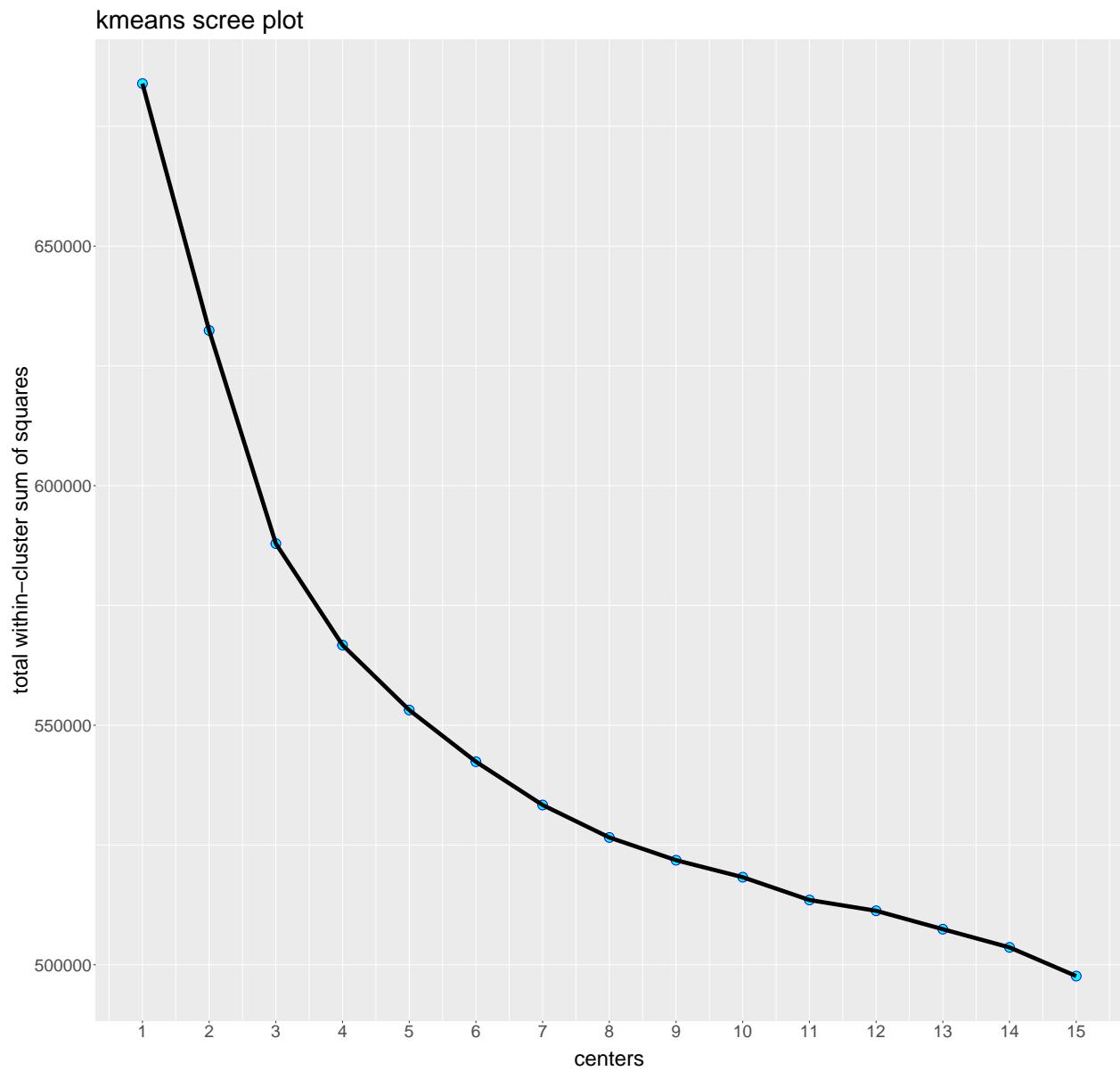
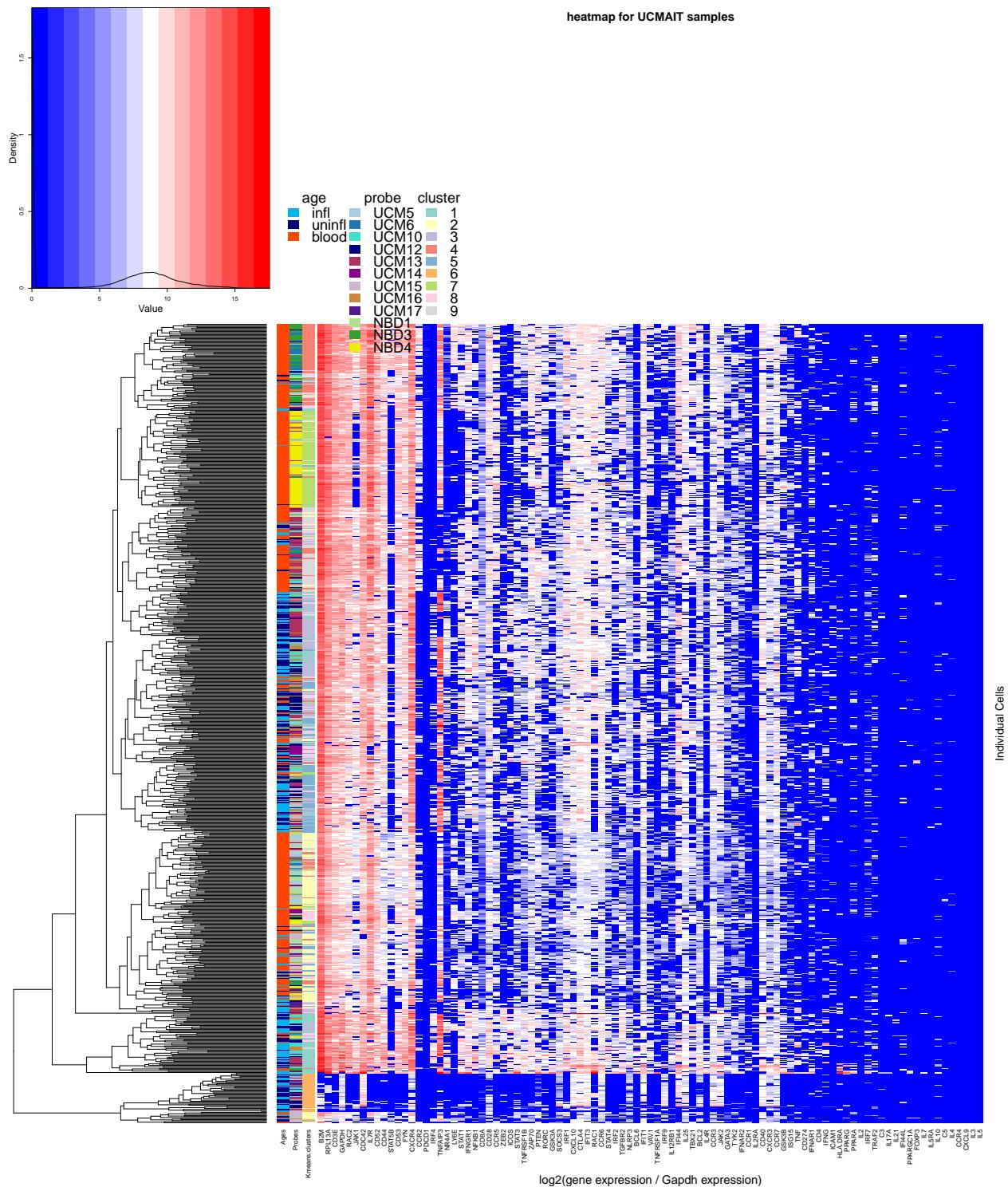


UC-MAIT analysis

No expression detected in 15/796 cells





[1]

[1]

[1] Probe vs. Cluster

probe_UCM5 probe_UCM6 probe_UCM10 probe_UCM12 probe_UCM13

cluster_1	0	0	33	12	7
cluster_2	26	2	2	2	0
cluster_3	0	0	18	26	35

cluster_4	4	43	0	5	0
cluster_5	2	0	7	15	3
cluster_6	0	0	10	10	6
cluster_7	0	0	0	1	0
cluster_8	3	3	7	17	3
cluster_9	0	0	12	2	40
	probe_UCM14	probe_UCM15	probe_UCM16	probe_UCM17	probe_NBD1
cluster_1	3	0	14	0	0
cluster_2	10	25	7	7	37
cluster_3	1	3	22	2	0
cluster_4	0	2	4	0	2
cluster_5	9	27	21	4	4
cluster_6	7	5	0	0	0
cluster_7	0	1	5	0	0
cluster_8	22	4	6	5	4
cluster_9	3	1	15	0	1
	probe_NBD3	probe_NBD4			
cluster_1	1	0			
cluster_2	0	10			
cluster_3	0	0			
cluster_4	37	0			
cluster_5	3	1			
cluster_6	0	0			
cluster_7	1	81			
cluster_8	6	1			
cluster_9	0	1			

Pearson's Chi-squared test with simulated p-value (based on 2000 replicates)

```
data: probeTable
X-squared = 1804.2, df = NA, p-value = 0.0004998
```

```
[1]
[1]
[1] Tissue vs. Cluster
      cellSource_blood cellSource_tissue
cluster_1           2            68
cluster_2          111           17
cluster_3           0           107
cluster_4          95            2
cluster_5          21            75
cluster_6           0            38
cluster_7          88            1
cluster_8          48            33
cluster_9          63            12
```

Pearson's Chi-squared test with simulated p-value (based on 2000 replicates)

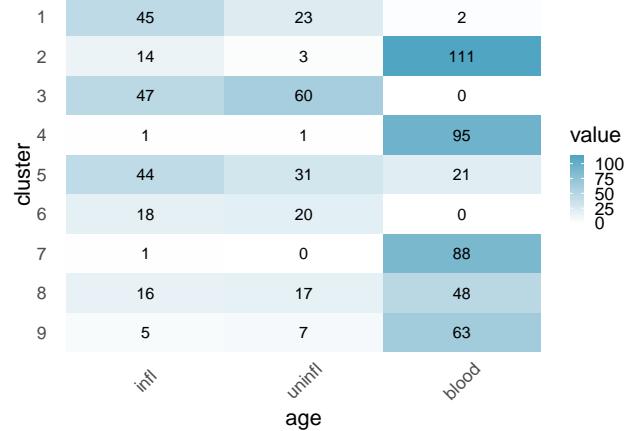
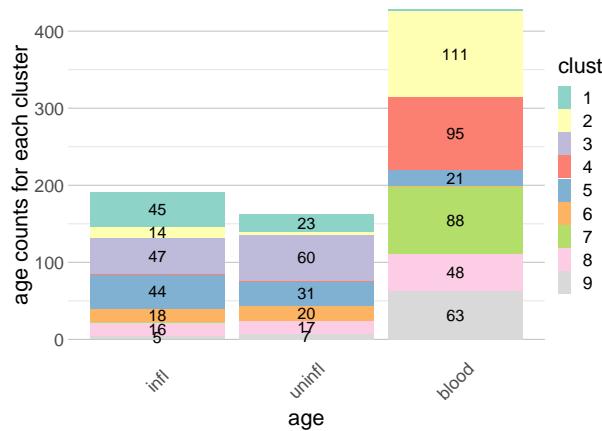
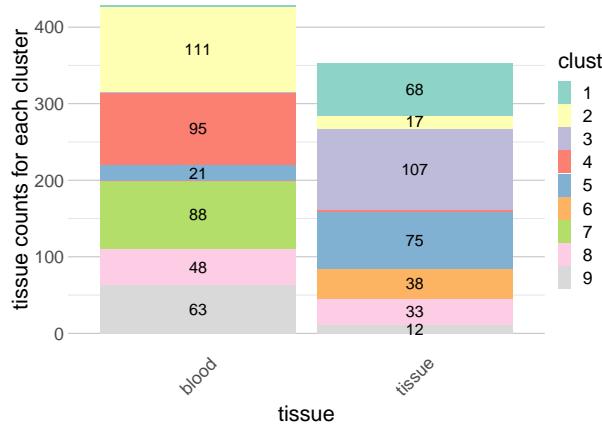
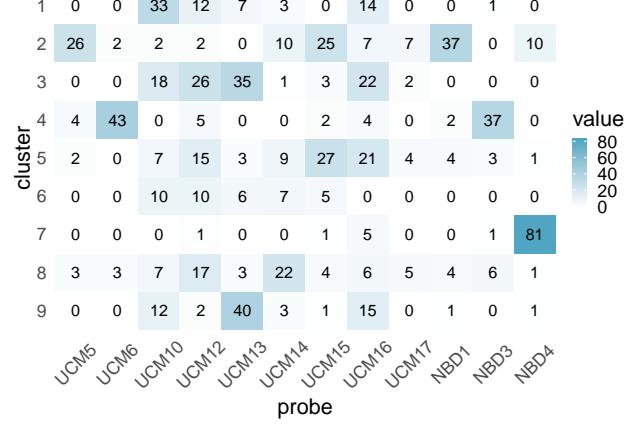
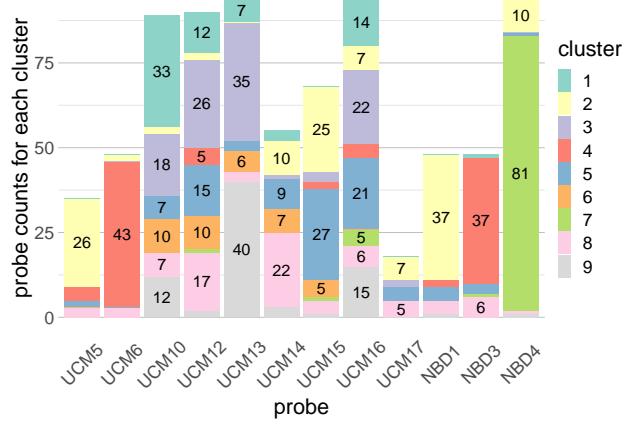
```
data: sourceTable
X-squared = 515.86, df = NA, p-value = 0.0004998
```

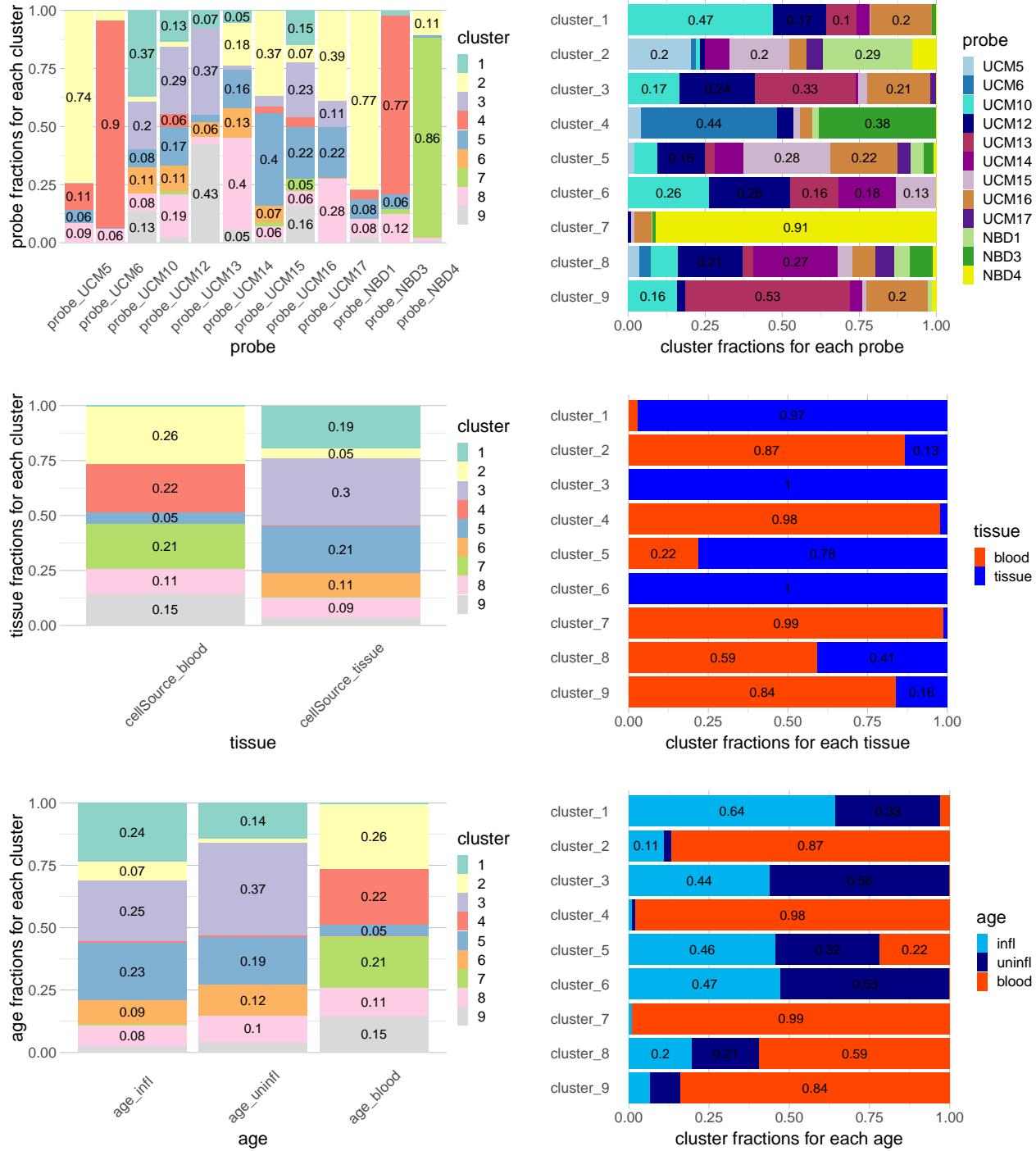
```
[1]
```

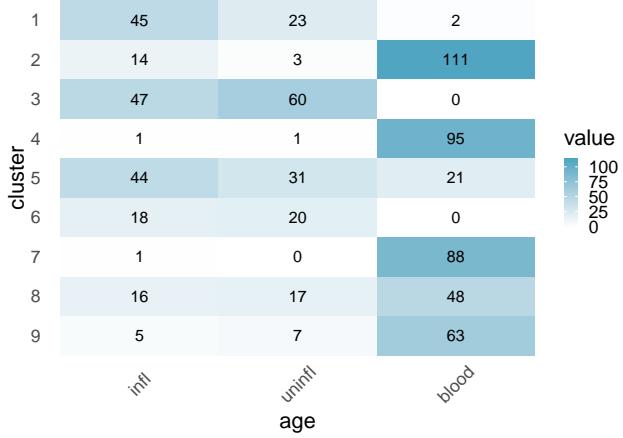
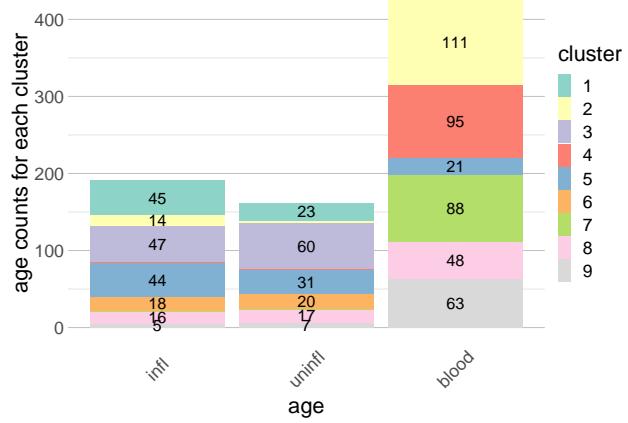
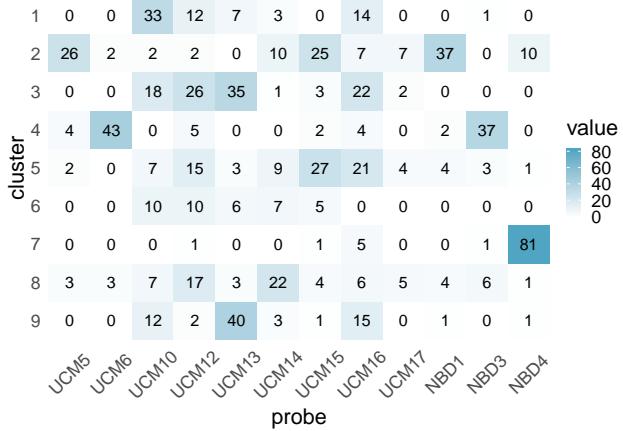
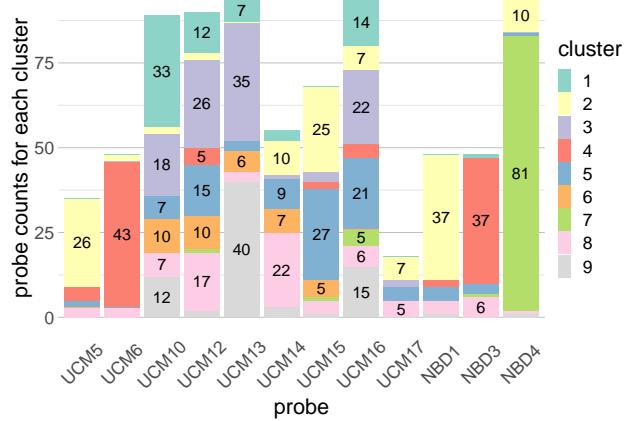
```
[1]
[1] age vs. Cluster
      age_infl age_uninfl age_blood
cluster_1     45        23        2
cluster_2     14         3       111
cluster_3     47        60        0
cluster_4      1         1       95
cluster_5     44        31       21
cluster_6     18        20        0
cluster_7      1         0       88
cluster_8     16        17       48
cluster_9      5          7       63

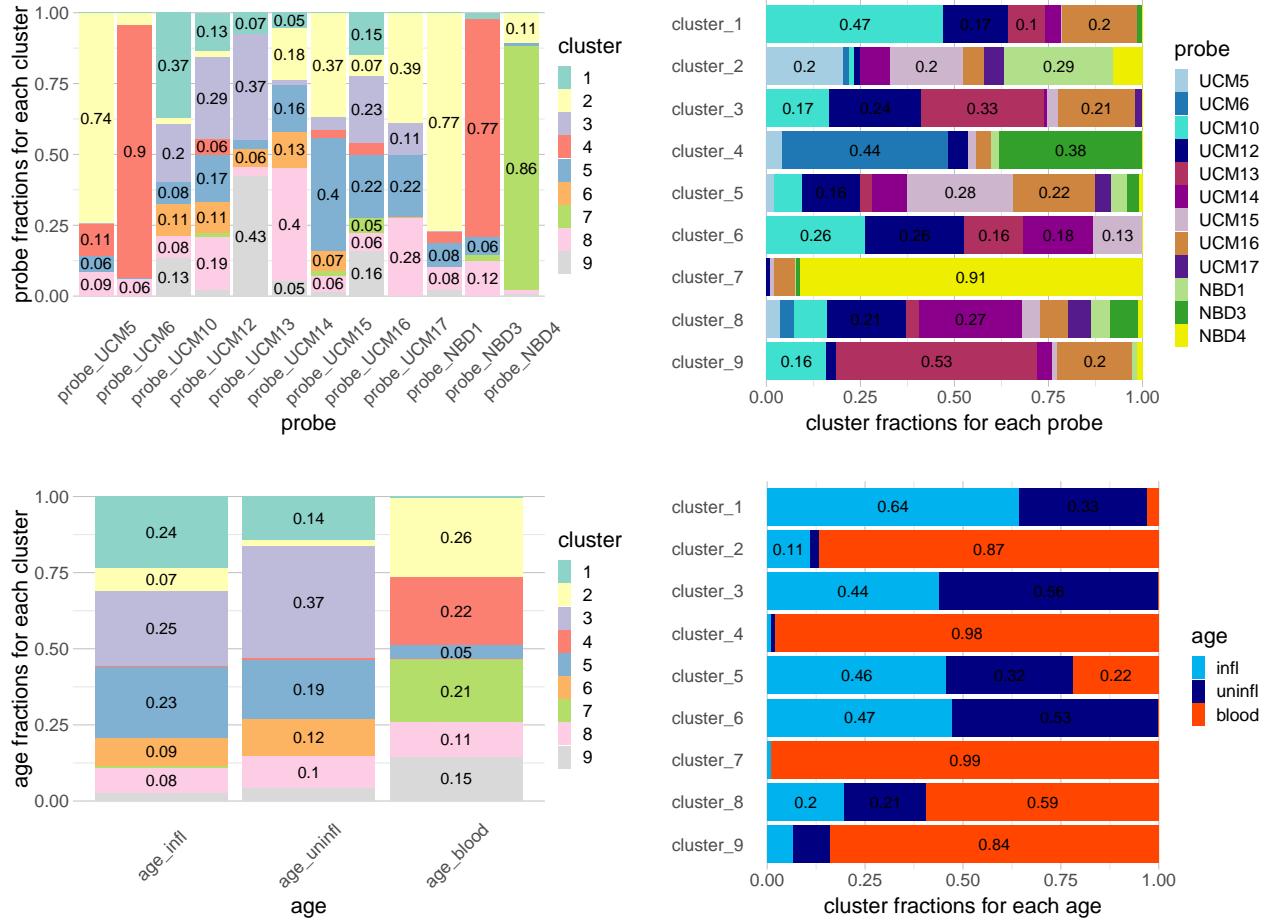
Pearson's Chi-squared test with simulated p-value (based on 2000
replicates)

data: ageTable
X-squared = 539.21, df = NA, p-value = 0.0004998
```

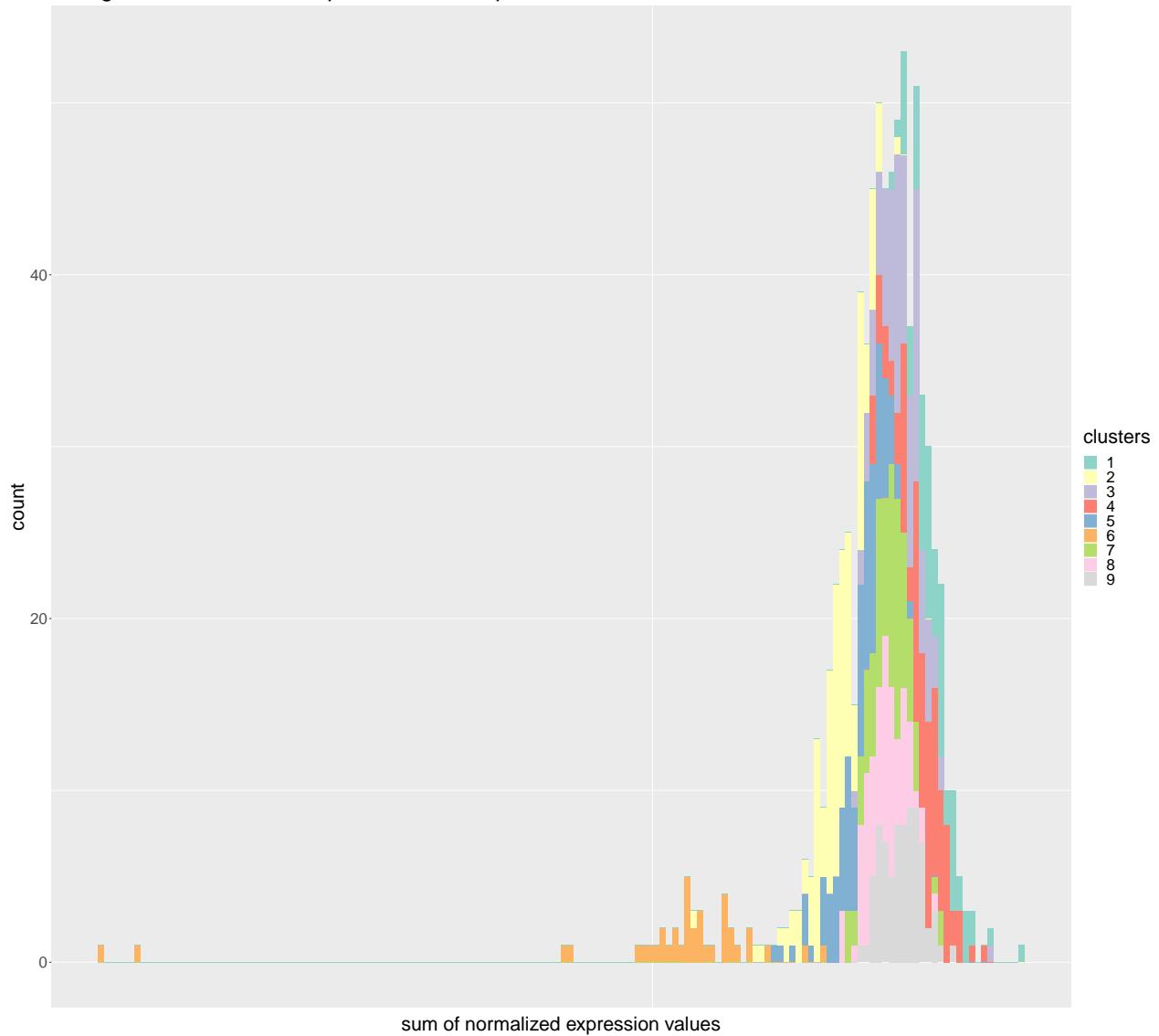






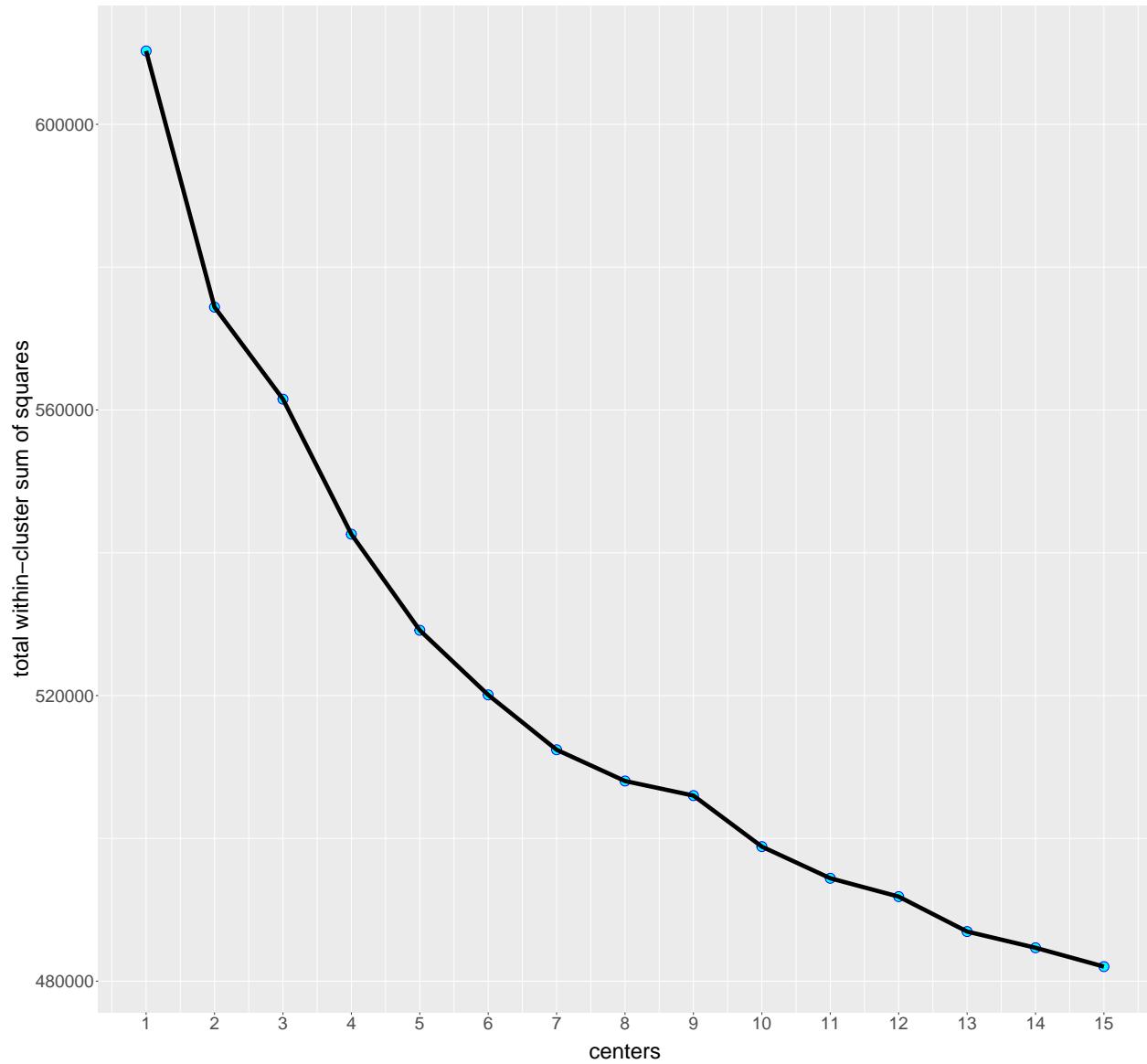


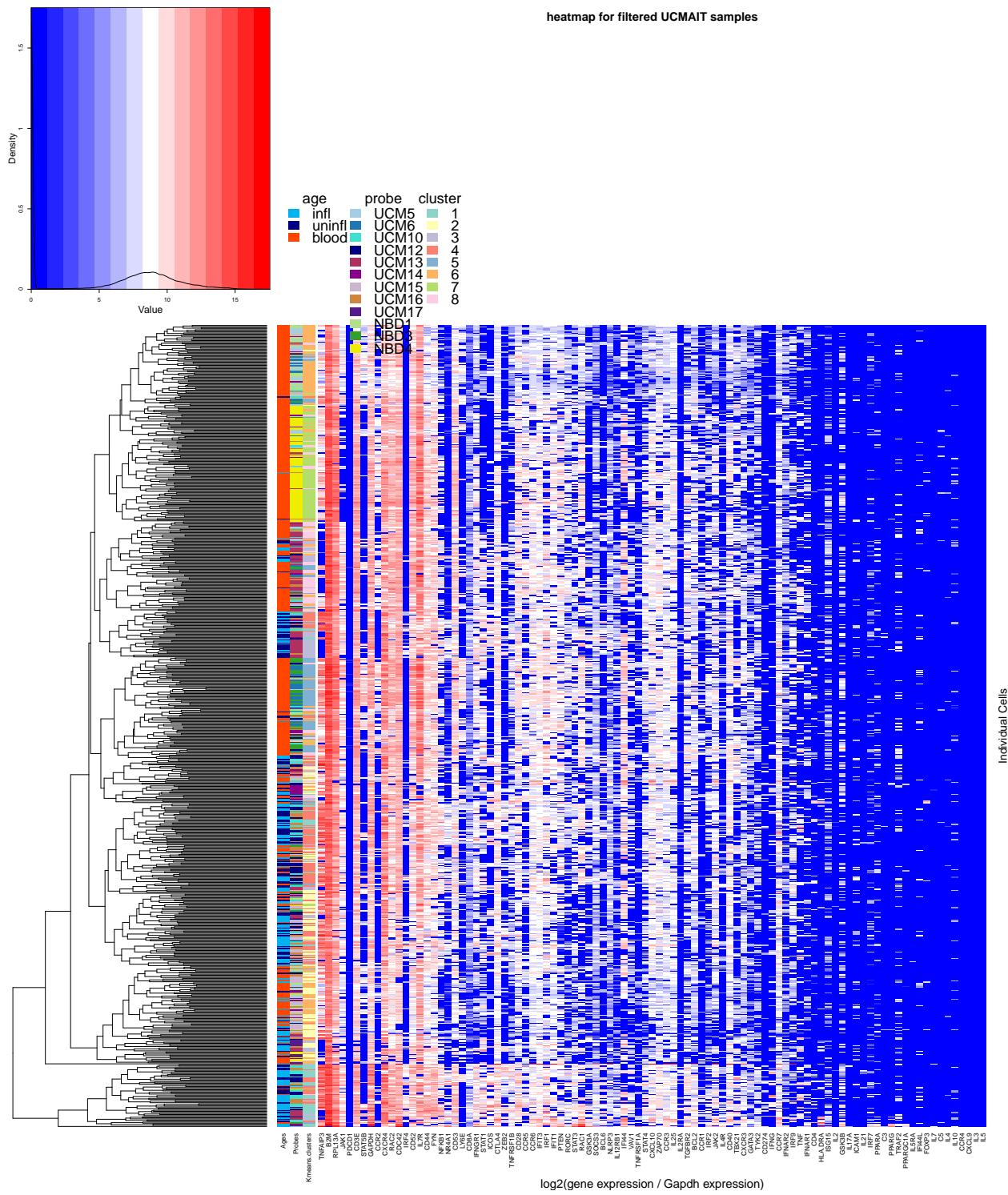
histogram of cumulative expression values per cell



38 / 781 cells were removed due to low gene expression (cluster ID of removed clusters: 6)

kmeans scree plot





[1]

[1]

[1] Probe vs. Cluster

	probe_UCM5	probe_UCM6	probe_UCM10	probe_UCM12	probe_UCM13
cluster_1	0	0	30	9	4
cluster_2	3	0	2	9	1
cluster_3	0	0	0	0	53

cluster_4	0	0	31	47	0
cluster_5	0	41	0	4	0
cluster_6	29	6	3	4	2
cluster_7	2	1	0	1	0
cluster_8	1	0	13	6	28
	probe_UCM14	probe_UCM15	probe_UCM16	probe_UCM17	probe_NBD1
cluster_1	5	0	8	0	0
cluster_2	13	34	21	6	5
cluster_3	1	0	1	6	0
cluster_4	2	3	37	2	0
cluster_5	0	0	3	0	0
cluster_6	16	22	3	4	41
cluster_7	0	2	4	0	0
cluster_8	11	2	17	0	2
	probe_NBD3	probe_NBD4			
cluster_1	0	0			
cluster_2	2	2			
cluster_3	0	0			
cluster_4	1	0			
cluster_5	42	0			
cluster_6	1	7			
cluster_7	2	84			
cluster_8	0	1			

Pearson's Chi-squared test with simulated p-value (based on 2000 replicates)

```
data: probeTable
X-squared = 2156.3, df = NA, p-value = 0.0004998
```

```
[1]
[1]
[1] Tissue vs. Cluster
      cellSource_blood cellSource_tissue
cluster_1          0            56
cluster_2         29            69
cluster_3          1            60
cluster_4          2           121
cluster_5         89            1
cluster_6        134            4
cluster_7         95            1
cluster_8         78            3
```

Pearson's Chi-squared test with simulated p-value (based on 2000 replicates)

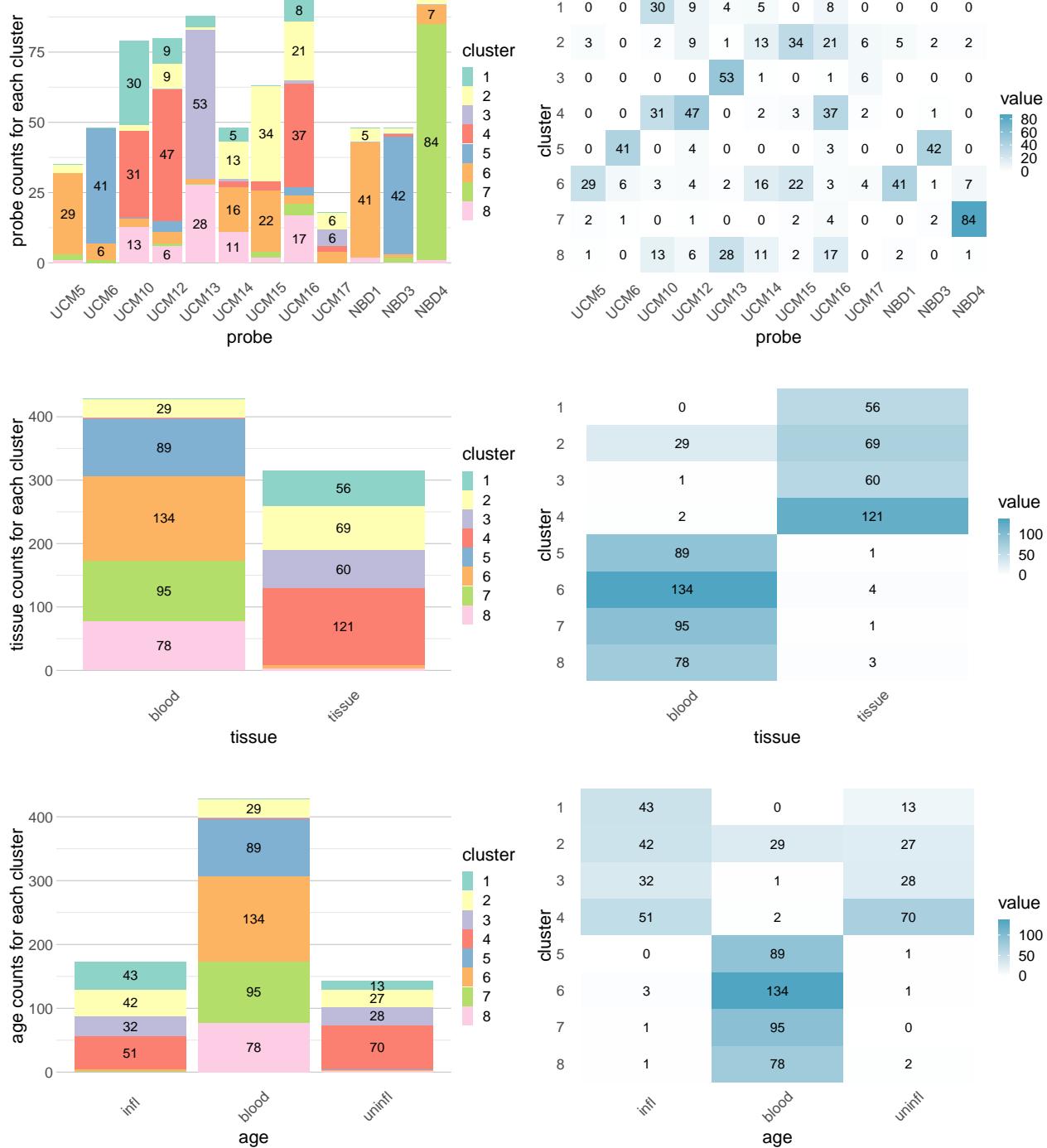
```
data: sourceTable
X-squared = 611.47, df = NA, p-value = 0.0004998
```

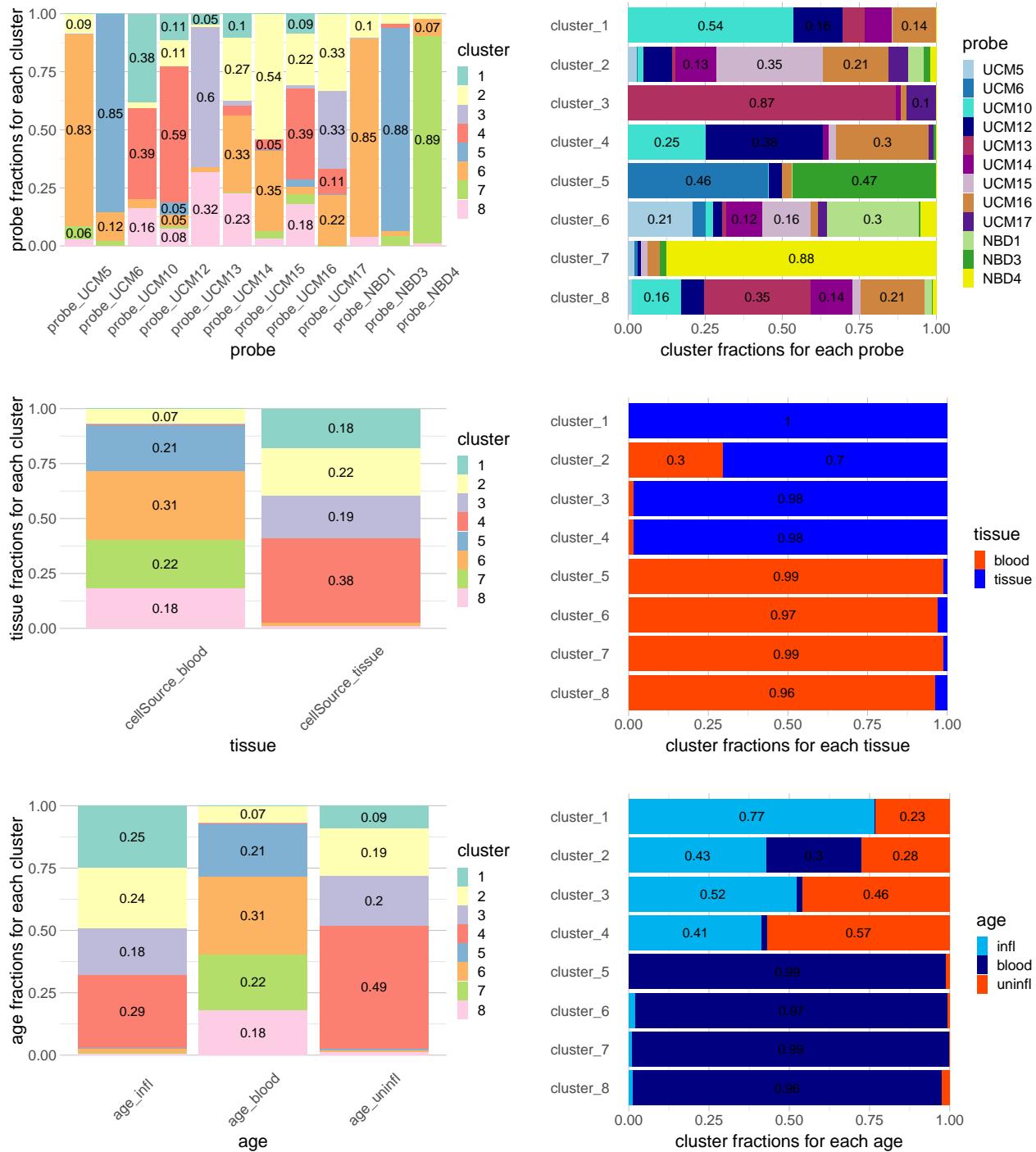
```
[1]
[1]
[1] age vs. Cluster
      age_infl age_blood age_uninfl
cluster_1       43        0        13
```

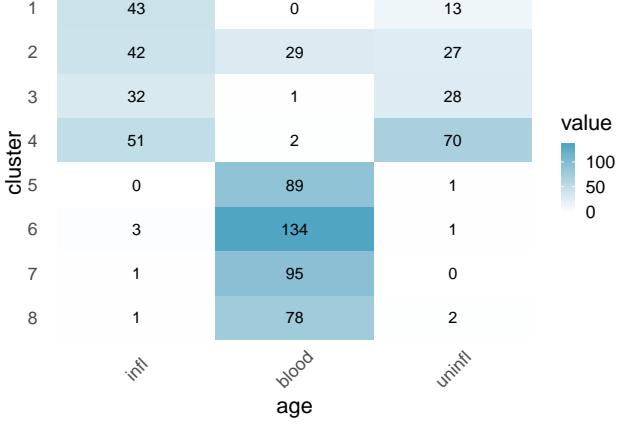
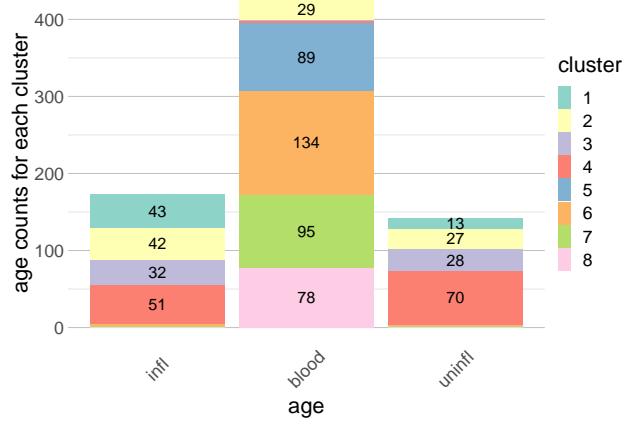
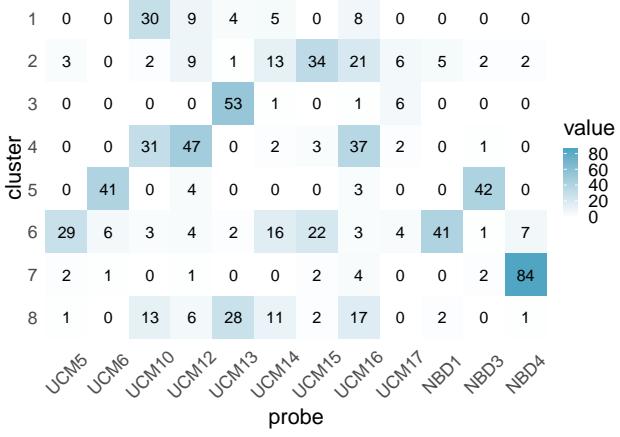
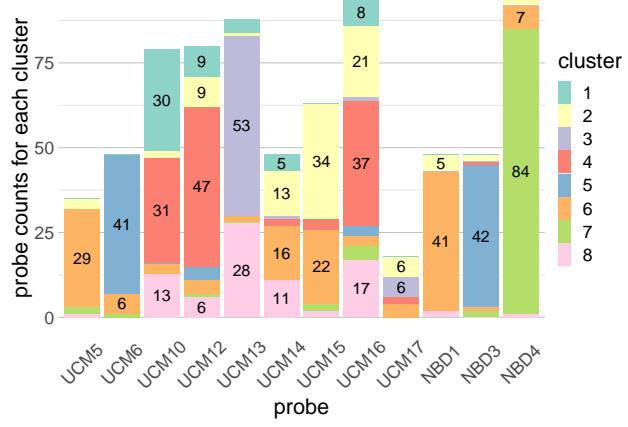
cluster_2	42	29	27
cluster_3	32	1	28
cluster_4	51	2	70
cluster_5	0	89	1
cluster_6	3	134	1
cluster_7	1	95	0
cluster_8	1	78	2

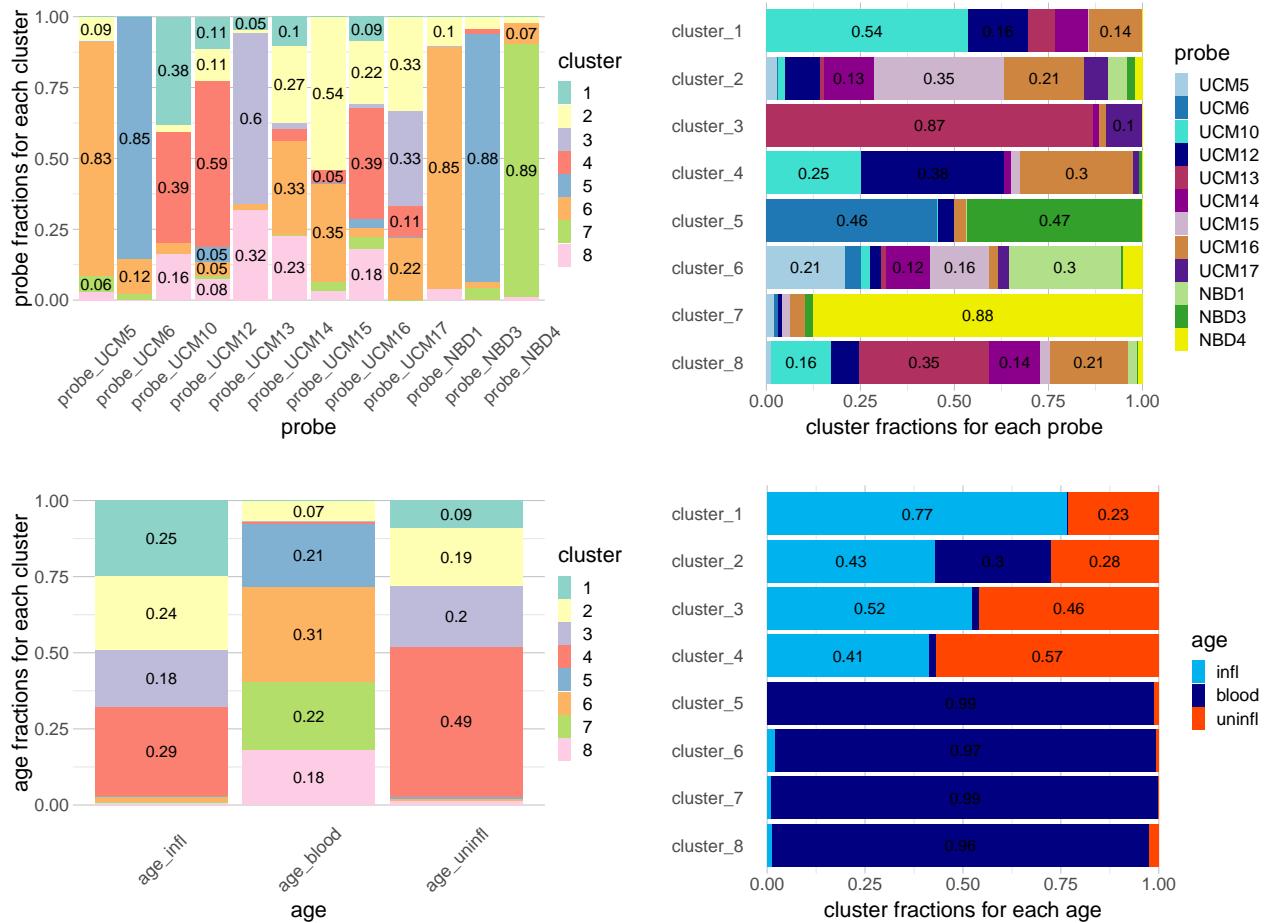
Pearson's Chi-squared test with simulated p-value (based on 2000 replicates)

```
data: ageTable  
X-squared = 657.41, df = NA, p-value = 0.0004998
```

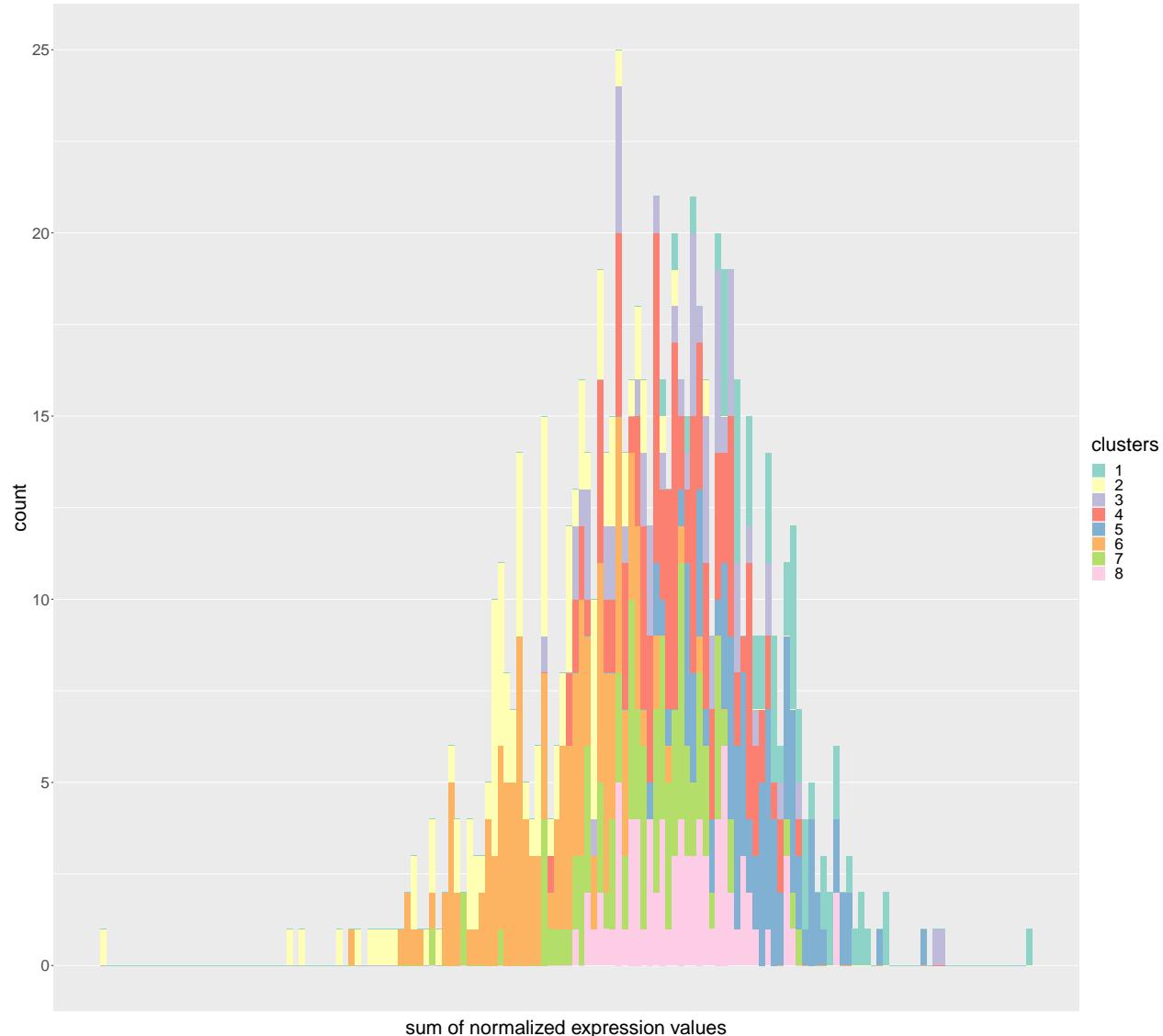




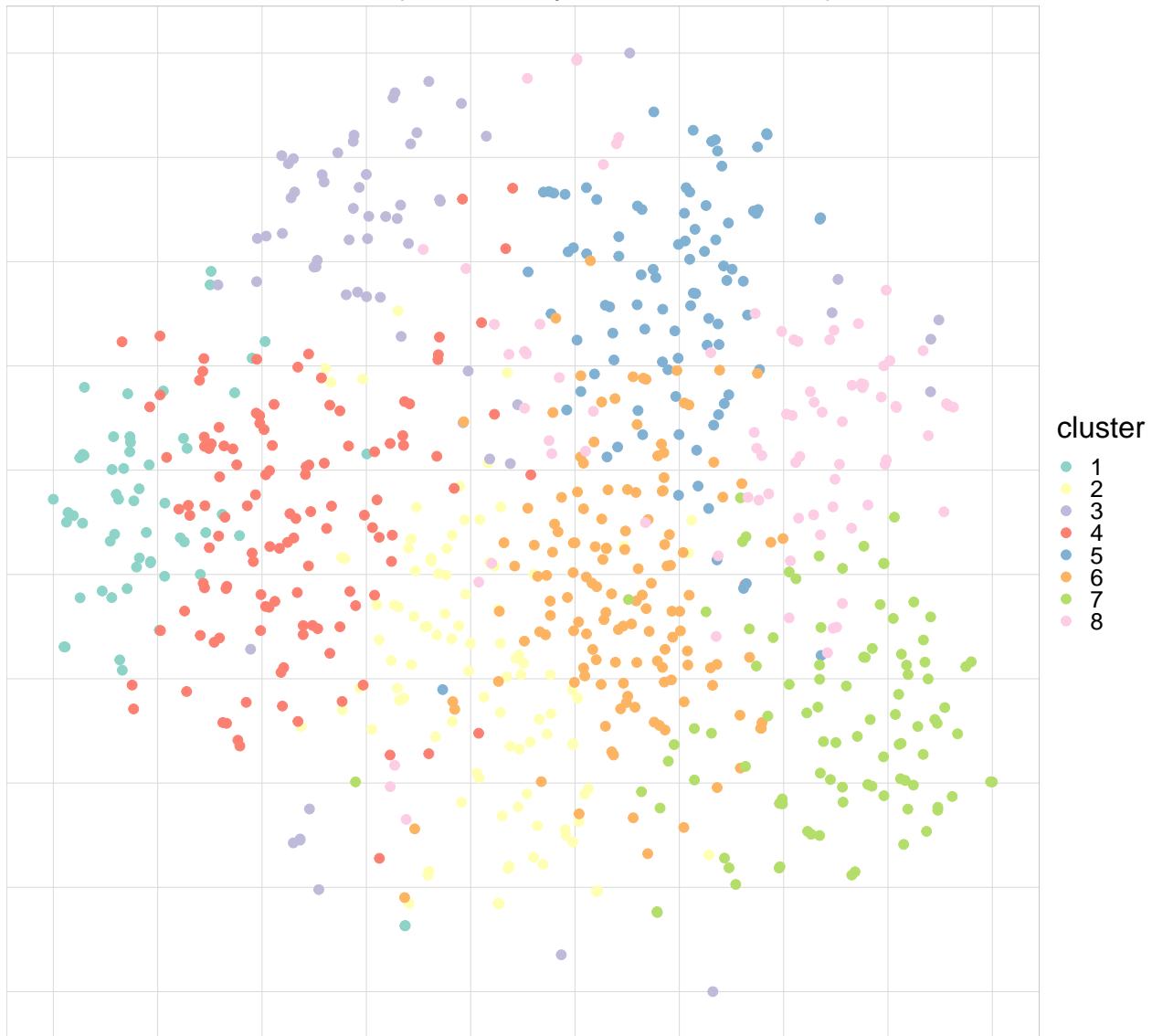




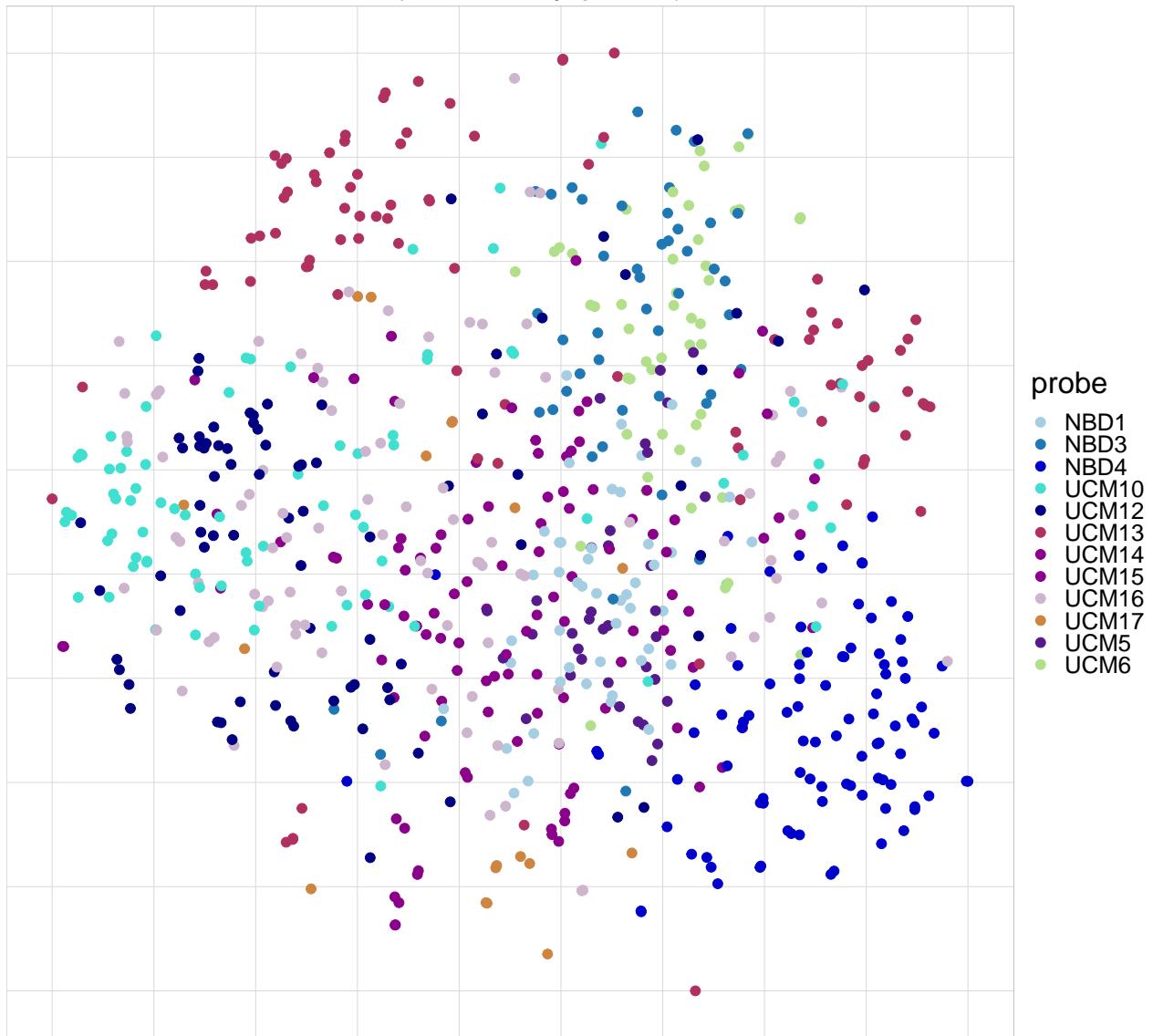
histogram of cumulative expression values per cell



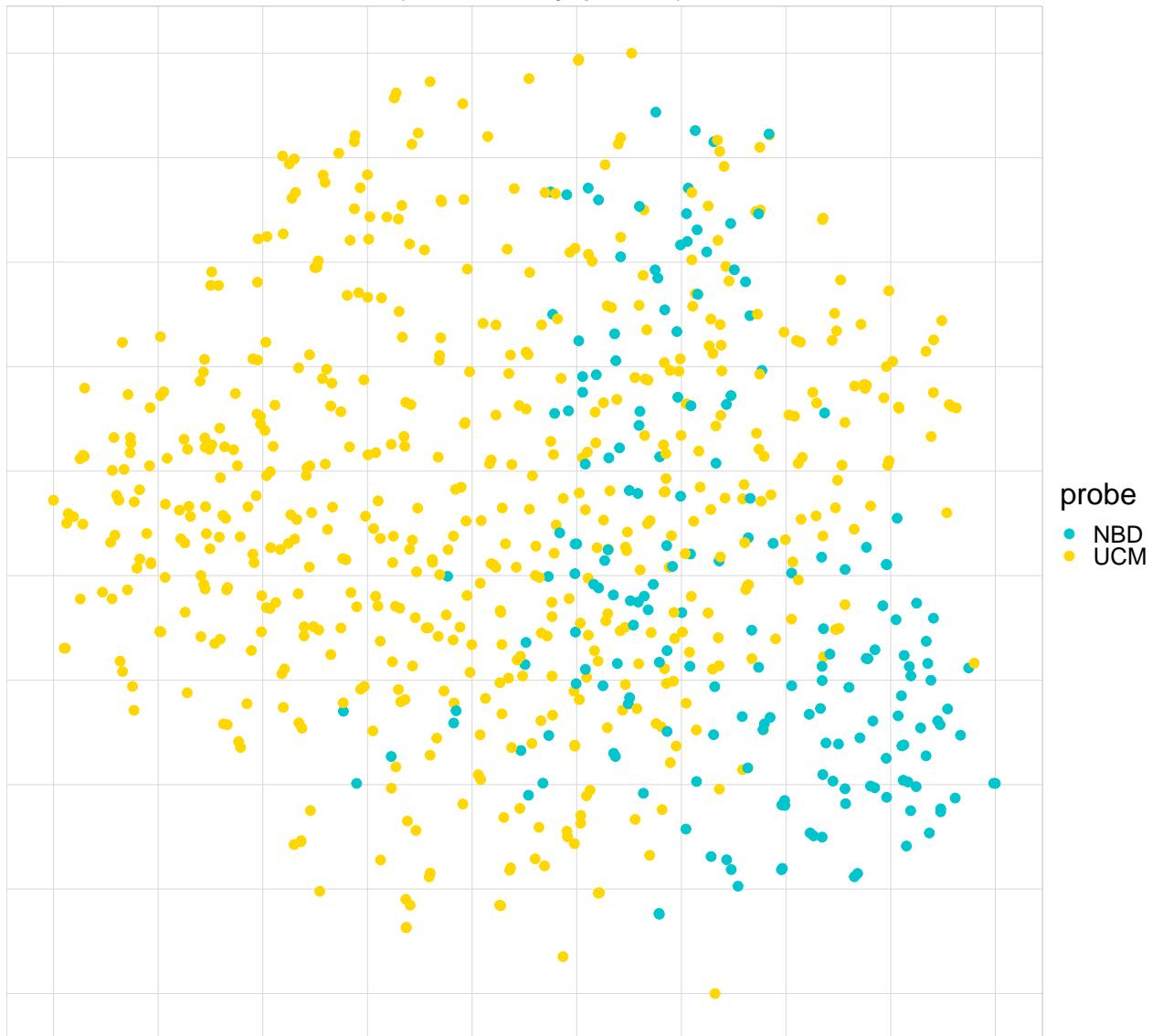
t-SNE between tissues (colored by kmeans.cluster)



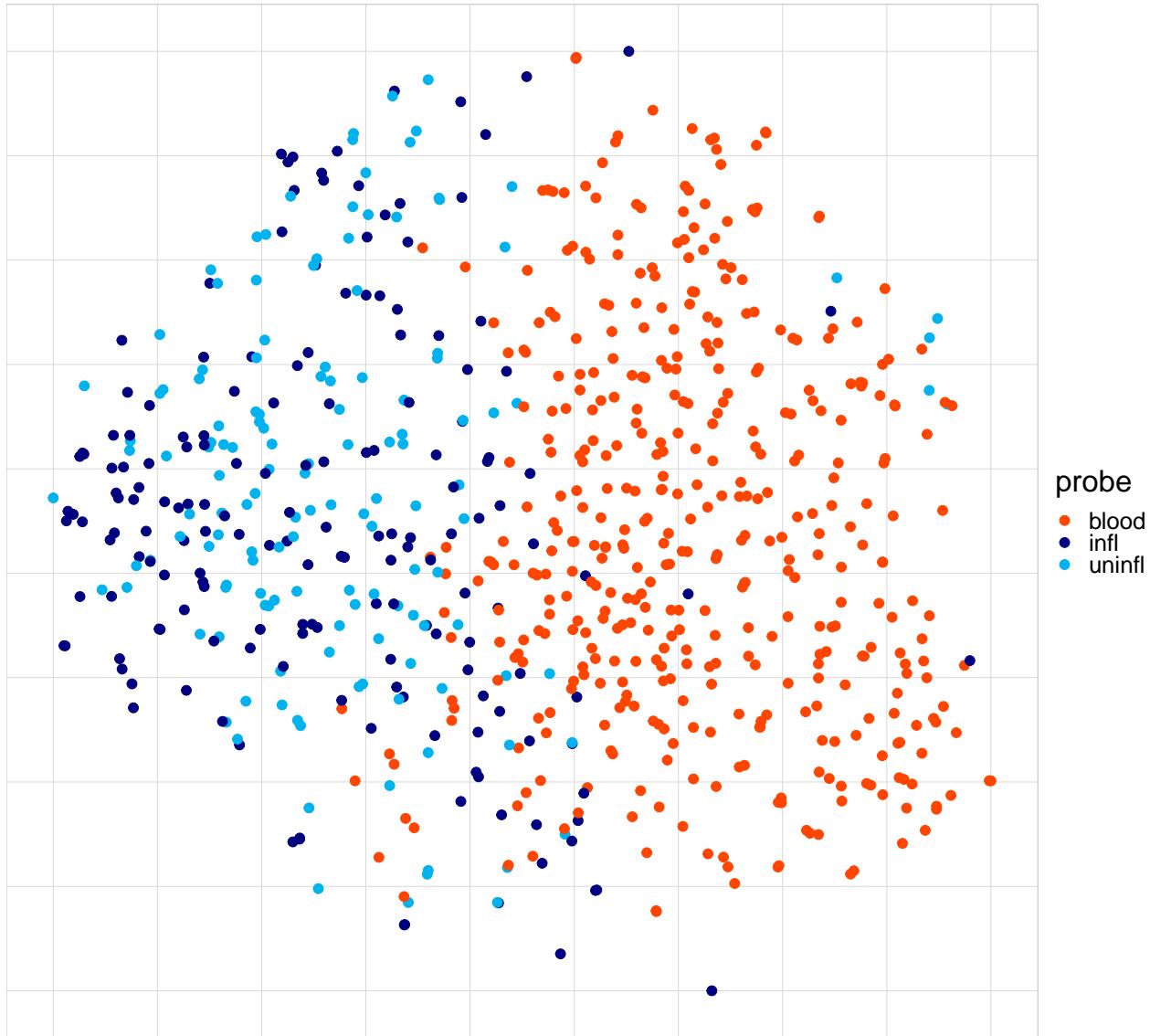
t-SNE between tissues (colored by probe)



t-SNE between tissues (colored by probe)



t-SNE between tissues (colored by probe)



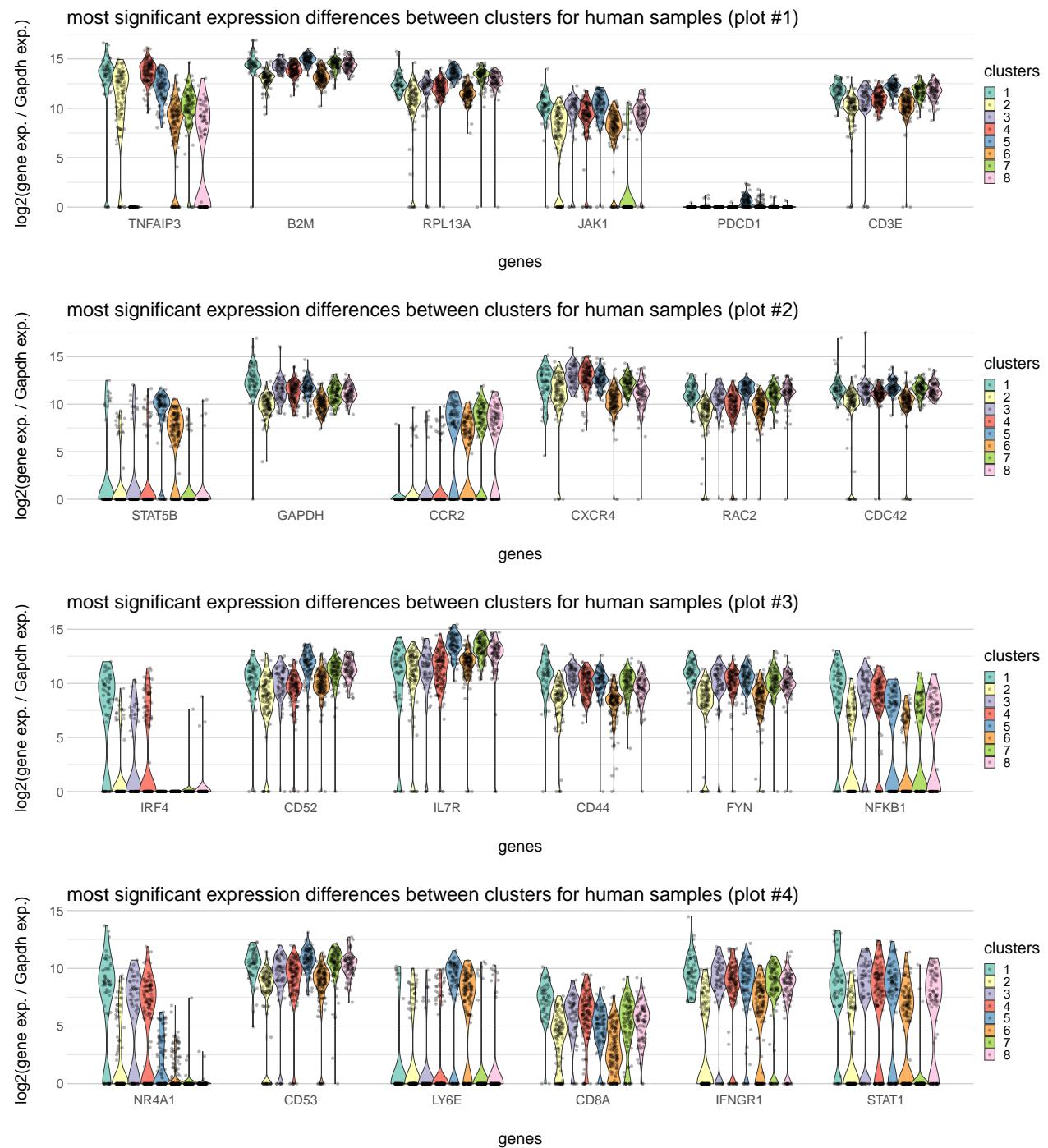
[1] Differentially expressed genes between clusters for human samples:

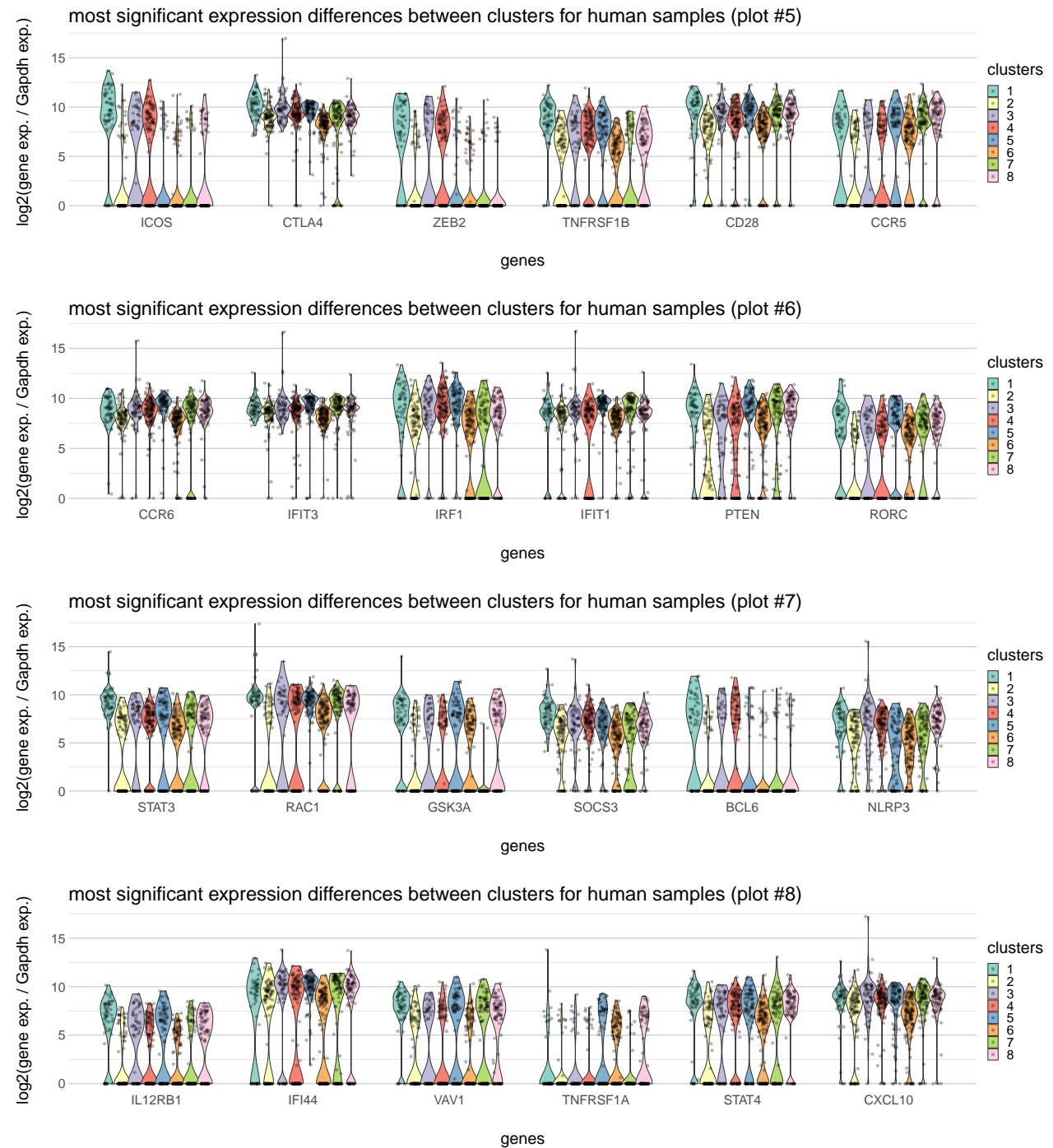
```

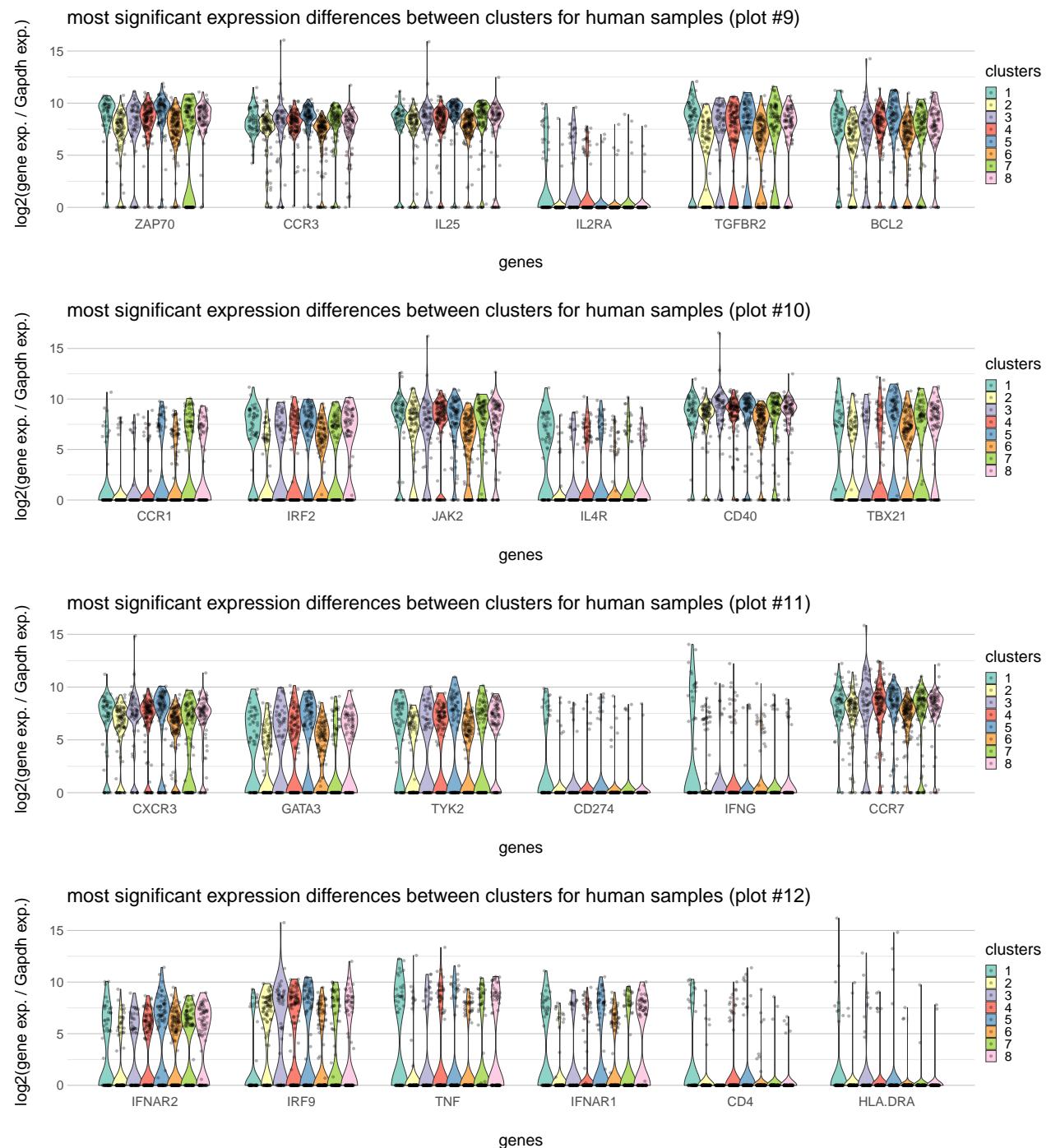
[1] TNFAIP3: 9.519e-98   B2M: 1.735e-79      RPL13A: 4.143e-77
[4] JAK1: 2.286e-63     PDCD1: 2.152e-62    CD3E: 2.56e-62
[7] STAT5B: 1.611e-60    GAPDH: 4.439e-60    CCR2: 1.257e-59
[10] CXCR4: 5.913e-58    RAC2: 4.761e-57    CDC42: 4.117e-55
[13] IRF4: 1.44e-52      CD52: 4.512e-52    IL7R: 1.582e-51
[16] CD44: 1.91e-51      FYN: 9.286e-51     NFKB1: 9.829e-51
[19] NR4A1: 1.176e-50    CD53: 6.319e-49     LY6E: 5.778e-46
[22] CD8A: 9.494e-41     IFNGR1: 2.361e-40   STAT1: 4.549e-40
[25] ICOS: 1.282e-38     CTLA4: 8.671e-36   ZEB2: 2.19e-33
[28] TNFRSF1B: 4.343e-31  CD28: 1.328e-30   CCR5: 7.239e-30
[31] CCR6: 9.012e-30     IFIT3: 5.552e-29   IRF1: 2.477e-28
[34] IFIT1: 5.391e-28     PTEN: 3.747e-26   RORC: 4.644e-26
[37] STAT3: 4.848e-26     RAC1: 5.419e-26   GSK3A: 6.211e-26
[40] SOCS3: 1.265e-23    BCL6: 3.437e-22   NLRP3: 8.486e-21
[43] IL12RB1: 1.86e-20   IFI44: 3.055e-20  VAV1: 8.874e-20

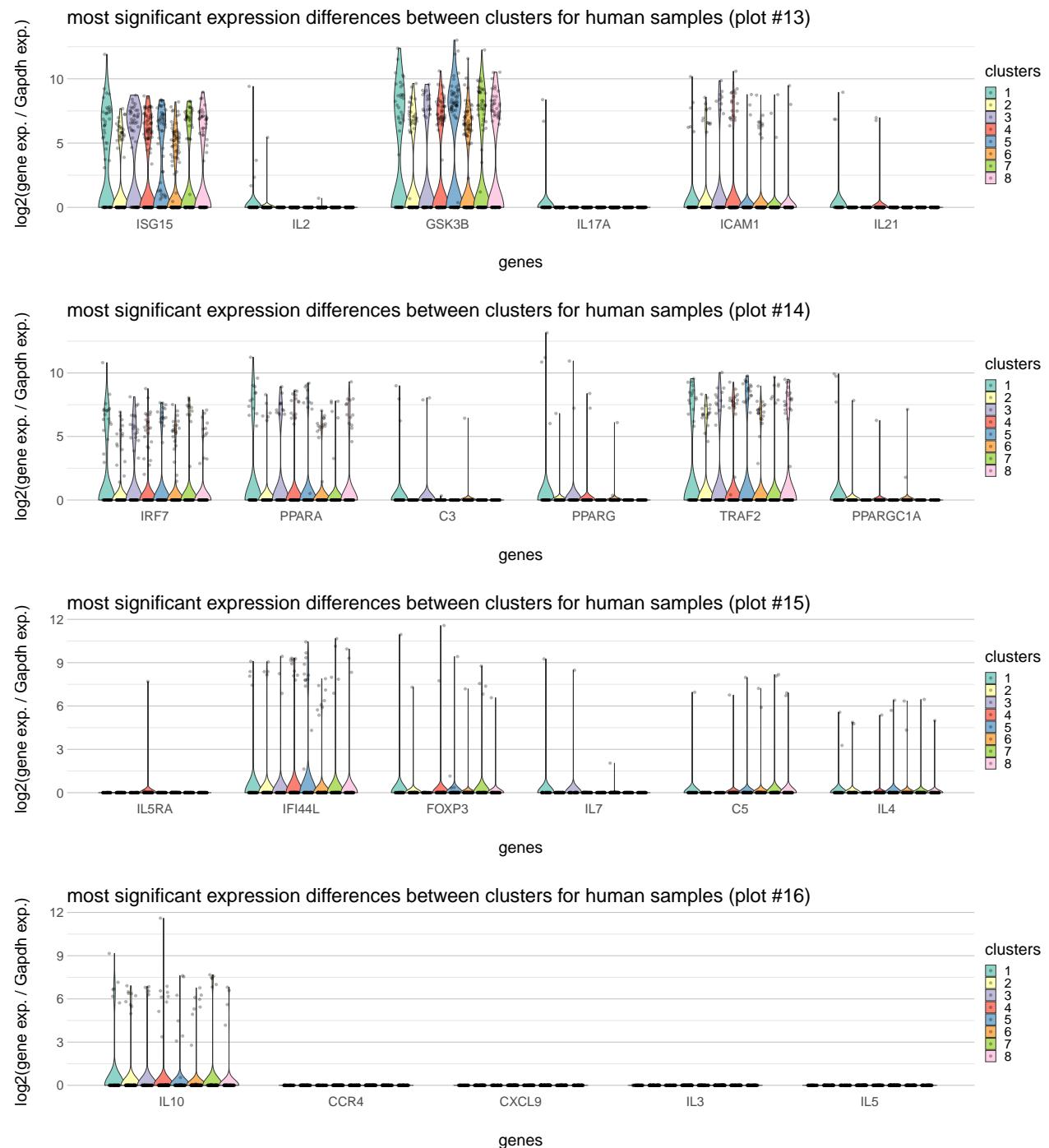
```

[46]	TNFRSF1A:	1.502e-19	STAT4:	1.716e-19	CXCL10:	2.97e-19
[49]	ZAP70:	4.615e-19	CCR3:	6.481e-18	IL25:	8.313e-18
[52]	IL2RA:	7.168e-16	TGFBR2:	1.828e-15	BCL2:	2.741e-14
[55]	CCR1:	4.177e-14	IRF2:	8.135e-14	JAK2:	7.056e-13
[58]	IL4R:	1.27e-12	CD40:	2.149e-11	TBX21:	1.008e-10
[61]	CXCR3:	1.103e-10	GATA3:	1.75e-09	TYK2:	2.392e-08
[64]	CD274:	4.143e-08	IFNG:	8.31e-08	CCR7:	1.695e-07
[67]	IFNAR2:	2.56e-07	IRF9:	5.872e-07	TNF:	2.353e-06
[70]	IFNAR1:	2.418e-06	CD4:	5.47e-06	HLA.DRA:	2.324e-05
[73]	ISG15:	4.491e-05	IL2:	5.436e-05	GSK3B:	0.0005063
[76]	IL17A:	0.001083	ICAM1:	0.001331	IL21:	0.001399
[79]	IRF7:	0.008084	PPARA:	0.008367	C3:	0.009616
[82]	PPARG:	0.01341	TRAF2:	0.02041	PPARGC1A:	0.03476









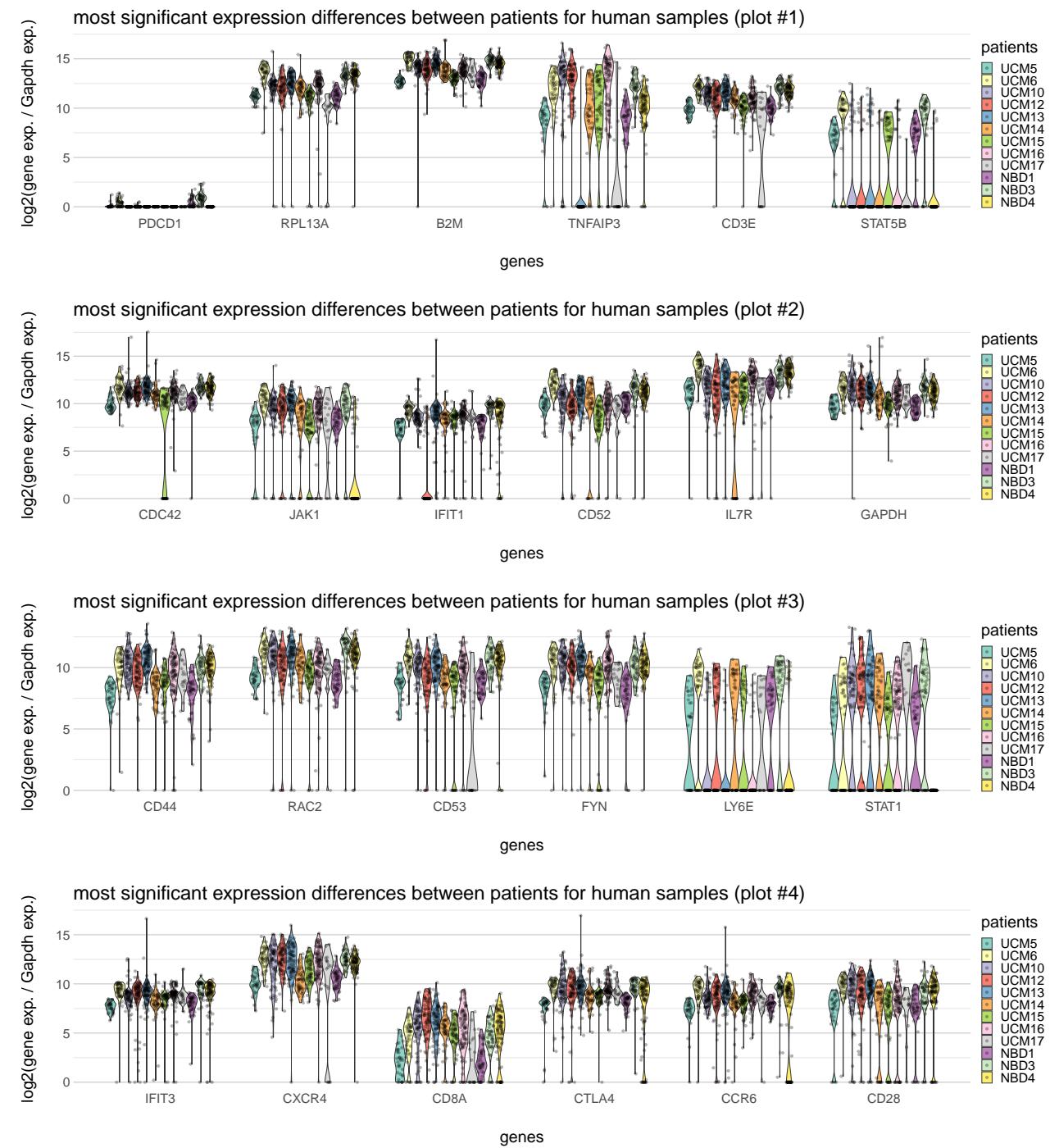
[1] Differentially expressed genes between patients for human samples:

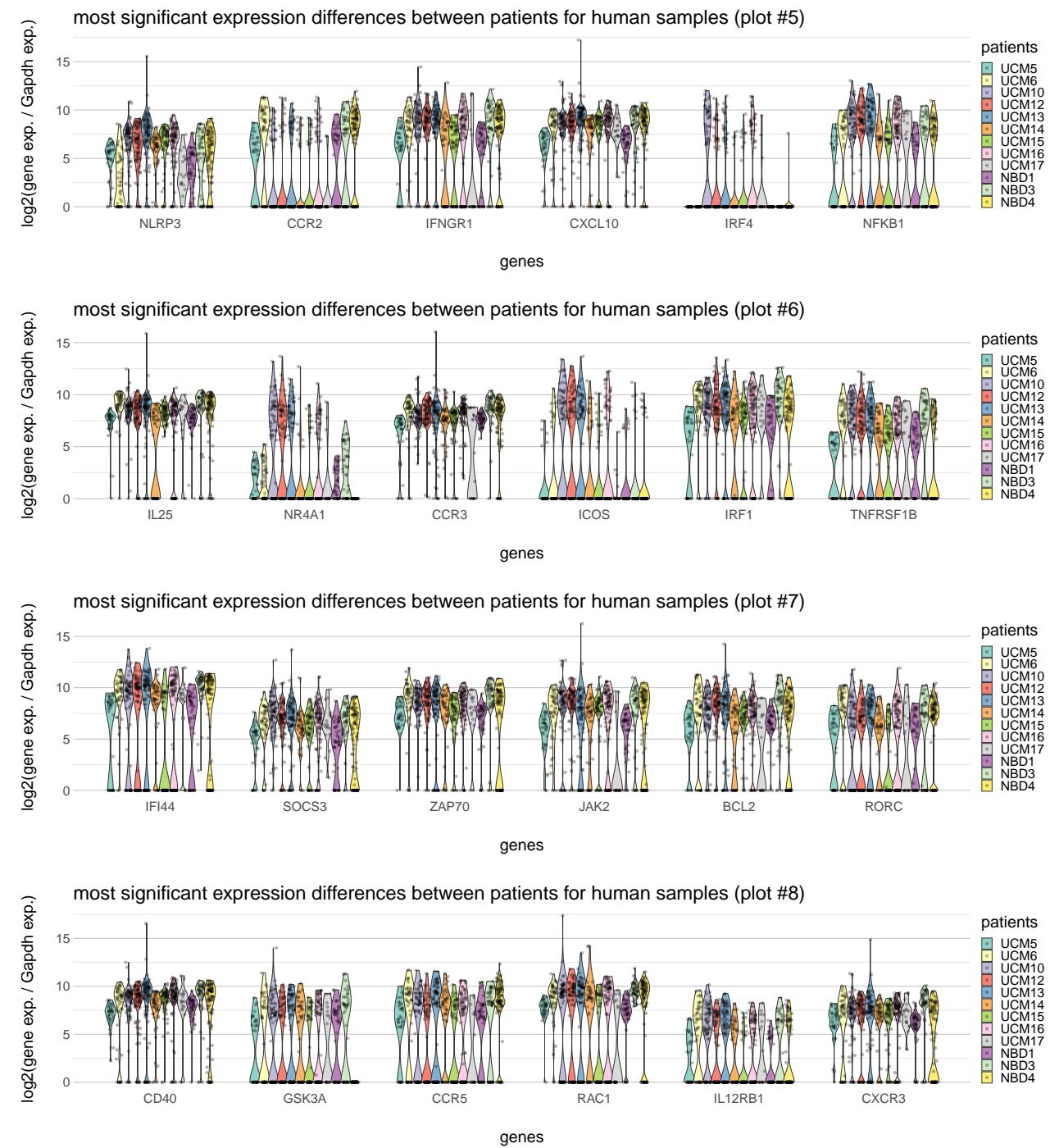
```

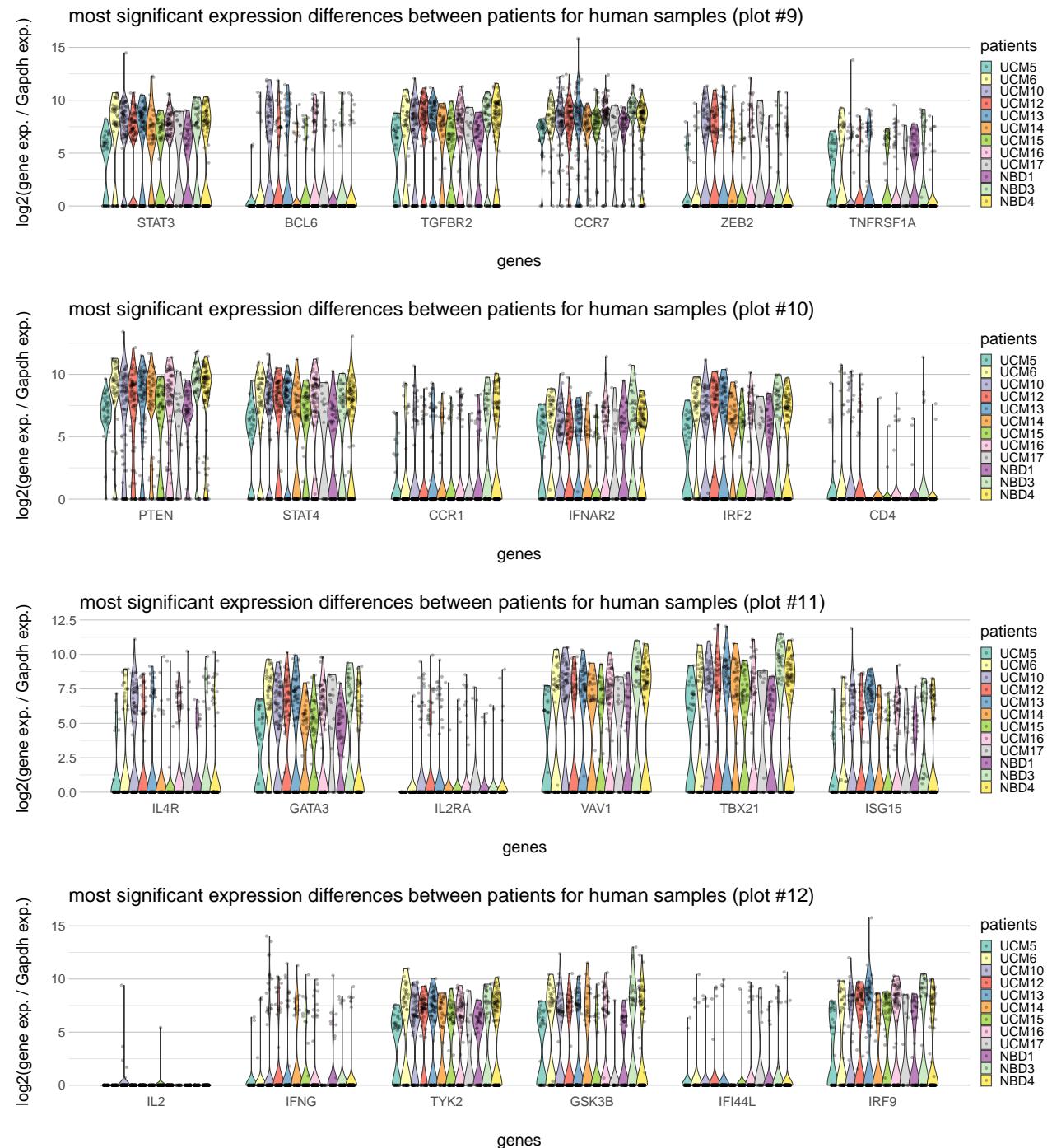
[1] PDCD1: 1.313e-90    RPL13A: 1.535e-77    B2M: 3.93e-77
[4] TNFAIP3: 2.43e-72    CD3E: 2.919e-61    STAT5B: 8.759e-57
[7] CDC42: 1.24e-53     JAK1: 1.206e-52    IFIT1: 1.555e-52
[10] CD52: 8.635e-50    IL7R: 2.712e-49    GAPDH: 5.973e-49
[13] CD44: 6.704e-46     RAC2: 2.92e-43    CD53: 5.199e-42
[16] FYN: 6.31e-42      LY6E: 3.235e-41    STAT1: 3.432e-37
[19] IFIT3: 3.201e-36    CXCR4: 1.819e-35    CD8A: 2.611e-34
[22] CTLA4: 4.105e-33    CCR6: 9.961e-31    CD28: 1.227e-30
[25] NLRP3: 2.002e-30    CCR2: 9.477e-27    IFNGR1: 4.679e-26

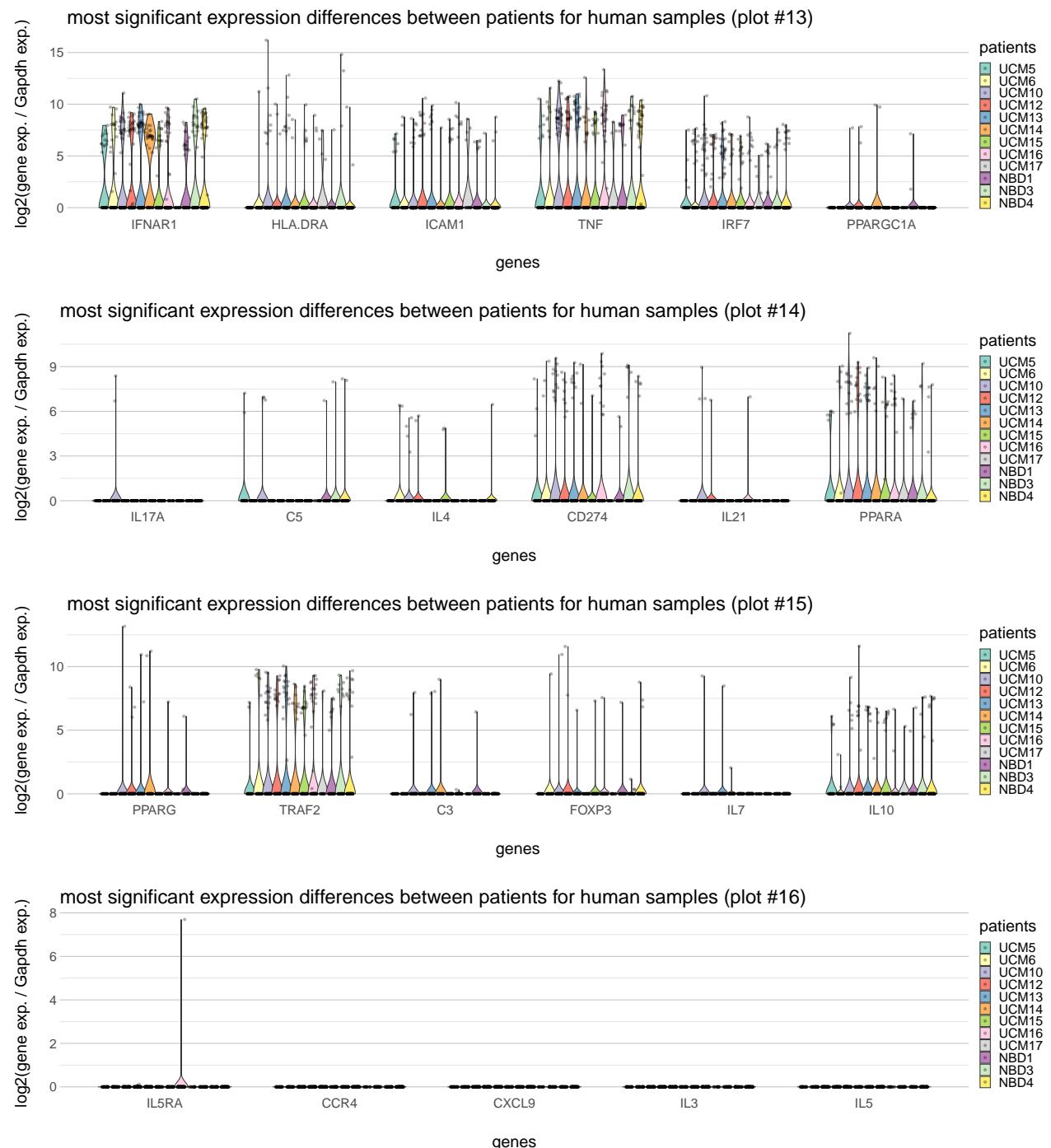
```

[28]	CXCL10:	1.017e-25	IRF4:	2.317e-25	NFKB1:	5.485e-25
[31]	IL25:	5.648e-24	NR4A1:	1.253e-23	CCR3:	5.981e-23
[34]	ICOS:	2.365e-21	IRF1:	1.963e-20	TNFRSF1B:	1.681e-19
[37]	IFI44:	7.793e-19	SOCS3:	1.76e-17	ZAP70:	2.564e-17
[40]	JAK2:	8.342e-17	BCL2:	2.16e-15	RORC:	2.39e-15
[43]	CD40:	2.39e-15	GSK3A:	3.684e-15	CCR5:	7.567e-15
[46]	RAC1:	1.503e-14	IL12RB1:	5.904e-14	CXCR3:	1.56e-13
[49]	STAT3:	1.688e-13	BCL6:	1.478e-12	TGFBR2:	2.798e-12
[52]	CCR7:	6.447e-12	ZEB2:	1.174e-11	TNFRSF1A:	2.421e-11
[55]	PTEN:	1.874e-10	STAT4:	4.063e-09	CCR1:	5.533e-09
[58]	IFNAR2:	1.278e-07	IRF2:	1.329e-07	CD4:	2.986e-07
[61]	IL4R:	4.462e-07	GATA3:	2.36e-06	IL2RA:	5.031e-06
[64]	VAV1:	7.873e-06	TBX21:	1.027e-05	ISG15:	4.829e-05
[67]	IL2:	0.0002954	IFNG:	0.001	TYK2:	0.001318
[70]	GSK3B:	0.002007	IFI44L:	0.00719	IRF9:	0.01977
[73]	IFNAR1:	0.01993	HLA.DRA:	0.01993	ICAM1:	0.02974









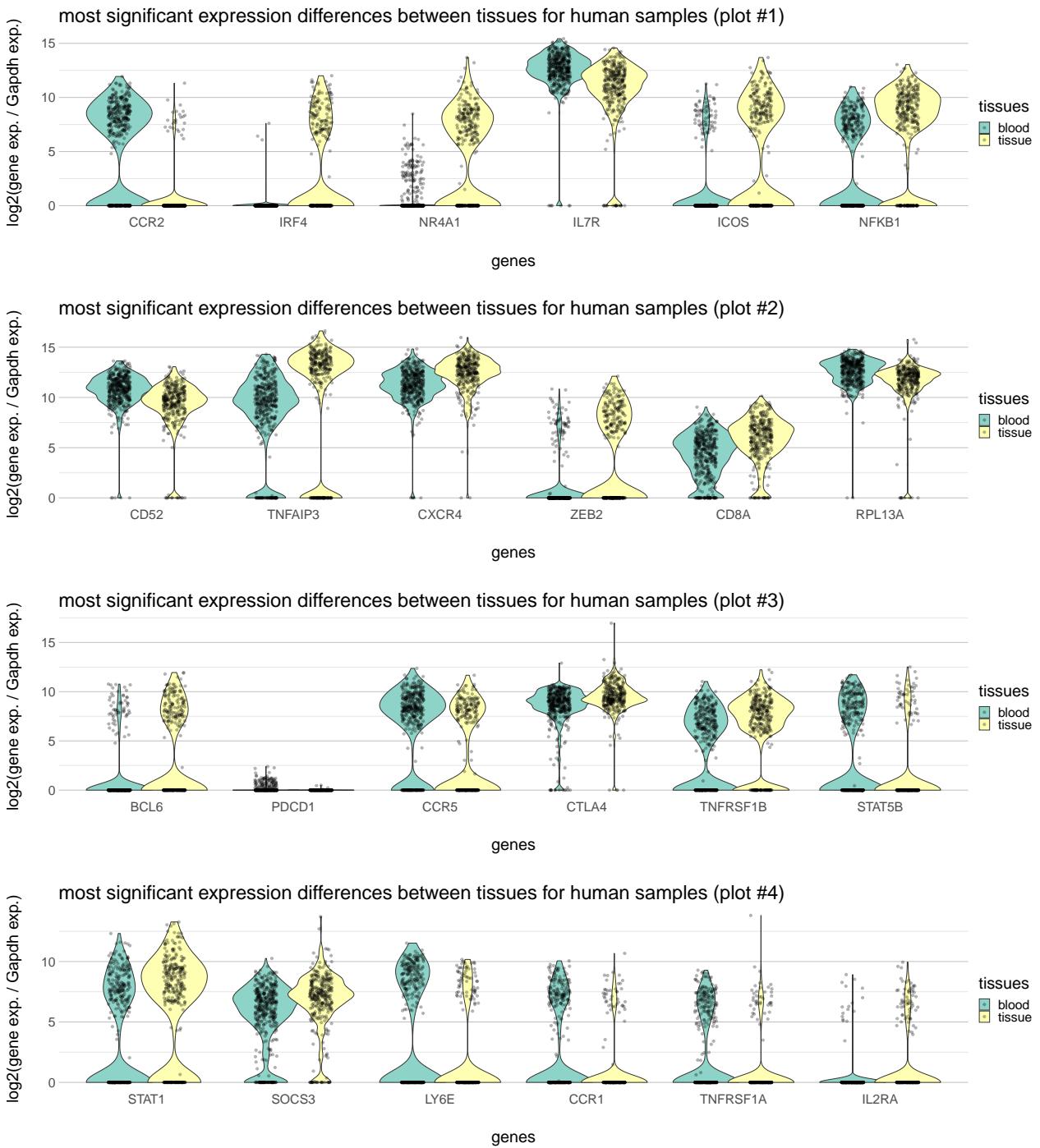
[1] Differentially expressed genes between tissues for human samples:

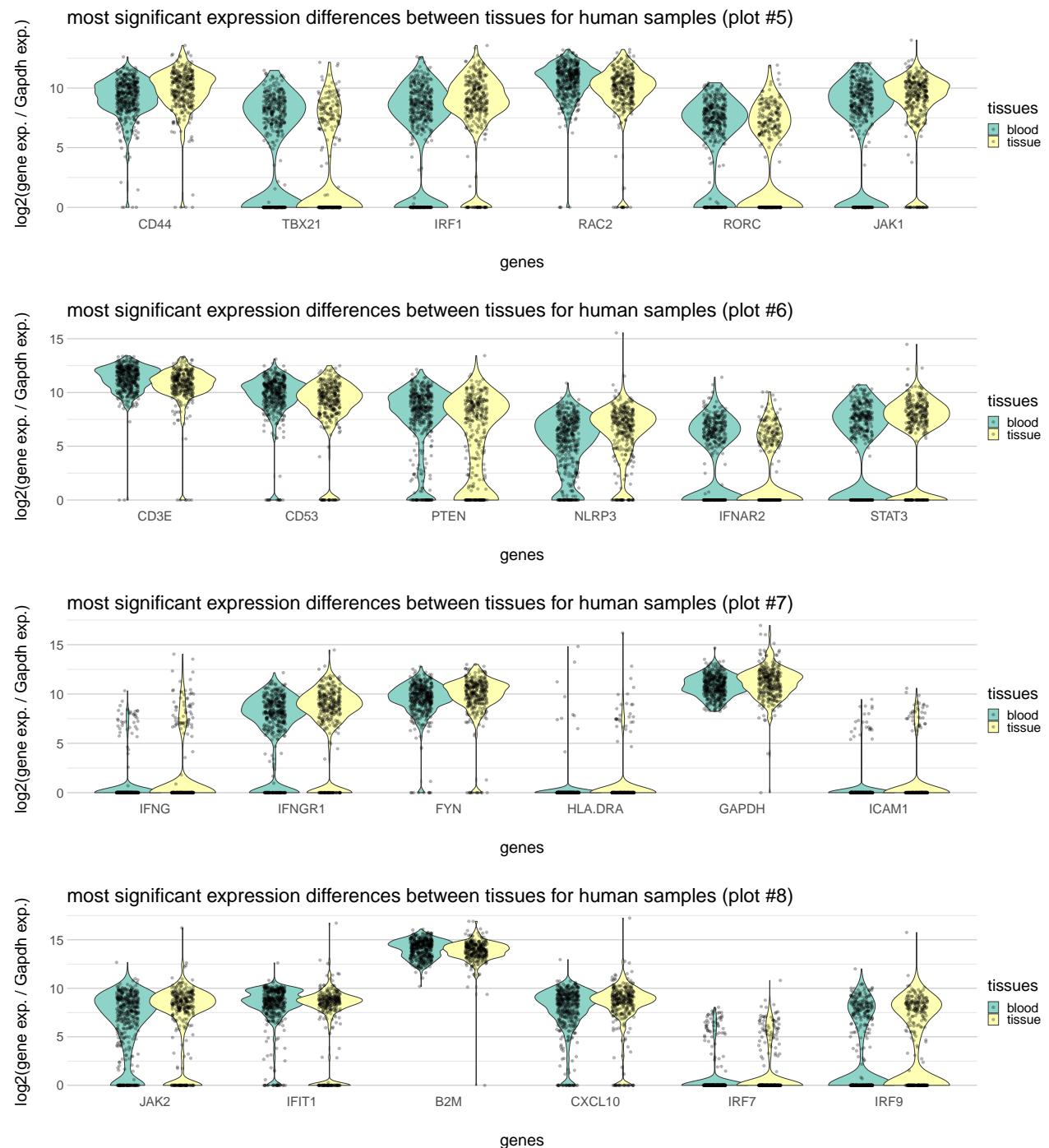
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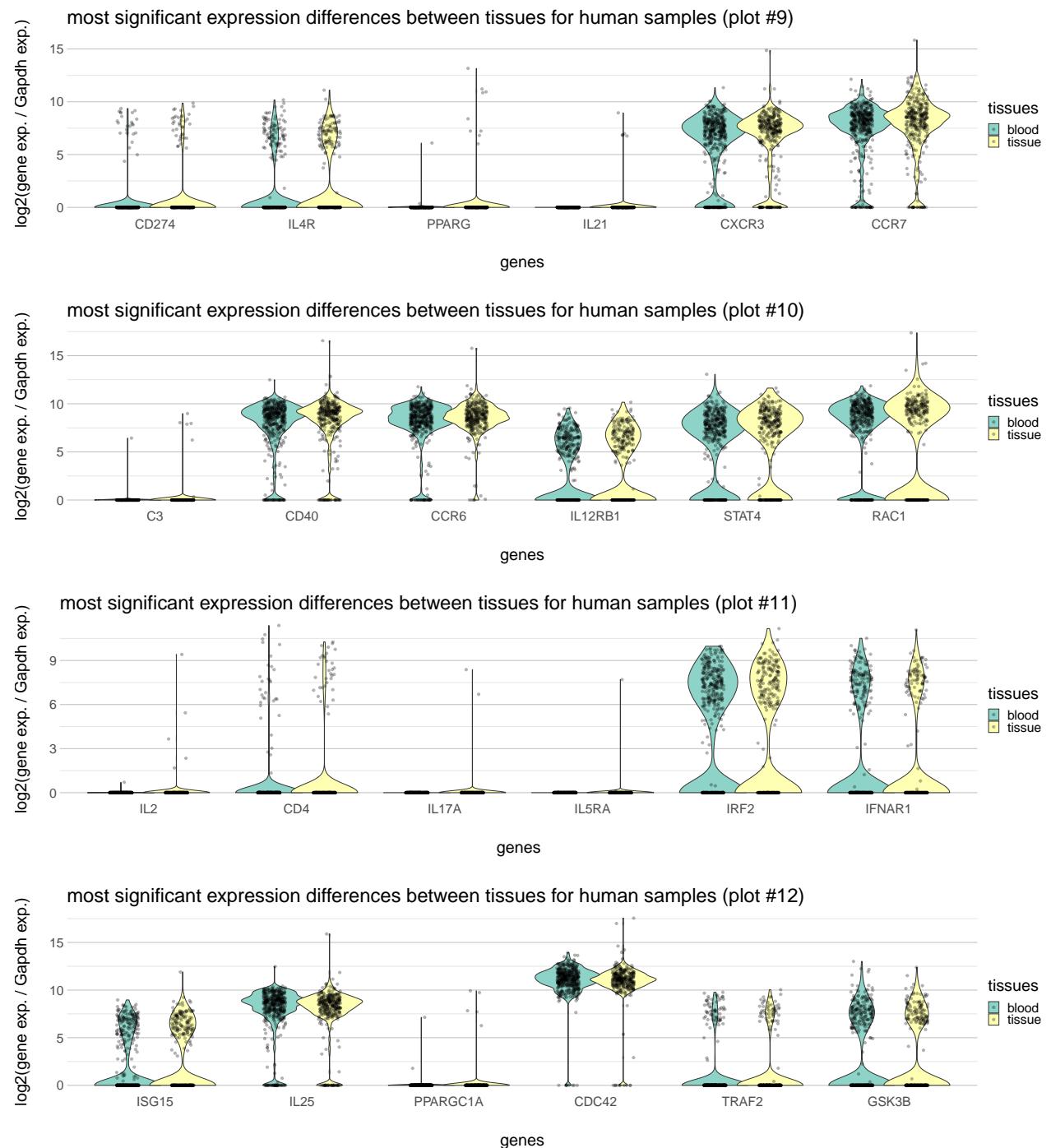
[1] CCR2: 3.834e-50    IRF4: 4.268e-45    NR4A1: 7.104e-36
[4] IL7R: 1e-33        ICOS: 4.964e-29    NFKB1: 4.977e-29
[7] CD52: 3.762e-28    TNFAIP3: 4.889e-27   CXCR4: 6.399e-27
[10] ZEB2: 2.228e-26   CD8A: 1.984e-21    RPL13A: 3.407e-19
[13] BCL6: 6.454e-19   PDCD1: 1.019e-18   CCR5: 4.825e-16
[16] CTLA4: 5.289e-14  TNFRSF1B: 1.037e-13  STAT5B: 3.048e-13
[19] STAT1: 1.459e-12  SOCS3: 1.505e-12   LY6E: 4.751e-12
[22] CCR1: 1.044e-11   TNFRSF1A: 2.022e-11  IL2RA: 2.354e-11
[25] CD44: 1.331e-09   TBX21: 2.097e-09   IRF1: 3.631e-09

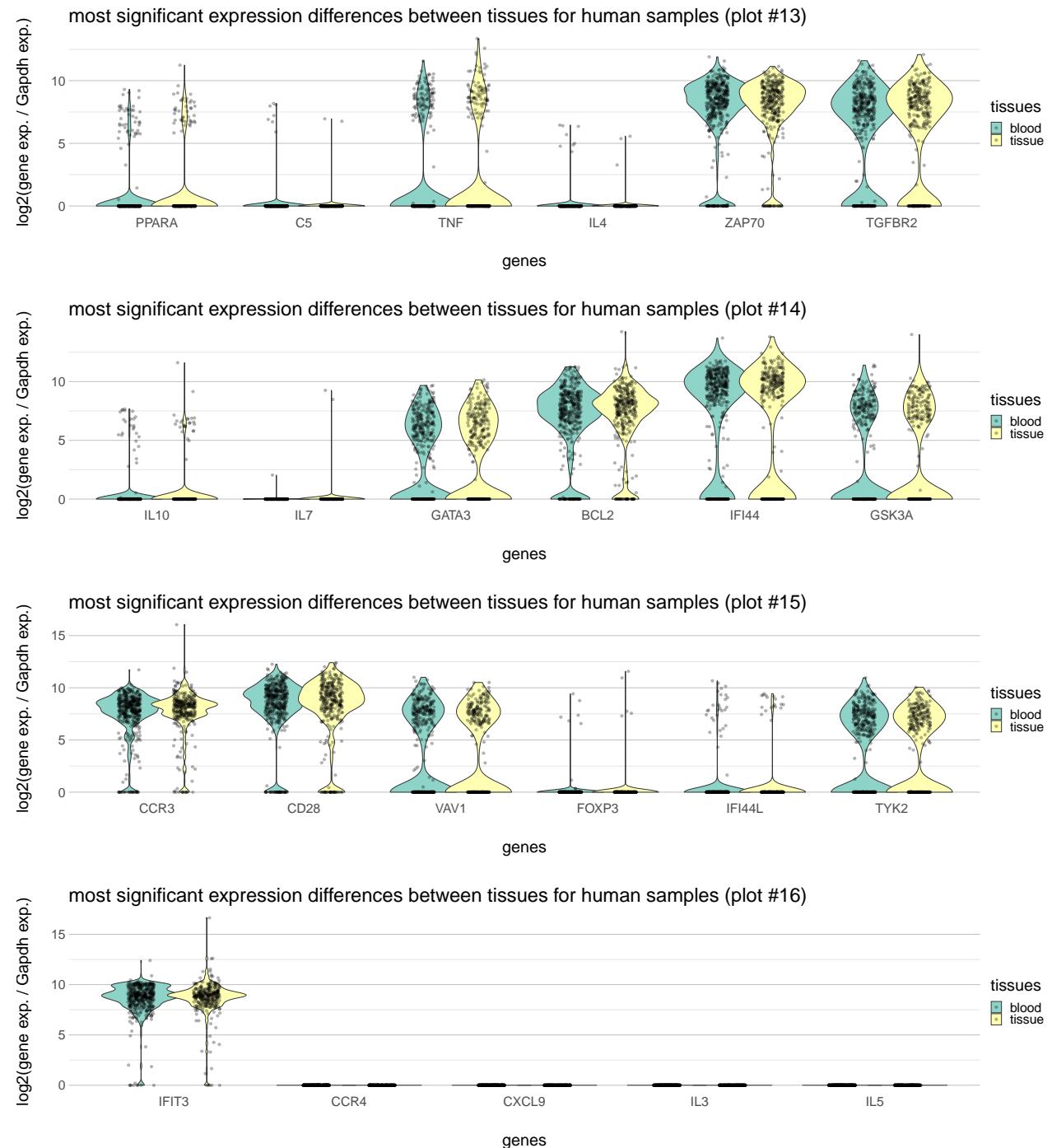
```

[28]	RAC2:	6.236e-09	RORC:	1.236e-08	JAK1:	2.019e-08
[31]	CD3E:	2.648e-08	CD53:	3.304e-08	PTEN:	3.304e-08
[34]	NLRP3:	4.265e-08	IFNAR2:	2.331e-07	STAT3:	2.415e-07
[37]	IFNG:	1.422e-06	IFNGR1:	1.028e-05	FYN:	3.032e-05
[40]	HLA.DRA:	4.561e-05	GAPDH:	0.0001395	ICAM1:	0.0003246
[43]	JAK2:	0.001304	IFIT1:	0.001346	B2M:	0.002136
[46]	CXCL10:	0.002414	IRF7:	0.002621	IRF9:	0.003657
[49]	CD274:	0.007612	IL4R:	0.008887	PPARG:	0.01326
[52]	IL21:	0.01568	CXCR3:	0.01601	CCR7:	0.01665
[55]	C3:	0.03271	CD40:	0.03967	CCR6:	0.04226





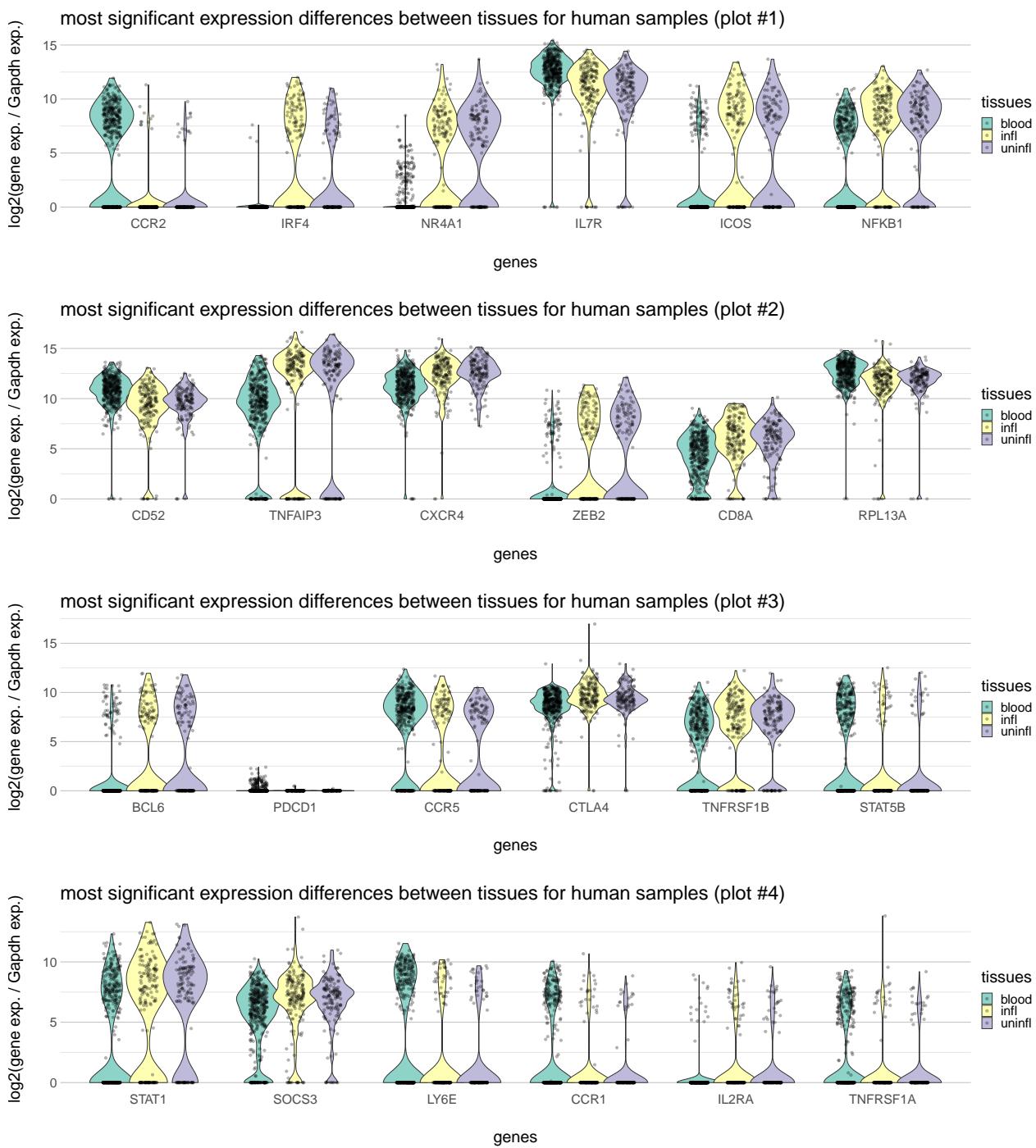


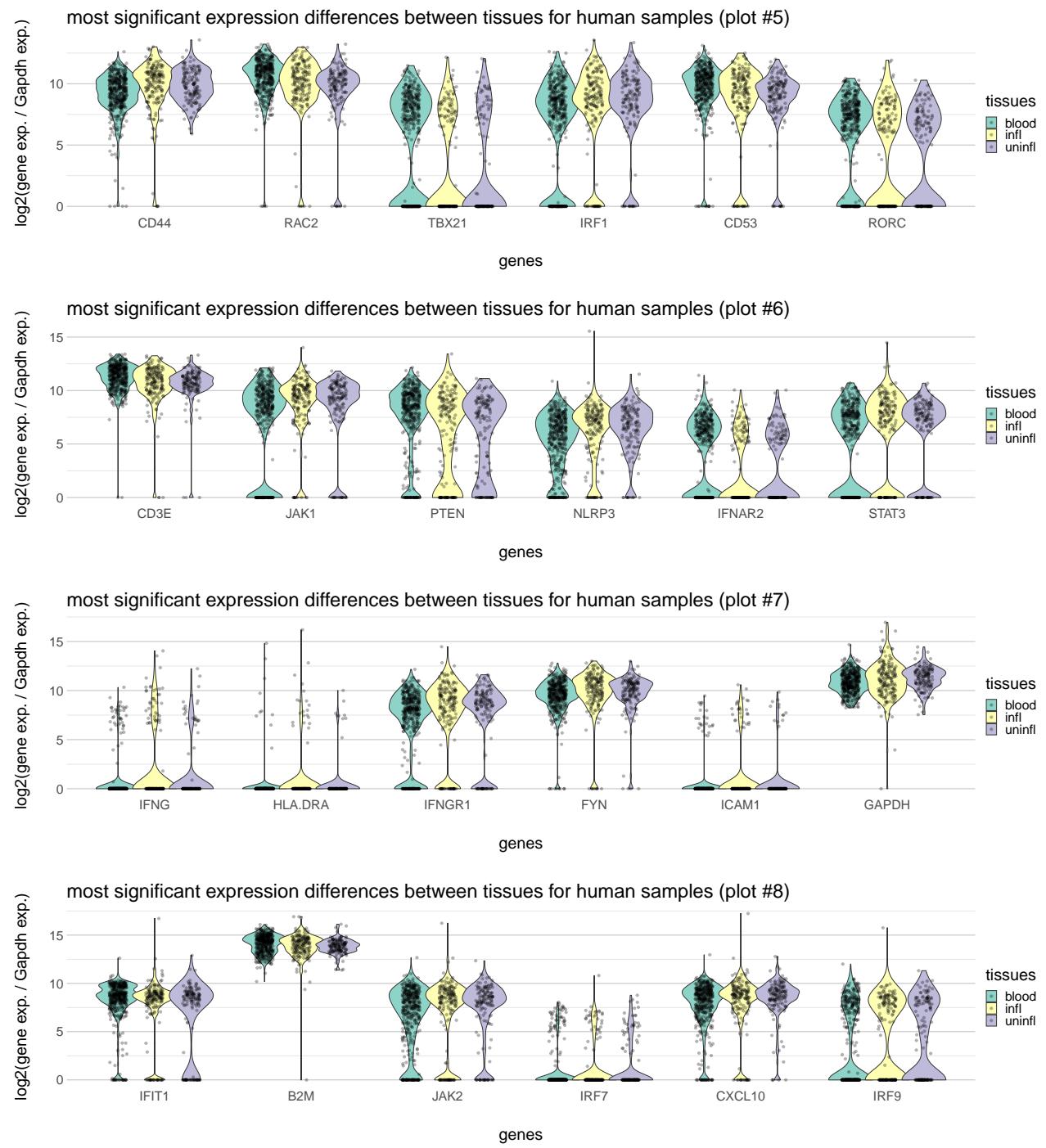


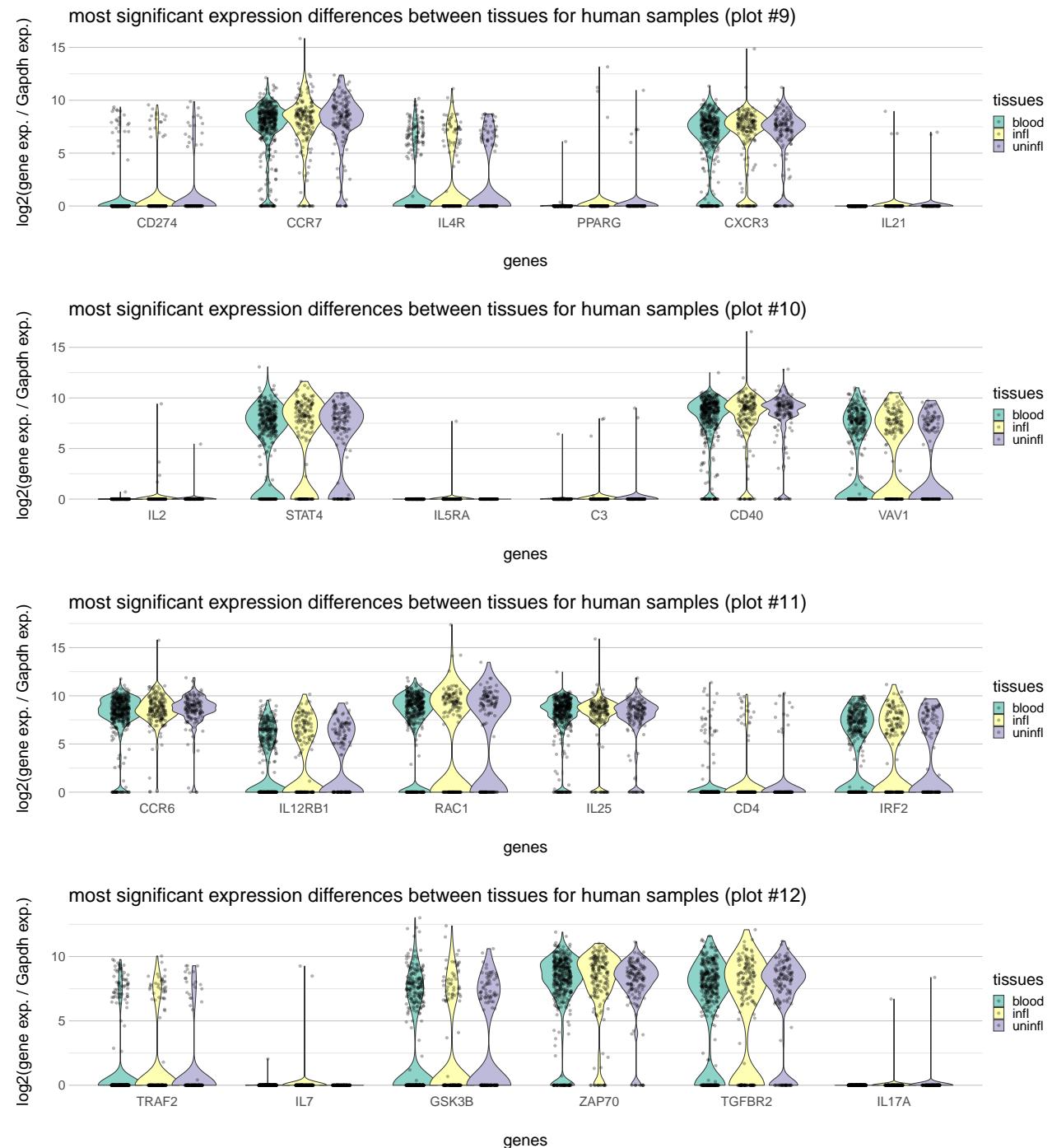
[1] Differentially expressed genes between tissues for human samples:

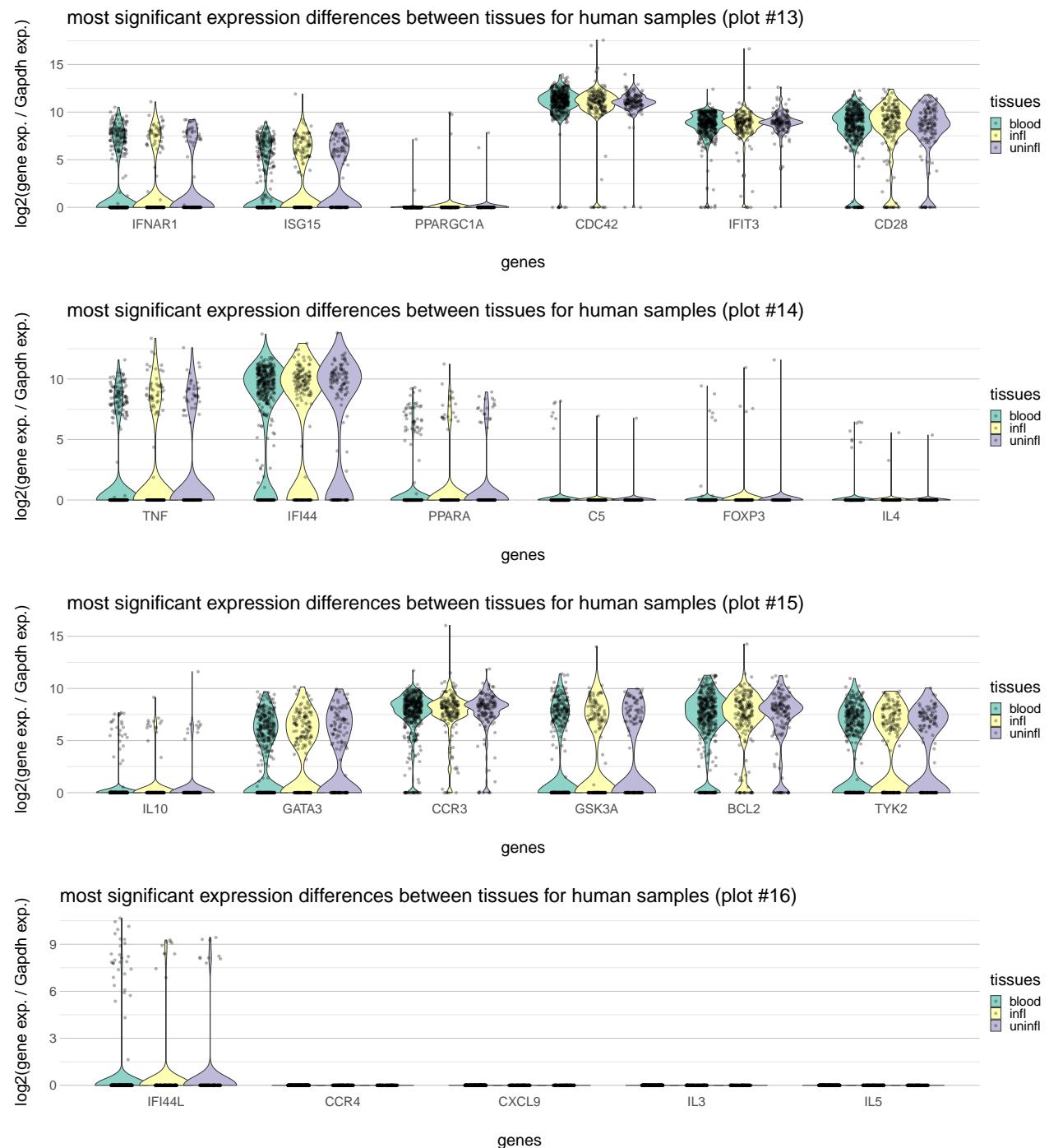
- | | | |
|-----------------------|-------------------------|-------------------------|
| [1] CCR2: 6.864e-49 | [1] IRF4: 7.057e-47 | [1] NR4A1: 8.646e-36 |
| [4] IL7R: 2.398e-33 | [1] ICOS: 4.672e-28 | [1] NFKB1: 6.668e-28 |
| [7] CD52: 5.314e-27 | [1] TNFAIP3: 5.36e-26 | [1] CXCR4: 5.36e-26 |
| [10] ZEB2: 2.472e-25 | [1] CD8A: 2.294e-20 | [1] RPL13A: 1.732e-18 |
| [13] BCL6: 6.456e-18 | [1] PDCD1: 1.168e-17 | [1] CCR5: 4.894e-15 |
| [16] CTLA4: 1.361e-13 | [1] TNFRSF1B: 8.977e-13 | [1] STAT5B: 1.627e-12 |
| [19] STAT1: 6.519e-12 | [1] SOCS3: 1.143e-11 | [1] LY6E: 3.037e-11 |
| [22] CCR1: 8.313e-11 | [1] IL2RA: 1.605e-10 | [1] TNFRSF1A: 1.674e-10 |
| [25] CD44: 4.142e-09 | [1] RAC2: 9.296e-09 | [1] TBX21: 1.586e-08 |

[28]	IRF1: 2.634e-08	CD53: 7.192e-08	RORC: 7.354e-08
[31]	CD3E: 1.016e-07	JAK1: 1.074e-07	PTEN: 1.73e-07
[34]	NLRP3: 2.935e-07	IFNAR2: 1.074e-06	STAT3: 1.186e-06
[37]	IFNG: 2.204e-06	HLA.DRA: 1.921e-05	IFNGR1: 3.567e-05
[40]	FYN: 5.754e-05	ICAM1: 0.0001428	GAPDH: 0.0002261
[43]	IFIT1: 0.002587	B2M: 0.003168	JAK2: 0.005725
[46]	IRF7: 0.005822	CXCL10: 0.006832	IRF9: 0.01425
[49]	CD274: 0.02432	CCR7: 0.02916	IL4R: 0.03346
[52]	PPARG: 0.03348		









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[1] Differentially expressed genes between phenotypes for human samples:
[1] PDCD1: 9.322e-22   JAK1: 4.533e-17   CCR2: 4.286e-16
[4] IL7R: 1.322e-14    STAT1: 1.792e-12   RPL13A: 4.021e-12
[7] IRF4: 4.756e-12    ICOS: 4.994e-12   CD52: 3.058e-10
[10] CCR1: 5.473e-09   NLRP3: 2.314e-07   NFKB1: 1.345e-06
[13] ZEB2: 2.577e-06   CCR5: 3.124e-06   NR4A1: 4.551e-06
[16] CD8A: 5.726e-06   CD53: 9.705e-06   BCL6: 2.134e-05
[19] IFIT1: 3.092e-05   SOCS3: 3.654e-05   CD3E: 3.979e-05
[22] GSK3A: 6.37e-05   IFNAR2: 0.0001017  STAT5B: 0.0006666
[25] TNFRSF1B: 0.000693 B2M: 0.0007045  CTLA4: 0.0007111
```

[28]	RAC1: 0.0007111	IL12RB1: 0.003017	PTEN: 0.003672
[31]	RAC2: 0.0037	STAT3: 0.0037	STAT4: 0.004436
[34]	CDC42: 0.004871	IL2RA: 0.005232	TBX21: 0.005984
[37]	RORC: 0.0134	CXCR3: 0.01379	LY6E: 0.01433
[40]	GATA3: 0.01464	PPARA: 0.01464	CCR3: 0.01662
[43]	IFIT3: 0.01693	IL25: 0.0411	ICAM1: 0.04251

