

Supplemental Material

Table S1-S3

Figure S1-8

Supplementary Table 1

Species	# of cells	% of reads mapped to genome	Mean reads/cell	Median genes/cell	Total genes detected
Mouse	3013	78.1	80508	952	15380
Rat	3935	82.5	54456	1113	14944
Pig	4671	90.9	61638	1065	14589
Human	2868	91.7	112080	878	17658

Supplementary Table 2

Cell Type	Gene	P value	Cell Type	Gene	P value
Resident macrophages	C1qa	0.00E+00	Unknown	Cd7	2.06E-179
Resident macrophages	C1qb	0.00E+00	Unknown	Xcl1	4.04E-179
Resident macrophages	C1qc	0.00E+00	Unknown	Cxcr6	3.33E-120
Resident macrophages	Cd81	0.00E+00	Unknown	Trbc2	8.37E-104
Resident macrophages	Apoe	0.00E+00	Unknown	Gimap4	4.19E-103
Resident macrophages	H2-Eb1	0.00E+00	Unknown	Gimap6	2.55E-79
Resident macrophages	Ctss	0.00E+00	Unknown	Ltb	1.36E-76
Resident macrophages	Ms4a7	7.14E-240	Unknown	Trbc1	3.35E-70
Resident macrophages	Cd74	3.25E-229	Unknown	Ccl4	1.03E-07
Resident macrophages	Mmp12	1.48E-135	Unknown	Ccl3	9.89E-04
cDC2 DCs	Cd209a	0.00E+00	Innate Lymphoid Cells	Gata3	2.94E-279
cDC2 DCs	Clec10a	1.12E-274	Innate Lymphoid Cells	Cxcr6	6.75E-200
cDC2 DCs	Tnfr3	2.53E-210	Innate Lymphoid Cells	Ltft1	9.02E-150
cDC2 DCs	Cfp	8.55E-188	Innate Lymphoid Cells	Ly6a	2.01E-121
cDC2 DCs	H2-Oa	4.82E-186	Innate Lymphoid Cells	Skap1	1.66E-113
cDC2 DCs	H2-DMb2	1.42E-146	Innate Lymphoid Cells	Ltb	6.25E-99
cDC2 DCs	S100a6	6.01E-125	Innate Lymphoid Cells	Hs3st1	3.74E-89
cDC2 DCs	Napsa	1.67E-123	Innate Lymphoid Cells	Phlda1	3.44E-87
cDC2 DCs	Tnfr9	2.13E-112	Innate Lymphoid Cells	Lmo4	2.29E-35
cDC2 DCs	Socs3	8.42E-69	Innate Lymphoid Cells	Junb	8.94E-29
NK cells	Gzma	0.00E+00	cDC1 DCs	Xcr1	0.00E+00
NK cells	Nkg7	0.00E+00	cDC1 DCs	Ifi205	4.49E-219
NK cells	Gzmb	0.00E+00	cDC1 DCs	Cd24a	6.31E-214
NK cells	Klre1	0.00E+00	cDC1 DCs	Cxx1b	5.95E-160
NK cells	Klra8	0.00E+00	cDC1 DCs	Cxx1a	7.09E-150
NK cells	Klra4	2.76E-302	cDC1 DCs	Tnni2	3.39E-122
NK cells	Klra9	1.27E-297	cDC1 DCs	Naaa	4.87E-96
NK cells	Ccl5	6.02E-284	cDC1 DCs	Ppt1	9.94E-58
NK cells	AW112010	2.24E-199	cDC1 DCs	Cst3	1.01E-51
NK cells	Lgals1	1.74E-190	cDC1 DCs	Irf8	9.37E-51
Ly6chi macrophages	Chil3	4.23E-160	B cells	Ly6d	0.00E+00
Ly6chi macrophages	Plac8	2.50E-138	B cells	Cd79a	0.00E+00
Ly6chi macrophages	Ms4a4c	5.04E-127	B cells	Igk3	0.00E+00
Ly6chi macrophages	Lyz1	2.13E-118	B cells	Ms4a1	0.00E+00
Ly6chi macrophages	Ly6c2	3.23E-111	B cells	Ebf1	0.00E+00
Ly6chi macrophages	Ms4a6c	2.64E-89	B cells	Igk2	3.04E-153
Ly6chi macrophages	Ifitm3	1.09E-77	B cells	Igk1	7.77E-150
Ly6chi macrophages	Lyz2	4.71E-77	B cells	Cd79b	5.07E-90
Ly6chi macrophages	Irf7	1.35E-67	B cells	Ighm	2.80E-39
Ly6chi macrophages	Gbp2	1.89E-60	B cells	Igkc	3.51E-39
Ly6clo macrophages	Ear2	4.26E-255	Neutrophils	Retnlg	0.00E+00
Ly6clo macrophages	Fabp4	9.84E-246	Neutrophils	Slpi	6.02E-283
Ly6clo macrophages	Eno3	8.06E-228	Neutrophils	S100a9	3.84E-209
Ly6clo macrophages	Trem14	1.63E-216	Neutrophils	S100a8	1.07E-206
Ly6clo macrophages	Pglyrp1	8.26E-167	Neutrophils	Hp	1.90E-144
Ly6clo macrophages	Cebpb	7.06E-130	Neutrophils	G0s2	7.00E-124
Ly6clo macrophages	Msrb1	6.57E-127	Neutrophils	Cxcl2	4.22E-116
Ly6clo macrophages	Nr4a1	6.65E-126	Neutrophils	Msrb1	1.36E-57
Ly6clo macrophages	Gngt2	1.72E-117	Neutrophils	Il1b	3.03E-47
Ly6clo macrophages	Smpd13a	1.50E-115	Neutrophils	S100a11	2.10E-38

Supplementary Table 3

Infiltrating macrophage		Resident macrophage	
Cell number	Reads	Cell number	Reads
R1_C12	1,492,862	R2_C03	2,134,946
R1_C15	2,227,789	R2_C05	2,303,807
R1_C16	6,460,052	R2_C06	738,061
R1_C23	1,050,069	R2_C10	159,872
R1_C24	2,596,836	R2_C12	253,938
R1_C25	3,425,398	R2_C13	3,578,235
R1_C32	3,406,075	R2_C14	2,304,633
R1_C34	3,262,353	R2_C21	2,807,416
R1_C38	1,247,509	R2_C23	3,143,572
R1_C40	258,583	R2_C28	1,657,015
R1_C52	3,180,335	R2_C30	1,896,495
R1_C53	1,822,262	R2_C32	476,005
R1_C54	2,280,668	R2_C34	4,799,911
R1_C55	2,294,715	R2_C36	4,347,918
R1_C56	3,071,868	R2_C39	1,542,320
R1_C58	4,297,437	R2_C42	2,068,422
R1_C60	3,016,114	R2_C46	1,865,383
R1_C63	3,895,750	R2_C47	1,067,191
R1_C65	1,038,025	R2_C53	91,473
R1_C69	653,524	R2_C55	4,186,470
R1_C70	4,737,539	R2_C56	2,602,547
R1_C71	2,564,324	R2_C60	183,934
R1_C77	216,424	R2_C61	4,719,640
R1_C78	2,581,007	R2_C64	1,628,547
R1_C81	9,560	R2_C73	1,259,852
R1_C83	3,635,582	R2_C74	3,947,573
R1_C84	2,171,672	R2_C78	4,059,899
R1_C85	644,928	R2_C79	1,172,156
R1_C87	2,828,777	R2_C80	1,811,933
R1_C90	3,485,523	R2_C81	206,613
R1_C91	1,703,711	R2_C82	6,985,563
R1_C93	941,270	R2_C84	2,860,895
R1_C95	2,109,498	R2_C90	1,543,593
		R2_C91	2,093,469
		R2_C92	2,839,715
		R2_C93	2,515,540

Figure S1. tSNE projection and violin plot showing expression of *Cd79a* in mouse renal innate immune cells.

Figure S2 Gating strategy used to isolate infiltrating and resident macrophages based on the canonical Cd11b and F/480 approach. Infiltrating and resident macrophages were collected and subjected to C1 Fluidigm single cell RNA sequencing.

Figure S3 tSNE projections and violin plots showing a top DEG that was used to identify **(A)** neutrophils (*S100a8*), **(B)** NK cells (*Nkg7*), **(C)** innate lymphoid cells (ILCs, *Cxcr6*), **(D)** infiltrating macrophages (*Irf7*, *Cebpb*), **(E)** and dendritic cells (*Naaa*, *Clec10a*) in single cell data from a rat kidney.

Figure S4 tSNE projections and violin plots showing a top DEG that was used to identify **(A)** neutrophils (*S100A8*), **(B)** NK cells (*NKG7*), **(C)** innate lymphoid cells (ILCs, *CXCR6*), **(D)** infiltrating macrophages (*IRF7*, *CEBPB*), and **(E)** dendritic cells (*NAAA*) in single cell data from a pig kidney. Unfortunately, the *Clec10a* orthologue has not been identified in the pig.

Figure S5 tSNE projections and violin plots showing a top DEG that was used to identify **(A)** neutrophils (*S100A8*), **(B)** NK cells (*NKG7*), **(C)** innate lymphoid cells (ILCs, *CXCR6*), **(D)** infiltrating macrophages (*IRF7*, *CEBPB*), **(E)** and dendritic cells (*NAAA*, *CLEC10A*) in single cell data from a human kidney.

Figure S6 Heat map of top 100 DEGs in lineage negative CD45⁺ innate immune cells from human kidney tissue identified using Fluidigm C1 single cell RNA sequencing.

Figure S7 Gating strategy used to identify resident macrophages in multiple species using CD74 and CD81 antibodies.

Figure S8 Quantification of the percent chimerism of B/T cells, infiltrating monocytes/macrophages, and neutrophils in the blood of mice undergoing parabiosis. ****

P<0.0001.

Figure S1.

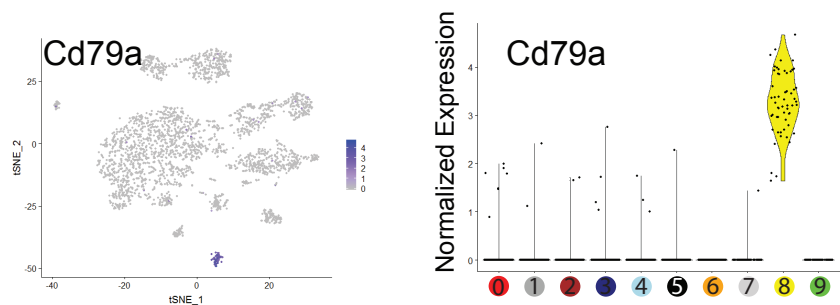


Figure S2.

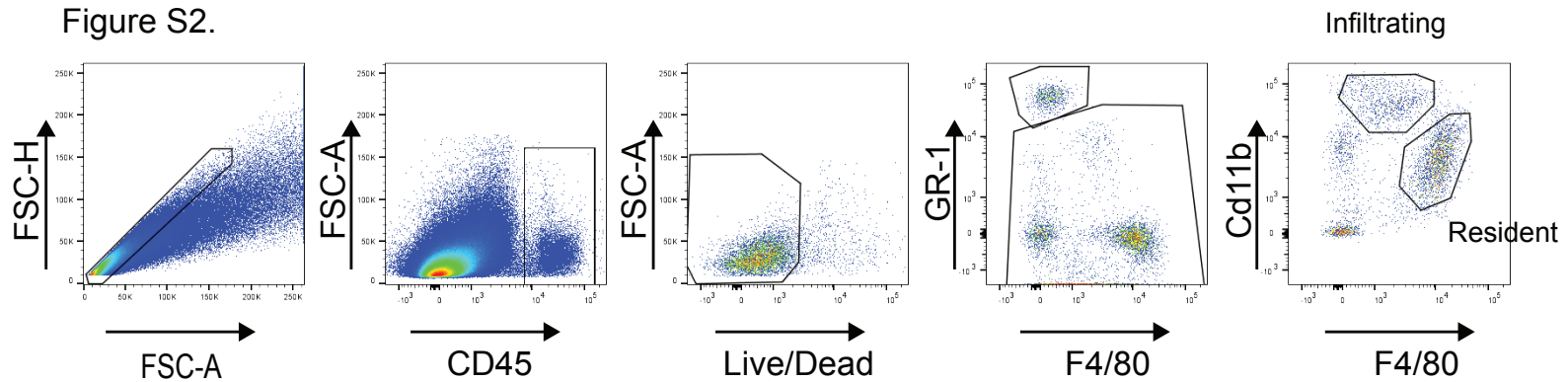


Figure S3

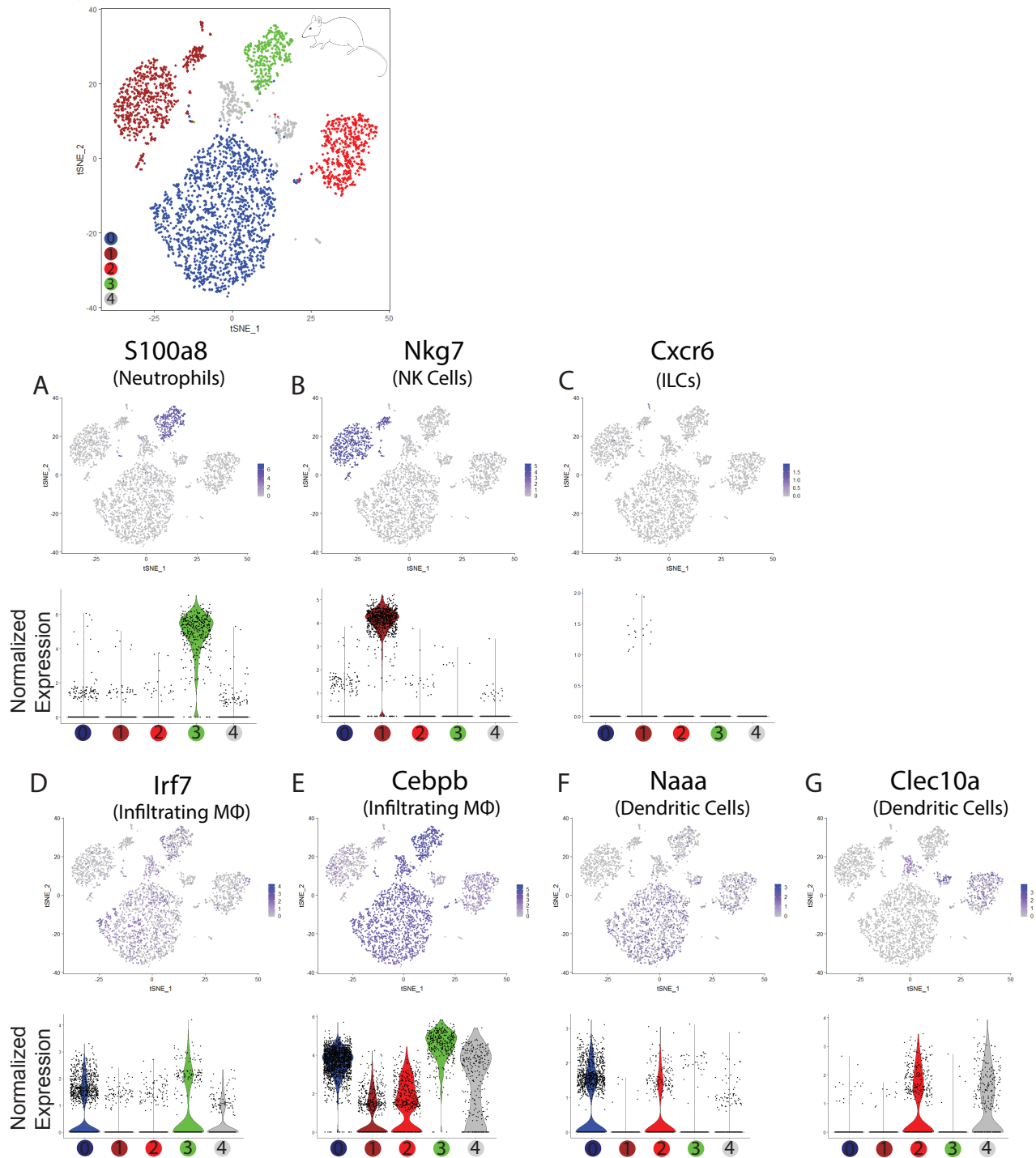


Figure S4

Pig

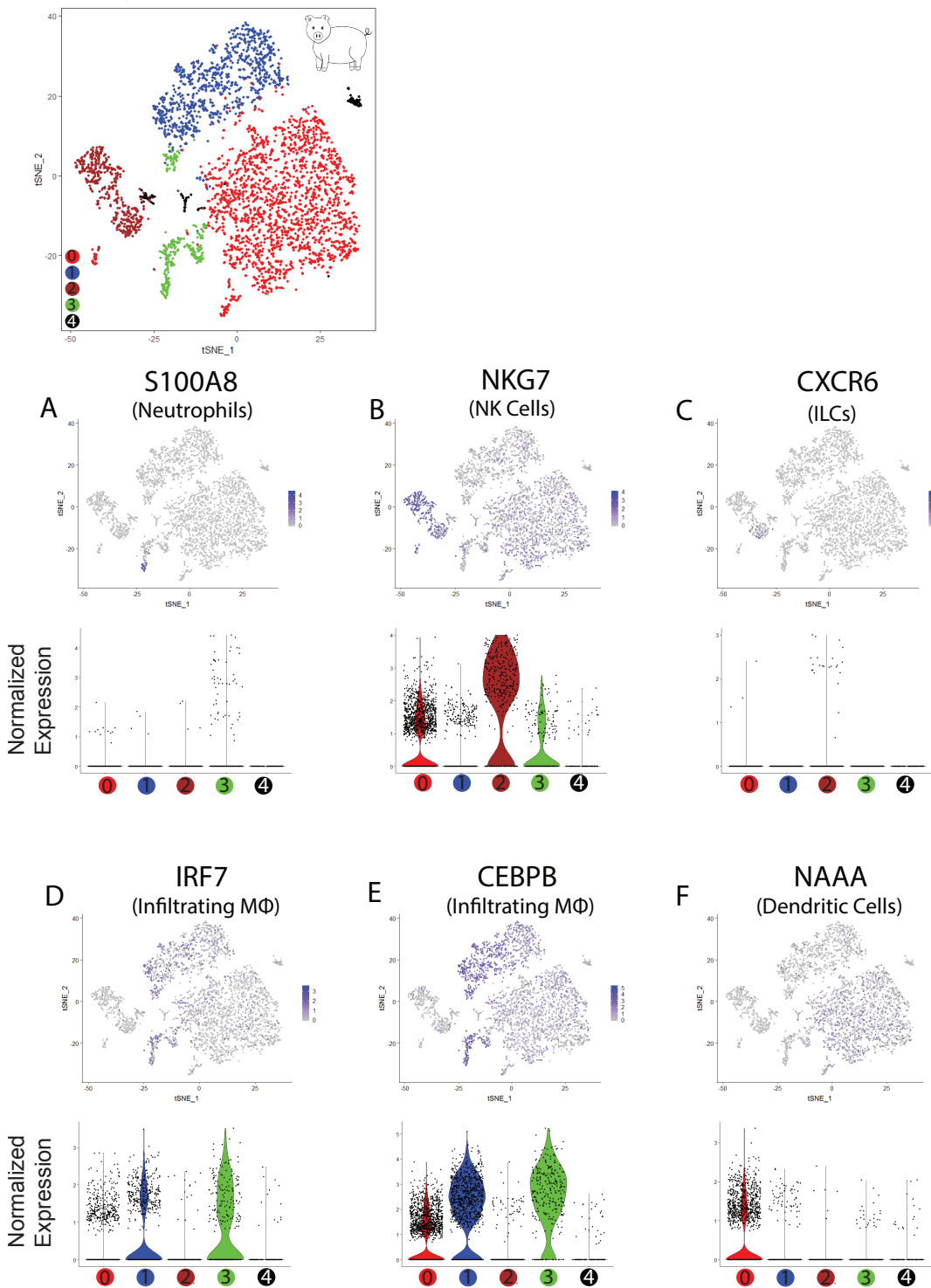


Figure S5

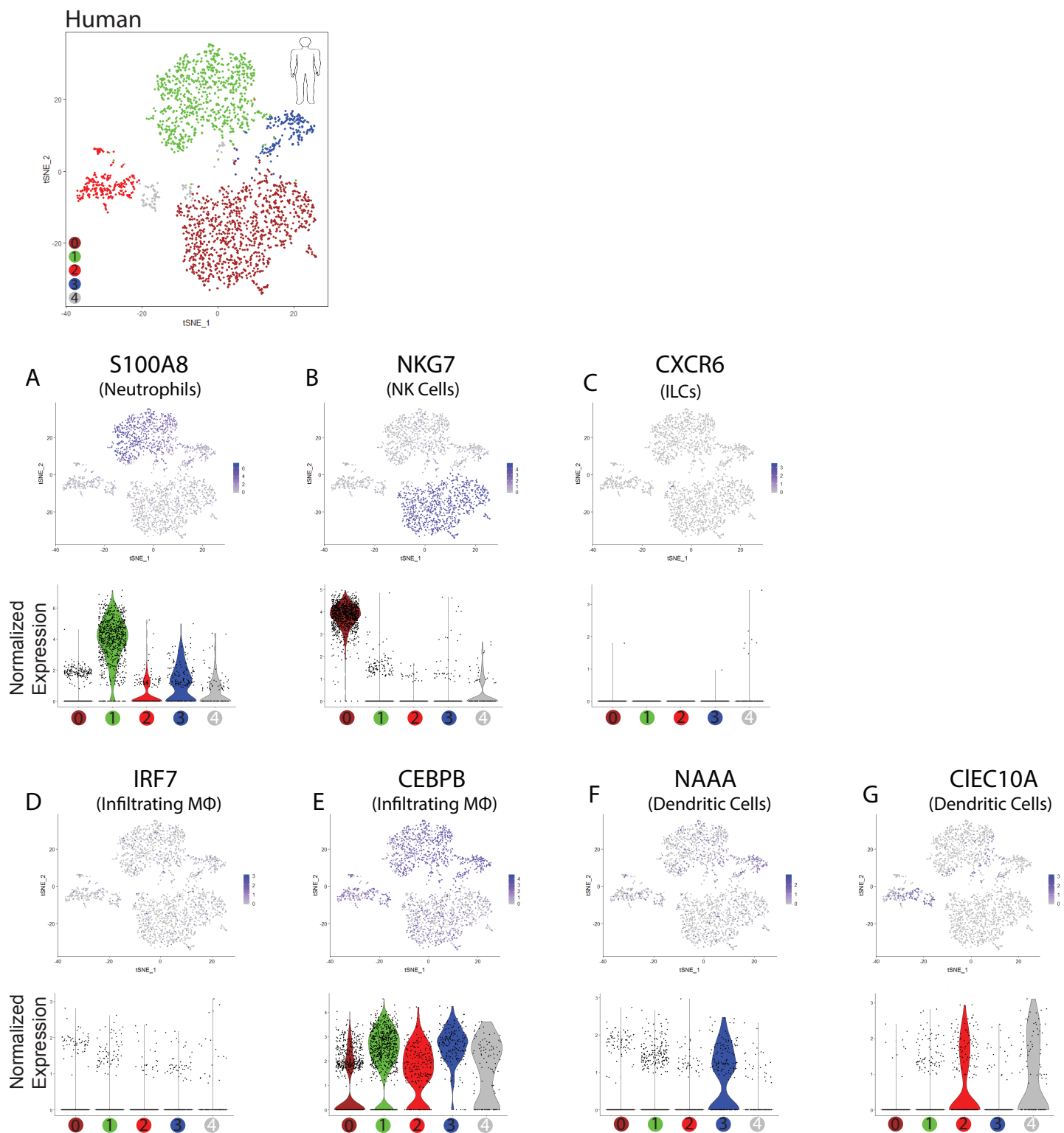


Figure S6

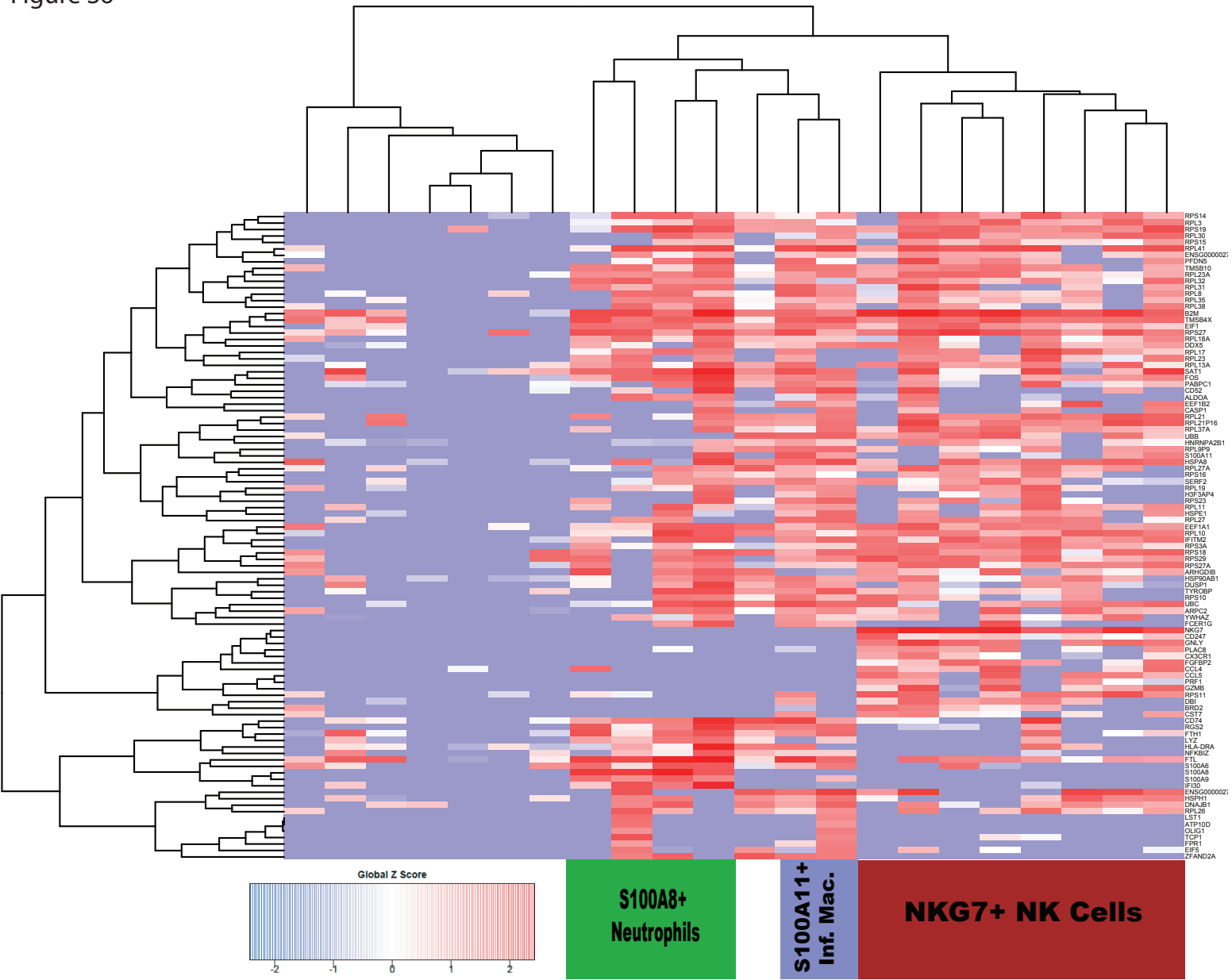


Figure S7

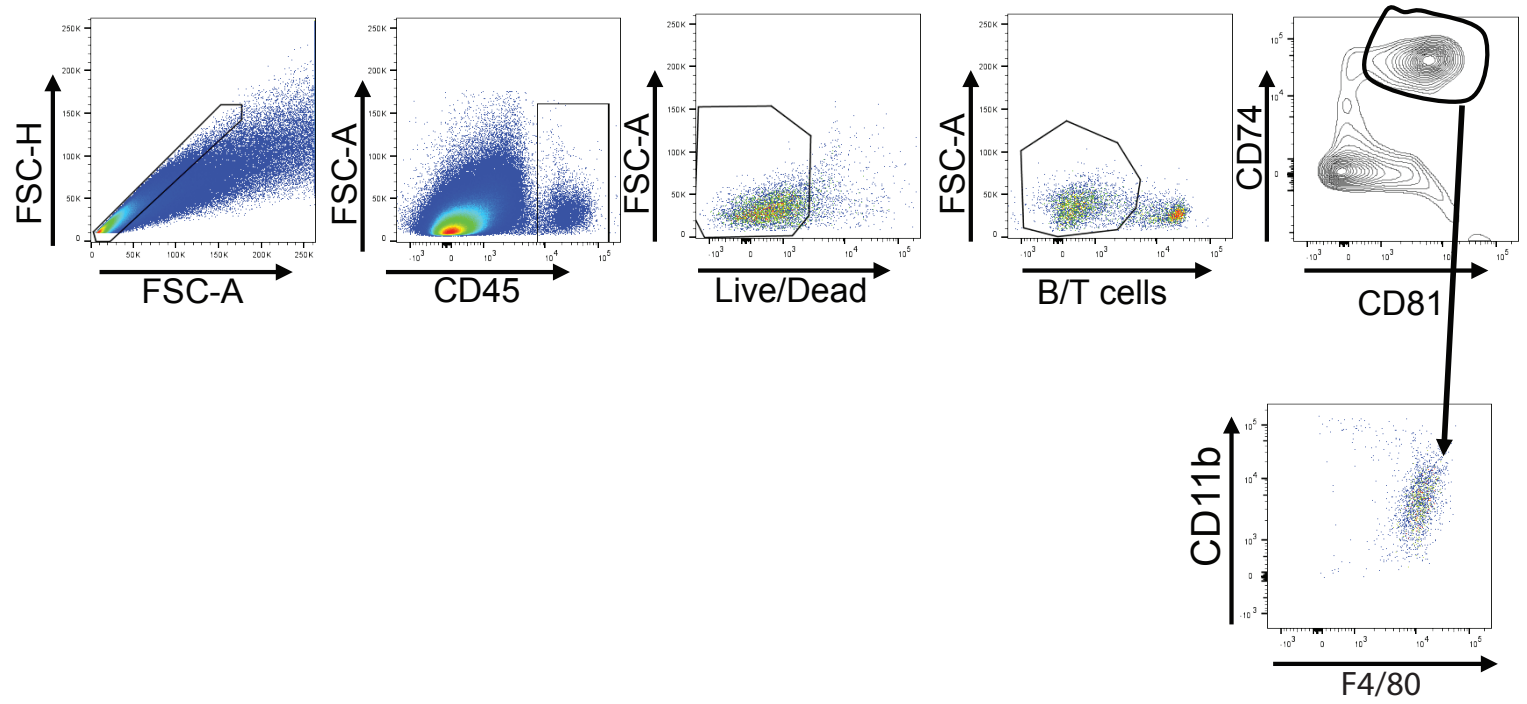


Figure S8

