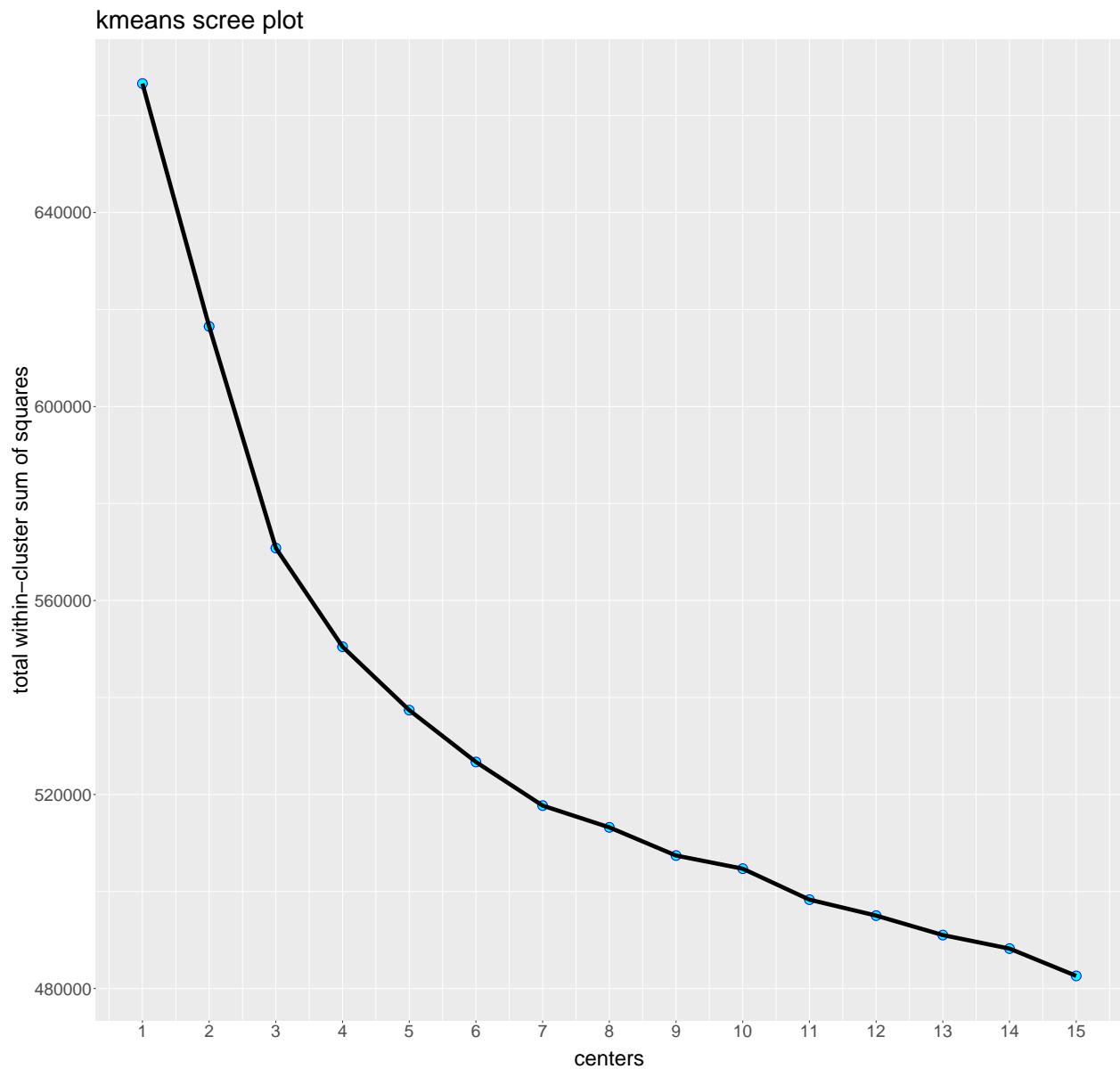
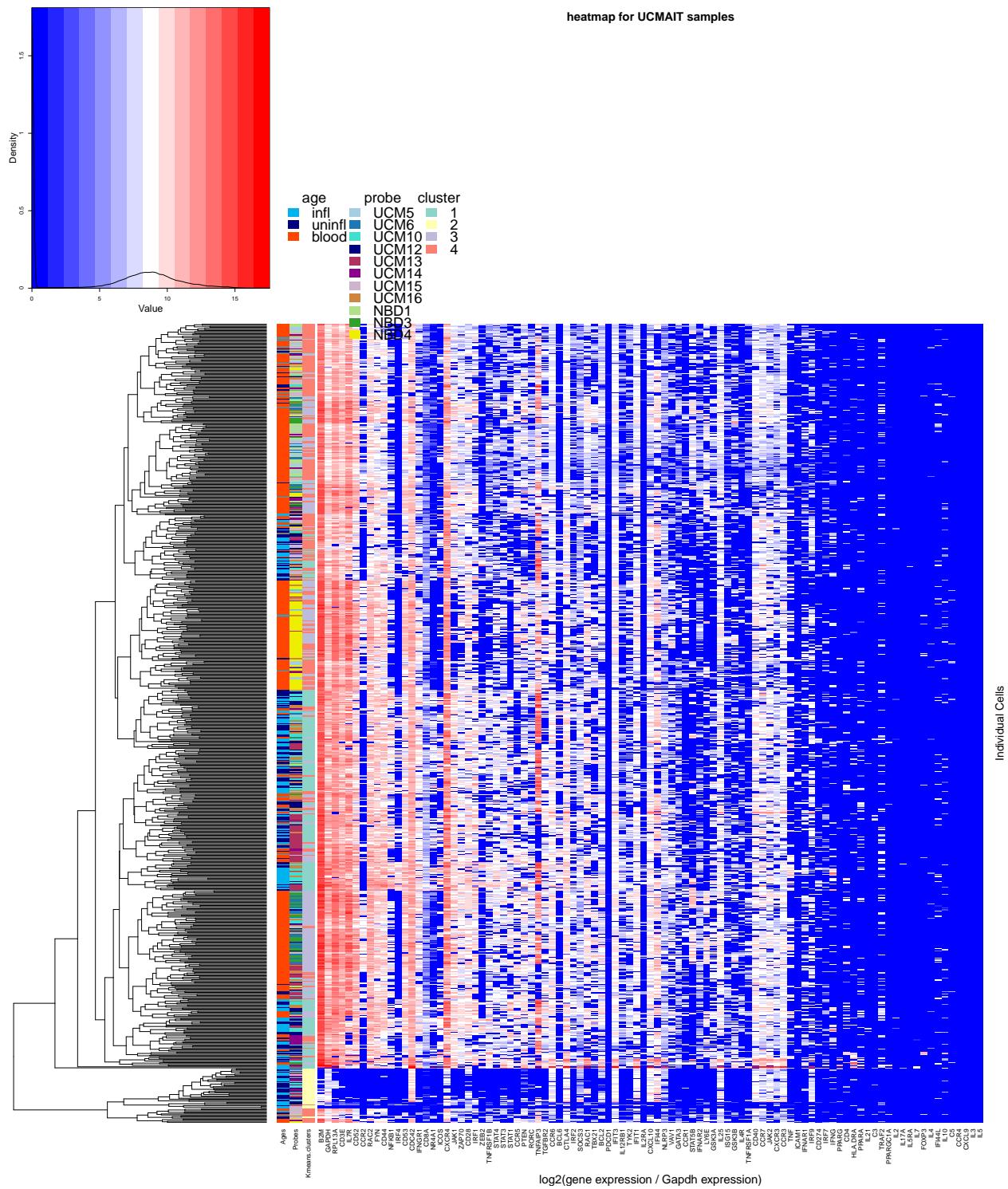


UC-MAIT analysis

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	cluster_4
probe_UCM5	0	0	56	54
probe_UCM6	0	0	45	16
probe_UCM10			16	14
probe_UCM12				32
probe_UCM13				49
cluster_1	0	0	6	6
cluster_2	0	0	45	10
cluster_3	56	10	16	14
cluster_4	54	10	14	32

```

cluster_4      29      3      7     12      7
            probe_UCM14 probe_UCM15 probe_UCM16 probe_NBD1 probe_NBD3
cluster_1      10      3     44      0      0
cluster_2       7      5      0      0      0
cluster_3      12      4     22      5     43
cluster_4      26     56     28     43      5
            probe_NBD4
cluster_1       1
cluster_2       0
cluster_3      43
cluster_4      50

```

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

```

data:  probeTable
X-squared = 575.52, df = NA, p-value = 0.0004998

```

```

[1]
[1]
[1] Tissue vs. Cluster
      cellSource_blood cellSource_tissue
cluster_1           4          213
cluster_2           0          38
cluster_3          230          12
cluster_4          189          77

```

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

```

data:  sourceTable
X-squared = 479.48, df = NA, p-value = 0.0004998

```

```

[1]
[1]
[1] age vs. Cluster
      age_infl age_uninfl age_blood
cluster_1      108      105       4
cluster_2       18       20       0
cluster_3        6       6      230
cluster_4      50       27     189

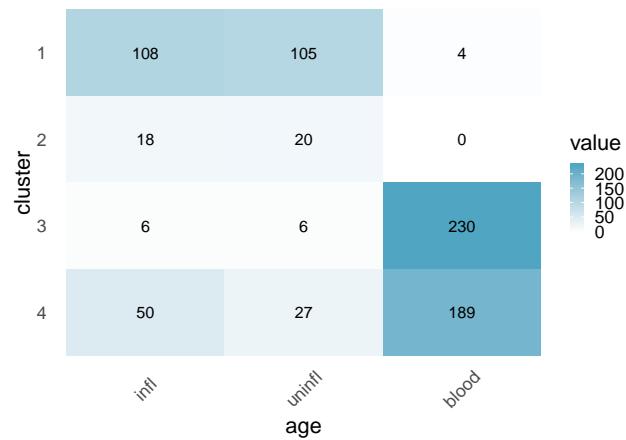
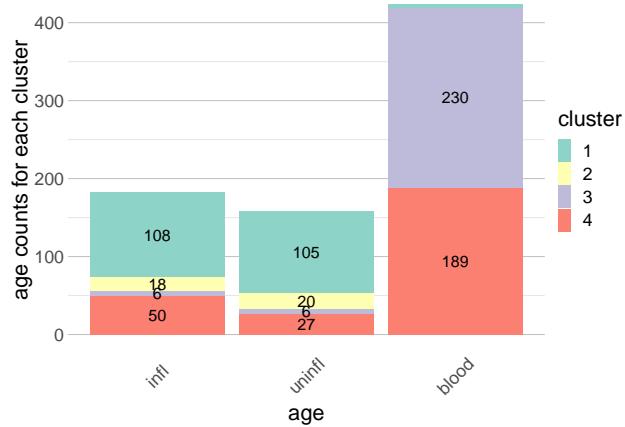
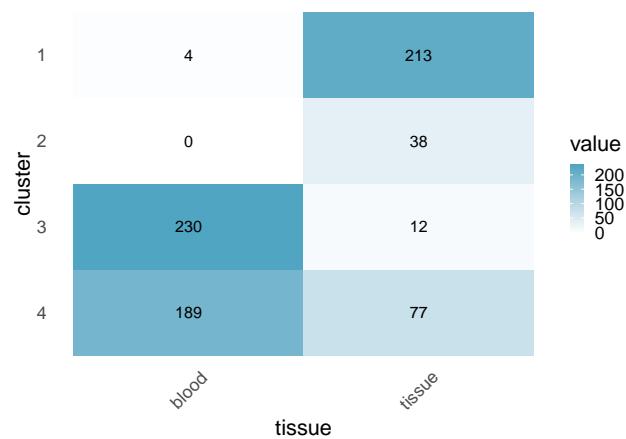
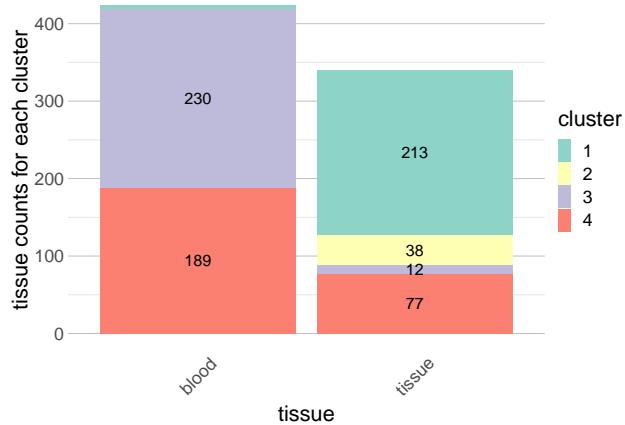
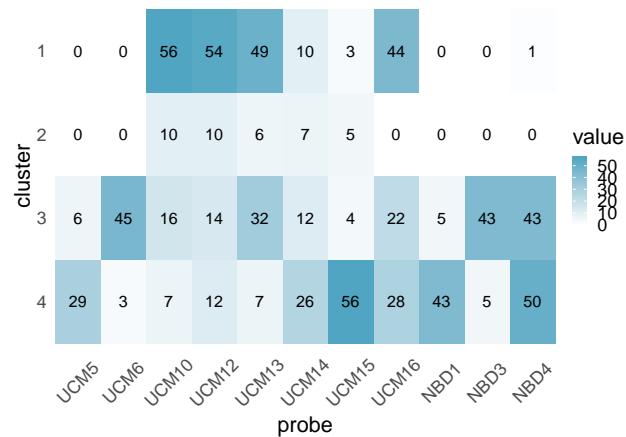
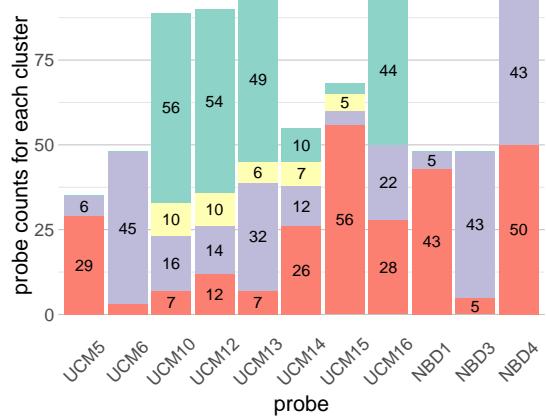
```

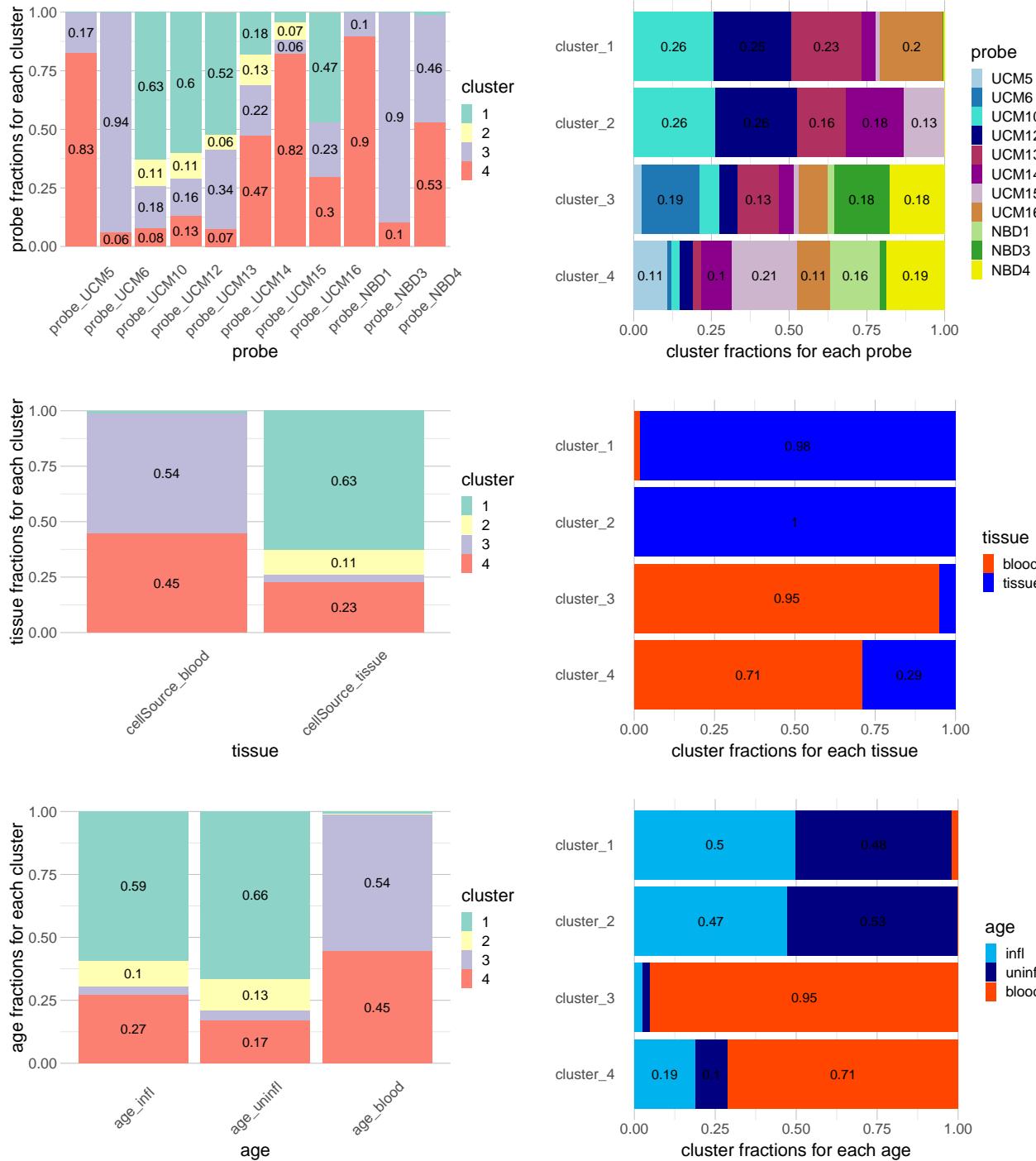
Pearson's Chi-squared test with simulated p-value (based on 2000 replicates)

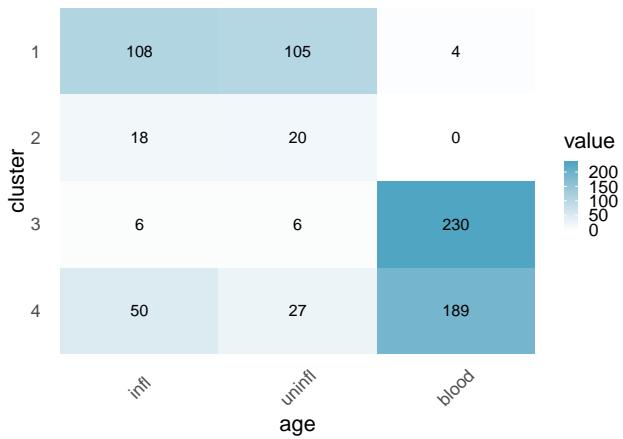
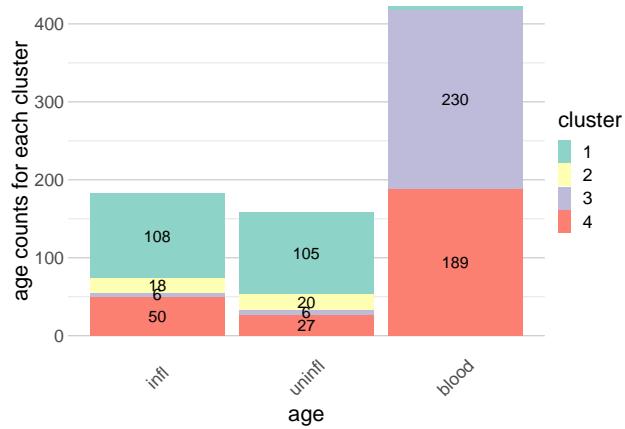
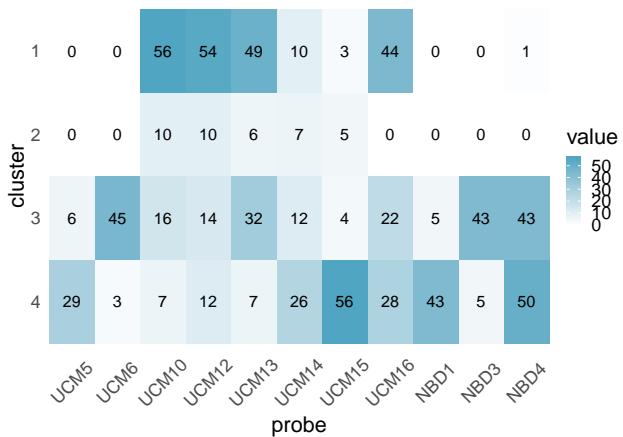
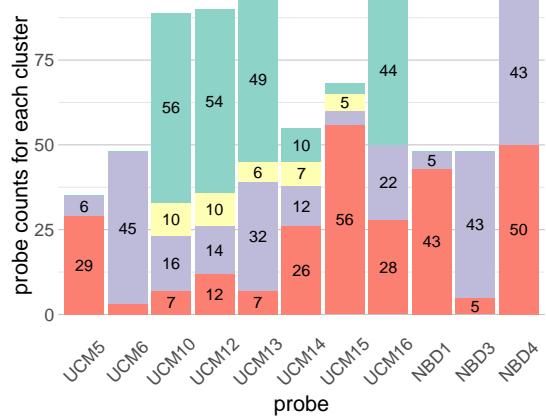
```

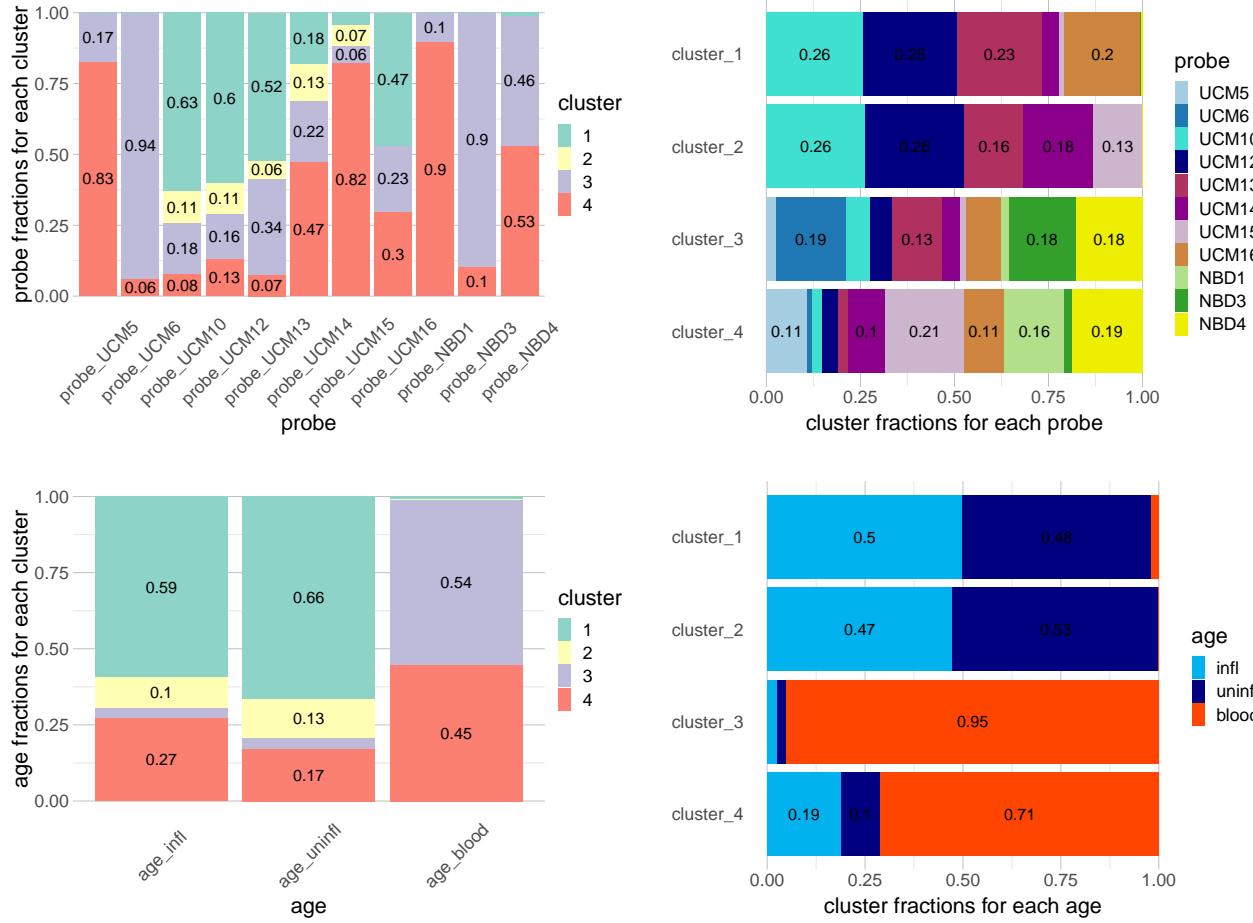
data:  ageTable
X-squared = 484.91, df = NA, p-value = 0.0004998

```

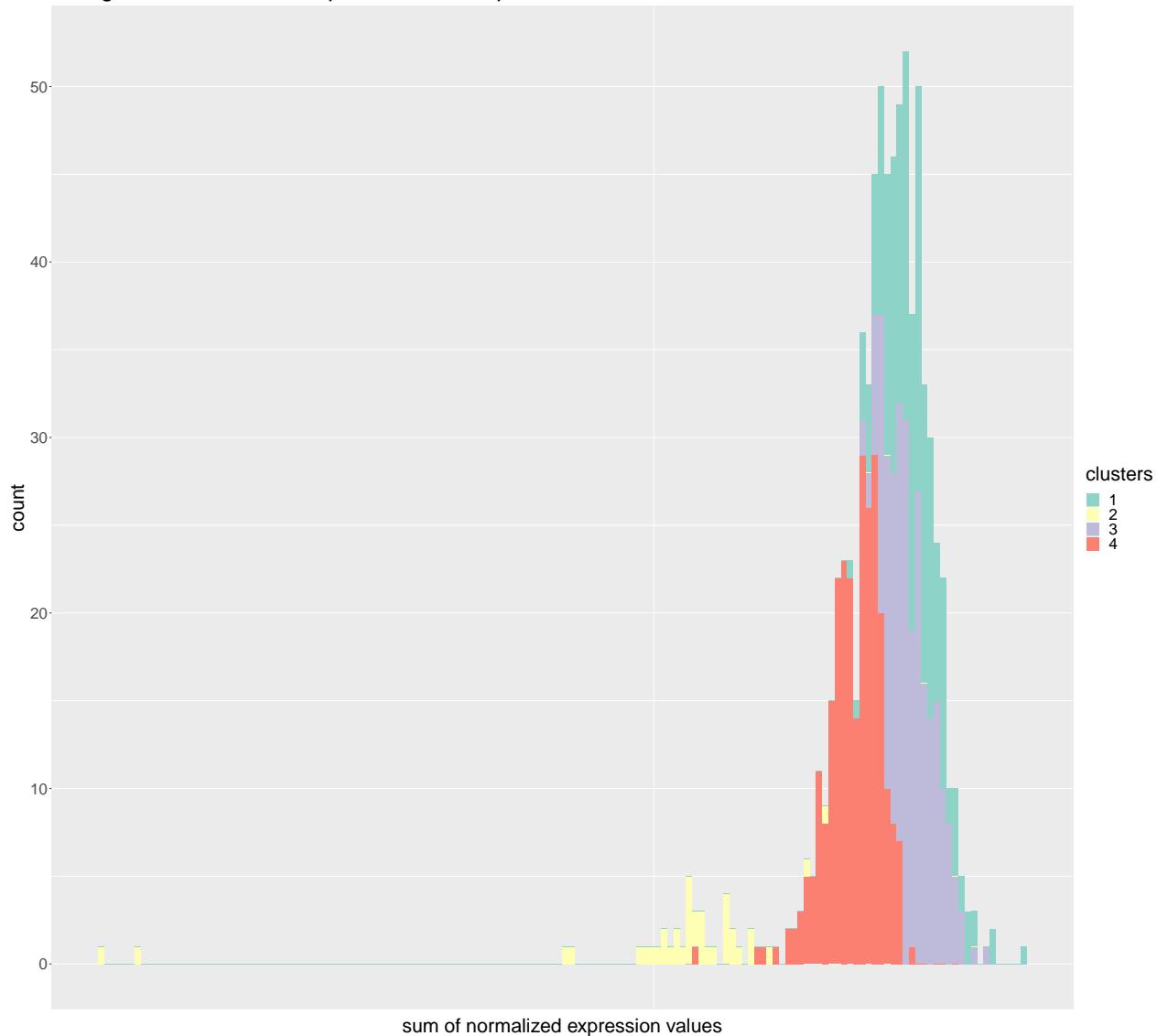






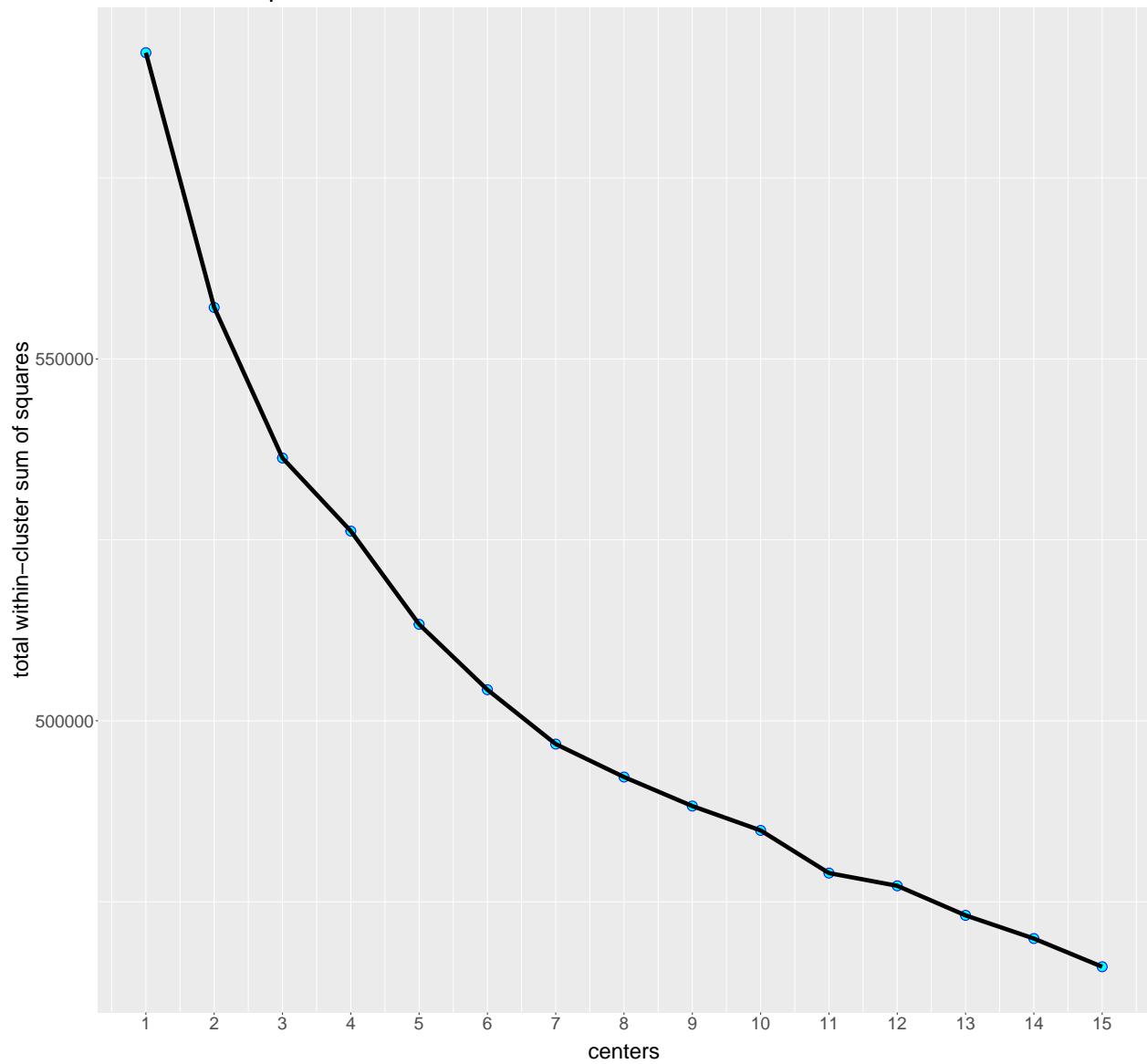


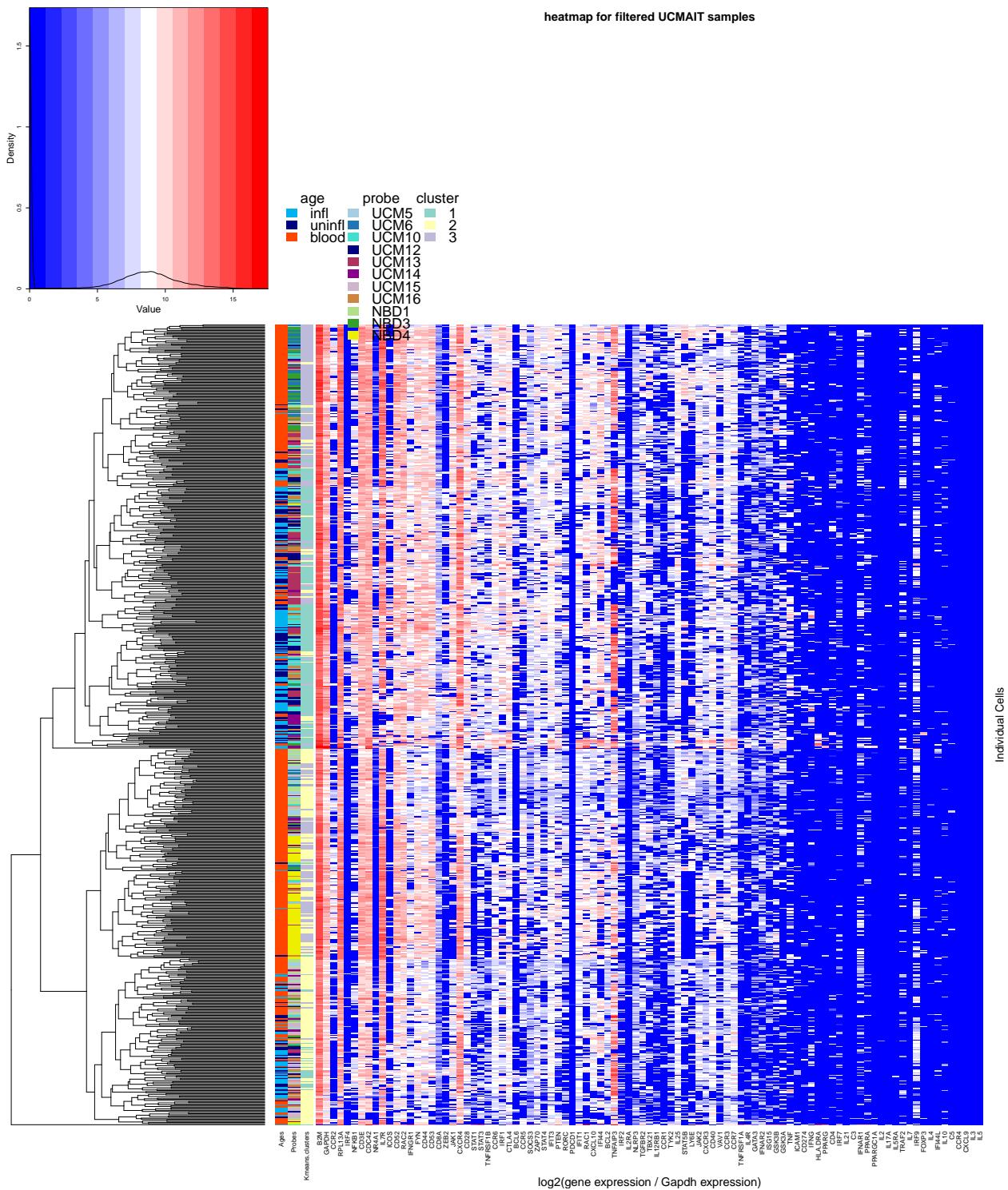
histogram of cumulative expression values per cell



38 / 763 cells were removed due to low gene expression (cluster ID of removed clusters: 2)

kmeans scree plot





[1]

[1]

[1] Probe vs. Cluster

	probe_UCM5	probe_UCM6	probe_UCM10	probe_UCM12	probe_UCM13
cluster_1	0	0	56	54	49
cluster_2	29	3	7	12	7
cluster_3	6	45	16	14	32

	probe_UCM14	probe_UCM15	probe_UCM16	probe_NBD1	probe_NBD3
cluster_1	10	3	44	0	0
cluster_2	26	56	28	43	5
cluster_3	12	4	22	5	43
	probe_NBD4				
cluster_1		1			
cluster_2		50			
cluster_3		43			

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

```
data: probeTable
X-squared = 529.1, df = NA, p-value = 0.0004998
```

```
[1]
[1]
[1] Tissue vs. Cluster
      cellSource_blood cellSource_tissue
cluster_1           4             213
cluster_2          189              77
cluster_3          230              12
```

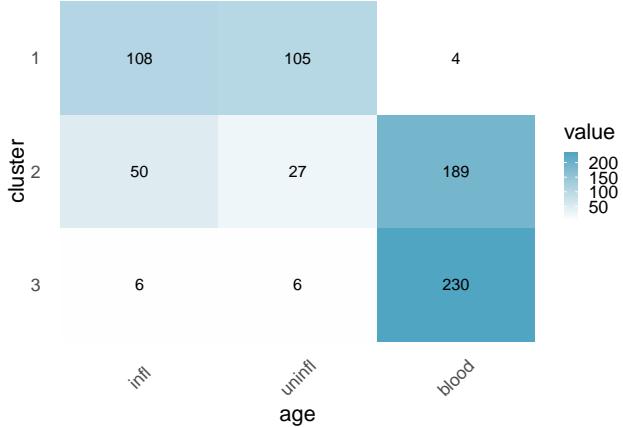
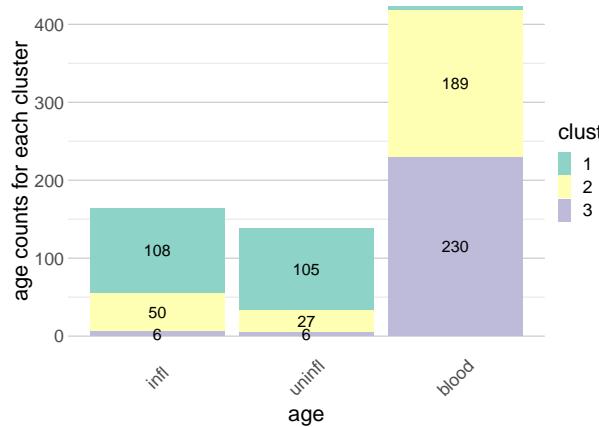
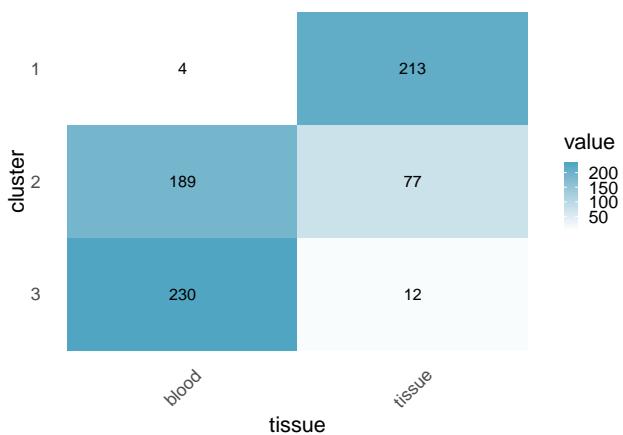
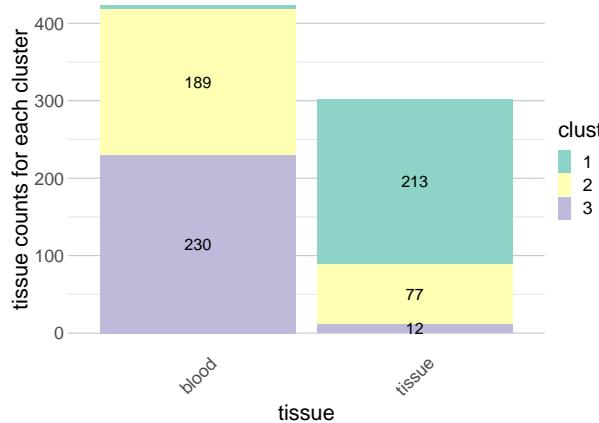
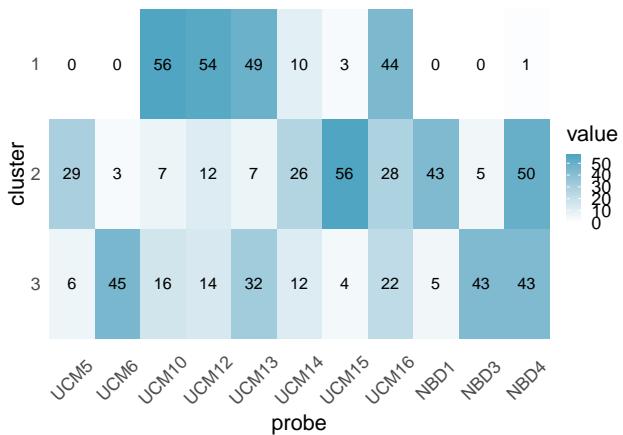
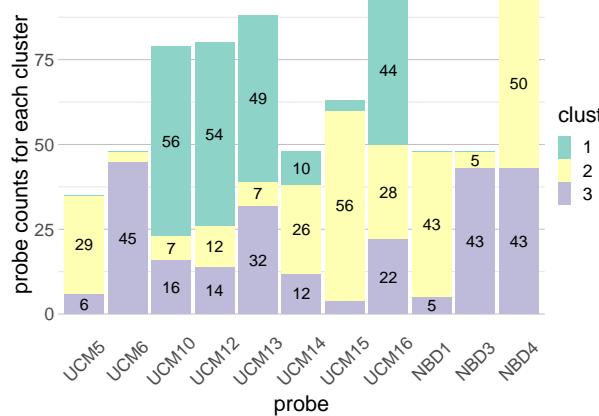
Pearson's Chi-squared test with simulated p-value (based on 2000 replicates)

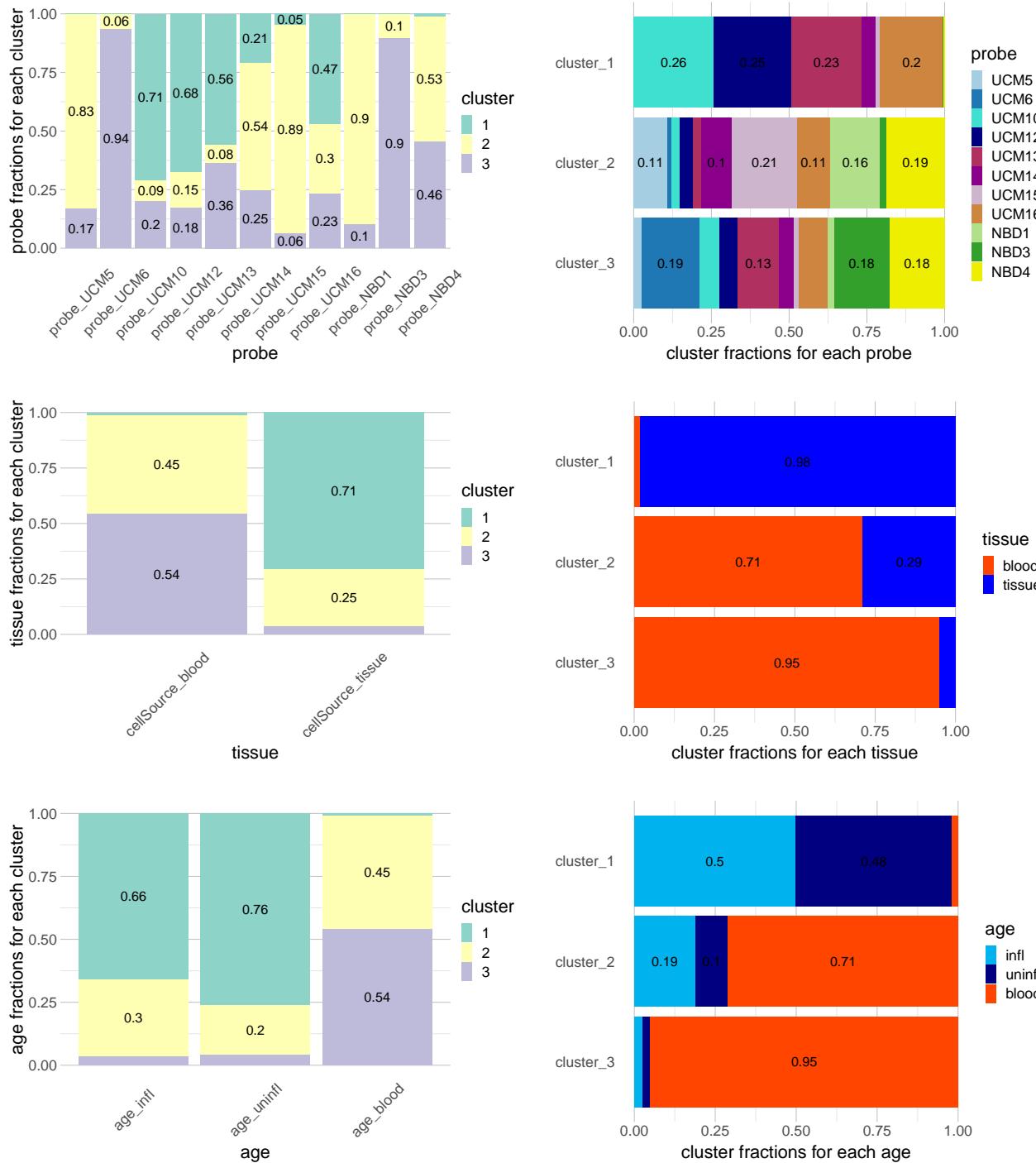
```
data: sourceTable
X-squared = 436.81, df = NA, p-value = 0.0004998
```

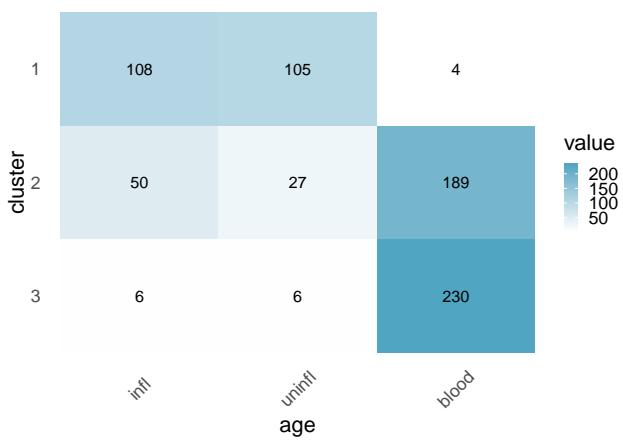
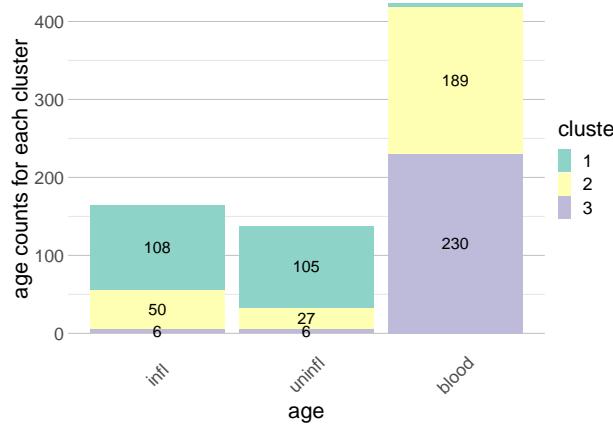
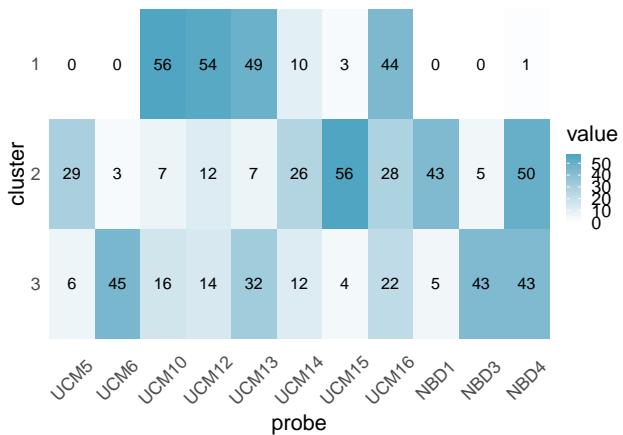
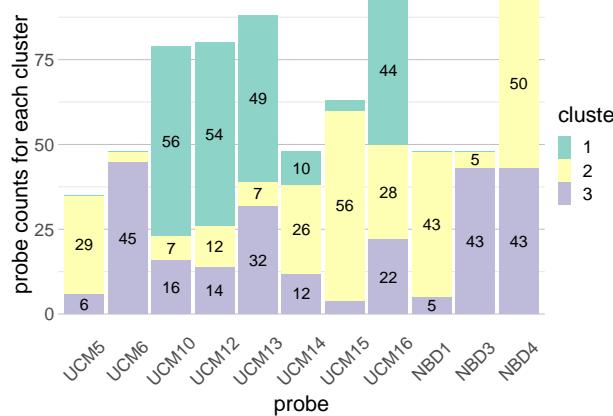
```
[1]
[1]
[1] age vs. Cluster
      age_infl age_uninfl age_blood
cluster_1     108       105        4
cluster_2      50        27       189
cluster_3      6         6       230
```

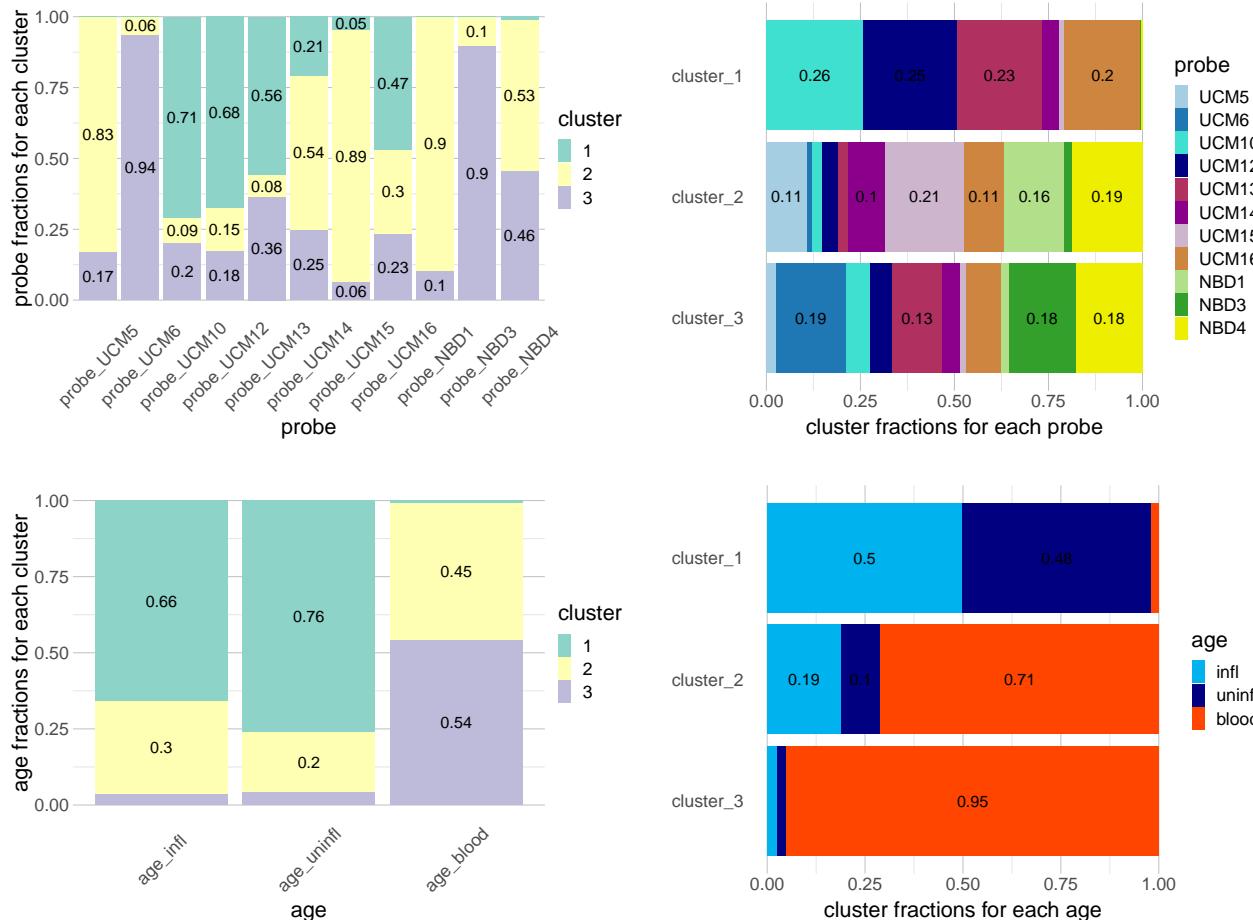
Pearson's Chi-squared test with simulated p-value (based on 2000 replicates)

```
data: ageTable
X-squared = 441.87, df = NA, p-value = 0.0004998
```

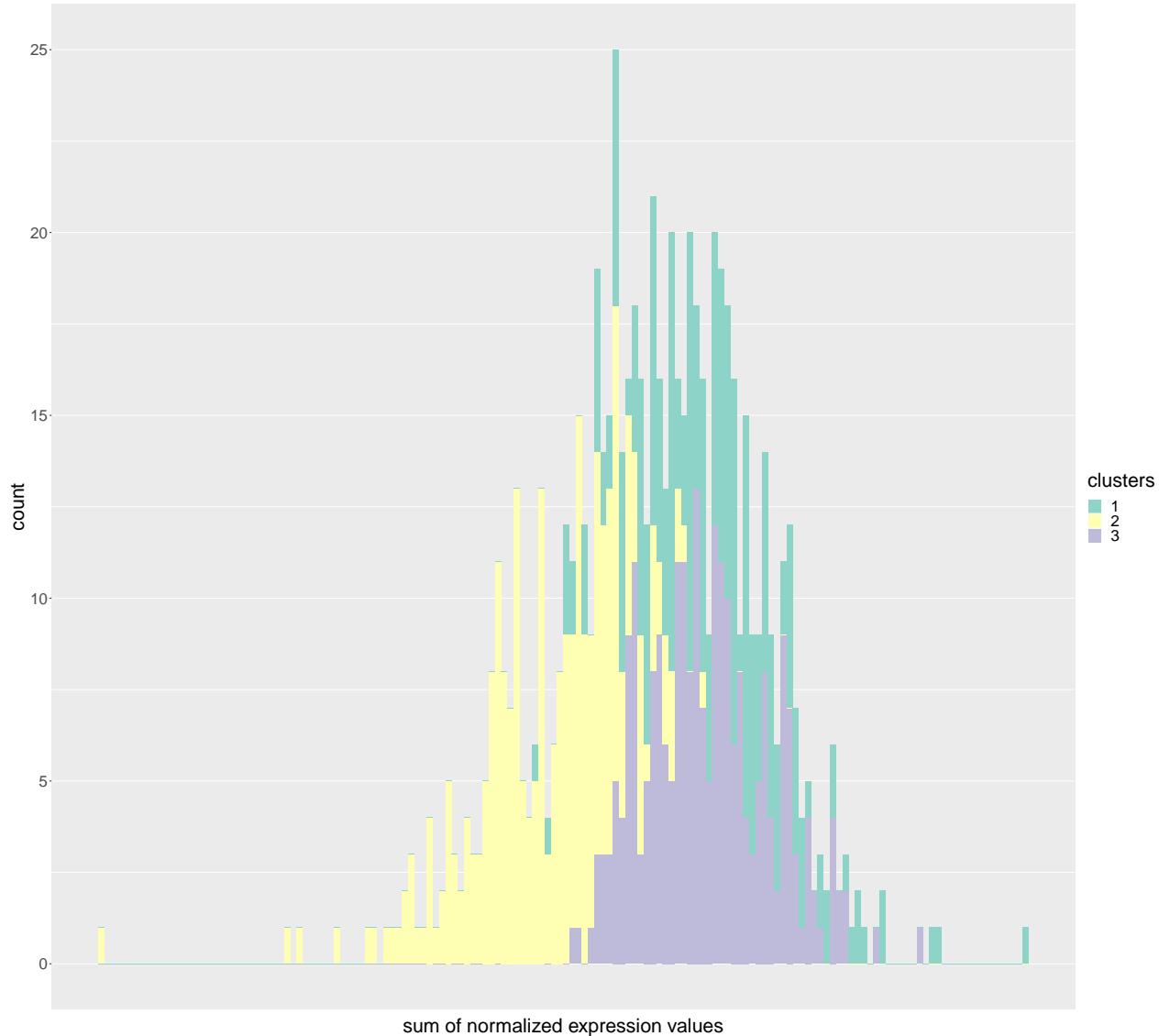




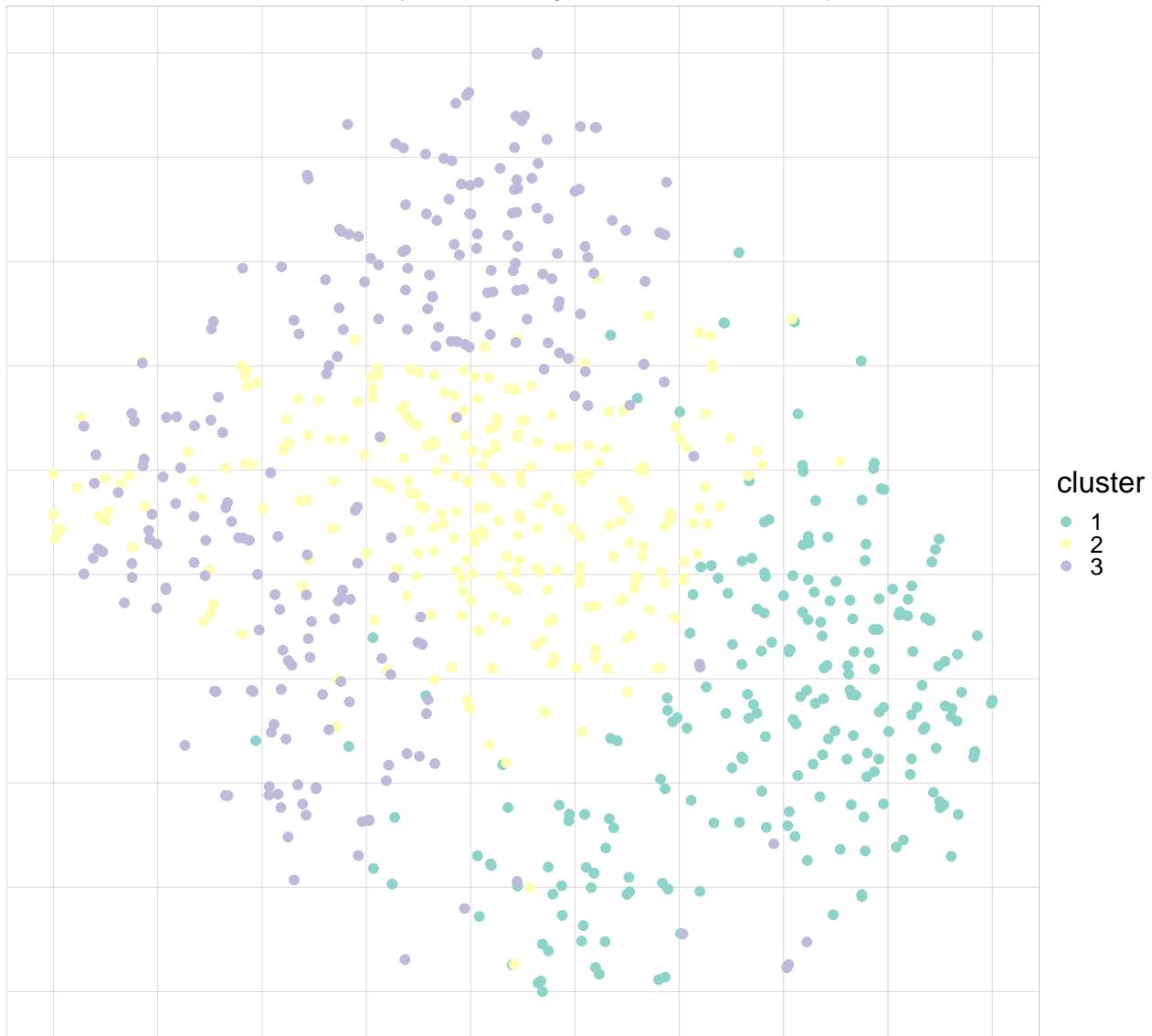




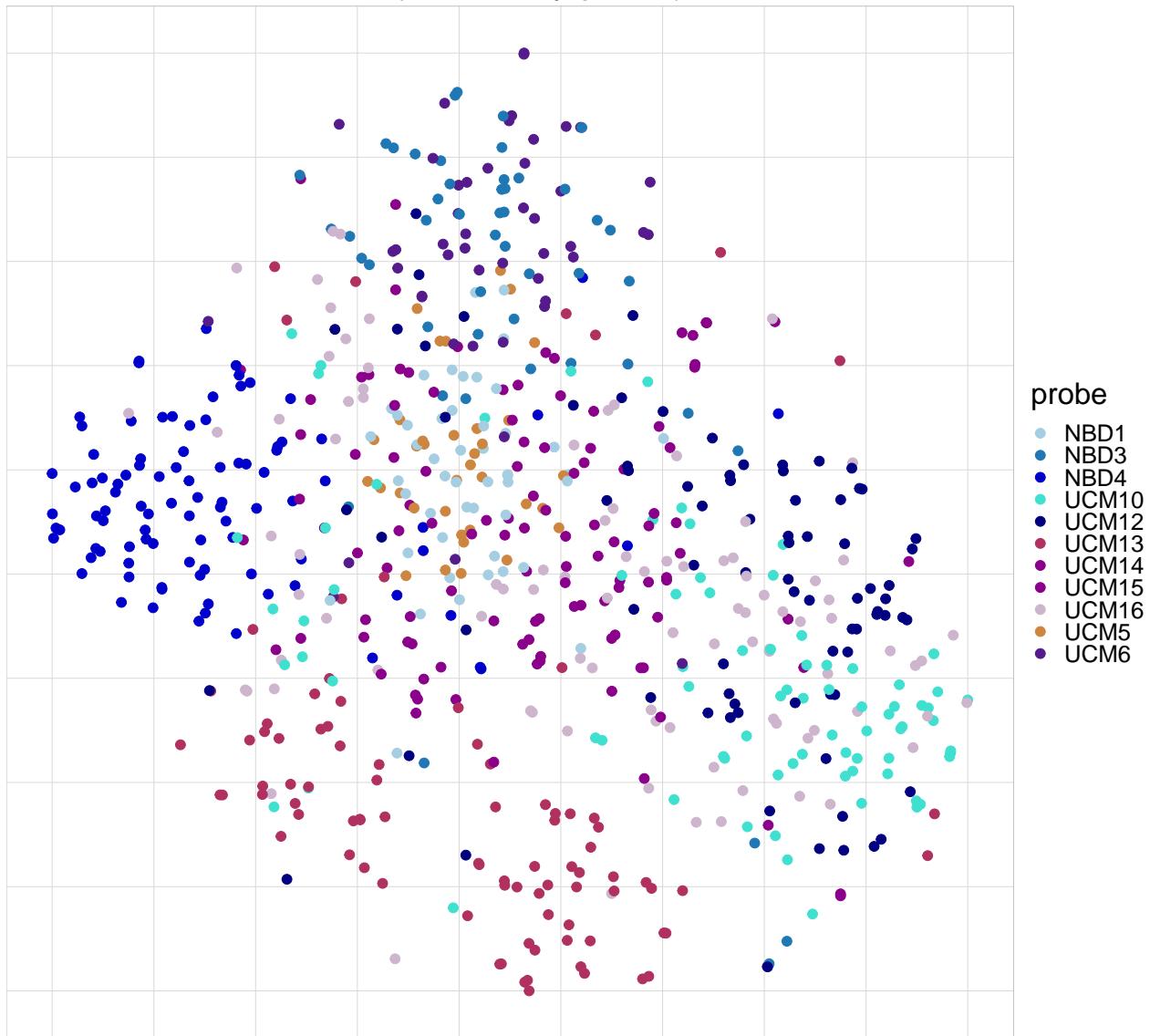
histogram of cumulative expression values per cell



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



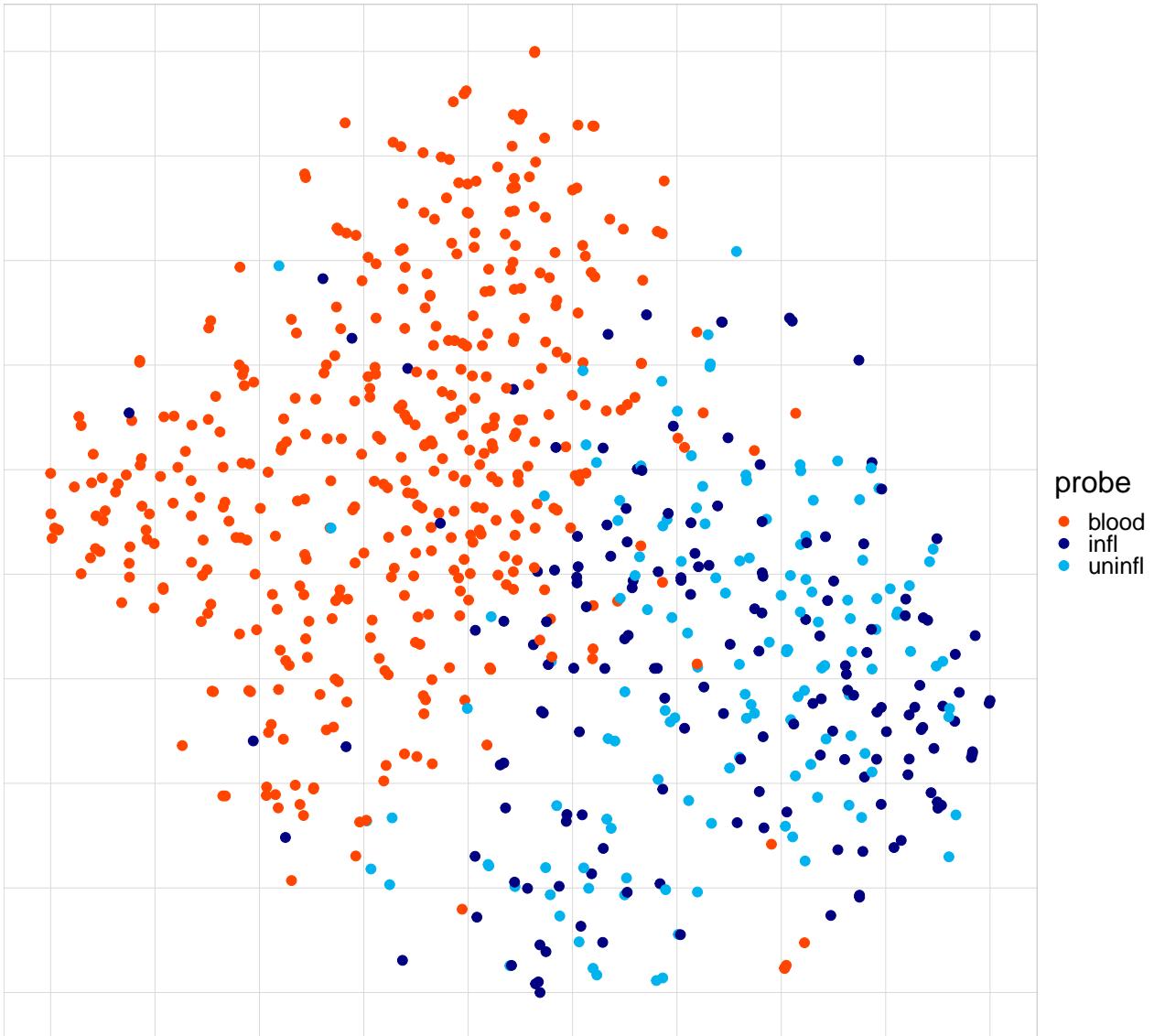
t-SNE between tissues (colored by probe)



t-SNE between tissues (colored by probe)



t-SNE between tissues (colored by probe)



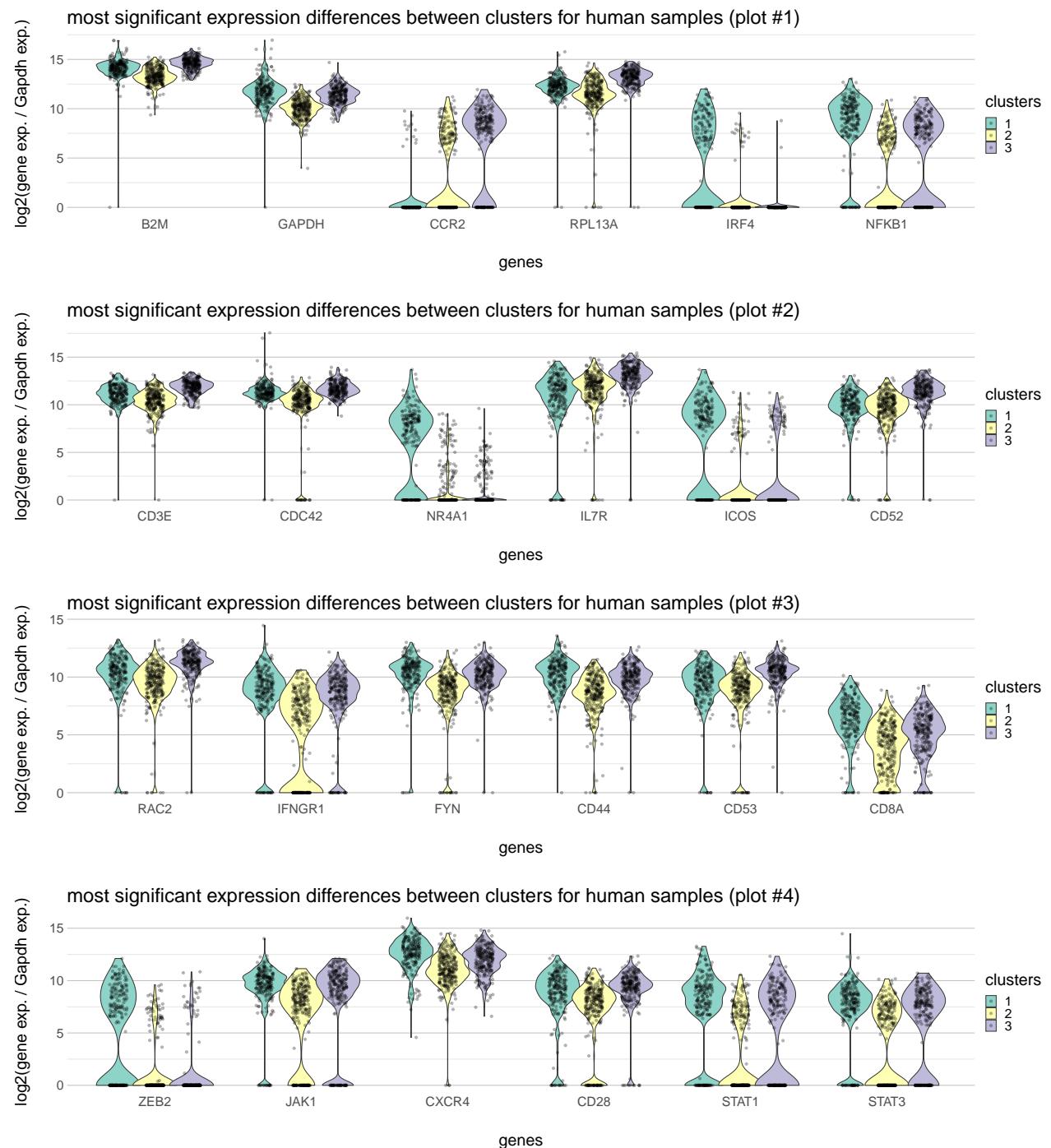
[1] Differentially expressed genes between clusters for human samples:

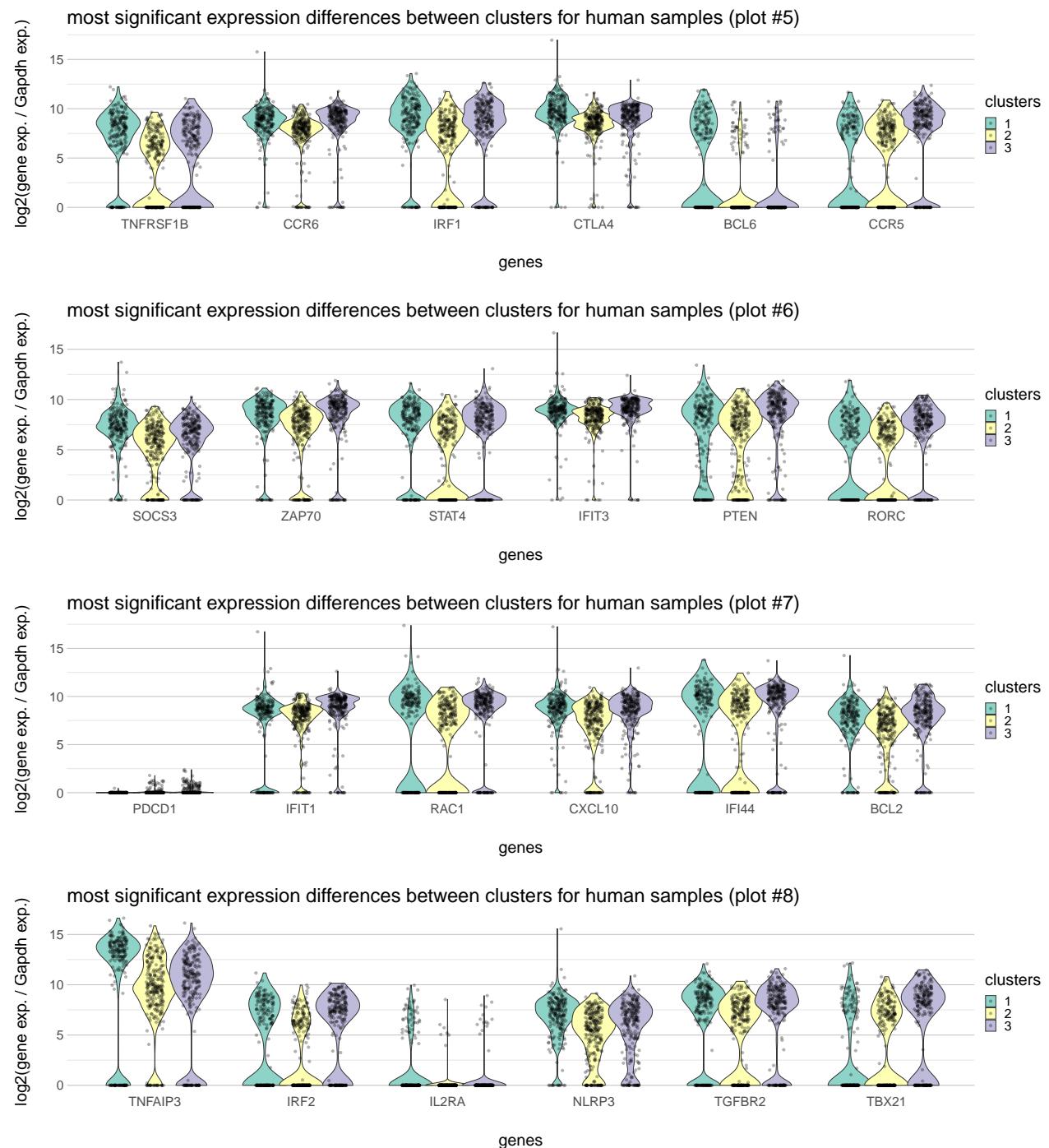
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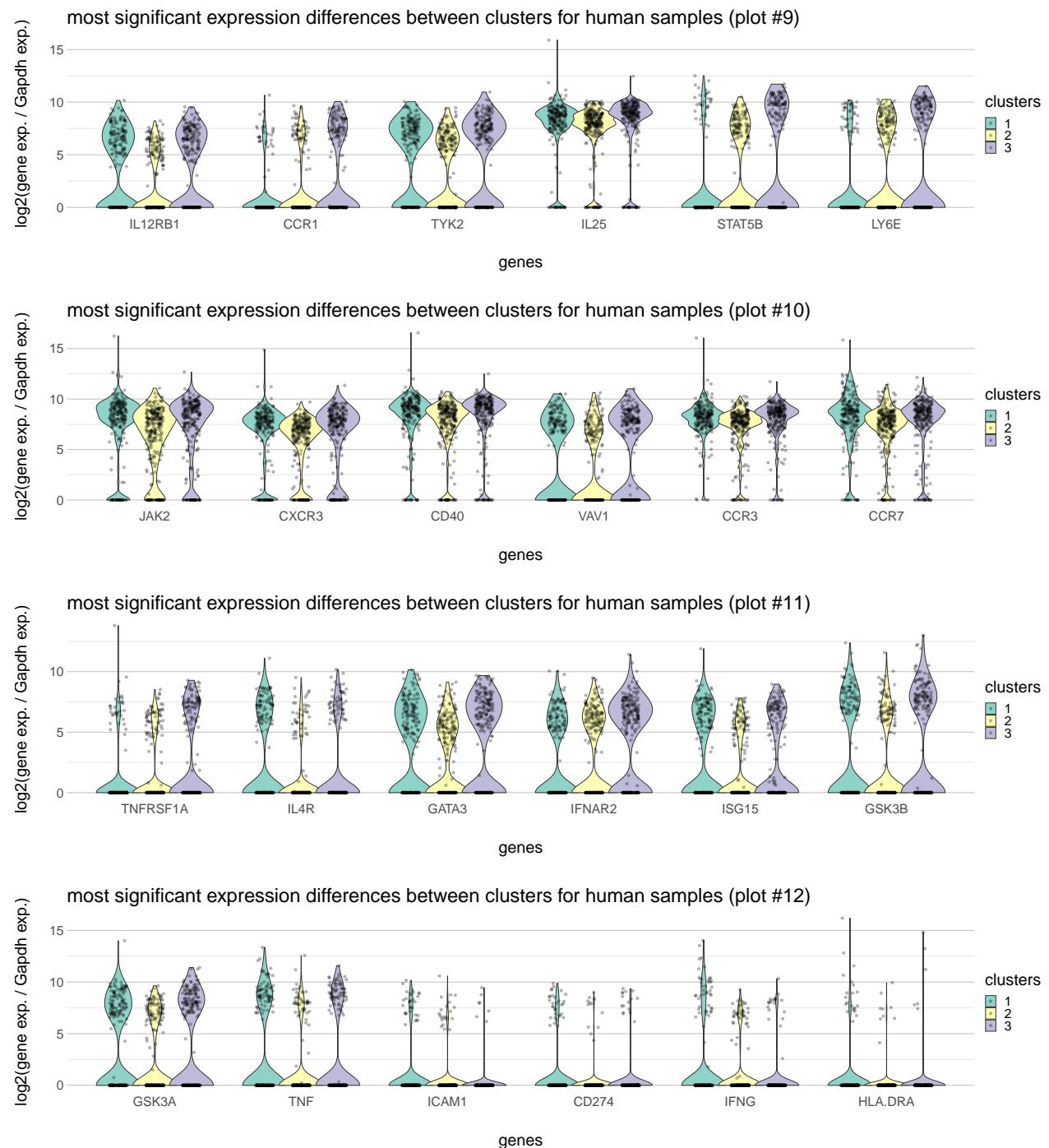
[1] B2M: 1.705e-58      GAPDH: 2.441e-57      CCR2: 1.432e-51
[4] RPL13A: 1.432e-51    IRF4: 1.651e-51      NFKB1: 3.114e-46
[7] CD3E: 2.506e-45     CDC42: 4.282e-43     NR4A1: 9.719e-43
[10] IL7R: 3.484e-42     ICOS: 5.851e-41      CD52: 6.867e-41
[13] RAC2: 5.472e-39     IFNGR1: 2.865e-38    FYN: 8.523e-38
[16] CD44: 1.811e-36     CD53: 6.284e-35      CD8A: 3.163e-33
[19] ZEB2: 4.161e-33     JAK1: 4.968e-31      CXCR4: 1.938e-27
[22] CD28: 6.94e-27      STAT1: 8.719e-27     STAT3: 7.454e-25
[25] TNFRSF1B: 1.267e-24 CCR6: 3.15e-24       IRF1: 6.809e-24
[28] CTLA4: 1.069e-23    BCL6: 4.244e-23      CCR5: 1.11e-22
[31] SOCS3: 1.717e-22    ZAP70: 1.854e-22     STAT4: 2.617e-22
[34] IFIT3: 1.302e-20    PTEN: 5.193e-20      RORC: 1.556e-19
[37] PDCD1: 4.553e-19    IFIT1: 9.991e-19     RAC1: 9.549e-18
[40] CXCL10: 5.98e-17    IFI44: 5.98e-17      BCL2: 6.846e-17
[43] TNFAIP3: 3.893e-16   IRF2: 3.994e-16     IL2RA: 6.488e-16

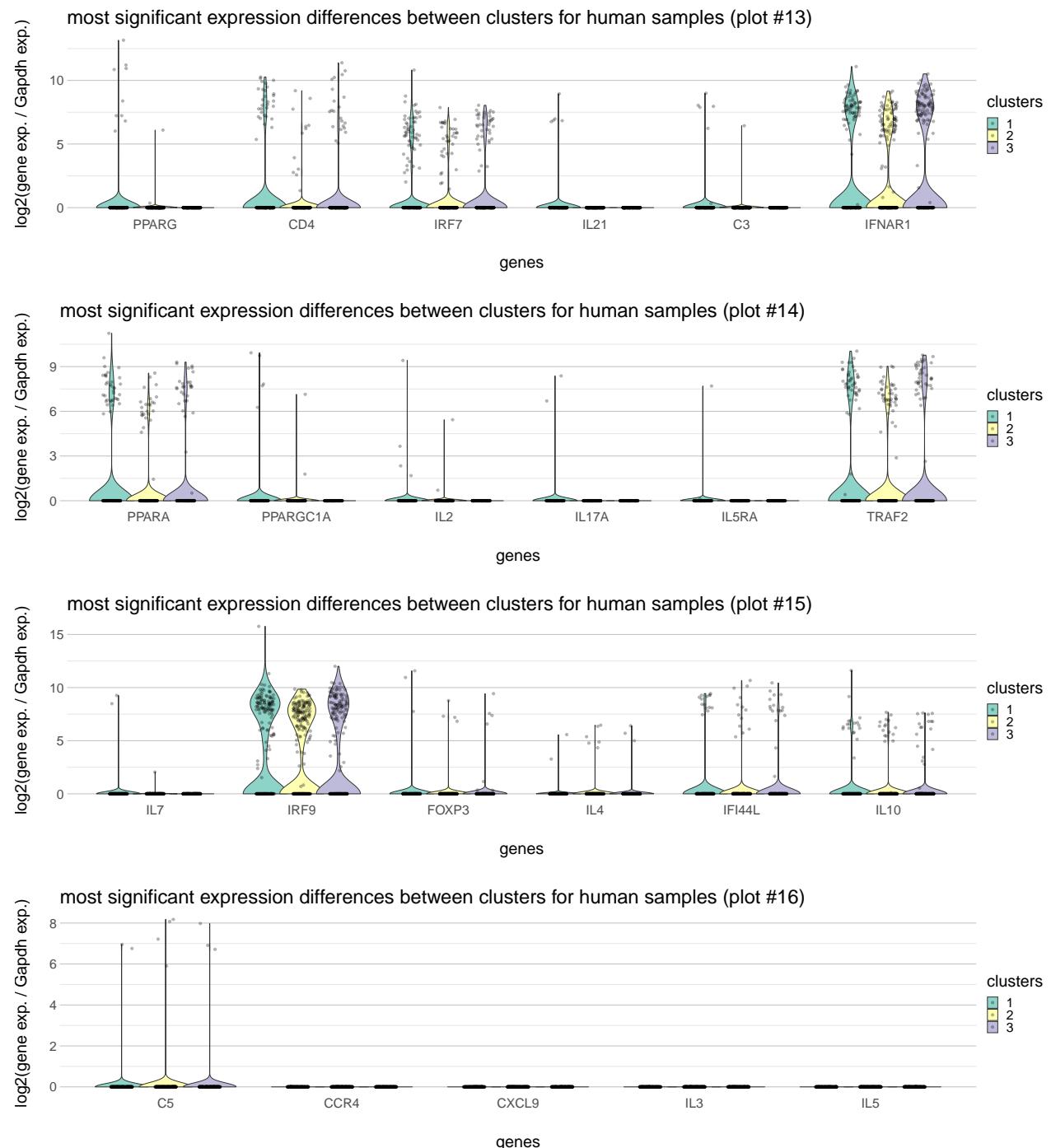
```

[46]	NLRP3:	2.23e-15	TGFBR2:	3.07e-15	TBX21:	3.453e-15
[49]	IL12RB1:	2.034e-13	CCR1:	3.82e-12	TYK2:	5.005e-12
[52]	IL25:	1.067e-11	STAT5B:	1.444e-10	LY6E:	1.557e-09
[55]	JAK2:	1.947e-09	CXCR3:	3.267e-09	CD40:	3.629e-09
[58]	VAV1:	5.772e-09	CCR3:	6.11e-09	CCR7:	7.271e-09
[61]	TNFRSF1A:	1.027e-08	IL4R:	2.237e-08	GATA3:	1.055e-07
[64]	IFNAR2:	1.112e-07	ISG15:	3.593e-07	GSK3B:	5.871e-07
[67]	GSK3A:	5.901e-07	TNF:	1.681e-05	ICAM1:	5.543e-05
[70]	CD274:	0.0001772	IFNG:	0.0002345	HLA.DRA:	0.000726
[73]	PPARG:	0.000726	CD4:	0.001052	IRF7:	0.002154
[76]	IL21:	0.00333	C3:	0.005686	IFNAR1:	0.01942
[79]	PPARA:	0.0329	PPARGC1A:	0.04239		



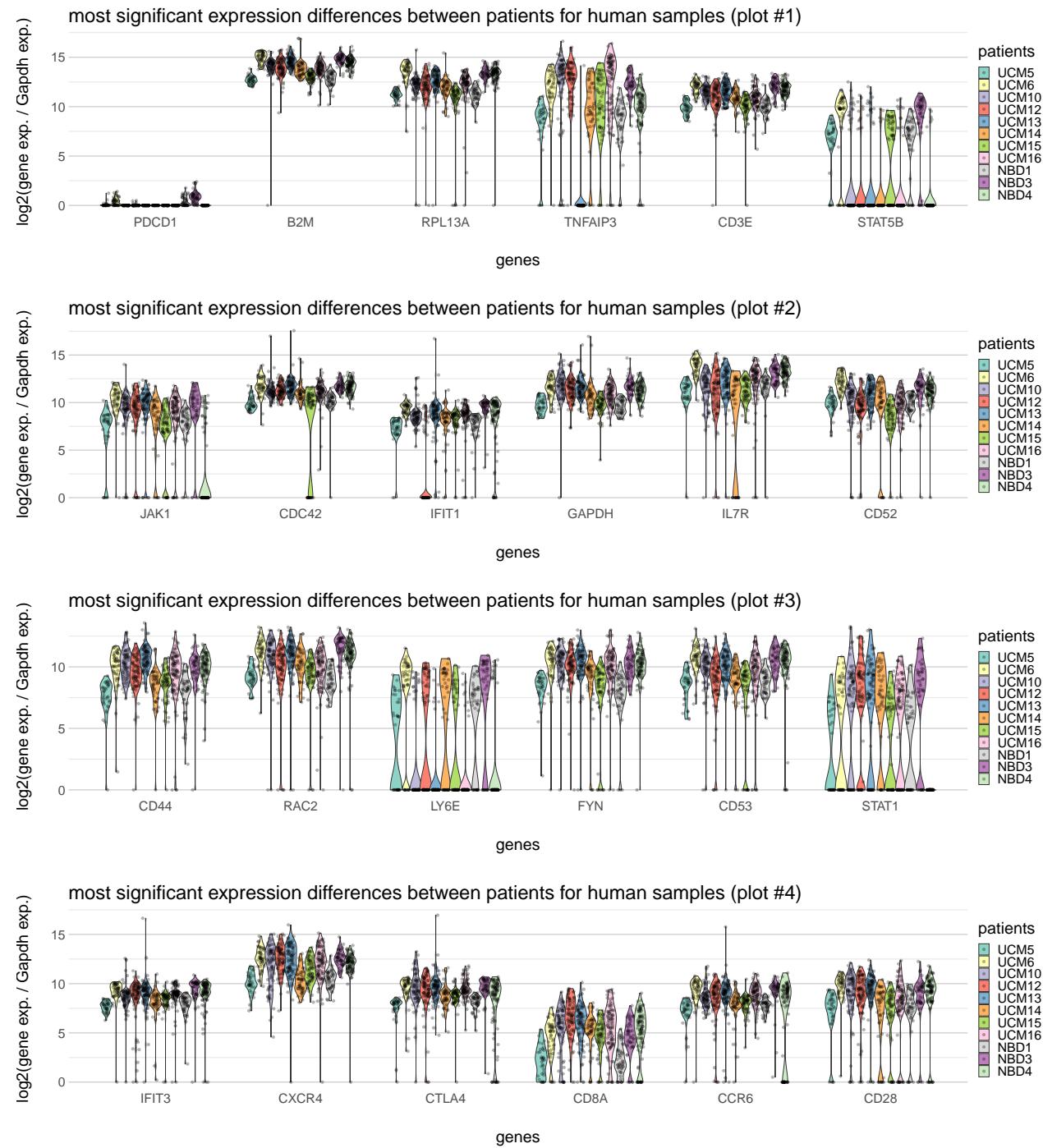


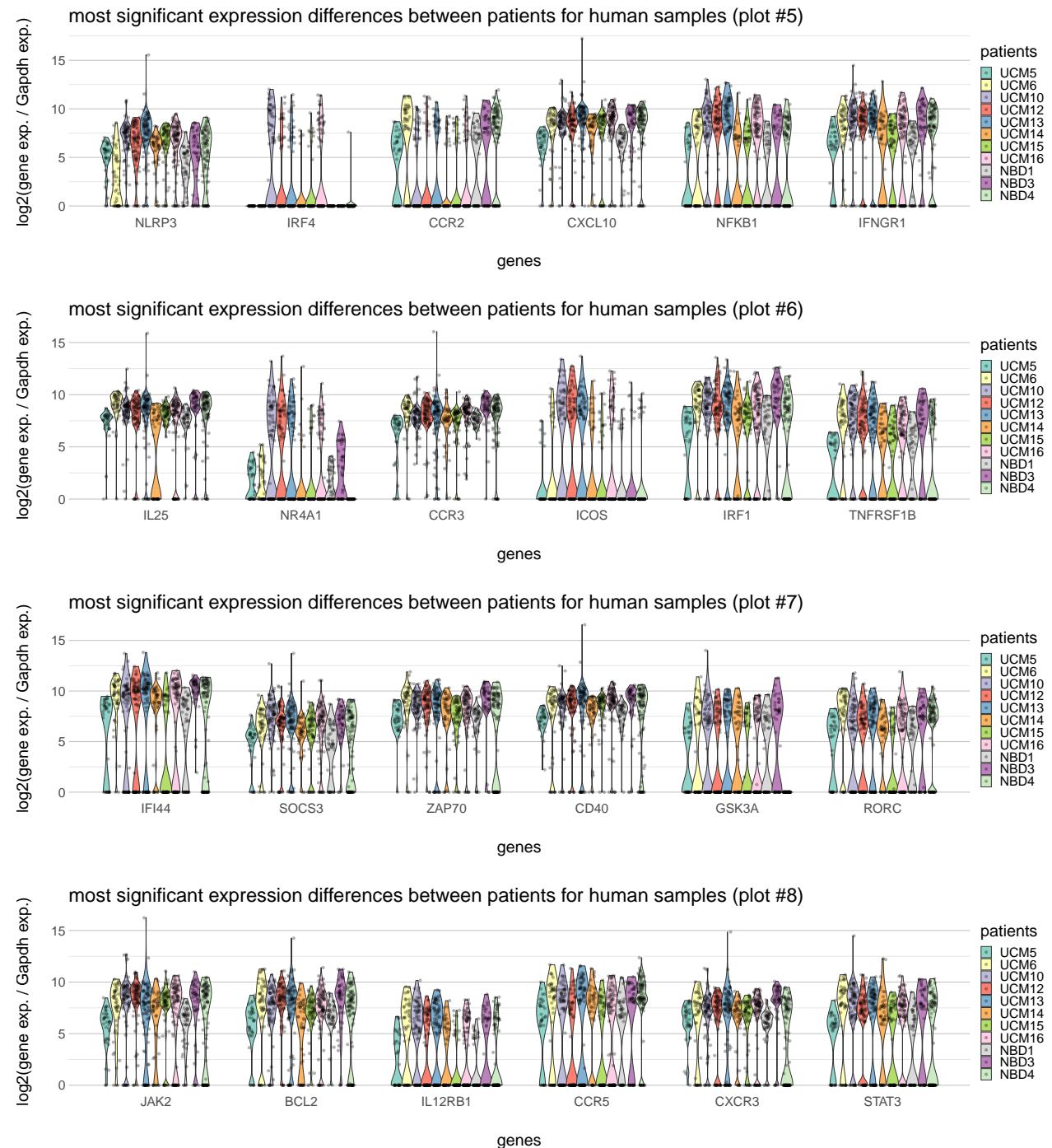


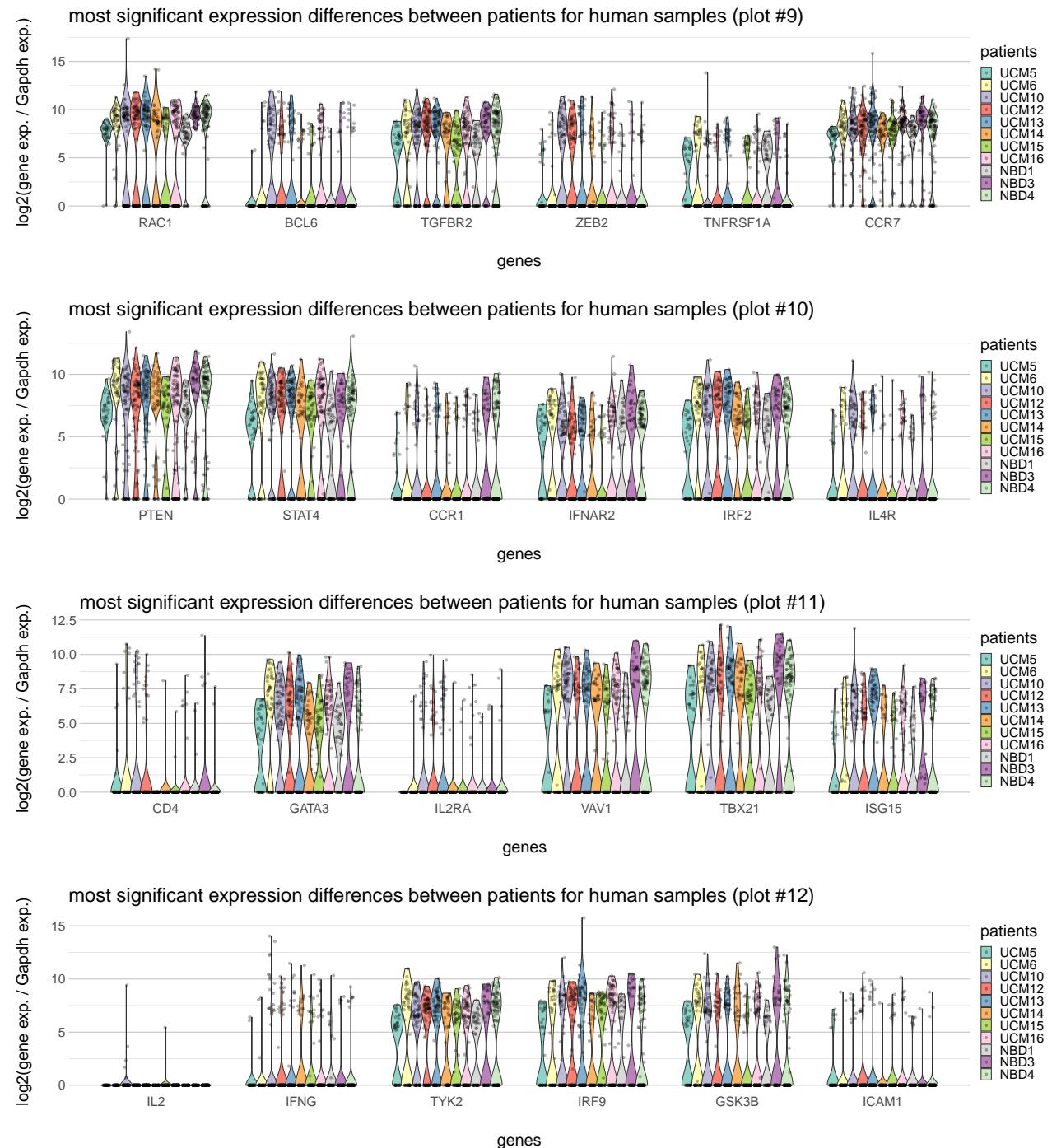


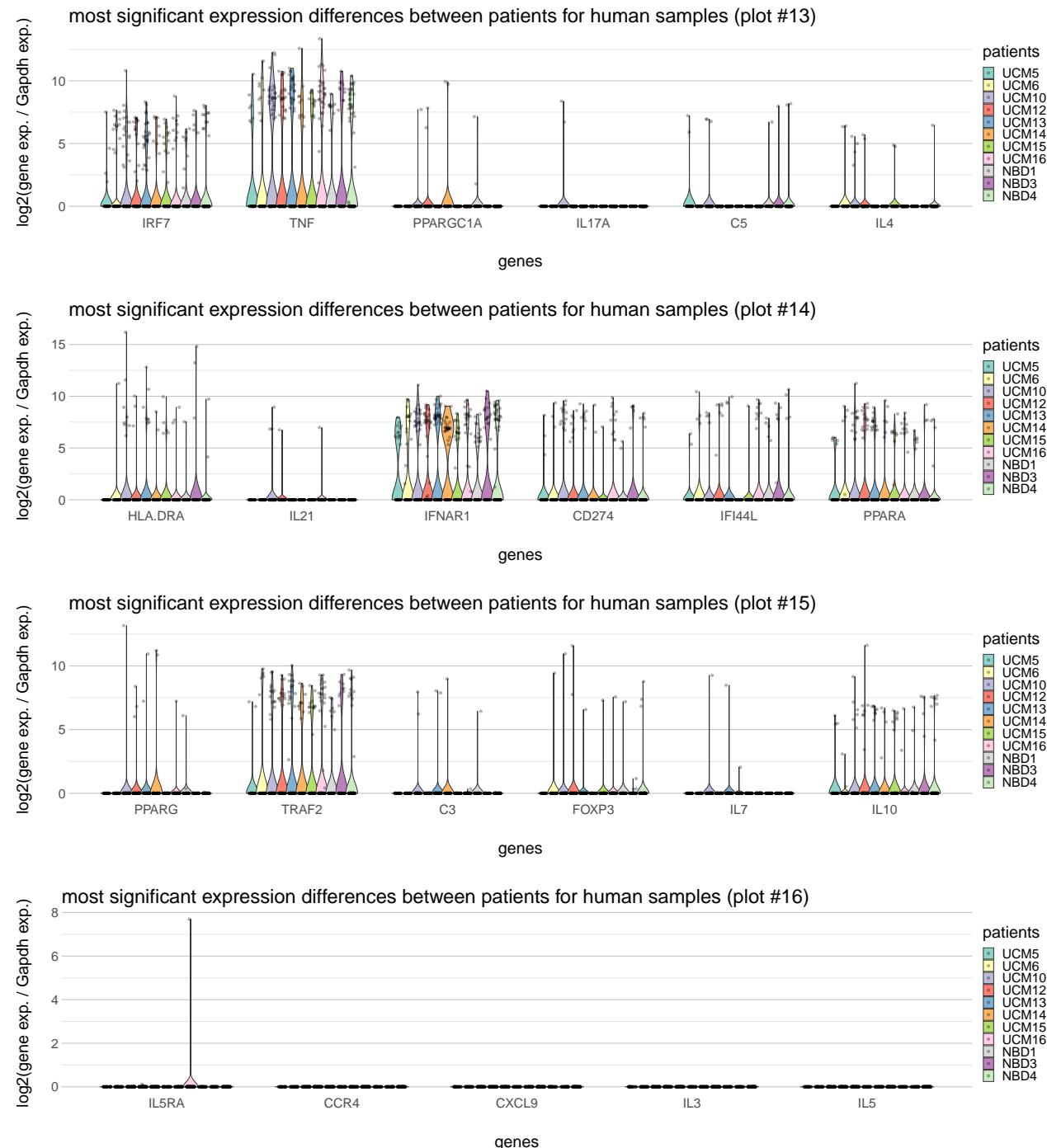
```
[1] Differentially expressed genes between patients for human samples:
[1] PDCD1: 7.849e-89      B2M: 1.517e-76      RPL13A: 6.987e-73
[4] TNFAIP3: 4.197e-70      CD3E: 9.872e-58      STAT5B: 3.289e-55
[7] JAK1: 5.095e-53       CDC42: 1.226e-52      IFIT1: 1.561e-52
[10] GAPDH: 1.161e-48       IL7R: 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		



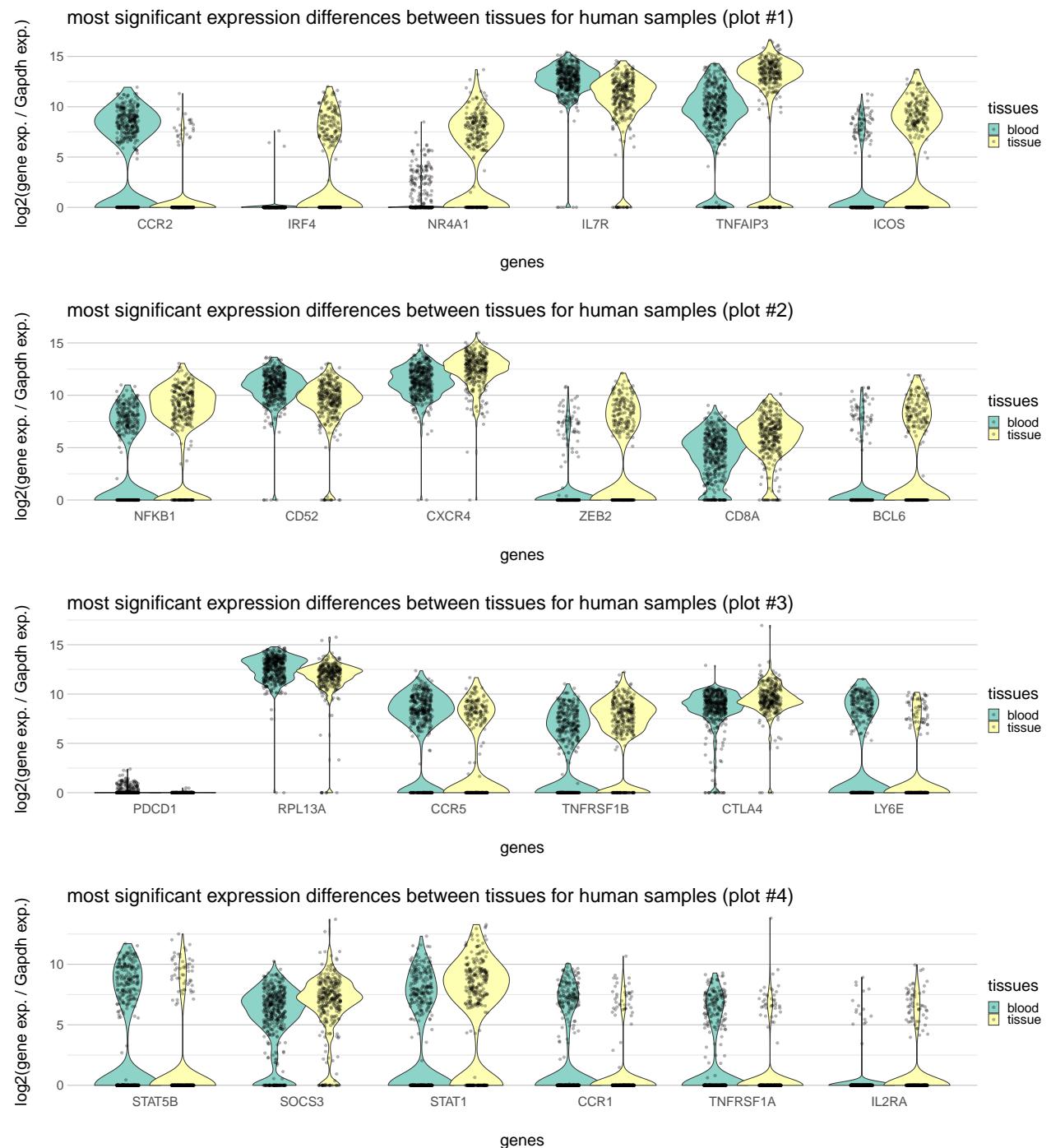


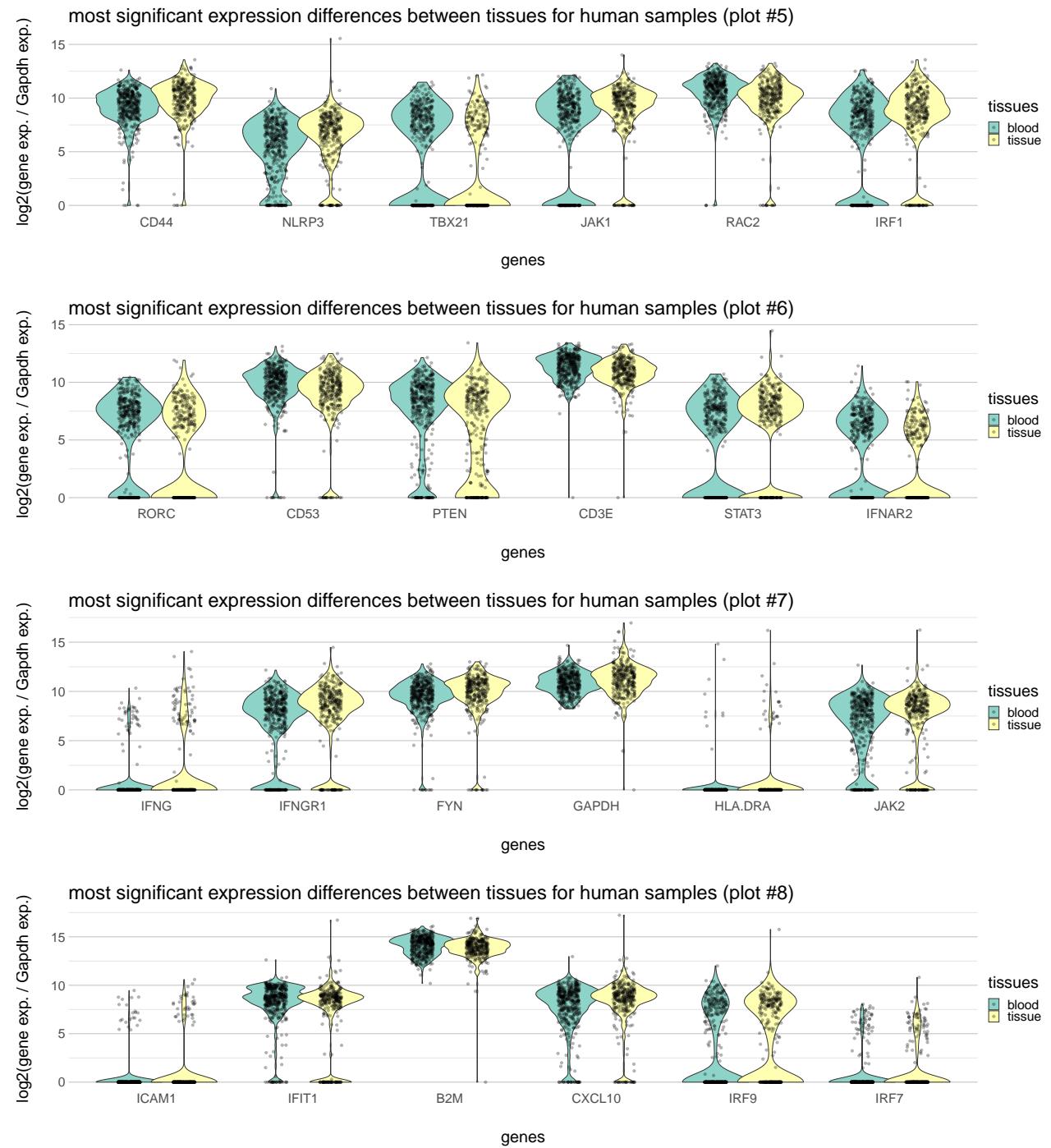


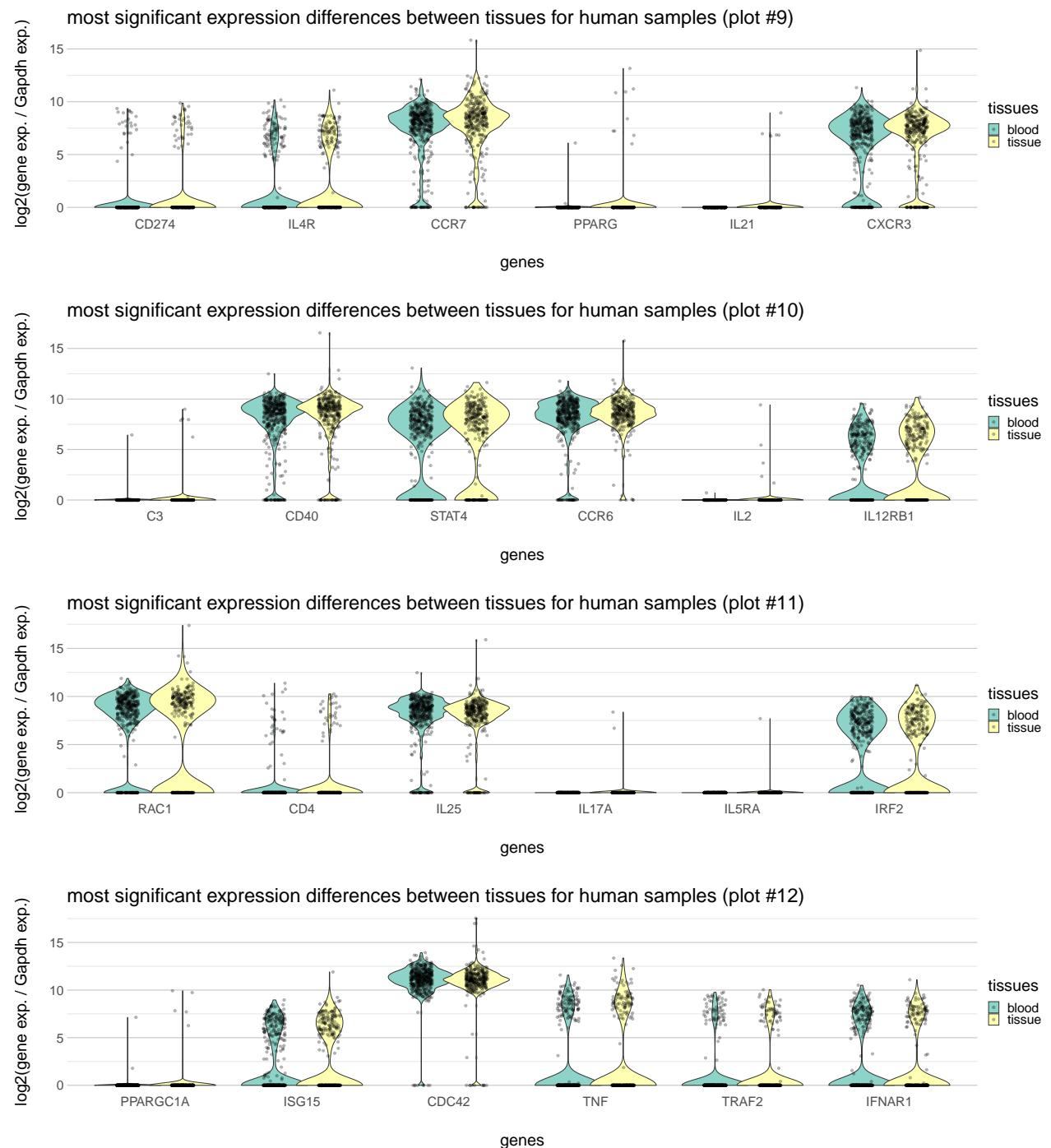


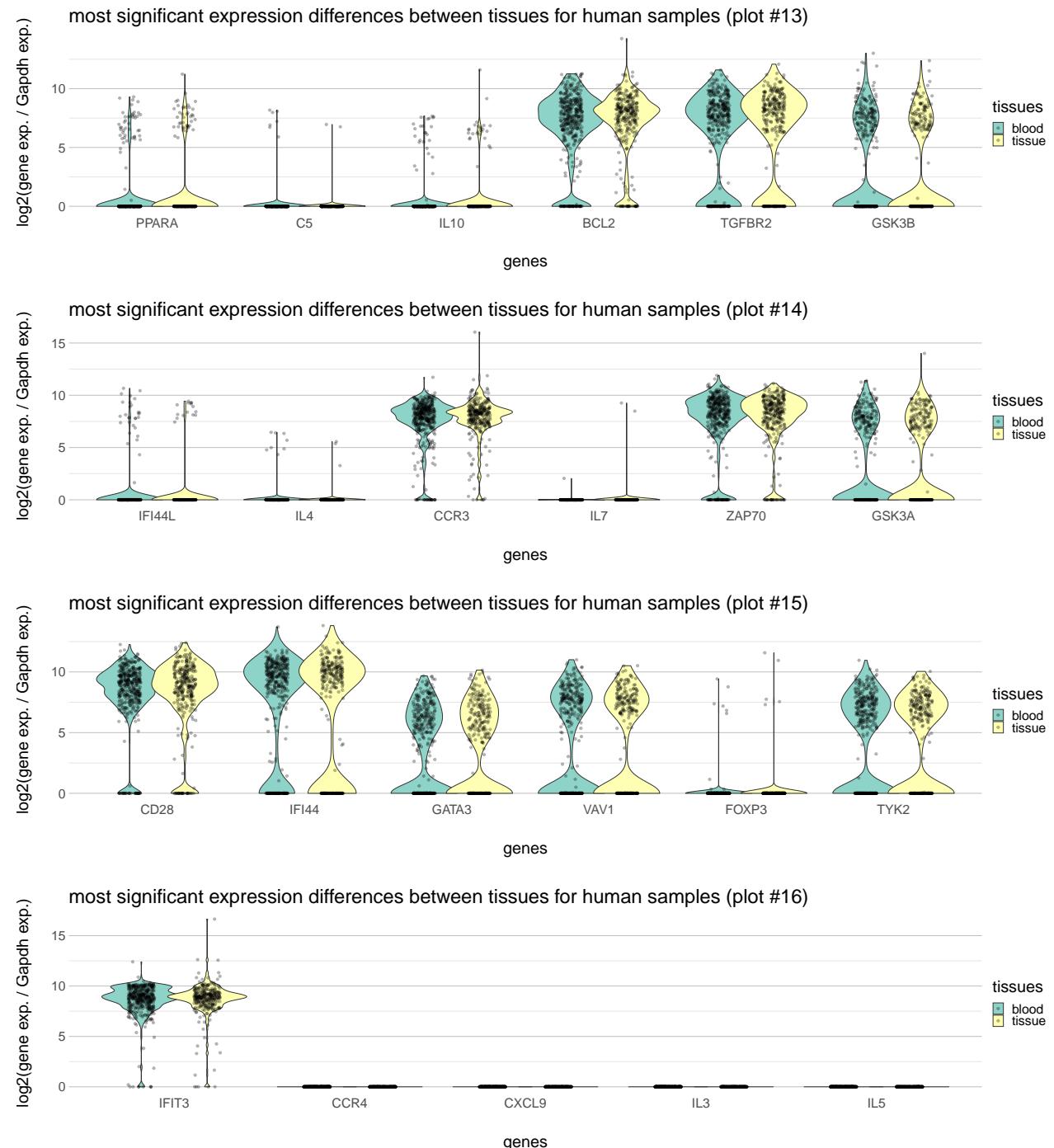
```
[1] Differentially expressed genes between tissues for human samples:
[1] CCR2: 2.787e-48    IRF4: 1.895e-45    NR4A1: 3.104e-37
[4] IL7R: 8.061e-34    TNFAIP3: 6.478e-31    ICOS: 4.124e-30
[7] NFKB1: 2.828e-28    CD52: 1.208e-26    CXCR4: 2.508e-26
[10] ZEB2: 5.676e-26    CD8A: 2.856e-23    BCL6: 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		





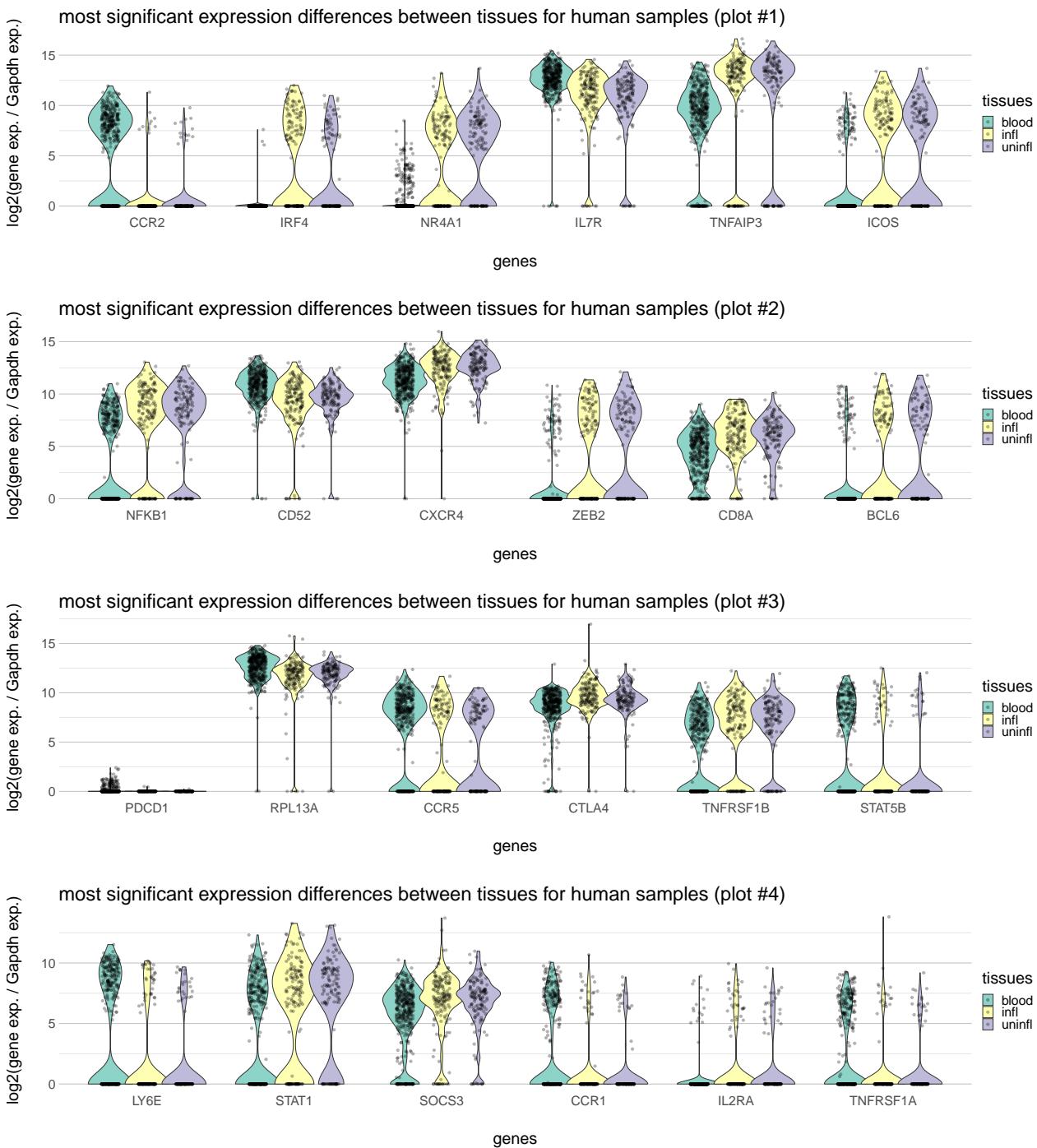


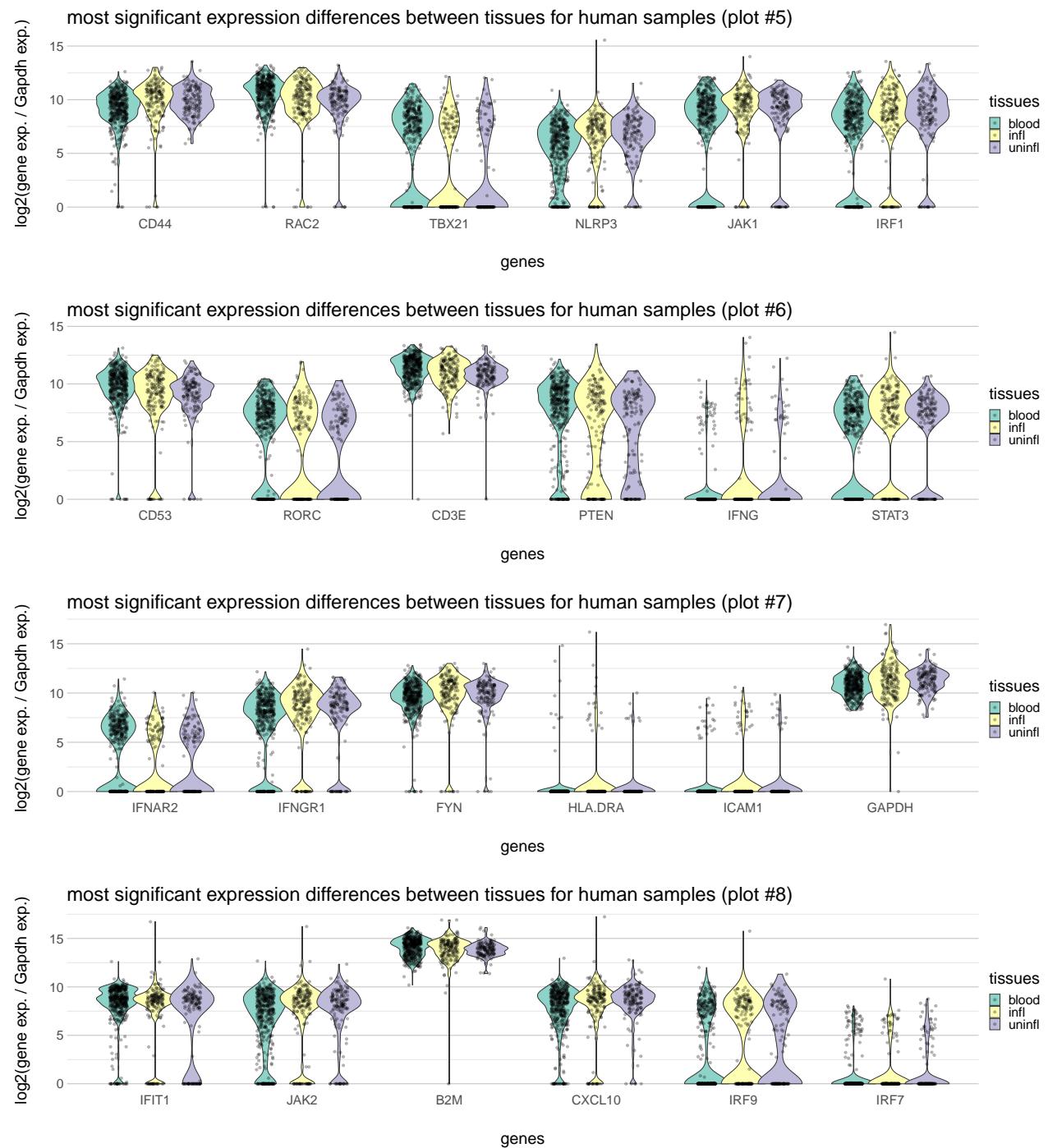


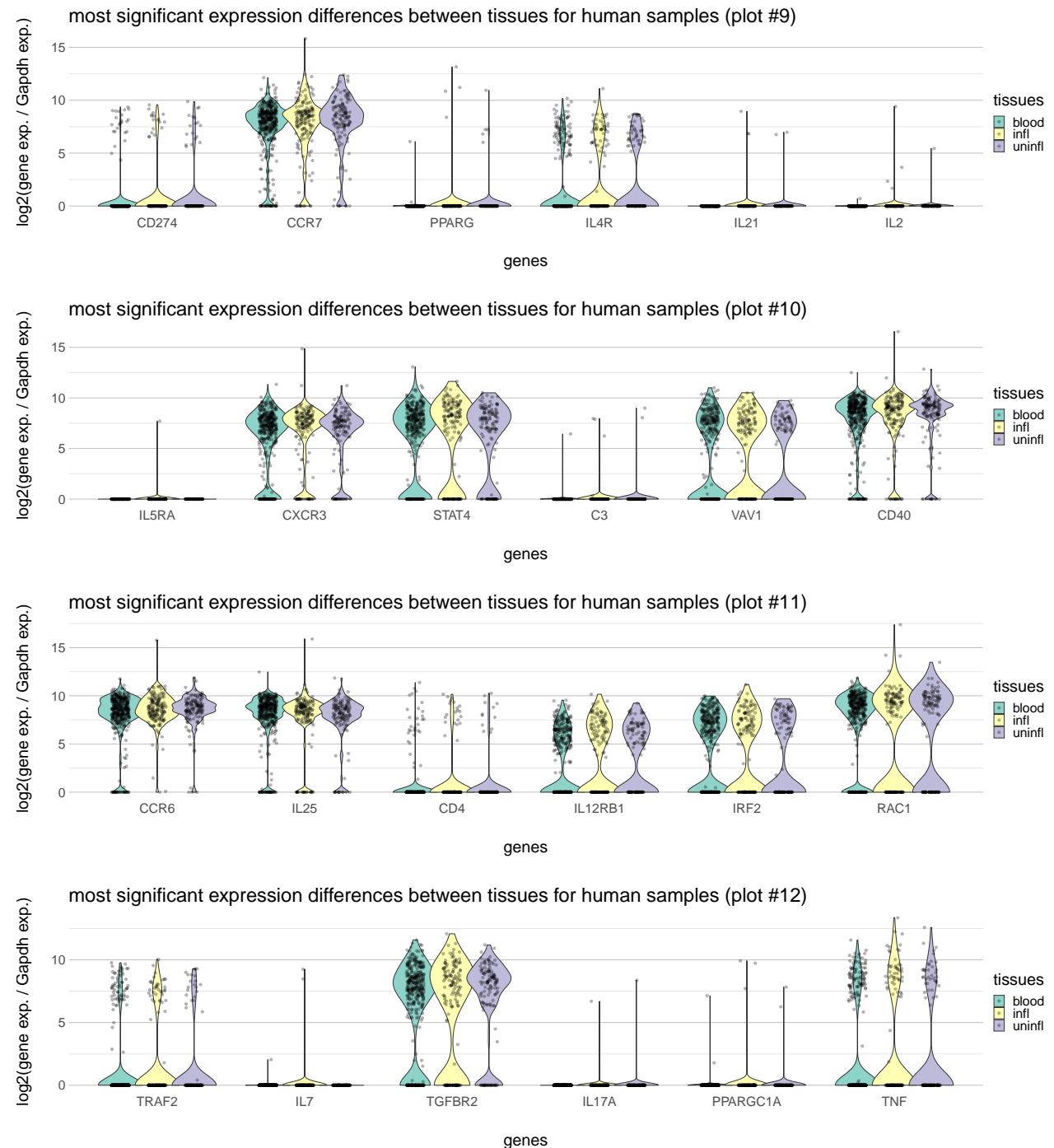
[1] Differentially expressed genes between tissues for human samples:

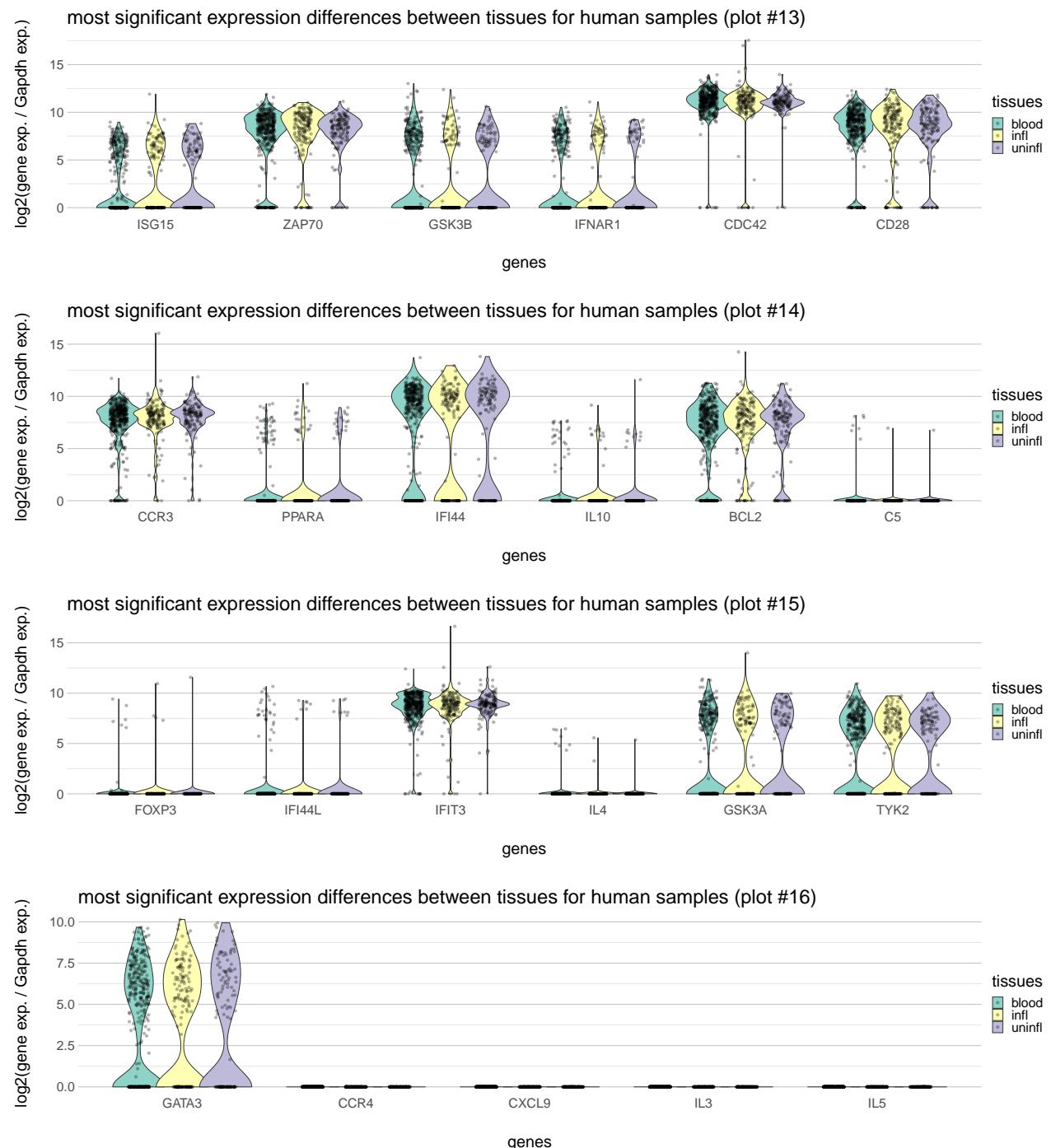
- | | | |
|-----------------------|---------------------|---------------------|
| [1] CCR2: 4.106e-47 | IRF4: 4.106e-47 | NR4A1: 3.09e-37 |
| [4] IL7R: 2.928e-33 | TNFAIP3: 7.798e-30 | ICOS: 3.41e-29 |
| [7] NFKB1: 3.971e-27 | CD52: 1.649e-25 | CXCR4: 1.794e-25 |
| [10] ZEB2: 5.264e-25 | CD8A: 3.266e-22 | 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:

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[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

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[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		

