



Uncovering the Pathology of Rheumatoid Arthritis With Single Cell Immunoprofiling

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Supplemental Table 4. Top 20 marker genes for each single-cell RNA-seq cluster.

cell type	cluster	gene	auc	wilcox_pvalue	ttest_pvalue	pct_nonzero	log2FC
Fibroblast	<i>CD34</i> ⁺ sublining (SC-F1)	<i>DCN</i>	0.73	9.7E-57	1.5E-47	99.8%	1.01
		<i>IGF1</i>	0.72	6.8E-55	1.2E-54	81.8%	3.73
		<i>FBLN1</i>	0.71	2.3E-48	5.3E-36	82.2%	2.55
		<i>PDGFRL</i>	0.69	2.9E-39	9.5E-21	79.2%	1.76
		<i>SFRP1</i>	0.69	5.1E-41	2.6E-39	74.9%	3.32
		<i>C3</i>	0.68	4.9E-39	1.2E-33	69.5%	2.88
		<i>GAS6</i>	0.67	5.4E-40	3.5E-32	60.8%	2.43
		<i>FBLN5</i>	0.66	1.0E-30	1.6E-24	64.5%	2.07
		<i>RPL37</i>	0.65	3.1E-25	7.2E-06	98.3%	0.32
		<i>VCAN</i>	0.65	6.3E-24	2.0E-31	98.0%	1.48
		<i>RPL35A</i>	0.65	3.4E-23	6.1E-06	98.7%	0.29
		<i>CD34</i>	0.64	7.4E-37	3.7E-28	44.6%	2.16
		<i>GSN</i>	0.64	2.2E-22	3.2E-05	94.2%	0.55
		<i>SERPINF1</i>	0.64	5.1E-22	1.5E-28	95.7%	1.66
		<i>PPAP2B</i>	0.64	1.8E-21	4.0E-04	84.8%	0.61
		<i>MFAP5</i>	0.64	1.5E-36	2.3E-28	43.3%	2.43
		<i>PODN</i>	0.64	2.0E-23	6.3E-19	66.4%	1.82
		<i>PTGFR</i>	0.64	4.5E-22	1.6E-13	71.2%	1.57
		<i>SFRP2</i>	0.64	1.9E-44	1.0E-30	37.0%	2.79
		<i>CFH</i>	0.64	7.9E-21	1.1E-03	91.1%	0.46
Fibroblast	<i>HLA-DRA</i> ^{hi} sublining (SC-F2)	<i>CD74</i>	0.82	1.5E-122	8.6E-130	96.3%	4.08
		<i>IFITM3</i>	0.80	5.1E-106	8.9E-100	100.0%	1.02
		<i>LGALS3BP</i>	0.79	1.9E-103	1.3E-87	96.8%	2.60
		<i>HLA-DRA</i>	0.78	1.7E-108	3.6E-118	80.7%	4.24
		<i>HLA-B</i>	0.78	8.6E-91	3.7E-73	99.9%	1.16
		<i>CXCL12</i>	0.77	2.0E-90	6.7E-118	99.2%	3.72
		<i>HLA-DPA1</i>	0.77	3.9E-98	1.8E-105	80.2%	3.80
		<i>HLA-DRB1</i>	0.77	4.1E-98	1.5E-103	79.3%	4.03
		<i>PLAU</i>	0.76	1.0E-88	1.2E-99	83.3%	3.77
		<i>HLA-A</i>	0.76	3.6E-81	4.4E-67	99.9%	1.02
		<i>IFI27</i>	0.76	1.1E-81	8.6E-72	93.1%	2.74
		<i>B2M</i>	0.76	1.7E-80	8.2E-80	100.0%	0.72
		<i>HLA-DPB1</i>	0.76	1.1E-88	1.1E-89	79.0%	3.60
		<i>MDK</i>	0.76	1.7E-87	1.5E-114	85.5%	3.96
		<i>ZFP36L1</i>	0.75	9.5E-77	3.0E-75	100.0%	1.55
		<i>IFI30</i>	0.75	3.1E-85	1.0E-87	73.8%	3.37
		<i>STAT1</i>	0.75	9.6E-74	1.6E-72	90.9%	2.76
		<i>LOXL1</i>	0.74	7.1E-77	5.2E-91	84.0%	3.37
		<i>BGN</i>	0.74	8.5E-70	4.4E-74	99.7%	2.06
		<i>C1S</i>	0.74	9.5E-70	1.2E-55	99.9%	0.75
Fibroblast	<i>DKK3</i> ⁺ sublining (SC-F3)	<i>ASPN</i>	0.86	7.0E-75	2.1E-68	91.7%	5.58
		<i>DKK3</i>	0.82	3.4E-83	4.0E-56	80.3%	4.94
		<i>MAMDC2</i>	0.78	1.8E-46	1.4E-46	88.6%	3.62
		<i>ABHD2</i>	0.78	4.4E-43	1.8E-32	89.0%	2.77
		<i>PRELP</i>	0.77	3.2E-41	1.7E-41	94.3%	3.38
		<i>COL5A1</i>	0.76	2.3E-37	9.2E-44	98.2%	2.18
		<i>EMP1</i>	0.76	8.1E-37	1.6E-30	96.5%	1.98
		<i>ANGPTL1</i>	0.76	1.8E-36	3.0E-26	91.2%	2.38
		<i>CADM1</i>	0.75	2.8E-60	2.0E-34	65.8%	3.90
		<i>FMOD</i>	0.75	1.2E-36	8.2E-30	84.2%	3.11
		<i>OGN</i>	0.75	8.4E-35	6.8E-35	92.1%	3.07
		<i>PDGFRB</i>	0.75	3.3E-34	7.1E-48	96.1%	2.53
		<i>CD109</i>	0.74	2.4E-37	1.4E-34	82.9%	2.94
		<i>MYADM</i>	0.74	8.6E-33	2.4E-25	96.9%	1.77
		<i>AHNAK</i>	0.74	1.3E-32	1.4E-35	100.0%	0.87
		<i>VIM</i>	0.74	3.1E-32	1.2E-35	100.0%	0.60
		<i>COL8A2</i>	0.73	2.9E-46	6.2E-29	64.9%	3.22
		<i>CAMK1D</i>	0.73	2.0E-31	1.6E-48	94.3%	2.83
		<i>DPT</i>	0.73	1.9E-30	4.1E-45	98.7%	2.22
		<i>COMP</i>	0.73	3.8E-40	2.1E-30	71.9%	4.22

		<i>PRG4</i>	0.96	1.1E-181	5.1E-256	100.0%	3.33
		<i>FN1</i>	0.94	9.5E-169	3.4E-291	100.0%	2.12
		<i>ITGB8</i>	0.94	5.4E-173	1.3E-242	98.3%	5.17
		<i>CRTAC1</i>	0.92	3.0E-154	4.0E-227	99.8%	4.30
		<i>HTRA1</i>	0.92	2.0E-151	1.7E-175	100.0%	2.75
		<i>PCSK6</i>	0.91	1.2E-178	3.9E-205	92.9%	5.76
		<i>HBEGF</i>	0.91	4.9E-189	1.2E-162	89.8%	7.14
		<i>THBS4</i>	0.90	2.8E-142	6.0E-151	99.0%	3.52
		<i>TIMP3</i>	0.90	5.3E-140	7.7E-191	100.0%	2.89
Fibroblast	Lining (SC-F4)	<i>APLP2</i>	0.90	1.3E-139	3.9E-146	100.0%	1.75
		<i>SMIM14</i>	0.89	1.5E-134	2.9E-118	98.8%	2.51
		<i>NTN4</i>	0.89	1.3E-153	4.1E-150	90.7%	5.18
		<i>CD55</i>	0.89	5.7E-137	1.8E-157	96.0%	4.69
		<i>CLIC5</i>	0.89	2.1E-238	1.4E-137	81.2%	6.26
		<i>C10orf105</i>	0.88	1.3E-247	4.1E-134	79.5%	5.90
		<i>ERRFI1</i>	0.88	7.4E-134	1.2E-139	93.6%	5.14
		<i>CREB5</i>	0.88	6.3E-126	1.0E-147	99.8%	2.61
		<i>BCAT1</i>	0.88	8.3E-126	1.4E-146	97.9%	3.75
		<i>FAM49A</i>	0.87	1.9E-135	1.3E-125	89.5%	4.50
		<i>ITGBL1</i>	0.87	1.1E-122	4.0E-157	98.3%	3.93
		<i>NR4A2</i>	0.87	1.6E-86	1.5E-76	97.4%	4.71
		<i>HSPA1A</i>	0.82	2.1E-64	3.4E-53	95.2%	3.96
		<i>ATF3</i>	0.82	1.2E-64	9.1E-71	91.2%	5.05
		<i>FOSB</i>	0.80	3.0E-58	4.8E-43	98.8%	2.85
		<i>JUND</i>	0.79	2.0E-54	5.8E-42	100.0%	1.91
		<i>RGS2</i>	0.79	1.4E-56	4.7E-54	85.3%	4.58
		<i>JUNB</i>	0.78	2.0E-49	2.7E-27	96.2%	2.06
		<i>NR4A1</i>	0.78	5.0E-51	1.4E-53	87.4%	4.22
		<i>ZFP36</i>	0.78	5.7E-49	1.8E-32	92.9%	2.81
Monocyte	<i>IL1B</i> ⁺ pro-inflammatory (SC-M1)	<i>HSP90AA1</i>	0.78	2.7E-48	1.6E-41	99.8%	1.81
		<i>CD83</i>	0.78	3.2E-49	4.3E-47	90.7%	3.77
		<i>HSPH1</i>	0.78	2.5E-49	1.6E-39	83.4%	3.75
		<i>NAMPT</i>	0.77	2.8E-47	8.4E-37	87.6%	3.33
		<i>PNRC1</i>	0.76	4.0E-43	6.2E-20	91.2%	2.03
		<i>DUSP1</i>	0.76	3.7E-42	2.1E-35	97.1%	2.68
		<i>NR4A3</i>	0.75	1.3E-51	1.2E-51	64.6%	4.35
		<i>KDM6B</i>	0.75	3.1E-44	2.6E-39	75.3%	3.70
		<i>HSPA1B</i>	0.75	1.2E-42	1.5E-40	81.0%	3.94
		<i>FOS</i>	0.74	6.1E-38	3.9E-20	97.6%	1.64
		<i>DNAJB1</i>	0.74	1.4E-39	3.6E-33	79.3%	3.40
		<i>GNPMB</i>	0.81	1.1E-52	2.1E-62	97.1%	3.76
		<i>VSIG4</i>	0.80	8.0E-49	9.4E-45	96.8%	3.01
		<i>HTRA1</i>	0.79	1.4E-70	1.0E-55	69.3%	4.64
		<i>PLEC</i>	0.79	1.2E-49	1.1E-58	88.6%	4.18
		<i>CD84</i>	0.79	2.0E-45	9.4E-54	97.1%	3.21
		<i>CTD-2337J16.1</i>	0.78	8.2E-53	1.0E-50	76.4%	4.34
		<i>LGMN</i>	0.77	8.5E-41	1.0E-46	91.8%	3.86
		<i>ABCC3</i>	0.77	2.3E-45	2.8E-48	81.1%	4.07
		<i>ITGB5</i>	0.76	1.9E-45	2.4E-44	74.3%	3.91
Monocyte	<i>NUPR1</i> ⁺ (SC-M2)	<i>DAB2</i>	0.75	1.3E-33	3.7E-48	98.6%	3.05
		<i>TNS1</i>	0.75	5.2E-36	5.5E-44	85.4%	3.73
		<i>MERTK</i>	0.75	4.0E-46	1.6E-40	66.8%	3.79
		<i>TGFBI</i>	0.75	6.9E-33	1.0E-34	98.6%	2.28
		<i>ADORA3</i>	0.75	8.0E-48	1.5E-41	65.7%	3.93
		<i>MCOLN3</i>	0.74	3.3E-66	6.3E-41	53.9%	3.76
		<i>LILRB5</i>	0.74	3.4E-38	5.0E-38	75.7%	3.81
		<i>ANXA2</i>	0.74	3.8E-32	1.5E-30	96.8%	2.32
		<i>TIMP2</i>	0.74	8.2E-32	2.7E-38	96.1%	2.69
		<i>EMP1</i>	0.74	1.6E-33	1.1E-36	82.9%	3.73
		<i>FOLR2</i>	0.73	2.3E-31	1.6E-51	92.5%	3.78
		<i>C1QB</i>	0.78	9.2E-24	9.1E-25	98.4%	2.17
		<i>C1QA</i>	0.77	2.3E-23	1.1E-25	99.2%	1.99
		<i>B2M</i>	0.73	1.7E-17	5.3E-18	100.0%	0.60
		<i>CD74</i>	0.73	2.8E-16	1.1E-19	100.0%	0.52

Monocyte	C1QA ⁺ (SC-M3)	HLA-C	0.72	6.3E-16	1.4E-06	96.9%	1.03
		TMEM176B	0.72	2.8E-16	6.0E-13	87.4%	2.59
		RNASE1	0.72	1.1E-15	3.2E-19	99.2%	1.68
		PLTP	0.72	1.5E-15	4.0E-16	96.9%	2.22
		TMEM176A	0.70	1.3E-14	3.0E-13	81.1%	2.87
		IFI27	0.70	3.6E-18	2.4E-12	62.2%	3.55
		C1QC	0.70	3.6E-13	2.4E-18	96.9%	2.16
		MARCO	0.70	3.1E-13	1.4E-12	86.6%	2.85
		CD14	0.69	3.4E-12	7.5E-08	96.9%	1.25
		HLA-B	0.68	2.3E-11	5.1E-03	98.4%	0.43
		TMSB4X	0.68	3.0E-11	1.9E-16	100.0%	0.71
		C2	0.68	2.3E-11	4.4E-09	83.5%	2.21
		RNA28S5	0.67	2.1E-10	1.1E-08	75.6%	2.70
		IFITM3	0.66	1.6E-09	3.8E-07	85.8%	1.84
		SERPING1	0.66	3.6E-10	4.0E-07	70.1%	2.09
		SDC3	0.66	1.9E-10	2.5E-08	68.5%	2.31
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Monocyte	IFN-activated (SC-M4)	SPP1	0.77	6.6E-37	1.5E-18	63.4%	6.31
		S100A10	0.75	3.6E-18	6.3E-06	92.0%	1.53
		TMSB10	0.74	5.0E-16	2.2E-02	93.8%	0.63
		MT2A	0.73	1.1E-20	4.5E-13	63.4%	3.87
		GAPDH	0.73	2.4E-15	6.2E-07	82.1%	2.11
		B2M	0.73	5.1E-15	4.0E-14	100.0%	0.59
		SH3BGRL3	0.73	7.1E-15	7.3E-05	91.1%	1.33
		FN1	0.72	5.6E-14	2.4E-06	79.5%	2.36
		ENO1	0.71	1.6E-13	2.7E-05	82.1%	1.72
		CSTB	0.71	9.2E-13	6.3E-04	81.3%	1.45
		MALAT1	0.70	1.7E-11	1.7E-06	100.0%	0.57
		SERPINA1	0.69	1.7E-11	5.2E-08	75.0%	2.44
		HLA-B	0.69	1.2E-10	2.0E-04	99.1%	0.52
		VCAN	0.69	8.2E-12	5.2E-08	68.8%	2.75
		IFI6	0.68	6.9E-14	5.3E-09	56.3%	3.07
		TIMP1	0.68	3.2E-10	3.1E-04	83.0%	1.47
		LCP1	0.68	3.8E-10	2.9E-04	81.3%	1.43
LY6E	0.68	8.5E-17	8.9E-10	49.1%	2.93		
ALDOA	0.67	1.9E-10	6.3E-05	63.4%	1.87		
S100A11	0.67	2.0E-09	3.4E-02	92.9%	0.61		
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T cell	CCR7 ⁺ (SC-T1)	PABPC1	0.78	1.4E-93	4.4E-53	98.8%	1.50
		YPEL5	0.78	9.6E-92	1.6E-92	95.0%	3.37
		ZNF331	0.75	1.4E-78	2.9E-97	91.1%	4.16
		TPT1	0.75	7.5E-76	6.3E-59	100.0%	0.94
		SLC2A3	0.75	2.2E-74	8.7E-66	89.0%	3.21
		TMEM66	0.74	3.2E-67	3.2E-55	97.3%	2.03
		RPS8	0.73	1.9E-61	7.1E-46	99.2%	1.30
		RPLP2	0.72	1.7E-59	2.0E-37	99.5%	0.83
		RPS6	0.72	5.5E-58	1.1E-46	100.0%	0.78
		CCR7	0.72	2.2E-73	5.9E-67	65.2%	3.86
		IRS2	0.72	6.0E-83	1.1E-71	58.7%	3.77
		IL7R	0.72	4.5E-57	3.3E-81	94.1%	3.57
		SC5D	0.71	8.2E-72	1.1E-62	62.3%	3.58
		GPR183	0.71	5.0E-65	4.3E-60	68.6%	3.67
		CREM	0.71	1.7E-55	2.7E-74	89.9%	3.47
		RPL11	0.71	1.3E-51	2.1E-36	99.7%	0.89
		RPL34	0.71	2.0E-51	5.1E-40	99.8%	0.77
ZBTB10	0.70	2.1E-71	3.7E-62	58.3%	3.55		
RPS12	0.70	6.1E-49	2.1E-45	100.0%	0.91		
JUND	0.70	1.1E-47	6.5E-46	99.4%	1.35		
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T cell	CCR7 ⁺ (SC-T1)	FOXP3	0.92	5.3E-115	5.4E-22	88.0%	7.58
		TIGIT	0.81	2.4E-18	9.2E-17	90.0%	5.23
		IKZF2	0.81	1.8E-30	1.6E-12	74.0%	5.48
		DUSP4	0.80	1.6E-17	4.7E-12	82.0%	5.19
		CTLA4	0.77	1.3E-18	3.8E-10	72.0%	4.71
		ARID5B	0.76	3.8E-11	1.2E-11	90.0%	3.85
		STK17B	0.73	1.4E-08	2.7E-08	96.0%	2.08
		PELI1	0.73	7.0E-14	6.5E-08	66.0%	3.89

T cell	Treg cells (SC-T2)	<i>F5</i>	0.73	6.4E-37	1.1E-07	50.0%	3.87		
		<i>RGS1</i>	0.72	3.3E-08	6.7E-25	100.0%	3.93		
		<i>PKM</i>	0.72	2.7E-08	5.9E-07	84.0%	2.93		
		<i>CD4</i>	0.71	4.6E-08	1.2E-09	88.0%	3.53		
		<i>ENTPD1</i>	0.71	6.5E-26	6.8E-07	48.0%	3.58		
		<i>YWHAB</i>	0.70	8.7E-07	8.0E-18	100.0%	1.68		
		<i>IL32</i>	0.70	9.2E-07	3.3E-06	90.0%	2.50		
		<i>IKZF4</i>	0.70	2.1E-27	1.2E-06	46.0%	3.17		
		<i>BIRC3</i>	0.69	2.6E-06	4.8E-10	96.0%	2.86		
		<i>AC013394.2</i>	0.69	2.4E-06	1.2E-05	86.0%	2.37		
		<i>GBP2</i>	0.69	8.3E-07	3.0E-05	74.0%	2.74		
		<i>SNX9</i>	0.69	3.7E-10	8.7E-06	56.0%	3.14		
		<hr/>		<i>CXCL13</i>	0.85	7.1E-126	2.0E-19	73.2%	7.50
		<hr/>		<i>RNF19A</i>	0.81	1.7E-20	3.8E-22	93.0%	4.43
T cell	Tph and Tfh (SC-T3)	<i>DUSP4</i>	0.79	8.1E-23	2.6E-16	81.7%	5.08		
		<i>PDCD1</i>	0.79	3.3E-37	7.1E-16	71.8%	4.95		
		<i>TOX2</i>	0.78	4.8E-46	2.8E-14	64.8%	4.71		
		<i>MAF</i>	0.77	2.1E-16	2.5E-11	81.7%	4.01		
		<i>CTLA4</i>	0.76	3.7E-24	1.3E-12	69.0%	4.59		
		<i>TSHZ2</i>	0.76	1.8E-27	4.0E-13	67.6%	4.57		
		<i>TIGIT</i>	0.74	3.4E-15	4.4E-12	77.5%	3.96		
		<i>SNX9</i>	0.74	1.2E-20	5.3E-11	64.8%	3.93		
		<i>PTPN13</i>	0.73	1.5E-44	1.1E-10	52.1%	4.19		
		<i>NR3C1</i>	0.73	5.6E-12	5.5E-12	88.7%	3.25		
		<i>ITM2A</i>	0.73	1.4E-11	1.8E-12	88.7%	3.23		
		<i>FKBP5</i>	0.72	2.1E-12	2.0E-10	78.9%	3.45		
		<i>TP53INP1</i>	0.72	8.9E-28	4.6E-10	54.9%	3.76		
		<i>ARID5B</i>	0.72	2.9E-11	1.5E-13	88.7%	3.53		
<i>TOX</i>	0.71	3.1E-17	3.5E-10	63.4%	3.58				
<i>COTL1</i>	0.71	1.9E-10	1.3E-11	85.9%	3.15				
<i>AHI1</i>	0.71	1.5E-13	5.7E-09	66.2%	3.54				
<i>ZNRF1</i>	0.71	9.4E-21	3.8E-09	54.9%	3.47				
<hr/>		<i>CCL5</i>	0.86	1.9E-174	0.0E+00	98.7%	7.58		
<hr/>		<i>GZMA</i>	0.77	7.9E-107	4.9E-118	76.9%	4.93		
T cell	GZMK ⁺ (SC-T4)	<i>GZMK</i>	0.77	8.1E-113	1.8E-109	70.3%	5.07		
		<i>CST7</i>	0.72	3.5E-67	2.4E-64	69.1%	3.63		
		<i>CCL4</i>	0.71	1.2E-73	2.7E-68	62.7%	4.44		
		<i>RUNX3</i>	0.70	4.6E-48	1.0E-58	87.9%	3.04		
		<i>HLA-B</i>	0.69	6.8E-42	3.0E-35	100.0%	0.46		
		<i>HLA-C</i>	0.68	1.1E-40	5.5E-28	99.6%	0.71		
		<i>NKG7</i>	0.67	1.2E-56	4.7E-50	51.0%	3.26		
		<i>HCST</i>	0.66	2.8E-33	4.1E-27	74.0%	2.16		
		<i>CTSW</i>	0.66	2.4E-43	1.5E-38	51.0%	2.68		
		<i>CD8A</i>	0.65	1.6E-49	1.4E-41	45.4%	2.91		
		<i>CD74</i>	0.65	3.1E-27	3.8E-29	94.8%	1.73		
		<i>APOBEC3G</i>	0.64	4.0E-35	1.7E-31	51.9%	2.41		
		<i>KLRG1</i>	0.64	1.8E-48	8.5E-38	39.4%	2.44		
		<i>HLA-A</i>	0.64	4.2E-24	1.4E-19	99.9%	0.50		
<i>SAMD3</i>	0.64	1.7E-38	1.2E-32	44.2%	2.29				
<i>LITAF</i>	0.63	7.6E-24	3.5E-22	72.5%	1.99				
<i>PIP4K2A</i>	0.63	3.5E-24	2.1E-22	69.7%	1.96				
<i>ITGB2</i>	0.63	1.7E-22	7.4E-23	84.2%	1.79				
<hr/>		<i>NKG7</i>	0.91	1.2E-44	1.1E-53	98.4%	7.48		
<hr/>		<i>GNLY</i>	0.90	1.4E-105	8.4E-25	84.4%	9.10		
<hr/>		<i>FGFBP2</i>	0.89	1.3E-188	1.5E-22	79.7%	7.58		
<hr/>		<i>EFHD2</i>	0.85	3.1E-30	9.7E-21	87.5%	5.31		
<hr/>		<i>GZMH</i>	0.85	7.1E-48	3.9E-21	82.8%	6.39		
<hr/>		<i>ZEB2</i>	0.83	1.9E-34	1.2E-17	79.7%	5.42		
<hr/>		<i>CCL5</i>	0.83	3.1E-21	1.3E-127	100.0%	5.96		
<hr/>		<i>GZMB</i>	0.81	1.5E-55	5.6E-16	71.9%	5.60		
<hr/>		<i>PRF1</i>	0.81	9.3E-38	9.0E-15	71.9%	5.22		
T cell	CTLs (SC-T5)	<i>CCL4</i>	0.80	2.3E-22	7.6E-19	87.5%	6.32		
		<i>GPR56</i>	0.80	1.3E-65	8.0E-14	64.1%	5.37		
		<i>PLEK</i>	0.79	2.6E-34	6.4E-14	70.3%	4.97		

		<i>HLA-B</i>	0.79	3.1E-15	3.5E-19	100.0%	0.64
		<i>CX3CR1</i>	0.77	2.0E-105	3.9E-12	56.3%	5.02
		<i>TGFBR3</i>	0.77	9.5E-23	7.4E-12	70.3%	4.43
		<i>JUN</i>	0.77	1.1E-13	8.0E-13	95.3%	3.11
		<i>ITGAL</i>	0.77	1.3E-13	3.1E-13	93.8%	2.86
		<i>FLNA</i>	0.77	3.8E-14	4.8E-11	87.5%	3.27
		<i>RUNX3</i>	0.77	1.3E-13	1.1E-27	98.4%	3.57
		<i>SYNE1</i>	0.75	5.1E-13	9.5E-10	84.4%	3.20
		<i>GAPDH</i>	0.90	1.3E-46	1.6E-39	96.4%	4.09
		<i>CD74</i>	0.86	1.6E-36	4.4E-40	99.1%	3.12
		<i>HLA-DRA</i>	0.85	3.7E-50	7.8E-39	89.2%	5.79
		<i>HLA-DRB1</i>	0.85	8.1E-48	2.4E-36	88.3%	5.81
		<i>CFL1</i>	0.84	6.6E-34	3.7E-25	99.1%	1.68
		<i>ACTB</i>	0.83	1.6E-32	4.8E-53	100.0%	2.05
		<i>PFN1</i>	0.83	3.5E-32	1.1E-28	98.2%	2.35
		<i>HLA-DQA1</i>	0.83	8.0E-69	1.1E-29	77.5%	5.68
		<i>CCL5</i>	0.83	5.2E-35	1.3E-29	90.1%	5.41
		<i>COTL1</i>	0.81	9.1E-32	2.6E-29	91.0%	4.15
		<i>HLA-DRB5</i>	0.81	9.0E-72	1.8E-24	69.4%	5.71
		<i>HLA-DPA1</i>	0.81	1.7E-32	4.6E-25	85.6%	4.64
		<i>APOBEC3G</i>	0.80	7.1E-36	4.8E-28	83.8%	4.89
		<i>IFNG</i>	0.79	2.1E-30	2.4E-23	82.9%	4.50
		<i>GZMA</i>	0.79	7.7E-30	7.6E-26	85.6%	4.76
		<i>CORO1A</i>	0.78	1.4E-31	9.3E-25	82.0%	4.47
		<i>NKG7</i>	0.78	1.0E-36	2.1E-26	80.2%	5.23
		<i>TMSB4X</i>	0.78	1.2E-22	5.4E-27	100.0%	0.99
		<i>LCP1</i>	0.78	1.1E-22	1.4E-20	97.3%	2.18
		<i>CD8A</i>	0.77	3.7E-37	2.5E-22	73.9%	5.05
		<i>CD83</i>	0.86	4.8E-97	8.3E-162	98.9%	5.40
		<i>KDM6B</i>	0.85	7.1E-100	1.0E-116	90.8%	5.39
		<i>CXCR4</i>	0.84	1.7E-82	6.0E-102	99.5%	3.43
		<i>NR4A2</i>	0.83	1.6E-83	5.1E-153	99.7%	5.06
		<i>CD69</i>	0.82	1.4E-77	9.2E-121	96.8%	5.24
		<i>YPEL5</i>	0.81	2.0E-70	1.9E-64	95.1%	3.26
		<i>JUNB</i>	0.80	7.3E-67	1.0E-53	96.8%	2.74
		<i>REL</i>	0.80	4.8E-71	2.7E-96	92.7%	4.69
		<i>BTG1</i>	0.80	1.5E-66	7.4E-80	99.7%	2.46
		<i>ZNF331</i>	0.79	6.9E-71	3.2E-65	81.1%	4.95
		<i>NR4A3</i>	0.79	2.6E-82	2.4E-71	74.3%	5.03
		<i>LY9</i>	0.78	5.0E-61	2.7E-75	89.5%	4.53
		<i>SLC2A3</i>	0.78	6.0E-64	2.7E-73	85.1%	4.56
		<i>CD55</i>	0.77	9.7E-57	8.4E-57	88.9%	3.62
		<i>ZBTB10</i>	0.76	1.6E-63	1.1E-56	73.8%	4.34
		<i>DNAJA1</i>	0.76	1.3E-50	1.6E-57	93.8%	3.22
		<i>CXCR5</i>	0.76	1.3E-65	2.4E-56	71.4%	4.41
		<i>NFKBID</i>	0.76	1.6E-58	1.6E-62	79.5%	4.36
		<i>VPS37B</i>	0.75	7.1E-61	1.5E-48	70.0%	4.04
		<i>CREM</i>	0.75	2.6E-54	2.1E-49	76.8%	4.09
		<i>CD74</i>	0.80	2.0E-86	3.3E-92	100.0%	1.44
		<i>MS4A1</i>	0.76	3.9E-65	2.0E-87	96.6%	4.46
		<i>HLA-DPB1</i>	0.74	1.1E-56	6.9E-78	97.4%	4.06
		<i>RPL34</i>	0.74	9.8E-55	2.7E-38	99.7%	0.86
		<i>RPL30</i>	0.74	2.5E-53	1.4E-37	99.4%	1.18
		<i>HLA-DPA1</i>	0.73	4.4E-51	1.6E-55	99.1%	2.46
		<i>TMSB4X</i>	0.73	7.0E-49	9.3E-33	96.9%	1.81
		<i>RPS29</i>	0.73	9.0E-49	2.5E-24	98.6%	0.95
		<i>HLA-DRA</i>	0.72	1.4E-48	3.6E-79	99.8%	3.89
		<i>RPS21</i>	0.72	4.1E-47	5.5E-28	99.1%	0.99
		<i>RPL11</i>	0.72	8.5E-47	1.6E-22	99.1%	0.79
		<i>RPL38</i>	0.72	1.3E-45	1.2E-19	97.7%	1.00
		<i>RPLP2</i>	0.72	5.0E-45	4.2E-28	99.4%	0.85
		<i>RPS6</i>	0.71	4.1E-42	2.3E-28	99.8%	0.75
		<i>RPL37</i>	0.70	3.8E-40	1.9E-16	98.0%	0.82
		<i>SELL</i>	0.70	2.1E-42	4.6E-37	75.4%	3.01

		<i>LTB</i>	0.70	2.0E-42	5.0E-44	77.4%	3.46
		<i>RPS12</i>	0.70	3.5E-39	1.9E-20	99.1%	0.80
		<i>1-Mar</i>	0.70	1.2E-42	3.0E-42	68.3%	3.21
		<i>RPS13</i>	0.69	4.4E-36	7.2E-11	96.2%	0.77
B cell	ABCs (SC-B3)	<i>ITGAX</i>	0.93	2.1E-111	5.3E-26	90.6%	7.35
		<i>ZEB2</i>	0.85	1.5E-32	3.7E-19	86.8%	5.89
		<i>CD52</i>	0.84	2.3E-17	6.5E-17	96.2%	3.93
		<i>ACTB</i>	0.83	2.0E-16	4.1E-07	96.2%	1.94
		<i>HLA-DPB1</i>	0.83	2.8E-16	1.1E-50	100.0%	3.38
		<i>TMSB4X</i>	0.82	1.3E-15	4.5E-11	98.1%	2.05
		<i>LRMP</i>	0.82	7.8E-18	3.3E-23	96.2%	4.92
		<i>ARPC1B</i>	0.82	6.1E-17	4.2E-24	96.2%	4.44
		<i>ARPC2</i>	0.82	6.2E-15	1.5E-11	98.1%	1.95
		<i>PLEK</i>	0.81	1.2E-19	2.1E-13	83.0%	4.72
		<i>ACTG1</i>	0.81	1.4E-14	1.1E-19	100.0%	2.42
		<i>SH3BGRL3</i>	0.81	1.2E-14	1.2E-10	94.3%	2.84
		<i>CD19</i>	0.80	1.5E-15	1.7E-14	90.6%	4.15
		<i>ARPC5</i>	0.80	2.4E-19	3.3E-12	79.2%	4.48
		<i>COTL1</i>	0.80	5.3E-16	7.8E-15	88.7%	4.37
		<i>SAMD9L</i>	0.80	4.8E-18	1.6E-14	84.9%	4.69
		<i>ARL6IP5</i>	0.79	2.8E-14	4.0E-15	92.5%	3.90
		<i>RFTN1</i>	0.78	5.8E-26	9.1E-11	67.9%	4.56
		<i>IFI44L</i>	0.78	5.3E-53	1.4E-10	60.4%	5.12
				<i>LAPTM5</i>	0.78	2.4E-12	7.8E-18
B cell	plasmablasts (SC-B4)	<i>MZB1</i>	1.00	2.4E-249	0.0E+00	99.7%	10.09
		<i>XBP1</i>	0.99	3.1E-235	0.0E+00	99.4%	10.26
		<i>FKBP11</i>	0.99	2.6E-240	0.0E+00	98.3%	9.66
		<i>SSR4</i>	0.99	3.1E-193	0.0E+00	98.6%	8.65
		<i>HSP90B1</i>	0.98	3.7E-164	1.4E-227	99.7%	5.62
		<i>DERL3</i>	0.98	3.5E-223	0.0E+00	97.2%	9.09
		<i>SEC11C</i>	0.97	2.2E-195	0.0E+00	96.9%	8.22
		<i>FKBP2</i>	0.97	8.2E-204	1.8E-297	96.3%	8.15
		<i>RRBP1</i>	0.96	5.6E-229	1.3E-255	95.2%	8.59
		<i>HDLBP</i>	0.96	1.7E-191	3.9E-277	96.1%	7.64
		<i>SEL1L</i>	0.95	1.2E-191	1.1E-240	94.6%	7.85
		<i>PRDX4</i>	0.95	3.5E-230	6.1E-196	91.5%	8.37
		<i>FNDC3B</i>	0.95	8.9E-234	1.4E-205	92.4%	8.00
		<i>SLAMF7</i>	0.95	6.7E-202	5.7E-249	94.6%	8.15
		<i>SDF2L1</i>	0.95	2.3E-230	9.7E-195	91.5%	7.88
		<i>SDC1</i>	0.95	5.5E-256	2.5E-168	89.6%	8.15
		<i>LMAN1</i>	0.94	3.4E-176	3.4E-252	95.5%	7.27
		<i>NUCB2</i>	0.94	5.5E-225	1.9E-177	90.1%	7.78
		<i>SSR3</i>	0.94	1.4E-186	1.9E-212	93.0%	7.31
				<i>ITM2C</i>	0.94	4.9E-174	2.2E-189