZMB_GNLY	Osteoclast differentiation	0.011536456	CYBA/FCGR3A/TGFB1/TYROBP	4
ENC1	0.491877786	1.88E-211	Cyto_CD8.T_GZMB_GNLY	Epstein-Barr virus infection	0.012439065	B2M/CCND3/CD247/HLA-DPB1/HLA-E	5
TLE5	0.576402247	9.12E-205	Cyto_CD8.T_GZMB_GNLY	Lysosome	0.012804777	CTSC/CTSD/CTSW/LITAF	4
AKR1C3	0.320210312	5.41E-204	Cyto_CD8.T_GZMB_GNLY	Bacterial invasion of epithelial cells	0.015895249	ACTB/ITGB1/ARPC2	3
UBE2F	0.496529277	5.98E-203	Cyto_CD8.T_GZMB_GNLY	Arrhythmogenic right ventricular cardiomyopathy	0.015895249	ACTB/ITGB1/ITGB7	3
SELL	0.420501985	1.90E-202	Cyto_CD8.T_GZMB_GNLY	Asthma	0.01914435	FCER1G/HLA-DPB1	2
LINC00299	0.410674396	2.47E-202	Cyto_CD8.T_GZMB_GNLY	ECM-receptor interaction	0.022614861	CD47/ITGB1/ITGB7	3
C1orf21	0.42731227	1.39E-193	Cyto_CD8.T_GZMB_GNLY	Hippo signaling pathway	0.02275608	ACTB/CCND3/ITGB2/TGFB1	4
LITAF	0.553020532	4.46E-193	Cyto_CD8.T_GZMB_GNLY	Rheumatoid arthritis	0.026107826	HLA-DPB1/ITGB2/TGFB1	3
PFN1	0.492339589	1.13E-190	Cyto_CD8.T_GZMB_GNLY	Tight junction	0.028842473	ACTB/ITGB1/ARPC2/MYL12A	4
ITGB1	0.628902188	3.31E-182	Cyto_CD8.T_GZMB_GNLY	Th17 cell differentiation	0.038225746	CD247/HLA-DPB1/TGFB1	3
MT-CO2	0.337718178	4.16E-175	Cyto_CD8.T_GZMB_GNLY	Chemokine signaling pathway	0.043001576	CX3CR1/RAP1B/XCL2/RASGRP2	4
CLIC3	0.654736134	6.44E-174	Cyto_CD8.T_GZMB_GNLY	Malaria	0.046418081	ITGB2/TGFB1	2
KLRD1	0.573447232	4.67E-172	Cyto_CD8.T_GZMB_GNLY	Pathogenic Escherichia coli infection	0.046519448	ACTB/ITGB1/MYO1F/ARPC2	4
S100A4	0.646716848	1.27E-169	Cyto_CD8.T_GZMB_GNLY	Sphingolipid signaling pathway	0.048646571	CTSD/FCER1G/S1PR5	3
CEP78	0.381396815	3.73E-165	Cyto_CD8.T_GZMB_GNLY				
SSBP3	0.292989387	5.44E-164	Cyto_CD8.T_GZMB_GNLY				
ITGB2	0.54011773	7.75E-163	Cyto_CD8.T_GZMB_GNLY				
HOPX	0.61559853	3.71E-158	Cyto_CD8.T_GZMB_GNLY				
MTSS1	0.273497358	7.34E-157	Cyto_CD8.T_GZMB_GNLY				
CYBA	0.415630044	2.37E-156	Cyto_CD8.T_GZMB_GNLY				
HLA-E	0.353251278	4.22E-155	Cyto_CD8.T_GZMB_GNLY				
CD247	0.583180924	1.42E-152	Cyto_CD8.T_GZMB_GNLY				
FCER1G	0.680556542	6.35E-147	Cyto_CD8.T_GZMB_GNLY				
UCP2	0.547760091	6.42E-147	Cyto_CD8.T_GZMB_GNLY				
GK5	0.290083745	5.93E-137	Cyto_CD8.T_GZMB_GNLY				
TPST2	0.428375284	2.82E-136	Cyto_CD8.T_GZMB_GNLY				
ANXA1	0.493240733	6.94E-136	Cyto_CD8.T_GZMB_GNLY				
HAVCR2	0.357980216	8.47E-128	Cyto_CD8.T_GZMB_GNLY				
S1PR5	0.422589742	1.60E-125	Cyto_CD8.T_GZMB_GNLY				

FLNA	0.469082328	1.72E-124	Cyto_CD8.T_GZMB_GNLY
KLF3	0.435937728	2.70E-124	Cyto_CD8.T_GZMB_GNLY
ABHD17A	0.443657775	1.26E-123	Cyto_CD8.T_GZMB_GNLY
RASGRP2	0.261516329	4.81E-118	Cyto_CD8.T_GZMB_GNLY
DSTN	0.364255096	7.66E-115	Cyto_CD8.T_GZMB_GNLY
C1orf162	0.284901925	1.82E-112	Cyto_CD8.T_GZMB_GNLY
TXNIP	0.499230767	3.08E-111	Cyto_CD8.T_GZMB_GNLY
SELPLG	0.30955736	2.10E-109	Cyto_CD8.T_GZMB_GNLY
IFITM2	0.370124626	9.77E-109	Cyto_CD8.T_GZMB_GNLY
S100A10	0.472127769	2.39E-107	Cyto_CD8.T_GZMB_GNLY
CD99	0.398353492	4.94E-103	Cyto_CD8.T_GZMB_GNLY
IER2	0.377894297	1.69E-102	Cyto_CD8.T_GZMB_GNLY
FCRL6	0.315574921	3.97E-102	Cyto_CD8.T_GZMB_GNLY
PTPN12	0.328782931	2.03E-101	Cyto_CD8.T_GZMB_GNLY
TCF25	0.45898905	1.46E-99	Cyto_CD8.T_GZMB_GNLY
FXYD5	0.42071202	9.76E-92	Cyto_CD8.T_GZMB_GNLY
UBB	0.317163822	6.52E-91	Cyto_CD8.T_GZMB_GNLY
TYROBP	0.47140724	4.35E-89	Cyto_CD8.T_GZMB_GNLY
RAB29	0.34614655	1.12E-88	Cyto_CD8.T_GZMB_GNLY
SYNE1	0.316554905	6.45E-88	Cyto_CD8.T_GZMB_GNLY
CDKN2D	0.357909497	1.85E-86	Cyto_CD8.T_GZMB_GNLY
HLA-DPB1	0.307615533	3.12E-86	Cyto_CD8.T_GZMB_GNLY
ZEB2	0.369026966	4.73E-86	Cyto_CD8.T_GZMB_GNLY
FGL2	0.277751152	7.12E-86	Cyto_CD8.T_GZMB_GNLY
MYL12A	0.300503295	7.63E-86	Cyto_CD8.T_GZMB_GNLY
ACTB	0.451009185	1.09E-85	Cyto_CD8.T_GZMB_GNLY
TGFB1	0.381504388	1.92E-85	Cyto_CD8.T_GZMB_GNLY
RIPOR2	0.292325871	2.24E-85	Cyto_CD8.T_GZMB_GNLY
KLRF1	0.331473507	6.96E-80	Cyto_CD8.T_GZMB_GNLY
SAMD3	0.309240578	7.25E-80	Cyto_CD8.T_GZMB_GNLY
TKTL1	0.588505273	2.72E-79	Cyto_CD8.T_GZMB_GNLY
CLIC1	0.300761822	1.18E-76	Cyto_CD8.T_GZMB_GNLY
SRPK2	0.285667401	3.77E-76	Cyto_CD8.T_GZMB_GNLY
CTSD	0.330365992	3.01E-75	Cyto_CD8.T_GZMB_GNLY
PSME1	0.327833116	7.31E-75	Cyto_CD8.T_GZMB_GNLY
ARPC2	0.278700969	2.21E-74	Cyto_CD8.T_GZMB_GNLY
APOA2	0.430563289	2.95E-73	Cyto_CD8.T_GZMB_GNLY
MYO1F	0.280365092	3.28E-73	Cyto_CD8.T_GZMB_GNLY
ATP5MC2	0.306089556	4.54E-72	Cyto_CD8.T_GZMB_GNLY
SYNE2	0.340007572	8.46E-72	Cyto_CD8.T_GZMB_GNLY
C5orf56	0.338316019	1.71E-70	Cyto_CD8.T_GZMB_GNLY
TFDP2	0.251958366	6.54E-70	Cyto_CD8.T_GZMB_GNLY
CCND3	0.323057044	1.41E-68	Cyto_CD8.T_GZMB_GNLY
BIN2	0.32952075	1.62E-67	Cyto_CD8.T_GZMB_GNLY
MT-CYB	0.267115851	9.93E-66	Cyto_CD8.T_GZMB_GNLY
LSP1	0.322066786	1.59E-64	Cyto_CD8.T_GZMB_GNLY
CTSC	0.332257866	6.45E-64	Cyto_CD8.T_GZMB_GNLY
CAPNS1	0.309652175	7.29E-61	Cyto_CD8.T_GZMB_GNLY
ITGB7	0.255425115	1.99E-59	Cyto_CD8.T_GZMB_GNLY
AC092821.3	0.283195423	2.09E-58	Cyto_CD8.T_GZMB_GNLY
ANXA6	0.286605809	1.88E-55	Cyto_CD8.T_GZMB_GNLY
LY6E	0.335559632	4.14E-53	Cyto_CD8.T_GZMB_GNLY
LYAR	0.28047439	1.09E-52	Cyto_CD8.T_GZMB_GNLY
DOK2	0.303851008	3.14E-52	Cyto_CD8.T_GZMB_GNLY
CD47	0.304654925	3.80E-52	Cyto_CD8.T_GZMB_GNLY
FTH1	0.409914368	6.41E-52	Cyto_CD8.T_GZMB_GNLY
RPS26	0.254905189	7.74E-50	Cyto_CD8.T_GZMB_GNLY
S100A6	0.328913225	1.41E-48	Cyto_CD8.T_GZMB_GNLY
CARD16	0.291486369	9.65E-47	Cyto_CD8.T_GZMB_GNLY
IFITM1	0.271652916	1.81E-46	Cyto_CD8.T_GZMB_GNLY
HSPA1A	0.333201113	1.26E-44	Cyto_CD8.T_GZMB_GNLY
RAP1B	0.274220937	1.27E-44	Cyto_CD8.T_GZMB_GNLY
PYHIN1	0.289228025	2.25E-43	Cyto_CD8.T_GZMB_GNLY
DHRS7	0.267752909	3.19E-43	Cyto_CD8.T_GZMB_GNLY

METRNL	0.285618475	3.95E-35	Cyto_CD8.T_GZMB_GNLY
CD53	0.251407756	4.54E-34	Cyto_CD8.T_GZMB_GNLY
GIMAP7	0.279643787	6.86E-34	Cyto_CD8.T_GZMB_GNLY
XCL2	0.400140166	1.40E-33	Cyto_CD8.T_GZMB_GNLY
SERPINB1	0.255816972	5.65E-31	Cyto_CD8.T_GZMB_GNLY
CD52	0.38928624	1.13E-28	Cyto_CD8.T_GZMB_GNLY
NEAT1	0.251234827	5.34E-06	Cyto_CD8.T_GZMB_GNLY

j. Exhaustion_CD8.T_RGS1

Gene symbol	avg_log2FC	p_val_adj	Upregulated group	Description	pvalue	geneID	Count
RGS1	1.287563635	1.72E-225	Exhaustion_CD8.T_RGS1	Ribosome	1.13E-15	RPL3/RPL13/RPL23A/RPL26/RPL27A/RPL38/RPL41/RPS9/RPS14/RPS18/RPS19/RPS25/RPS27/RPS29/RPL13A/RPS27L	16
CD8B	0.823992358	2.29E-211	Exhaustion_CD8.T_RGS1	Coronavirus disease - COVID-19	2.88E-14	JUN/RPL3/RPL13/RPL23A/RPL26/RPL27A/RPL38/RPL41/RPS9/RPS14/RPS18/RPS19/RPS25/RPS27/RPS29/RPL13A/RPS27L	17
RPS27	0.480426564	4.21E-181	Exhaustion_CD8.T_RGS1	Primary immunodeficiency	3.17E-09	CD3D/CD3E/CD8A/CD8B/IL7R/PTPRC/ICOS	7
CD3D	0.778369972	1.34E-169	Exhaustion_CD8.T_RGS1	T cell receptor signaling pathway	1.53E-08	CD3D/CD3E/CD3G/CD8A/CD8B/JUN/PDCD1/PTPRC/ICOS	9
CD2	0.811271311	5.63E-160	Exhaustion_CD8.T_RGS1	Hematopoietic cell lineage	1.79E-07	CD2/CD3D/CD3E/CD3G/CD8A/CD8B/CD44/IL7R	8
BCL11B	0.744409504	2.78E-158	Exhaustion_CD8.T_RGS1	PD-L1 expression and PD-1 checkpoint pathway in cancer	2.00E-05	CD3D/CD3E/CD3G/JUN/PDCD1/EML4	6
TMSB4X	0.478433376	1.13E-155	Exhaustion_CD8.T_RGS1	Epstein-Barr virus infection	3.78E-05	CD3D/CD3E/CD3G/CD44/CDKN1B/RBPJ/JUN/TNFAIP3	8
ZFP36L2	0.827474783	3.18E-145	Exhaustion_CD8.T_RGS1	Measles	0.000241791	CD3D/CD3E/CD3G/CDKN1B/JUN/TNFAIP3	6
RPS29	0.507359268	2.70E-142	Exhaustion_CD8.T_RGS1	Th1 and Th2 cell differentiation	0.00028689	CD3D/CD3E/CD3G/RBPJ/JUN	5
SAMSN1	0.850978412	8.99E-136	Exhaustion_CD8.T_RGS1	Cell adhesion molecules	0.000351993	CD2/CD8A/CD8B/PDCD1/PTPRC/ICOS	6
CD3G	0.595034725	2.12E-130	Exhaustion_CD8.T_RGS1	Human immunodeficiency virus 1 infection	0.002215404	CALM2/CD3D/CD3E/CD3G/JUN/CXCR4	6
CD27	0.472340585	1.62E-120	Exhaustion_CD8.T_RGS1	Chagas disease	0.004015011	CD3D/CD3E/CD3G/JUN	4
SIT1	0.410782039	1.75E-117	Exhaustion_CD8.T_RGS1	Th17 cell differentiation	0.004922677	CD3D/CD3E/CD3G/JUN	4
CLEC2D	0.69875659	1.92E-116	Exhaustion_CD8.T_RGS1	Yersinia infection	0.011261962	CD8A/CD8B/FYB1/JUN	4
TRAC	0.620427814	2.99E-110	Exhaustion_CD8.T_RGS1	TNF signaling pathway	0.034714753	JUN/JUNB/TNFAIP3	3
RPS18	0.428146878	3.09E-106	Exhaustion_CD8.T_RGS1	Intestinal immune network for IgA production	0.039124787	CXCR4/ICOS	2
RPL41	0.298778751	9.39E-98	Exhaustion_CD8.T_RGS1	Cytokine-cytokine receptor interaction	0.03967966	CD27/IL7R/TNFRSF9/CXCR4/IL32	5
ICOS	0.402003539	5.16E-92	Exhaustion_CD8.T_RGS1	Cholesterol metabolism	0.040590946	APOA1/APOC3	2
COTL1	0.511900403	1.66E-90	Exhaustion_CD8.T_RGS1				
DUSP4	0.441026756	6.38E-89	Exhaustion_CD8.T_RGS1				
CD8A	0.523916222	1.52E-88	Exhaustion_CD8.T_RGS1				
RPL26	0.342746705	2.84E-88	Exhaustion_CD8.T_RGS1				
RPL23A	0.365063251	1.54E-85	Exhaustion_CD8.T_RGS1				
RPS14	0.3191622	2.53E-80	Exhaustion_CD8.T_RGS1				
RPL13	0.283534939	5.16E-79	Exhaustion_CD8.T_RGS1				
CXCR4	0.522095868	5.78E-78	Exhaustion_CD8.T_RGS1				
ALB	0.55106617	5.98E-76	Exhaustion_CD8.T_RGS1				
RPS9	0.362378509	4.76E-75	Exhaustion_CD8.T_RGS1				
RPS19	0.387024481	7.46E-75	Exhaustion_CD8.T_RGS1				
RPS25	0.325001381	2.64E-73	Exhaustion_CD8.T_RGS1				
PDCD1	0.250584369	1.88E-71	Exhaustion_CD8.T_RGS1				
TRBC2	0.64183012	5.82E-68	Exhaustion_CD8.T_RGS1				
RCAN3	0.329112517	5.09E-67	Exhaustion_CD8.T_RGS1				
IL32	0.44041774	7.62E-65	Exhaustion_CD8.T_RGS1				
LEPROTL1	0.473765649	2.68E-62	Exhaustion_CD8.T_RGS1				
CYTOR	0.49154356	9.49E-60	Exhaustion_CD8.T_RGS1				
JUN	0.507508894	4.73E-57	Exhaustion_CD8.T_RGS1				
SRSF7	0.413894955	1.93E-56	Exhaustion_CD8.T_RGS1				
ITM2A	0.494314565	2.20E-54	Exhaustion_CD8.T_RGS1				
JUNB	0.427147327	1.99E-53	Exhaustion_CD8.T_RGS1				
RPL27A	0.344243003	9.37E-53	Exhaustion_CD8.T_RGS1				
HP	0.457259786	1.38E-52	Exhaustion_CD8.T_RGS1				
TNFAIP3	0.403562439	6.51E-51	Exhaustion_CD8.T_RGS1				
CD3E	0.348950473	4.41E-50	Exhaustion_CD8.T_RGS1				
RGCC	0.421655655	1.56E-45	Exhaustion_CD8.T_RGS1				
HINT1	0.307766864	6.83E-43	Exhaustion_CD8.T_RGS1				
RPL3	0.255112016	7.62E-43	Exhaustion_CD8.T_RGS1				
SARAF	0.348500906	1.52E-41	Exhaustion_CD8.T_RGS1				
RESF1	0.402172047	4.35E-41	Exhaustion_CD8.T_RGS1				

PAG1	0.316176177	4.35E-41	Exhaustion_CD8.T_RGS1
LIME1	0.346084254	1.03E-40	Exhaustion_CD8.T_RGS1
GPR183	0.272800026	2.22E-39	Exhaustion_CD8.T_RGS1
BTG1	0.28429722	1.90E-38	Exhaustion_CD8.T_RGS1
CALM2	0.311617833	5.29E-38	Exhaustion_CD8.T_RGS1
PTPRC	0.297486211	7.24E-36	Exhaustion_CD8.T_RGS1
CD44	0.345518408	8.24E-35	Exhaustion_CD8.T_RGS1
TERF2IP	0.383036379	1.38E-33	Exhaustion_CD8.T_RGS1
CDC42SE2	0.348648213	7.86E-33	Exhaustion_CD8.T_RGS1
RPL13A	0.260109474	2.88E-32	Exhaustion_CD8.T_RGS1
PDCD4	0.327482305	1.97E-31	Exhaustion_CD8.T_RGS1
OST4	0.25961421	4.70E-31	Exhaustion_CD8.T_RGS1
RGS10	0.250266425	6.20E-31	Exhaustion_CD8.T_RGS1
FYB1	0.368450637	4.19E-30	Exhaustion_CD8.T_RGS1
CYTIP	0.334114977	5.05E-29	Exhaustion_CD8.T_RGS1
RPL38	0.269603382	2.17E-28	Exhaustion_CD8.T_RGS1
TSC22D3	0.390235552	8.03E-28	Exhaustion_CD8.T_RGS1
EML4	0.317903527	9.77E-28	Exhaustion_CD8.T_RGS1
ORM1	0.306472506	9.07E-27	Exhaustion_CD8.T_RGS1
RBPJ	0.256458386	4.50E-26	Exhaustion_CD8.T_RGS1
PPP1R2	0.304627821	2.85E-25	Exhaustion_CD8.T_RGS1
TNFRSF9	0.268993187	1.28E-23	Exhaustion_CD8.T_RGS1
CD52	0.277252648	2.89E-22	Exhaustion_CD8.T_RGS1
STK17B	0.309002273	3.31E-22	Exhaustion_CD8.T_RGS1
CDKN1B	0.28758097	8.38E-22	Exhaustion_CD8.T_RGS1
NDUFS5	0.258126635	4.48E-21	Exhaustion_CD8.T_RGS1
APOA1	0.294390568	4.51E-21	Exhaustion_CD8.T_RGS1
APOC3	0.254246012	4.22E-20	Exhaustion_CD8.T_RGS1
STK4	0.281290776	6.89E-20	Exhaustion_CD8.T_RGS1
CRIP1	0.347784785	8.83E-19	Exhaustion_CD8.T_RGS1
LINC-PINT	0.270503827	9.72E-19	Exhaustion_CD8.T_RGS1
EMB	0.264706925	1.92E-18	Exhaustion_CD8.T_RGS1
PTPN22	0.270350778	3.30E-17	Exhaustion_CD8.T_RGS1
GCC2	0.261971236	2.67E-15	Exhaustion_CD8.T_RGS1
RPS27L	0.263083543	4.37E-15	Exhaustion_CD8.T_RGS1
GZMK	0.282149154	4.50E-12	Exhaustion_CD8.T_RGS1
IL7R	0.270267239	2.99E-11	Exhaustion_CD8.T_RGS1

k. Exhaustion_CD8.T_RGS1_VCAM1_CRT

Gene symbol	avg_log2FC	p_val_adj	Upregulated group	Description	pvalue	geneID	Count
CRTAM	2.448701794	0	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Coronavirus disease - COVID-19	3.36E-07	NFKB1/PIK3R1/RPL3/RPL21/RPL27A/RPL37A/RPS9/RPS18/RPS20/RPS27/RPS29/RPL13A	12
VCAM1	0.845384119	6.44E-51	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Ribosome	5.64E-07	RPL3/RPL21/RPL27A/RPL37A/RPS9/RPS18/RPS20/RPS27/RPS29/RPL13A	10
TIGIT	0.691640437	2.82E-46	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Epstein-Barr virus infection	3.77E-05	FAS/CCND2/HLA-A/HLA-DQA1/HLA-DQB1/NFKB1/NFKB2/PIK3R1/BCL2L11	9
GCSAM	0.344416454	7.43E-39	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Allograft rejection	0.000253886	FAS/HLA-A/HLA-DQA1/HLA-DQB1	4
TNFRSF9	0.633558178	6.06E-38	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	TNF signaling pathway	0.000304568	BIRC3/FAS/JUNB/NFKB1/PIK3R1/VCAM1	6
RPS29	0.42483448	3.71E-31	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Graft-versus-host disease	0.000375555	FAS/HLA-A/HLA-DQA1/HLA-DQB1	4
PIK3R1	0.714722853	2.42E-27	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Type I diabetes mellitus	0.000411516	FAS/HLA-A/HLA-DQA1/HLA-DQB1	4
RGS1	0.69788943	2.73E-27	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	FoxO signaling pathway	0.000703987	BRAF/CCND2/PIK3R1/STK4/BCL2L11/GABARAPL1	6
HLA-A	0.34725431	6.22E-27	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Natural killer cell mediated cytotoxicity	0.000703987	FAS/BRAF/FYN/HLA-A/SH2D1A/PIK3R1	6
CXCR4	0.524340996	6.78E-27	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Apoptosis	0.000857187	BIRC3/FAS/NFKB1/PIK3R1/TUBA4A/BCL2L11	6
TMSB4X	0.34179719	8.72E-26	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Insulin signaling pathway	0.000890698	BRAF/CALM2/CBLB/MKNK2/PIK3R1/PPP1CB	6
PDCD4	0.525774359	1.43E-23	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Autoimmune thyroid disease	0.000917839	FAS/HLA-A/HLA-DQA1/HLA-DQB1	4
LYST	0.486821501	3.31E-21	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Transcriptional misregulation in cancer	0.000975883	BIRC3/CCND2/DDX5/KMT2A/NFKB1/REL/NR4A3	7
BIRC3	0.584597913	4.18E-21	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Viral carcinogenesis	0.001389186	CCND2/DDX3X/HLA-A/NFKB1/NFKB2/PIK3R1/REL	7
GZMK	0.449913669	2.74E-20	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Viral myocarditis	0.001463752	FYN/HLA-A/HLA-DQA1/HLA-DQB1	4
RPS27	0.293447182	2.76E-20	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	C-type lectin receptor signaling pathway	0.001616696	CALM2/CBLB/NFKB1/NFKB2/PIK3R1	5
CEMIP2	0.51365915	1.59E-19	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Cellular senescence	0.001741943	CALM2/CCND2/HLA-A/NFKB1/PIK3R1/PPP1CB	6
RPS18	0.331062216	3.16E-19	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	cAMP signaling pathway	0.002196584	ATP1B3/BRAF/CALM2/NFKB1/PDE4B/PIK3R1/PPP1CB	7
CMC1	0.609765909	5.80E-19	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Acute myeloid leukemia	0.002203496	BRAF/NFKB1/PIK3R1/TCF7	4
PIM3	0.399634363	2.48E-18	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Herpes simplex virus 1 infection	0.002224263	BIRC3/FAS/HLA-A/HLA-DQA1/HLA-DQB1/NFKB1/PIK3R1/PPP1CB/SRSF2/SRSF7/ZNF331	11

REL	0.458491122	2.56E-17	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Human T-cell leukemia virus 1 infection	0.00225345	CCND2/HLA-A/HLA-DQA1/HLA-DQB1/NFKB1/NFKB2/PIK3R1	7
SYTL3	0.419900883	3.70E-17	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Osteoclast differentiation	0.003996037	FYN/JUNB/NFKB1/NFKB2/PIK3R1	5
RPL3	0.285691903	9.87E-16	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Kaposi sarcoma-associated herpesvirus infection	0.005146735	FAS/CALM2/HLA-A/NFKB1/PIK3R1/TCF7	6
YPEL5	0.418224222	1.81E-15	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Colorectal cancer	0.005430994	BRAF/PIK3R1/TCF7/BCL2L11	4
DDX5	0.353802181	3.92E-15	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Measles	0.005665647	FAS/CBLB/CCND2/NFKB1/PIK3R1	5
SRSF7	0.374702863	4.26E-15	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Focal adhesion	0.006103929	BIRC3/BRAF/CCND2/FYN/PIK3R1/PPP1CB	6
PRDM2	0.343731022	7.30E-15	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Proteoglycans in cancer	0.006706158	FAS/BRAF/DDX5/PIK3R1/PPP1CB/PDCD4	6
TCF7	0.381824294	7.59E-15	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Intestinal immune network for IgA production	0.007564284	HLA-DQA1/HLA-DQB1/CXCR4	3
RPL27A	0.341514311	2.42E-14	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Cell adhesion molecules	0.007566147	HLA-A/HLA-DQA1/HLA-DQB1/VCAM1/TIGIT	5
TNFSF9	0.38701508	1.28E-13	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Human immunodeficiency virus 1 infection	0.007862686	FAS/CALM2/HLA-A/NFKB1/PIK3R1/CXCR4	6
HLA-DQB1	0.381573426	3.03E-13	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Prostate cancer	0.008282835	BRAF/NFKB1/PIK3R1/TCF7	4
CCND2	0.378797809	6.35E-13	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Lipid and atherosclerosis	0.008400109	FAS/CALM2/NFKB1/PIK3R1/VCAM1/TANK	6
RPL21	0.276441884	6.39E-13	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Hippo signaling pathway	0.009377417	BIRC3/CCND2/SMAD7/PPP1CB/TCF7	5
RPS9	0.266342503	9.55E-13	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Human cytomegalovirus infection	0.010383433	FAS/CALM2/HLA-A/NFKB1/PIK3R1/CXCR4	6
JUNB	0.358194239	1.06E-12	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	NF-kappa B signaling pathway	0.010530602	BIRC3/NFKB1/NFKB2/VCAM1	4
ZNF331	0.397405545	1.63E-12	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	T cell receptor signaling pathway	0.010530602	CBLB/FYN/NFKB1/PIK3R1	4
KDM6B	0.403850785	2.44E-12	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Hepatitis B	0.010650528	FAS/BRAF/DDX3X/NFKB1/PIK3R1	5
CALM2	0.354675447	2.64E-12	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Endometrial cancer	0.012019558	BRAF/PIK3R1/TCF7	3
TNIP3	0.279076792	2.75E-12	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Influenza A	0.013232767	FAS/HLA-DQA1/HLA-DQB1/NFKB1/PIK3R1	5
TUBA4A	0.523067097	3.31E-12	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Toxoplasmosis	0.013544752	BIRC3/HLA-DQA1/HLA-DQB1/NFKB1	4
HLA-DQA1	0.479325452	3.64E-12	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Inflammatory bowel disease	0.016335019	HLA-DQA1/HLA-DQB1/NFKB1	3
SUB1	0.315484289	8.50E-12	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Neurotrophin signaling pathway	0.016592807	BRAF/CALM2/NFKB1/PIK3R1	4
TANK	0.350167014	8.53E-12	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	NOD-like receptor signaling pathway	0.017666868	BIRC3/NFKB1/TANK/NAMPT/GABARAPL1	5
CNOT6L	0.42448154	1.04E-11	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Long-term potentiation	0.017707826	BRAF/CALM2/PPP1CB	3
BCL2L11	0.273527826	4.77E-11	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	RIG-I-like receptor signaling pathway	0.019884604	DDX3X/NFKB1/TANK	3
SKIL	0.349386167	8.17E-11	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Prolactin signaling pathway	0.019884604	CCND2/NFKB1/PIK3R1	3
SRSF2	0.361777805	9.55E-11	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Chemokine signaling pathway	0.020835748	BRAF/NFKB1/PIK3R1/XCL1/CXCR4	5
RPL13A	0.286609014	1.08E-10	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Non-small cell lung cancer	0.021414409	BRAF/PIK3R1/STK4	3
PPP1R2	0.312873792	3.13E-10	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Platinum drug resistance	0.022202937	BIRC3/FAS/PIK3R1	3
RPL37A	0.260088376	3.99E-10	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Glioma	0.023827268	BRAF/CALM2/PIK3R1	3
FAM177A1	0.340469691	4.57E-10	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Pancreatic cancer	0.024663073	BRAF/NFKB1/PIK3R1	3
NFKB1	0.398168873	6.49E-10	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Chronic myeloid leukemia	0.024663073	BRAF/NFKB1/PIK3R1	3
STK17A	0.339814623	5.54E-09	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Leishmaniasis	0.025514631	HLA-DQA1/HLA-DQB1/NFKB1	3
SYNM	0.269438781	6.26E-09	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Antigen processing and presentation	0.026381935	HLA-A/HLA-DQA1/HLA-DQB1	3
ARID4B	0.339727825	7.64E-09	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Asthma	0.026782556	HLA-DQA1/HLA-DQB1	2
BRAF	0.293555193	1.40E-08	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	EGFR tyrosine kinase inhibitor resistance	0.027264973	BRAF/PIK3R1/BCL2L11	3
ASXL2	0.255604746	1.70E-08	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Fluid shear stress and atherosclerosis	0.027549919	CALM2/NFKB1/PIK3R1/VCAM1	4
SH2D1A	0.318376317	1.70E-08	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Apoptosis - multiple species	0.028418058	BIRC3/BCL2L11	2
HCG18	0.324825149	1.93E-08	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	ErbB signaling pathway	0.03289256	BRAF/CBLB/PIK3R1	3
PTPN22	0.306504738	2.47E-08	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Spliceosome	0.03290665	DDX5/HNRNPC/SRSF2/SRSF7	4
CDC42SE2	0.303764544	4.30E-08	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Breast cancer	0.03290665	BRAF/NFKB2/PIK3R1/TCF7	4
XCL1	0.302209735	4.60E-08	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Regulation of actin cytoskeleton	0.033632792	BRAF/PIK3R1/PPP1CB/TMSB4X/CXCR4	5
PPP1CB	0.277461631	5.87E-08	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	MAPK signaling pathway	0.033826475	FAS/BRAF/MKNK2/NFKB1/NFKB2/STK4	6
PRR7	0.277178938	1.23E-07	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Cytokine-cytokine receptor interaction	0.034310189	FAS/TNFRSF9/XCL1/CXCR4/TNFSF9/IL32	6
DDX17	0.267993127	1.33E-07	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Phagosome	0.036544652	HLA-A/HLA-DQA1/HLA-DQB1/TUBA4A	4
IKZF3	0.275849755	2.21E-07	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Aldosterone-regulated sodium reabsorption	0.037168629	ATP1B3/PIK3R1	2
CHD2	0.303212259	2.50E-07	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	African trypanosomiasis	0.037168629	FAS/VCAM1	2
SMAD7	0.2781836	3.38E-07	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Thyroid cancer	0.037168629	BRAF/TCF7	2
STAG2	0.266325022	5.59E-07	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Non-alcoholic fatty liver disease	0.038835281	FAS/NFKB1/PIK3R1/BCL2L11	4
FAS	0.267788528	5.74E-07	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Th1 and Th2 cell differentiation	0.040165384	HLA-DQA1/HLA-DQB1/NFKB1	3
PRRC2C	0.27155502	6.68E-07	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Small cell lung cancer	0.040165384	BIRC3/NFKB1/PIK3R1	3
ZBTB1	0.28739425	6.72E-07	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Hepatitis C	0.040407412	FAS/BRAF/NFKB1/PIK3R1	4
NR4A2	0.323346779	7.19E-07	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	MicroRNAs in cancer	0.042112669	CCND2/NFKB1/PIK3R1/ZEB2/BCL2L11/PDCD4	6
STK17B	0.313146557	7.30E-07	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Ras signaling pathway	0.042195415	CALM2/NFKB1/PIK3R1/REL/STK4	5
CBLB	0.271343367	2.33E-06	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Inflammatory mediator regulation of TRP channels	0.046994863	CALM2/PIK3R1/PPP1CB	3
TIPARP	0.339992014	2.46E-06	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	Aldosterone synthesis and secretion	0.046994863	ATP1B3/CALM2/NR4A2	3
HNRNPC	0.295016165	2.97E-06	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM	AGE-RAGE signaling pathway in diabetic complications	0.049391311	NFKB1/PIK3R1/VCAM1	3
TERF2IP	0.298797403	3.68E-06	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM				
PDE4B	0.29490356	4.12E-06	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM				
RPS20	0.273802835	1.05E-05	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM				
CHD1	0.30955847	1.47E-05	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM				
MKNK2	0.263262347	2.20E-05	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM				
PDE7A	0.282996188	2.31E-05	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM				

RNF19A	0.307803259	3.50E-05	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM
OTULIN	0.341956305	3.84E-05	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM
IDI1	0.280132161	5.51E-05	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM
STK4	0.254790009	7.04E-05	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM
NFKB2	0.262867315	8.81E-05	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM
TOPORS	0.25227345	0.000114409	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM
FYN	0.278280202	0.000114464	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM
GNL3	0.350476128	0.000133323	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM
RANBP2	0.276175629	0.000154533	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM
DDX3X	0.272174518	0.000230402	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM
IL32	0.273107753	0.000271898	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM
SMAP2	0.285260893	0.000272633	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM
KMT2A	0.252666283	0.000479814	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM
GABARAPL1	0.250014866	0.000669044	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM
NAMPT	0.274130722	0.001227429	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM
ATP1B3	0.301965534	0.002023238	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM
FAM133B	0.253073768	0.002028412	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM
ZEB2	0.258532016	0.002721193	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM
LINC-PINT	0.254268124	0.004365862	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM
NR4A3	0.266175368	0.004745094	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM
TRBC1	0.294953735	0.006306091	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM
TWISTNB	0.302688107	0.008376198	Exhaustion_CD8.T_RGS1_VCAM1_CRTAM

l. Exhaustion_CD8.T_RGS1_VCAM1

Gene symbol	avg_log2FC	p_val_adj	Upregulated group	Description	pvalue	geneID	Count
GCSAM	0.603433689	8.36E-251	Exhaustion_CD8.T_RGS1_VCAM1	Ribosome	4.76E-13	RPL3/RPL13/RPL21/RPL23A/RPL27A/RPL41/RPS6/RPS9/RPS14/RPS18/RPS19/RPS20/RPS27/RPS29/RPL13A	15
SYNM	0.603095713	5.28E-164	Exhaustion_CD8.T_RGS1_VCAM1	Coronavirus disease - COVID-19	1.01E-11	PIK3R1/RPL3/RPL13/RPL21/RPL23A/RPL27A/RPL41/RPS6/RPS9/RPS14/RPS18/RPS19/RPS20/RPS27/RPS29/RPL13A	16
VCAM1	0.744135687	2.36E-143	Exhaustion_CD8.T_RGS1_VCAM1	Epstein-Barr virus infection	2.91E-07	FAS/CASP3/RUNX3/CD3D/CD3E/CD3G/GADD45A/HLA-A/HLA-DQA1/HLA-DQB1/PIK3R1	11
PIK3R1	0.990429693	7.88E-117	Exhaustion_CD8.T_RGS1_VCAM1	Human immunodeficiency virus 1 infection	4.73E-07	FAS/CALM1/CALM2/CASP3/CD3D/CD3E/CD3G/HLA-A/KRAS/PIK3R1/CXCR4	11
CCL5	0.670063575	3.18E-115	Exhaustion_CD8.T_RGS1_VCAM1	Natural killer cell mediated cytotoxicity	6.06E-06	FAS/CASP3/FYN/HLA-A/KLRC2/KRAS/PIK3R1/HCST	8
GZMK	0.800231133	1.12E-107	Exhaustion_CD8.T_RGS1_VCAM1	Human cytomegalovirus infection	6.70E-06	FAS/CALM1/CALM2/CASP3/HLA-A/KRAS/PIK3R1/PRKACB/CCL5/CXCR4	10
RPS29	0.560820813	1.36E-107	Exhaustion_CD8.T_RGS1_VCAM1	T cell receptor signaling pathway	1.28E-05	CBLB/CD3D/CD3E/CD3G/FYN/KRAS/PIK3R1	7
TRBC1	0.868360082	4.03E-107	Exhaustion_CD8.T_RGS1_VCAM1	TNF signaling pathway	2.08E-05	BIRC3/FAS/CASP3/IRF1/PIK3R1/CCL5/VCAM1	7
TNIP3	0.410314412	7.92E-101	Exhaustion_CD8.T_RGS1_VCAM1	Lipid and atherosclerosis	3.27E-05	FAS/CALM1/CALM2/CASP3/KRAS/PIK3R1/CCL5/VCAM1/TANK	9
HLA-DQA1	0.670524332	2.46E-98	Exhaustion_CD8.T_RGS1_VCAM1	Human T-cell leukemia virus 1 infection	4.20E-05	CD3D/CD3E/CD3G/HLA-A/HLA-DQA1/HLA-DQB1/KRAS/PIK3R1/PRKACB	9
CMC1	0.735453221	1.11E-97	Exhaustion_CD8.T_RGS1_VCAM1	Th1 and Th2 cell differentiation	6.66E-05	RUNX3/CD3D/CD3E/CD3G/HLA-DQA1/HLA-DQB1	6
TIGIT	0.72891027	3.51E-97	Exhaustion_CD8.T_RGS1_VCAM1	Apoptosis	7.27E-05	BIRC3/FAS/CASP3/GADD45A/KRAS/PIK3R1/TUBA4A	7
IKZF2	0.506376149	1.00E-94	Exhaustion_CD8.T_RGS1_VCAM1	Insulin signaling pathway	7.61E-05	CALM1/CALM2/CBLB/KRAS/PIK3R1/PRKACB/RPS6	7
TMSB4X	0.447464158	3.42E-92	Exhaustion_CD8.T_RGS1_VCAM1	Measles	8.35E-05	FAS/CASP3/CBLB/CD3D/CD3E/CD3G/PIK3R1	7
IL32	0.61844696	2.34E-84	Exhaustion_CD8.T_RGS1_VCAM1	Viral myocarditis	8.75E-05	CASP3/FYN/HLA-A/HLA-DQA1/HLA-DQB1	5
RGS1	0.692746088	1.59E-78	Exhaustion_CD8.T_RGS1_VCAM1	Chagas disease	0.000118479	FAS/CD3D/CD3E/CD3G/PIK3R1/CCL5	6
SUB1	0.554534641	3.54E-78	Exhaustion_CD8.T_RGS1_VCAM1	C-type lectin receptor signaling pathway	0.000131938	CALM1/CALM2/CBLB/IRF1/KRAS/PIK3R1	6
RPS27	0.396003854	3.66E-77	Exhaustion_CD8.T_RGS1_VCAM1	Proteoglycans in cancer	0.000151841	FAS/CASP3/DDX5/KRAS/PIK3R1/PRKACB/RPS6/PDCD4	8
CD3D	0.634210758	7.46E-77	Exhaustion_CD8.T_RGS1_VCAM1	Allograft rejection	0.000187901	FAS/HLA-A/HLA-DQA1/HLA-DQB1	4
RPS18	0.435729791	2.70E-69	Exhaustion_CD8.T_RGS1_VCAM1	Glioma	0.000253285	CALM1/CALM2/GADD45A/KRAS/PIK3R1	5
HLA-DQB1	0.638710202	1.58E-66	Exhaustion_CD8.T_RGS1_VCAM1	Graft-versus-host disease	0.000278492	FAS/HLA-A/HLA-DQA1/HLA-DQB1	4
KLRG1	0.541897804	9.77E-66	Exhaustion_CD8.T_RGS1_VCAM1	Type I diabetes mellitus	0.000305308	FAS/HLA-A/HLA-DQA1/HLA-DQB1	4
HIST1H2BG	0.507702049	3.50E-62	Exhaustion_CD8.T_RGS1_VCAM1	PD-L1 expression and PD-1 checkpoint pathway in cancer	0.000561292	CD3D/CD3E/CD3G/KRAS/PIK3R1	5
LYST	0.565371969	2.41E-60	Exhaustion_CD8.T_RGS1_VCAM1	Kaposi sarcoma-associated herpesvirus infection	0.000648387	FAS/CALM1/CALM2/CASP3/HLA-A/KRAS/PIK3R1	7
RPL27A	0.502239708	4.07E-56	Exhaustion_CD8.T_RGS1_VCAM1	Autoimmune thyroid disease	0.000684279	FAS/HLA-A/HLA-DQA1/HLA-DQB1	4
PDCD4	0.54025483	1.75E-55	Exhaustion_CD8.T_RGS1_VCAM1	Hematopoietic cell lineage	0.000912347	CD3D/CD3E/CD3G/HLA-DQA1/HLA-DQB1	5
KLRB1	0.511179477	1.81E-55	Exhaustion_CD8.T_RGS1_VCAM1	Herpes simplex virus 1 infection	0.001158861	BIRC3/FAS/CASP3/HLA-A/HLA-DQA1/HLA-DQB1/PIK3R1/CCL5/SRSF5/SRSF7/ZNF331	11
DTHD1	0.346102681	2.49E-54	Exhaustion_CD8.T_RGS1_VCAM1	Cellular senescence	0.001160904	CALM1/CALM2/GADD45A/HLA-A/KRAS/PIK3R1	6
TUBA4A	0.707760994	1.20E-53	Exhaustion_CD8.T_RGS1_VCAM1	Th17 cell differentiation	0.001349196	CD3D/CD3E/CD3G/HLA-DQA1/HLA-DQB1	5
RPL3	0.378394884	2.46E-51	Exhaustion_CD8.T_RGS1_VCAM1	Long-term potentiation	0.001653953	CALM1/CALM2/KRAS/PRKACB	4

CDC42SE2	0.479081766	1.47E-50	Exhaustion_CD8.T_RGS1_VCAM1	Influenza A	0.001859014	FAS/CASP3/HLA-DQA1/HLA-DQB1/PIK3R1/CCL5	6
RPL41	0.251056503	2.41E-44	Exhaustion_CD8.T_RGS1_VCAM1	Platinum drug resistance	0.002269957	BIRC3/FAS/CASP3/PIK3R1	4
TRAT1	0.326173303	4.16E-43	Exhaustion_CD8.T_RGS1_VCAM1	Pertussis	0.002630499	CALM1/CALM2/CASP3/IRF1	4
RPL13	0.252383561	4.42E-43	Exhaustion_CD8.T_RGS1_VCAM1	Antigen processing and presentation	0.002891609	HLA-A/HLA-DQA1/HLA-DQB1/KLRC2	4
CXCR4	0.49096827	4.80E-43	Exhaustion_CD8.T_RGS1_VCAM1	Estrogen signaling pathway	0.003939862	CALM1/CALM2/KRAS/PIK3R1/PRKACB	5
RPS19	0.333430439	5.56E-42	Exhaustion_CD8.T_RGS1_VCAM1	Apelin signaling pathway	0.004063189	CALM1/CALM2/KRAS/PRKACB/RPS6	5
TNFSF9	0.406491862	1.10E-41	Exhaustion_CD8.T_RGS1_VCAM1	Colorectal cancer	0.004113901	CASP3/GADD45A/KRAS/PIK3R1	4
FAS	0.382558803	1.59E-41	Exhaustion_CD8.T_RGS1_VCAM1	Small cell lung cancer	0.00523219	BIRC3/CASP3/GADD45A/PIK3R1	4
RPL21	0.351620204	2.49E-41	Exhaustion_CD8.T_RGS1_VCAM1	GnRH signaling pathway	0.005436487	CALM1/CALM2/KRAS/PRKACB	4
CEMIP2	0.51935936	4.23E-41	Exhaustion_CD8.T_RGS1_VCAM1	Cell adhesion molecules	0.005453076	HLA-A/HLA-DQA1/HLA-DQB1/VCAM1/TIGIT	5
ASXL2	0.327580193	5.19E-41	Exhaustion_CD8.T_RGS1_VCAM1	Intestinal immune network for IgA production	0.006098928	HLA-DQA1/HLA-DQB1/CXCR4	3
SRSF7	0.409250073	1.28E-40	Exhaustion_CD8.T_RGS1_VCAM1	Inflammatory mediator regulation of TRP channels	0.006538418	CALM1/CALM2/PIK3R1/PRKACB	4
RPL23A	0.332907804	1.09E-39	Exhaustion_CD8.T_RGS1_VCAM1	AGE-RAGE signaling pathway in diabetic complications	0.007017827	CASP3/KRAS/PIK3R1/VCAM1	4
DDX5	0.384561587	2.96E-39	Exhaustion_CD8.T_RGS1_VCAM1	Melanogenesis	0.00726604	CALM1/CALM2/KRAS/PRKACB	4
CD3G	0.389285474	1.12E-38	Exhaustion_CD8.T_RGS1_VCAM1	Endometrial cancer	0.009730318	GADD45A/KRAS/PIK3R1	3
HLA-A	0.280945388	6.51E-38	Exhaustion_CD8.T_RGS1_VCAM1	Toxoplasmosis	0.010387361	BIRC3/CASP3/HLA-DQA1/HLA-DQB1	4
GPR174	0.330480942	1.23E-37	Exhaustion_CD8.T_RGS1_VCAM1	Cholinergic synapse	0.010707993	FYN/KRAS/PIK3R1/PRKACB	4
RPS14	0.262288246	4.04E-37	Exhaustion_CD8.T_RGS1_VCAM1	Longevity regulating pathway - multiple species	0.011672332	KRAS/PIK3R1/PRKACB	3
STK17A	0.401958458	4.54E-37	Exhaustion_CD8.T_RGS1_VCAM1	Tuberculosis	0.011862232	CALM1/CALM2/CASP3/HLA-DQA1/HLA-DQB1	5
RPS6	0.304885284	4.88E-36	Exhaustion_CD8.T_RGS1_VCAM1	Human papillomavirus infection	0.012646923	FAS/CASP3/HLA-A/IRF1/KRAS/PIK3R1/PRKACB	7
EIF4A2	0.385052065	1.38E-32	Exhaustion_CD8.T_RGS1_VCAM1	Neurotrophin signaling pathway	0.012766851	CALM1/CALM2/KRAS/PIK3R1	4
CALM2	0.372666609	6.76E-31	Exhaustion_CD8.T_RGS1_VCAM1	Fc epsilon RI signaling pathway	0.014976393	FYN/KRAS/PIK3R1	3
SLFN11	0.30836366	1.00E-30	Exhaustion_CD8.T_RGS1_VCAM1	Chemokine signaling pathway	0.015336163	KRAS/PIK3R1/PRKACB/CCL5/CXCR4	5
TRGC2	0.731657166	1.02E-30	Exhaustion_CD8.T_RGS1_VCAM1	Renin secretion	0.015573302	CALM1/CALM2/PRKACB	3
RPL13A	0.314597146	2.43E-27	Exhaustion_CD8.T_RGS1_VCAM1	Amphetamine addiction	0.015573302	CALM1/CALM2/PRKACB	3
RPS9	0.282928837	2.62E-27	Exhaustion_CD8.T_RGS1_VCAM1	Prolactin signaling pathway	0.016183521	IRF1/KRAS/PIK3R1	3
TANK	0.314474166	2.87E-27	Exhaustion_CD8.T_RGS1_VCAM1	Melanoma	0.017444005	GADD45A/KRAS/PIK3R1	3
RSRP1	0.3811581	6.44E-27	Exhaustion_CD8.T_RGS1_VCAM1	Non-small cell lung cancer	0.017444005	GADD45A/KRAS/PIK3R1	3
BIRC3	0.356736214	8.68E-27	Exhaustion_CD8.T_RGS1_VCAM1	Prion disease	0.017455685	CASP3/FYN/PIK3R1/PRKACB/CCL5/TUBA4A	6
EOMES	0.288709624	5.39E-26	Exhaustion_CD8.T_RGS1_VCAM1	p53 signaling pathway	0.018094322	FAS/CASP3/GADD45A	3
YPEL5	0.39052006	1.86E-25	Exhaustion_CD8.T_RGS1_VCAM1	Viral carcinogenesis	0.01943707	CASP3/HLA-A/KRAS/PIK3R1/PRKACB	5
RPS20	0.329048451	7.05E-25	Exhaustion_CD8.T_RGS1_VCAM1	Gastric acid secretion	0.020125813	CALM1/CALM2/PRKACB	3
CALM1	0.28067477	4.32E-24	Exhaustion_CD8.T_RGS1_VCAM1	Pancreatic cancer	0.020125813	GADD45A/KRAS/PIK3R1	3
ZEB2	0.383704102	4.65E-24	Exhaustion_CD8.T_RGS1_VCAM1	Chronic myeloid leukemia	0.020125813	GADD45A/KRAS/PIK3R1	3
TRG-AS1	0.361461019	9.81E-24	Exhaustion_CD8.T_RGS1_VCAM1	Phototransduction	0.020434849	CALM1/CALM2	2
IRF1	0.359454517	1.10E-23	Exhaustion_CD8.T_RGS1_VCAM1	Fluid shear stress and atherosclerosis	0.021396209	CALM1/CALM2/PIK3R1/VCAM1	4
TRGC1	0.363744222	1.37E-23	Exhaustion_CD8.T_RGS1_VCAM1	EGFR tyrosine kinase inhibitor resistance	0.022278412	KRAS/PIK3R1/RPS6	3
HIST1H2AC	0.29367892	1.43E-23	Exhaustion_CD8.T_RGS1_VCAM1	Autophagy - animal	0.022415702	KRAS/PIK3R1/PRKACB/TANK	4
KMT2A	0.327500748	1.95E-23	Exhaustion_CD8.T_RGS1_VCAM1	Asthma	0.023177576	HLA-DQA1/HLA-DQB1	2
CASP3	0.277920928	2.62E-23	Exhaustion_CD8.T_RGS1_VCAM1	MAPK signaling pathway	0.024171661	FAS/CASP3/GADD45A/KRAS/PRKACB/PTPN7	6
LINC02446	0.293051669	2.82E-23	Exhaustion_CD8.T_RGS1_VCAM1	Cytokine-cytokine receptor interaction	0.024529406	FAS/TNFRSF9/CCL5/CXCR4/TNFSF9/IL32	6
TNFRSF9	0.276826202	2.89E-22	Exhaustion_CD8.T_RGS1_VCAM1	Apoptosis - multiple species	0.024602732	BIRC3/CASP3	2
RUNX3	0.347782581	4.33E-22	Exhaustion_CD8.T_RGS1_VCAM1	Alzheimer disease	0.026358952	FAS/CALM1/CALM2/CASP3/KRAS/PIK3R1/TUBA4A	7
PRKACB	0.259577782	4.81E-22	Exhaustion_CD8.T_RGS1_VCAM1	cAMP signaling pathway	0.026397684	CALM1/CALM2/PDE4B/PIK3R1/PRKACB	5
CD3E	0.285278174	6.92E-22	Exhaustion_CD8.T_RGS1_VCAM1	ErbB signaling pathway	0.026947486	CBLB/KRAS/PIK3R1	3
HCST	0.269787965	2.75E-21	Exhaustion_CD8.T_RGS1_VCAM1	Phagosome	0.028552746	HLA-A/HLA-DQA1/HLA-DQB1/TUBA4A	4
ZBTB1	0.360253558	4.85E-21	Exhaustion_CD8.T_RGS1_VCAM1	Gap junction	0.029463721	KRAS/PRKACB/TUBA4A	3
ALB	0.264903251	6.33E-21	Exhaustion_CD8.T_RGS1_VCAM1	Oxytocin signaling pathway	0.029766192	CALM1/CALM2/KRAS/PRKACB	4
CBLB	0.278699844	4.89E-20	Exhaustion_CD8.T_RGS1_VCAM1	Longevity regulating pathway	0.030329302	KRAS/PIK3R1/PRKACB	3
SLC38A1	0.321831186	3.12E-19	Exhaustion_CD8.T_RGS1_VCAM1	Hepatitis C	0.031643334	FAS/CASP3/KRAS/PIK3R1	4
NAA50	0.288378012	4.48E-19	Exhaustion_CD8.T_RGS1_VCAM1	Ras signaling pathway	0.031660388	CALM1/CALM2/KRAS/PIK3R1/PRKACB	5
SYTL3	0.324623494	1.24E-18	Exhaustion_CD8.T_RGS1_VCAM1	Aldosterone-regulated sodium reabsorption	0.032242358	KRAS/PIK3R1	2
GPBP1	0.293554424	1.73E-18	Exhaustion_CD8.T_RGS1_VCAM1	African trypanosomiasis	0.032242358	FAS/VCAM1	2
LINC-PINT	0.286795231	2.50E-18	Exhaustion_CD8.T_RGS1_VCAM1	Thyroid cancer	0.032242358	GADD45A/KRAS	2
TERF2IP	0.320844576	5.32E-18	Exhaustion_CD8.T_RGS1_VCAM1	Primary immunodeficiency	0.033868943	CD3D/CD3E	2
GADD45A	0.269957863	9.89E-18	Exhaustion_CD8.T_RGS1_VCAM1	Salivary secretion	0.033925277	CALM1/CALM2/PRKACB	3
CNOT6L	0.293653971	1.21E-17	Exhaustion_CD8.T_RGS1_VCAM1	Rheumatoid arthritis	0.033925277	HLA-DQA1/HLA-DQB1/CCL5	3
KRAS	0.255045925	1.89E-17	Exhaustion_CD8.T_RGS1_VCAM1	Hepatitis B	0.034924649	FAS/CASP3/KRAS/PIK3R1	4
EIF5	0.305305769	5.82E-17	Exhaustion_CD8.T_RGS1_VCAM1	Phosphatidylinositol signaling system	0.037733826	CALM1/CALM2/PIK3R1	3
FGFR1OP2	0.252563438	5.90E-17	Exhaustion_CD8.T_RGS1_VCAM1	Circadian entrainment	0.037733826	CALM1/CALM2/PRKACB	3
GCC2	0.312750951	8.21E-16	Exhaustion_CD8.T_RGS1_VCAM1	Endocrine resistance	0.038718944	KRAS/PIK3R1/PRKACB	3
ARID4B	0.256742412	1.57E-15	Exhaustion_CD8.T_RGS1_VCAM1	Aldosterone synthesis and secretion	0.038718944	CALM1/CALM2/PRKACB	3
PDE4B	0.277333113	4.24E-15	Exhaustion_CD8.T_RGS1_VCAM1	Progesterone-mediated oocyte maturation	0.042790223	KRAS/PIK3R1/PRKACB	3

SRSF5	0.268771928	1.48E-14	Exhaustion_CD8.T_RGS1_VCAM1	Amoebiasis	0.042790223	CASP3/PIK3R1/PRKACB	3
WNK1	0.251027137	2.90E-14	Exhaustion_CD8.T_RGS1_VCAM1	NF-kappa B signaling pathway	0.04490376	BIRC3/GADD45A/VCAM1	3
PTGES3	0.297731024	9.64E-14	Exhaustion_CD8.T_RGS1_VCAM1	Glucagon signaling pathway	0.0481704	CALM1/CALM2/PRKACB	3
FYN	0.273366006	4.47E-13	Exhaustion_CD8.T_RGS1_VCAM1	Axon guidance	0.049975133	FYN/KRAS/PIK3R1/CXCR4	4
IDI1	0.288366416	7.22E-13	Exhaustion_CD8.T_RGS1_VCAM1				
PTPN7	0.264751575	2.15E-12	Exhaustion_CD8.T_RGS1_VCAM1				
ZNF331	0.325492481	4.04E-12	Exhaustion_CD8.T_RGS1_VCAM1				
DDX17	0.256145389	9.36E-11	Exhaustion_CD8.T_RGS1_VCAM1				
KLRC2	0.264450635	8.73E-07	Exhaustion_CD8.T_RGS1_VCAM1				

Supplementary Table 8. Related genes shared by En cell subpopulations and HCC cell subpopulations of HCC4 (related to Fig. 7 and Supplementary Figure 4)

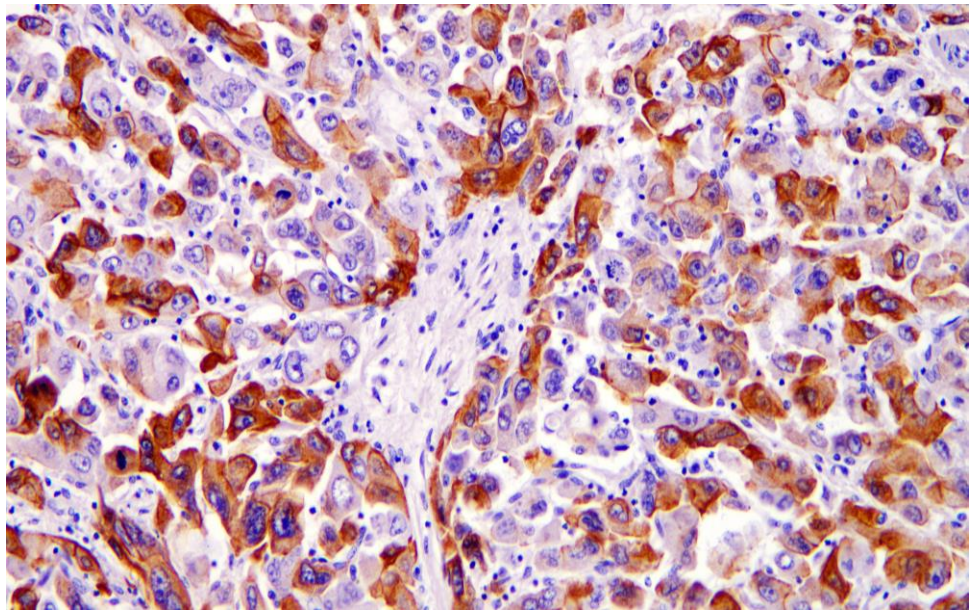
Gene	Gene
A2M	MT1G
ACP5	MT1X
ADAM15	MT2A
ALPL	NDUFB11
APOA2	NFKBIA
APOC1	NKG7
APOC2	NNMT
APOH	NPC2
ASS1	NR2F2
ATP13A3	NR4A2
ATP5MC2	PABPC1
ATP6V0C	PCBP2
C19orf33	PLAAT4
CASP4	PNRC1
CCL2	PPDPF
CCL4	PRR13
CCL4L2	RDX
CCL5	REL
CCNL1	RHOB
CD74	RNASE1
CD99	RPL11
CDKN1A	RPL12
CEBPD	RPL22
CSNK2B	RPL30
CST7	RPL32
CTSB	RPL34
CXCL12	RPL36
CYP2E1	RPL36A
DCXR	RPL39
DNAJB1	RPL5
DUSP2	RPL6
EDN1	RPLP2
EEF1A1	RPS10
EEF1D	RPS12
EEF2	RPS13
FCER1G	RPS15A
FTH1	RPS21
FTL	RPS26
GABARAP	RPS28
GADD45A	RPS4Y1
GAPDH	S100A10
GLUL	S100A4
GNLY	S100A6
GPX2	SERF2
GSTA1	SERPINA1
HLA-DQA1	SLC2A3
HLA-DQB1	SNHG29
HLA-DRB5	SNHG7
HP	SQSTM1
HSPA1A	SRGN
HSPA1B	SRP14
HSPB1	ST13
HSPH1	STMN1
ICAM1	TFF3
IFI30	TM4SF1
IFITM1	TMEM256
IFITM2	TMSB10
IFITM3	TYROBP
IGFBP3	UQCRQ
KDM6B	ZBTB16
KLF4	ZFP36L1
MDK	ZNF331

3. Supplementary file 1

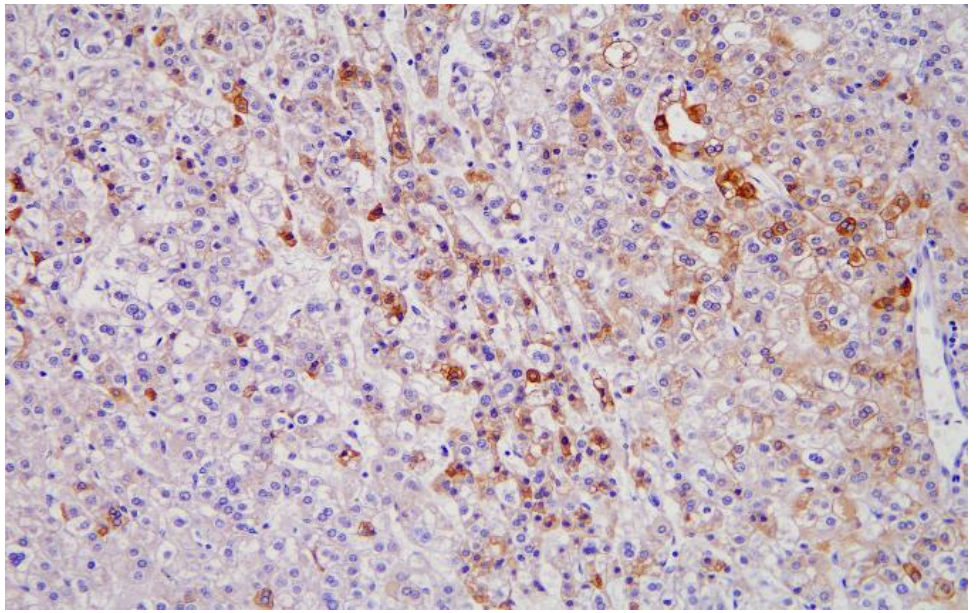
Immunohistochemical staining showing increased KRT8 expressions in the resected tumors originated from the rapid recurrence HCC patients compared to the recurrence-free HCC patients.

rapid recurrence HCC patients

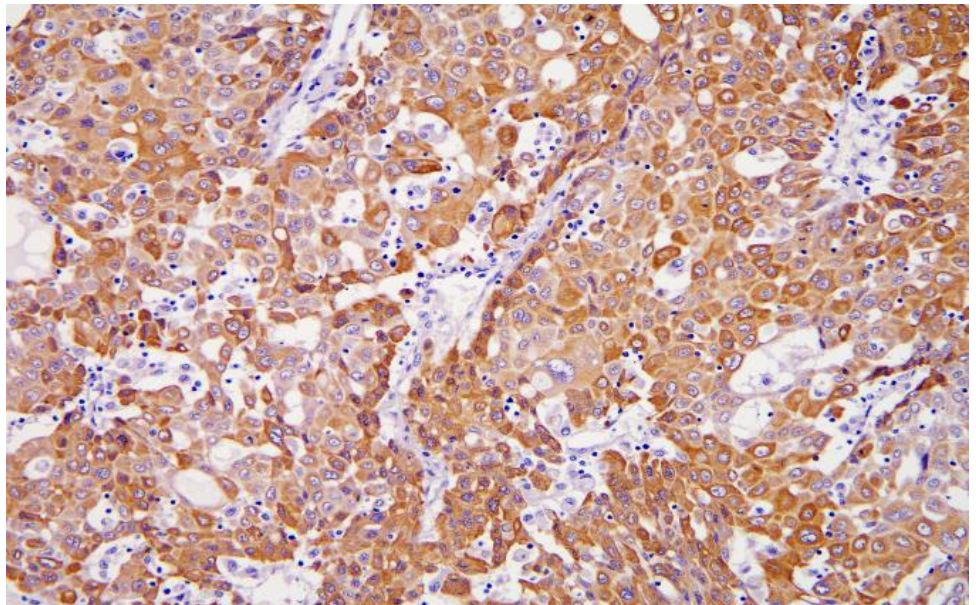
patient 1



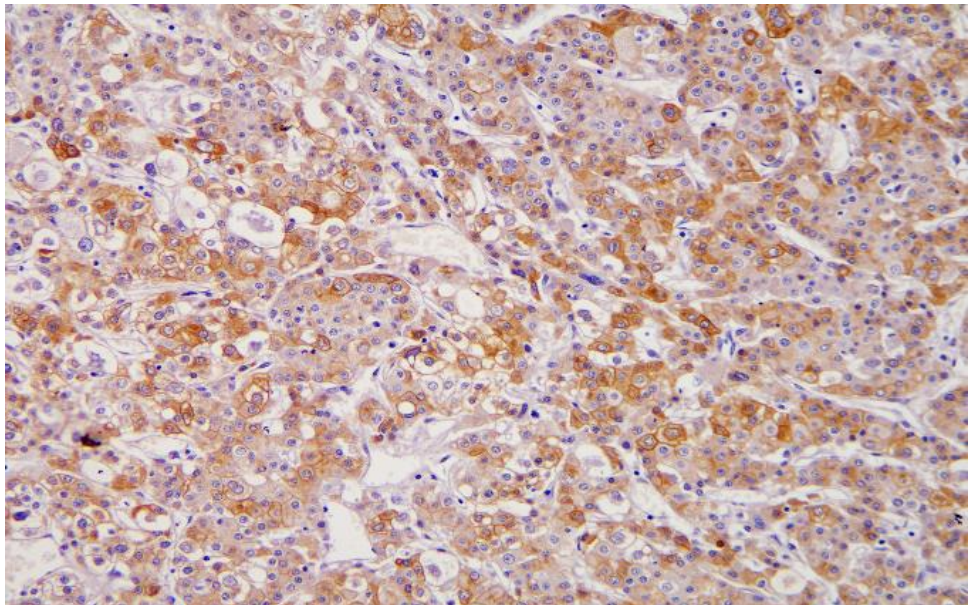
patient 2



patient 3

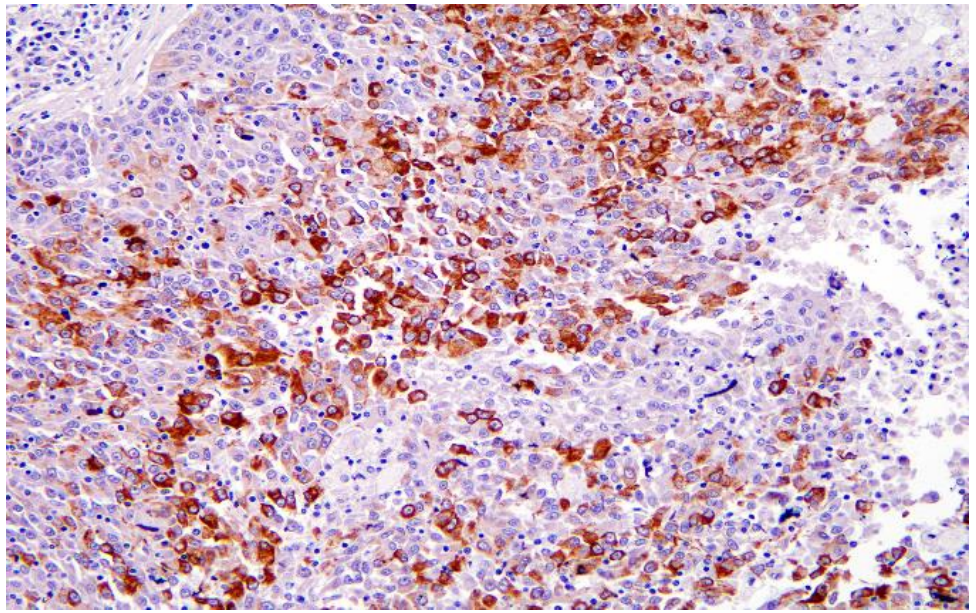


patient 4



rapid recurrence HCC patients

patient 5



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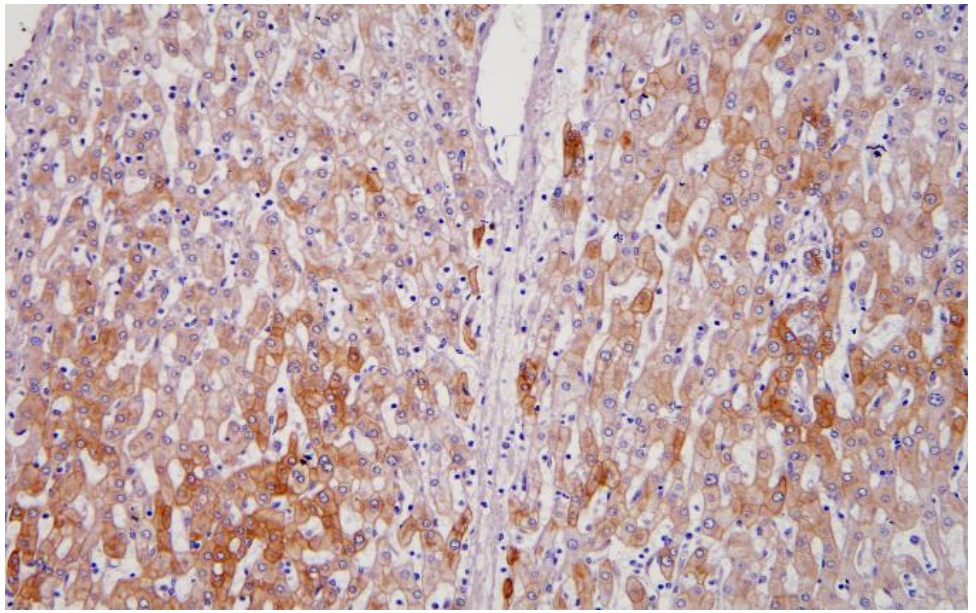
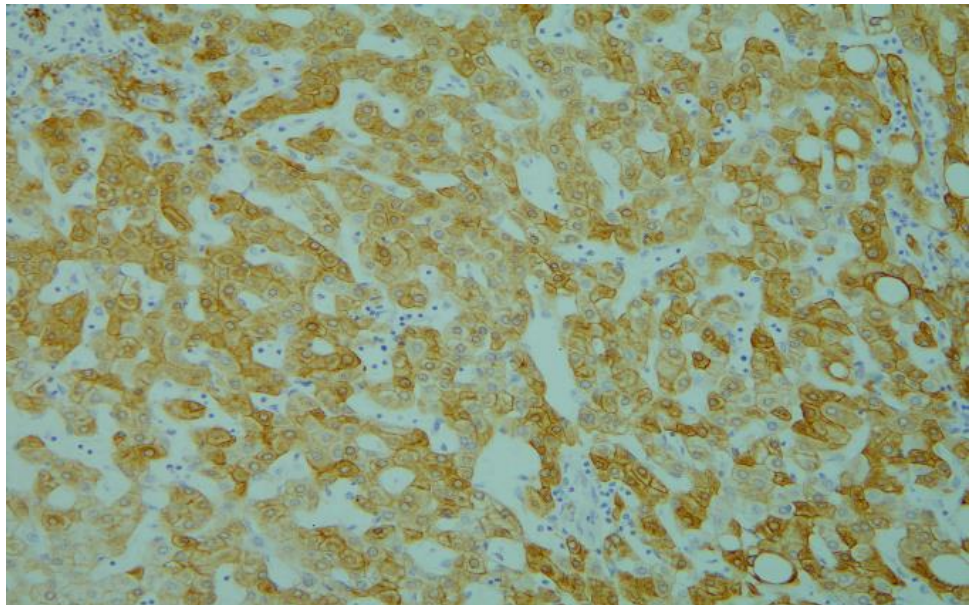
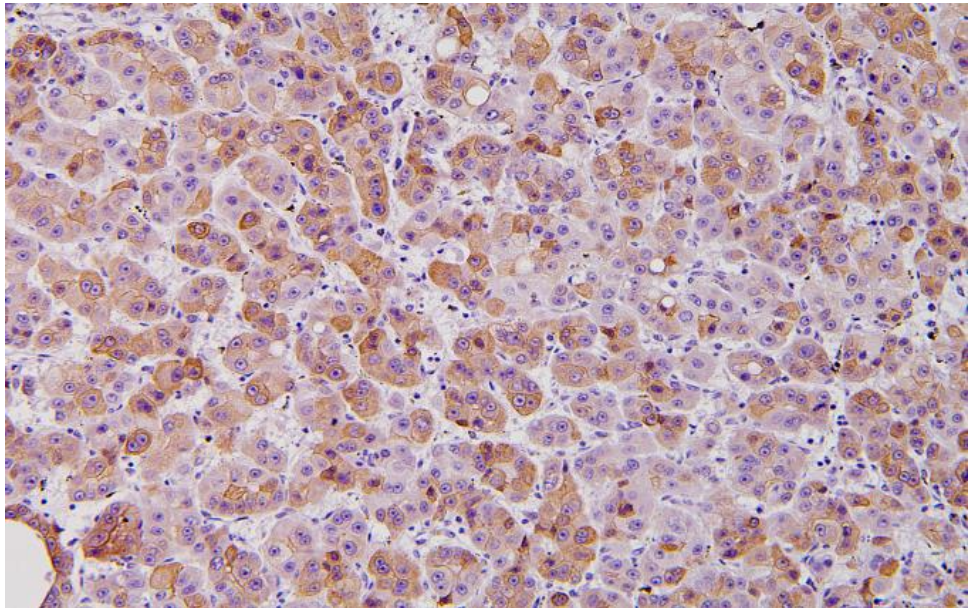


patient 7

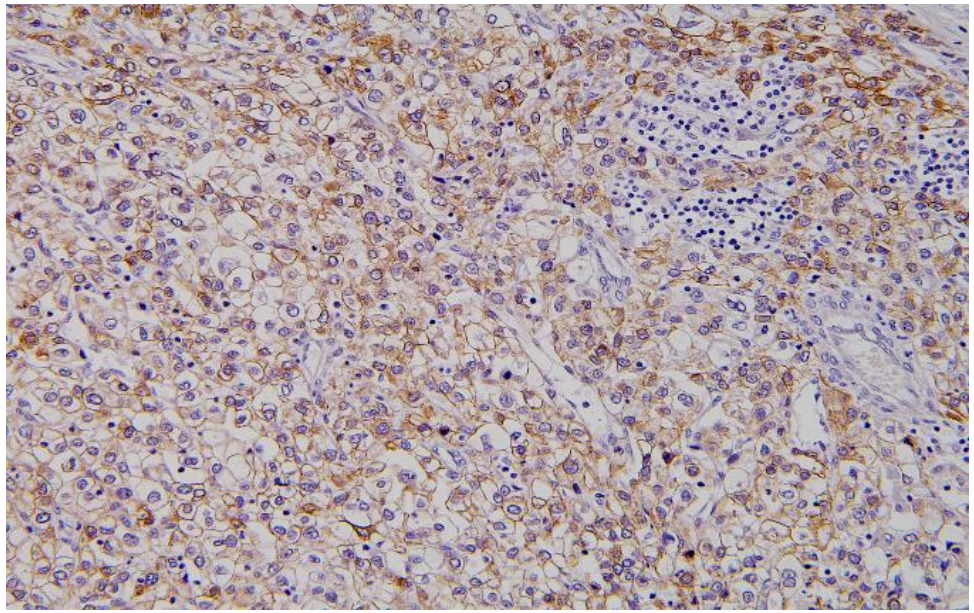


patient 8

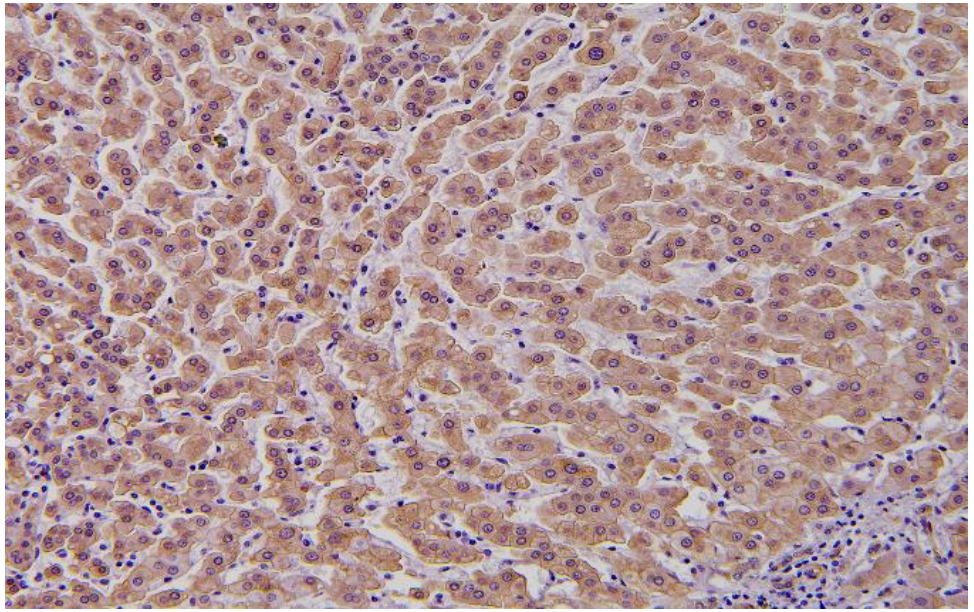


rapid recurrence HCC patients

patient 9



patient 10



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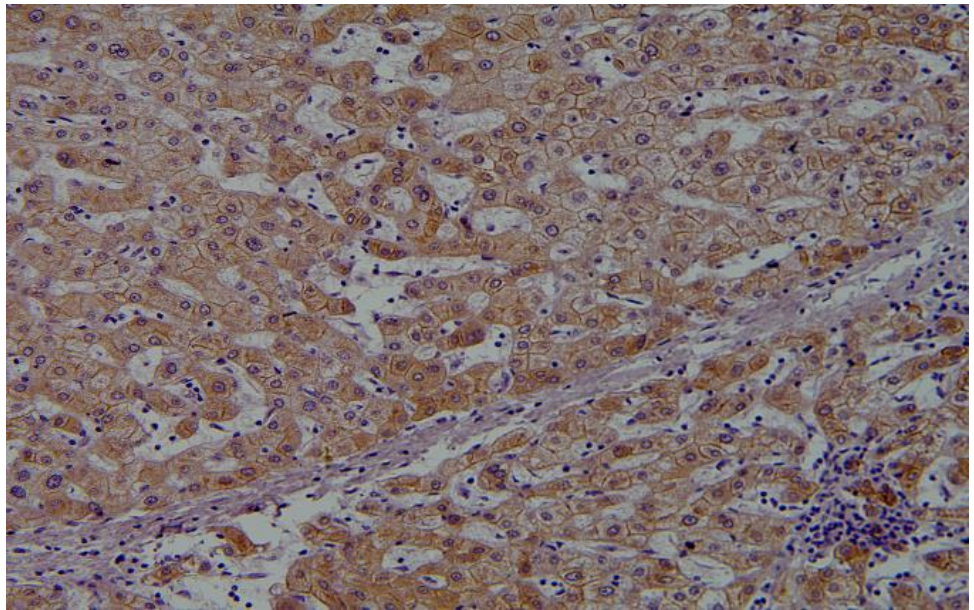
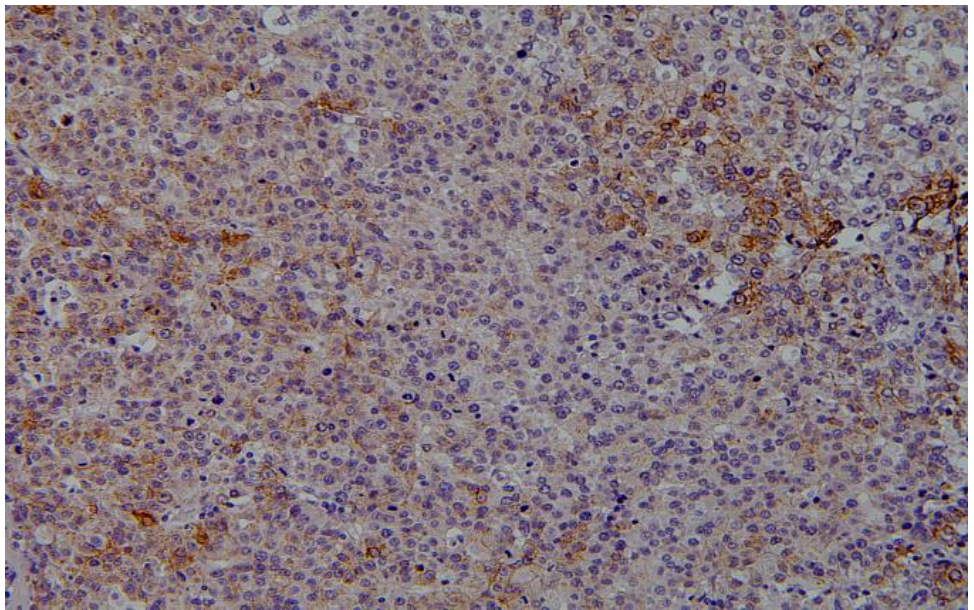
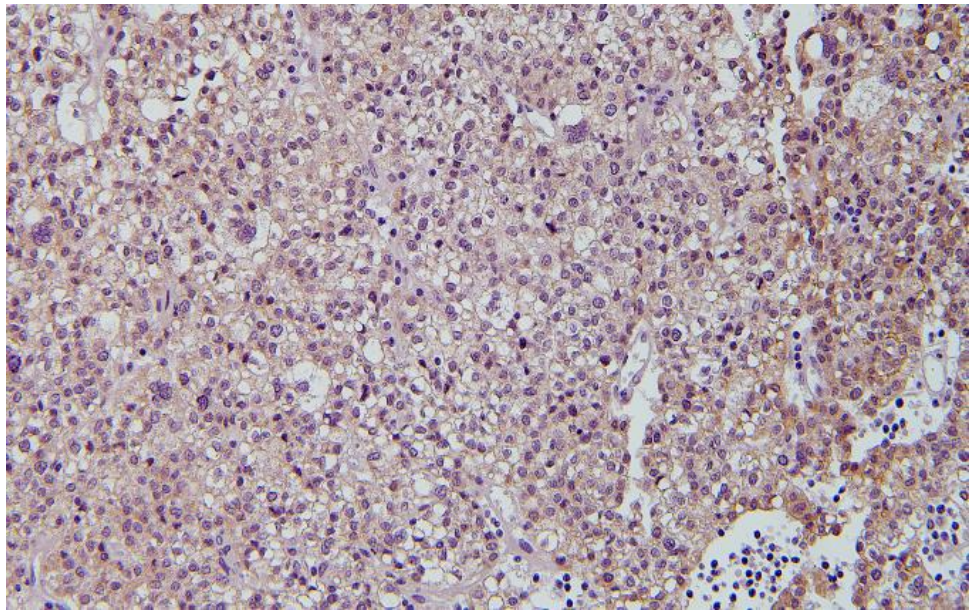


patient 12

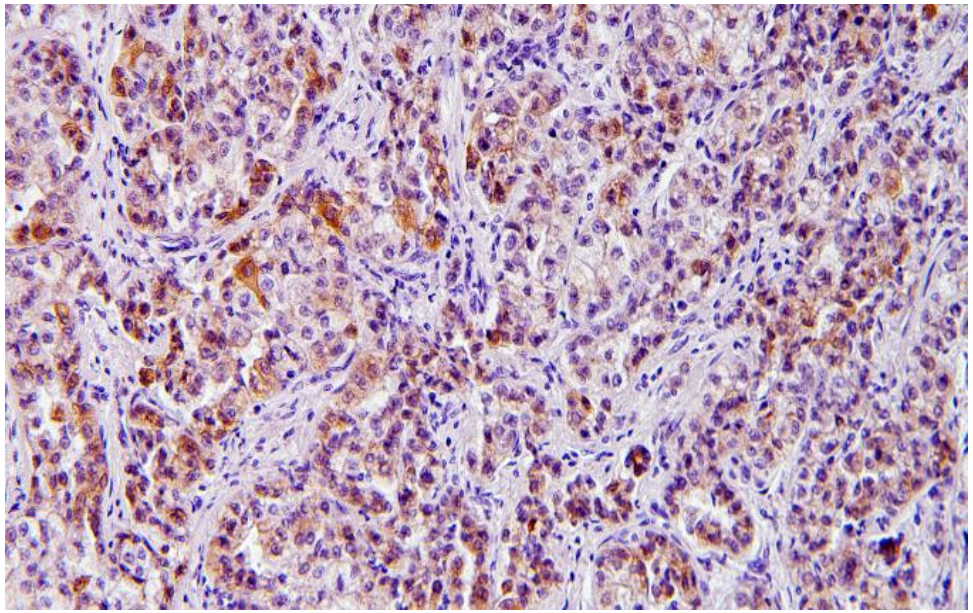


rapid recurrence HCC patients

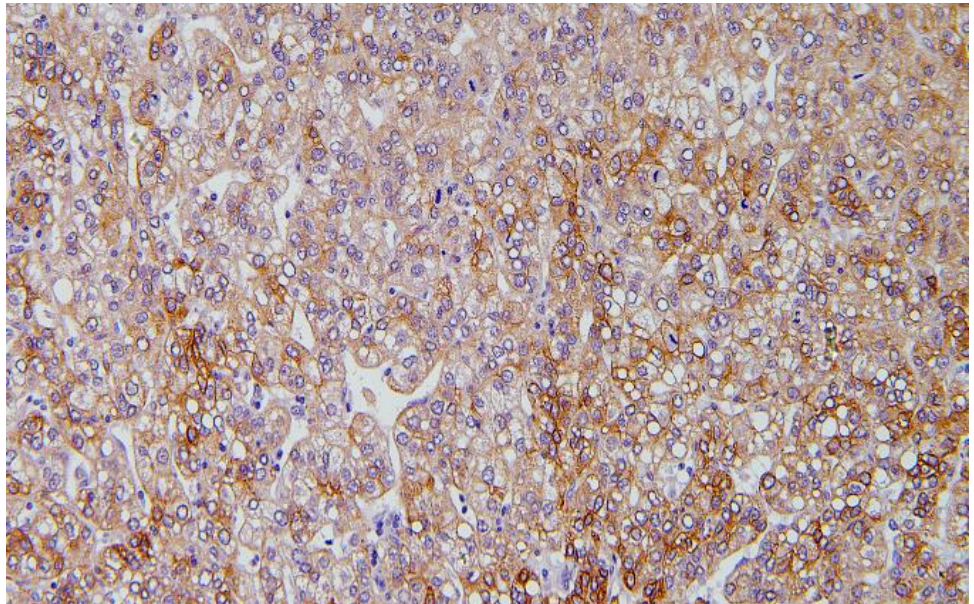
patient 13



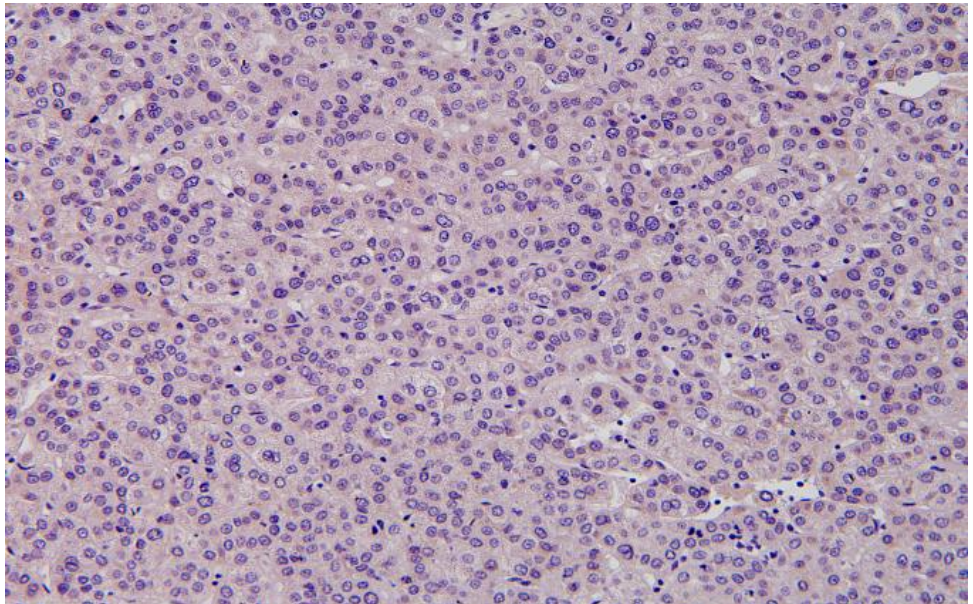
patient 14



patient 15

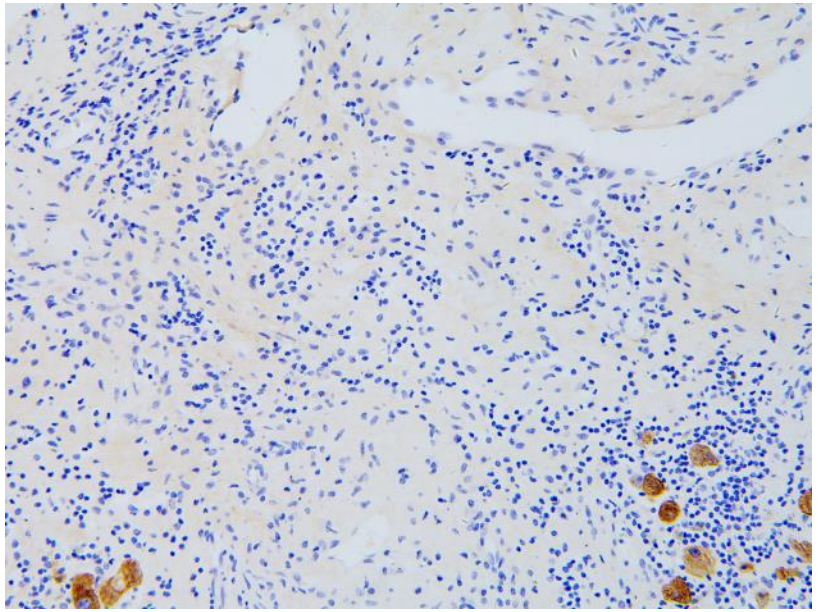


patient 16

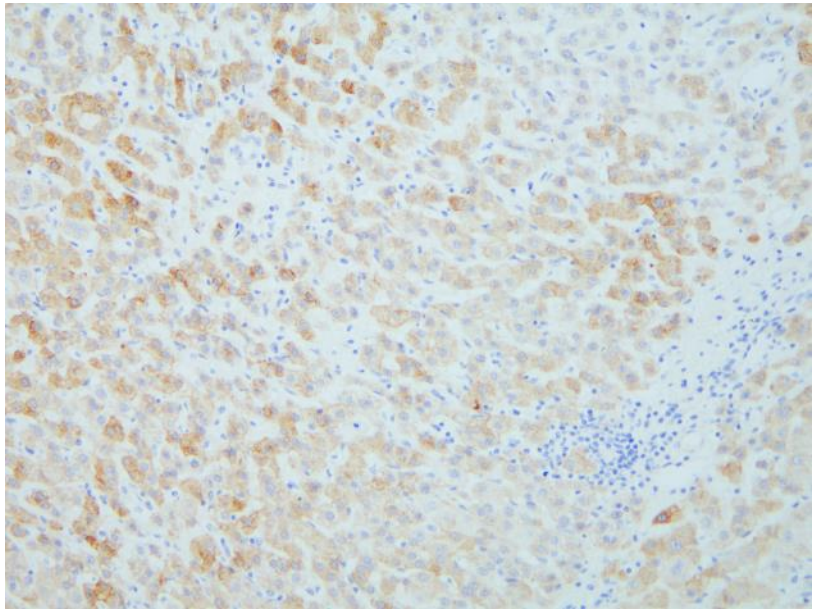


rapid recurrence HCC patients

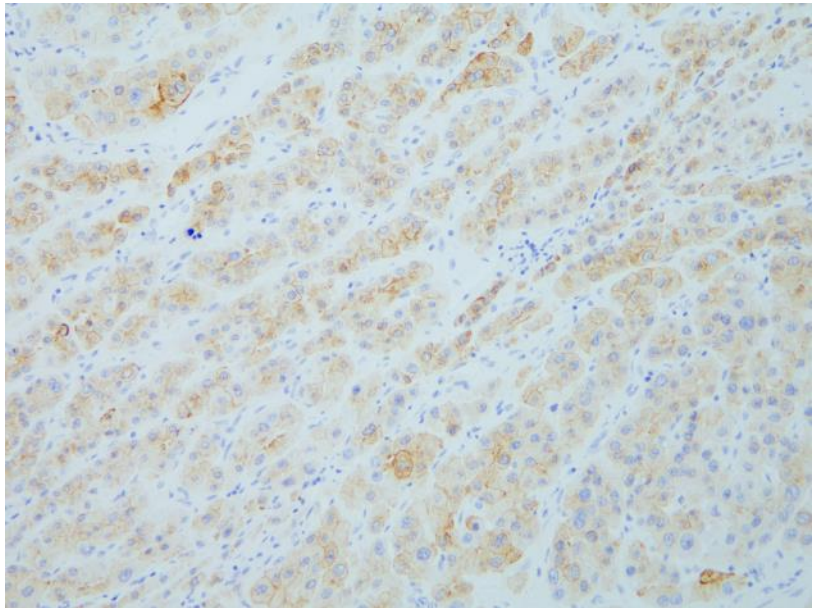
patient 17



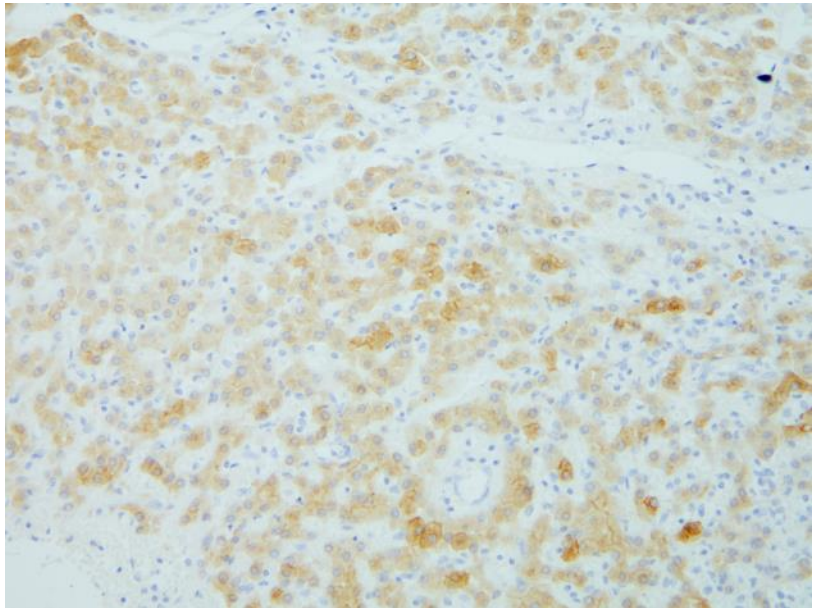
patient 18



patient 19

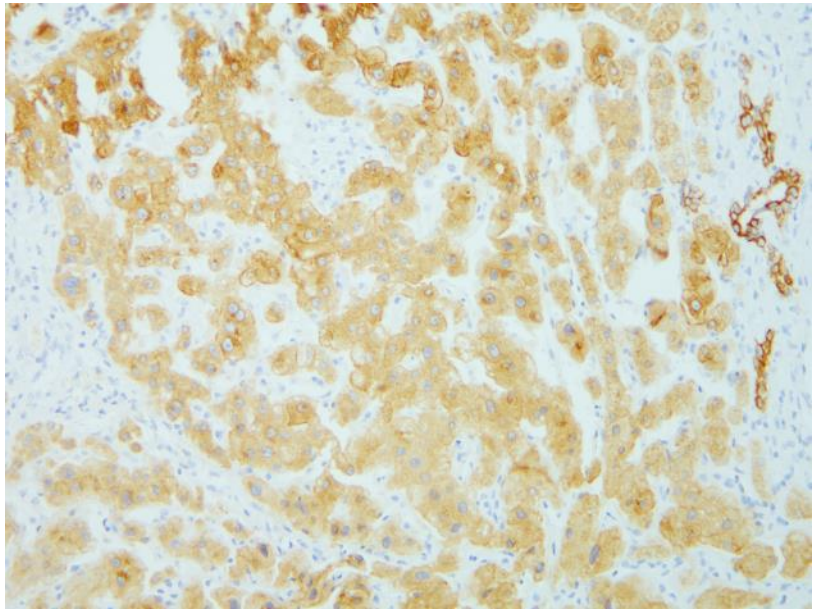


patient 20

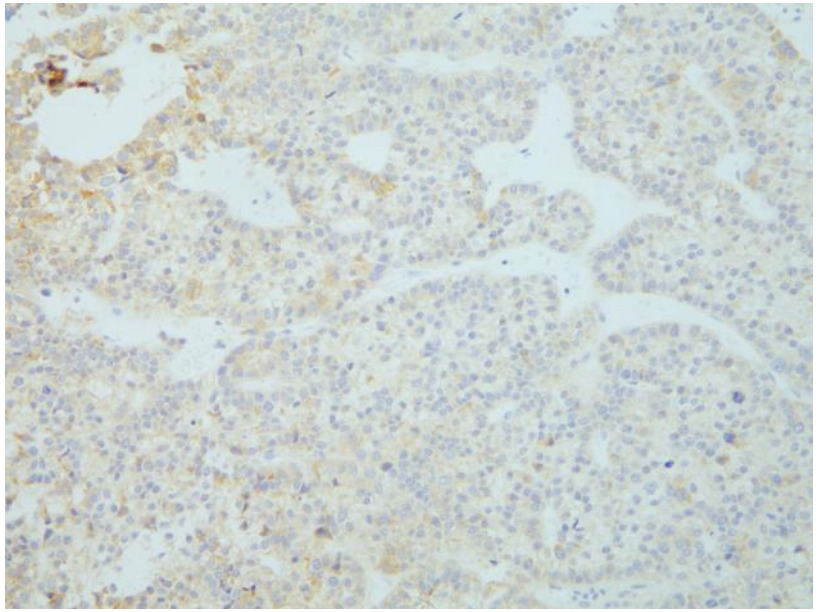


rapid recurrence HCC patients

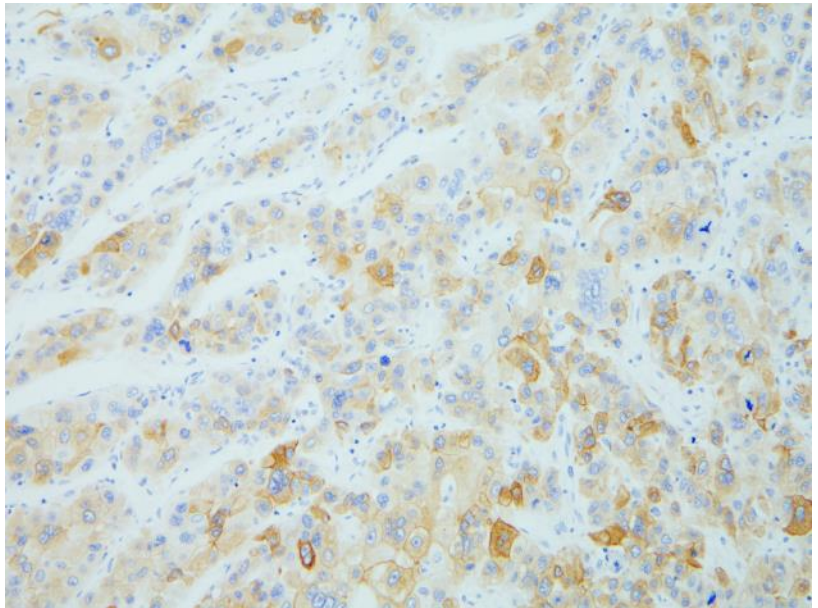
patient 21



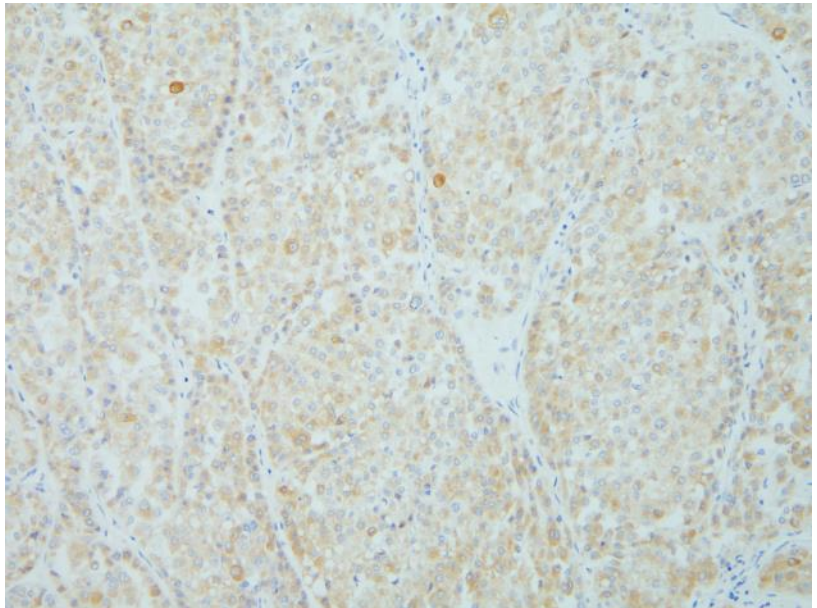
patient 22



patient 23

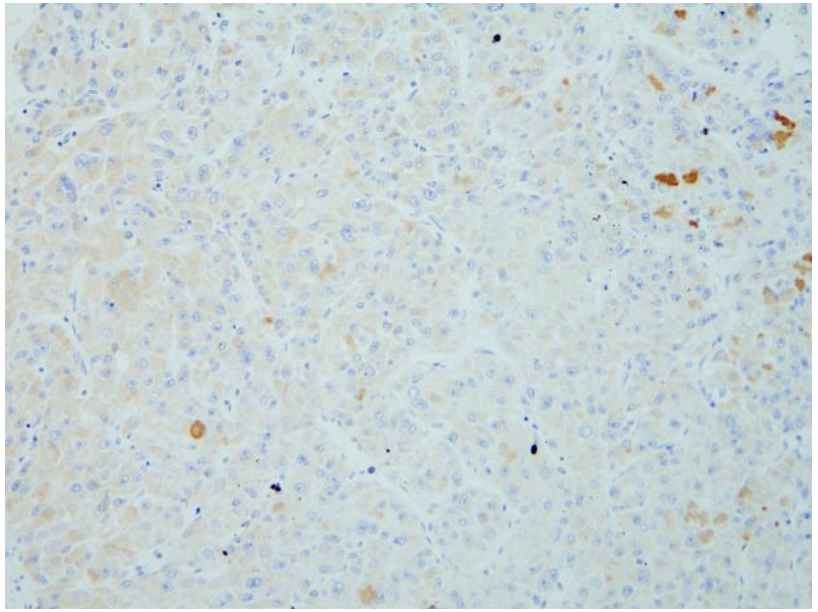


patient 24

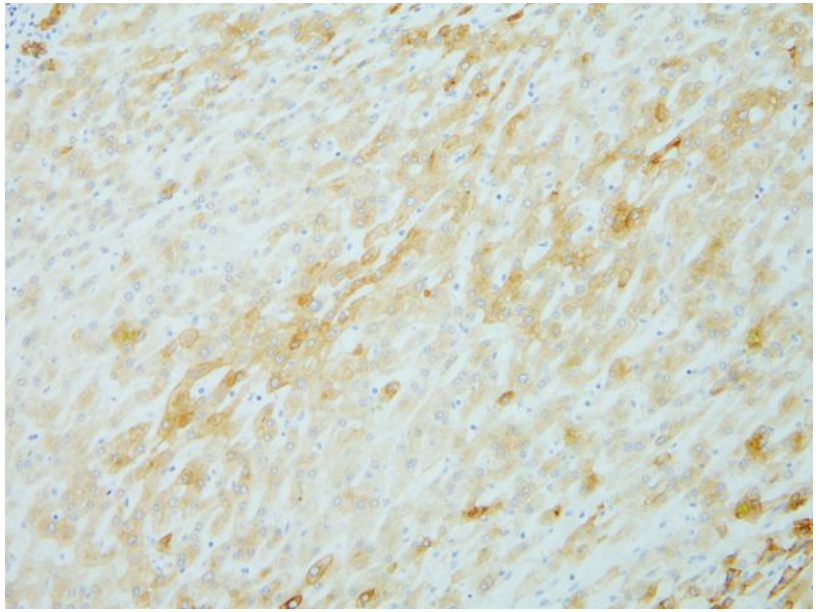


rapid recurrence HCC patients

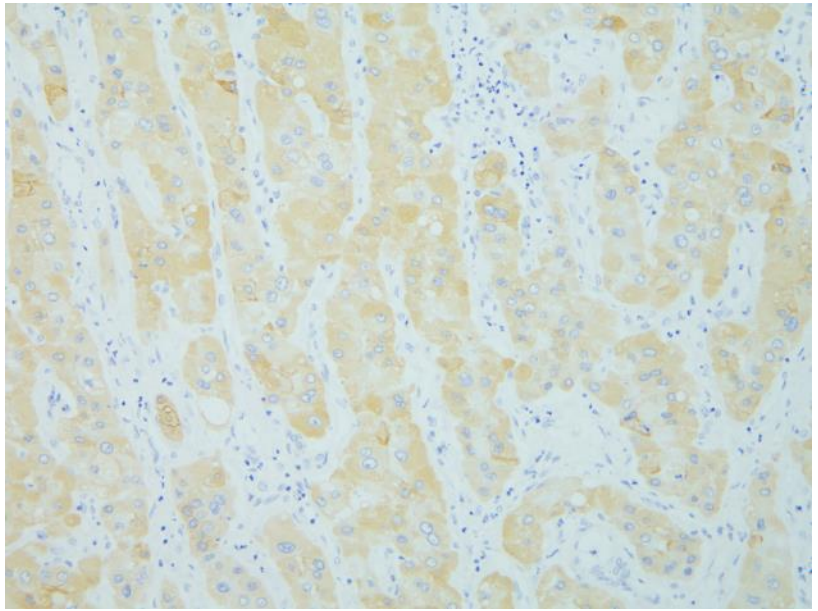
patient 25



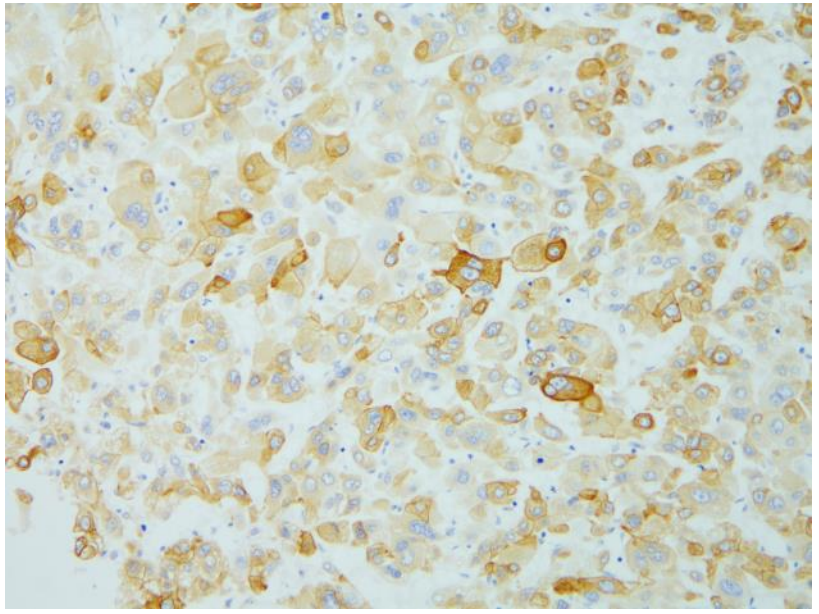
patient 26



patient 27

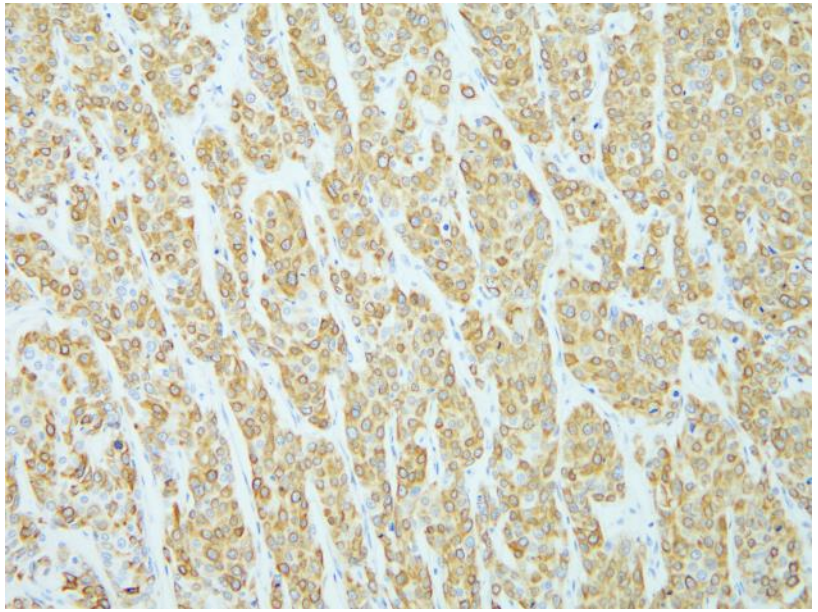


patient 28

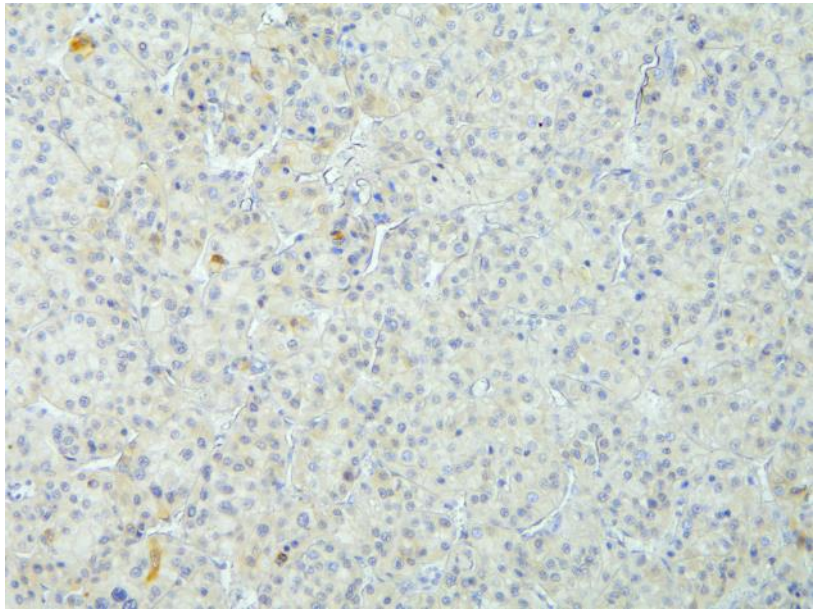


rapid recurrence HCC patients

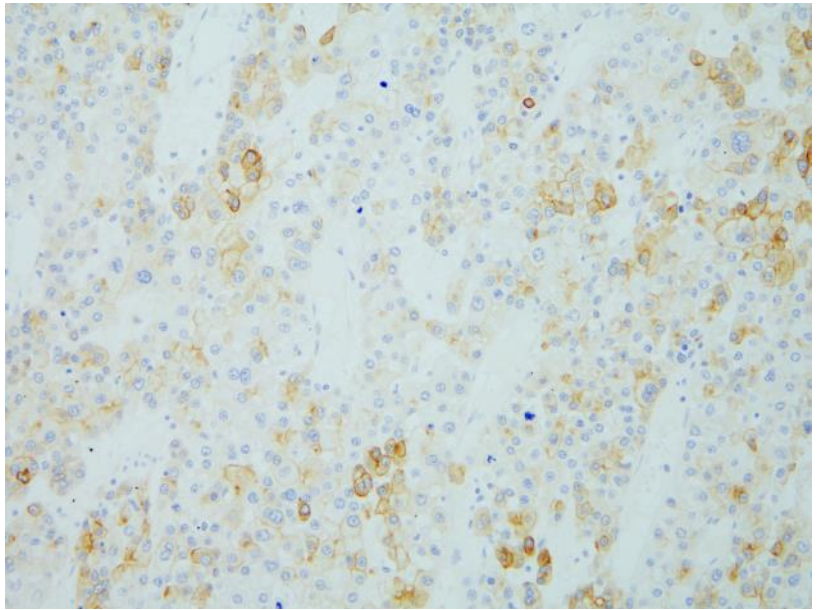
patient 29



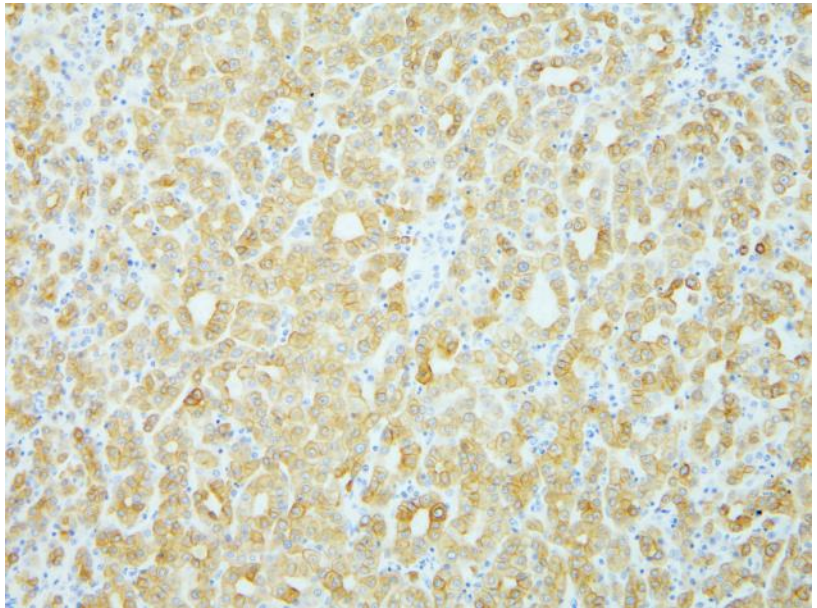
patient 30



patient 31

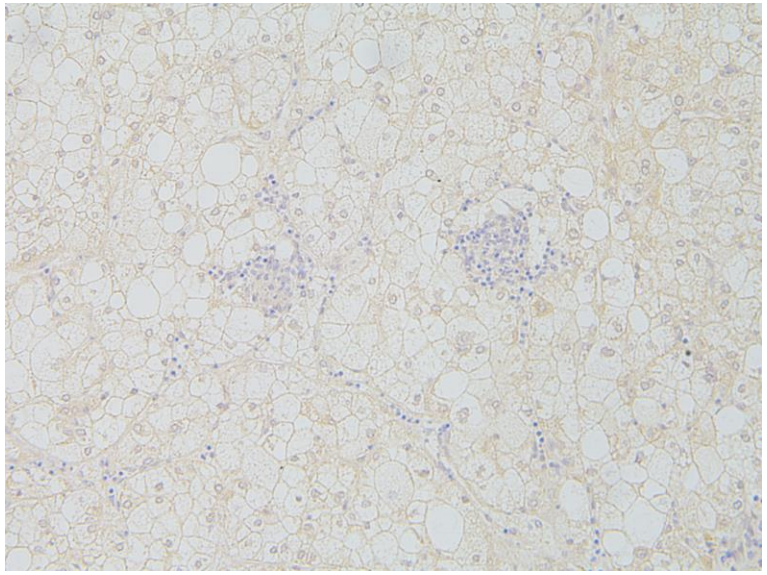


patient 32

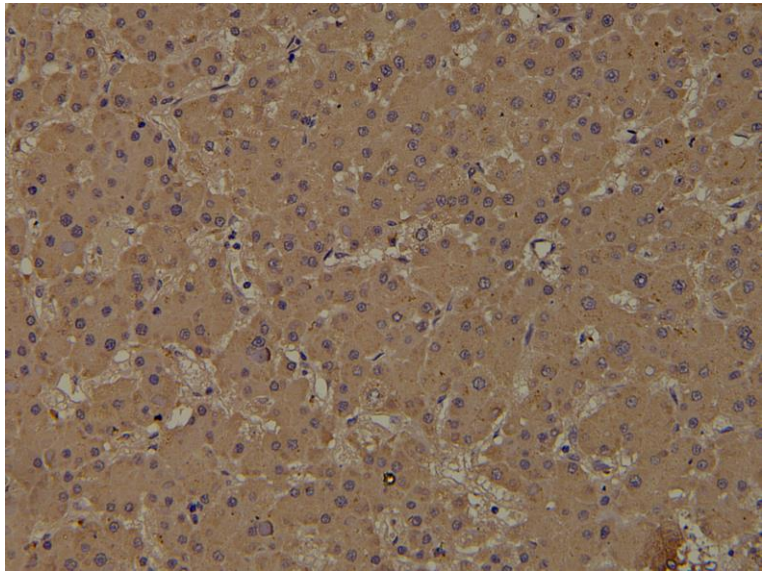


the recurrence-free HCC patients

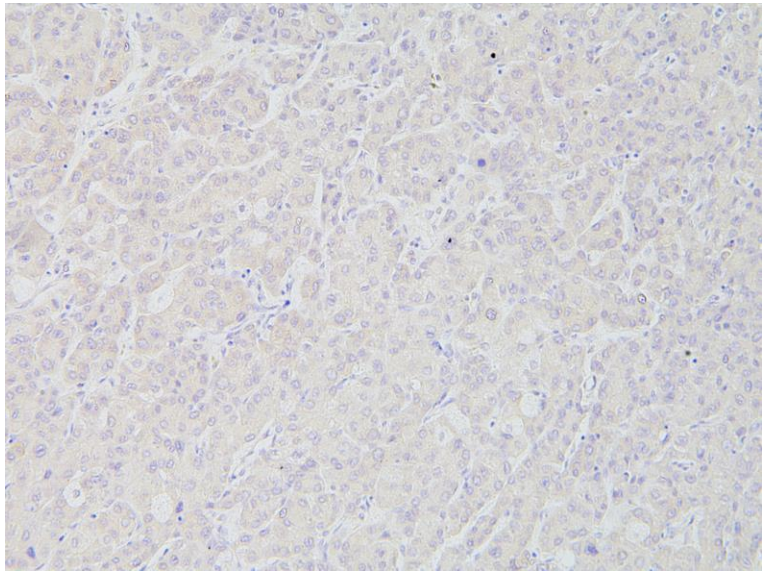
patient 1



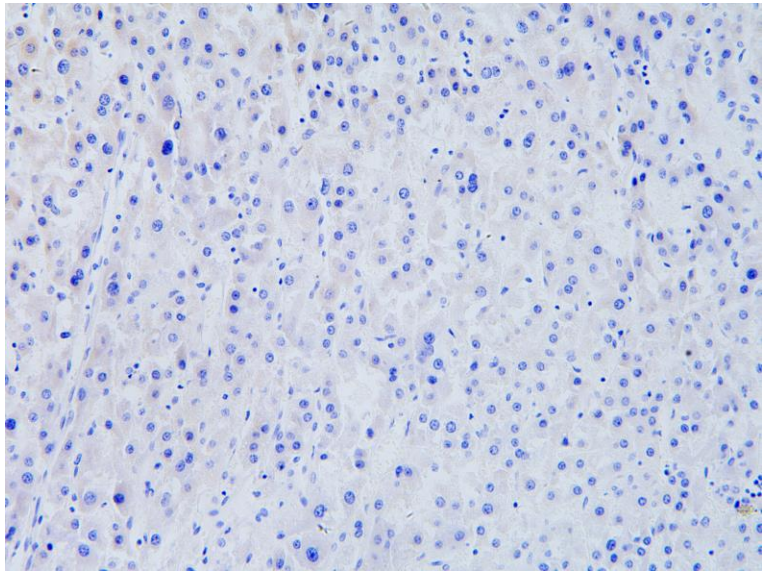
patient 2



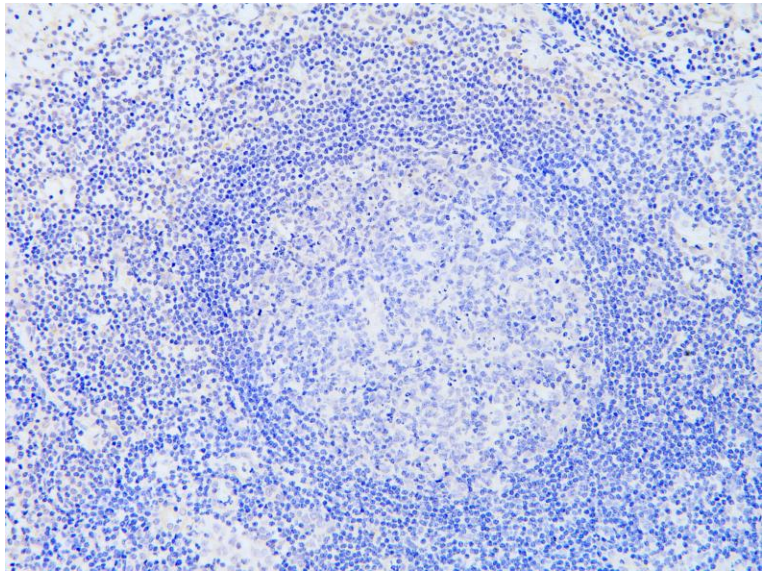
patient 3



patient 4

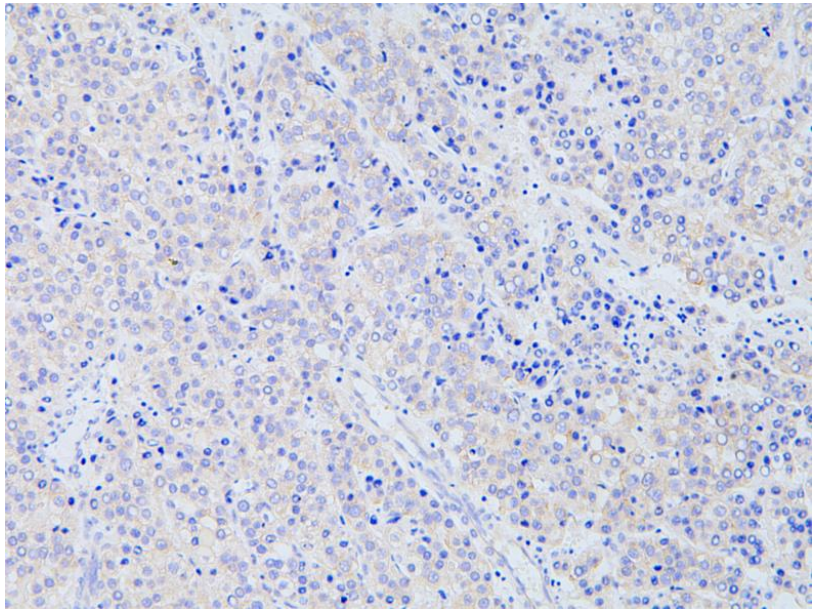


patient 5

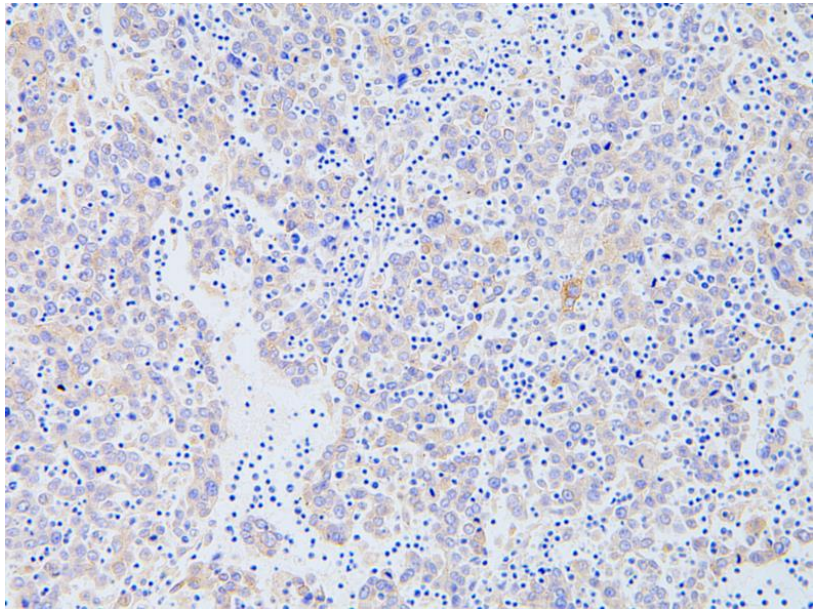


the recurrence-free HCC patients

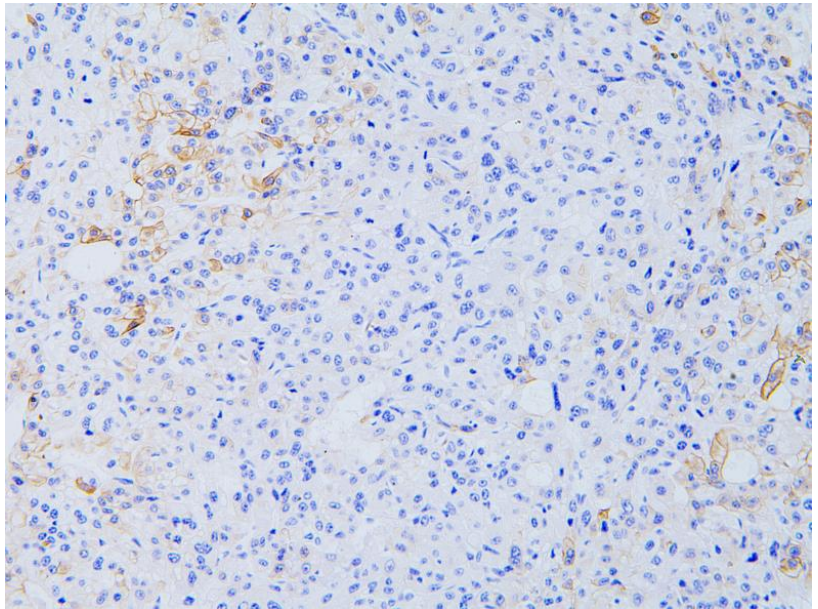
patient 6



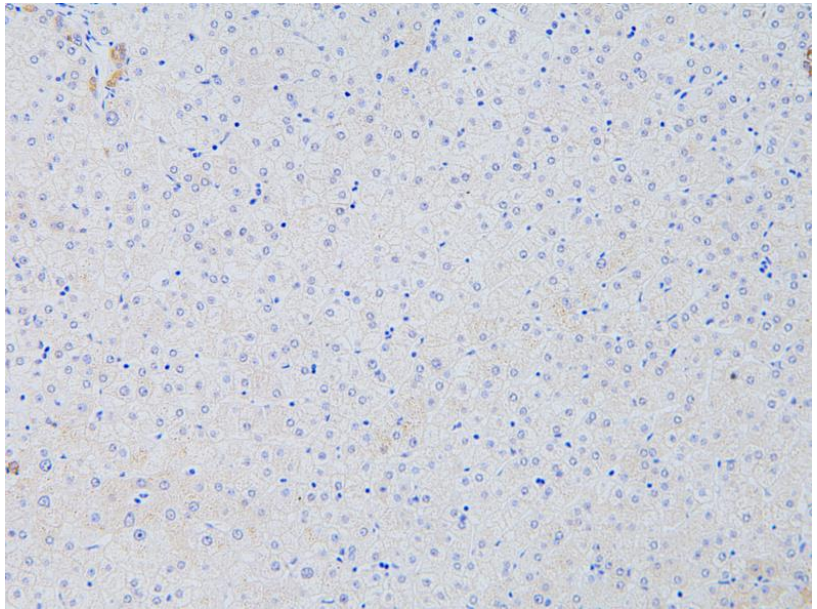
patient 7

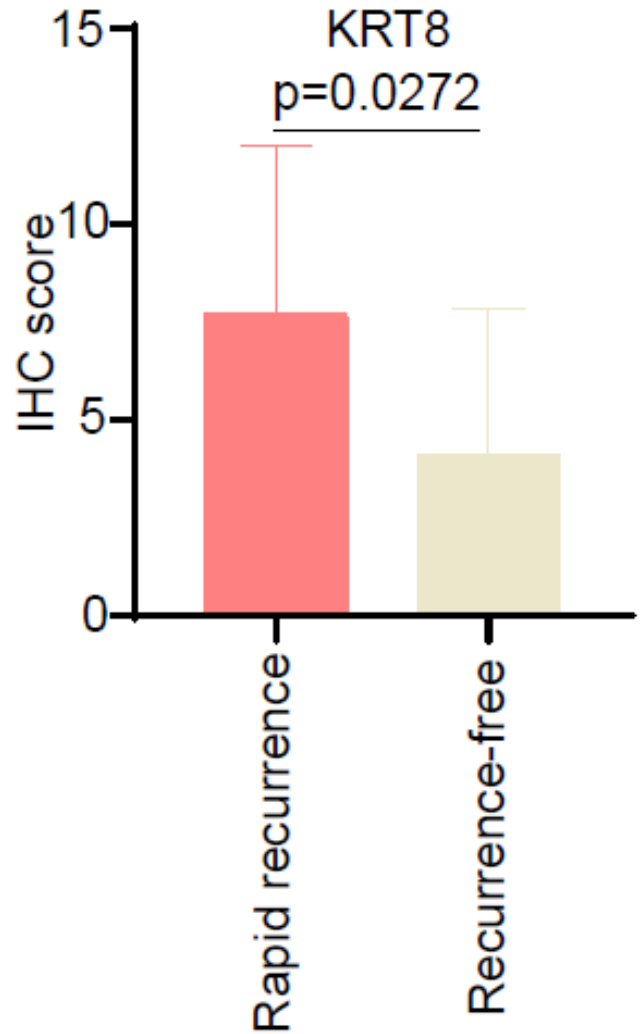


patient 8



patient 9

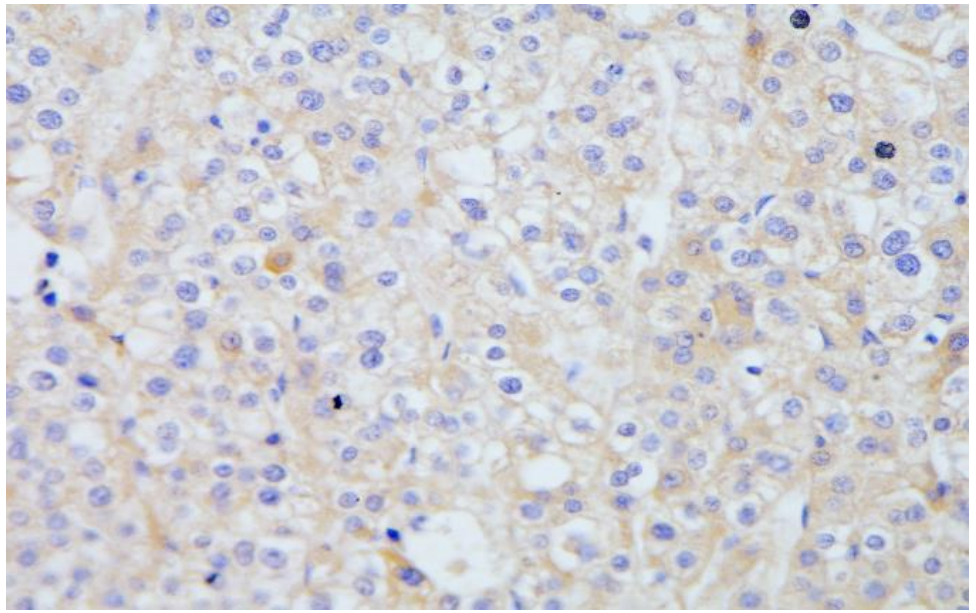



KRT8
p=0.0272
IHC score
15
10
5
0
Rapid recurrence
Recurrence-free

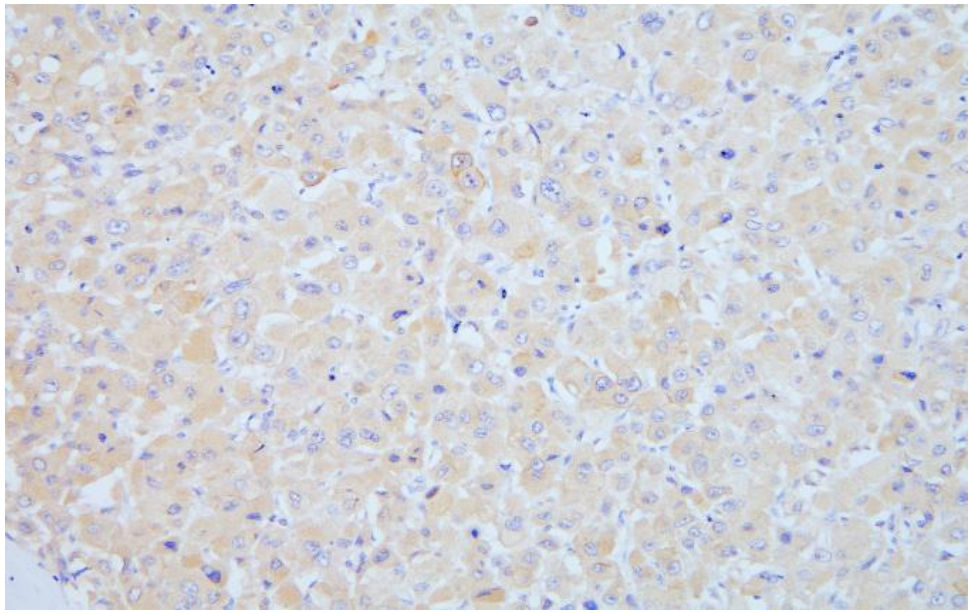
Immunohistochemical staining showing increased KRT18 expressions in the resected tumors originated from the rapid recurrence HCC patients compared to the recurrence-free HCC patients.

rapid recurrence HCC patients

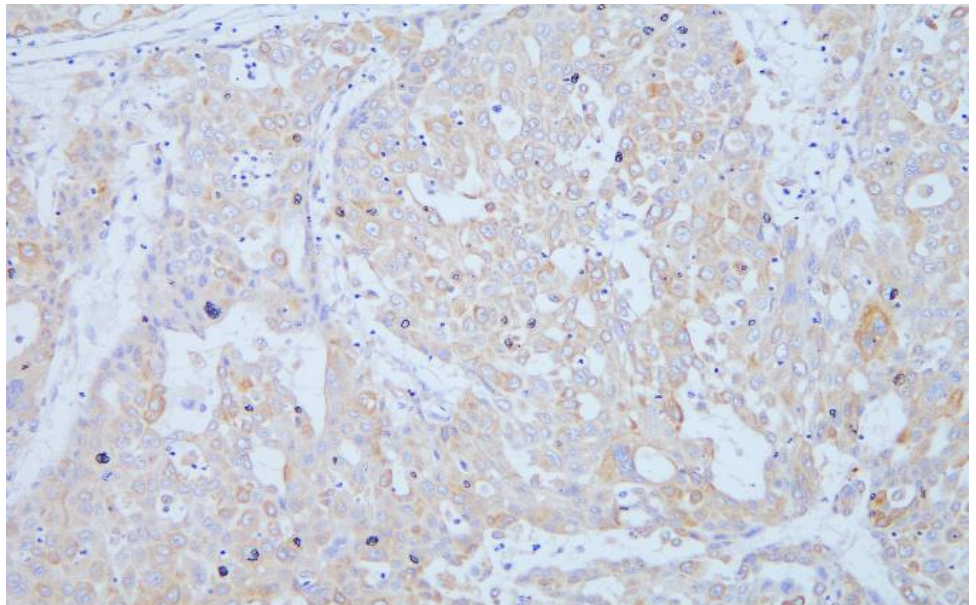
patient 1



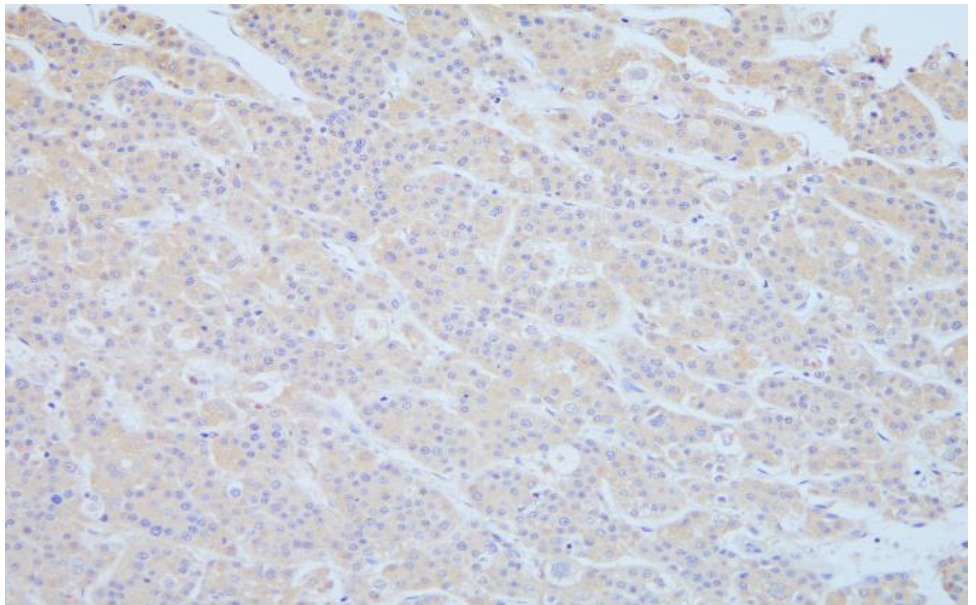
patient 2



patient 3

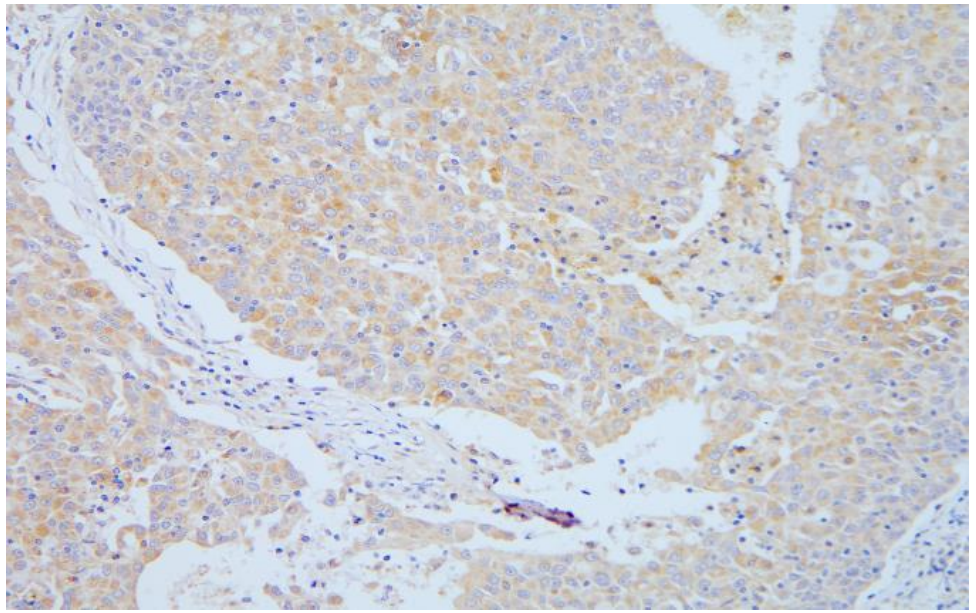


patient 4

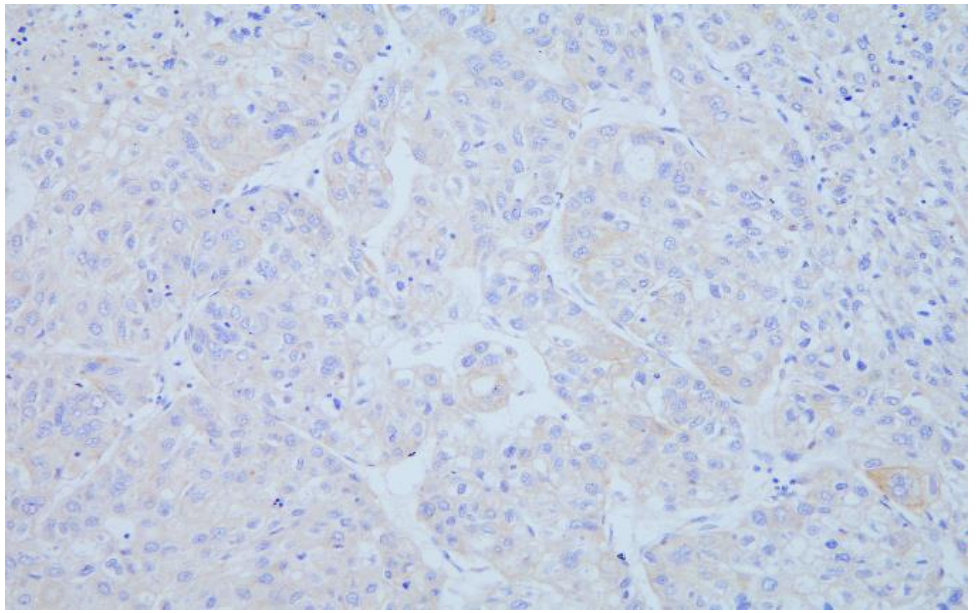


rapid recurrence HCC patients

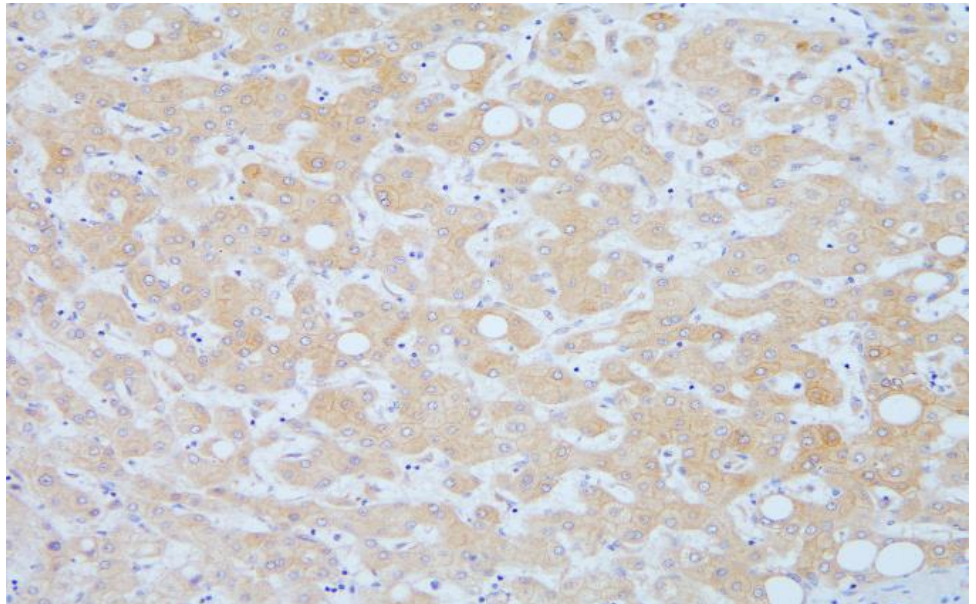
patient 5



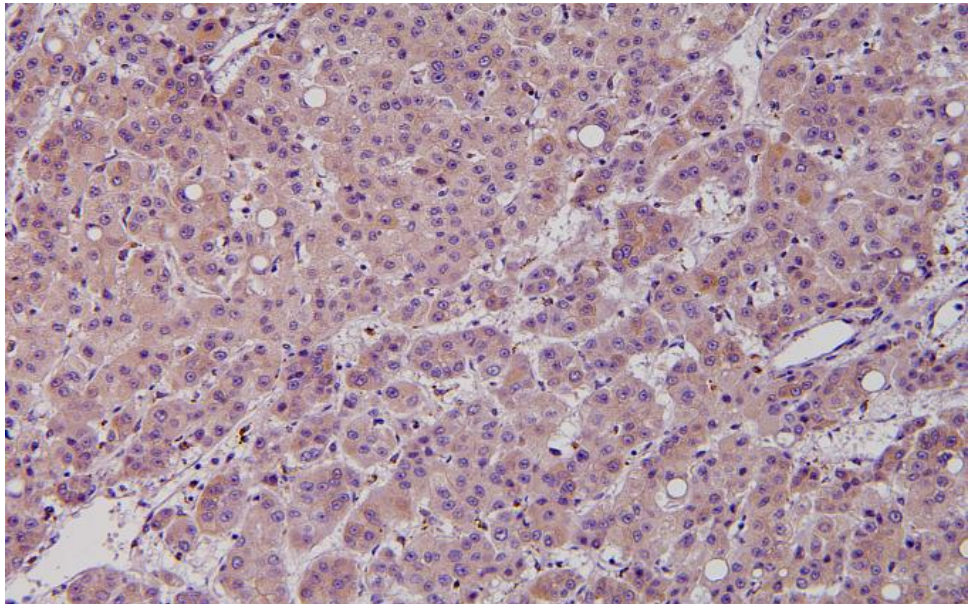
patient 6



patient 7

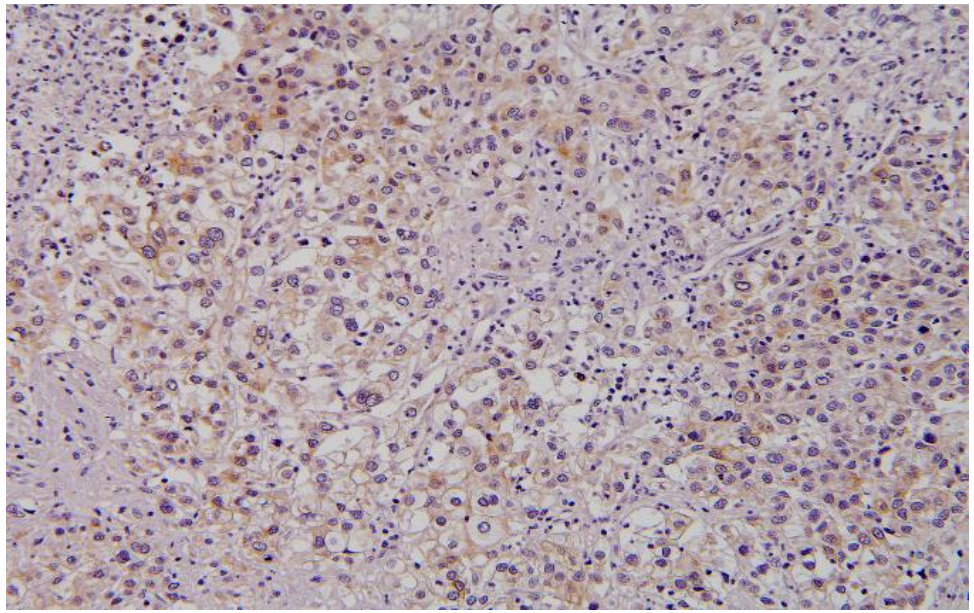


patient 8

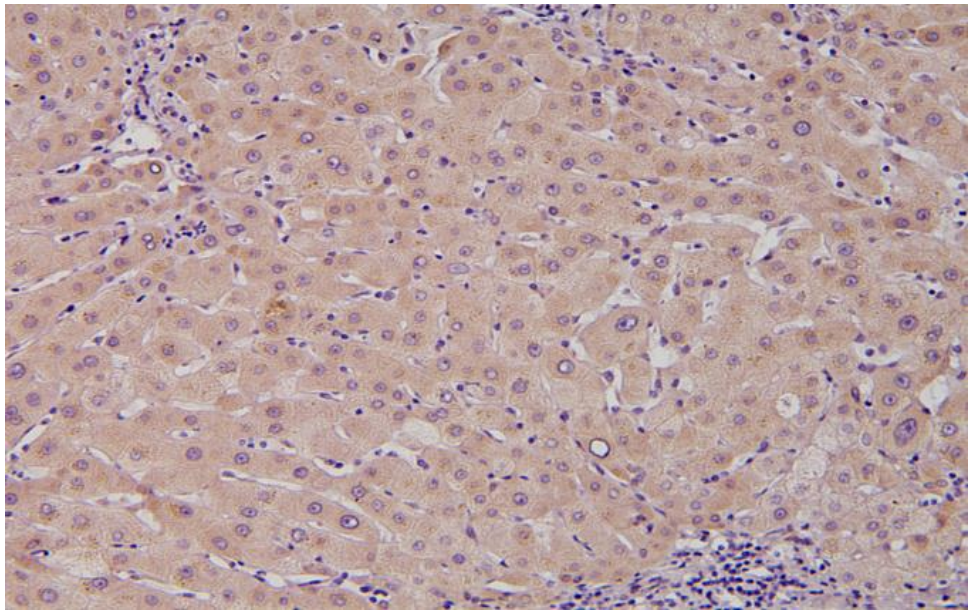


rapid recurrence HCC patients

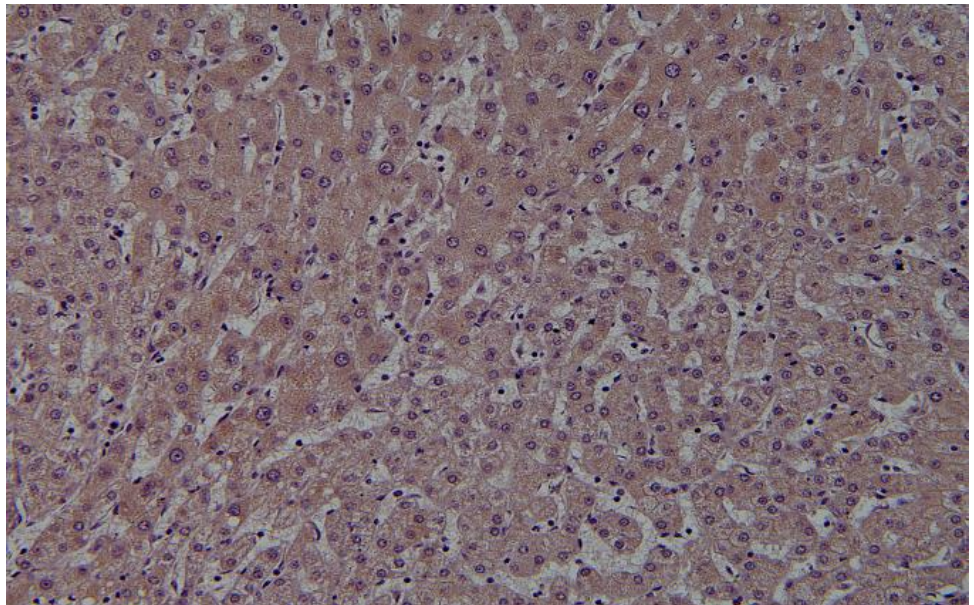
patient 9



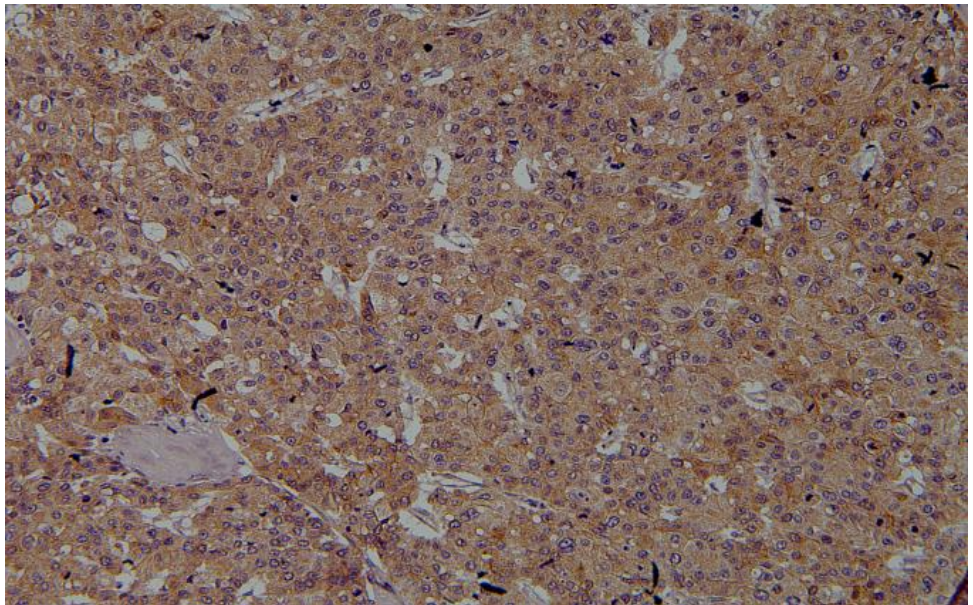
patient 10



patient 11

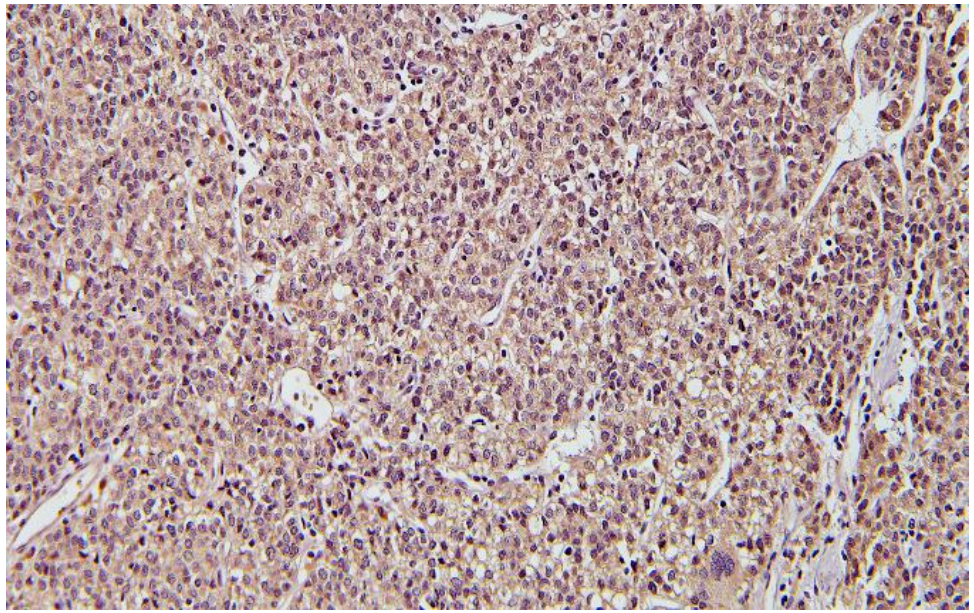


patient 12

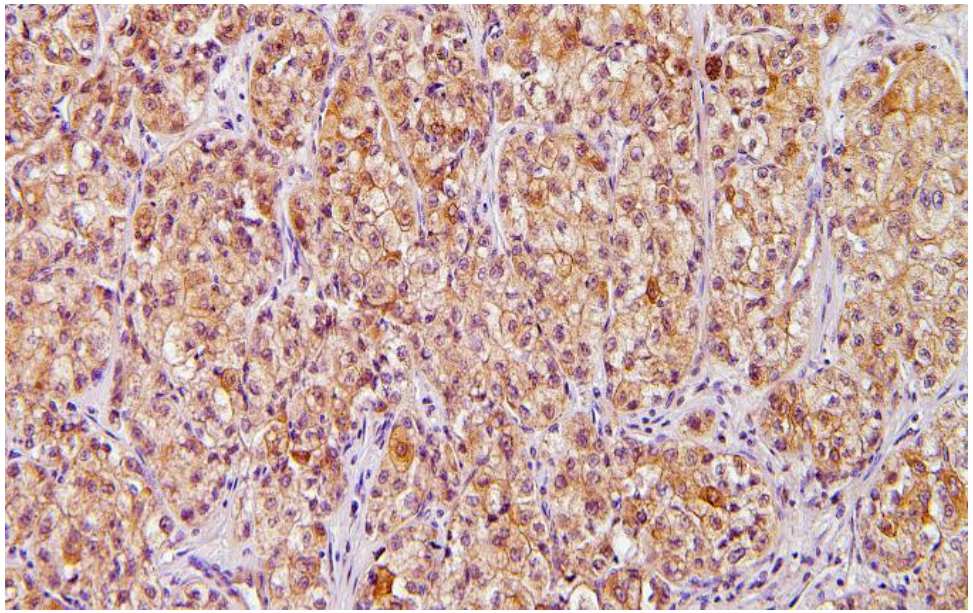


rapid recurrence HCC patients

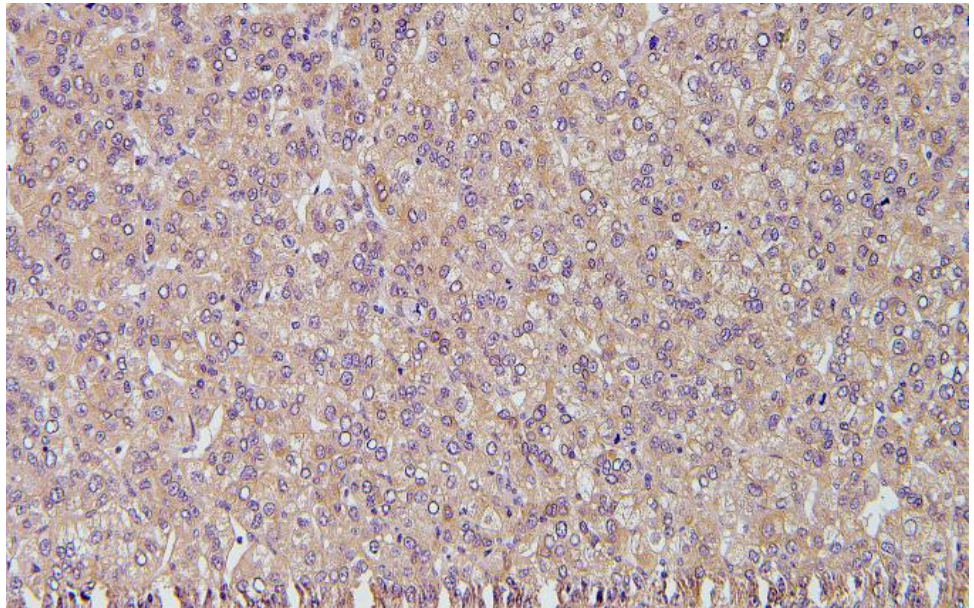
patient 13



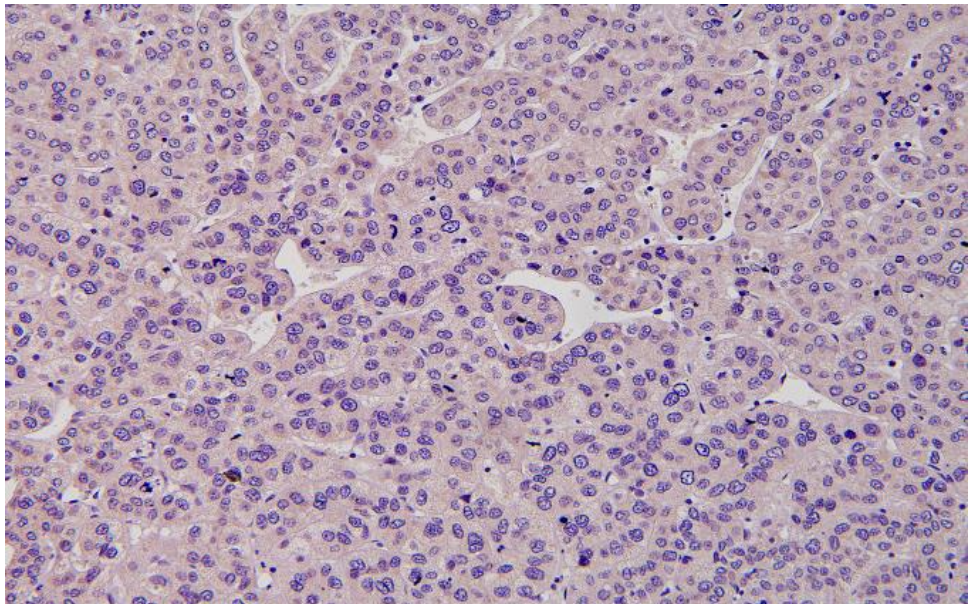
patient 14



patient 15

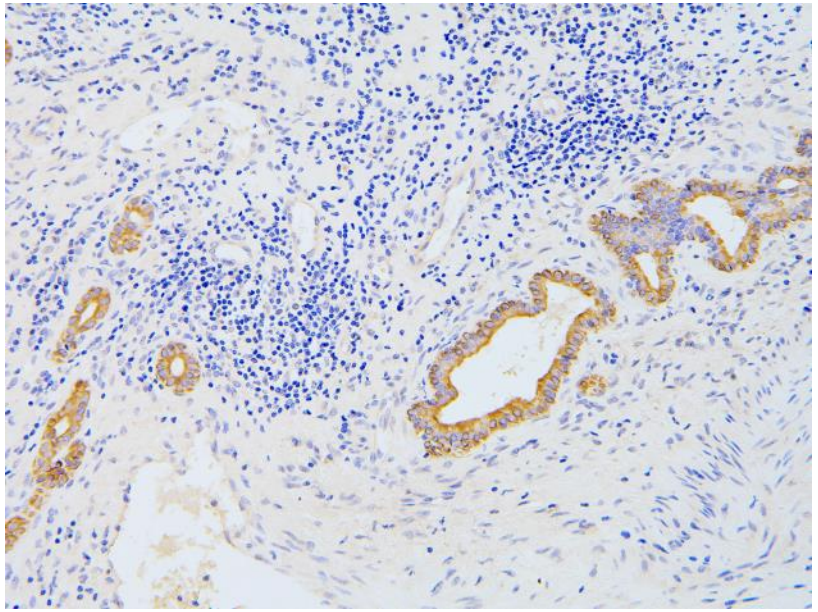


patient 16

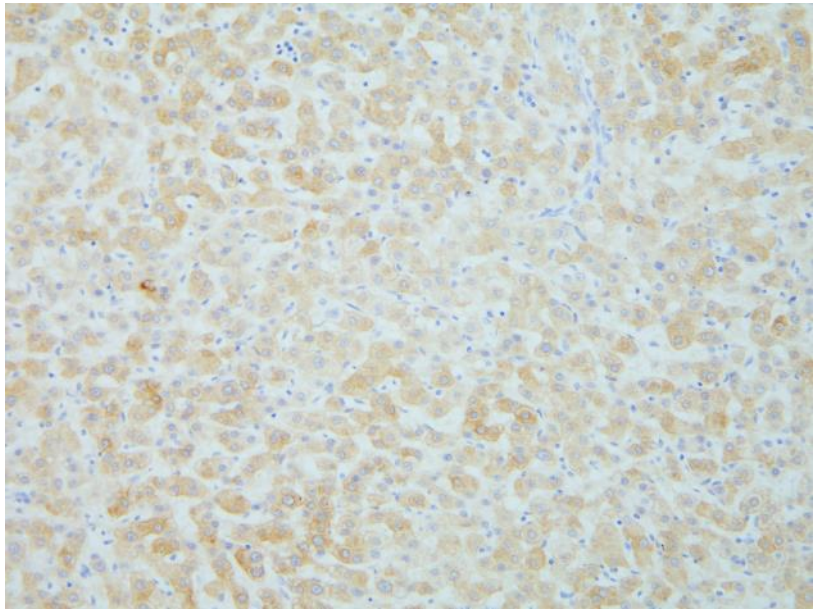


rapid recurrence HCC patients

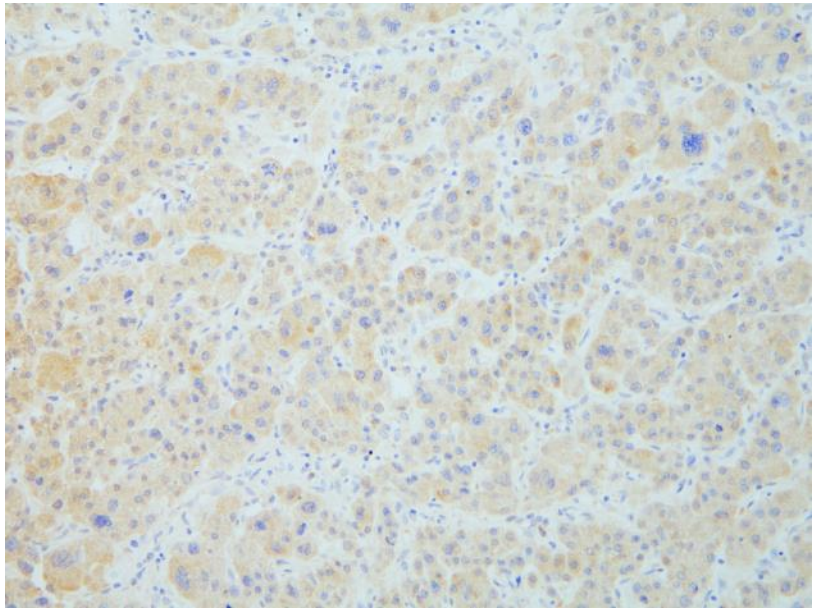
patient 17



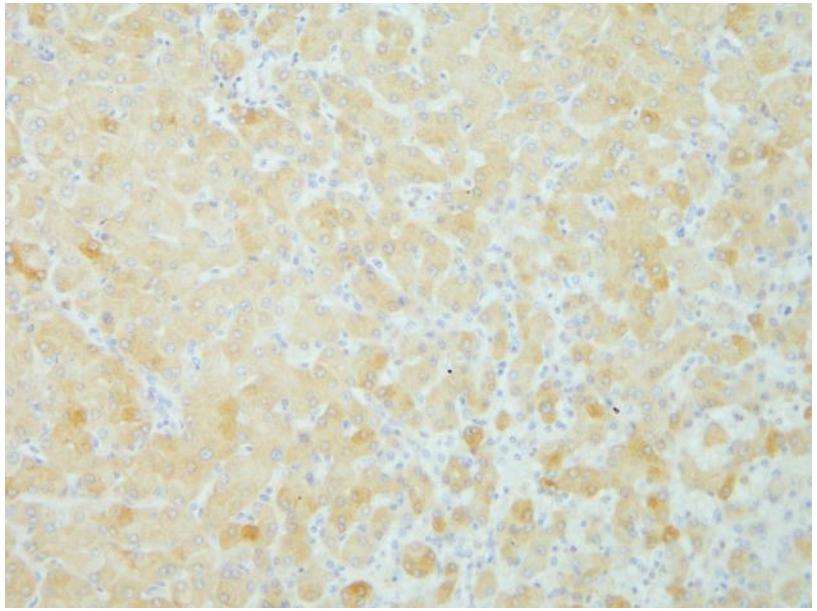
patient 18



patient 19

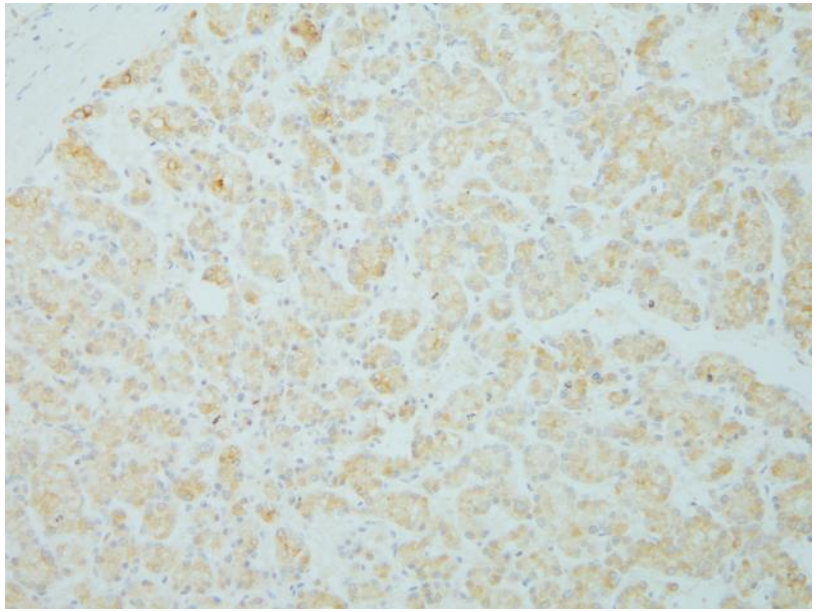


patient 20

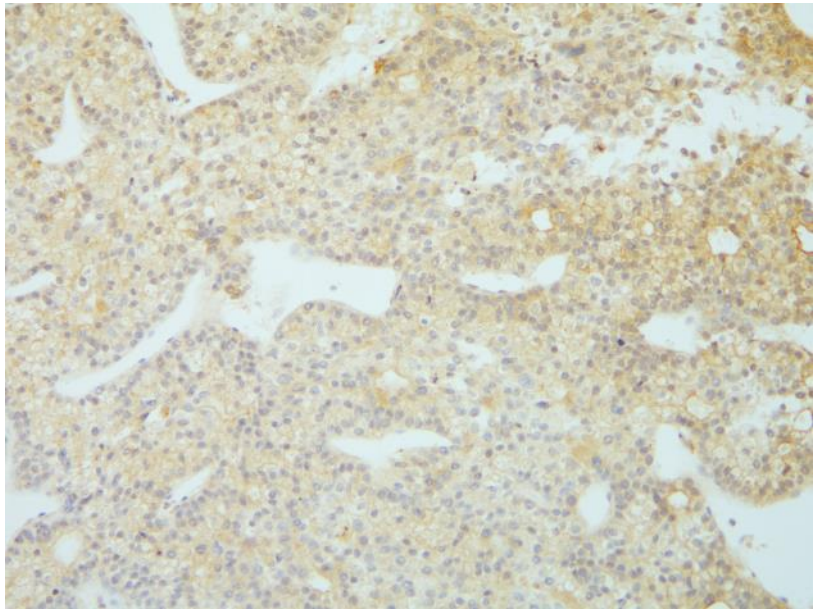


rapid recurrence HCC patients

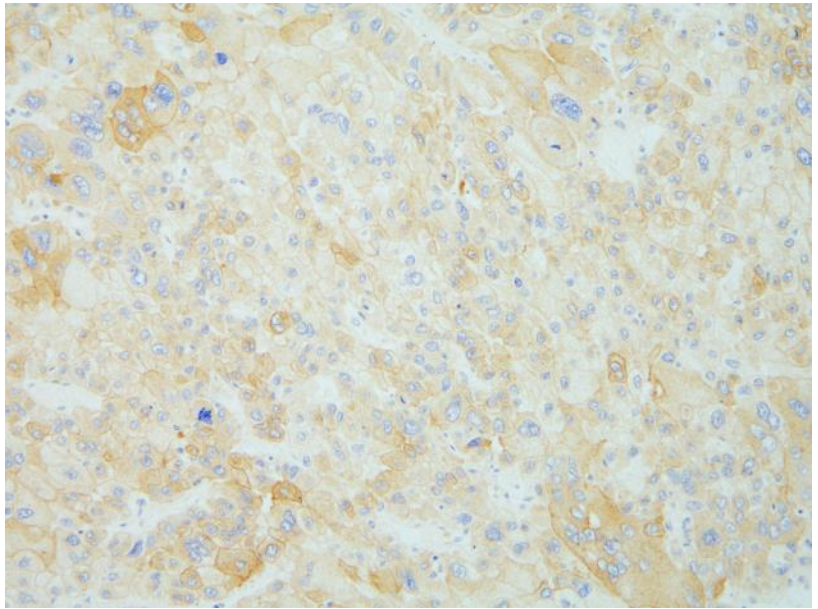
patient 21



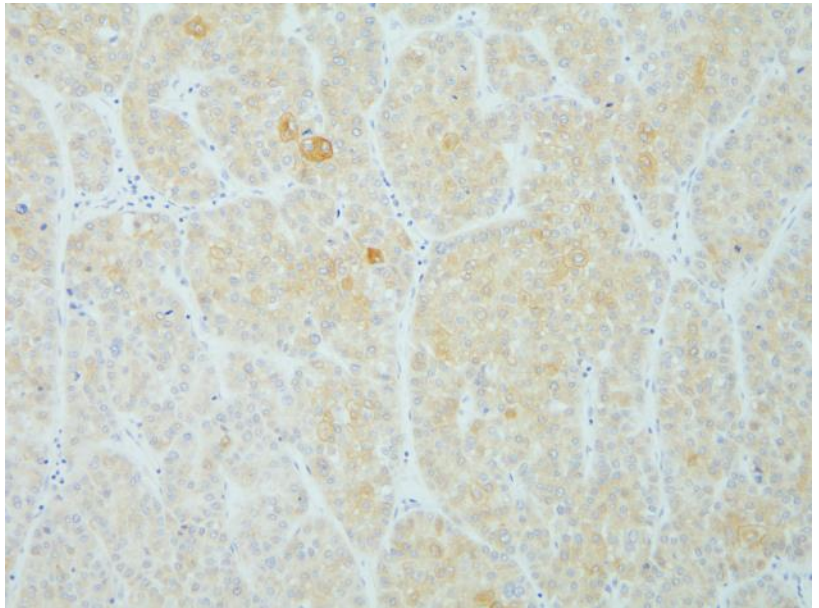
patient 22



patient 23

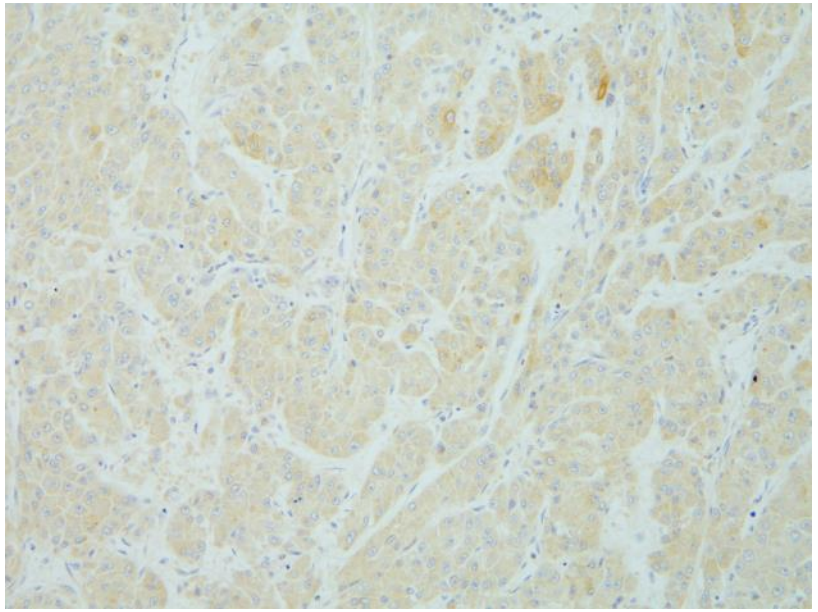


patient 24

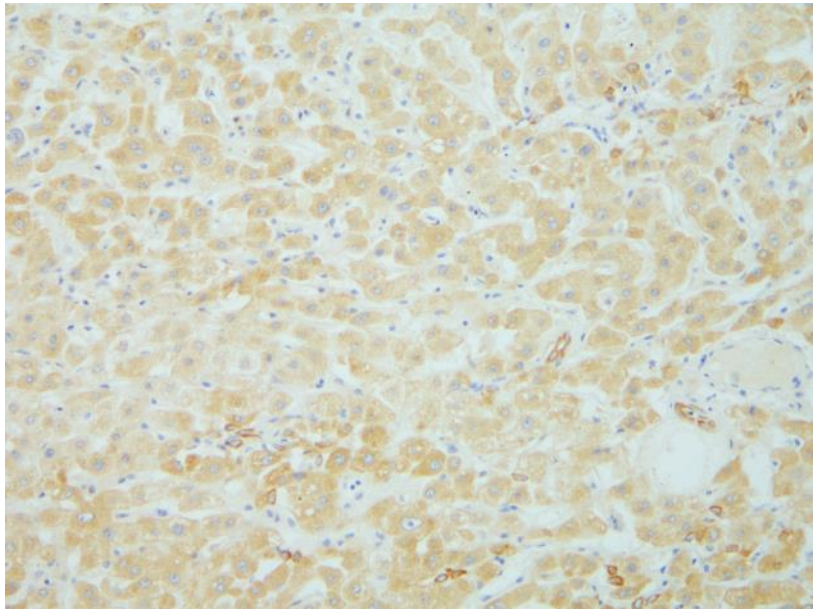


rapid recurrence HCC patients

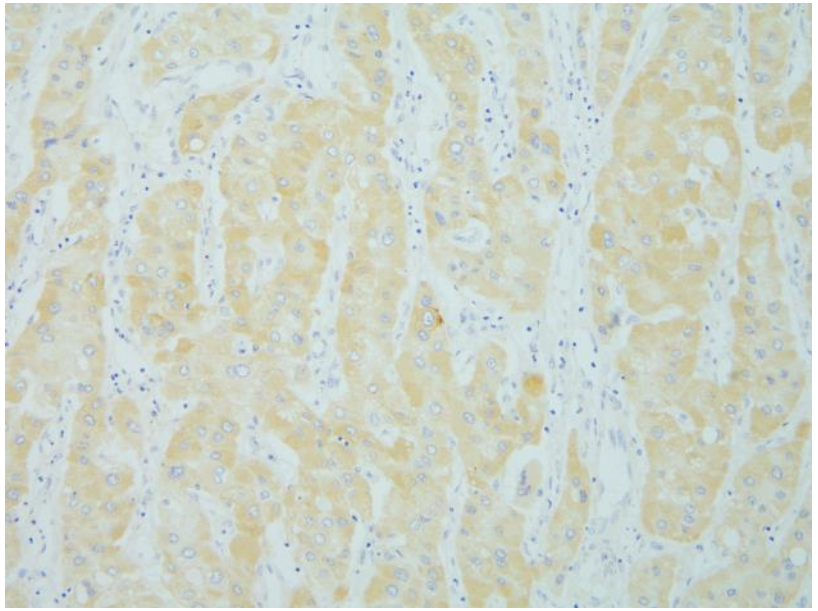
patient 25



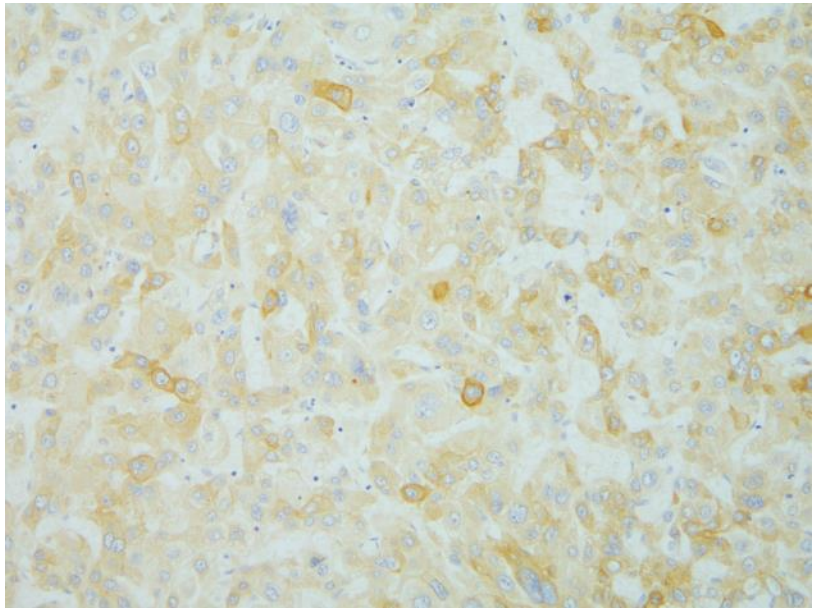
patient 26



patient 27

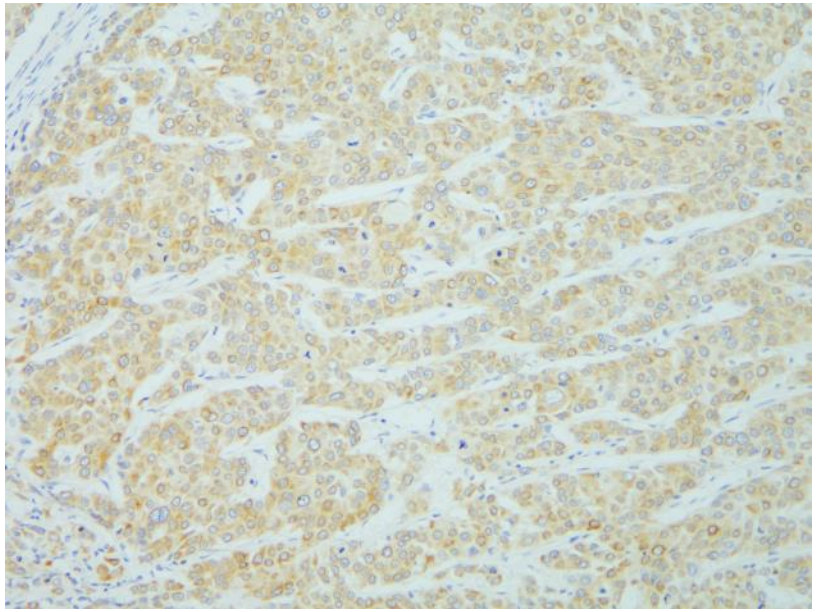


patient 28

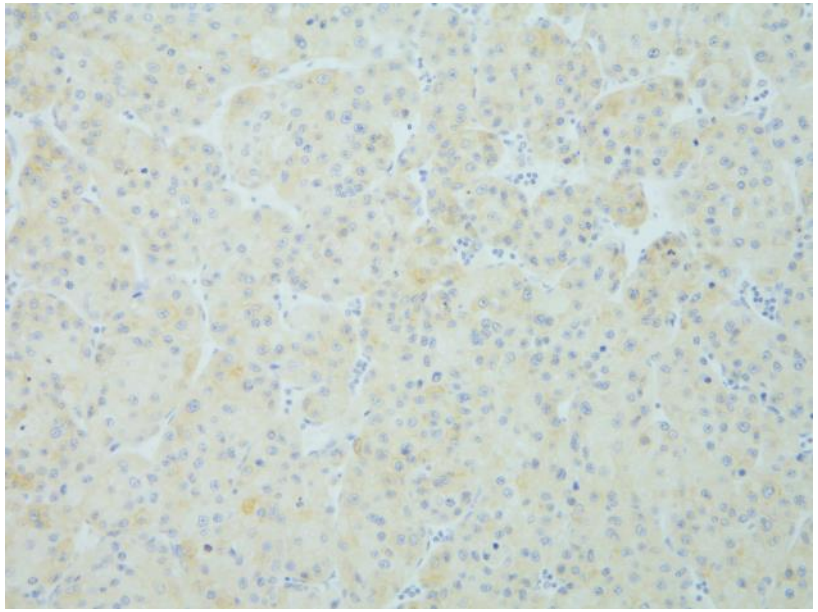


rapid recurrence HCC patients

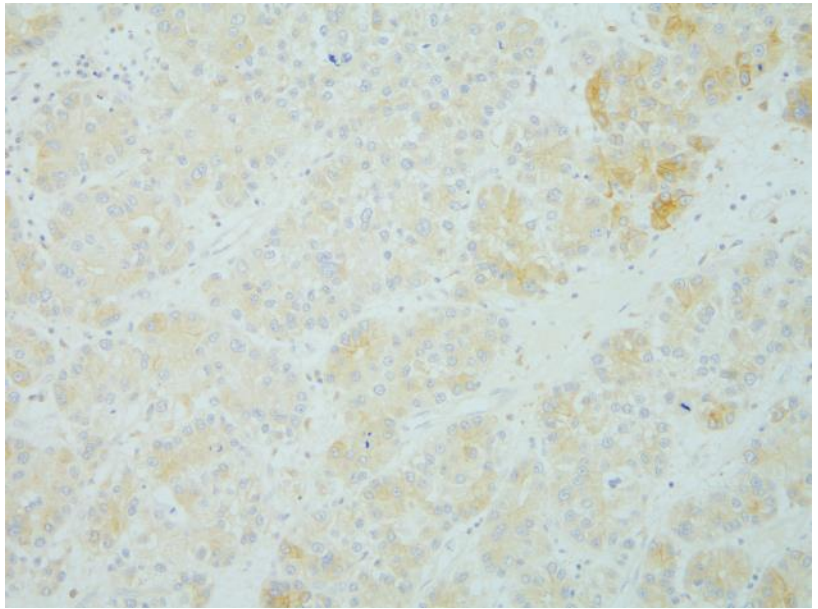
patient 29



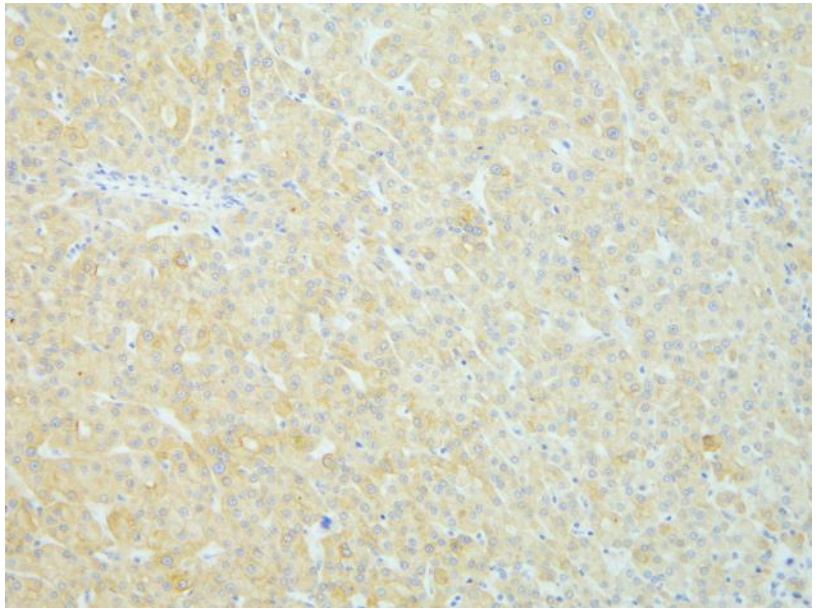
patient 30



patient 31

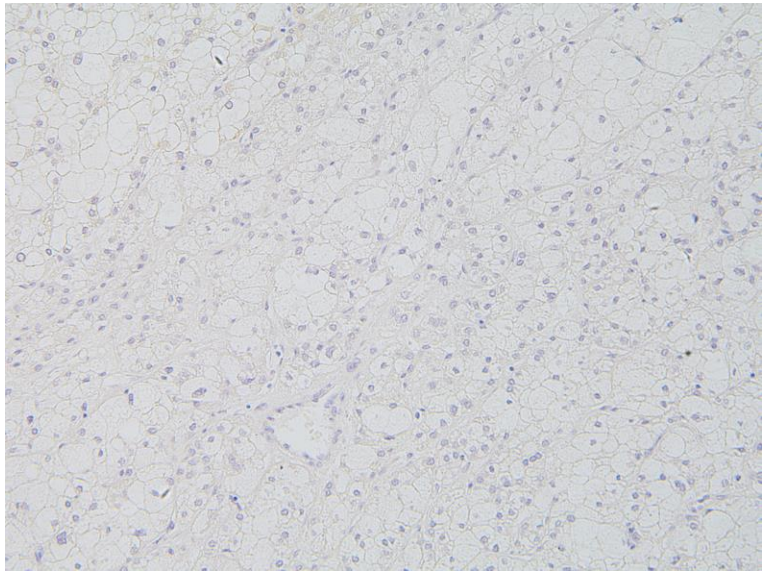


patient 32

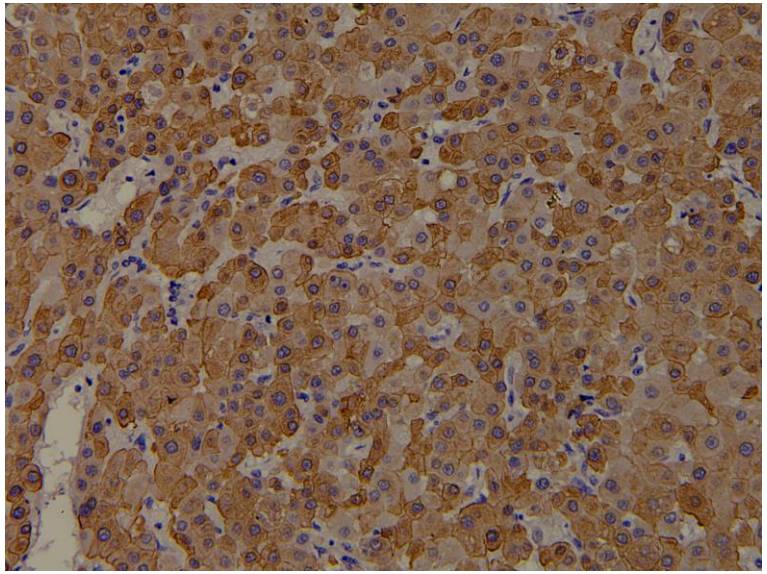


the recurrence-free HCC patients

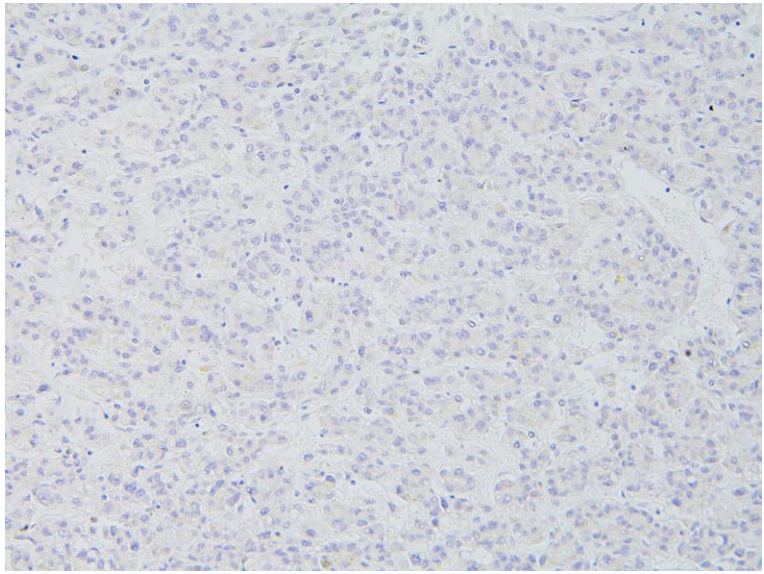
patient 1



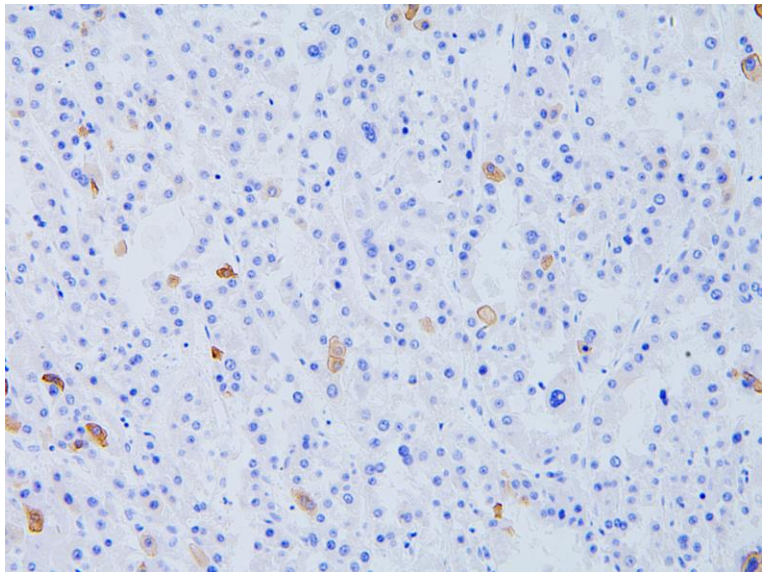
patient 2



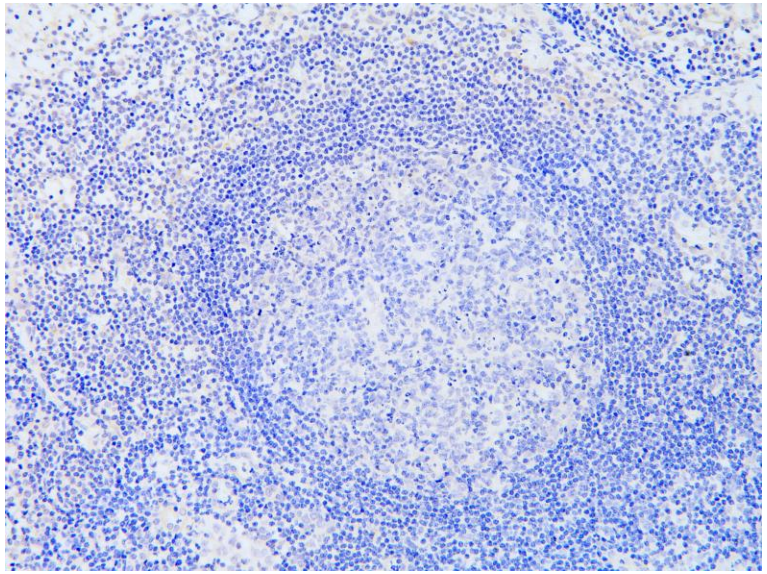
patient 3



patient 4

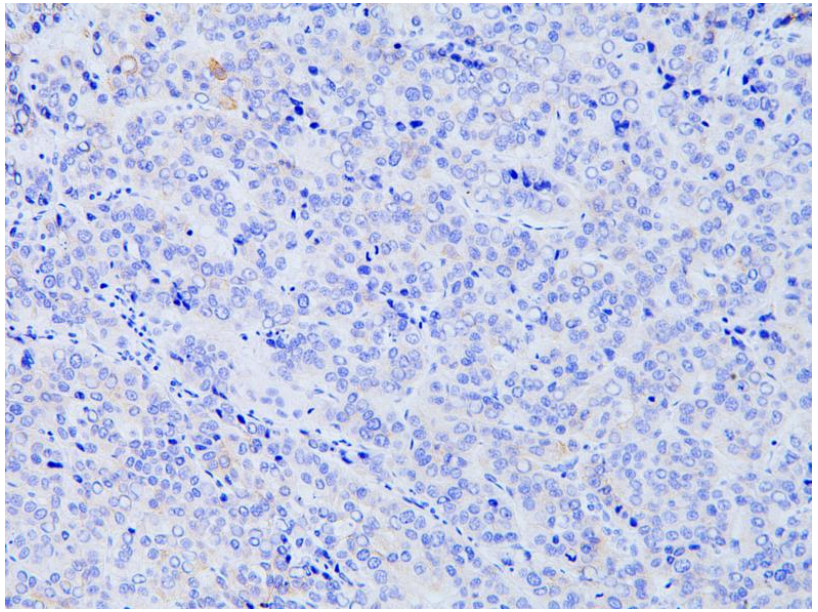


patient 5

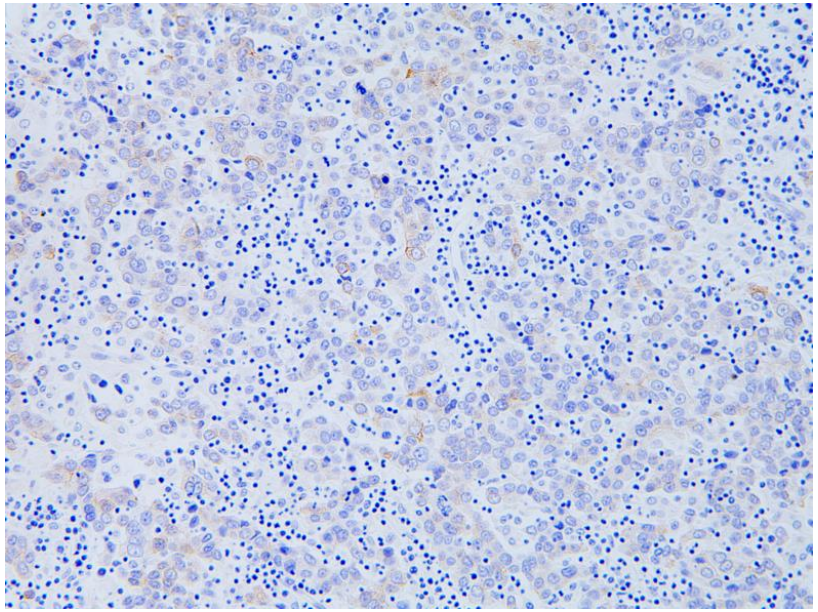


the recurrence-free HCC patients

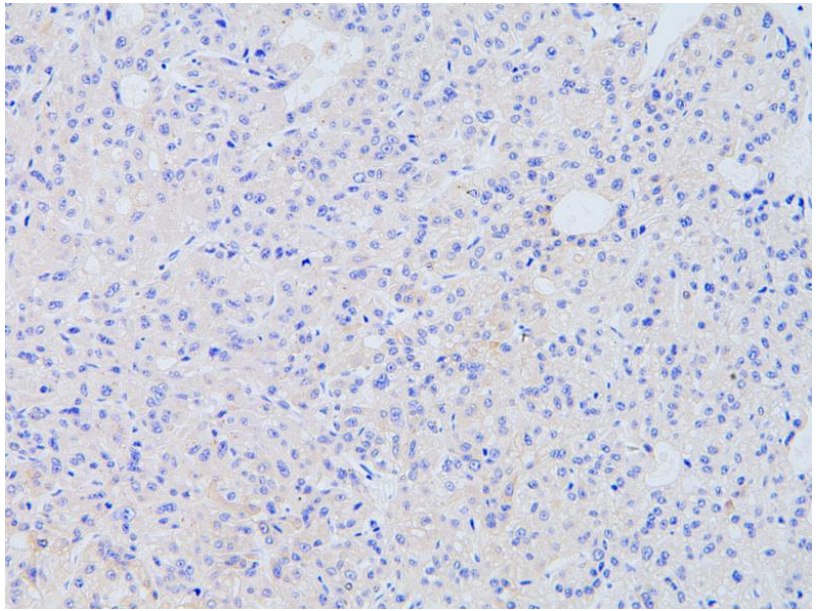
patient 6



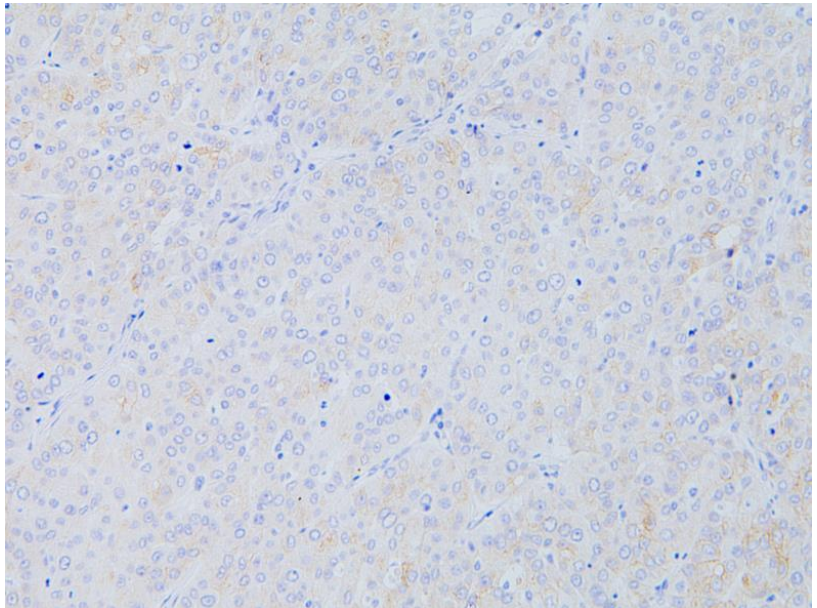
patient 7

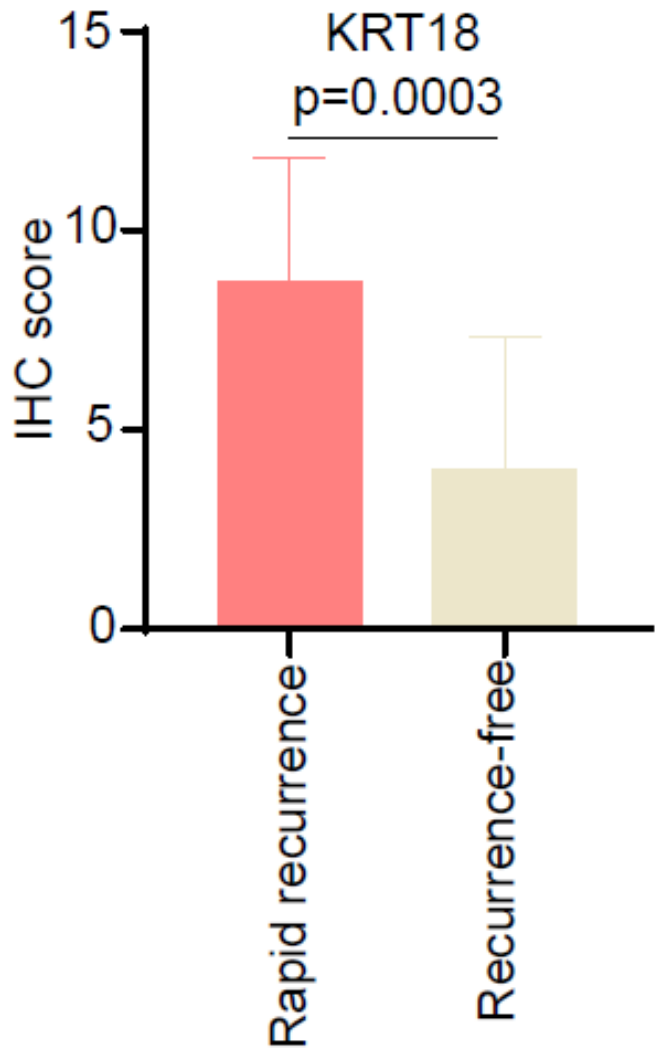


patient 8



patient 9

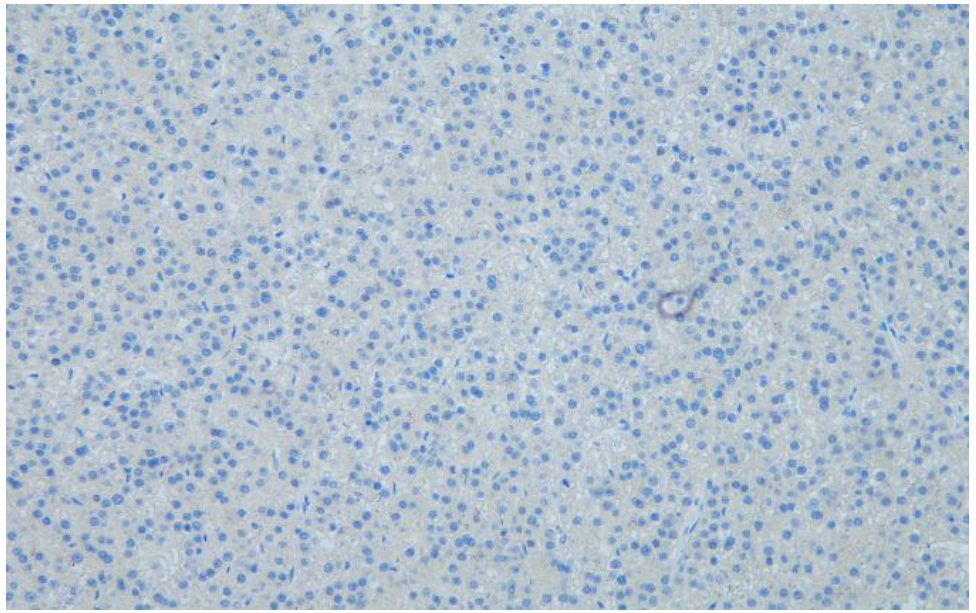



KRT18
p=0.0003
IHC score
15
10
5
0
Rapid recurrence
Recurrence-free

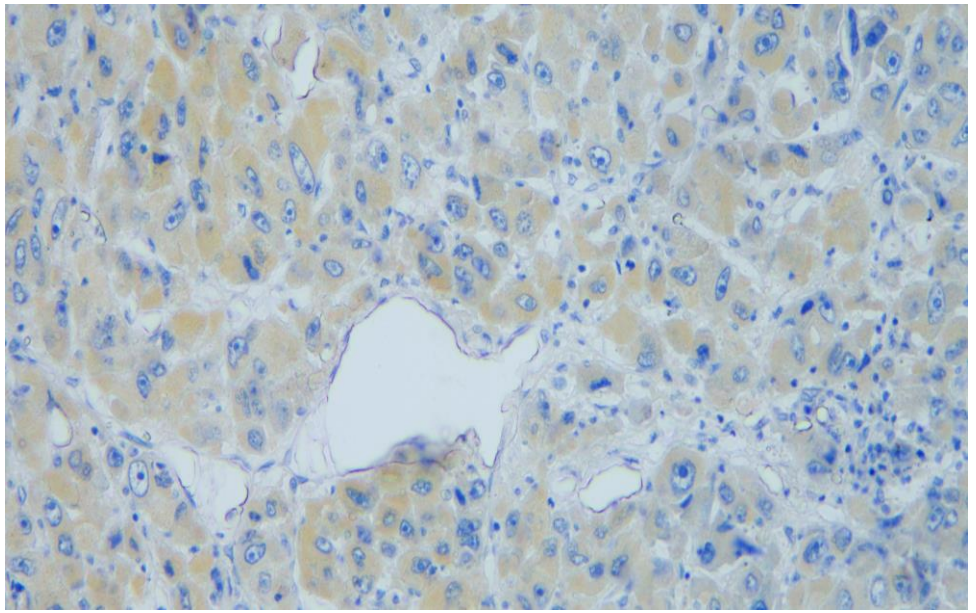
Immunohistochemical staining showing increased KRT20 expressions in the resected tumors originated from the rapid recurrence HCC patients compared to the recurrence-free HCC patients.

rapid recurrence HCC patients

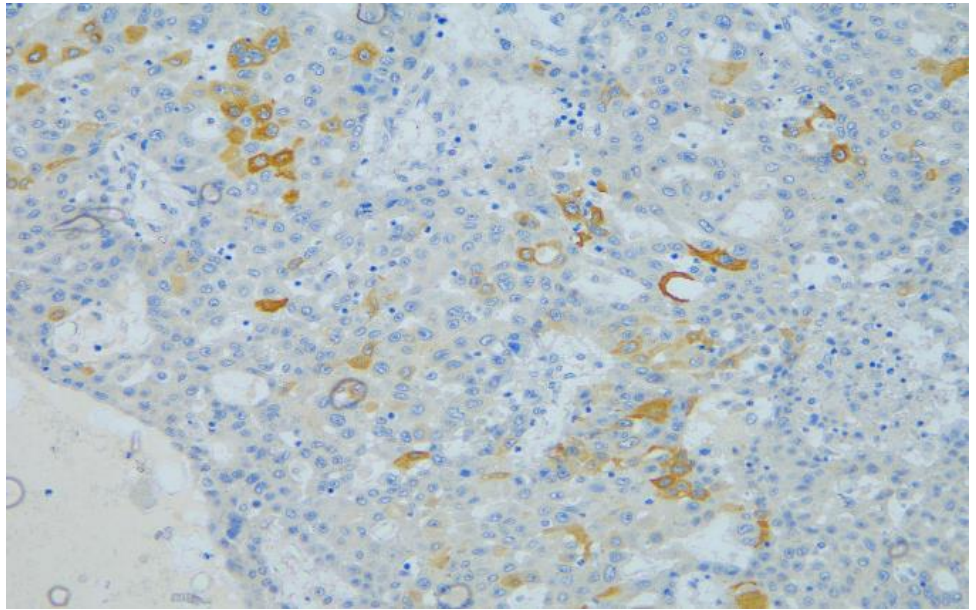
patient 1



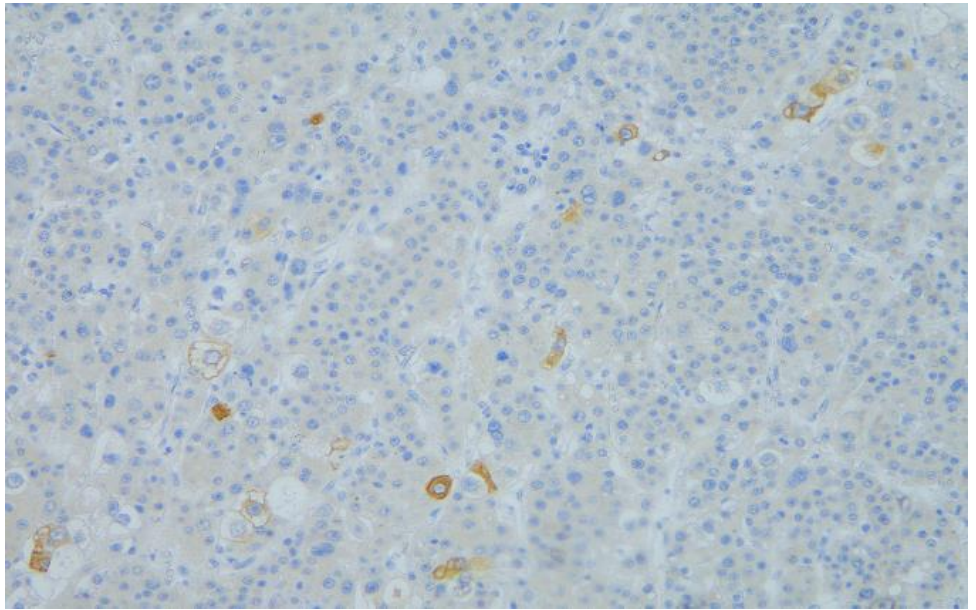
patient 2



patient 3

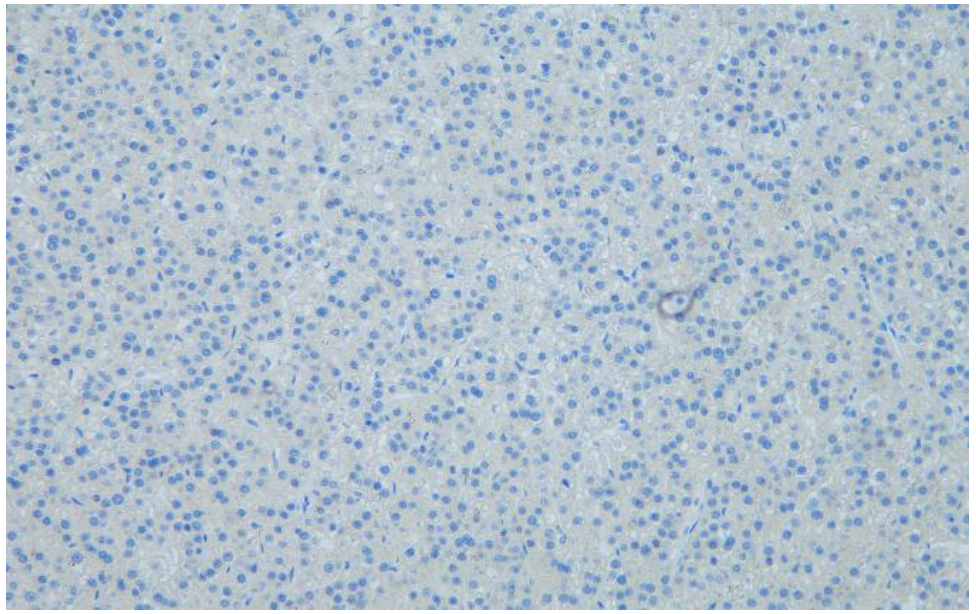


patient 4

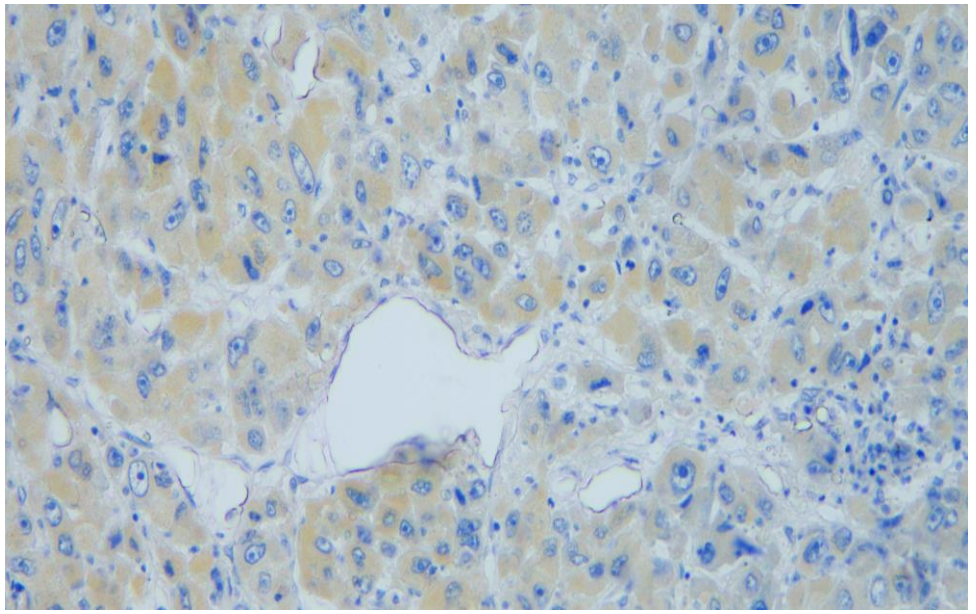


rapid recurrence HCC patients

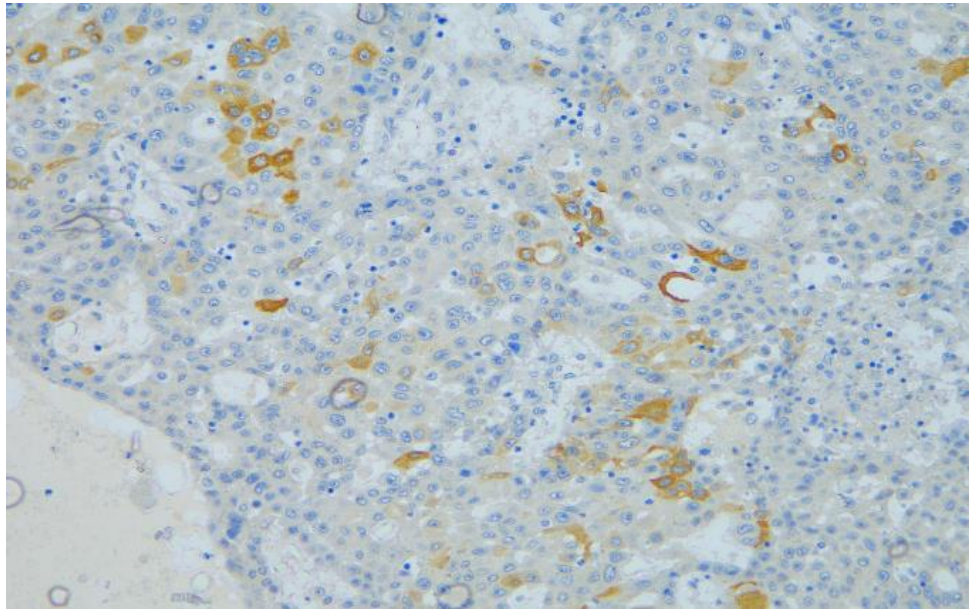
patient 5



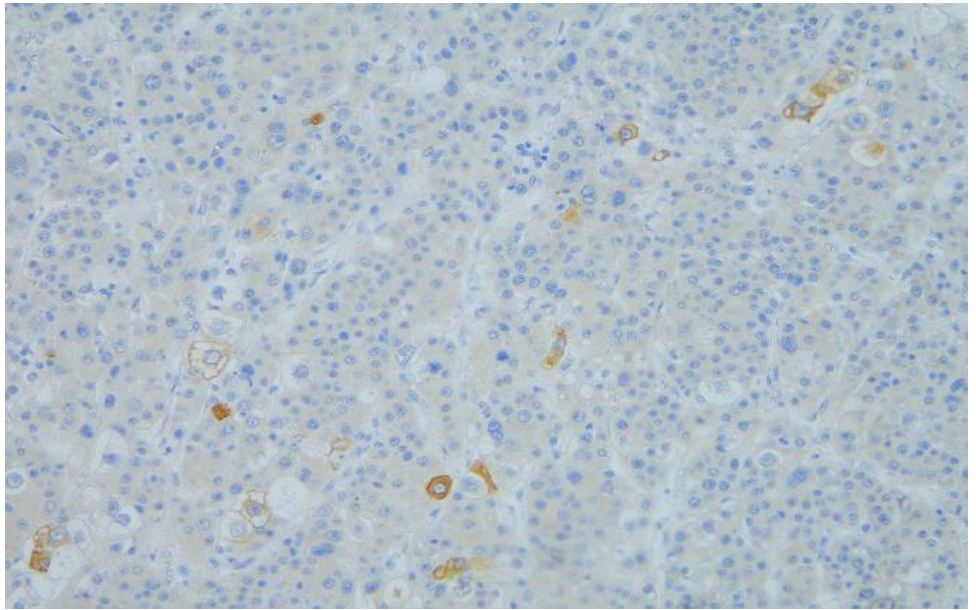
patient 6



patient 7

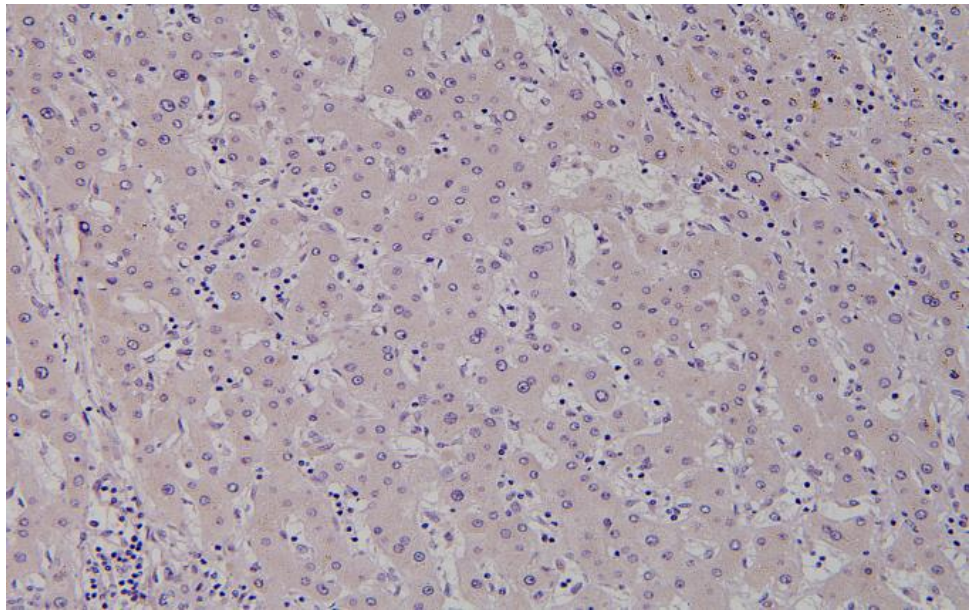


patient 8

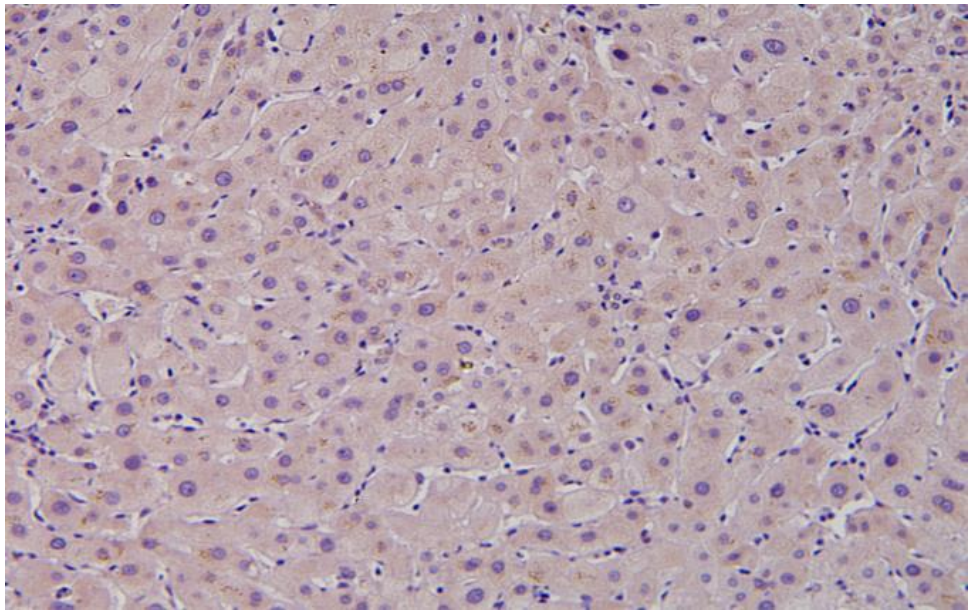


rapid recurrence HCC patients

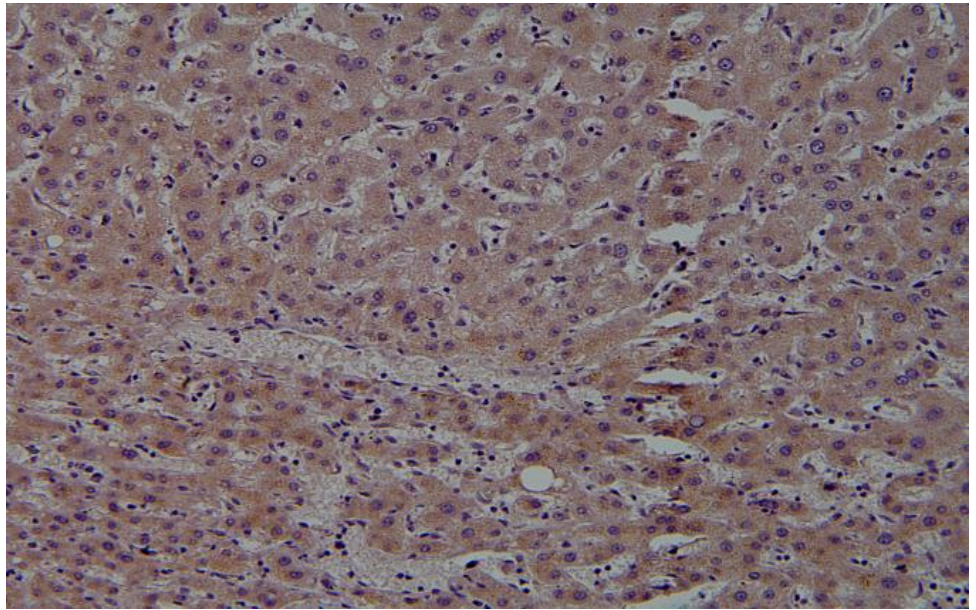
patient 9



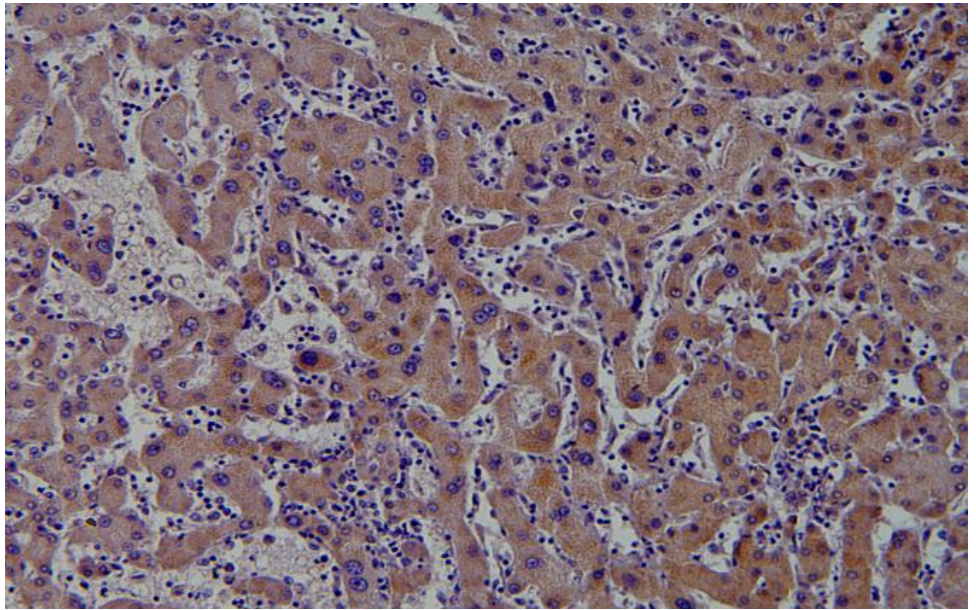
patient 10



patient 11

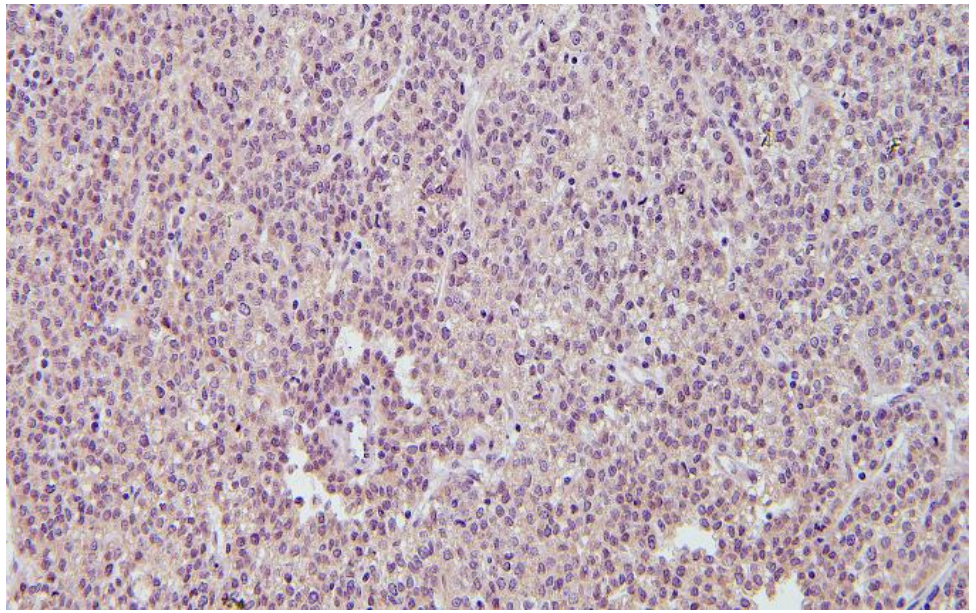


patient 12

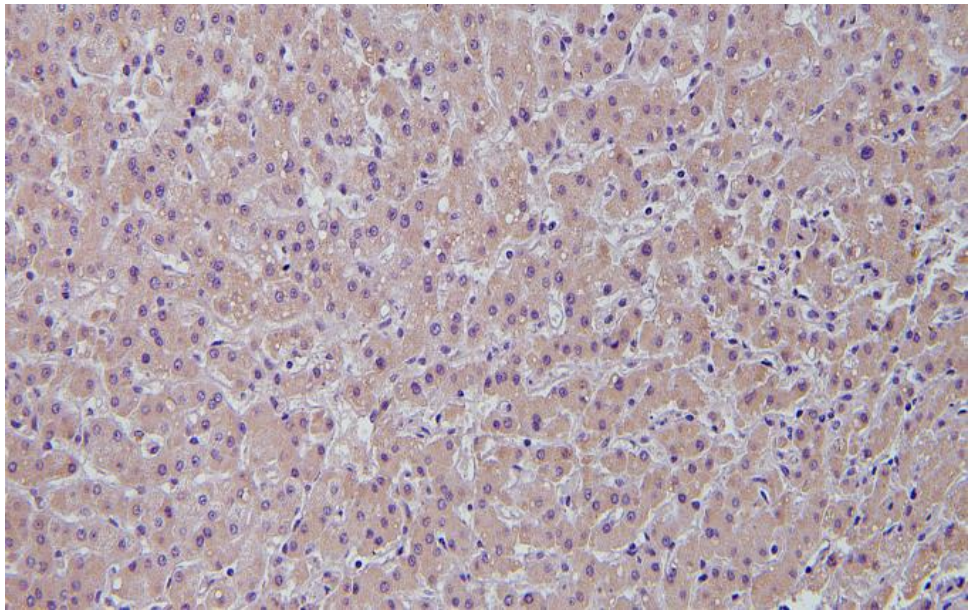


rapid recurrence HCC patients

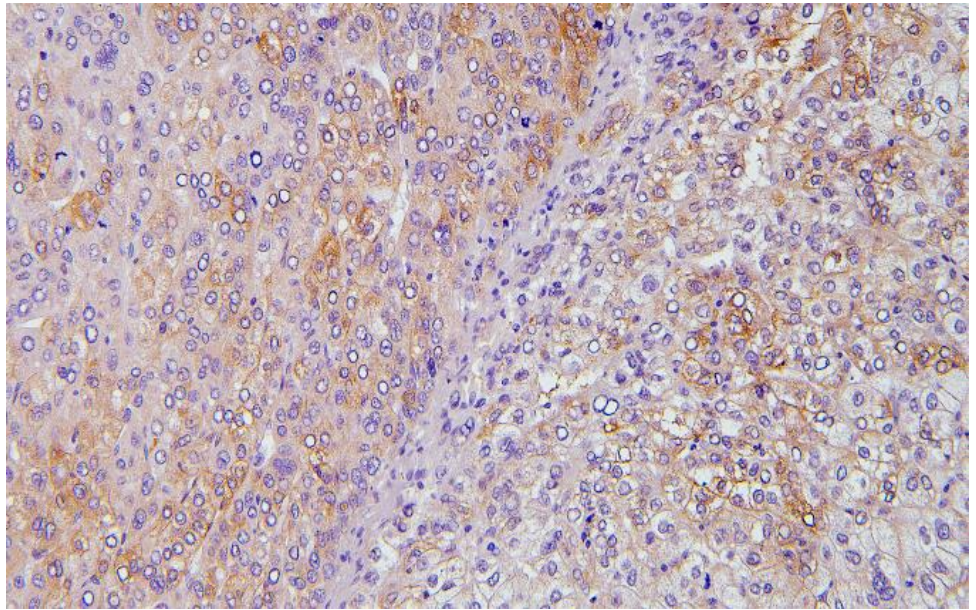
patient 13



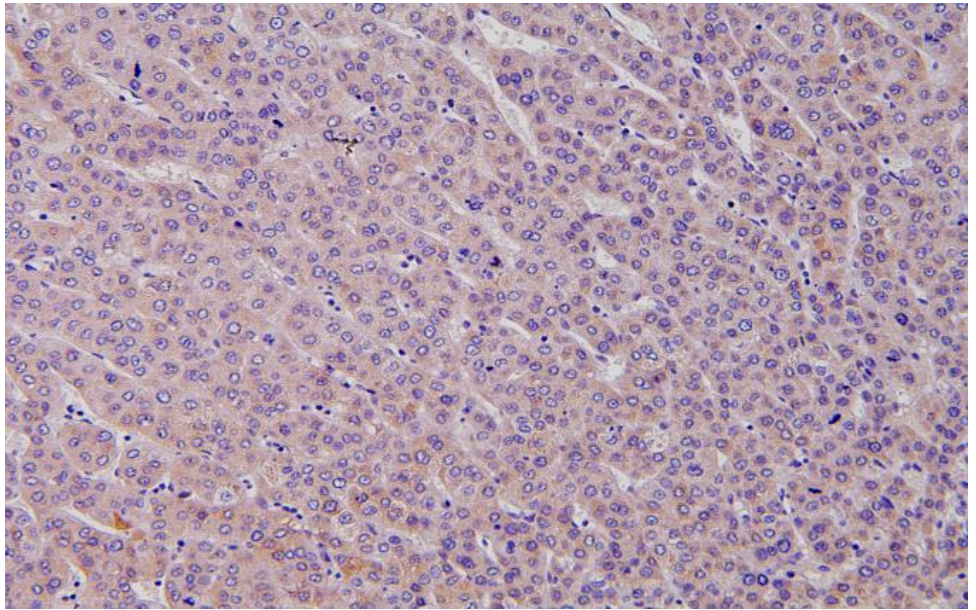
patient 14



patient 15

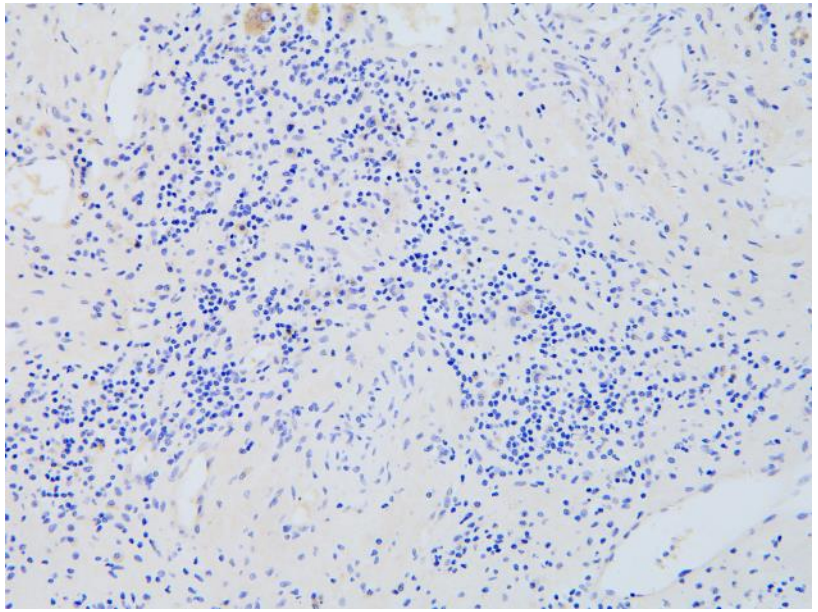


patient 16

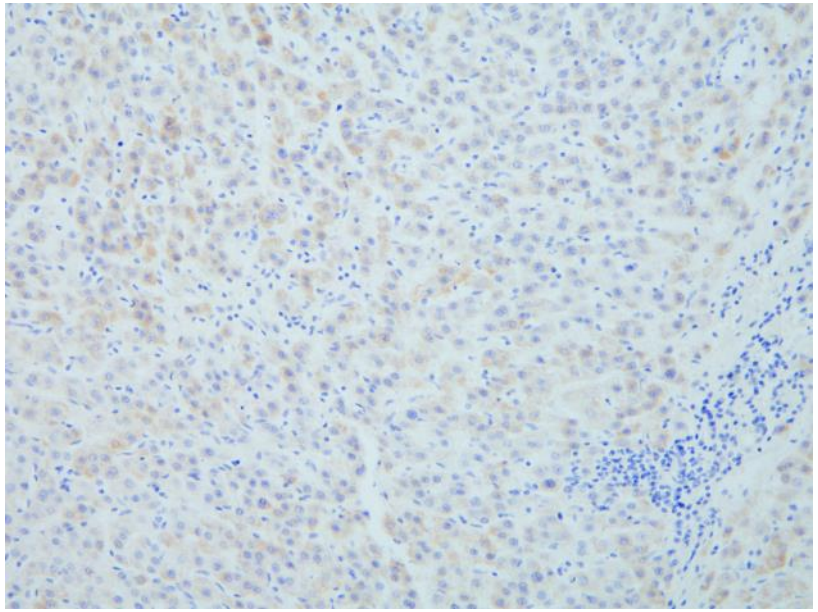


rapid recurrence HCC patients

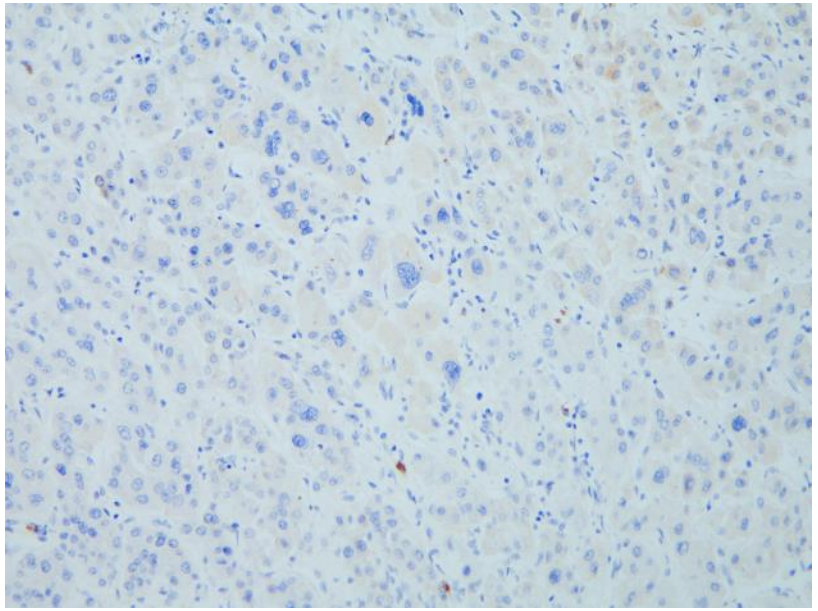
patient 17



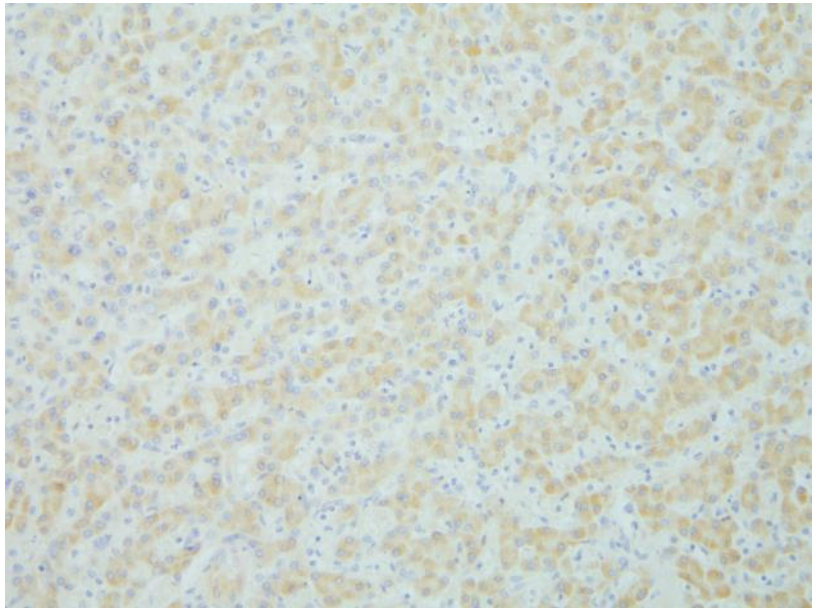
patient 18



patient 19

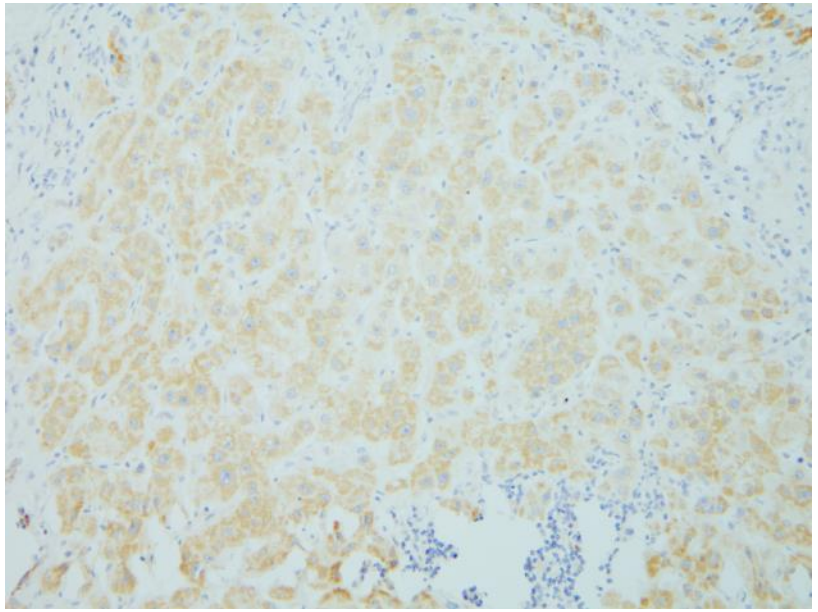


patient 20

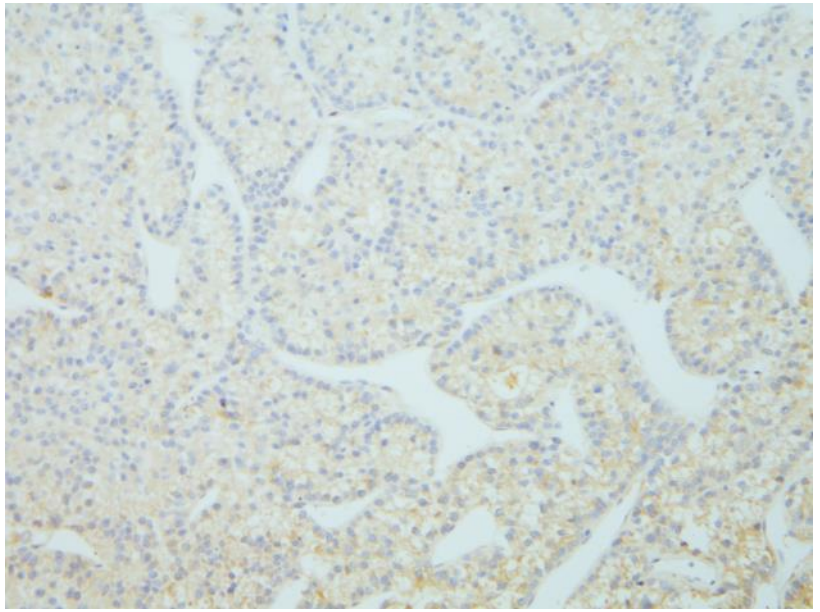


rapid recurrence HCC patients

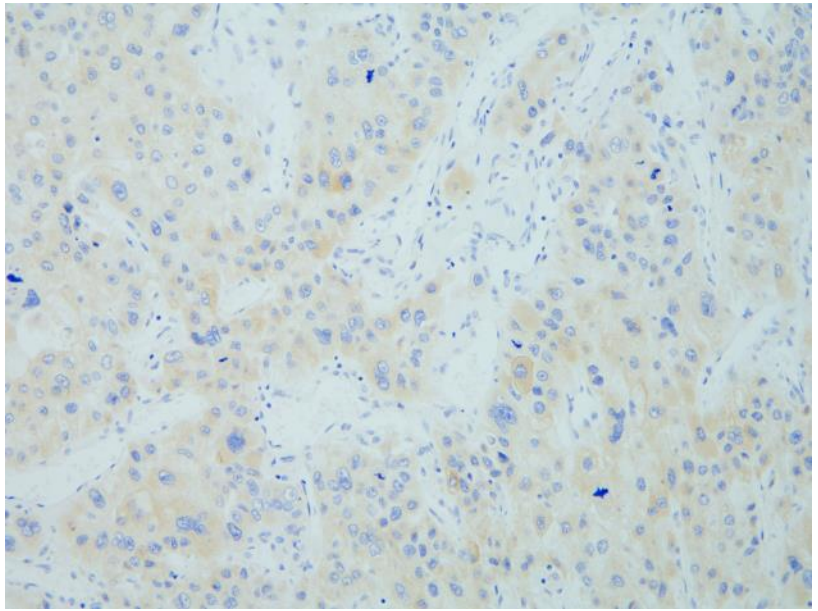
patient 21



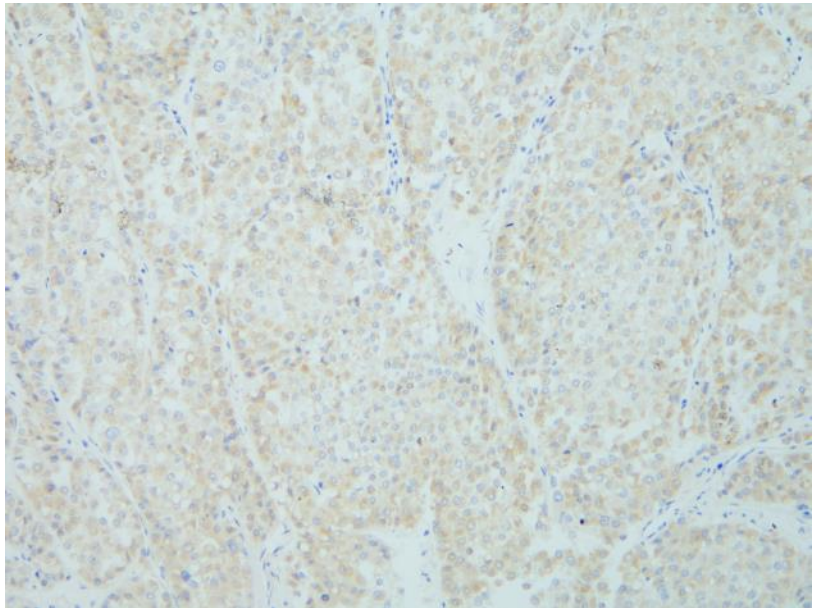
patient 22



patient 23

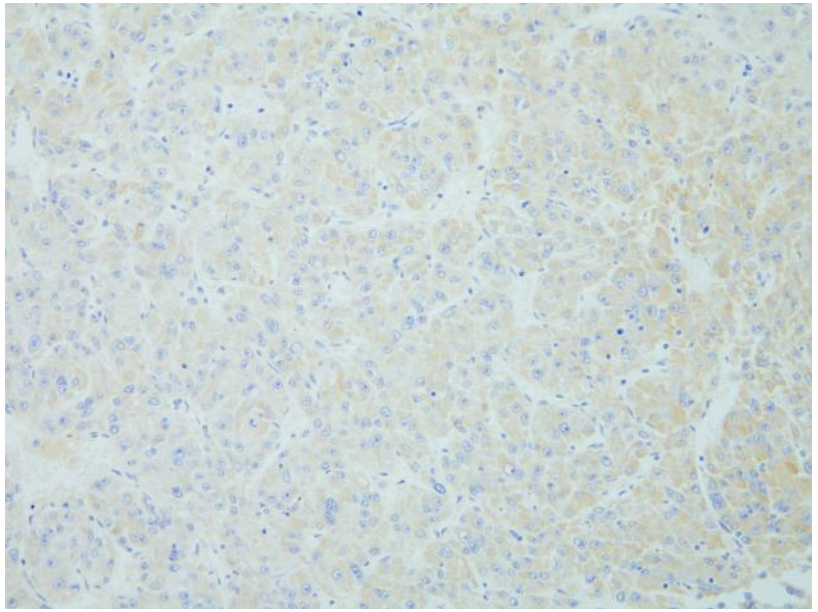


patient 24

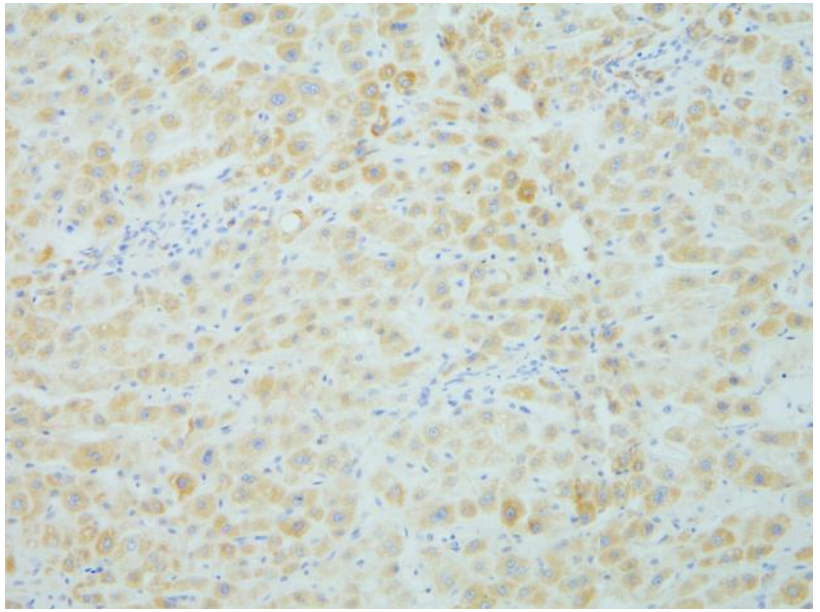


rapid recurrence HCC patients

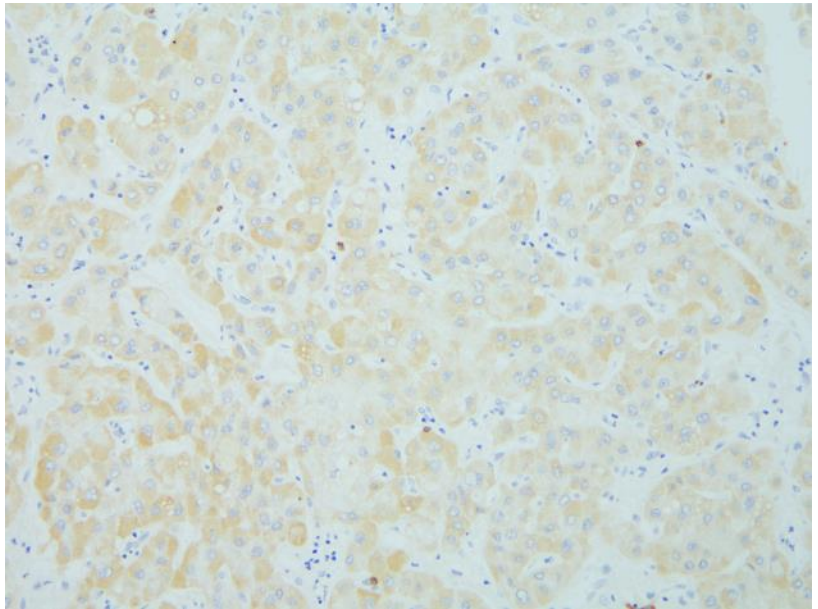
patient 25



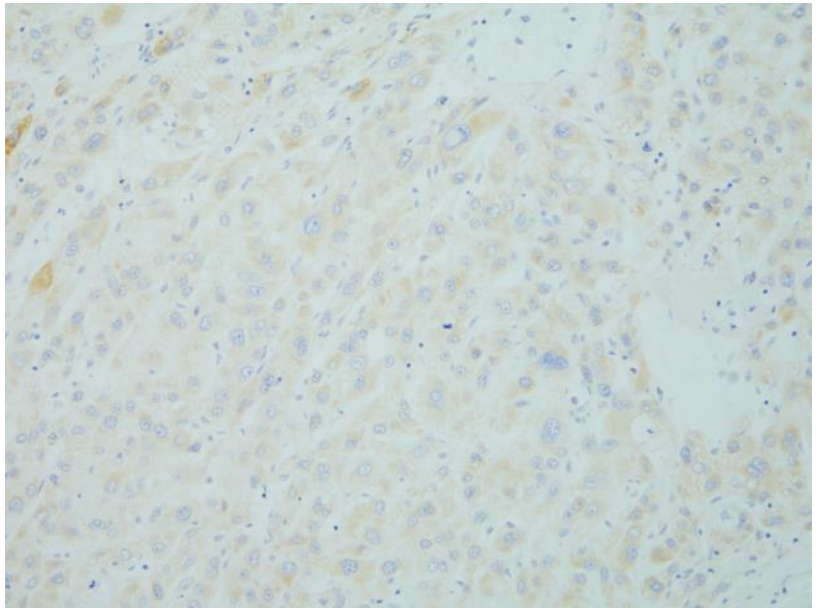
patient 26



patient 27

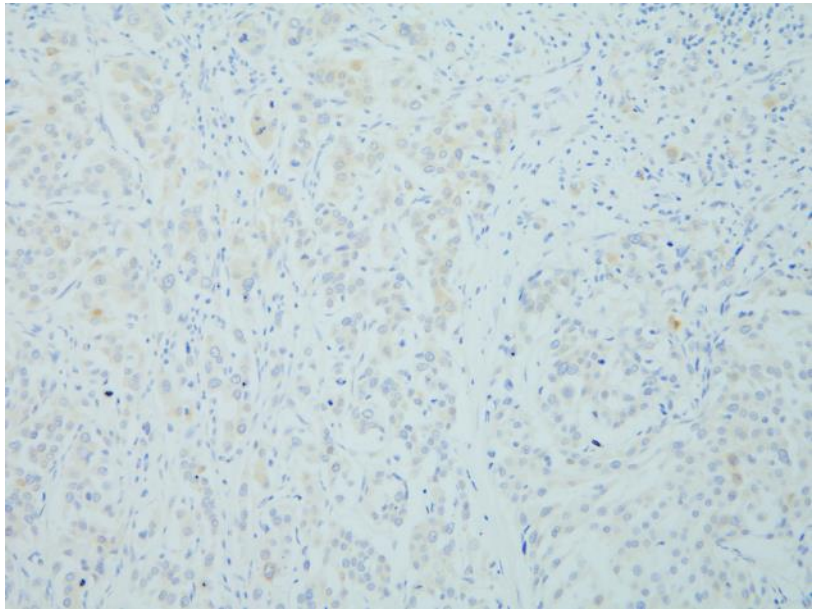


patient 28

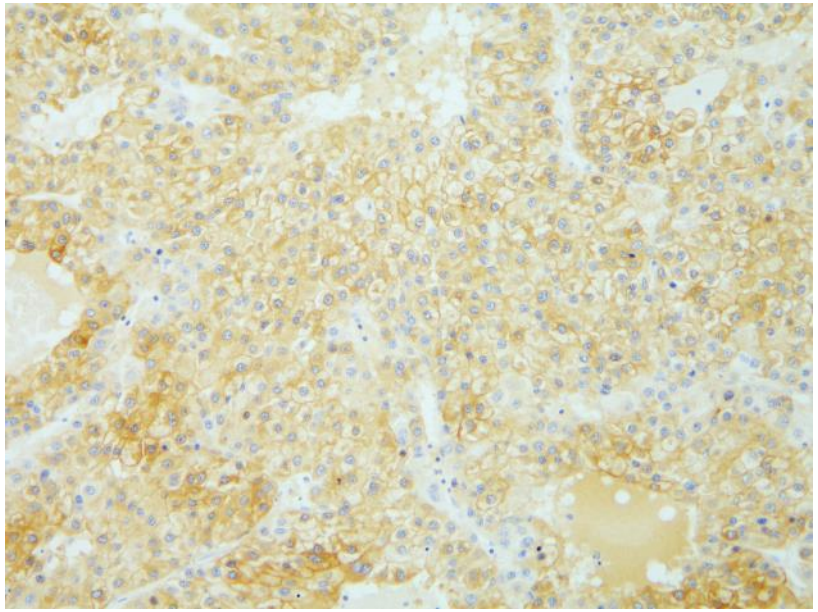


rapid recurrence HCC patients

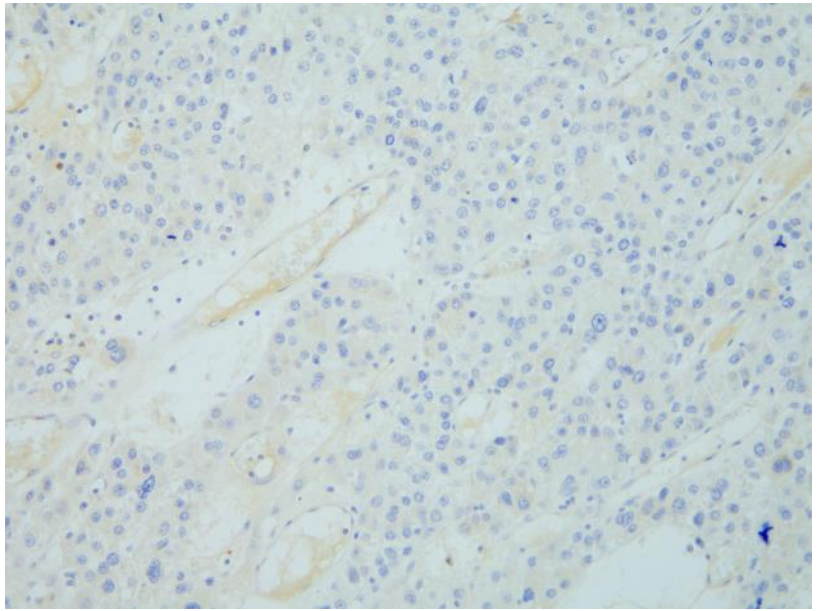
patient 29



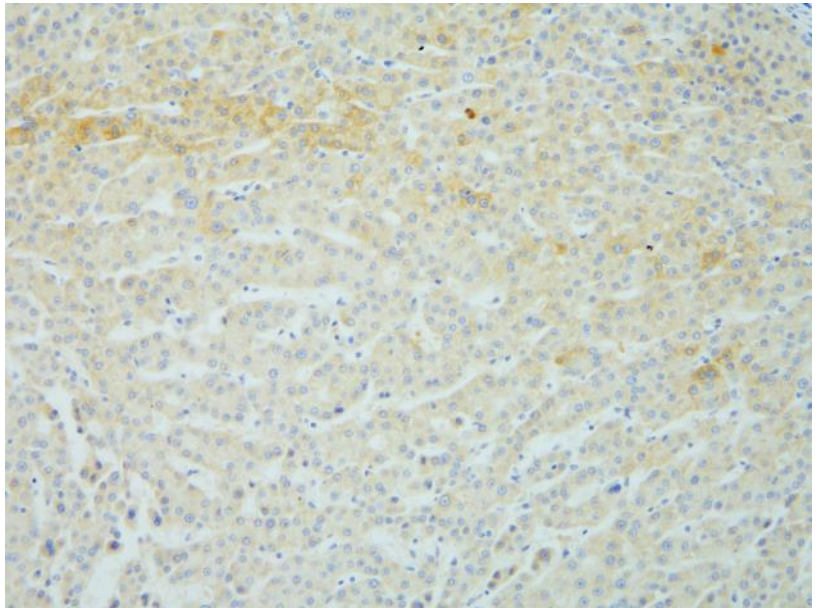
patient 30



patient 31

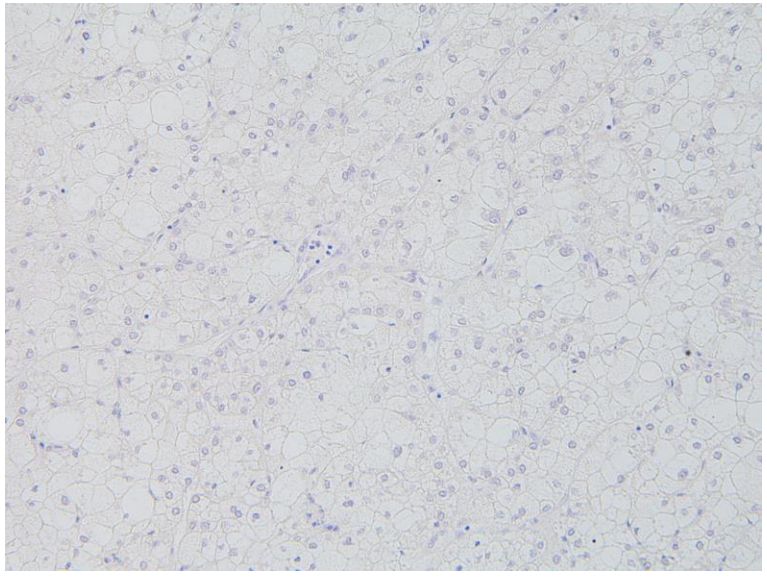


patient 32

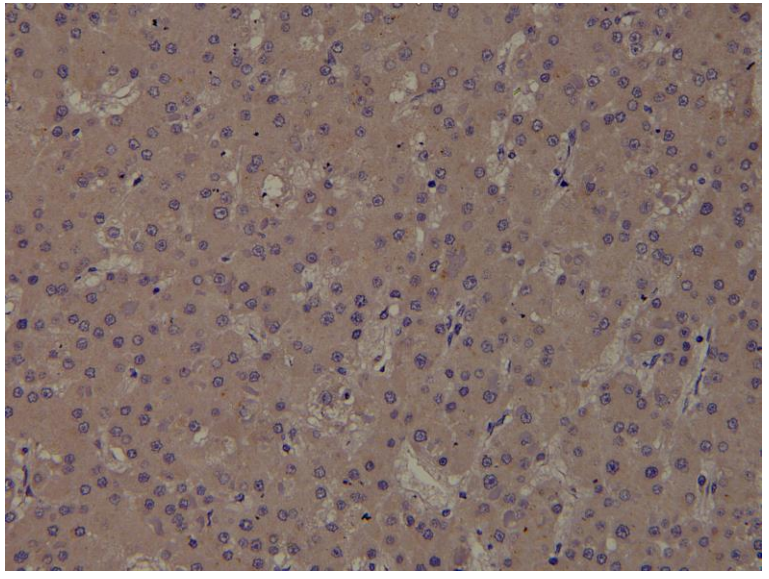


the recurrence-free HCC patients

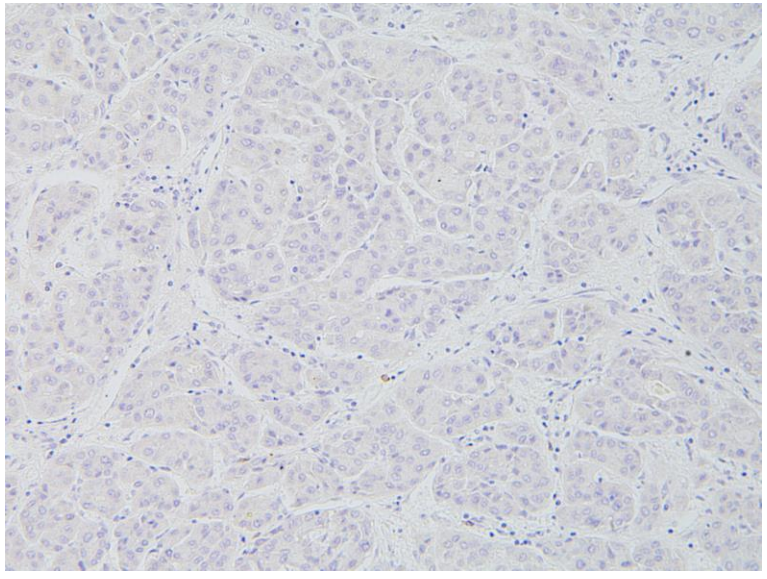
patient 1



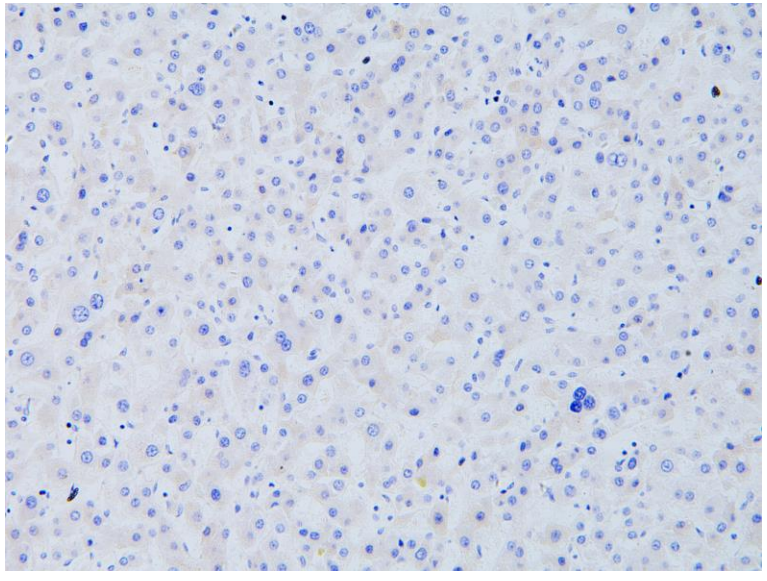
patient 2



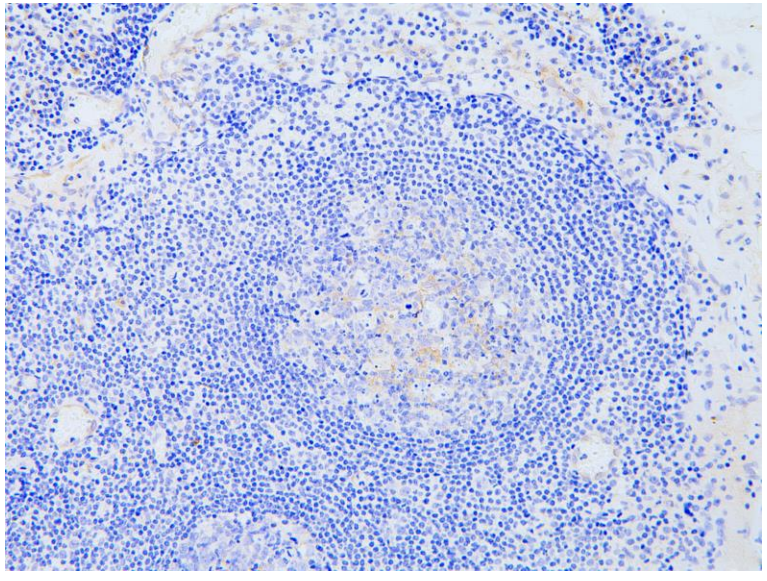
patient 3



patient 4

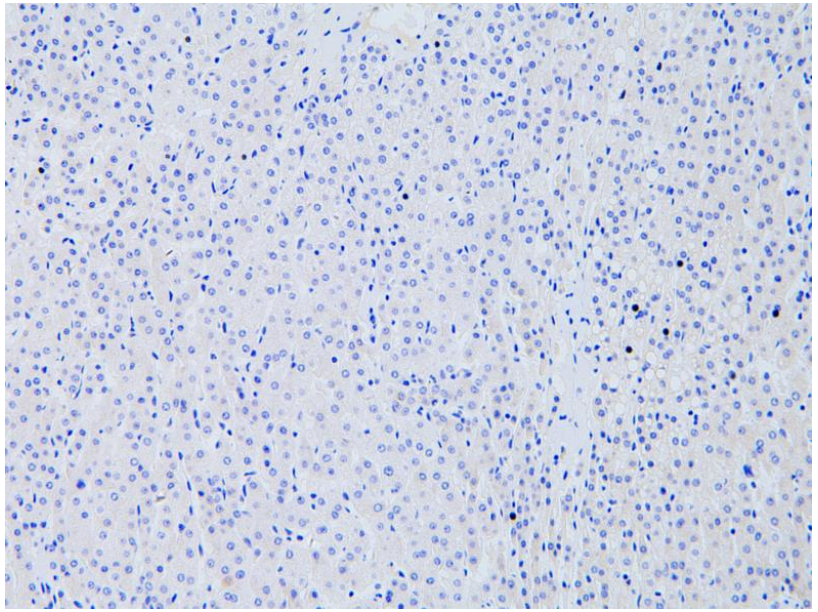


patient 5

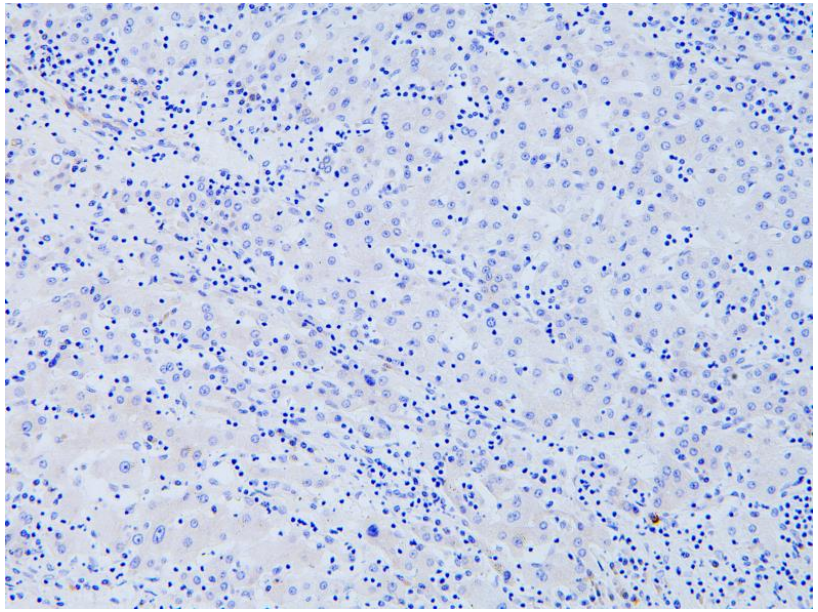


the recurrence-free HCC patients

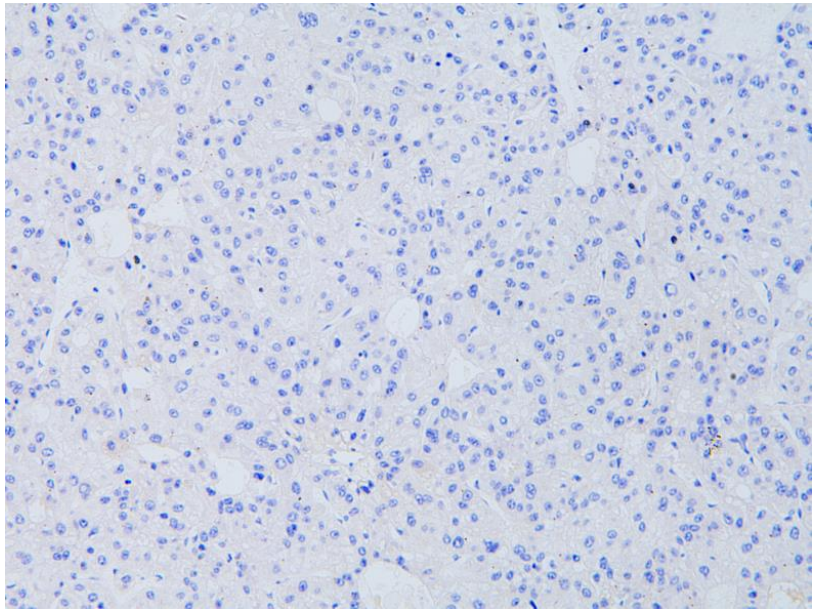
patient 6



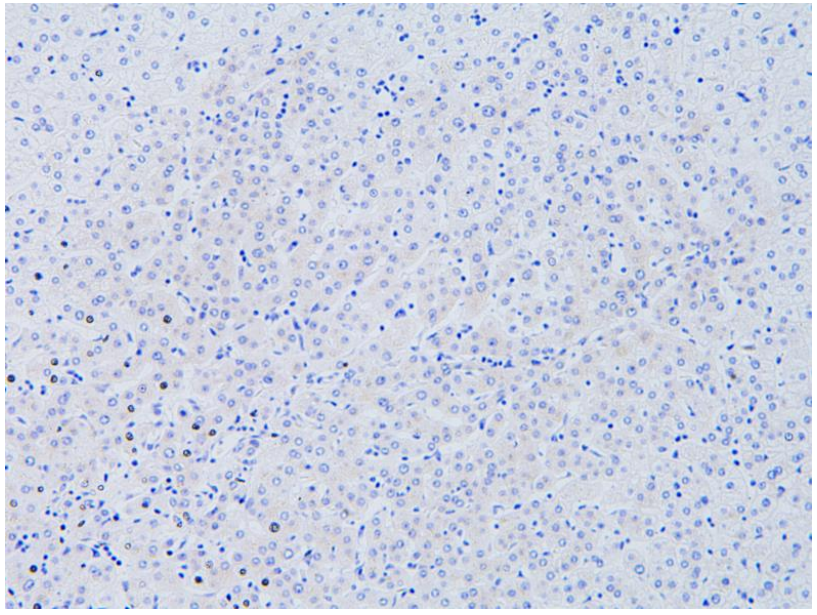
patient 7

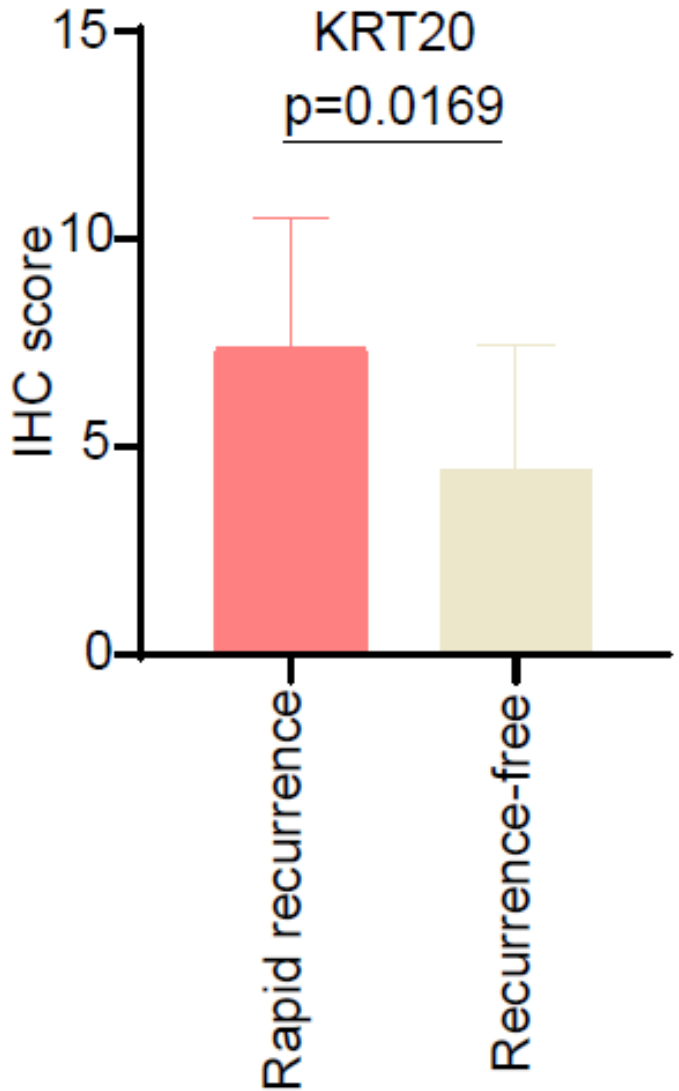


patient 8



patient 9




KRT20
p=0.0169
IHC score
15
10
5
0
Rapid recurrence
Recurrence-free