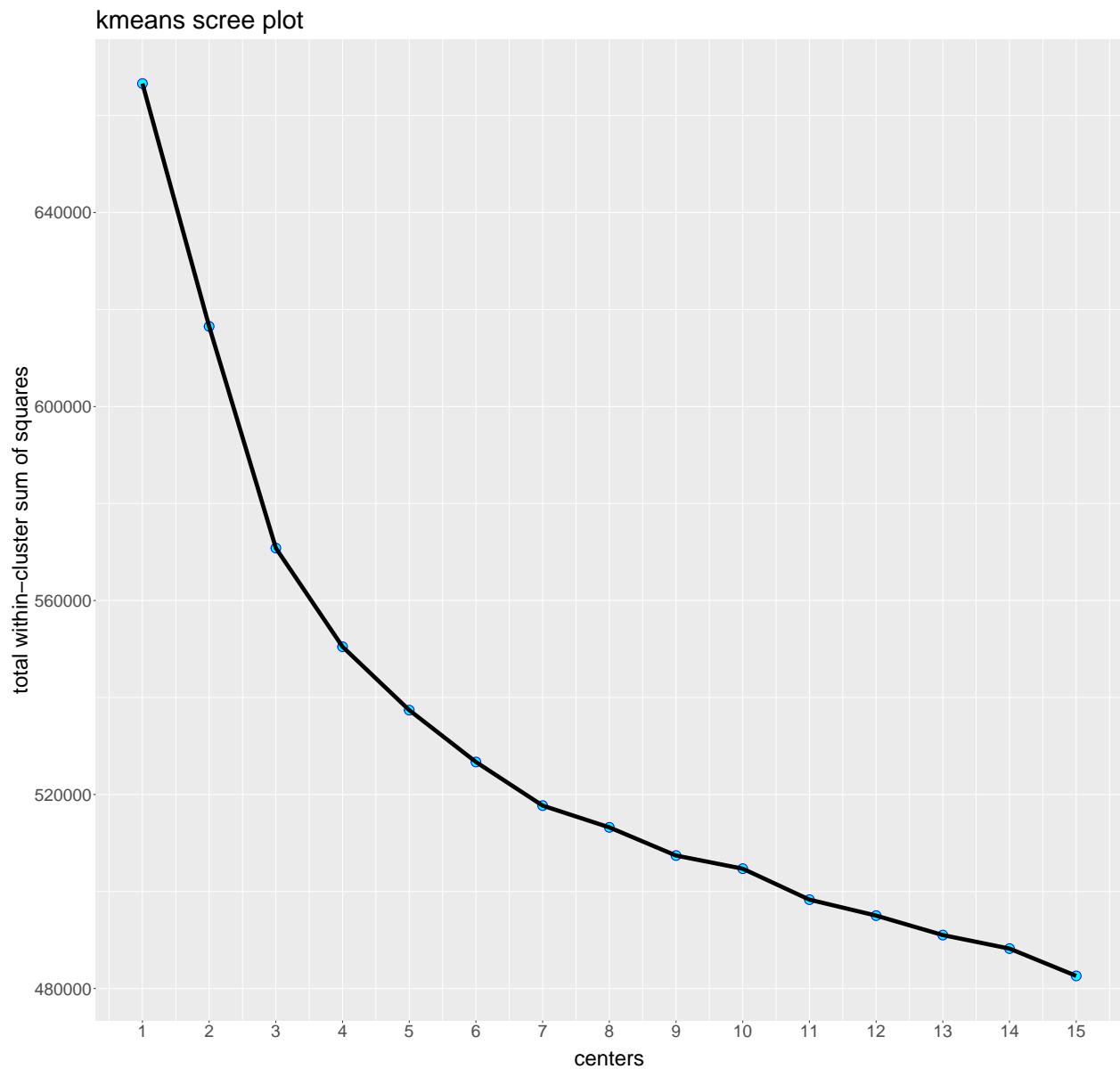
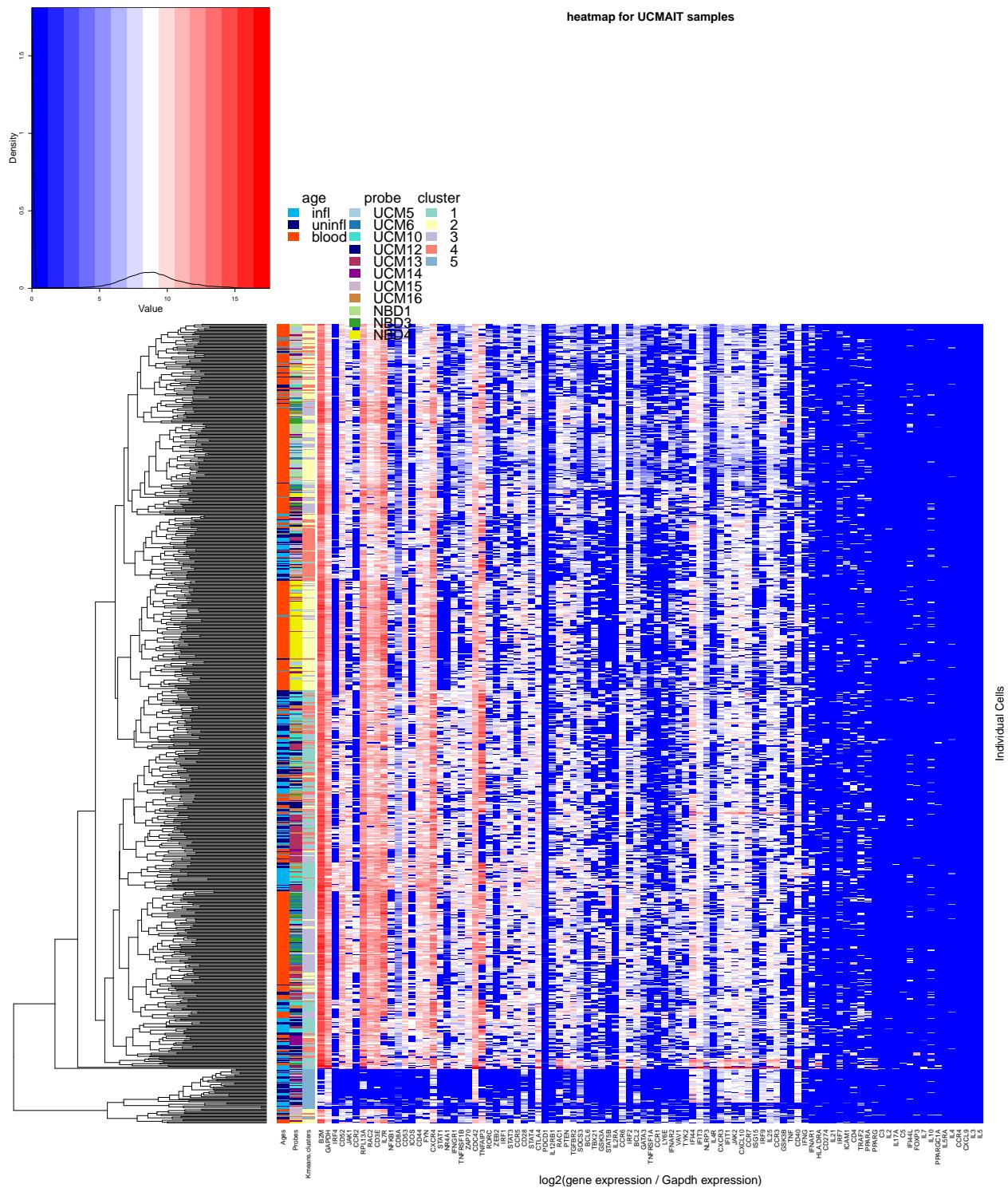


UC-MAIT analysis

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	0	0	47	34	34
cluster_2	30	5	3	3	8
cluster_3	5	43	14	12	28

cluster_4	0	0	15	31	18
cluster_5	0	0	10	10	6
	probe_UCM14	probe_UCM15	probe_UCM16	probe_NBD1	probe_NBD3
cluster_1	7	0	22	0	0
cluster_2	18	25	13	40	3
cluster_3	10	4	18	4	43
cluster_4	13	34	40	4	2
cluster_5	7	5	1	0	0
	probe_NBD4				
cluster_1	1				
cluster_2	85				
cluster_3	8				
cluster_4	0				
cluster_5	0				

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

data: probeTable
X-squared = 765.78, df = NA, p-value = 0.0004998

[1]		
[1]		
[1]	Tissue vs. Cluster	
	cellSource_blood cellSource_tissue	
cluster_1	2	143
cluster_2	223	10
cluster_3	179	10
cluster_4	19	138
cluster_5	0	39

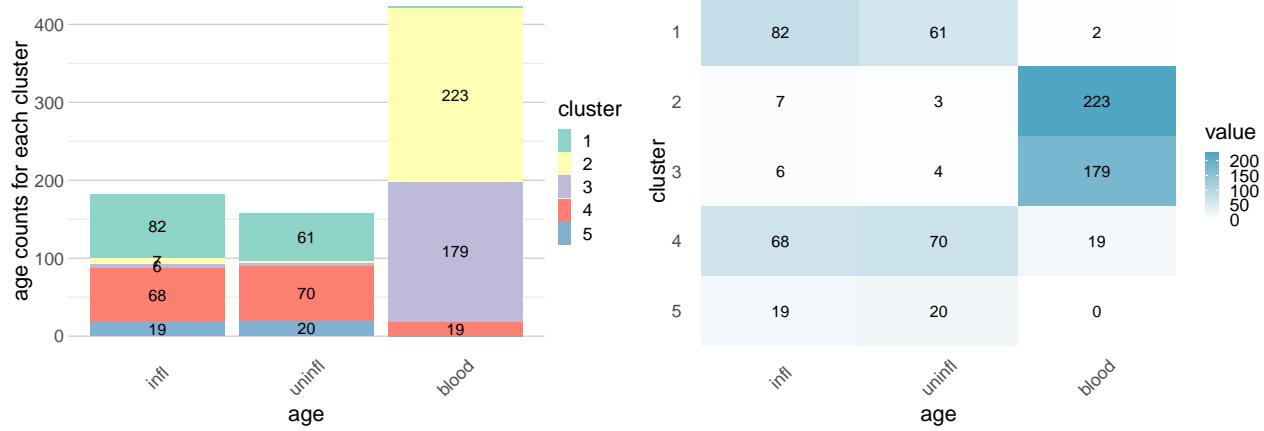
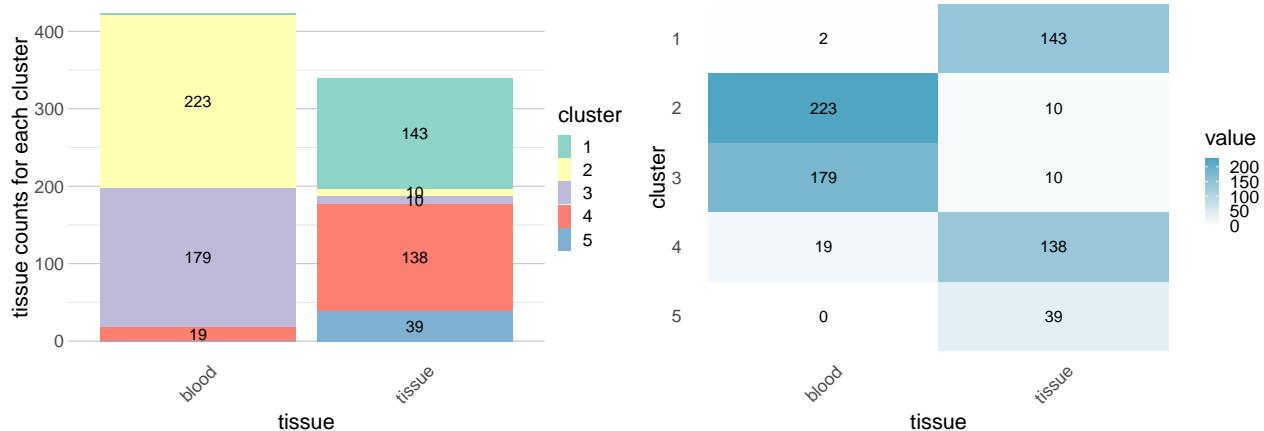
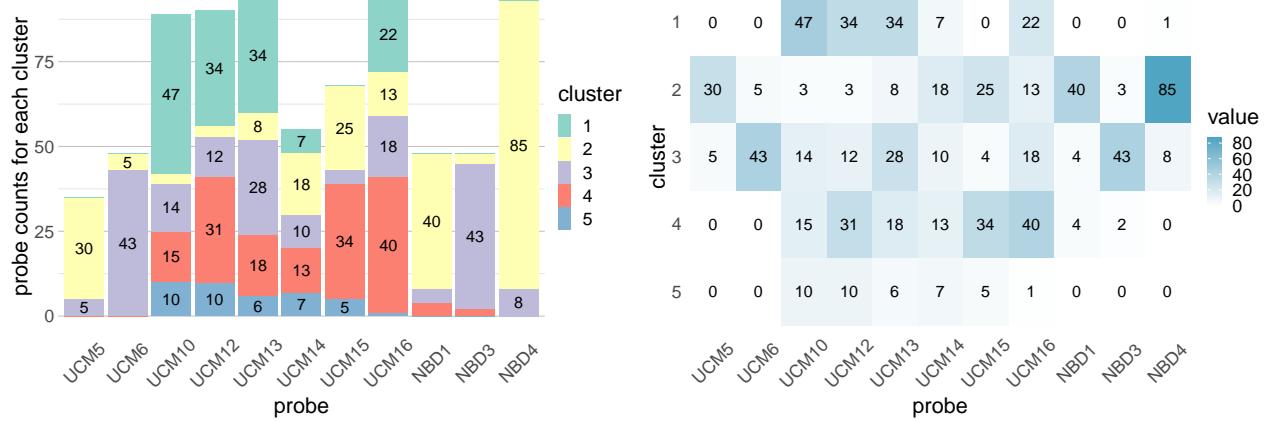
Pearson's Chi-squared test with simulated p-value (based on 2000 replicates)

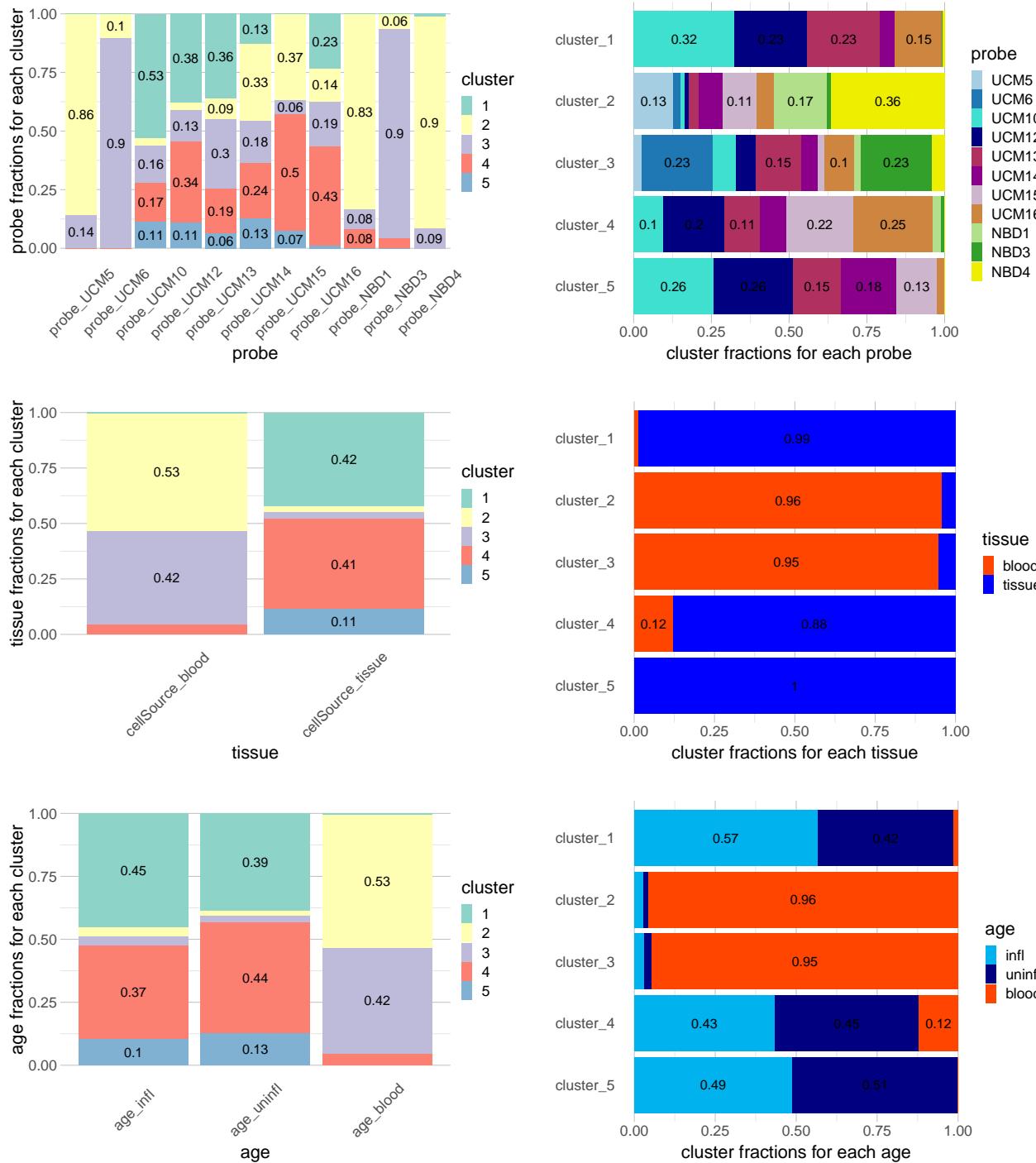
data: sourceTable
X-squared = 610.33, df = NA, p-value = 0.0004998

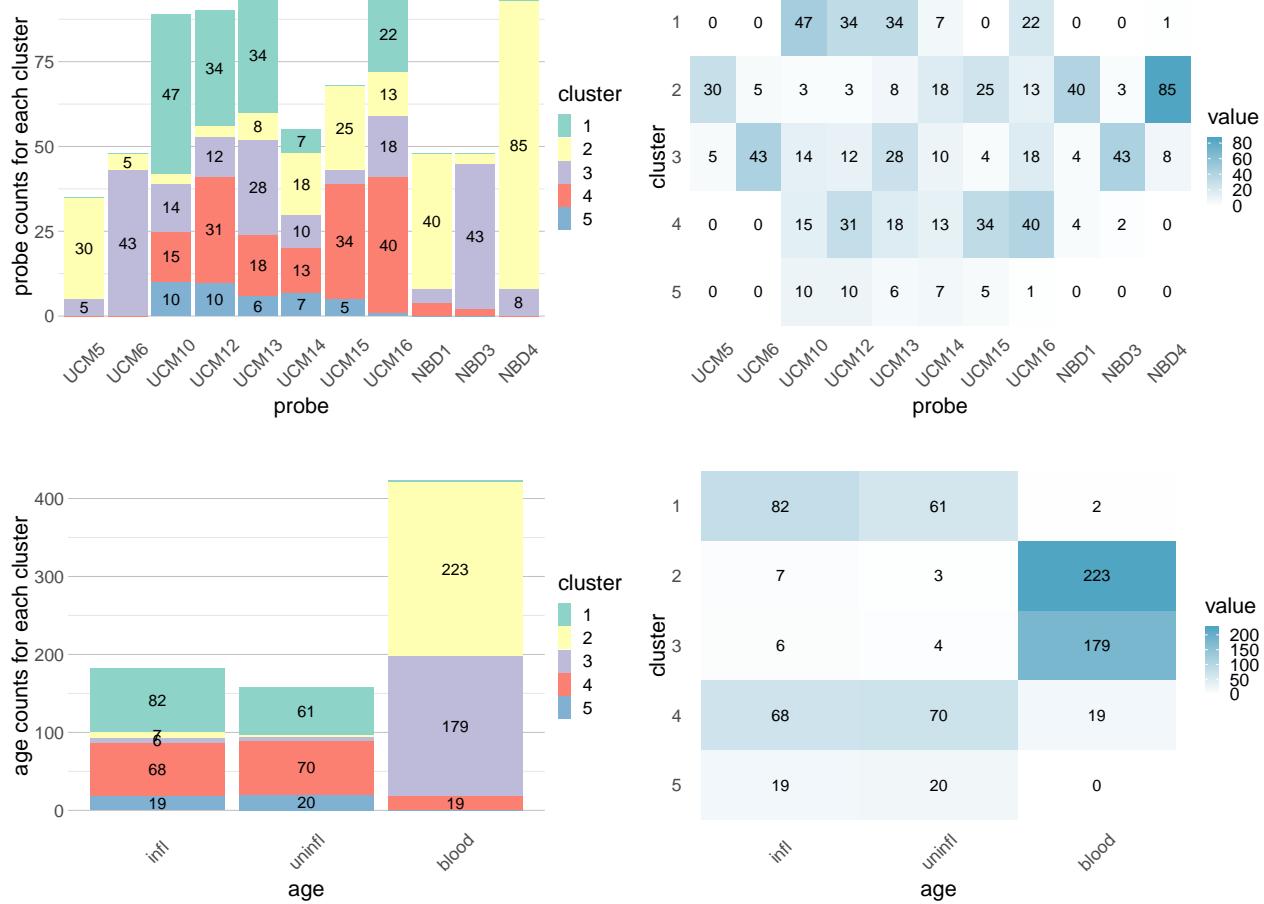
[1]			
[1]			
[1]	age vs. Cluster		
	age_infl age_uninfl age_blood		
cluster_1	82	61	2
cluster_2	7	3	223
cluster_3	6	4	179
cluster_4	68	70	19
cluster_5	19	20	0

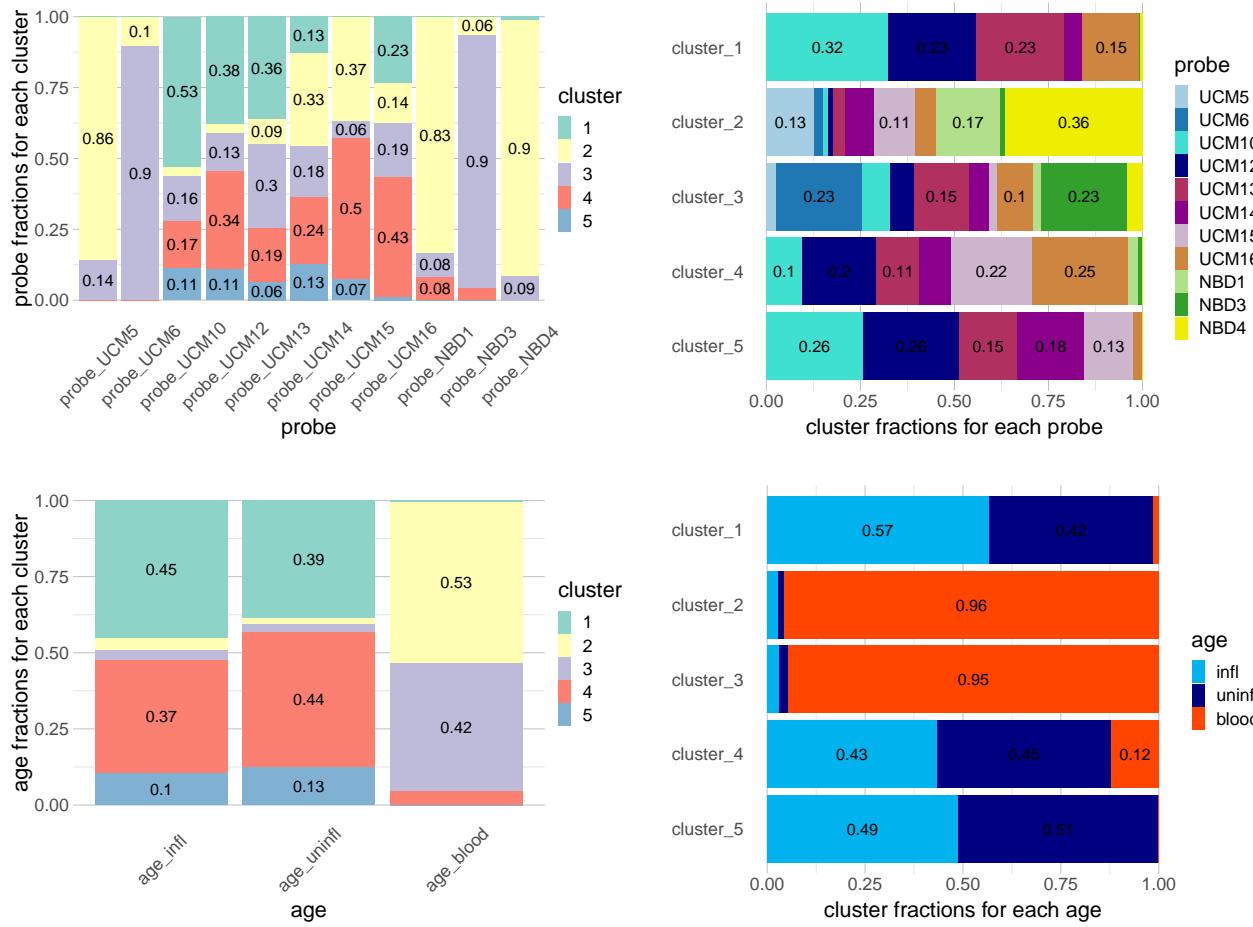
Pearson's Chi-squared test with simulated p-value (based on 2000 replicates)

data: ageTable
X-squared = 615.1, df = NA, p-value = 0.0004998

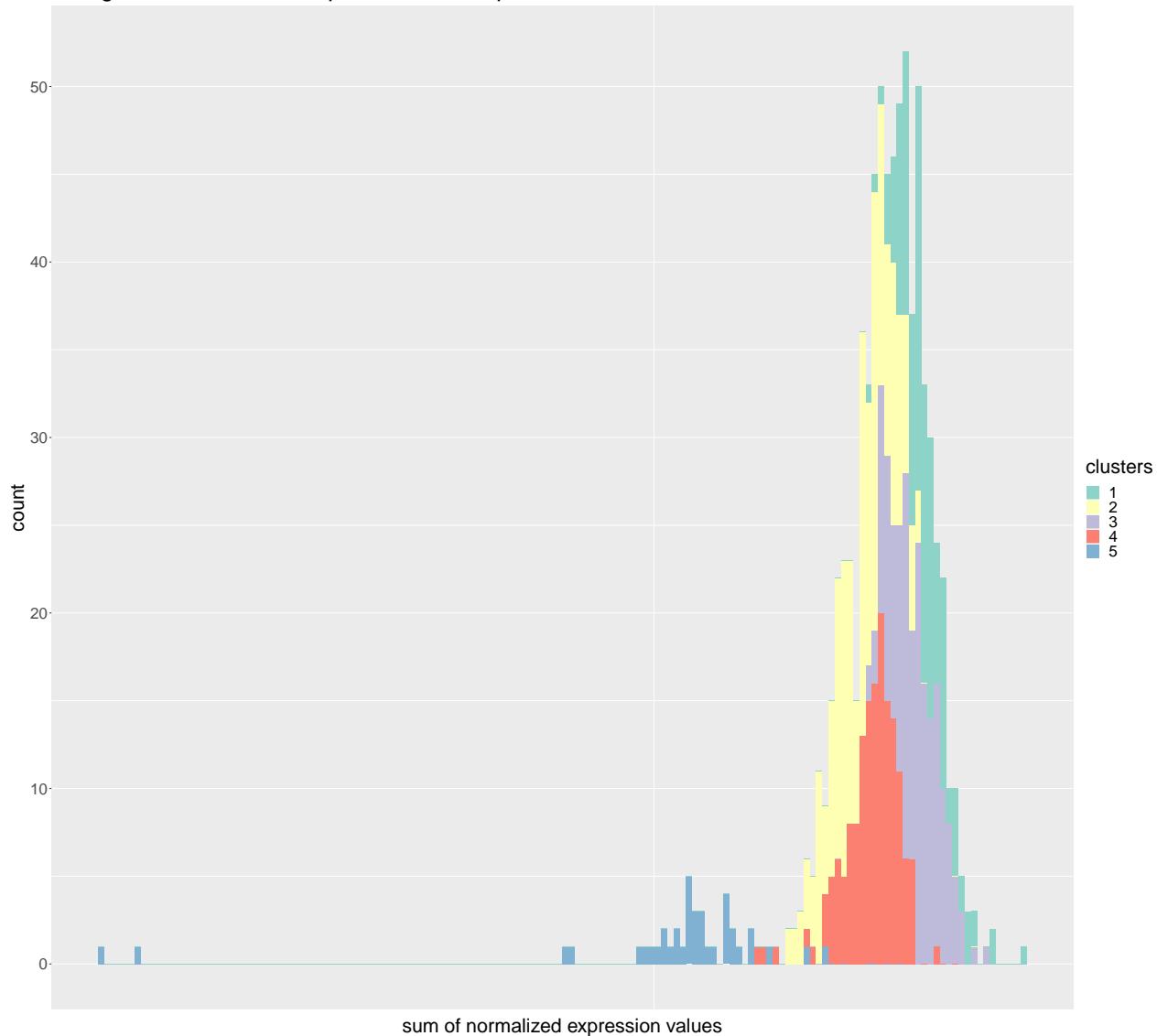






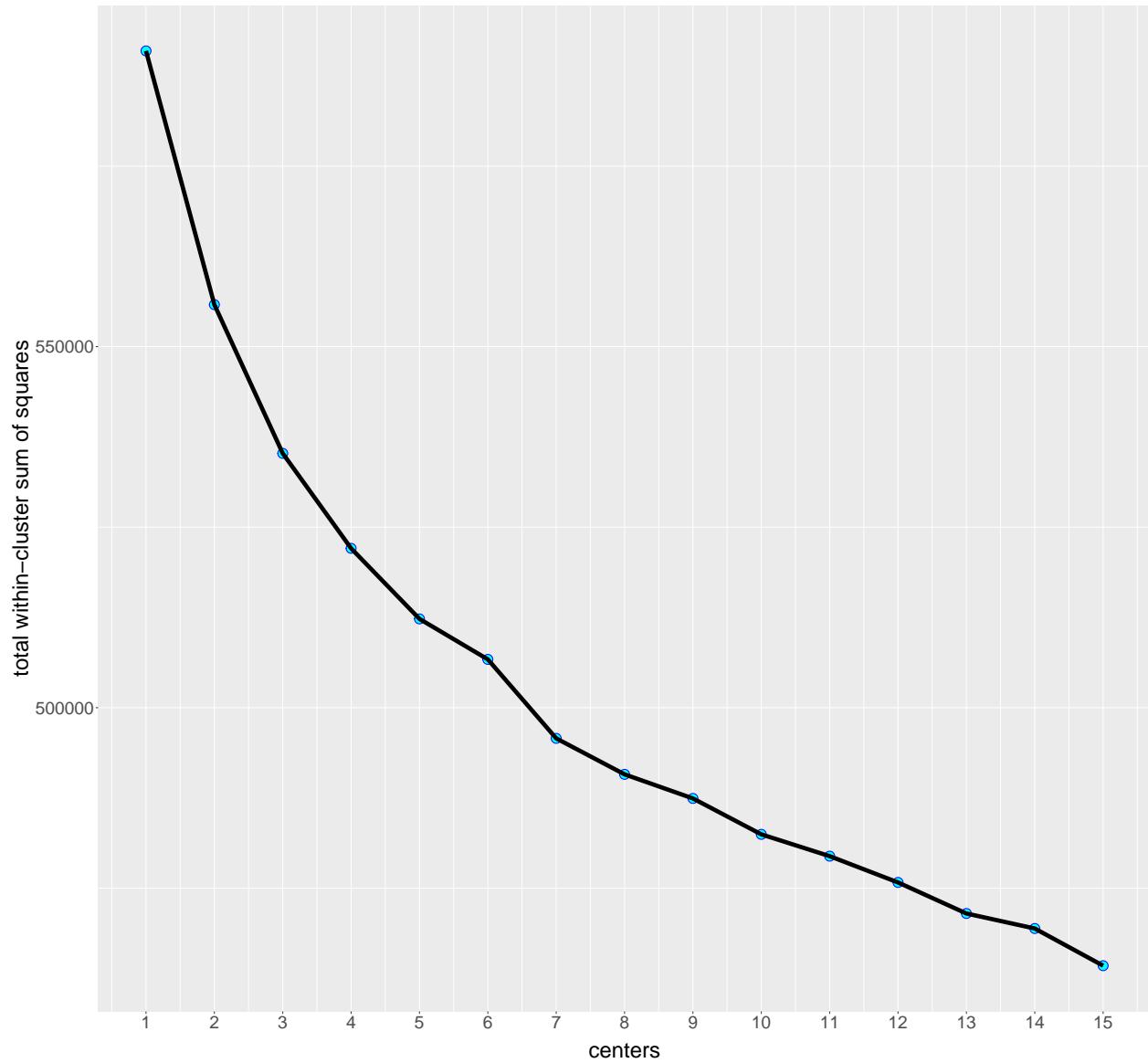


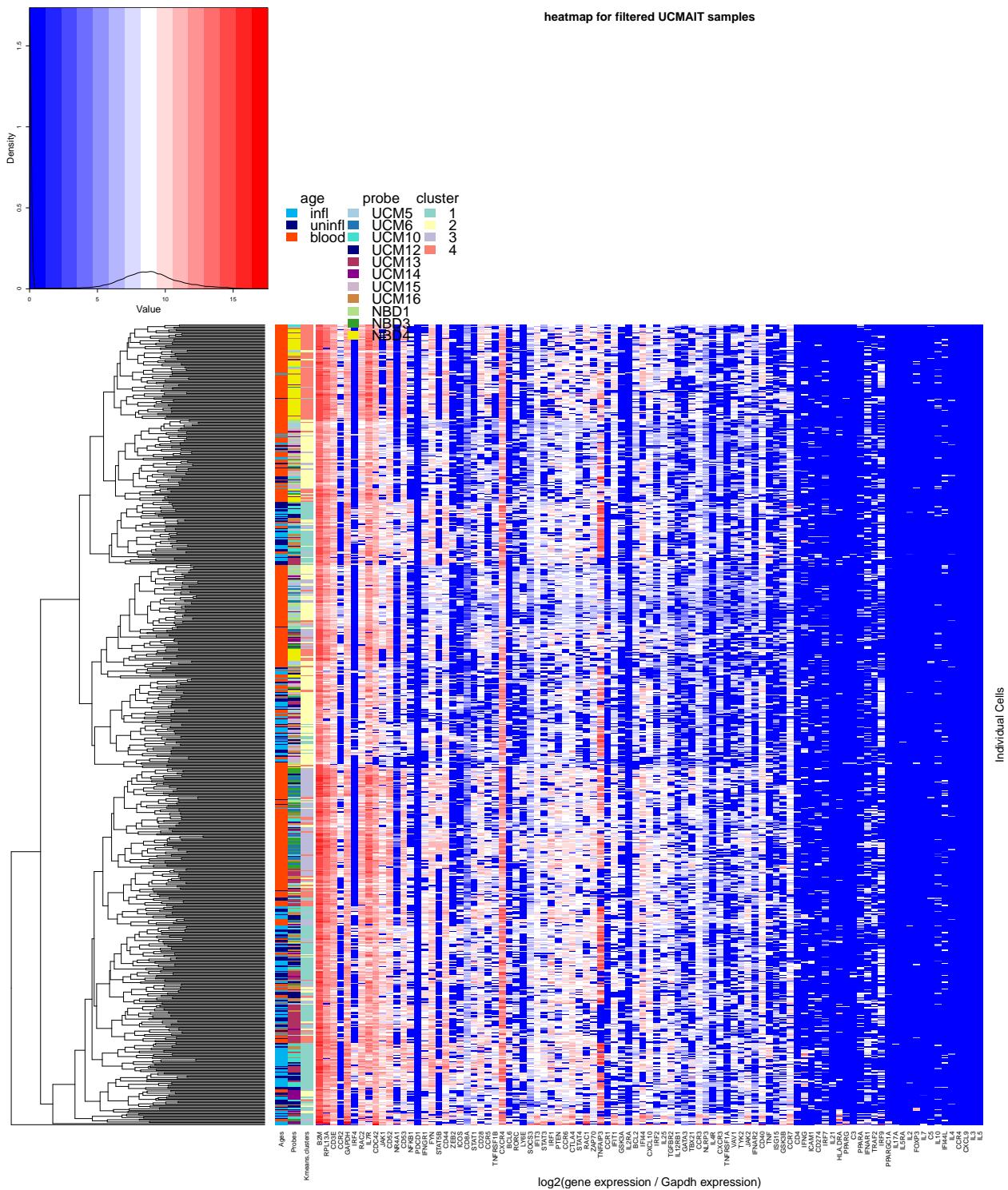
histogram of cumulative expression values per cell



39 / 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
probe_UCM5	0	29	6	46
probe_UCM6	0	1	45	46
probe_UCM10	56	6	5	19
probe_UCM12	46	19	10	7
probe_UCM13	46	7	14	

cluster_4	0	2	12	5	21
	probe_UCM14	probe_UCM15	probe_UCM16	probe_NBD1	probe_NBD3
cluster_1	8	2	40	0	0
cluster_2	26	54	29	39	5
cluster_3	8	4	11	5	43
cluster_4	6	3	13	4	0
	probe_NBD4				
cluster_1	0				
cluster_2	5				
cluster_3	0				
cluster_4	89				

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

```
data: probeTable
X-squared = 974.46, df = NA, p-value = 0.0004998
```

```
[1]
[1]
[1] Tissue vs. Cluster
      cellSource_blood cellSource_tissue
cluster_1           2                  196
cluster_2          128                  92
cluster_3          142                  9
cluster_4          151                  4
```

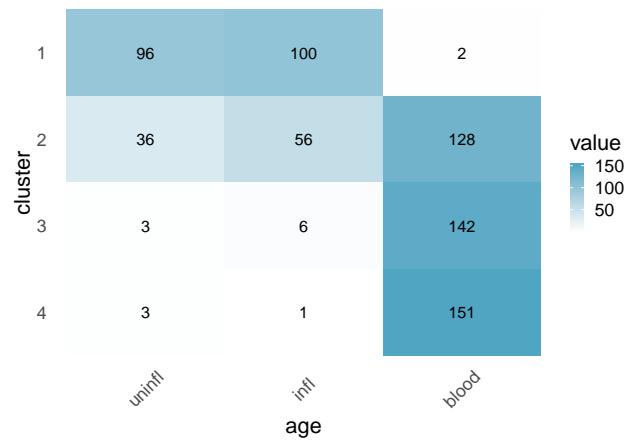
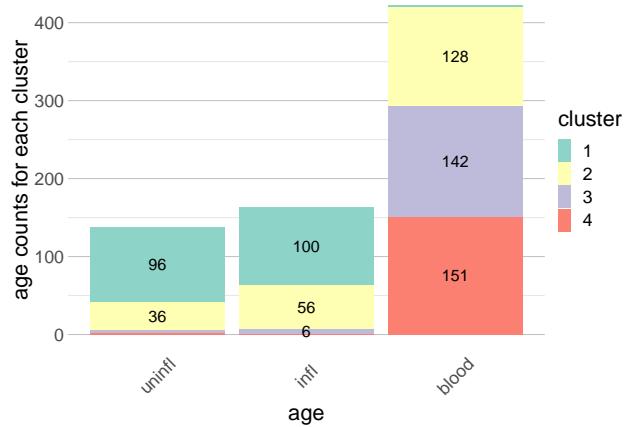
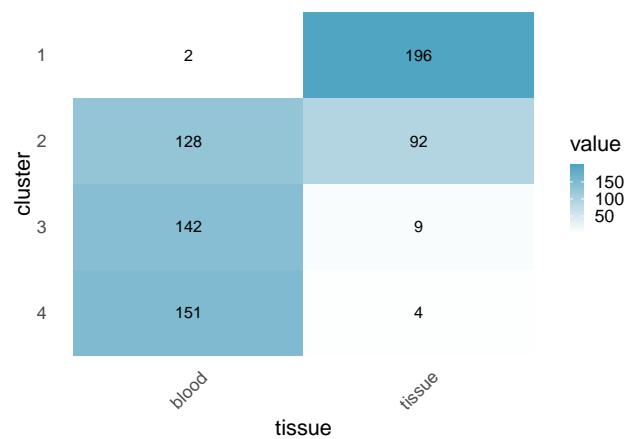
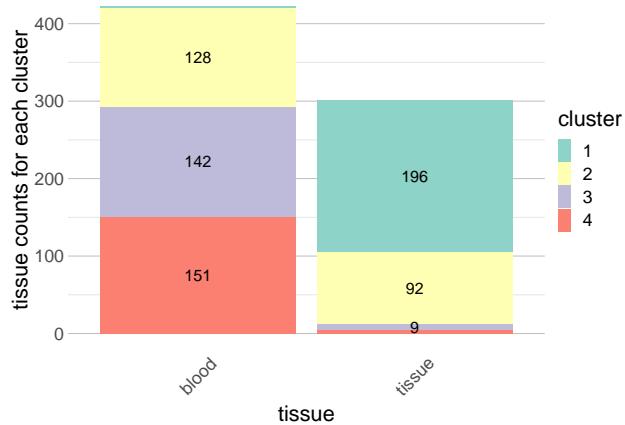
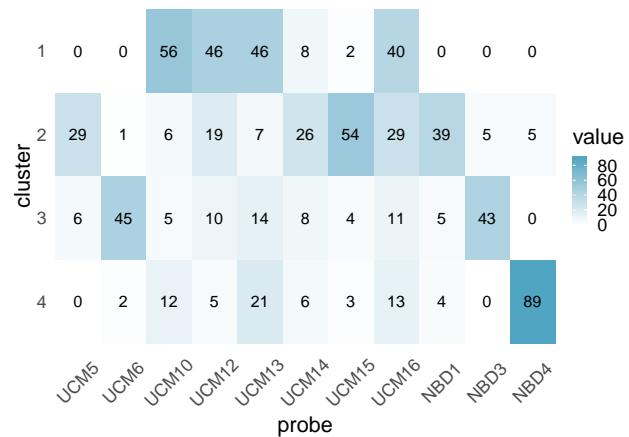
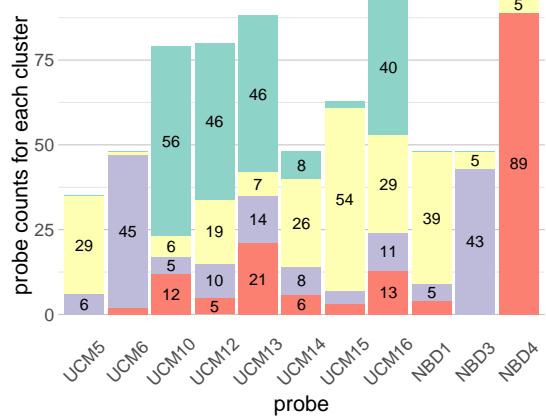
Pearson's Chi-squared test with simulated p-value (based on 2000 replicates)

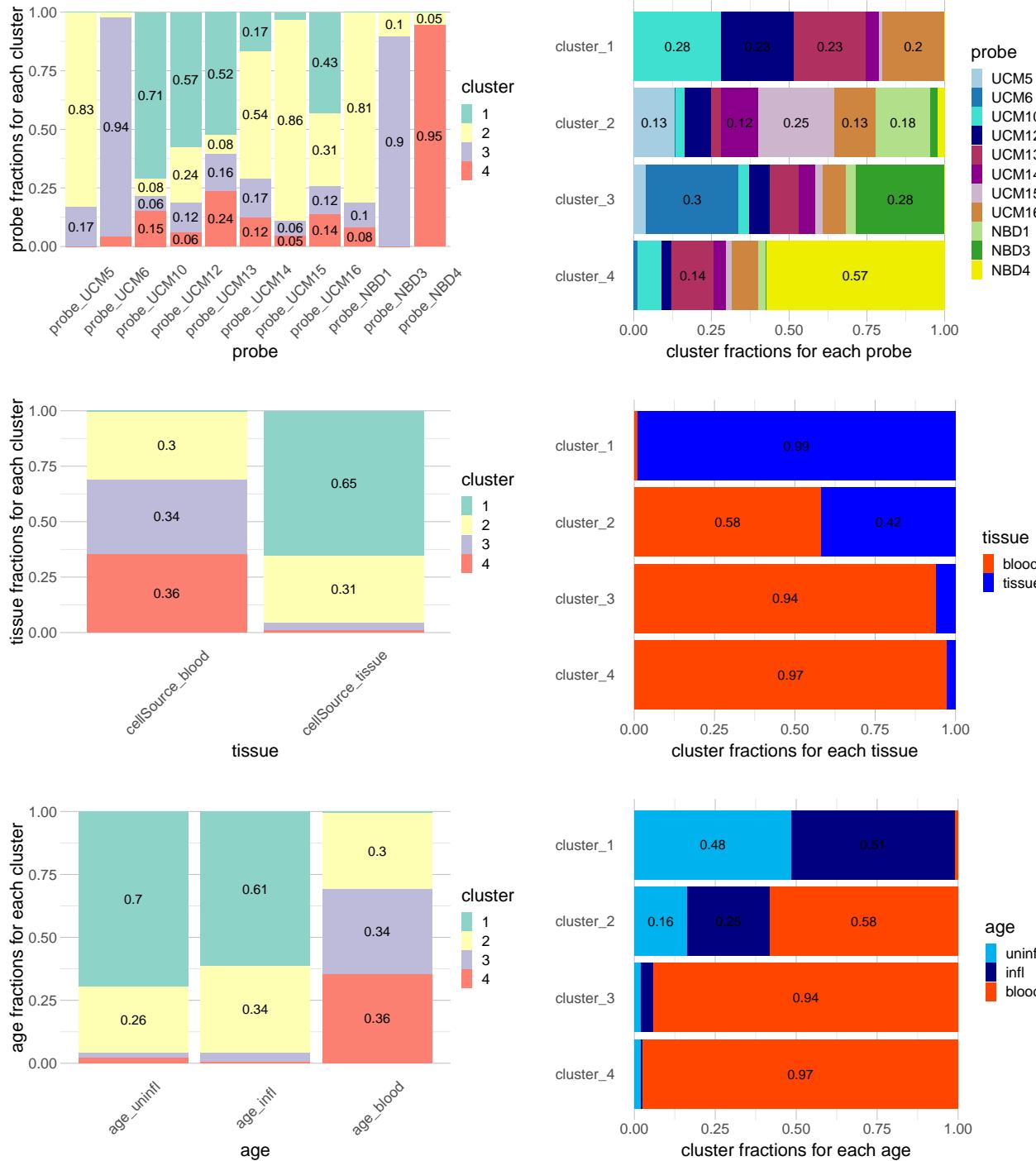
```
data: sourceTable
X-squared = 444.6, df = NA, p-value = 0.0004998
```

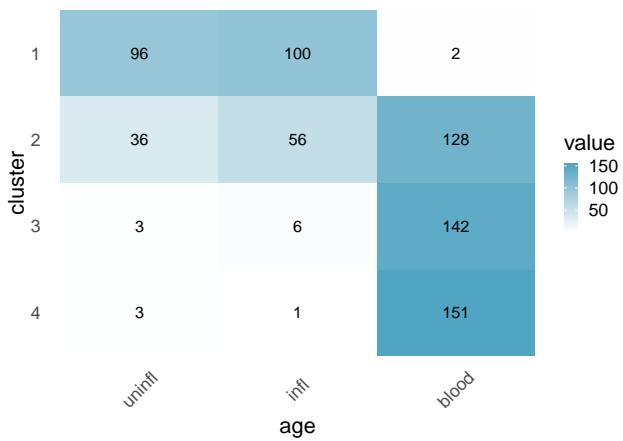
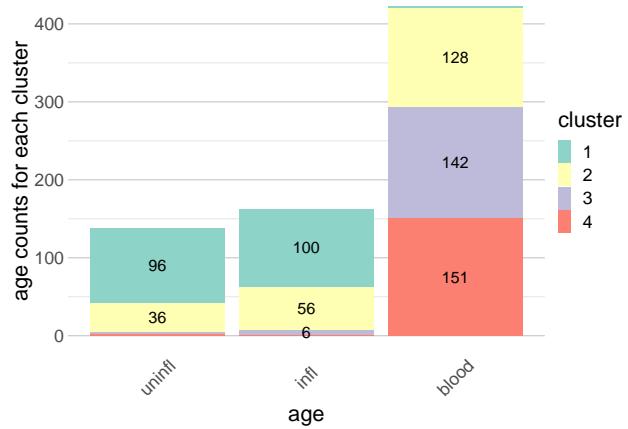
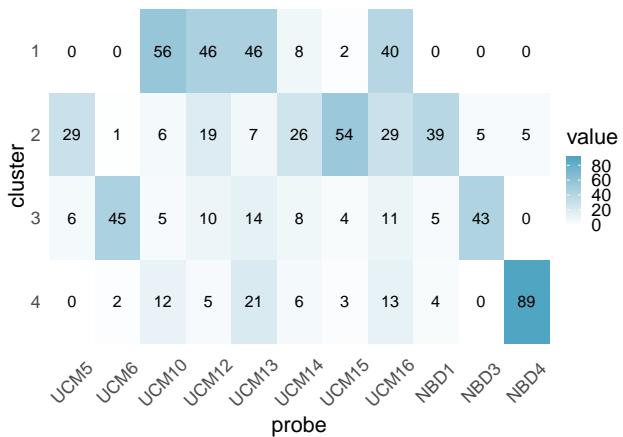
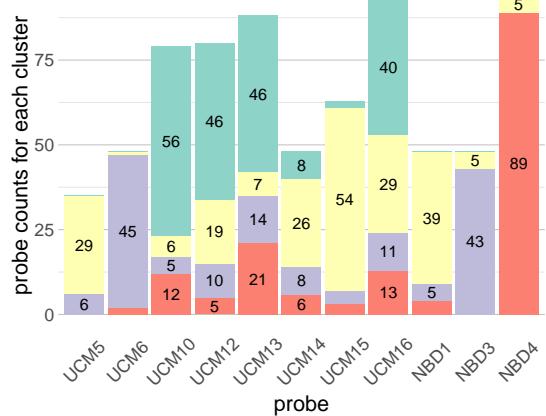
```
[1]
[1]
[1] age vs. Cluster
      age_uninfl age_infl age_blood
cluster_1       96     100       2
cluster_2       36      56     128
cluster_3        3       6     142
cluster_4        3       1     151
```

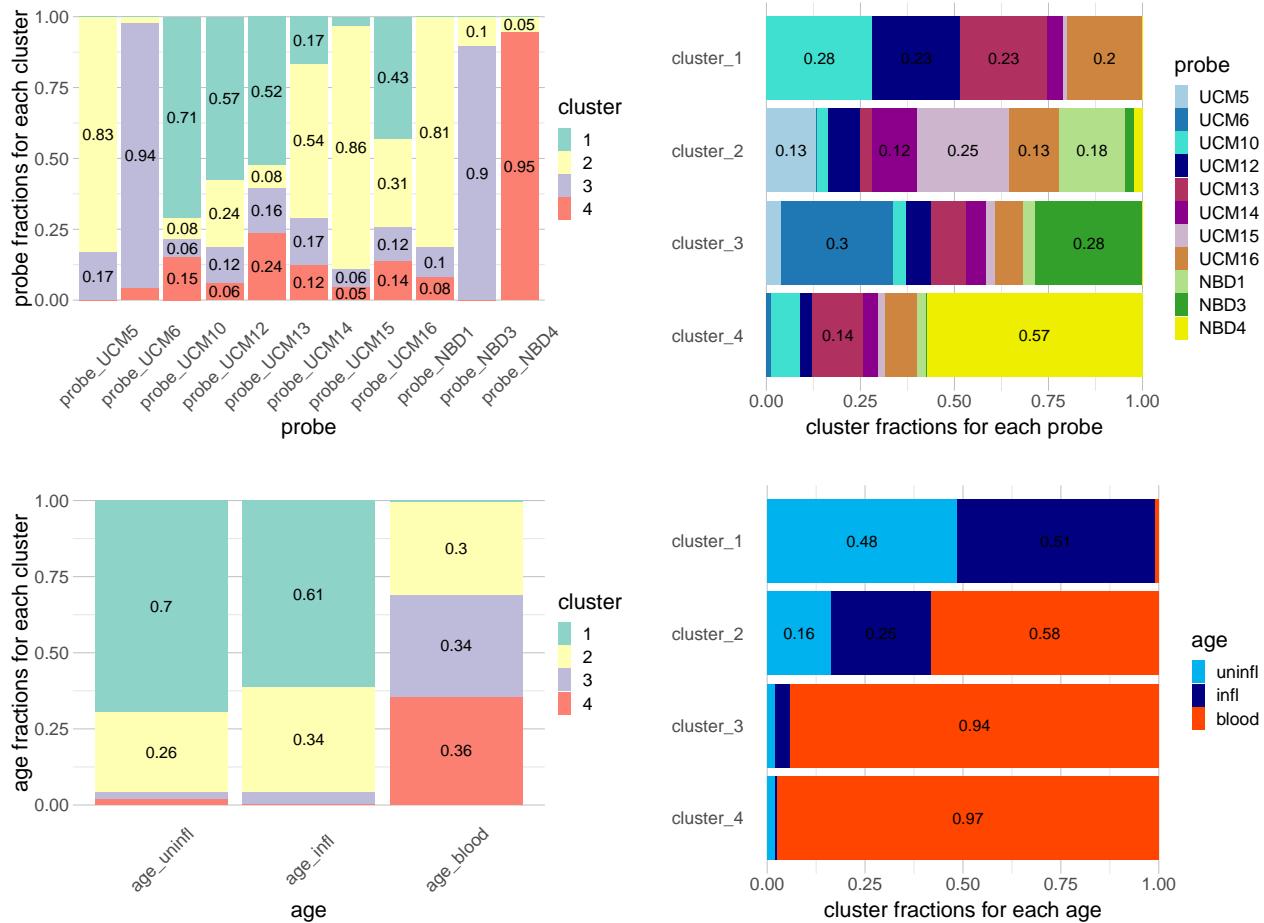
Pearson's Chi-squared test with simulated p-value (based on 2000 replicates)

```
data: ageTable
X-squared = 448.29, df = NA, p-value = 0.0004998
```

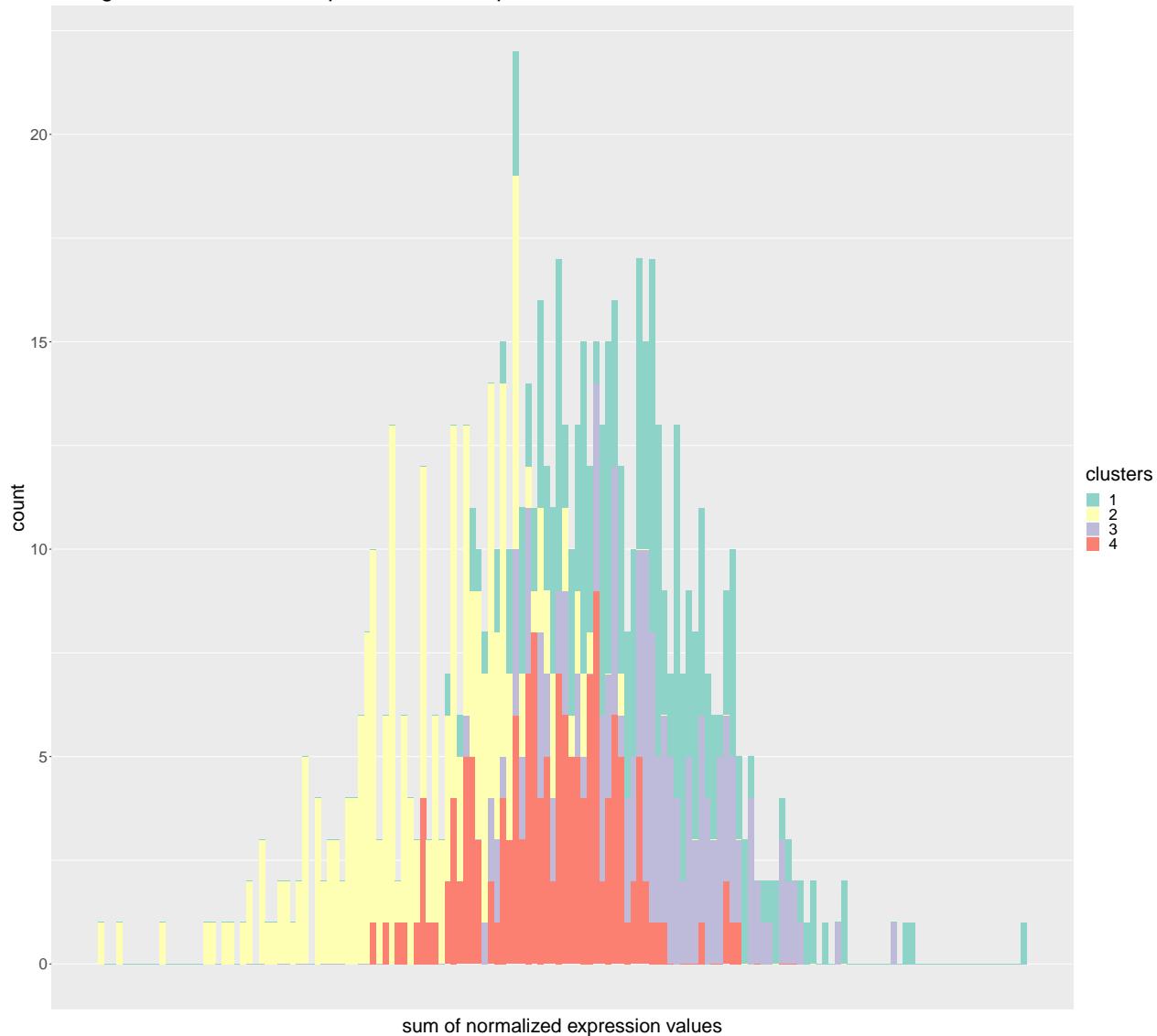




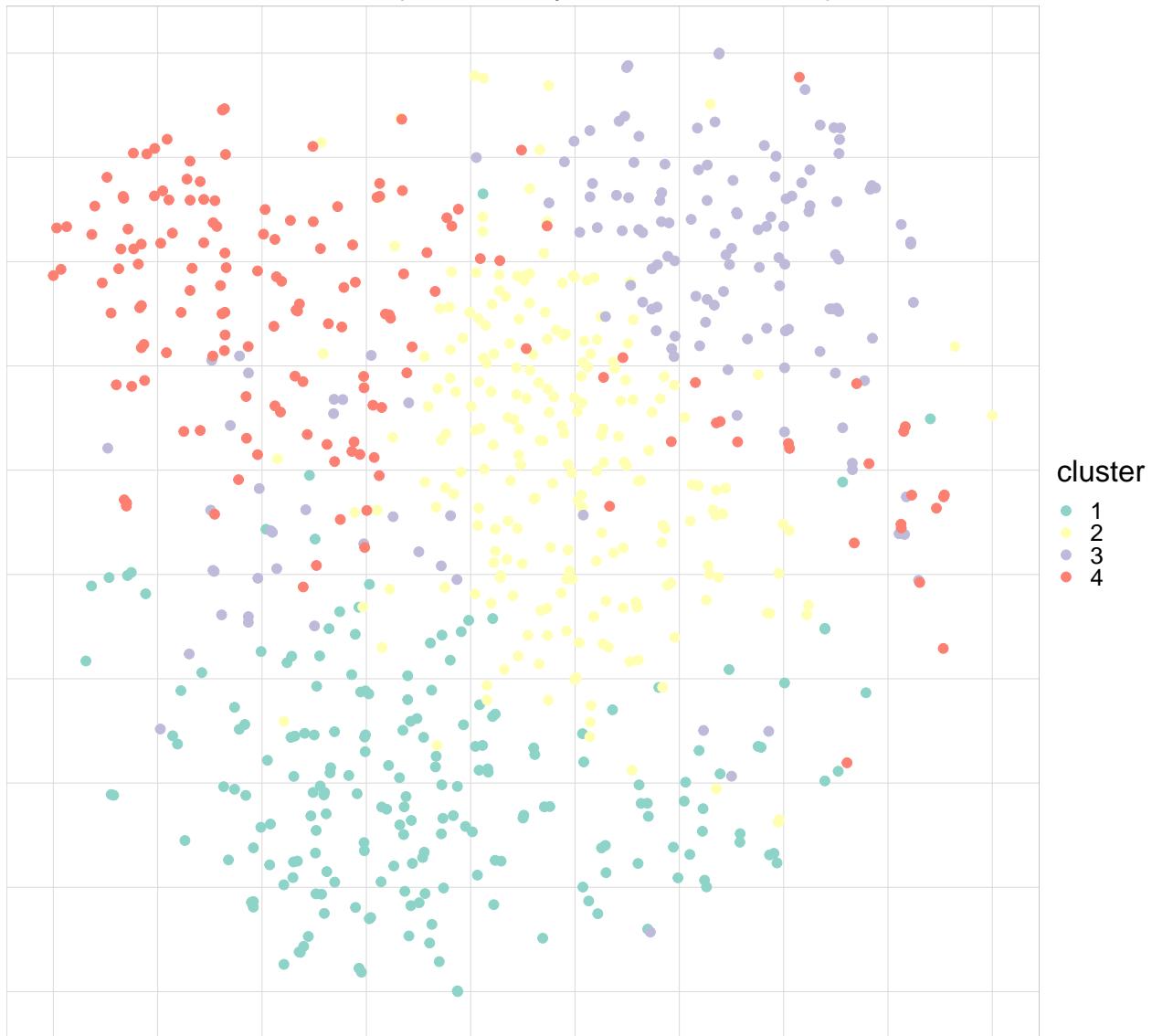




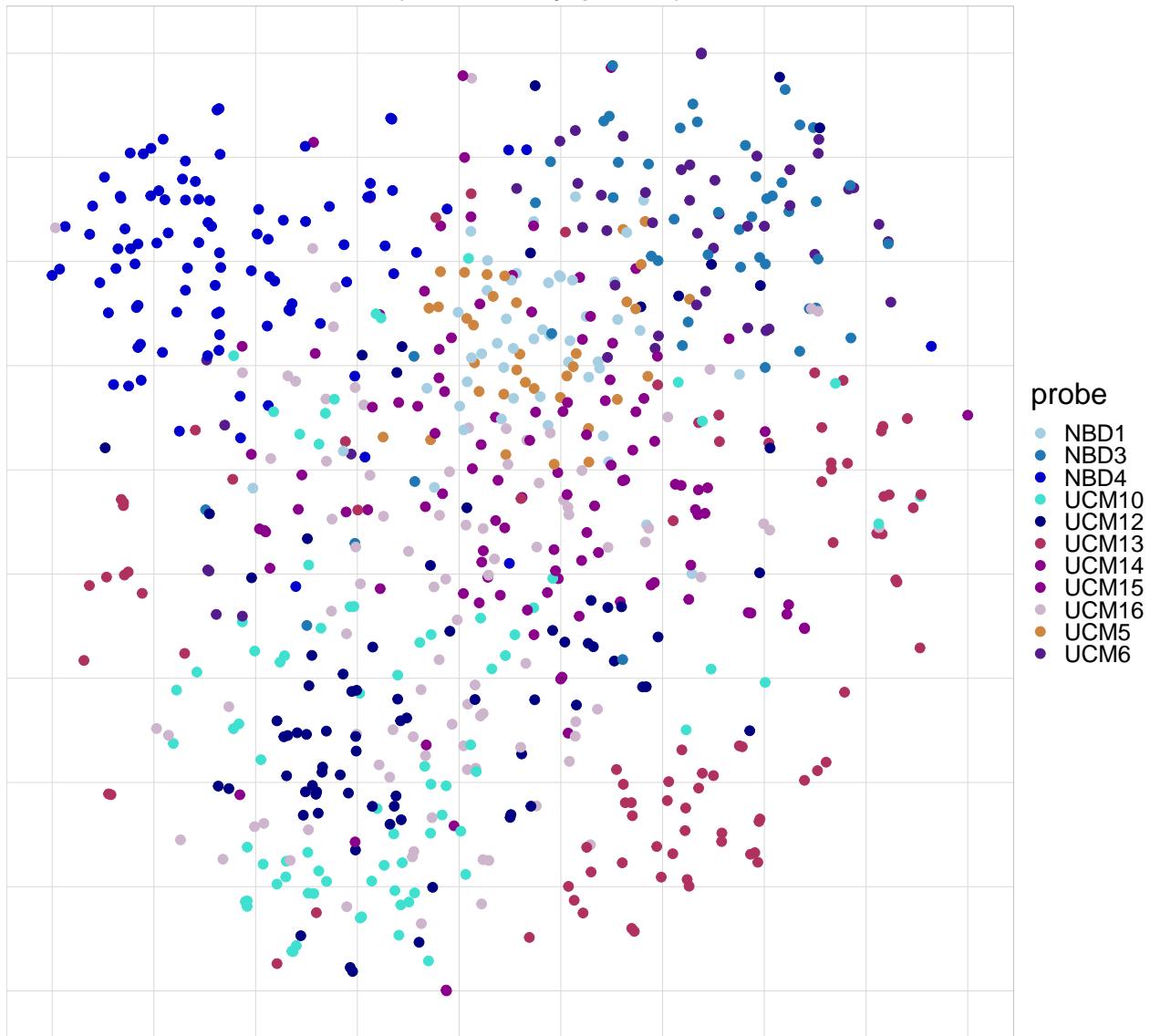
histogram of cumulative expression values per cell



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



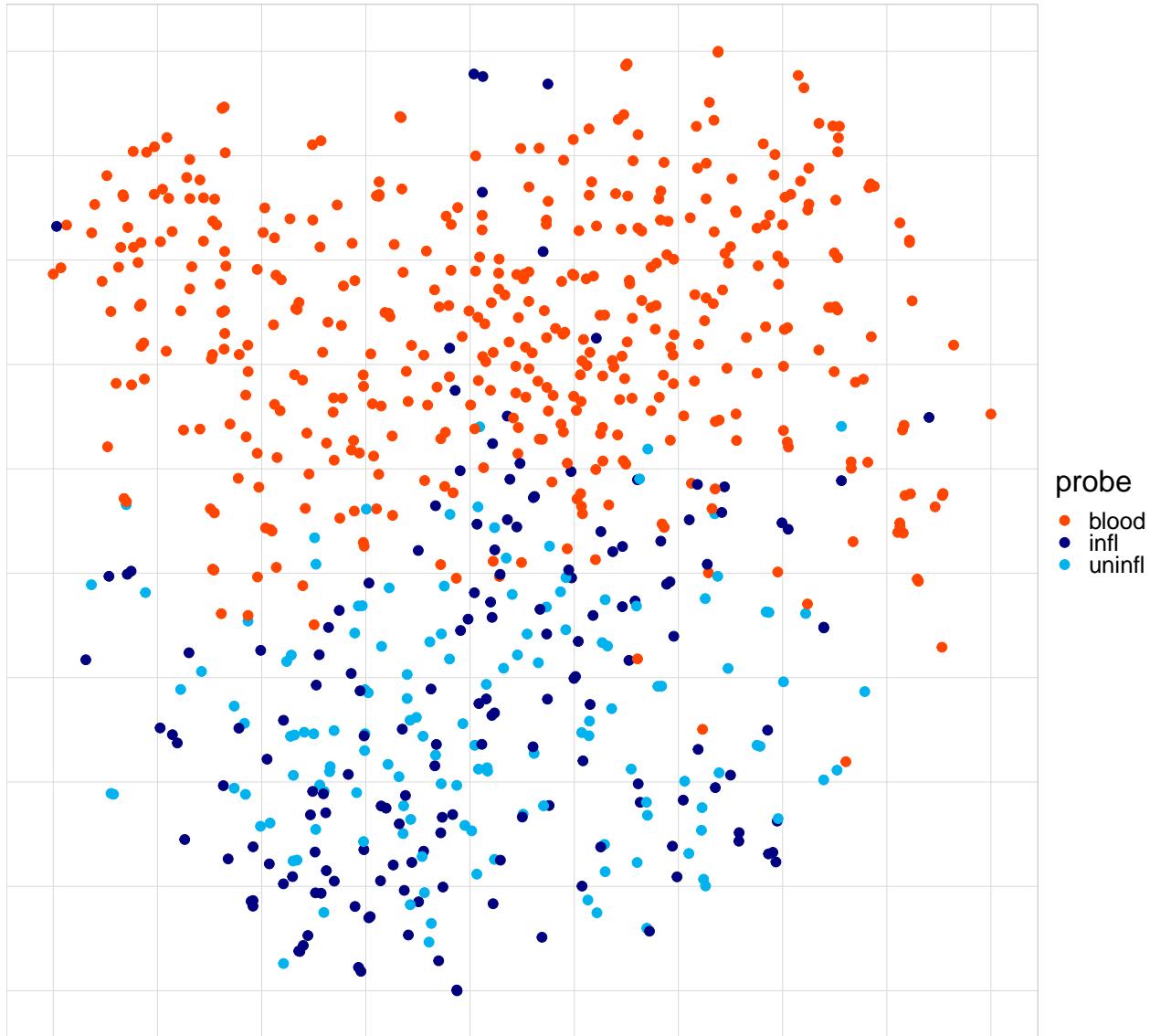
t-SNE between tissues (colored by probe)



t-SNE between tissues (colored by probe)



t-SNE between tissues (colored by probe)



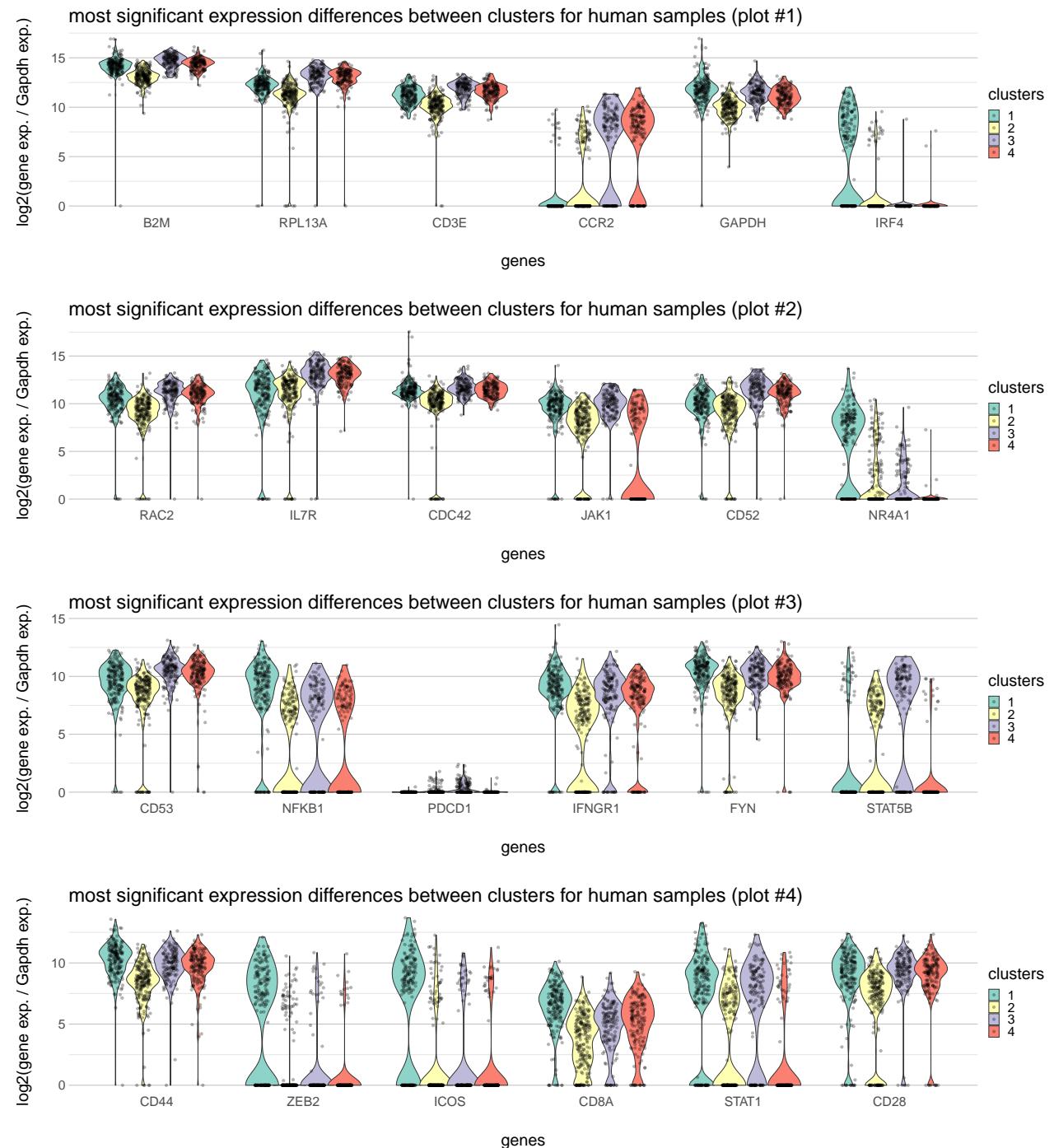
[1] Differentially expressed genes between clusters for human samples:

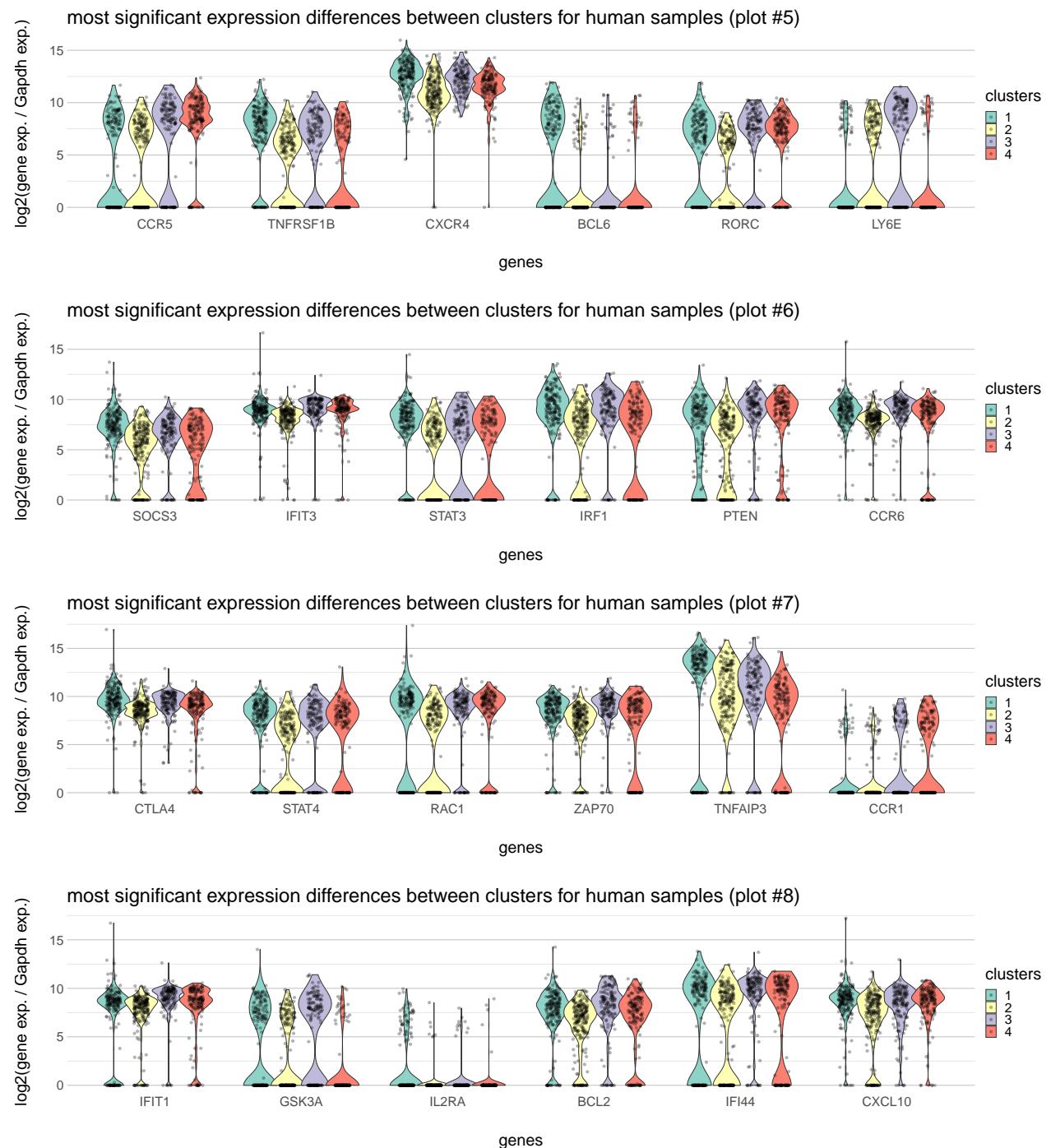
```

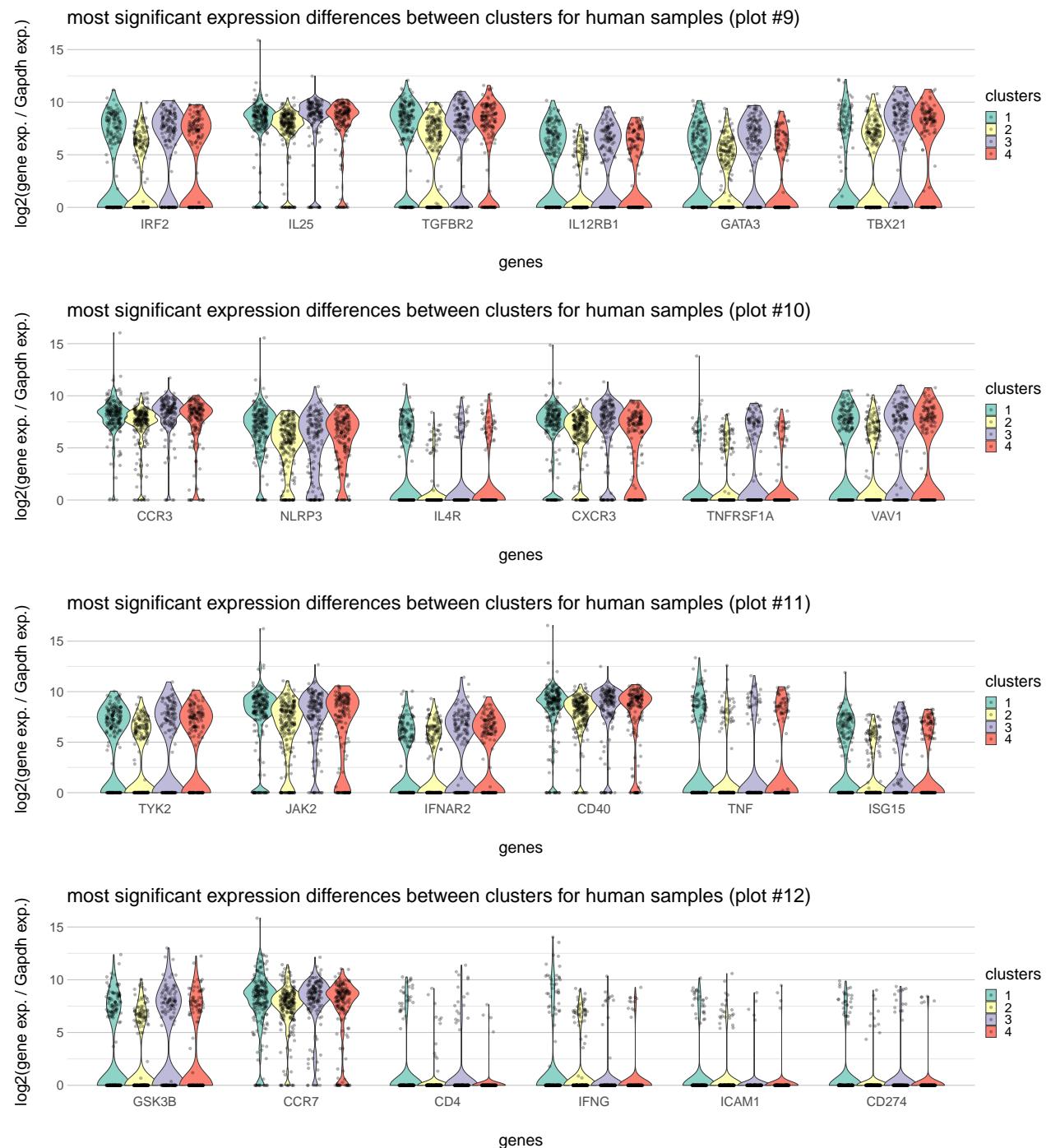
[1] B2M: 1.072e-69      RPL13A: 1.072e-69     CD3E: 5.462e-60
[4] CCR2: 5.49e-55      GAPDH: 6.635e-55      IRF4: 1.29e-51
[7] RAC2: 1.161e-50      IL7R: 1.161e-50      CDC42: 3.363e-48
[10] JAK1: 1.824e-47     CD52: 1.39e-46       NR4A1: 6.682e-46
[13] CD53: 6.923e-45     NFKB1: 1.431e-41     PDCD1: 2.814e-40
[16] IFNLR1: 7.721e-40    FYN: 1.485e-38       STAT5B: 4.152e-38
[19] CD44: 4.52e-38      ZEB2: 1.241e-35      ICOS: 3.342e-35
[22] CD8A: 4.423e-35     STAT1: 5.561e-35      CD28: 2.352e-30
[25] CCR5: 1.448e-29     TNFRSF1B: 6.292e-29    CXCR4: 3.754e-27
[28] BCL6: 2.555e-25     RORC: 2.878e-25      LY6E: 1.281e-24
[31] SOCS3: 1.978e-24    IFIT3: 1.135e-23      STAT3: 1.158e-23
[34] IRF1: 7.023e-23     PTEN: 1.012e-22      CCR6: 1.553e-22
[37] CTLA4: 8.69e-22      STAT4: 3.384e-21      RAC1: 9.296e-21
[40] ZAP70: 1.284e-20    TNFAIP3: 1.316e-20    CCR1: 8.888e-19
[43] IFIT1: 1.363e-18    GSK3A: 1.624e-18     IL2RA: 2.451e-16

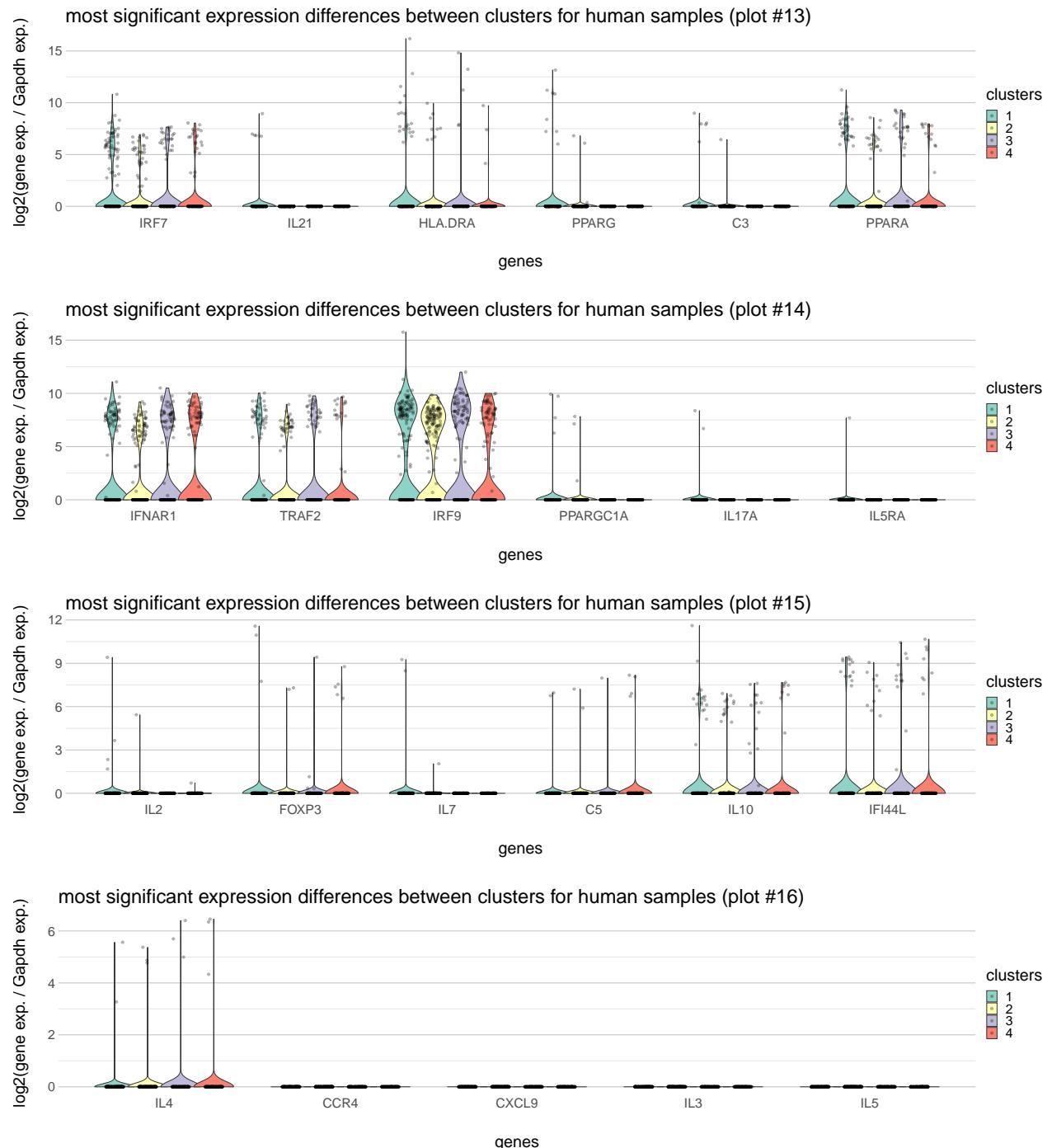
```

[46]	BCL2:	1.811e-15	IFI44:	3.143e-15	CXCL10:	1.379e-14
[49]	IRF2:	1.524e-14	IL25:	1.53e-14	TGFBR2:	8.597e-14
[52]	IL12RB1:	1.402e-13	GATA3:	1.516e-12	TBX21:	2.027e-12
[55]	CCR3:	7.688e-12	NLRP3:	1.67e-11	IL4R:	3.59e-11
[58]	CXCR3:	1.324e-10	TNFRSF1A:	1.143e-09	VAV1:	4.416e-09
[61]	TYK2:	8.739e-09	JAK2:	3.079e-08	IFNAR2:	1.072e-07
[64]	CD40:	1.121e-07	TNF:	5.193e-06	ISG15:	1.152e-05
[67]	GSK3B:	2.034e-05	CCR7:	2.782e-05	CD4:	3.586e-05
[70]	IFNG:	7.364e-05	ICAM1:	8.364e-05	CD274:	0.0004806
[73]	IRF7:	0.00208	IL21:	0.004828	HLA.DRA:	0.004928
[76]	PPARG:	0.004947	C3:	0.007271	PPARA:	0.02278
[79]	IFNAR1:	0.02649	TRAF2:	0.02926		









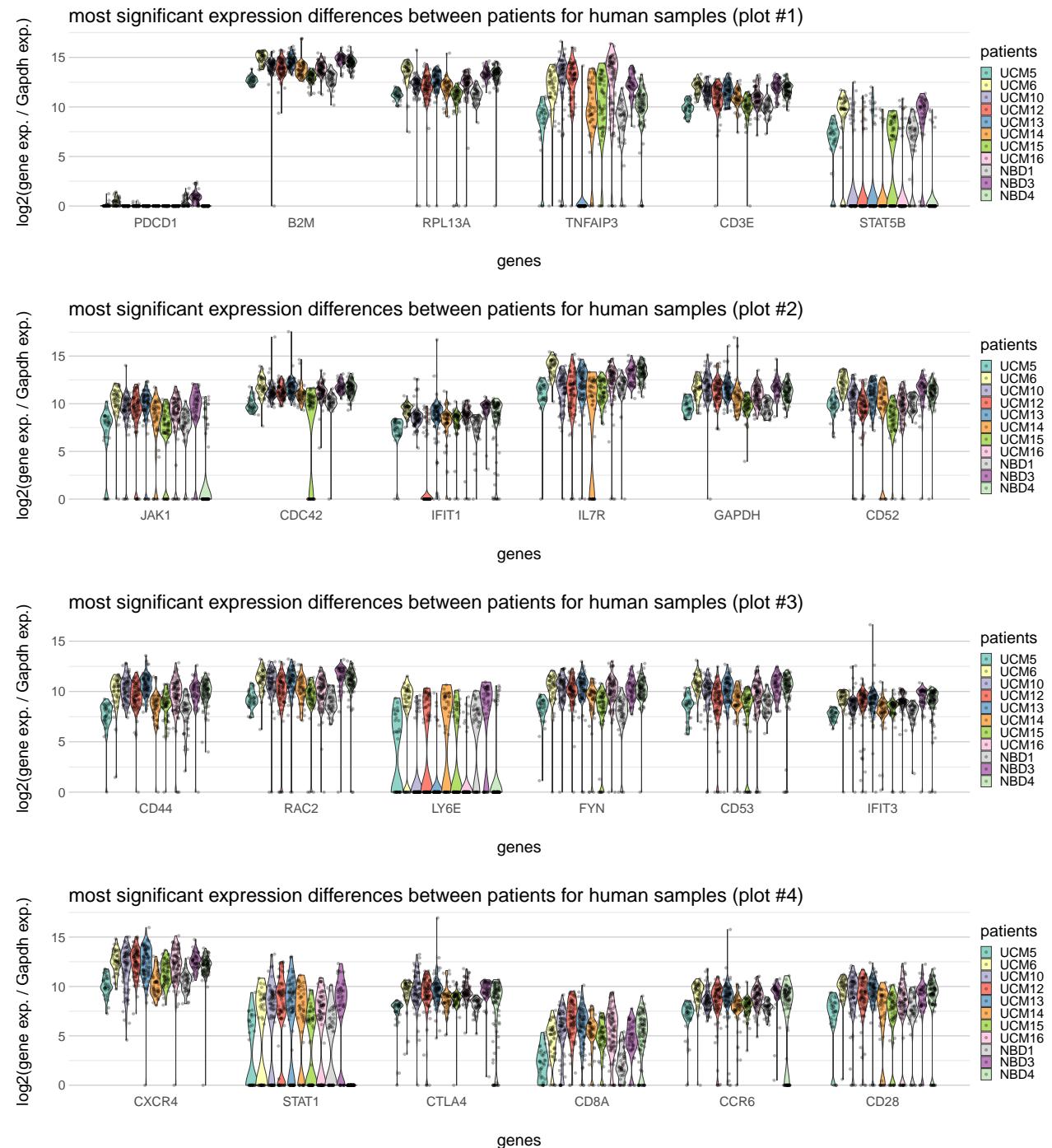
[1] Differentially expressed genes between patients for human samples:

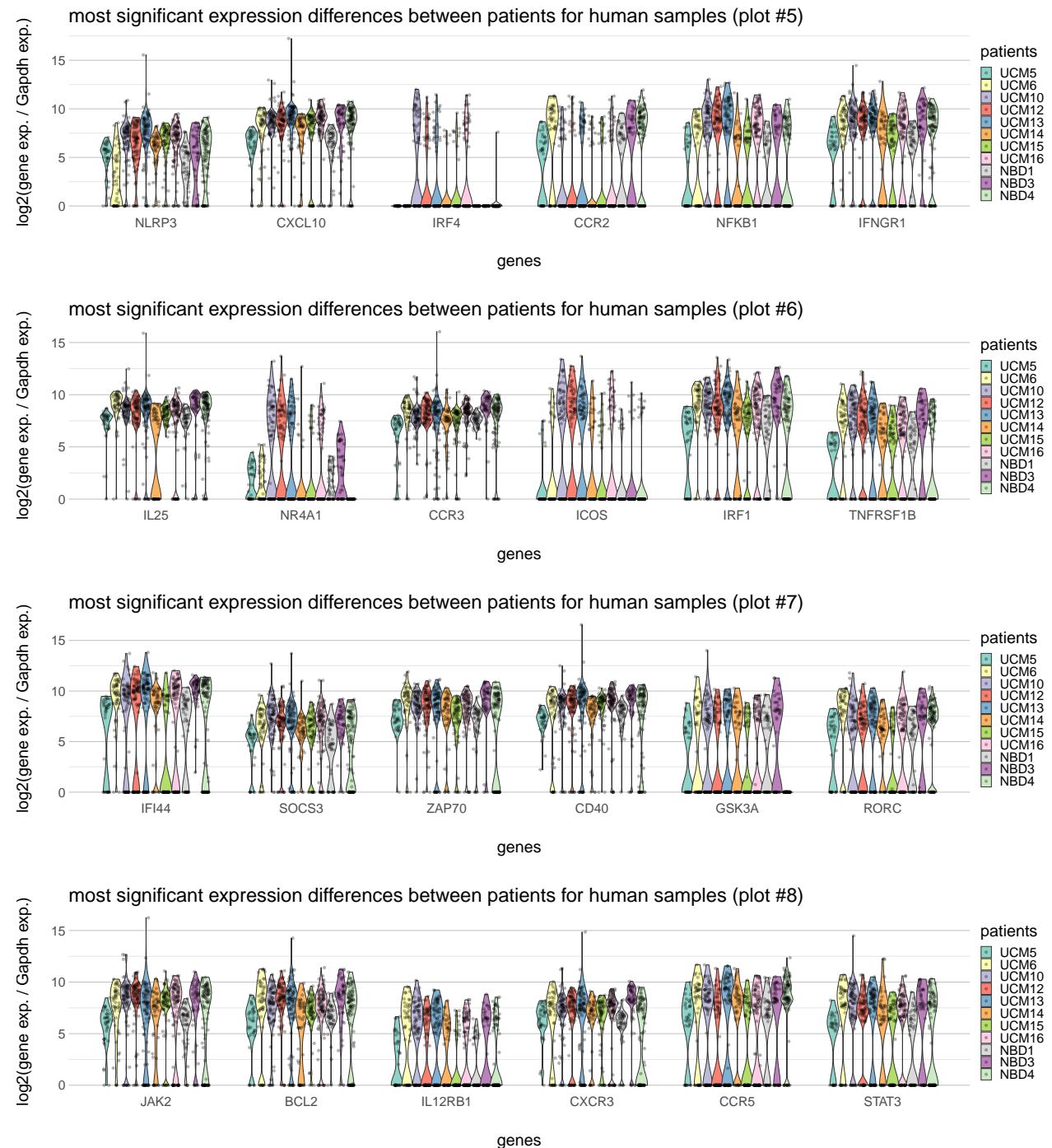
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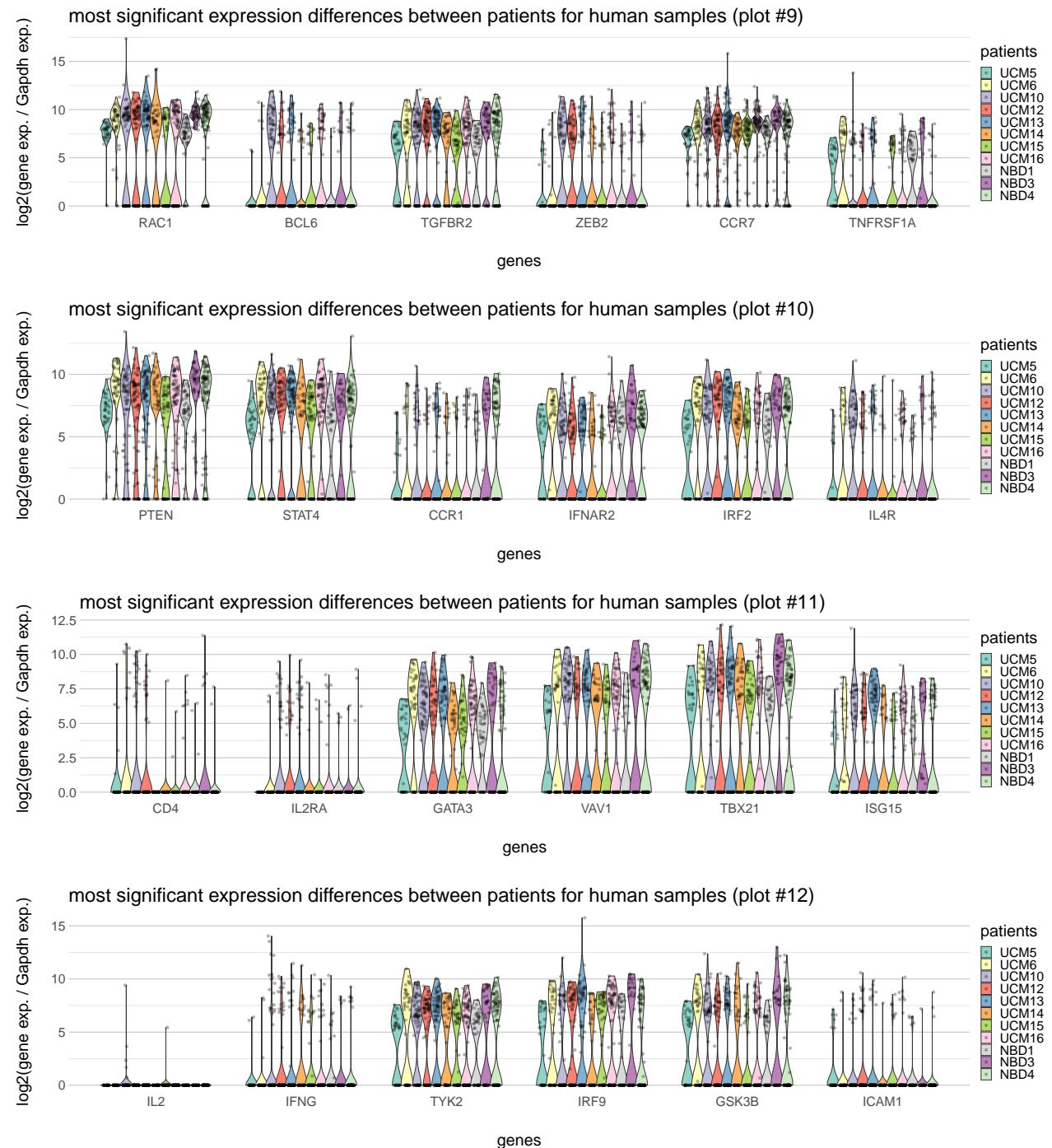
[1] PDCD1: 1.098e-88    B2M: 1.238e-76      RPL13A: 3.92e-73
[4] TNFAIP3: 2.707e-70   CD3E: 9.597e-58     STAT5B: 4.531e-55
[7] JAK1: 4.208e-53     CDC42: 8.044e-53    IFIT1: 9.272e-53
[10] IL7R: 6.686e-49    GAPDH: 8.672e-49    CD52: 1.788e-48
[13] CD44: 2.453e-46    RAC2: 2.22e-42     LY6E: 1.794e-41
[16] FYN: 2.863e-41     CD53: 1.778e-38    IFIT3: 1.969e-36
[19] CXCR4: 3.114e-36   STAT1: 3.579e-36   CTLA4: 1.441e-33
[22] CD8A: 2.418e-32    CCR6: 5.695e-31    CD28: 1.074e-29
[25] NLRP3: 1.572e-28   CXCL10: 6.826e-26   IRF4: 1.27e-25

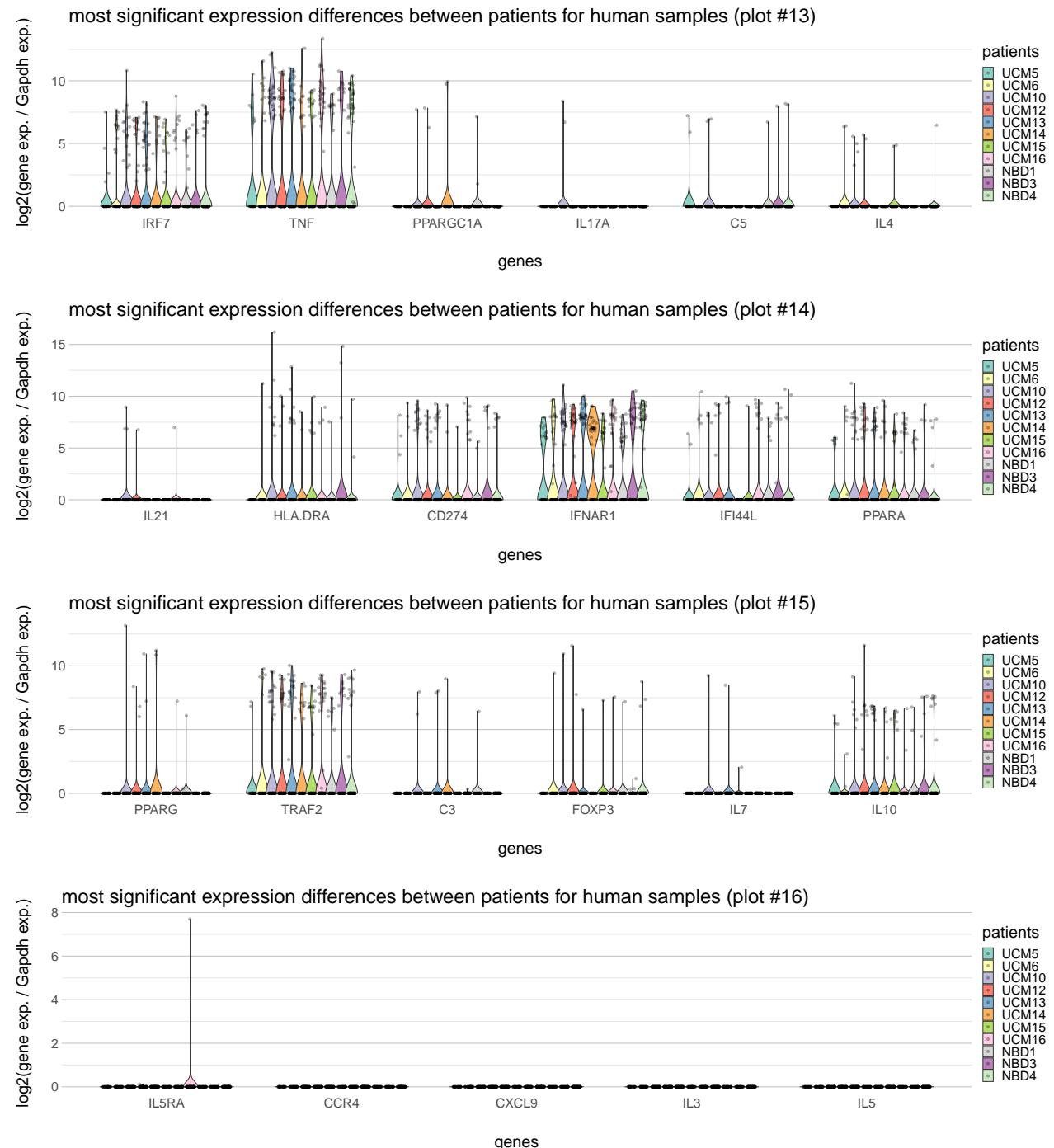
```

[28]	CCR2:	1.388e-25	NFKB1:	1.639e-25	IFNGR1:	4.858e-25
[31]	IL25:	1.819e-24	NR4A1:	2.007e-23	CCR3:	3.026e-22
[34]	ICOS:	2.558e-21	IRF1:	5.931e-21	TNFRSF1B:	7.601e-20
[37]	IFI44:	4.436e-19	SOCS3:	4.744e-18	ZAP70:	1.244e-17
[40]	CD40:	5.338e-16	GSK3A:	1.384e-15	RORC:	2.714e-15
[43]	JAK2:	1.282e-14	BCL2:	1.565e-14	IL12RB1:	2.181e-14
[46]	CXCR3:	5.364e-14	CCR5:	5.872e-14	STAT3:	1.131e-13
[49]	RAC1:	3.403e-13	BCL6:	5.356e-13	TGFBR2:	2.483e-12
[52]	ZEB2:	5.293e-12	CCR7:	5.78e-12	TNFRSF1A:	1.023e-11
[55]	PTEN:	3.134e-10	STAT4:	3.73e-09	CCR1:	1.028e-08
[58]	IFNAR2:	9.796e-08	IRF2:	1.369e-07	IL4R:	2.556e-07
[61]	CD4:	4.184e-07	IL2RA:	1.905e-06	GATA3:	2.271e-06
[64]	VAV1:	4.64e-06	TBX21:	4.82e-06	ISG15:	3.631e-05
[67]	IL2:	0.000224	IFNG:	0.002255	TYK2:	0.002409
[70]	IRF9:	0.01645	GSK3B:	0.01958		



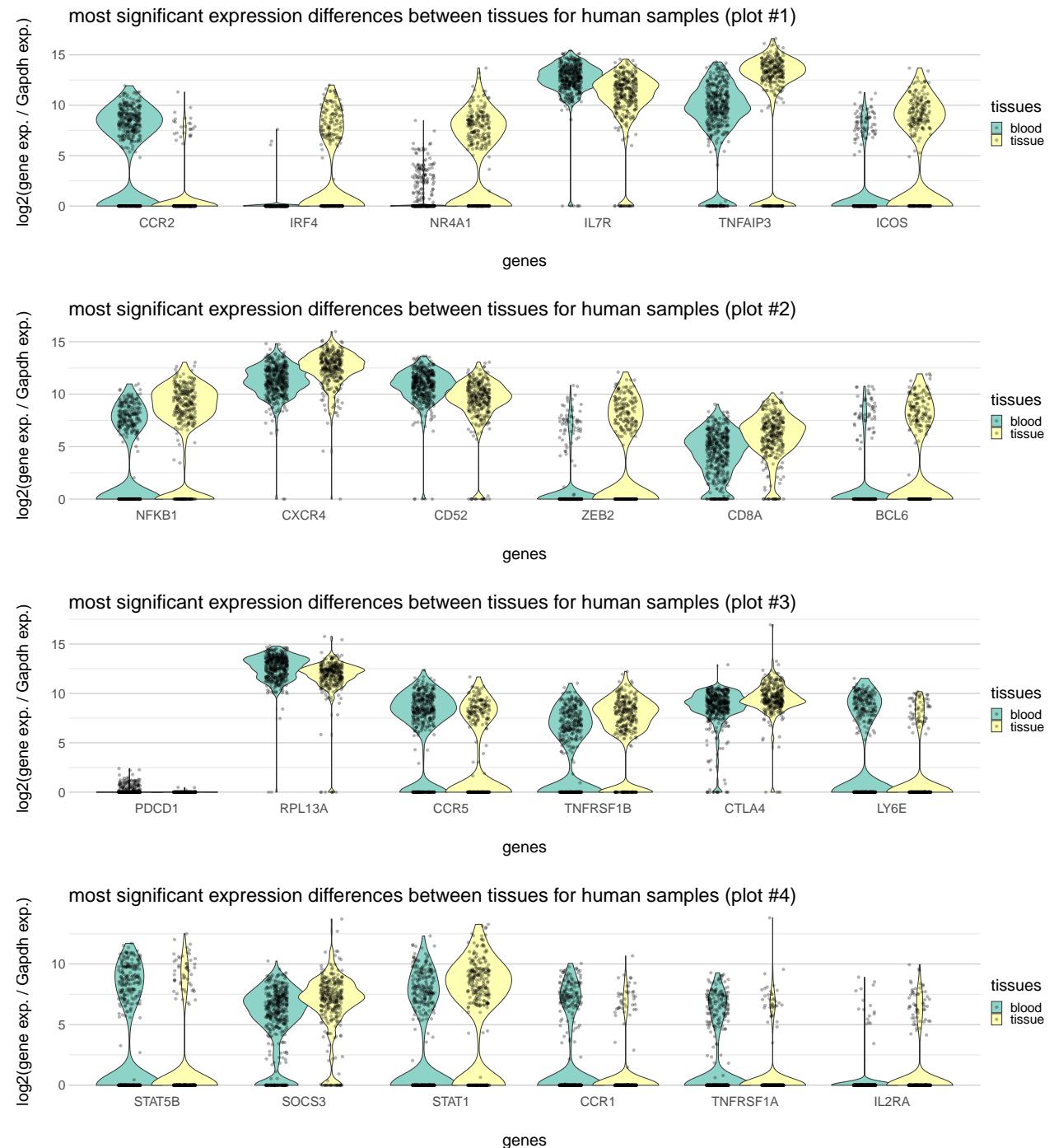


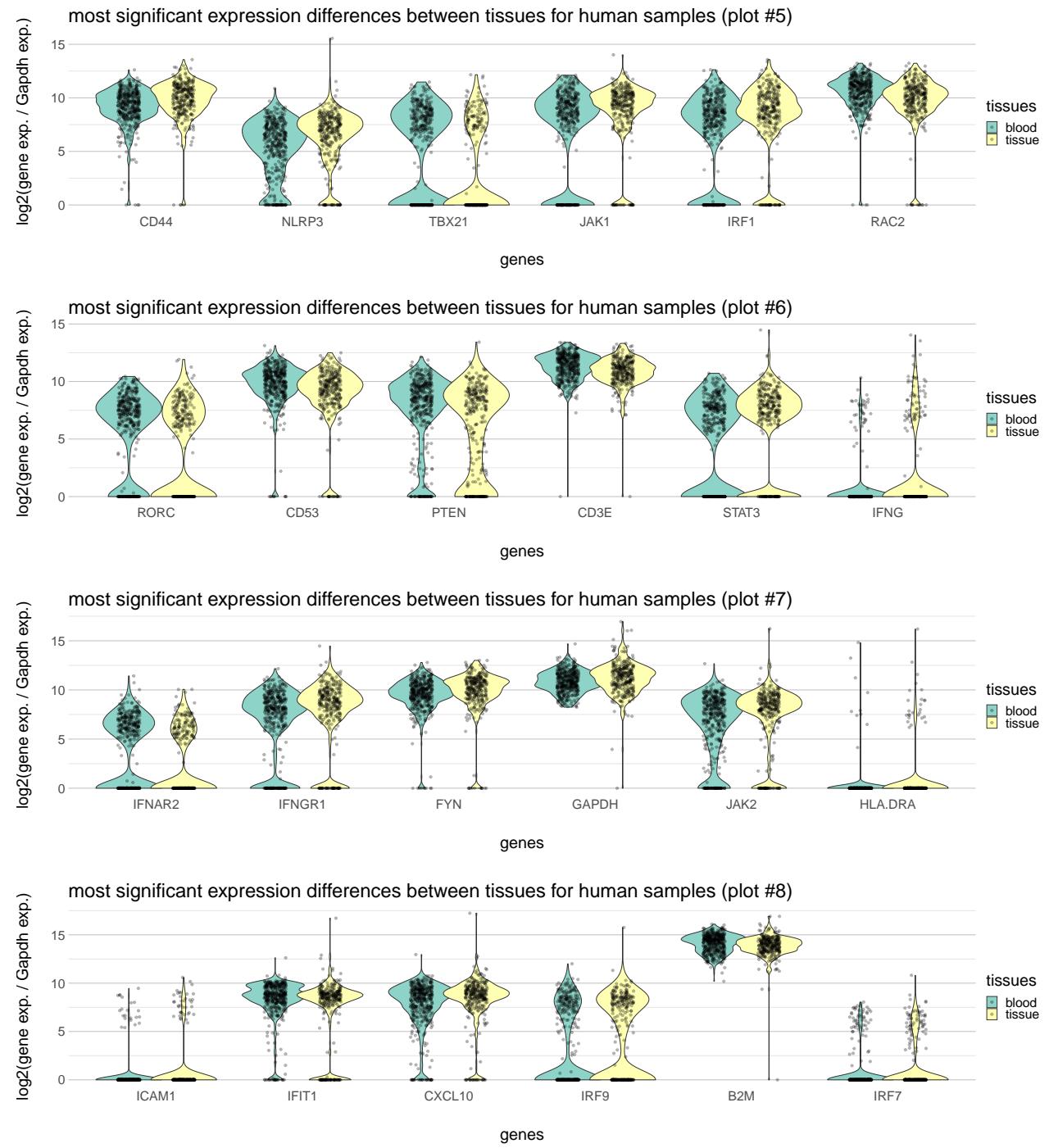


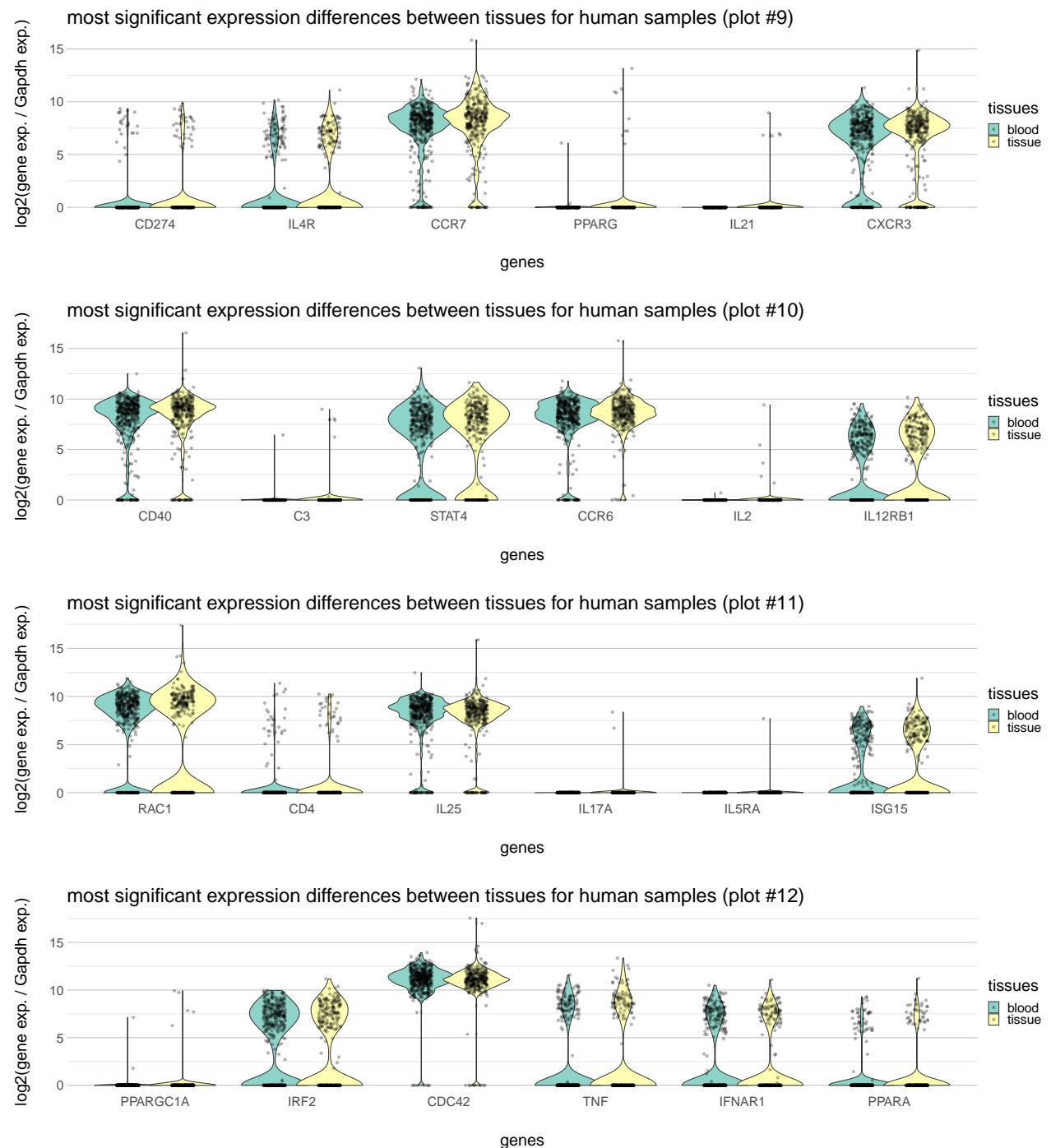


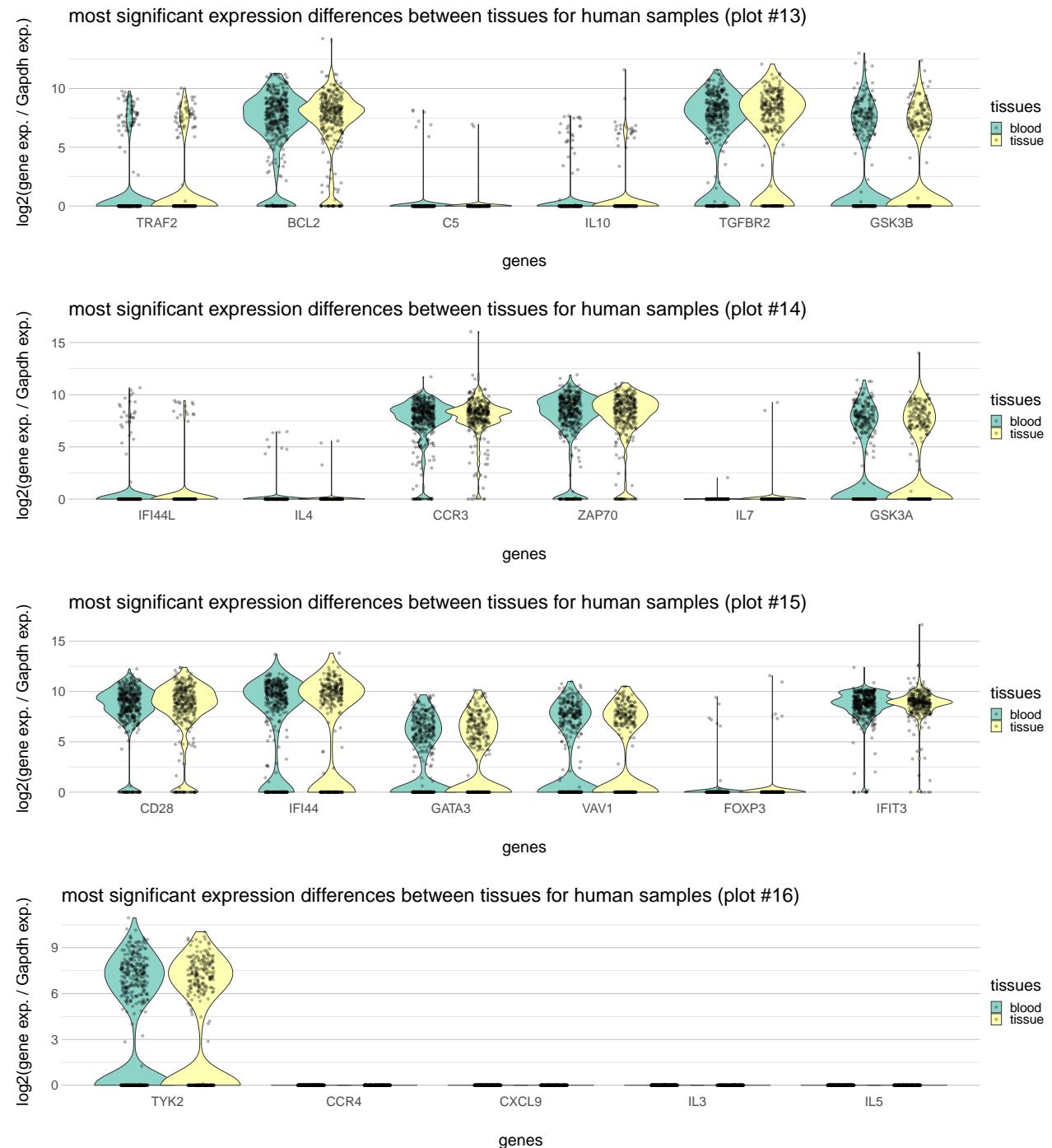
```
[1] Differentially expressed genes between tissues for human samples:
[1] CCR2: 4.09e-48      IRF4: 3.549e-45      NR4A1: 3.809e-37
[4] IL7R: 1.411e-33     TNFAIP3: 3.582e-31     ICOS: 2.623e-30
[7] NFKB1: 2.126e-28     CXCR4: 9.694e-27      CD52: 1.834e-26
[10] ZEB2: 3.876e-26      CD8A: 1.242e-23      BCL6: 1.406e-19
[13] PDCD1: 4.126e-18     RPL13A: 1.2e-17      CCR5: 7.631e-15
[16] TNFRSF1B: 2.926e-14    CTLA4: 4.756e-14     LY6E: 2.948e-12
[19] STAT5B: 3.091e-12     SOCS3: 3.448e-12     STAT1: 1.421e-11
[22] CCR1: 3.649e-11      TNFRSF1A: 6.643e-11   IL2RA: 1.126e-10
[25] CD44: 1.504e-09      NLRP3: 3.012e-09     TBX21: 4.568e-09
```

[28] JAK1:	9.654e-09	IRF1:	1.929e-08	RAC2:	2.327e-08
[31] RORC:	4.958e-08	CD53:	1.687e-07	PTEN:	1.687e-07
[34] CD3E:	2.028e-07	STAT3:	3.557e-07	IFNG:	4.565e-07
[37] IFNAR2:	4.866e-07	IFNGR1:	9.482e-07	FYN:	7.83e-06
[40] GAPDH:	7.325e-05	JAK2:	0.0002852	HLA.DRA:	0.0002968
[43] ICAM1:	0.0004962	IFIT1:	0.001231	CXCL10:	0.001231
[46] IRF9:	0.001415	B2M:	0.001792	IRF7:	0.004113
[49] CD274:	0.004761	IL4R:	0.009225	CCR7:	0.009225
[52] PPARG:	0.01073	IL21:	0.01349	CXCR3:	0.02127
[55] CD40:	0.02807	C3:	0.02807	STAT4:	0.03655
[58] CCR6:	0.03778				





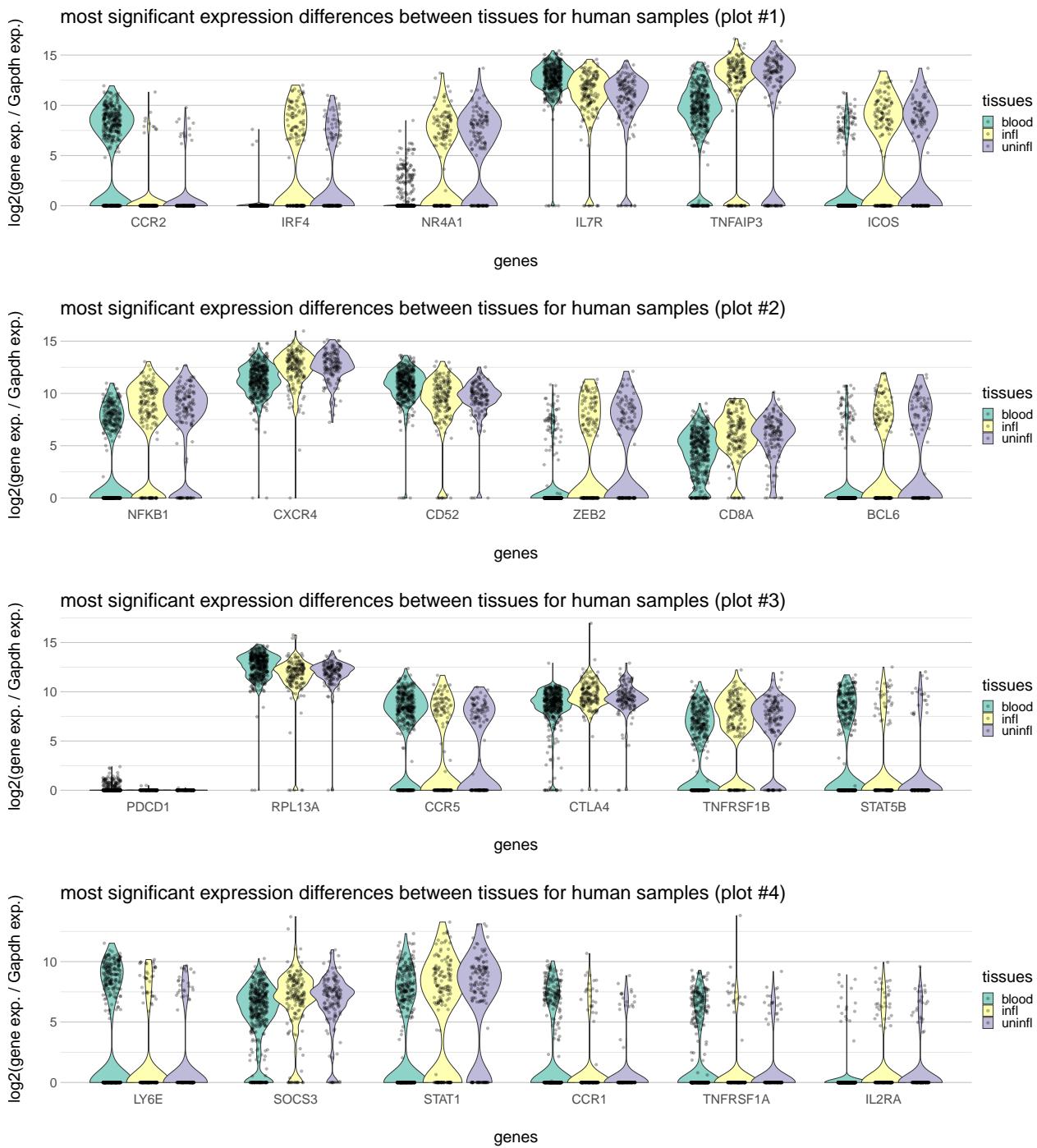


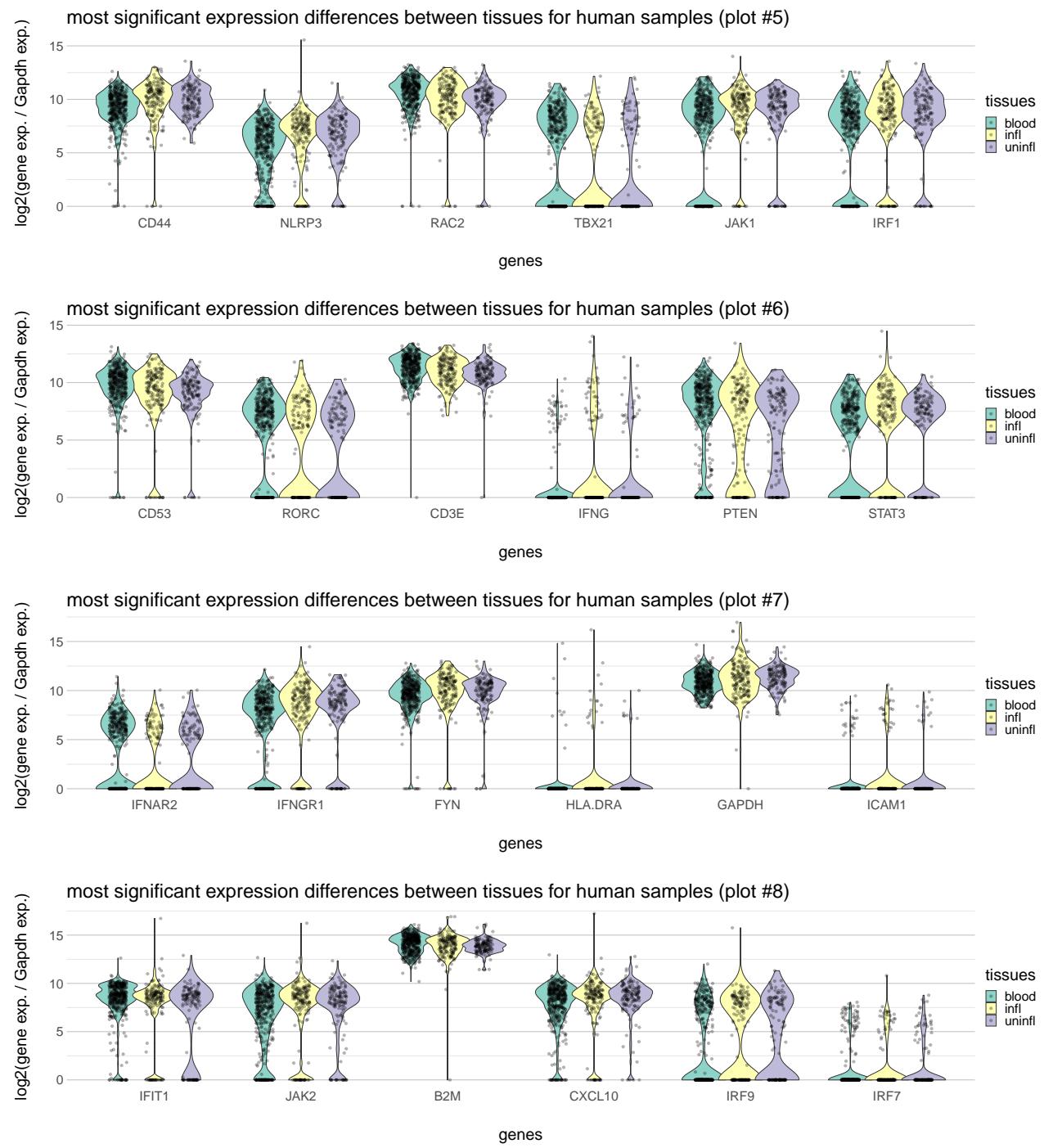


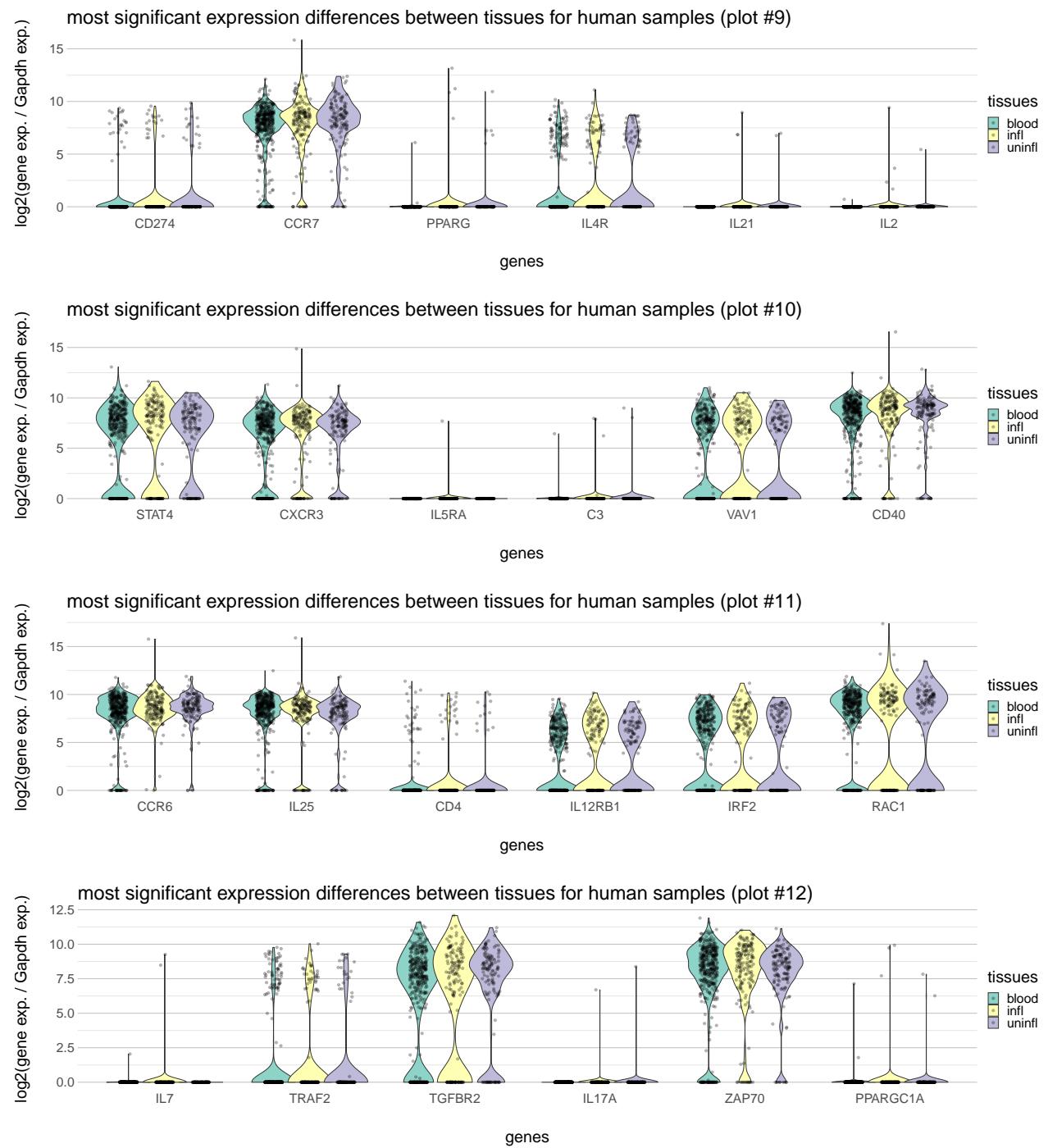
[1] Differentially expressed genes between tissues for human samples:

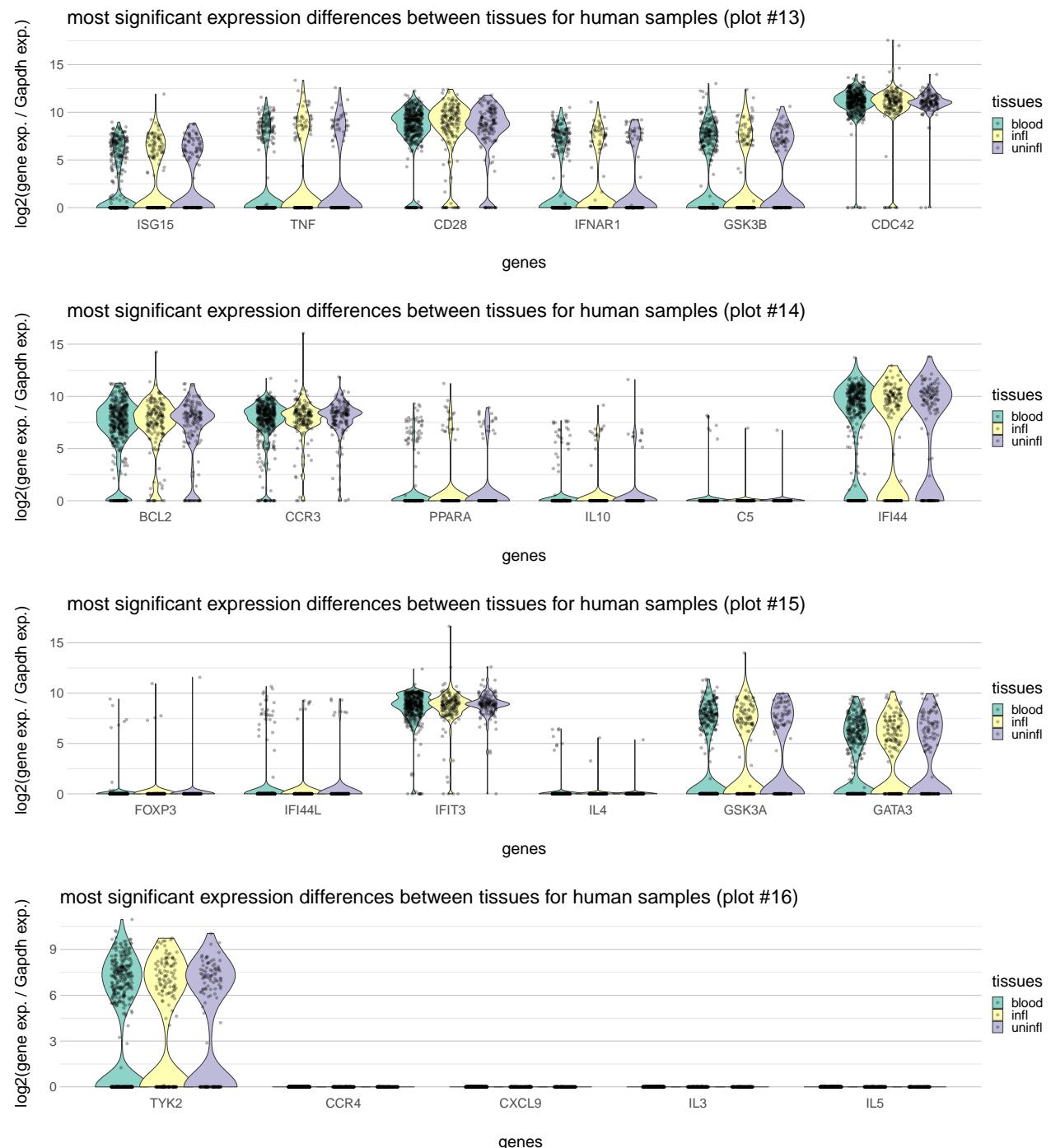
- | | | |
|-----------------------|---------------------|-------------------|
| [1] CCR2: 7.263e-47 | IRF4: 9.81e-47 | NR4A1: 3.794e-37 |
| [4] IL7R: 4.595e-33 | TNFAIP3: 4.139e-30 | ICOS: 2.024e-29 |
| [7] NFKB1: 2.966e-27 | CXCR4: 7.877e-26 | CD52: 2.466e-25 |
| [10] ZEB2: 3.788e-25 | CD8A: 1.356e-22 | BCL6: 1.361e-18 |
| [13] PDCD1: 4.655e-17 | RPL13A: 7.741e-17 | CCR5: 7.472e-14 |
| [16] CTLA4: 9.114e-14 | TNFRSF1B: 2.396e-13 | STAT5B: 1.459e-11 |
| [19] LY6E: 1.867e-11 | SOCS3: 2.421e-11 | STAT1: 3.869e-11 |
| [22] CCR1: 2.852e-10 | TNFRSF1A: 5.372e-10 | IL2RA: 7.595e-10 |
| [25] CD44: 4.371e-09 | NLRP3: 2.372e-08 | RAC2: 3.016e-08 |

[28]	TBX21: 3.218e-08	JAK1: 4.779e-08	IRF1: 1.351e-07
[31]	CD53: 2.49e-07	RORC: 2.49e-07	CD3E: 5.276e-07
[34]	IFNG: 5.456e-07	PTEN: 7.747e-07	STAT3: 1.801e-06
[37]	IFNAR2: 2.025e-06	IFNGR1: 3.65e-06	FYN: 1.306e-05
[40]	HLA.DRA: 0.0001677	GAPDH: 0.0001739	ICAM1: 0.0001804
[43]	IFIT1: 0.001182	JAK2: 0.001242	B2M: 0.002543
[46]	CXCL10: 0.004843	IRF9: 0.005364	IRF7: 0.01068
[49]	CD274: 0.01696	CCR7: 0.02451	PPARG: 0.03017
[52]	IL4R: 0.03312	IL21: 0.04609	IL2: 0.04907









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

```

[1] PDCD1: 9.229e-21    JAK1: 1.473e-17    CCR2: 4.514e-15
[4] IL7R: 1.011e-13    ICOS: 3.256e-12    IRF4: 4.998e-12
[7] STAT1: 6.044e-12    RPL13A: 7.203e-11    CD52: 2.525e-09
[10] CCR1: 1.584e-08    NLRP3: 1.584e-08    CD8A: 6.414e-07
[13] NFKB1: 1.129e-06    NR4A1: 1.797e-06    ZEB2: 2.864e-06
[16] CCR5: 1.03e-05    BCL6: 1.661e-05    SOCS3: 3.36e-05
[19] IFIT1: 4.396e-05    CD53: 6.294e-05    GSK3A: 6.318e-05
[22] IFNAR2: 0.000165    CD3E: 0.0002474    TNFRSF1B: 0.0005008
[25] CTLA4: 0.0006318    B2M: 0.001504    STAT5B: 0.001731

```

[28]	RAC1: 0.002237	STAT4: 0.002545	STAT3: 0.002617
[31]	IL12RB1: 0.002617	PTEN: 0.00628	TBX21: 0.00628
[34]	RAC2: 0.007261	IL2RA: 0.007261	CDC42: 0.01087
[37]	LY6E: 0.01217	PPARA: 0.01217	CXCR3: 0.01375
[40]	GATA3: 0.01917	RORC: 0.01985	IFIT3: 0.02365
[43]	TNFAIP3: 0.02993	JAK2: 0.03348	CCR3: 0.0346
[46]	IL25: 0.04754	IFNG: 0.0493	

