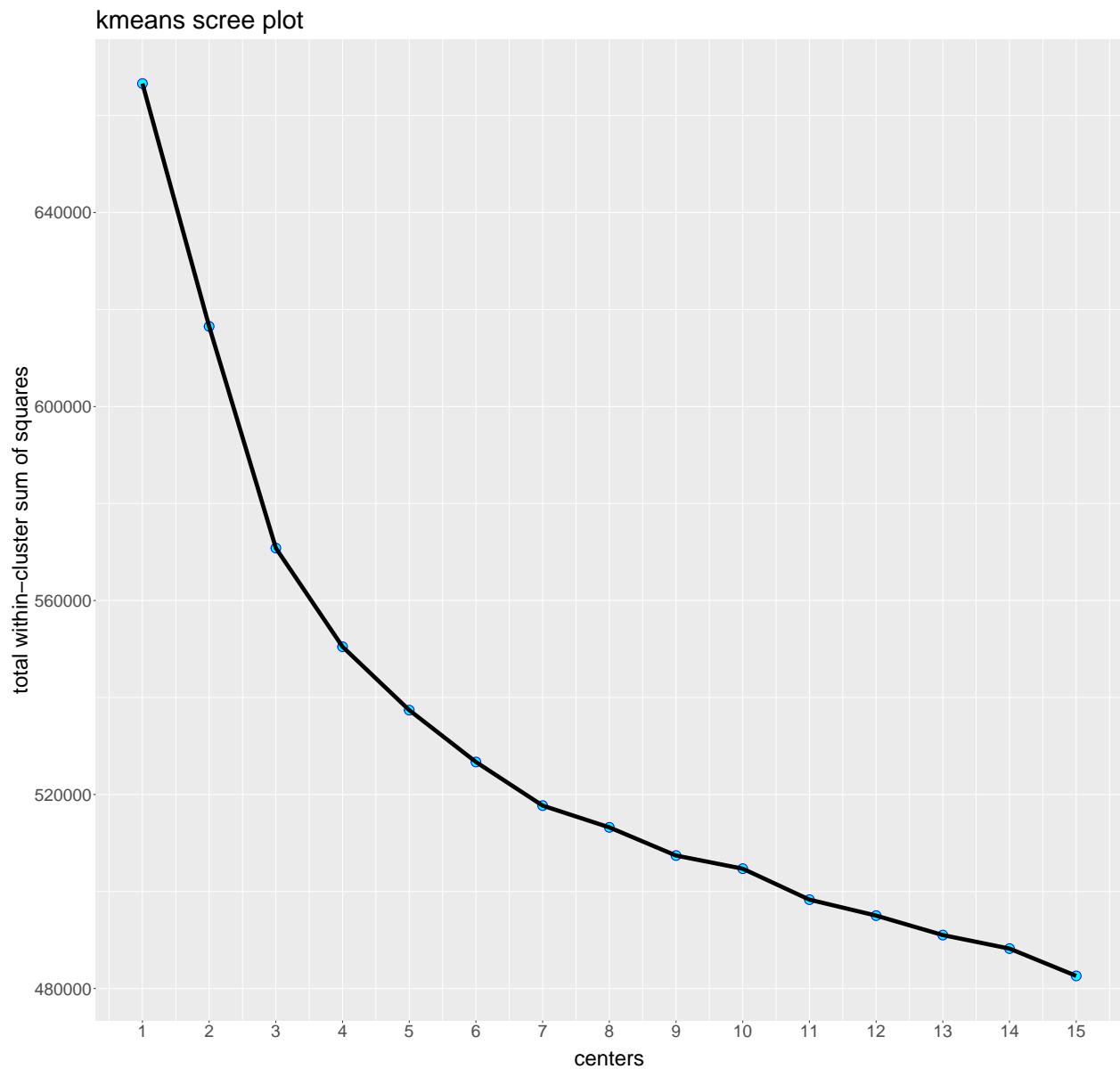
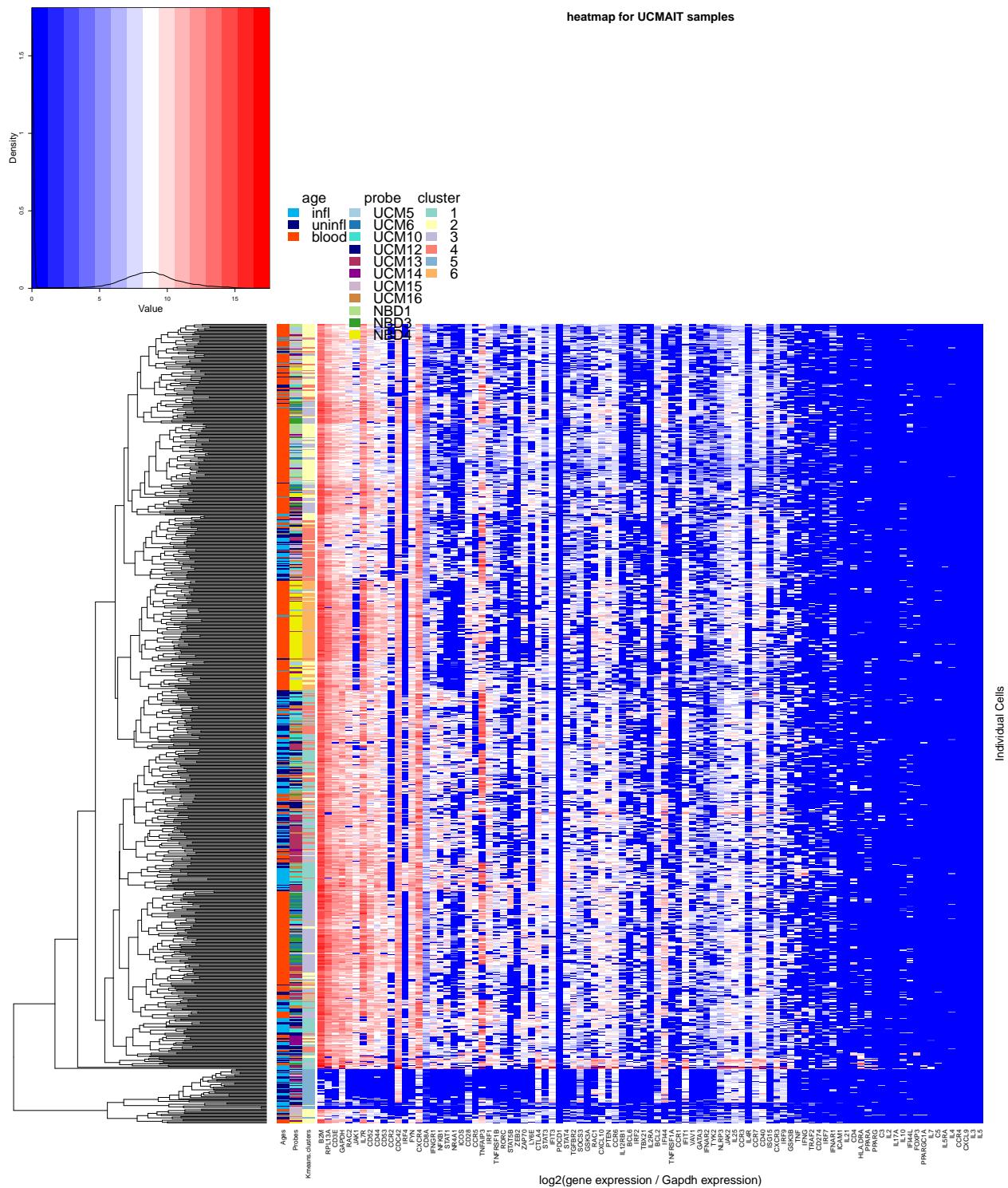


UC-MAIT analysis

No expression detected in 15/778 cells





[1]

[1]

[1] Probe vs. Cluster

probe_UCM5 probe_UCM6 probe_UCM10 probe_UCM12 probe_UCM13

	cluster_1	cluster_2	cluster_3		
probe_UCM5	0	30	5		
probe_UCM6	0	4	43		
probe_UCM10	46	2	13		
probe_UCM12	35	2	12		
probe_UCM13	32	5	28		

cluster_4	0	1	16	29	18
cluster_5	0	0	10	10	6
cluster_6	0	0	2	2	5
	probe_UCM14	probe_UCM15	probe_UCM16	probe_NBD1	probe_NBD3
cluster_1	6	0	19	0	0
cluster_2	22	38	16	42	1
cluster_3	11	2	15	3	44
cluster_4	9	22	38	2	2
cluster_5	7	5	0	0	0
cluster_6	0	1	6	1	1
	probe_NBD4				
cluster_1	0				
cluster_2	11				
cluster_3	0				
cluster_4	0				
cluster_5	0				
cluster_6	83				

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

```
data: probeTable
X-squared = 1234, df = NA, p-value = 0.0004998
```

[1]		
[1]		
[1]	Tissue vs. Cluster	
	cellSource_blood	cellSource_tissue
cluster_1	1	137
cluster_2	145	28
cluster_3	166	10
cluster_4	11	126
cluster_5	0	38
cluster_6	100	1

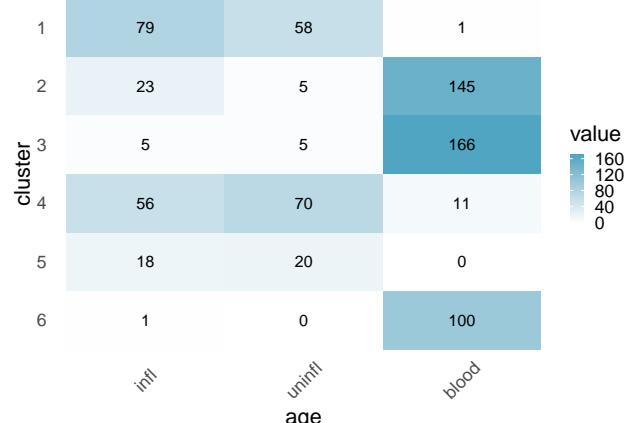
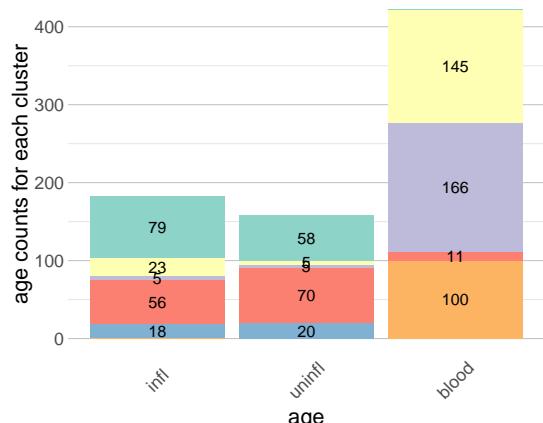
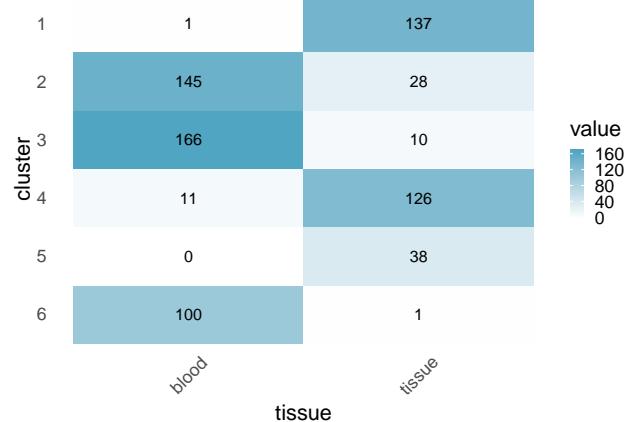
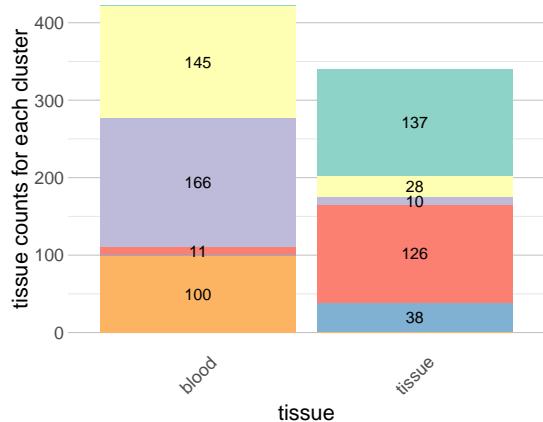
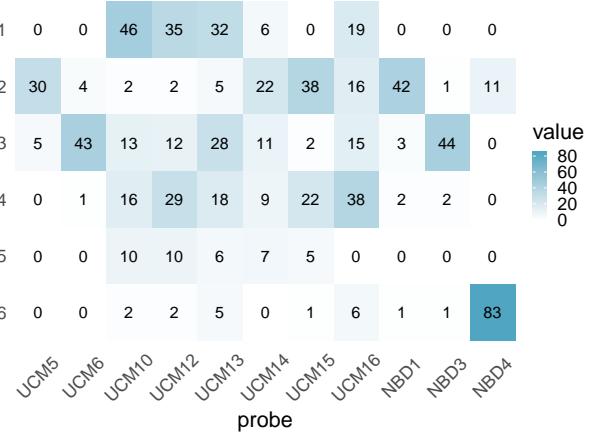
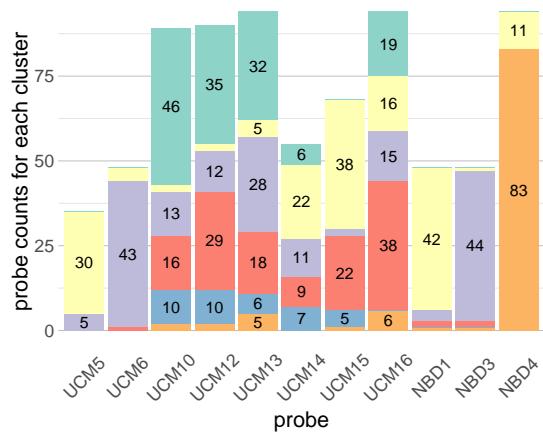
Pearson's Chi-squared test with simulated p-value (based on 2000 replicates)

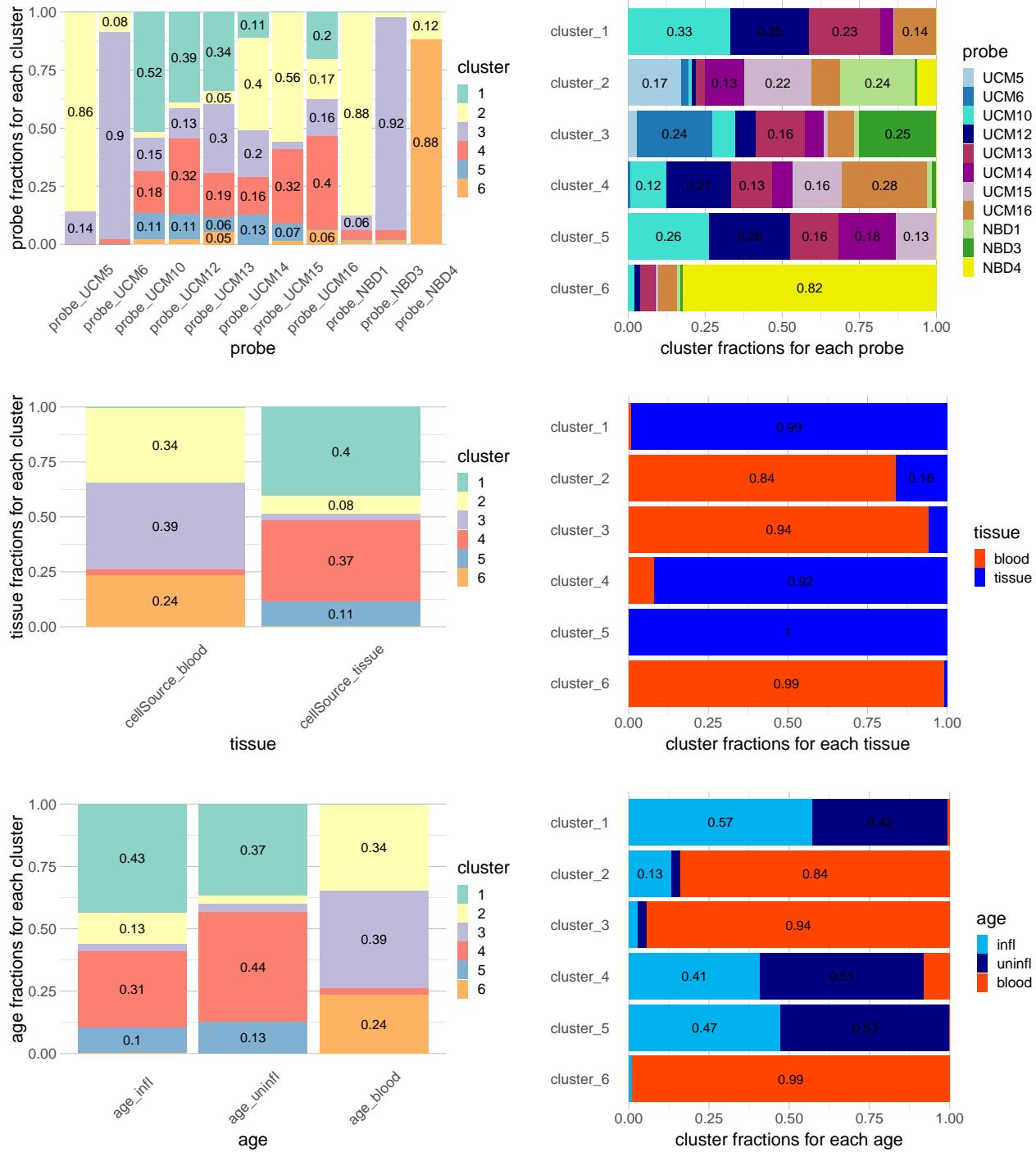
```
data: sourceTable
X-squared = 580.85, df = NA, p-value = 0.0004998
```

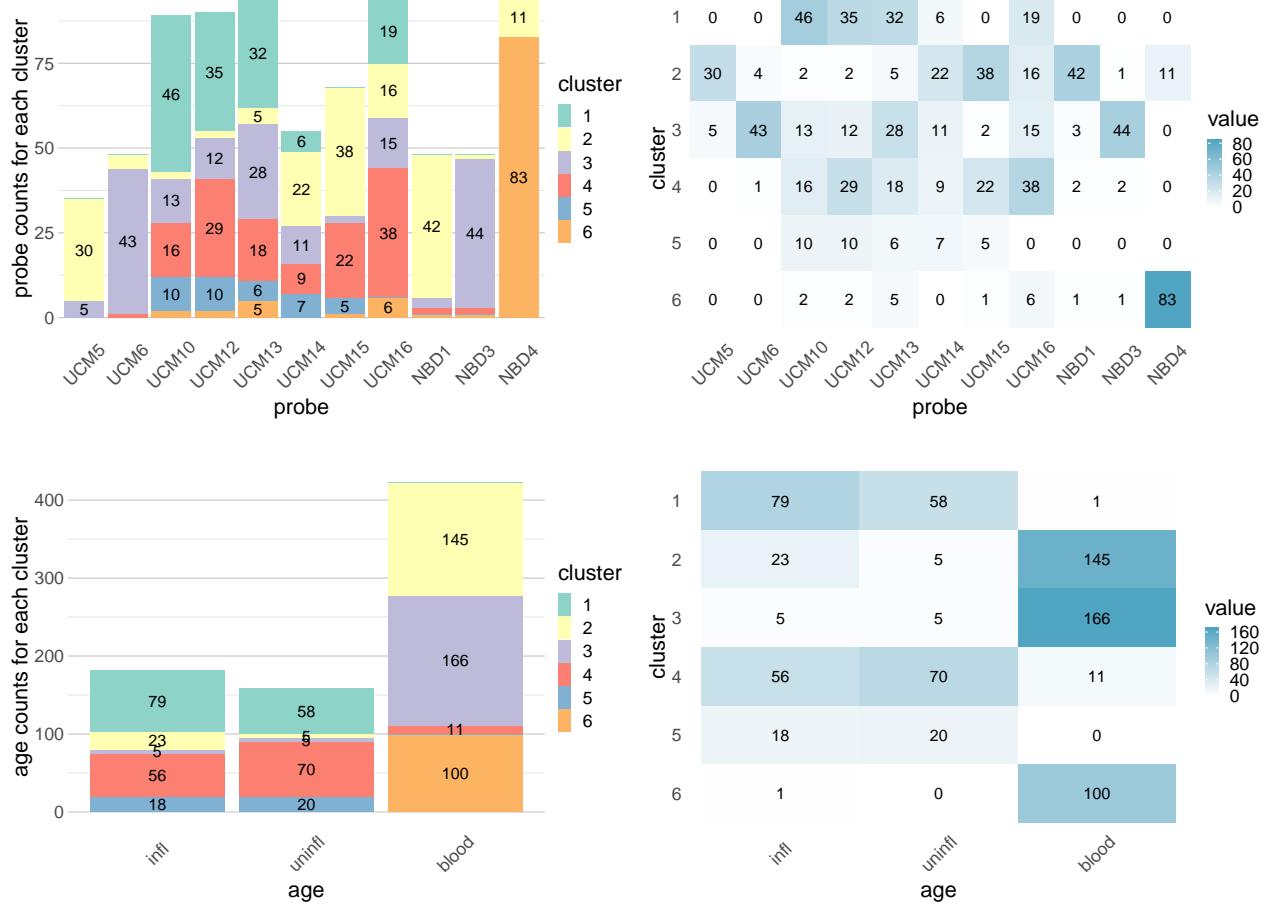
[1]			
[1]			
[1]	age vs. Cluster		
	age_infl	age_uninfl	age_blood
cluster_1	79	58	1
cluster_2	23	5	145
cluster_3	5	5	166
cluster_4	56	70	11
cluster_5	18	20	0
cluster_6	1	0	100

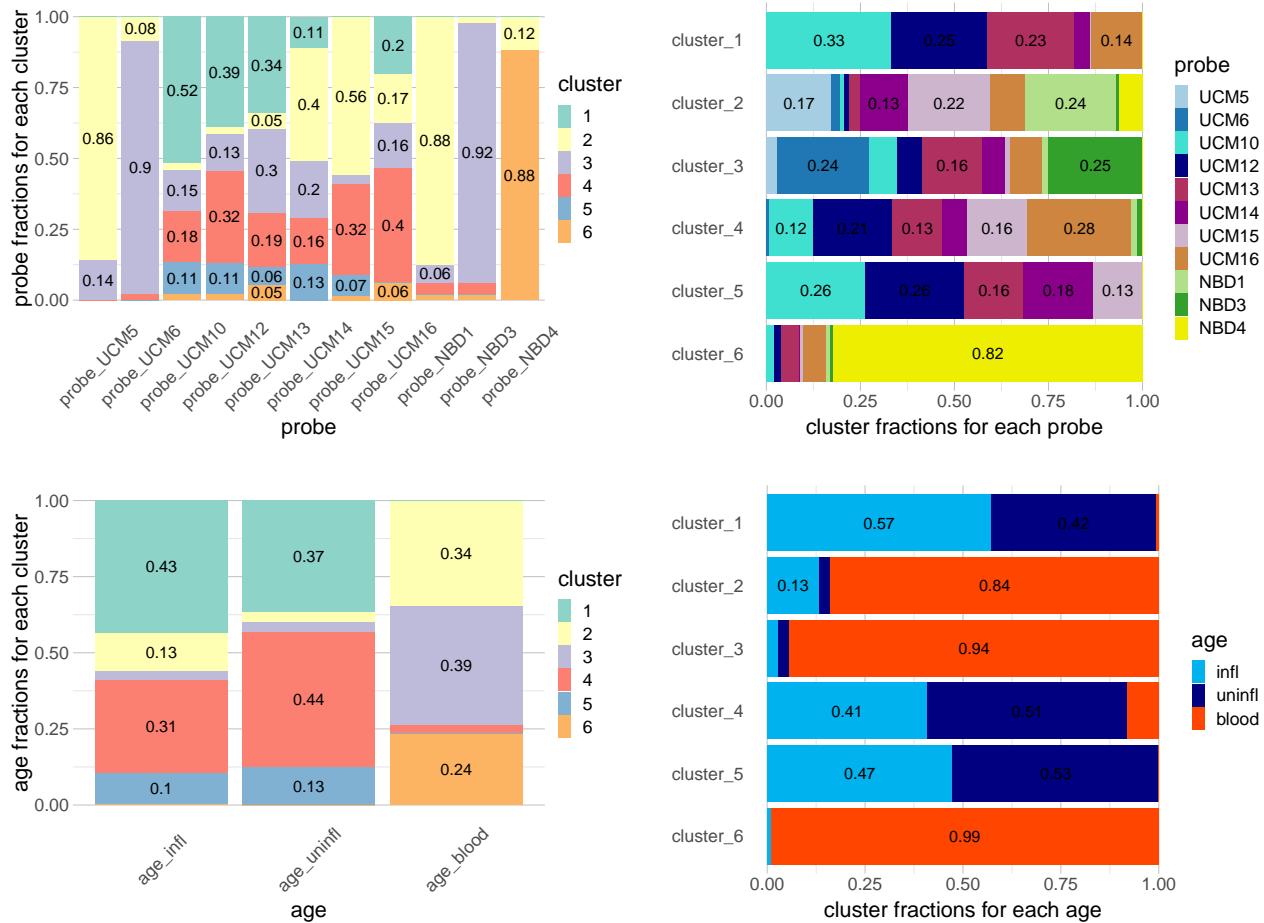
Pearson's Chi-squared test with simulated p-value (based on 2000 replicates)

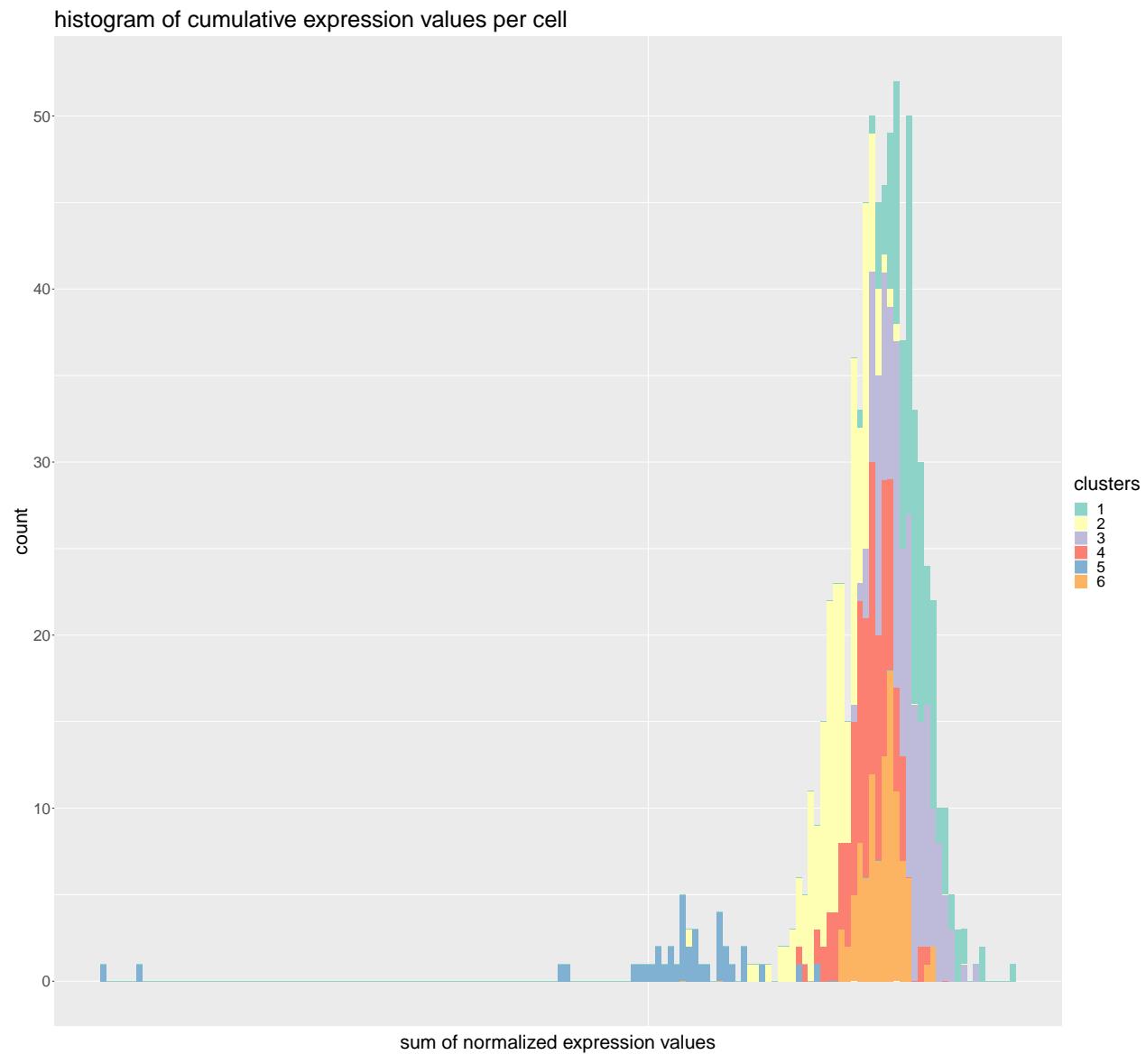
data: ageTable
 χ^2 -squared = 596.25, df = NA, p-value = 0.0004998





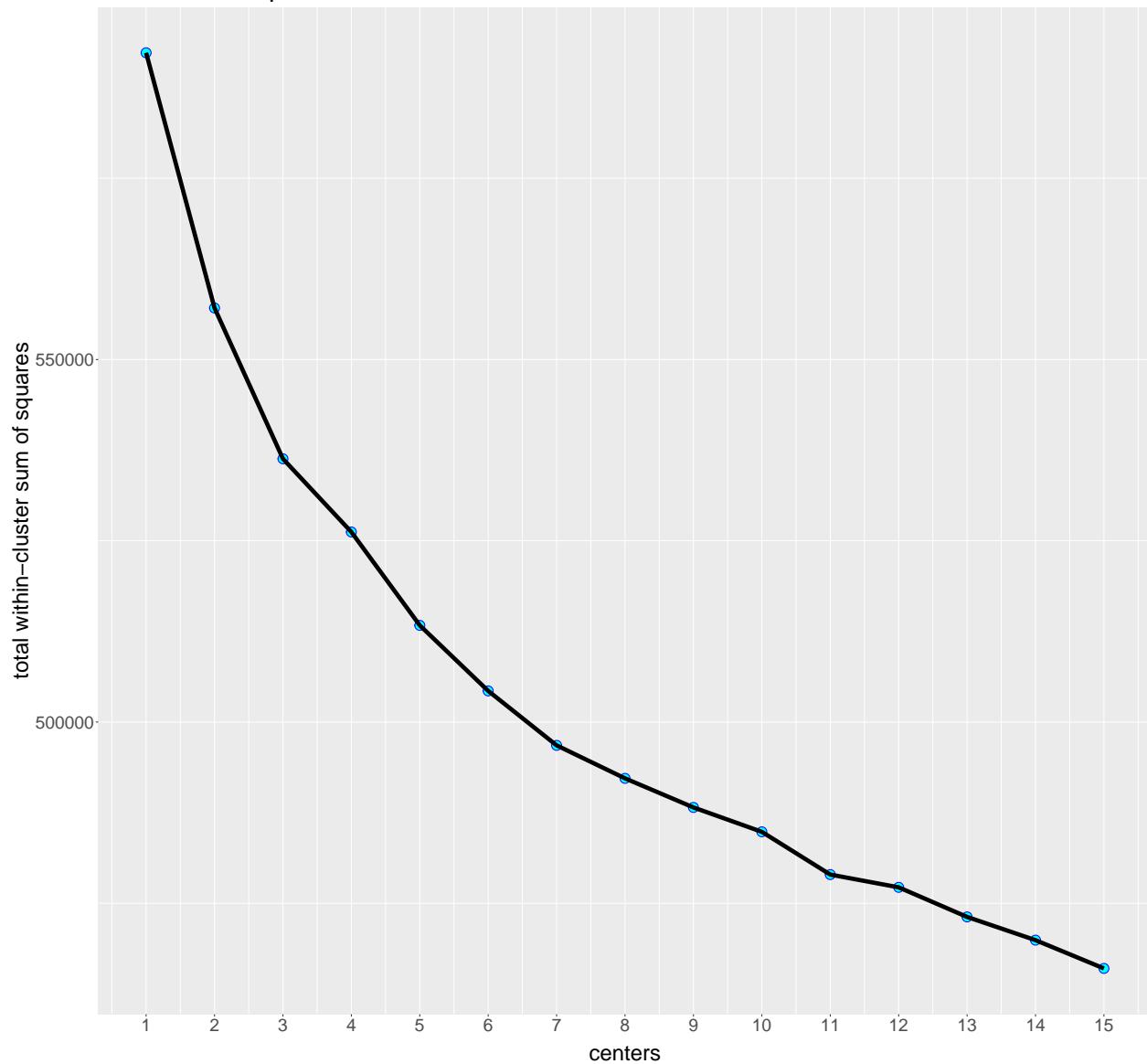


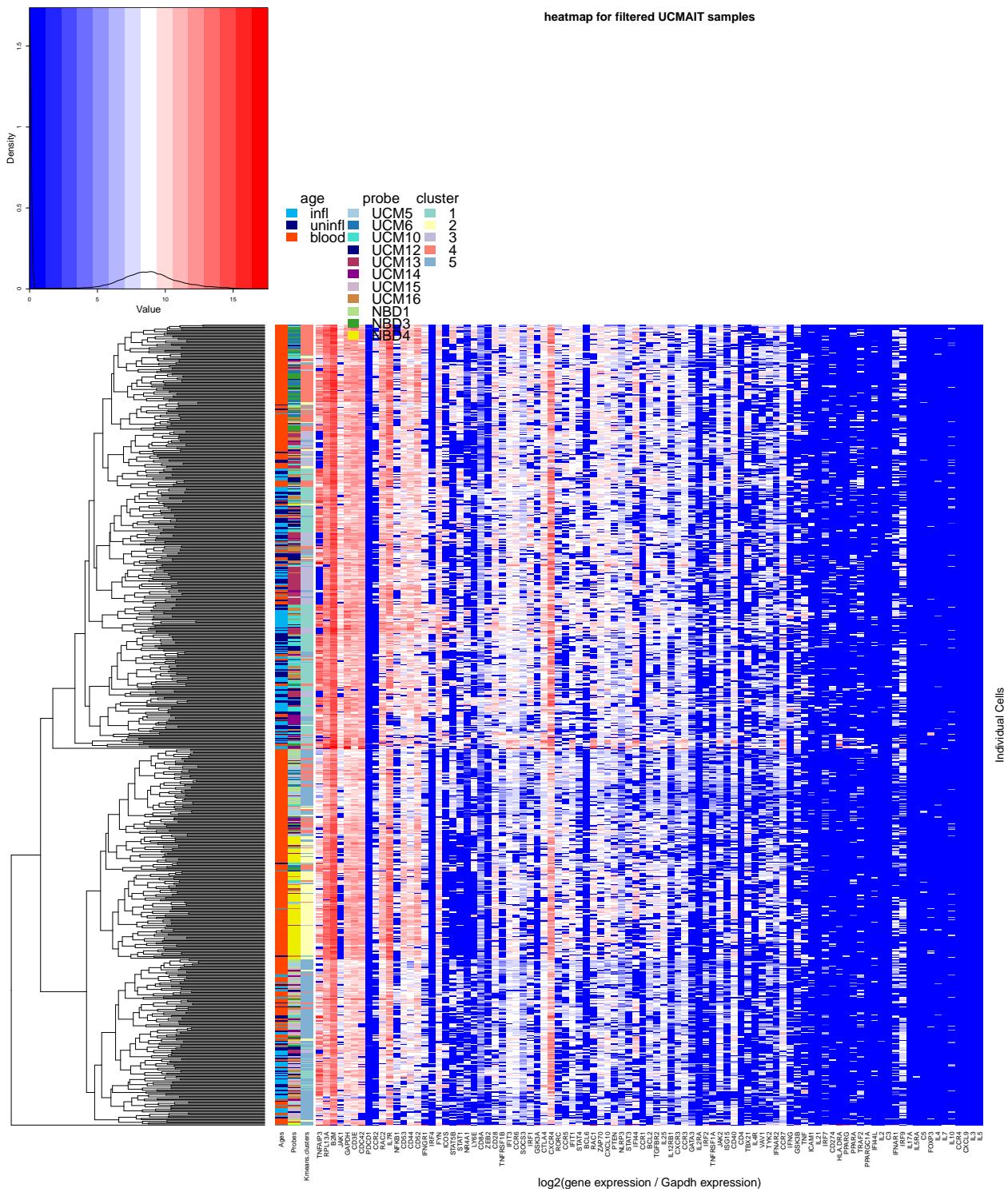




38 / 763 cells were removed due to low gene expression (cluster ID of removed clusters: 5)

kmeans scree plot





[1]

[1]

[1] Probe vs. Cluster

probe_UCM5 probe_UCM6 probe_UCM10 probe_UCM12 probe_UCM13

	cluster_1	cluster_2	cluster_3	cluster_4	cluster_5
probe_UCM5	0	1	0	58	0
probe_UCM6	0	1	0	4	55
probe_UCM10	58	4	6	2	3
probe_UCM12	55	2	1	83	0
probe_UCM13	0	3	83	0	0

```

cluster_4      6      45      4      10      1
cluster_5     28      2      7      12      1
    probe_UCM14  probe_UCM15  probe_UCM16  probe_NBD1  probe_NBD3
cluster_1      8      3      42      0      0
cluster_2      1      2      8      1      0
cluster_3      4      0      4      0      0
cluster_4      9      4      12      8      43
cluster_5     26      54      28      39      5
    probe_NBD4
cluster_1      0
cluster_2     89
cluster_3      0
cluster_4      0
cluster_5      5

```

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

```

data:  probeTable
X-squared = 1745, df = NA, p-value = 0.0004998

```

```

[1]
[1]
[1] Tissue vs. Cluster
    cellSource_blood cellSource_tissue
cluster_1          3          163
cluster_2         110            2
cluster_3          39          59
cluster_4         139            3
cluster_5         132          75

```

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

```

data:  sourceTable
X-squared = 399.32, df = NA, p-value = 0.0004998

```

```

[1]
[1]
[1] age vs. Cluster
    age_infl age_uninfl age_blood
cluster_1       84        79        3
cluster_2        1         1       110
cluster_3       28        31        39
cluster_4        2         1       139
cluster_5       49        26       132

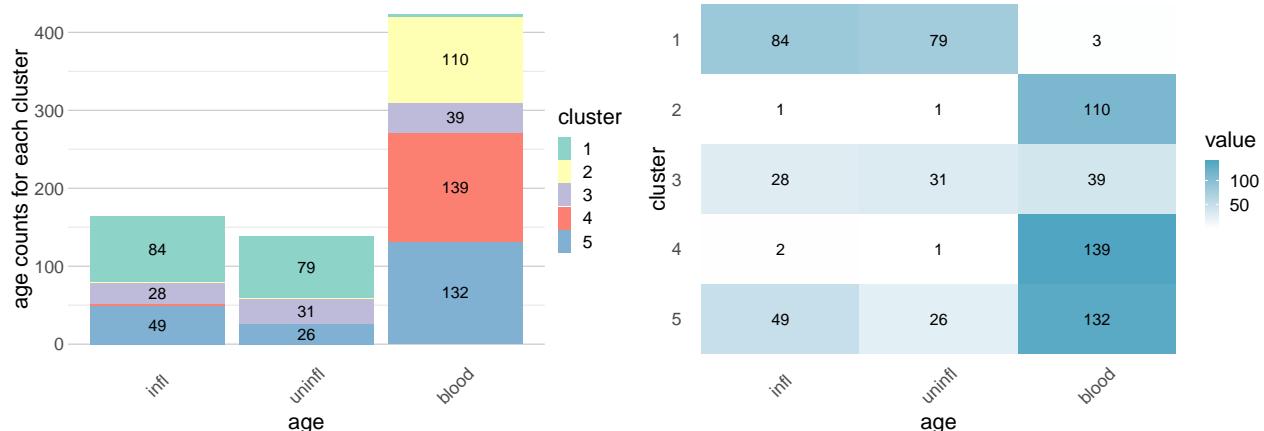
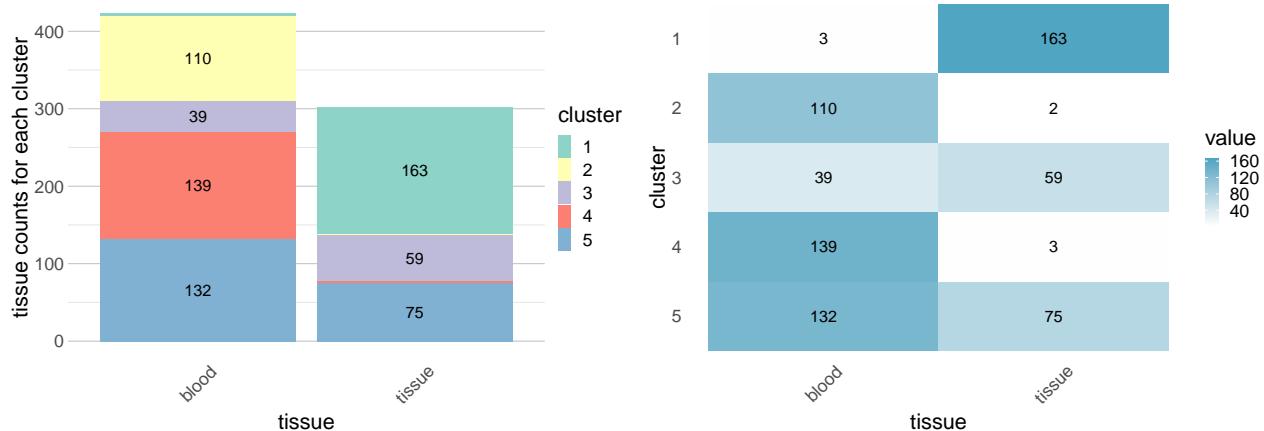
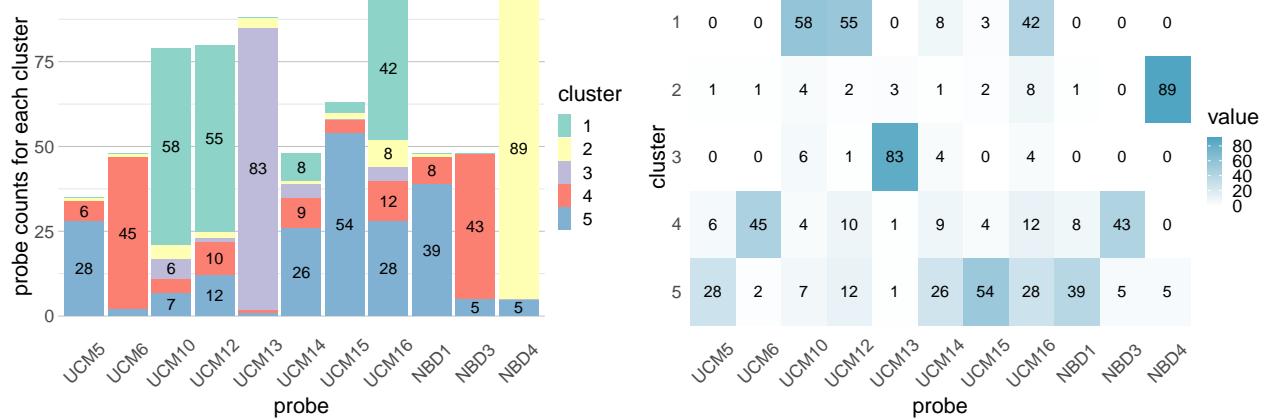
```

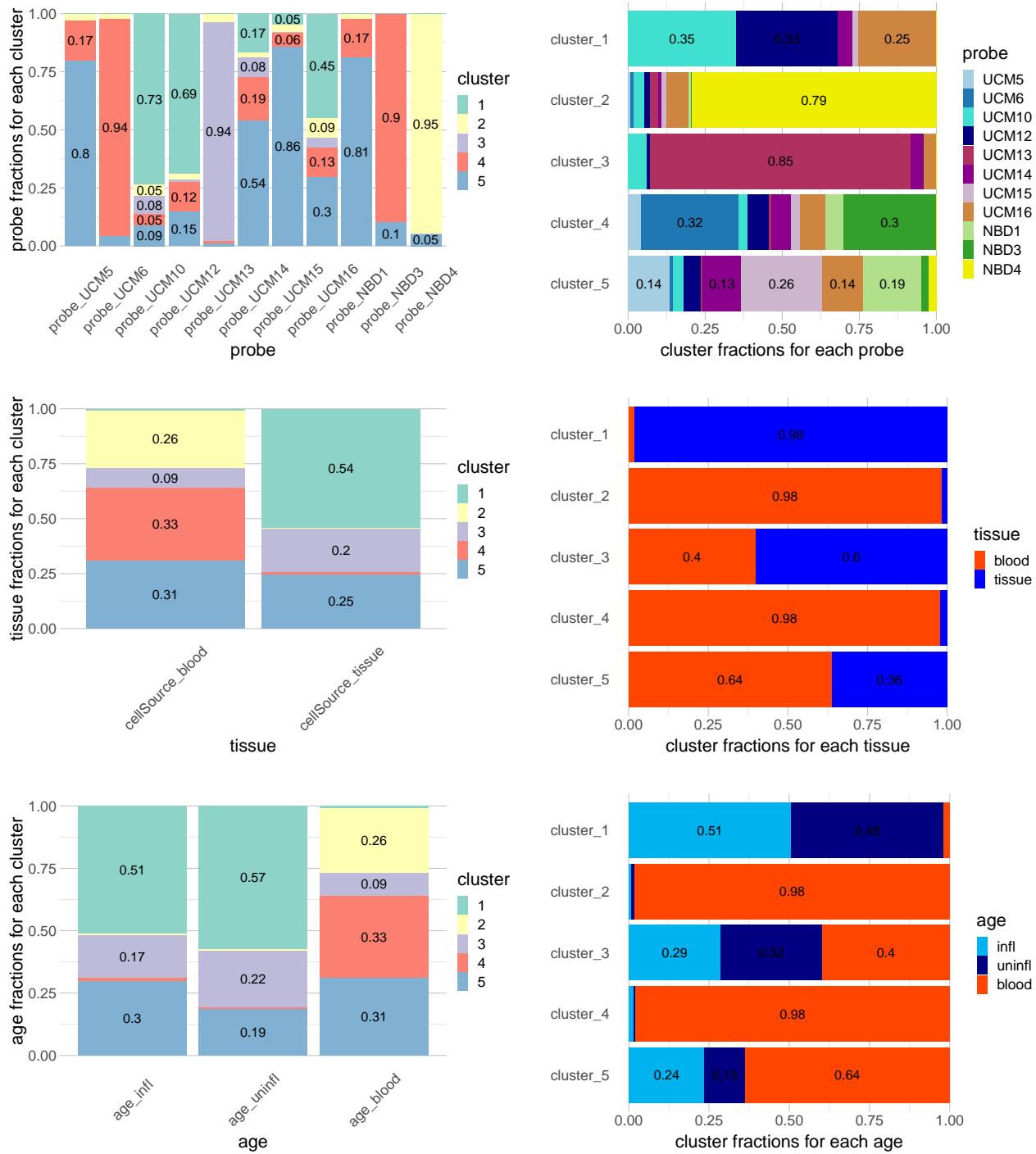
Pearson's Chi-squared test with simulated p-value (based on 2000 replicates)

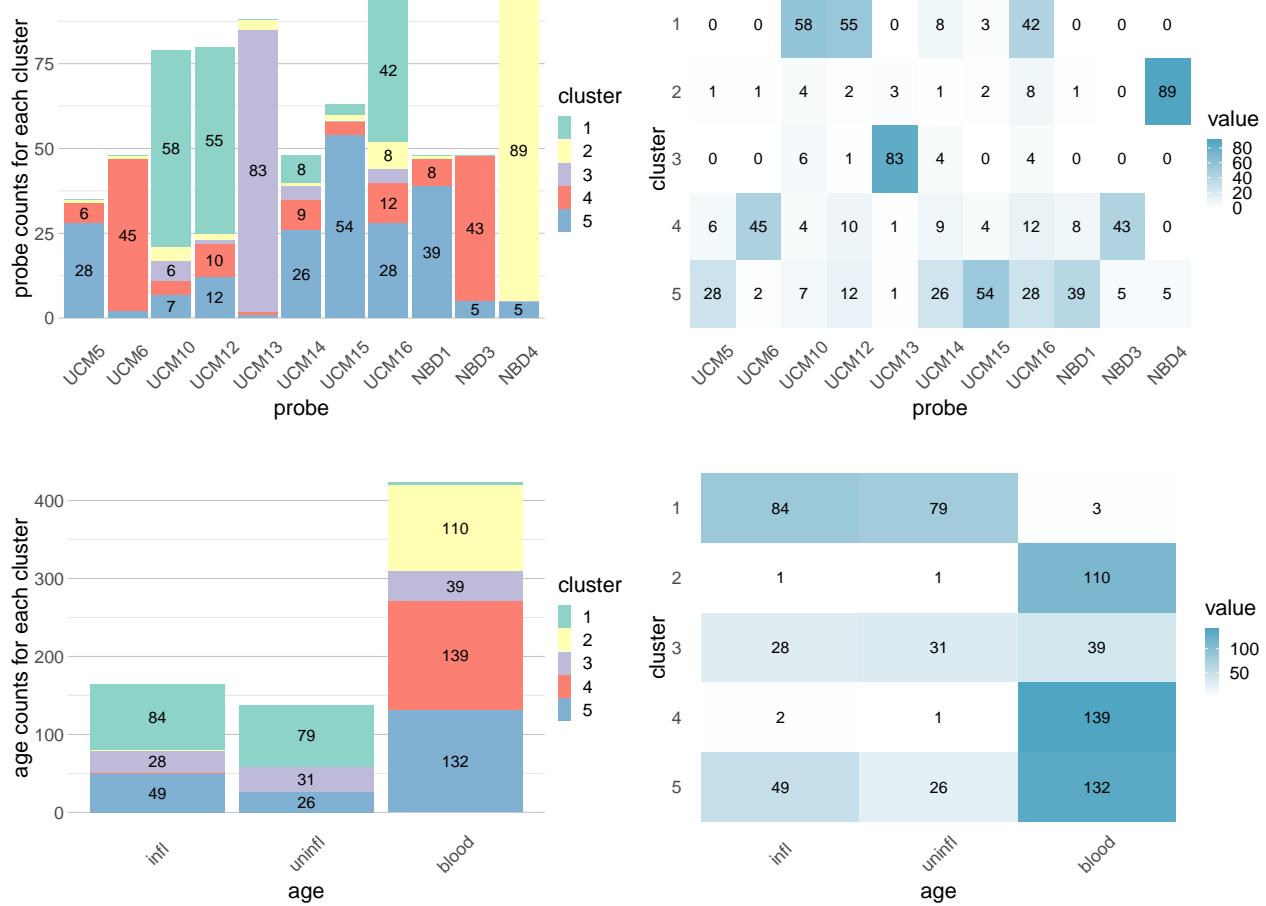
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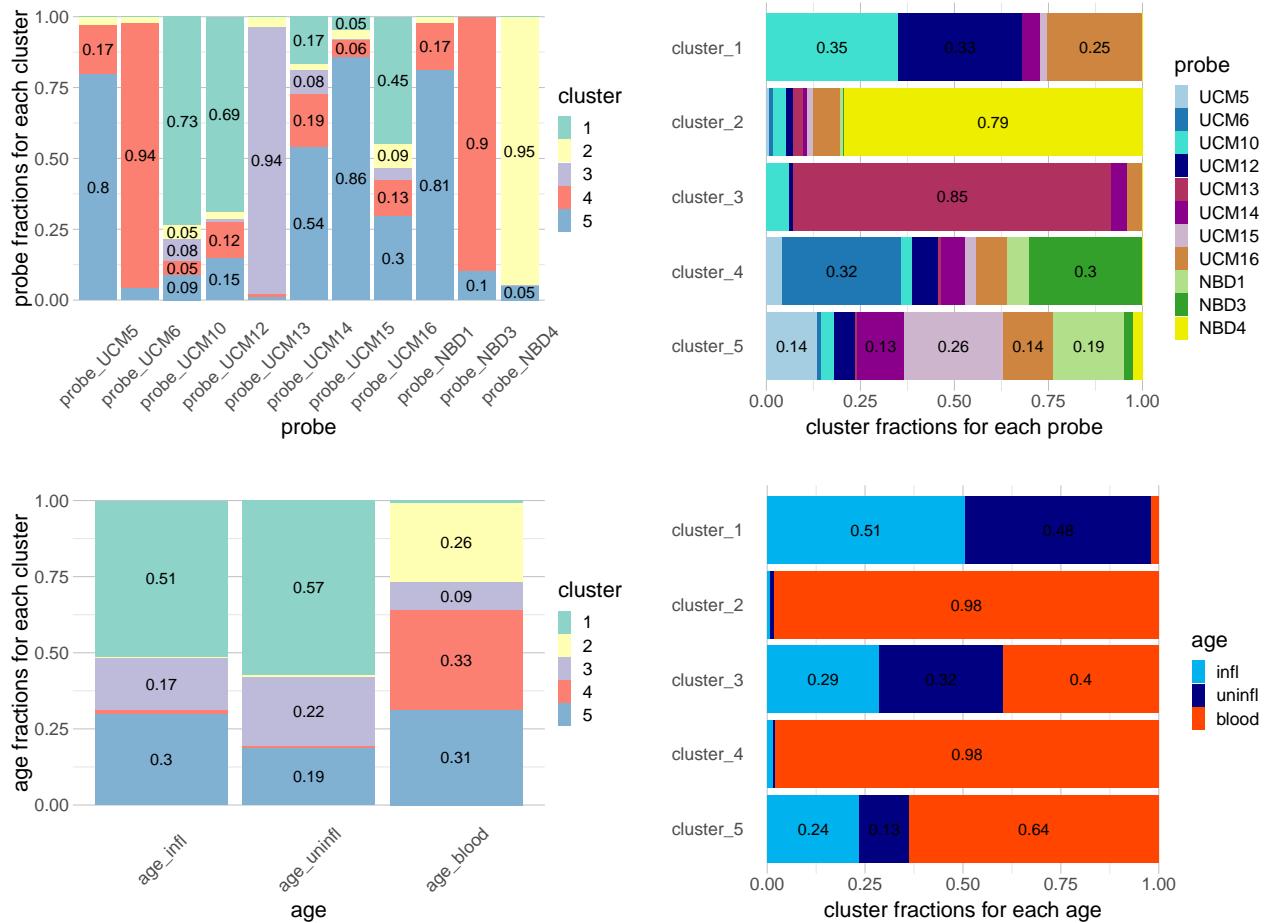
data:  ageTable
X-squared = 405.33, df = NA, p-value = 0.0004998

```

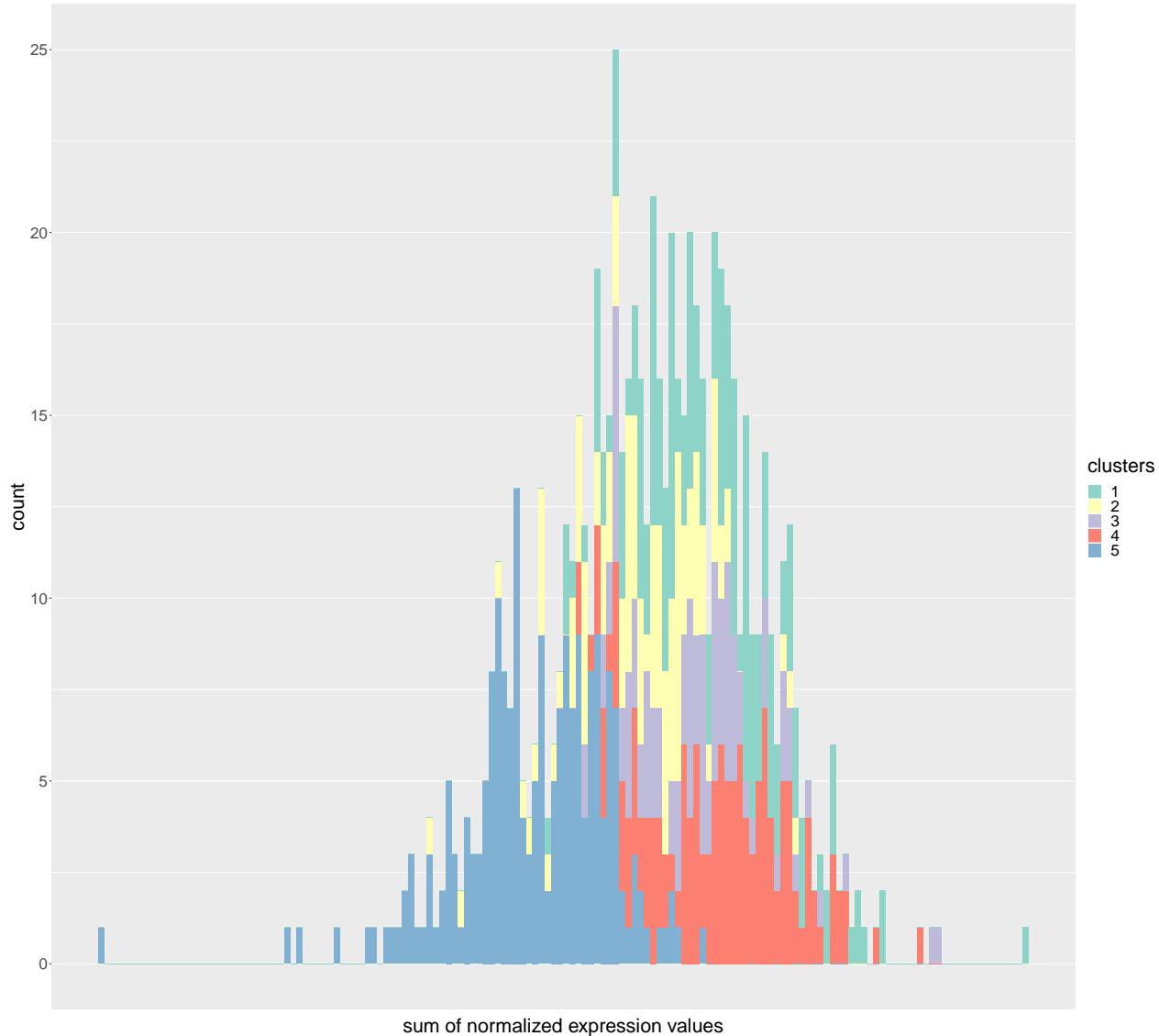




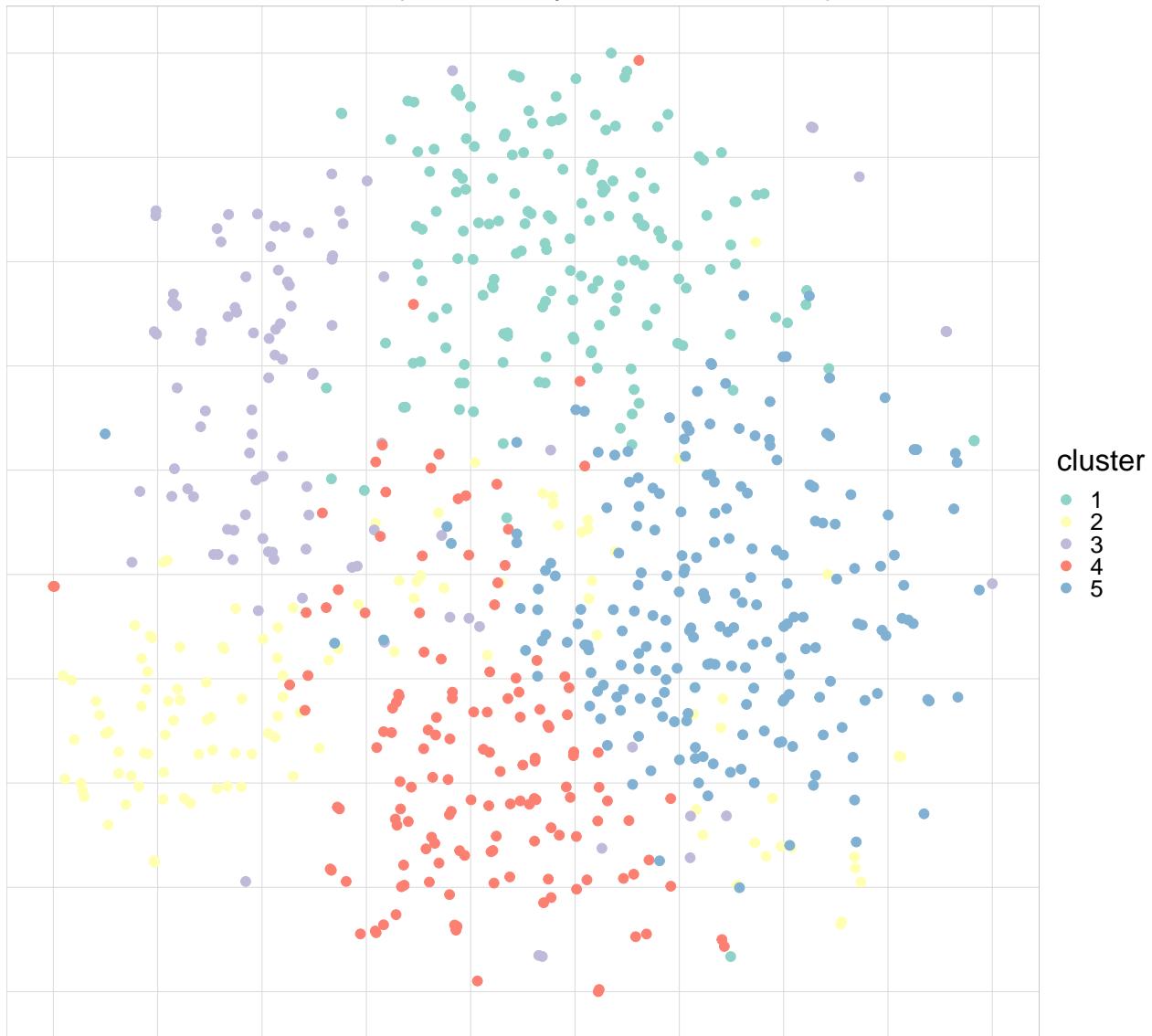




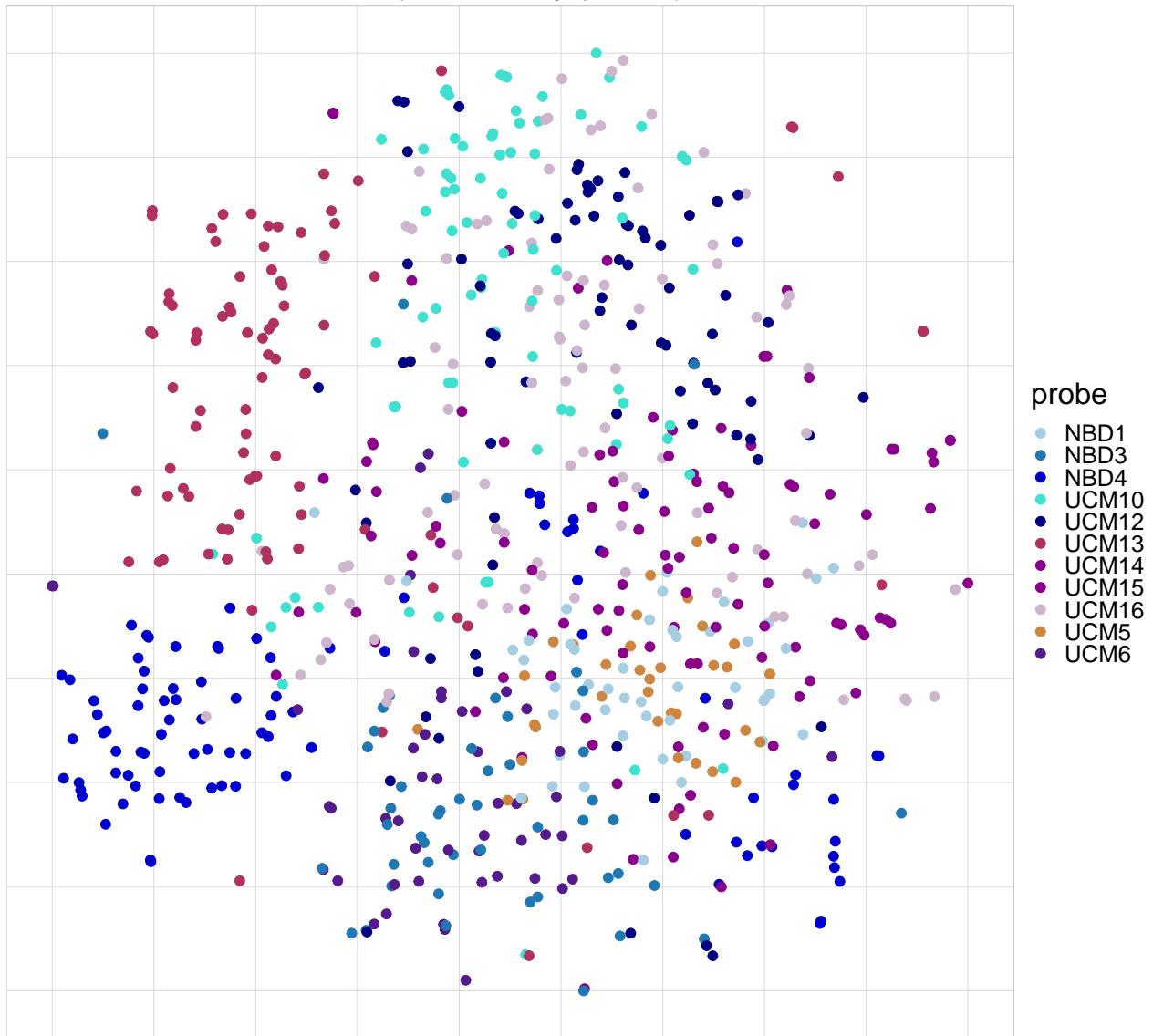
histogram of cumulative expression values per cell



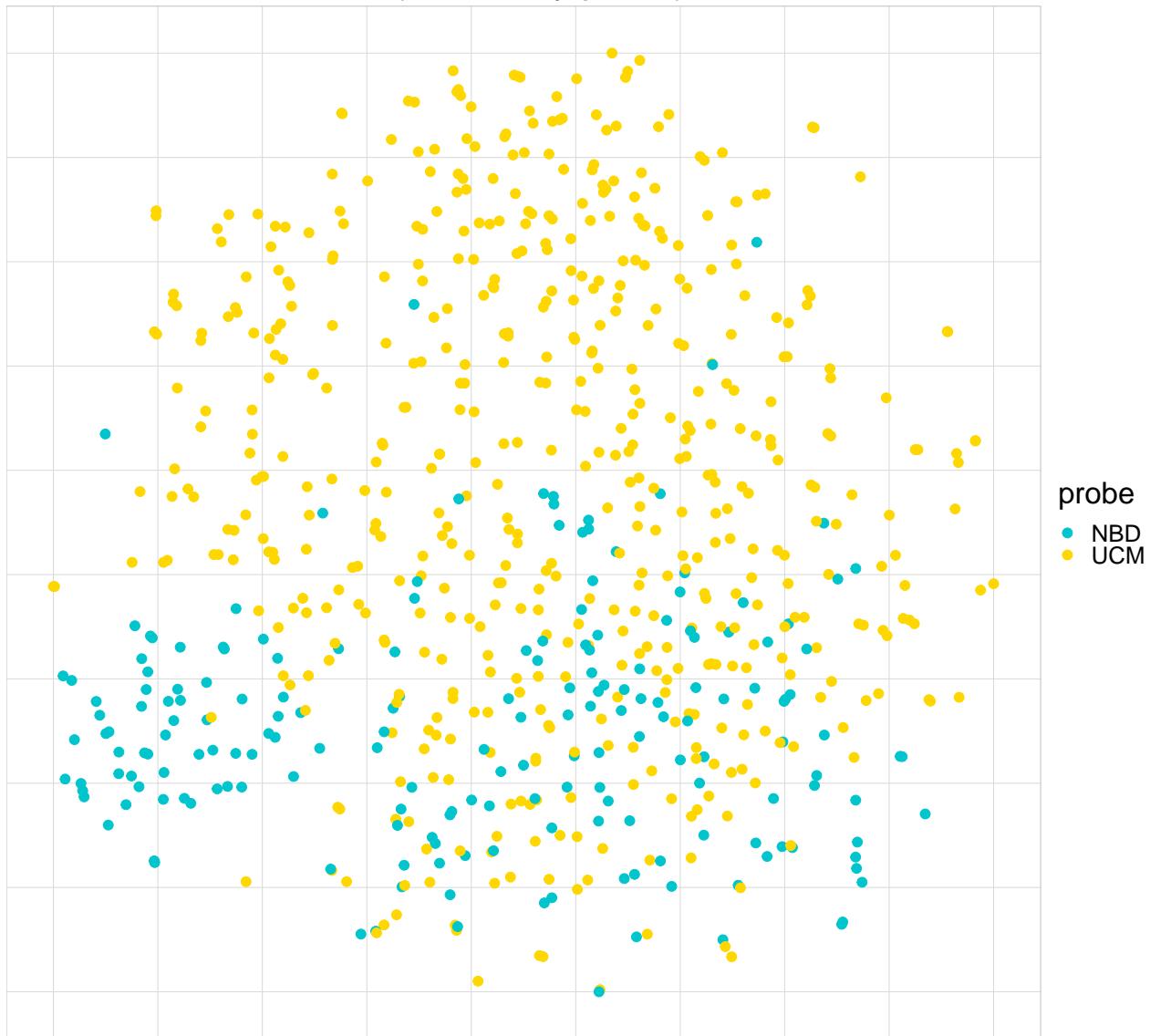
t-SNE between tissues (colored by kmeans.cluster)



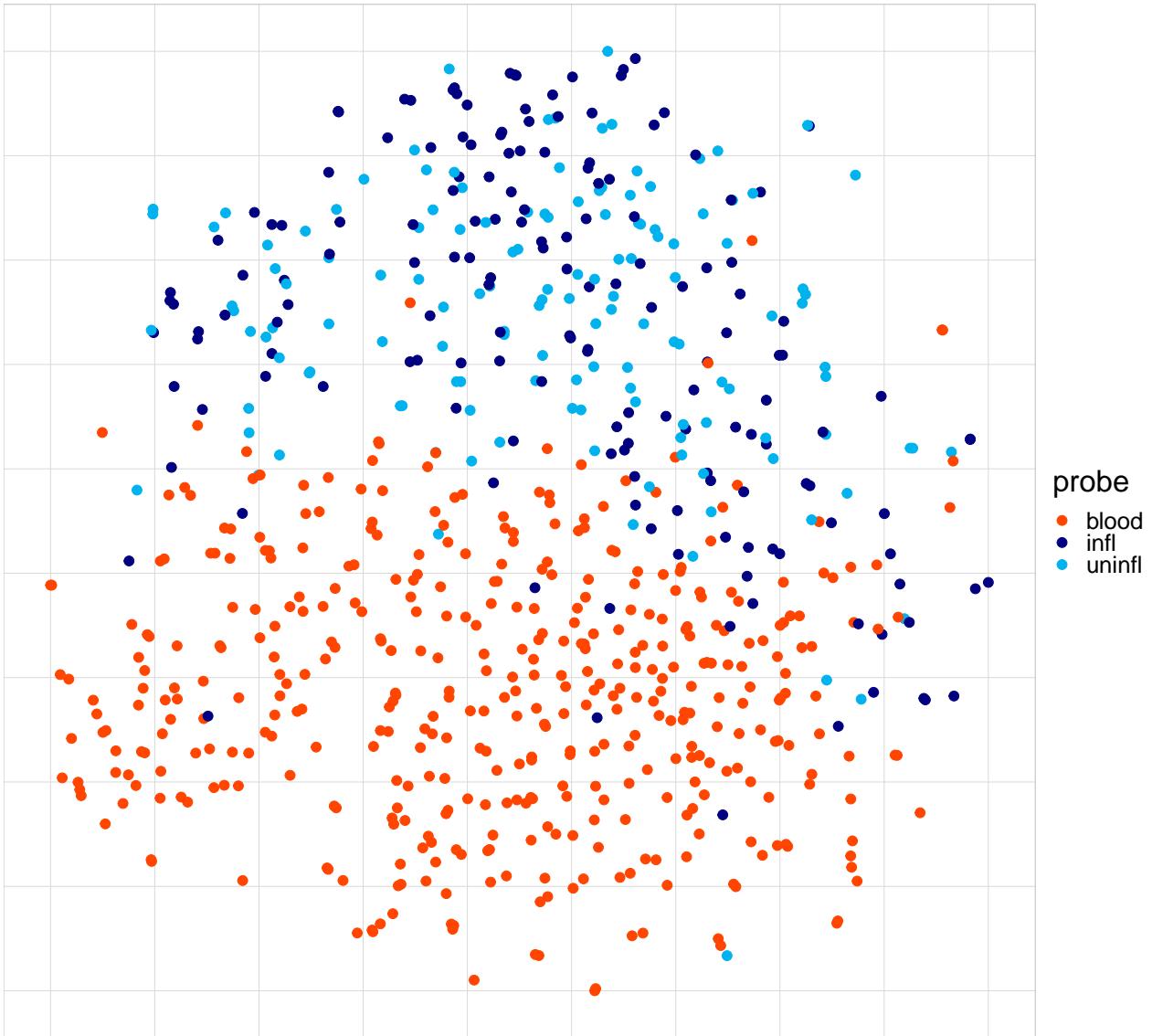
t-SNE between tissues (colored by probe)



t-SNE between tissues (colored by probe)



t-SNE between tissues (colored by probe)



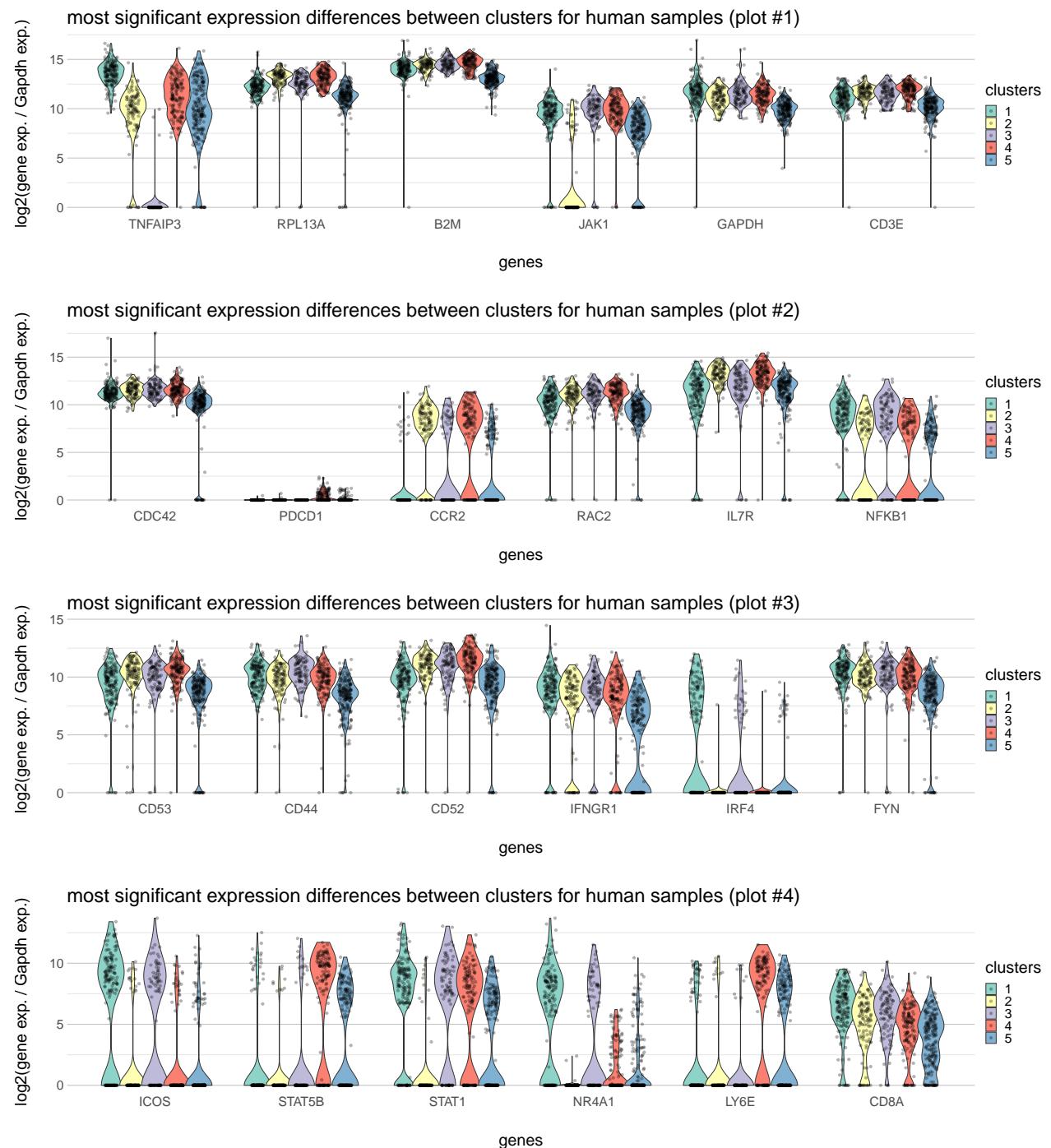
[1] Differentially expressed genes between clusters for human samples:

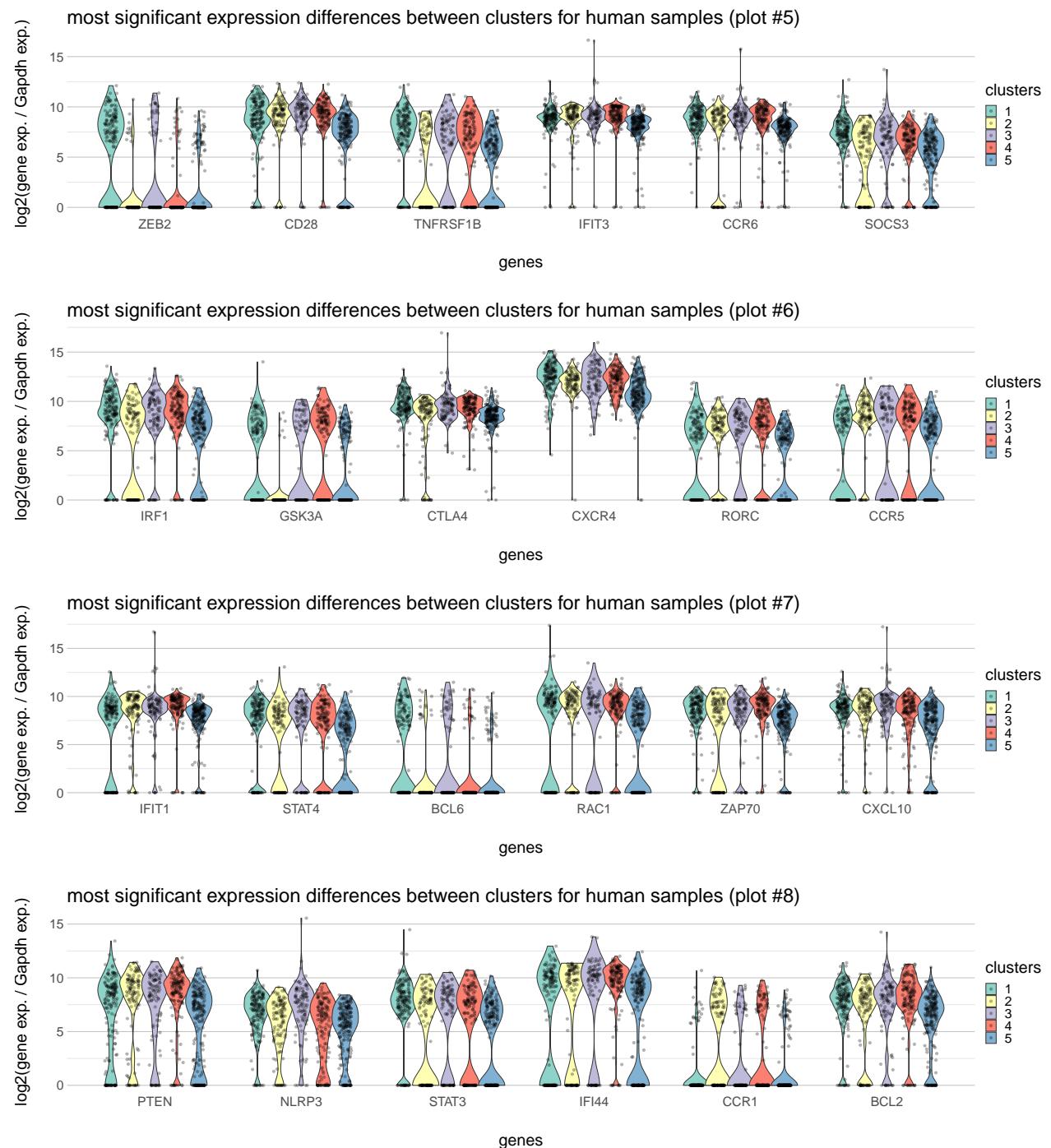
```

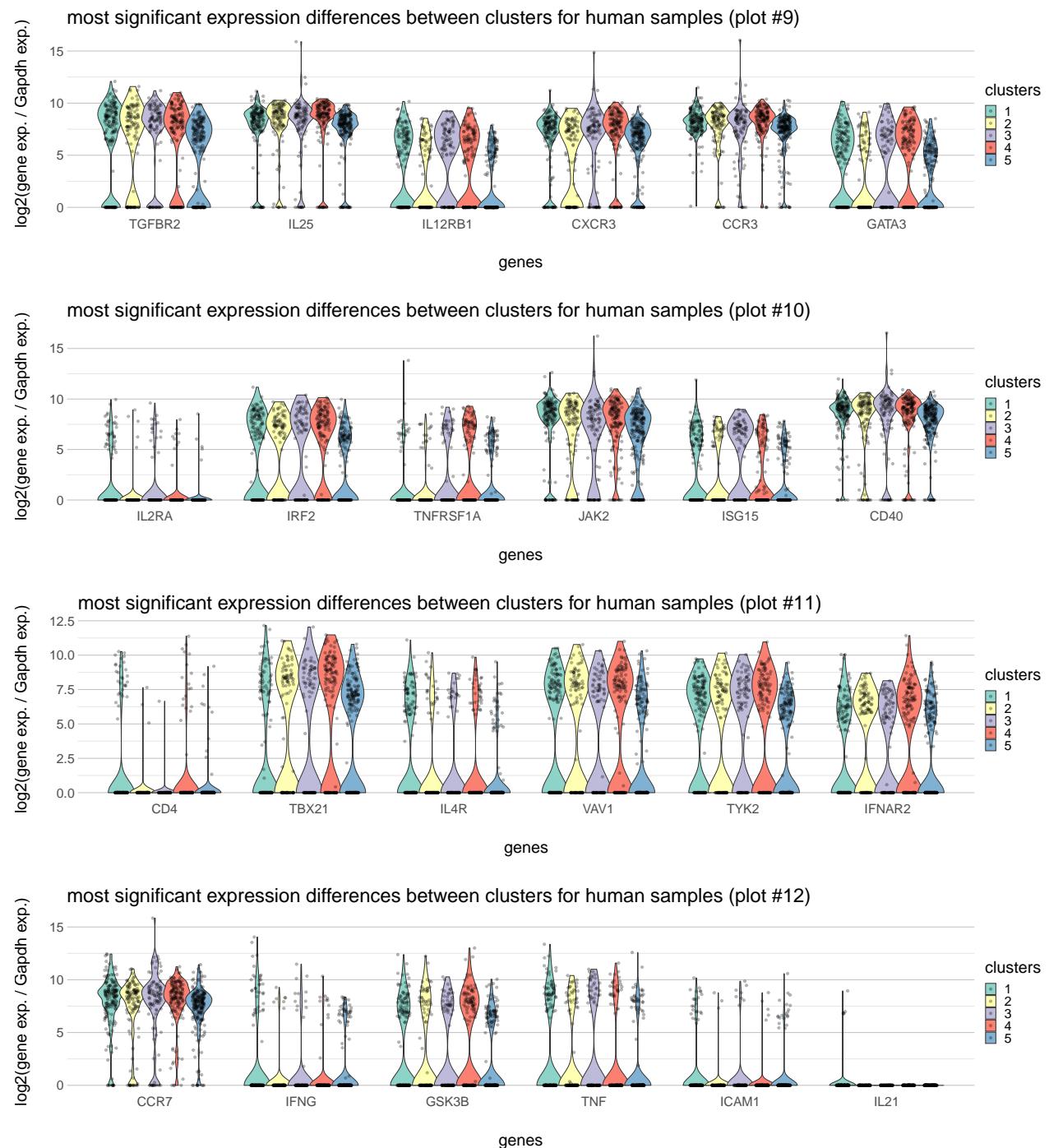
[1] TNFAIP3: 3.062e-87   RPL13A: 1.512e-68   B2M: 2.091e-66
[4] JAK1: 1.186e-59     GAPDH: 2.452e-53    CD3E: 1.461e-51
[7] CDC42: 7.904e-50    PDCD1: 1.827e-48   CCR2: 9.735e-48
[10] RAC2: 1.082e-47    IL7R: 1.807e-45   NFKB1: 1.473e-42
[13] CD53: 2.163e-41    CD44: 5.91e-41    CD52: 1.47e-40
[16] IFNGR1: 6.483e-40   IRF4: 9.295e-40   FYN: 1.806e-39
[19] ICOS: 8.4e-39      STAT5B: 2.773e-38  STAT1: 1.577e-36
[22] NR4A1: 5.456e-36   LY6E: 6.581e-35   CD8A: 1.626e-30
[25] ZEB2: 2.11e-30     CD28: 3.375e-29   TNFRSF1B: 3.961e-25
[28] IFIT3: 7.375e-24   CCR6: 1.988e-23   SOCS3: 2.73e-23
[31] IRF1: 3.064e-23   GSK3A: 3.673e-23  CTLA4: 6.334e-23
[34] CXCR4: 1.123e-22   RORC: 7.65e-22    CCR5: 5.807e-21
[37] IFIT1: 1.517e-20   STAT4: 2.694e-20  BCL6: 8.319e-20
[40] RAC1: 3.492e-19   ZAP70: 3.492e-19  CXCL10: 2.106e-18
[43] PTEN: 9.045e-18   NLRP3: 7.285e-17  STAT3: 8.506e-17

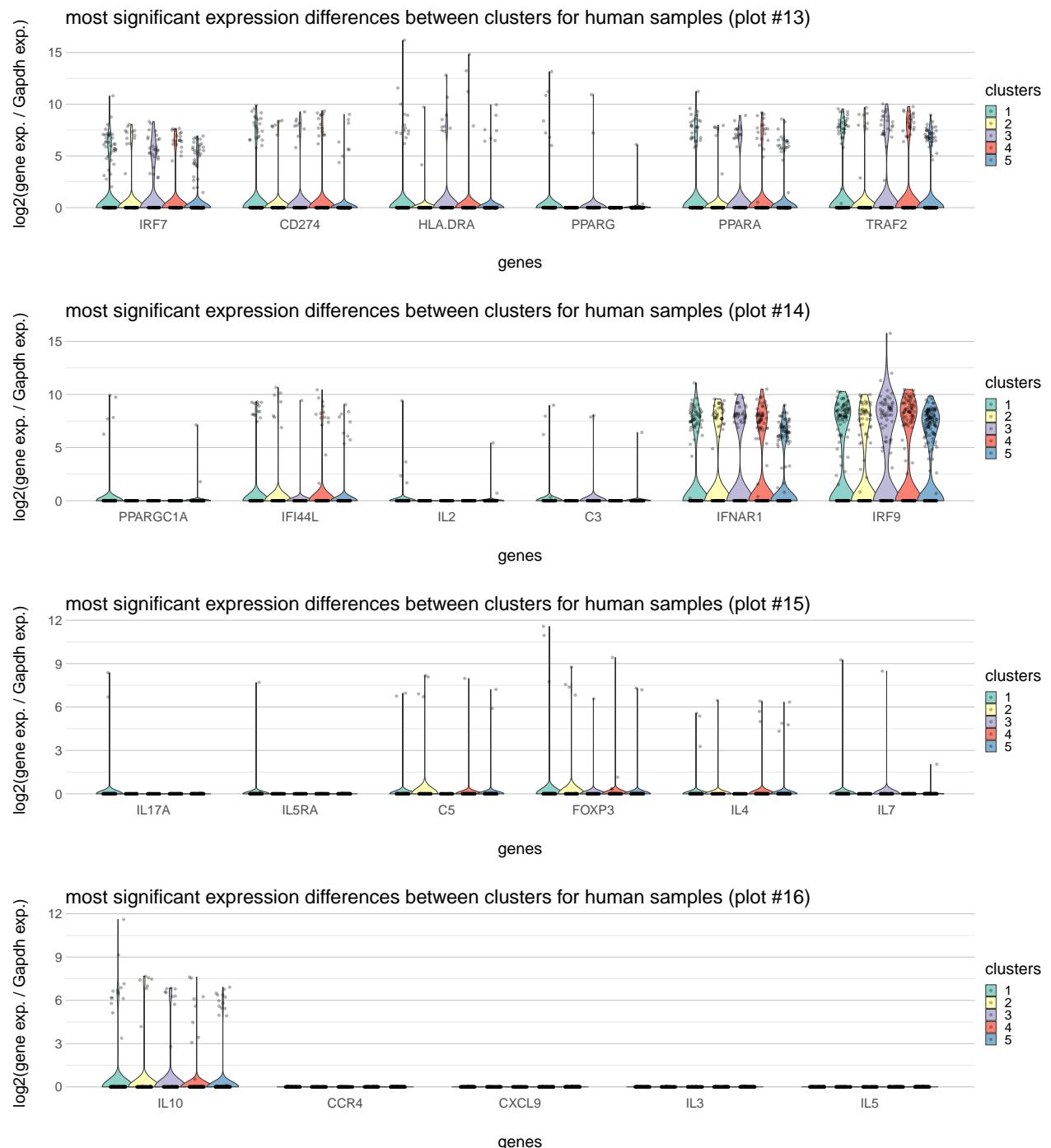
```

[46]	IFI44:	2.183e-16	CCR1:	6.174e-15	BCL2:	6.65e-15
[49]	TGFBR2:	4.412e-14	IL25:	2.206e-13	IL12RB1:	1.015e-12
[52]	CXCR3:	2.989e-12	CCR3:	7.224e-12	GATA3:	1.267e-11
[55]	IL2RA:	3.766e-11	IRF2:	4.088e-11	TNFRSF1A:	6.093e-11
[58]	JAK2:	9.593e-11	ISG15:	7.594e-09	CD40:	3.891e-08
[61]	CD4:	1.048e-07	TBX21:	1.464e-07	IL4R:	1.642e-07
[64]	VAV1:	6.568e-07	TYK2:	1.006e-06	IFNAR2:	9.76e-06
[67]	CCR7:	1.035e-05	IFNG:	0.0001315	GSK3B:	0.0001432
[70]	TNF:	0.0004279	ICAM1:	0.001783	IL21:	0.00252
[73]	IRF7:	0.004022	CD274:	0.007933	HLA.DRA:	0.01492
[76]	PPARG:	0.01556	PPARA:	0.02113	TRAF2:	0.03255
[79]	PPARGC1A:	0.03422	IFI44L:	0.0471		





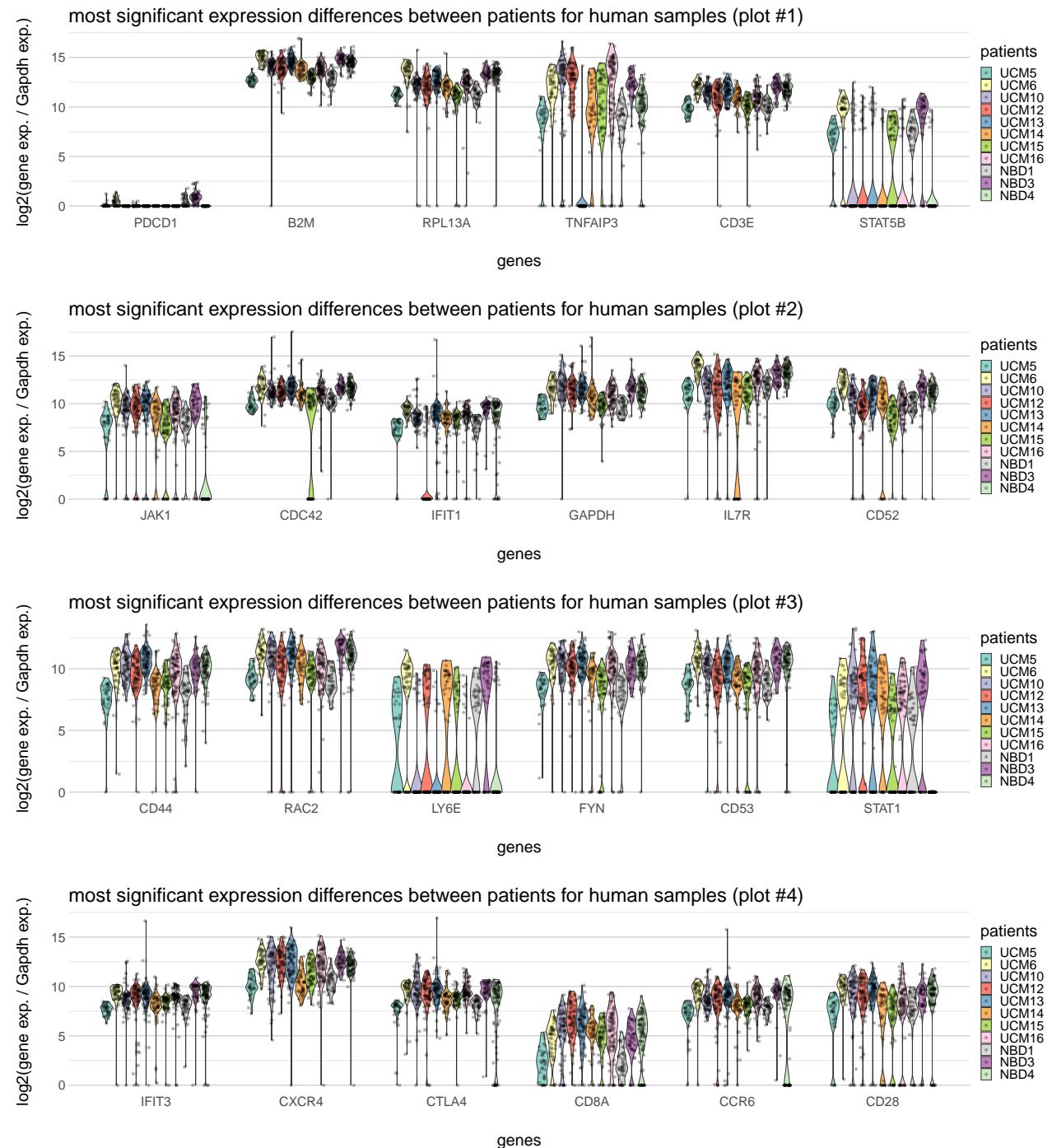


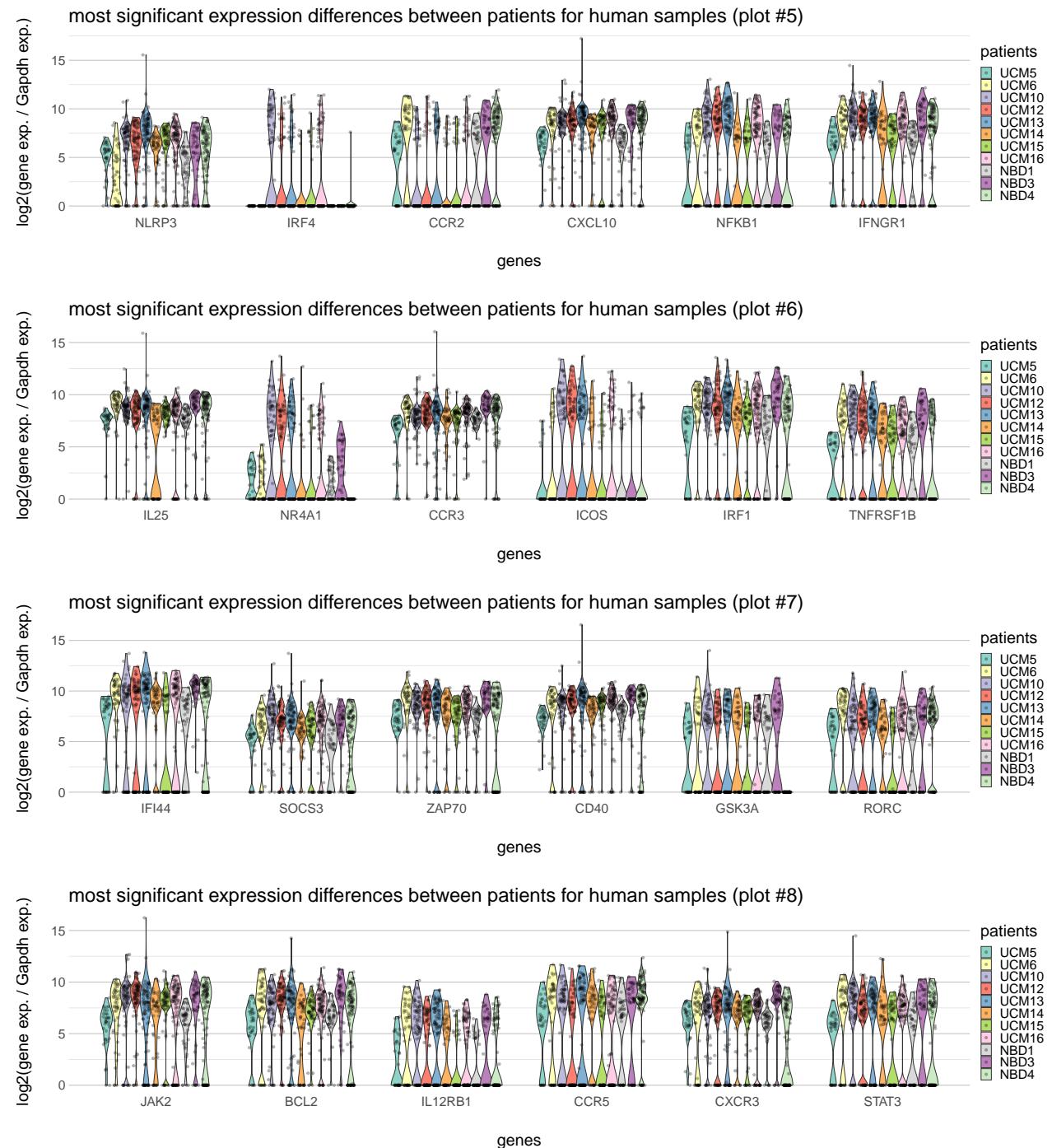


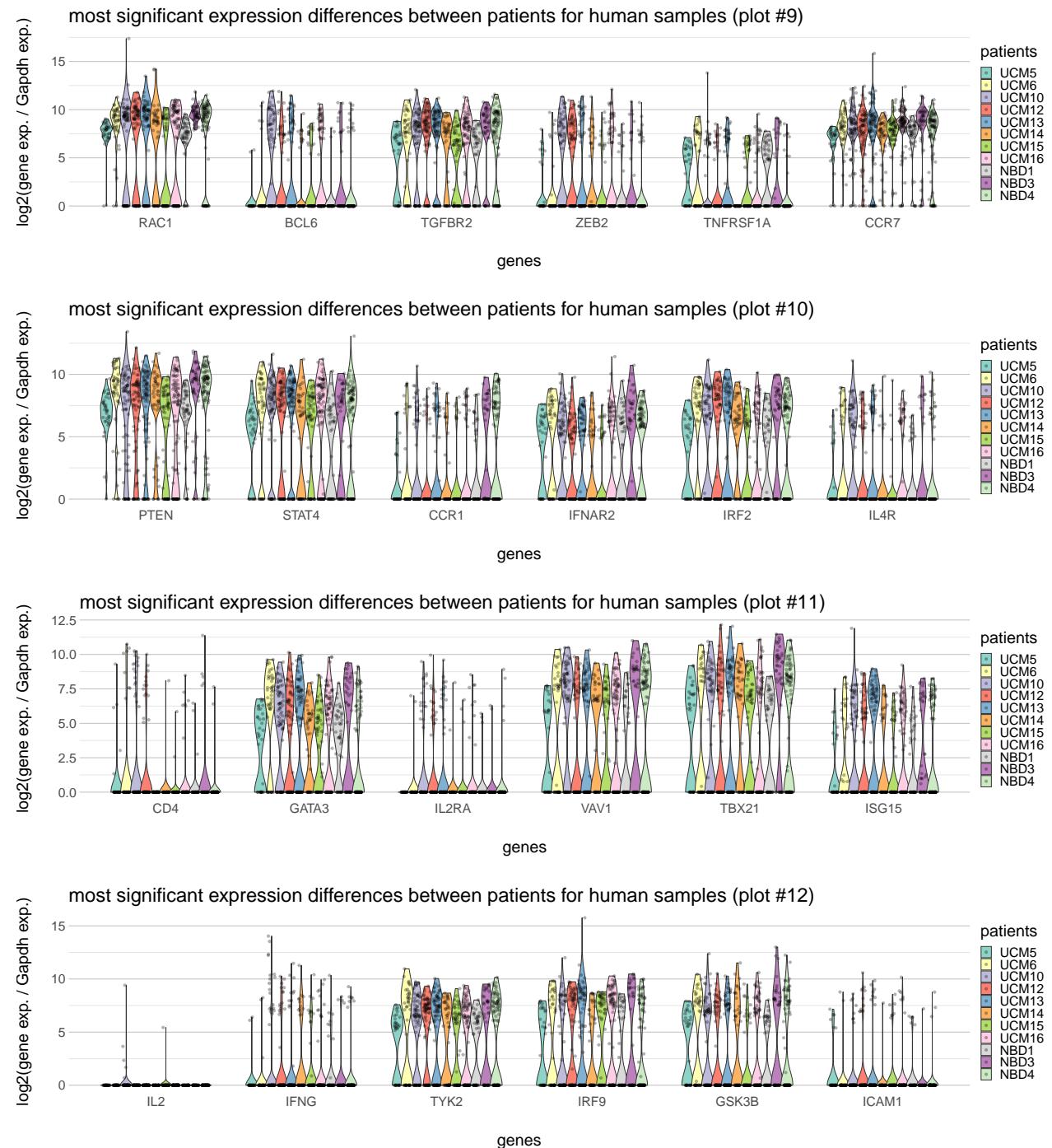
[1] Differentially expressed genes between patients for human samples:

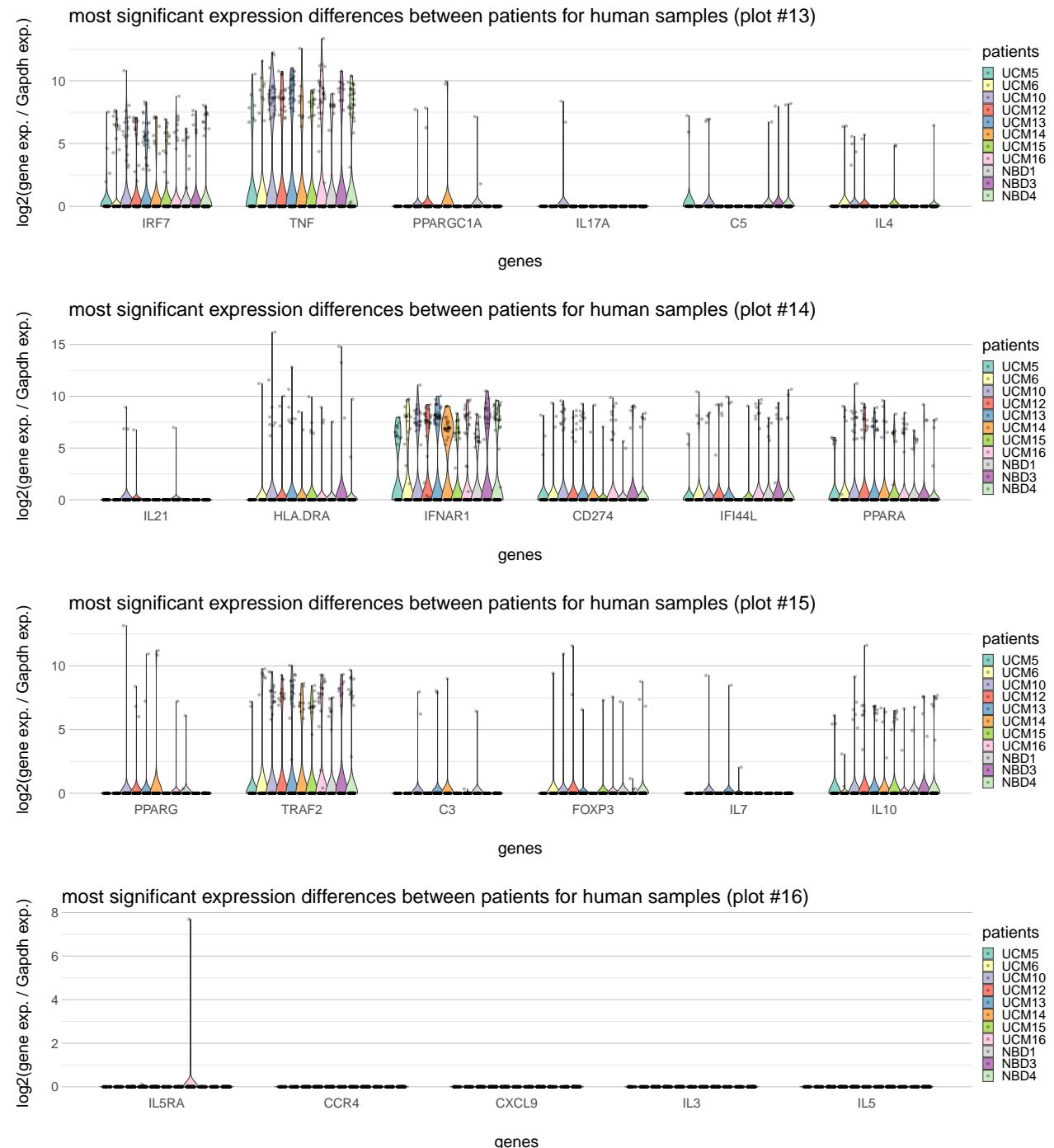
[1] PDCD1: 7.849e-89	B2M: 1.517e-76	RPL13A: 6.987e-73
[4] TNFAIP3: 4.197e-70	CD3E: 9.872e-58	STAT5B: 3.289e-55
[7] JAK1: 5.095e-53	CDC42: 1.226e-52	IFIT1: 1.561e-52
[10] GAPDH: 1.161e-48	IL7R: 1.21e-48	CD52: 1.471e-48
[13] CD44: 3.683e-46	RAC2: 1.929e-42	LY6E: 1.328e-41
[16] FYN: 4.892e-41	CD53: 2.226e-38	STAT1: 3.471e-36
[19] IFIT3: 3.471e-36	CXCR4: 5.035e-36	CTLA4: 2.839e-33
[22] CD8A: 3.414e-32	CCR6: 1.158e-30	CD28: 8.98e-30
[25] NLRP3: 3.094e-28	IRF4: 8.883e-26	CCR2: 1.178e-25

[28]	CXCL10:	1.357e-25	NFKB1:	1.879e-25	IFNGR1:	4.83e-25
[31]	IL25:	1.813e-24	NR4A1:	1.874e-23	CCR3:	6.022e-22
[34]	ICOS:	2.601e-21	IRF1:	6.762e-21	TNFRSF1B:	7.445e-20
[37]	IFI44:	4.853e-19	SOCS3:	6.677e-18	ZAP70:	1.521e-17
[40]	CD40:	1.148e-15	GSK3A:	1.421e-15	RORC:	2.528e-15
[43]	JAK2:	1.513e-14	BCL2:	1.928e-14	IL12RB1:	2.111e-14
[46]	CCR5:	5.28e-14	CXCR3:	6.848e-14	STAT3:	1.018e-13
[49]	RAC1:	3.146e-13	BCL6:	5.845e-13	TGFBR2:	2.484e-12
[52]	ZEB2:	5.413e-12	TNFRSF1A:	9.385e-12	CCR7:	1.175e-11
[55]	PTEN:	2.746e-10	STAT4:	4.639e-09	CCR1:	9.113e-09
[58]	IFNAR2:	9.682e-08	IRF2:	1.114e-07	IL4R:	2.613e-07
[61]	CD4:	4.025e-07	GATA3:	2.273e-06	IL2RA:	2.386e-06
[64]	VAV1:	4.653e-06	TBX21:	4.975e-06	ISG15:	3.645e-05
[67]	IL2:	0.0002192	IFNG:	0.002184	TYK2:	0.002398
[70]	IRF9:	0.01892	GSK3B:	0.0196		



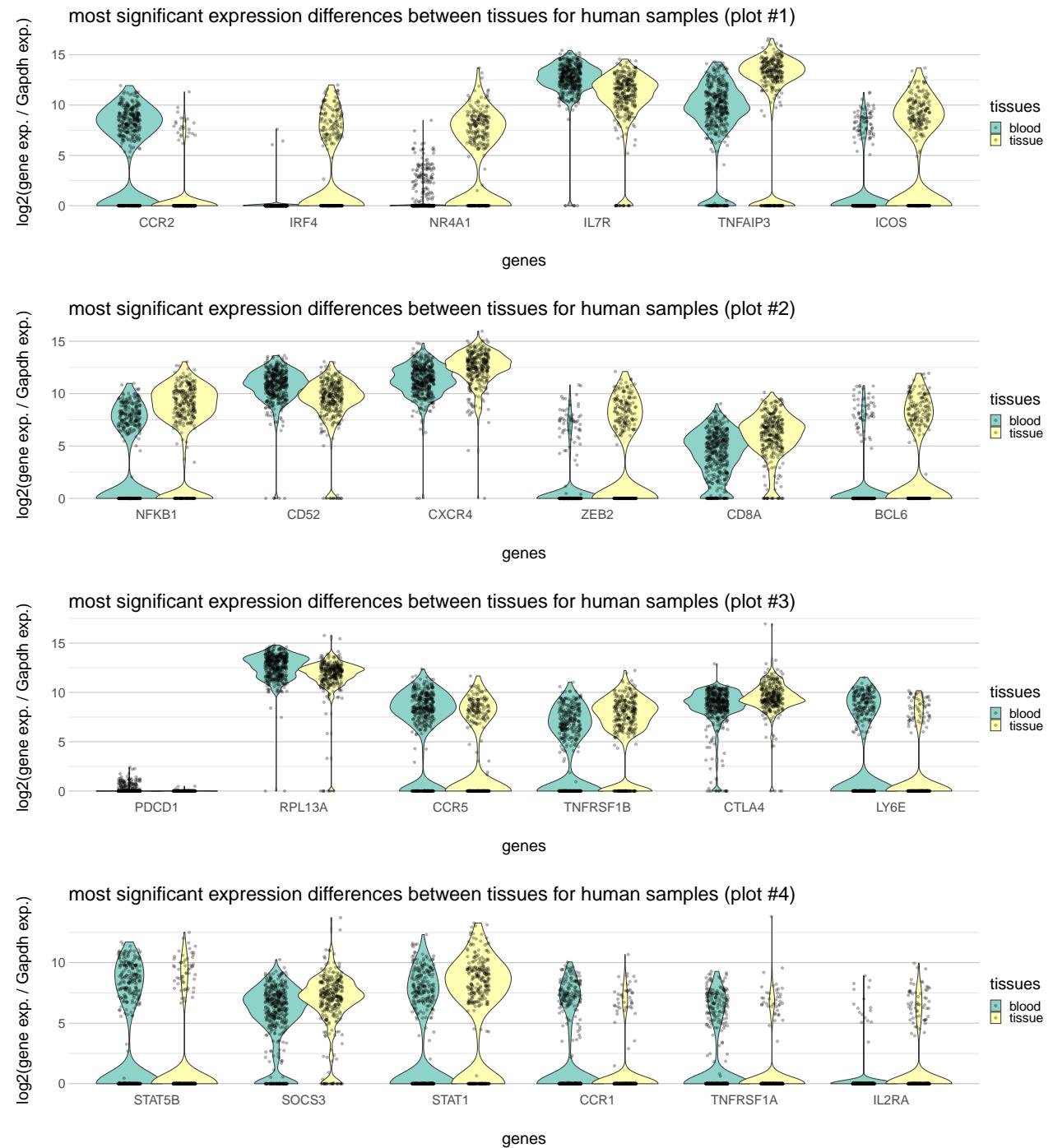


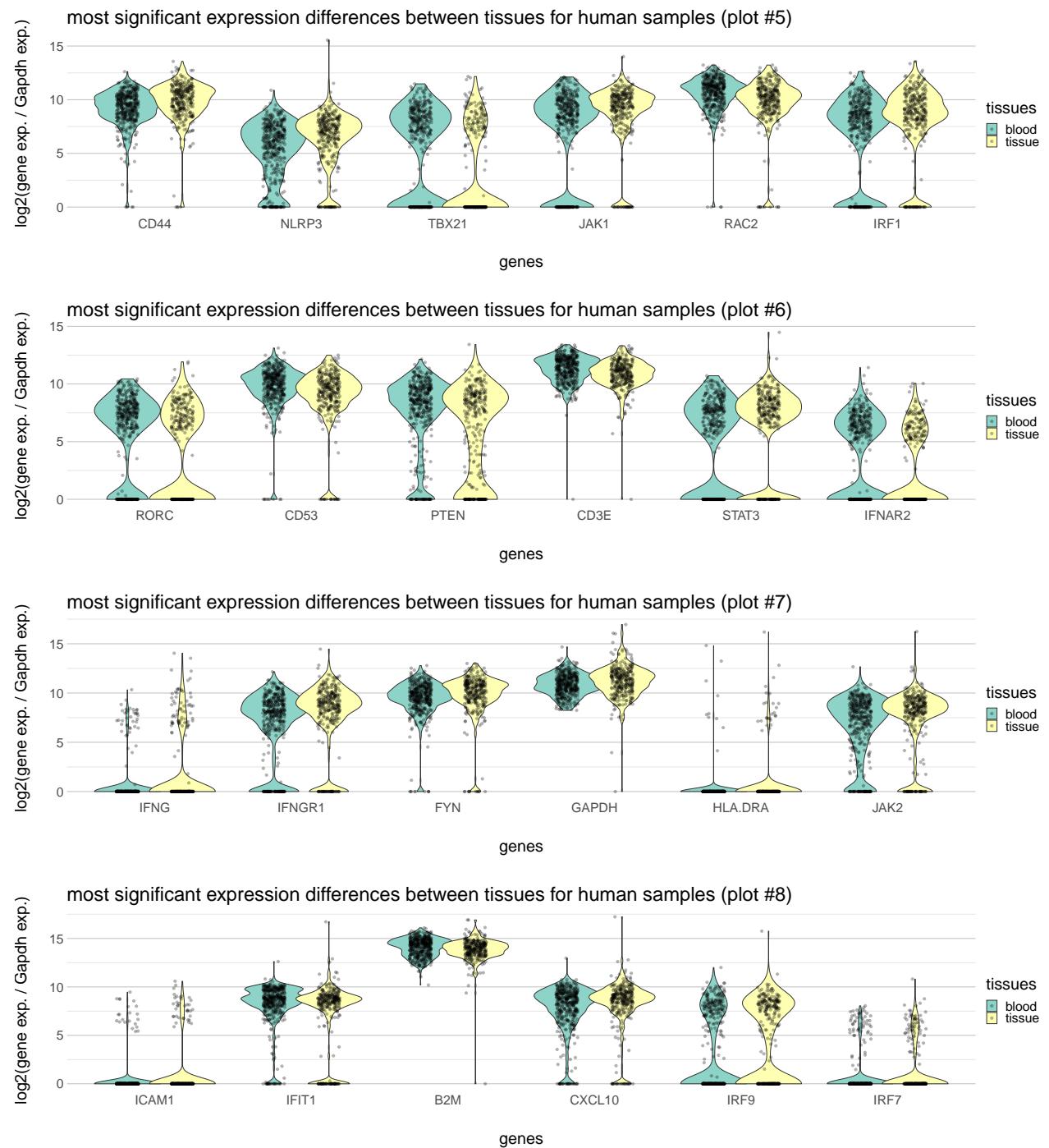


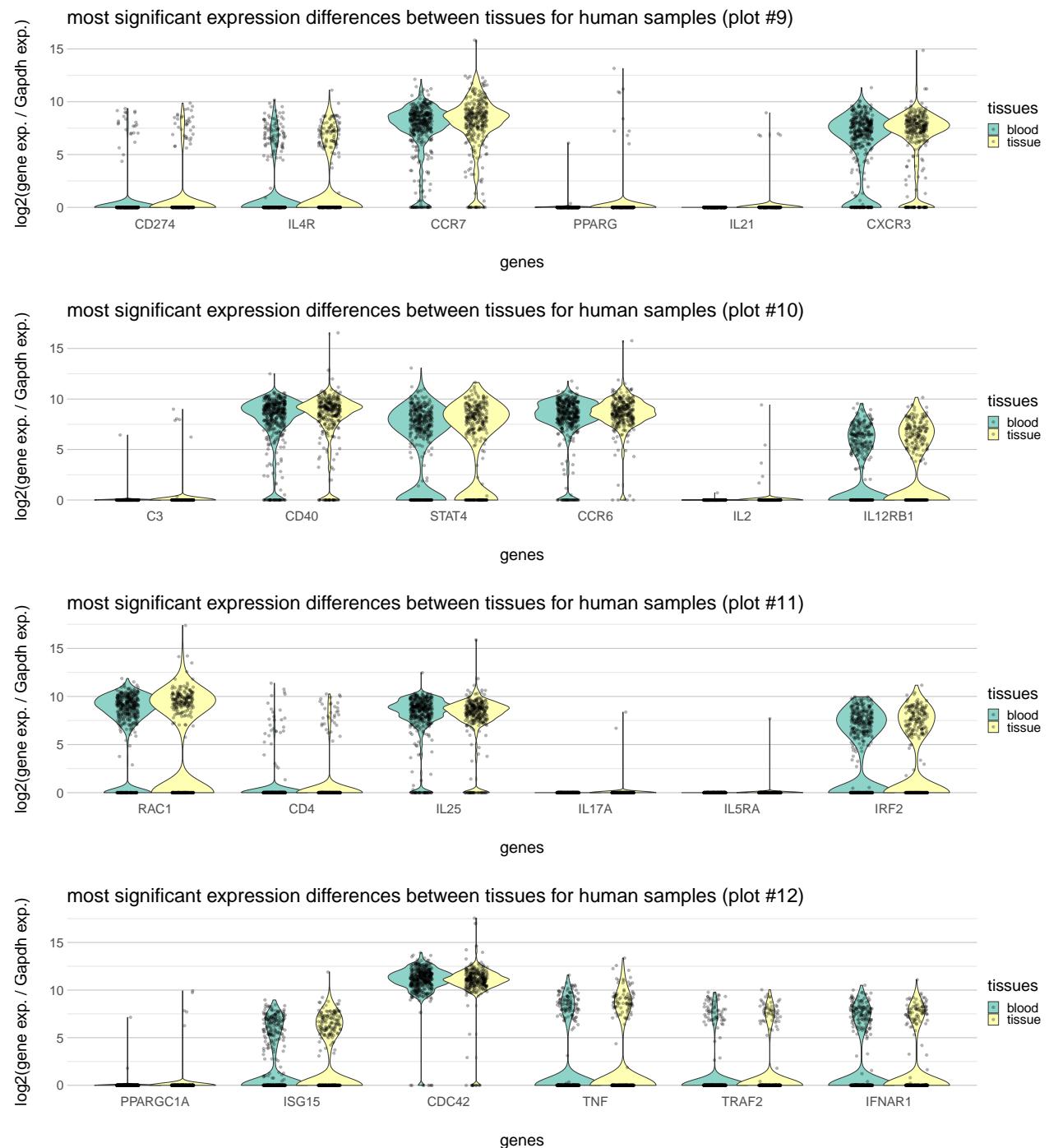


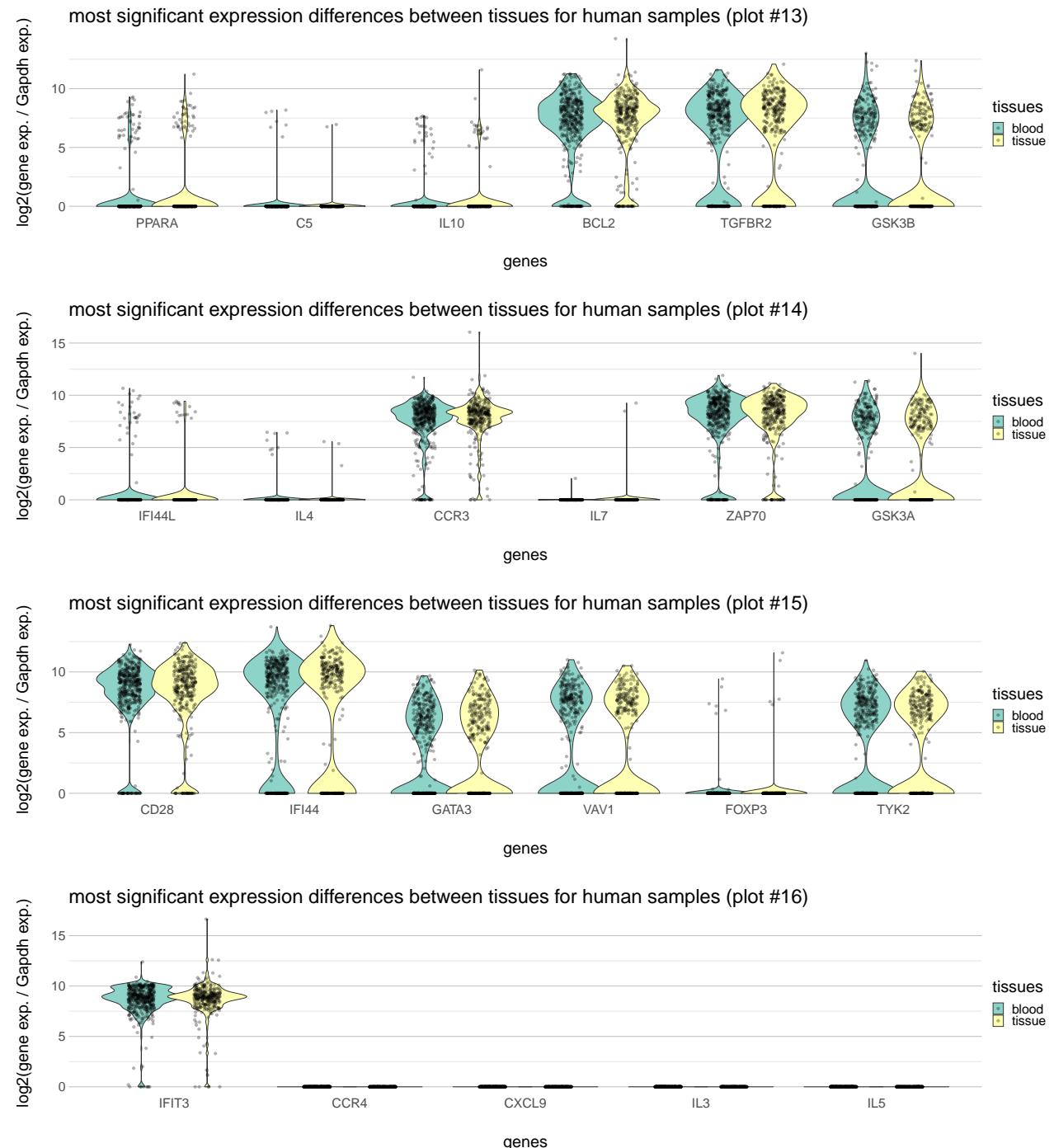
```
[1] Differentially expressed genes between tissues for human samples:
[1] CCR2: 2.787e-48    IRF4: 1.895e-45    NR4A1: 3.104e-37
[4] IL7R: 8.061e-34    TNFAIP3: 6.478e-31    ICOS: 4.124e-30
[7] NFKB1: 2.828e-28    CD52: 1.208e-26    CXCR4: 2.508e-26
[10] ZEB2: 5.676e-26    CD8A: 2.856e-23    BCL6: 1.873e-19
[13] PDCD1: 3.599e-18    RPL13A: 7.367e-18    CCR5: 5.433e-15
[16] TNFRSF1B: 3.725e-14    CTLA4: 8.435e-14    LY6E: 2.426e-12
[19] STAT5B: 2.52e-12    SOCS3: 5.6e-12    STAT1: 1.576e-11
[22] CCR1: 3.106e-11    TNFRSF1A: 5.652e-11    IL2RA: 6.442e-11
[25] CD44: 2.654e-09    NLRP3: 4.839e-09    TBX21: 4.839e-09
```

[28] JAK1: 1.33e-08	RAC2: 1.672e-08	IRF1: 2.543e-08
[31] RORC: 5.062e-08	CD53: 1.232e-07	PTEN: 1.232e-07
[34] CD3E: 1.426e-07	STAT3: 2.903e-07	IFNAR2: 4.973e-07
[37] IFNG: 4.973e-07	IFNGR1: 1.386e-06	FYN: 1.163e-05
[40] GAPDH: 0.0001063	HLA.DRA: 0.0003181	JAK2: 0.0003741
[43] ICAM1: 0.0005254	IFIT1: 0.001006	B2M: 0.001463
[46] CXCL10: 0.001609	IRF9: 0.001615	IRF7: 0.004421
[49] CD274: 0.004988	IL4R: 0.01006	CCR7: 0.01105
[52] PPARG: 0.01105	IL21: 0.01367	CXCR3: 0.02395
[55] C3: 0.02892	CD40: 0.03437	STAT4: 0.04273
[58] CCR6: 0.045		





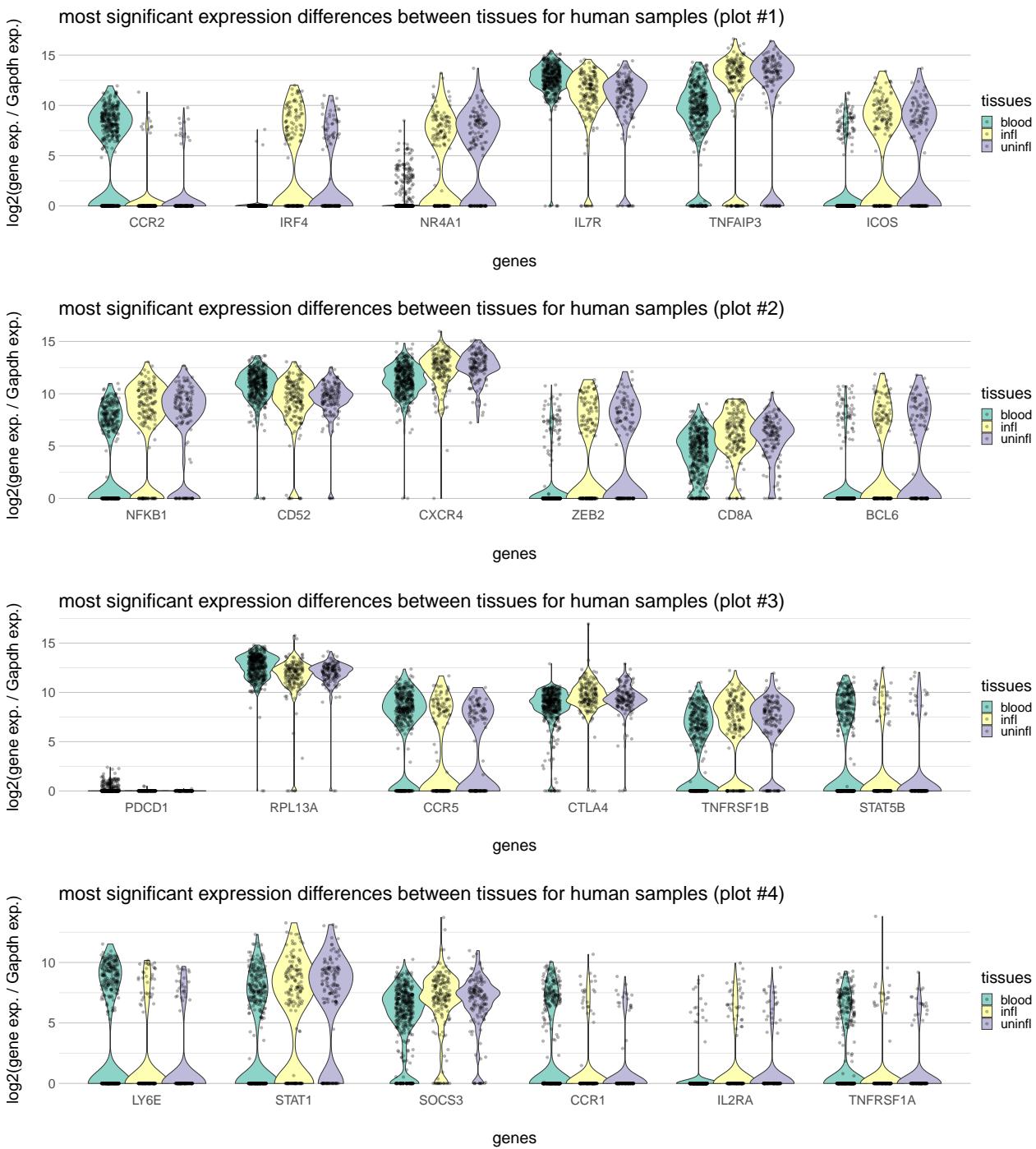


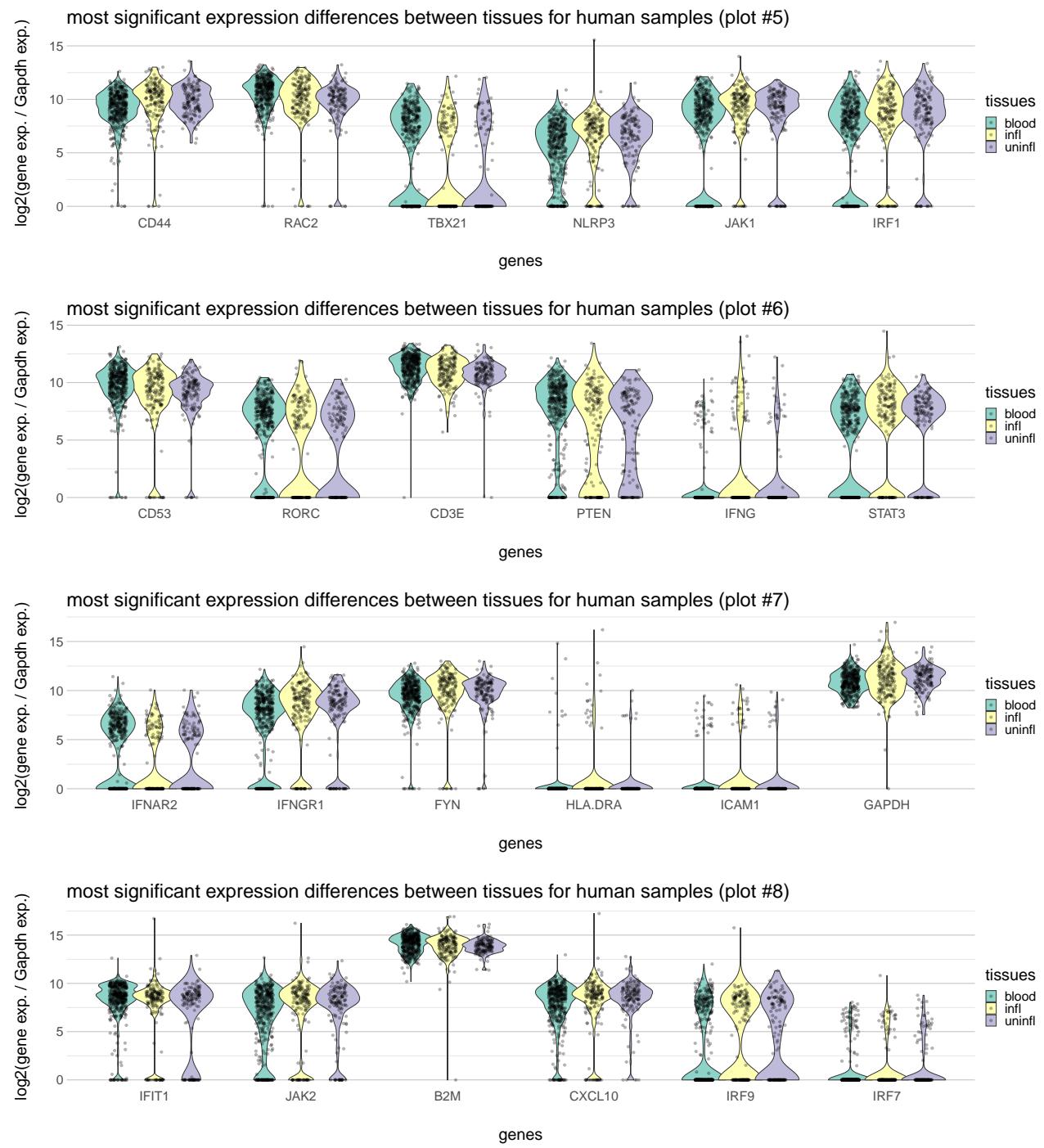


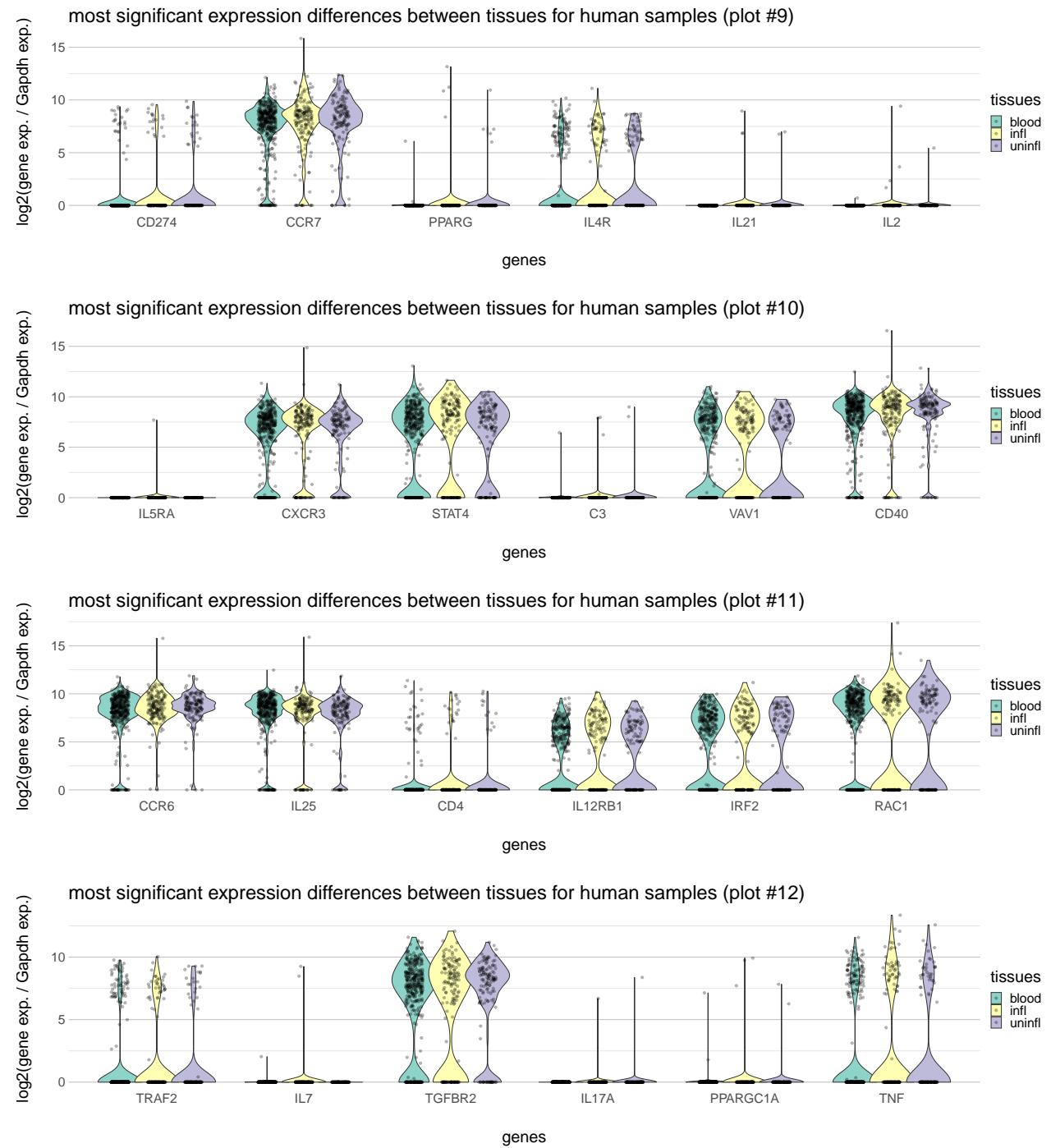
[1] Differentially expressed genes between tissues for human samples:

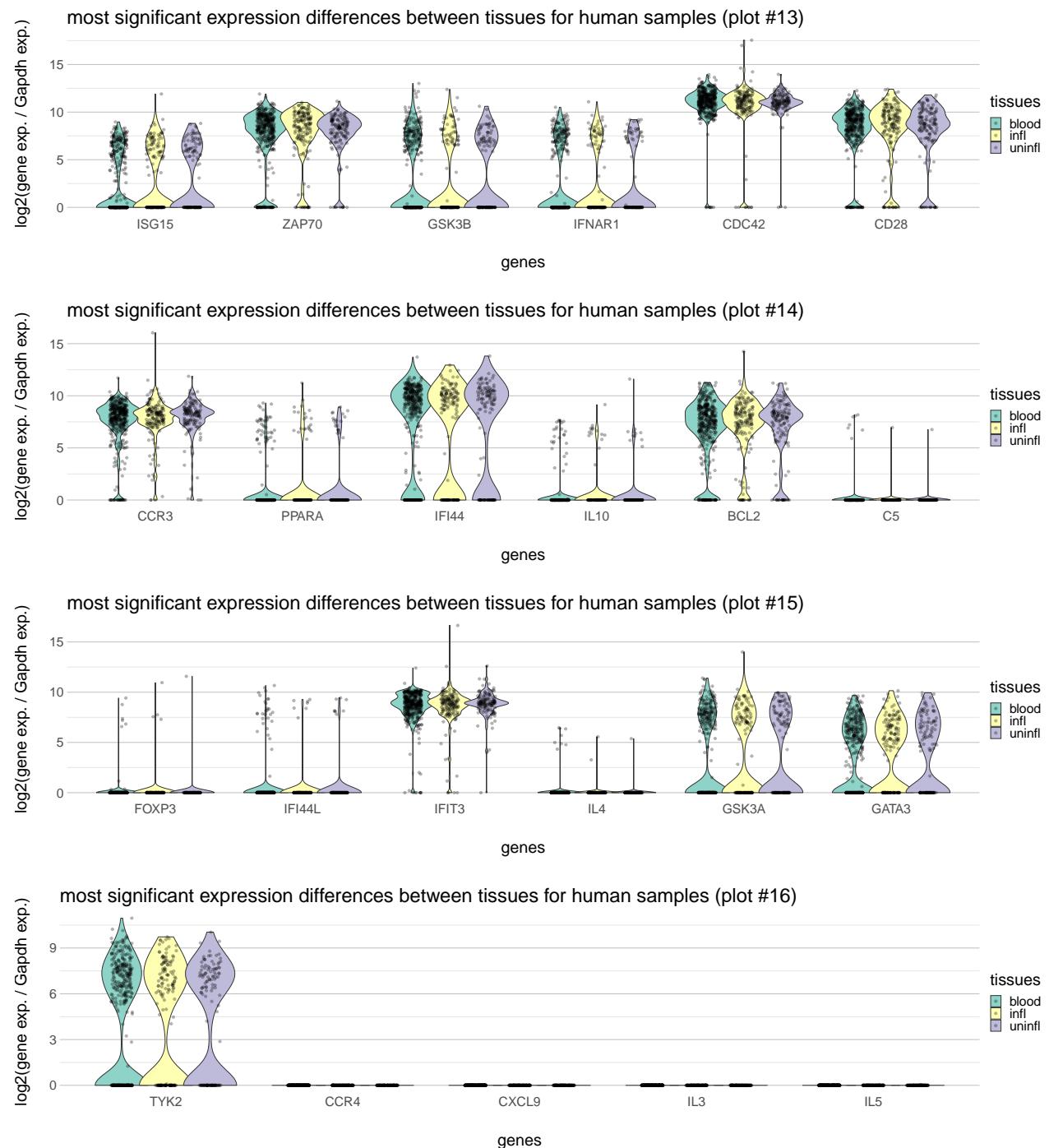
- | | | |
|-----------------------|---------------------|---------------------|
| [1] CCR2: 4.106e-47 | IRF4: 4.106e-47 | NR4A1: 3.09e-37 |
| [4] IL7R: 2.928e-33 | TNFAIP3: 7.798e-30 | ICOS: 3.41e-29 |
| [7] NFKB1: 3.971e-27 | CD52: 1.649e-25 | CXCR4: 1.794e-25 |
| [10] ZEB2: 5.264e-25 | CD8A: 3.266e-22 | BCL6: 1.747e-18 |
| [13] PDCD1: 4.067e-17 | RPL13A: 4.45e-17 | CCR5: 5.406e-14 |
| [16] CTLA4: 1.902e-13 | TNFRSF1B: 2.956e-13 | STAT5B: 1.225e-11 |
| [19] LY6E: 1.569e-11 | STAT1: 4.098e-11 | SOCS3: 4.098e-11 |
| [22] CCR1: 2.455e-10 | IL2RA: 4.207e-10 | TNFRSF1A: 4.369e-10 |
| [25] CD44: 8.83e-09 | RAC2: 2.549e-08 | TBX21: 3.419e-08 |

[28]	NLRP3:	3.597e-08	JAK1:	6.946e-08	IRF1:	1.79e-07
[31]	CD53:	2.137e-07	RORC:	2.462e-07	CD3E:	4.201e-07
[34]	PTEN:	6.217e-07	IFNG:	6.33e-07	STAT3:	1.436e-06
[37]	IFNAR2:	2.041e-06	IFNGR1:	5.75e-06	FYN:	2.23e-05
[40]	HLA.DRA:	0.0001836	ICAM1:	0.000207	GAPDH:	0.0002126
[43]	IFIT1:	0.001084	JAK2:	0.001694	B2M:	0.002308
[46]	CXCL10:	0.00601	IRF9:	0.006382	IRF7:	0.01106
[49]	CD274:	0.01748	CCR7:	0.02737	PPARG:	0.03038
[52]	IL4R:	0.03612	IL21:	0.04685		









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

```

[1] PDCD1: 8.179e-21    JAK1: 1.757e-17    CCR2: 3.884e-15
[4] IL7R: 8.274e-14     ICOS: 3.631e-12    IRF4: 4.094e-12
[7] STAT1: 6.041e-12    RPL13A: 5.969e-11   CD52: 2.116e-09
[10] CCR1: 1.463e-08    NLRP3: 2.056e-08   CD8A: 7.811e-07
[13] NFKB1: 1.179e-06   NR4A1: 1.685e-06   ZEB2: 3.074e-06
[16] CCR5: 9.158e-06    BCL6: 1.759e-05    SOCS3: 3.83e-05
[19] IFIT1: 3.941e-05   CD53: 5.517e-05    GSK3A: 6.855e-05
[22] IFNAR2: 0.0001641  CD3E: 0.0002162   TNFRSF1B: 0.0005193
[25] CTLA4: 0.0007115   B2M: 0.001329     STAT5B: 0.001627

```

[28]	RAC1: 0.002094	STAT3: 0.002556	STAT4: 0.002655
[31]	IL12RB1: 0.002655	PTEN: 0.005764	TBX21: 0.006336
[34]	IL2RA: 0.006366	RAC2: 0.00653	CDC42: 0.009779
[37]	LY6E: 0.0119	PPARA: 0.01243	CXCR3: 0.01456
[40]	RORC: 0.02002	GATA3: 0.02002	IFIT3: 0.02156
[43]	TNFAIP3: 0.03208	CCR3: 0.03257	JAK2: 0.036
[46]	IL25: 0.04367		

