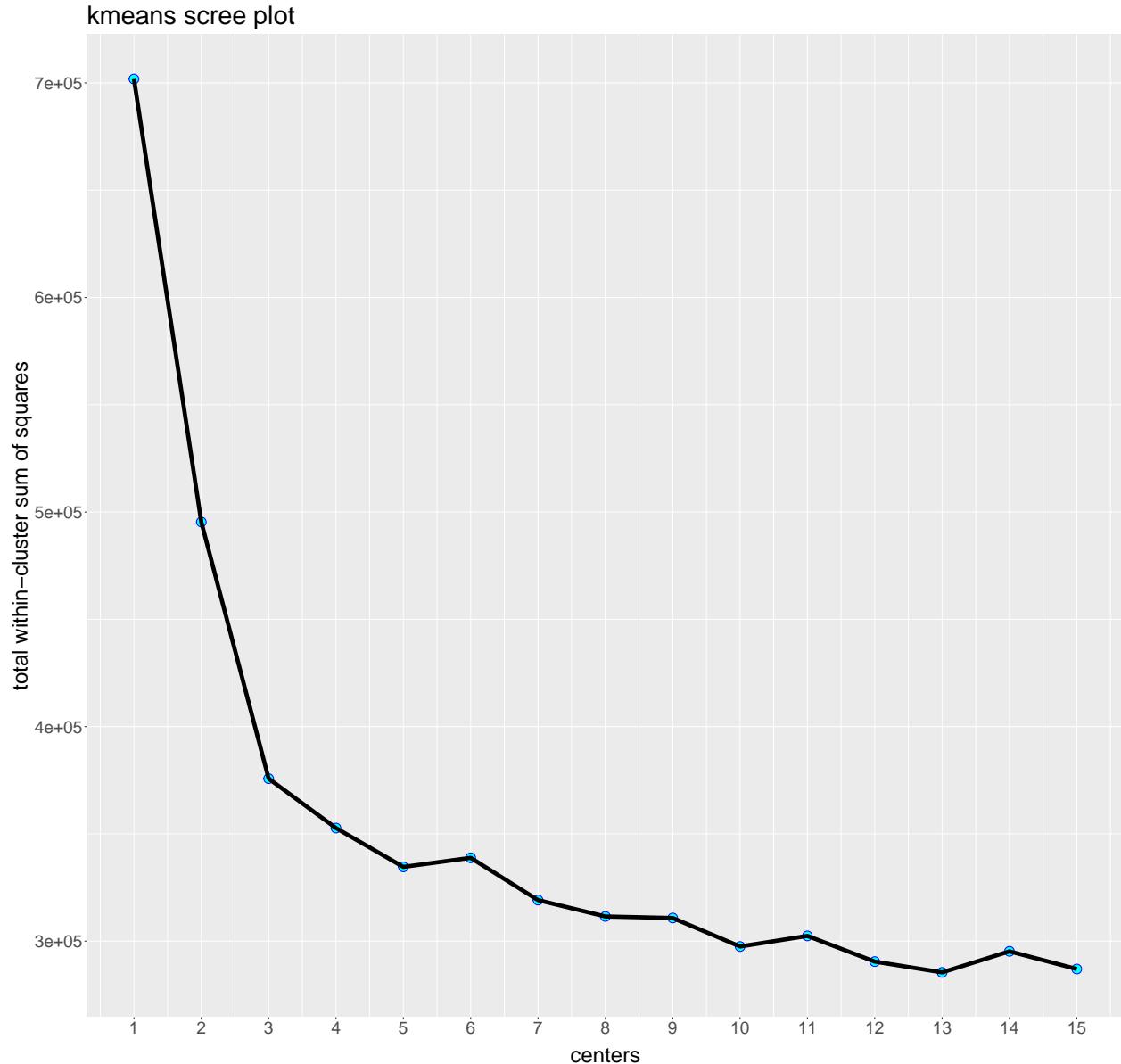
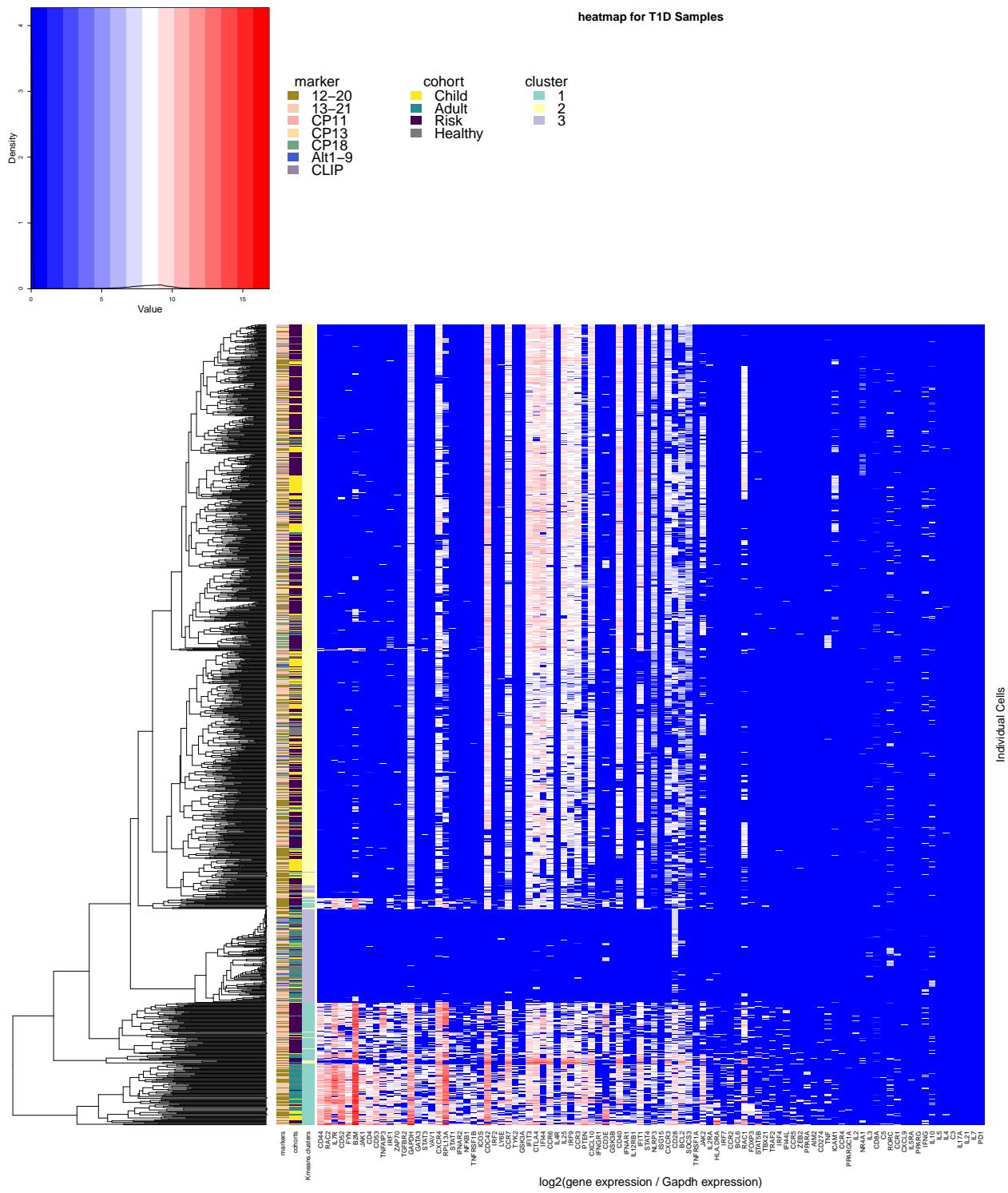


T1D_Tetramer_Cells_Analysis

No expression detected in 47/1950 cells

No expression detected in 19/1223 Tetramer cells





```
[1]  
[1]  
[1] Cohort vs. Cluster  
      cohort_Child cohort_Adult cohort_Risk cohort_Healthy  
cluster_1          22           65          86           15  
cluster_2         227           35         486          115  
cluster_3          20           55          22           56
```

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

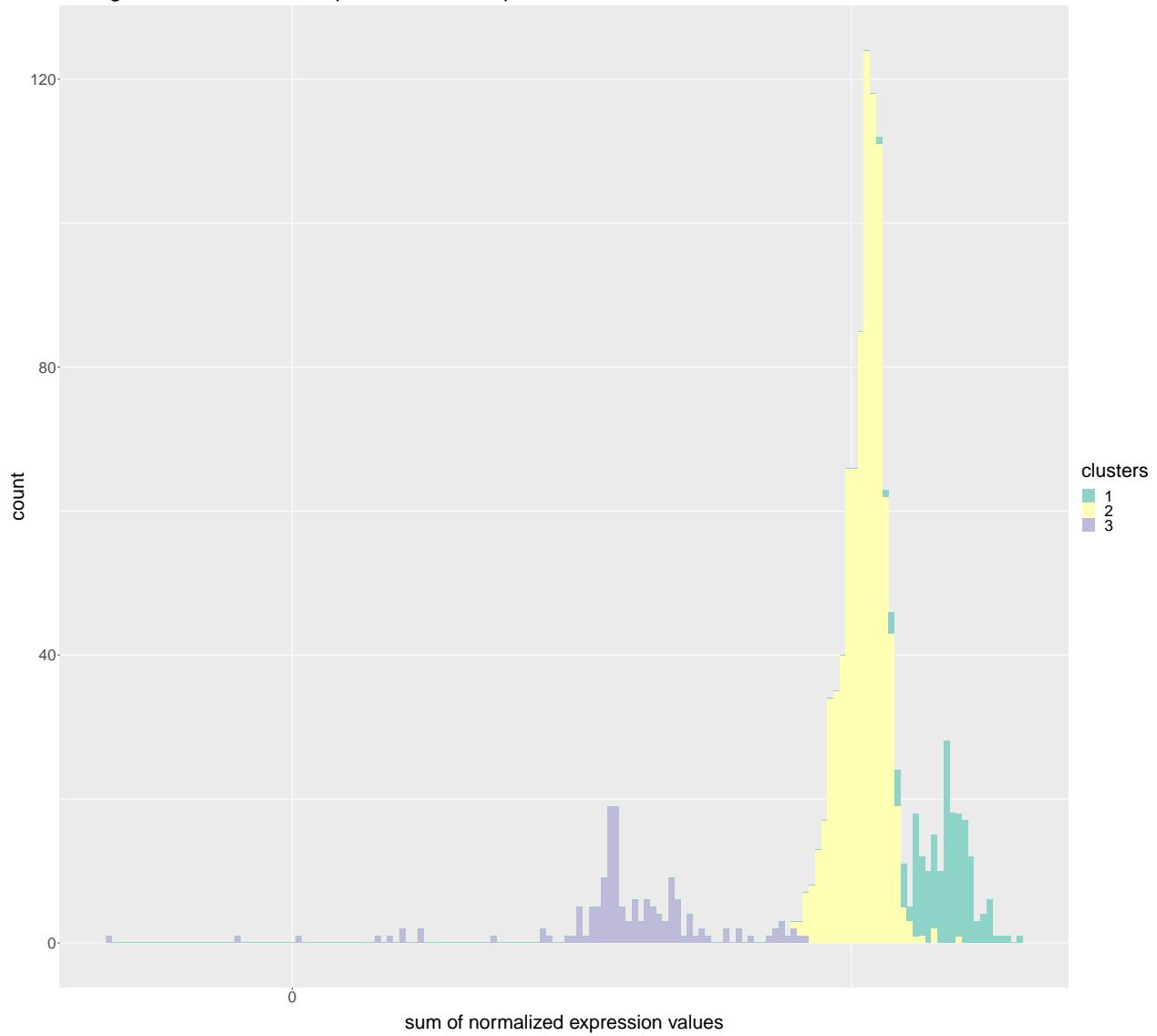
```
data: cohortTable  
X-squared = 306.17, df = NA, p-value = 0.0004998
```

```
[1]  
[1]  
[1] marker vs. Cluster  
      marker_12-20 marker_13-21 marker_CP11 marker_CP13 marker_CP18  
cluster_1        86          68          27          4          3  
cluster_2       271         253         102         94         83  
cluster_3        34          32          22         21         18  
      marker_Alt1-9 marker_CLIP  
cluster_1        0           0  
cluster_2       25          35  
cluster_3       23          3
```

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

```
data: markerTable  
X-squared = 117.24, df = NA, p-value = 0.0004998
```

histogram of cumulative expression values per cell

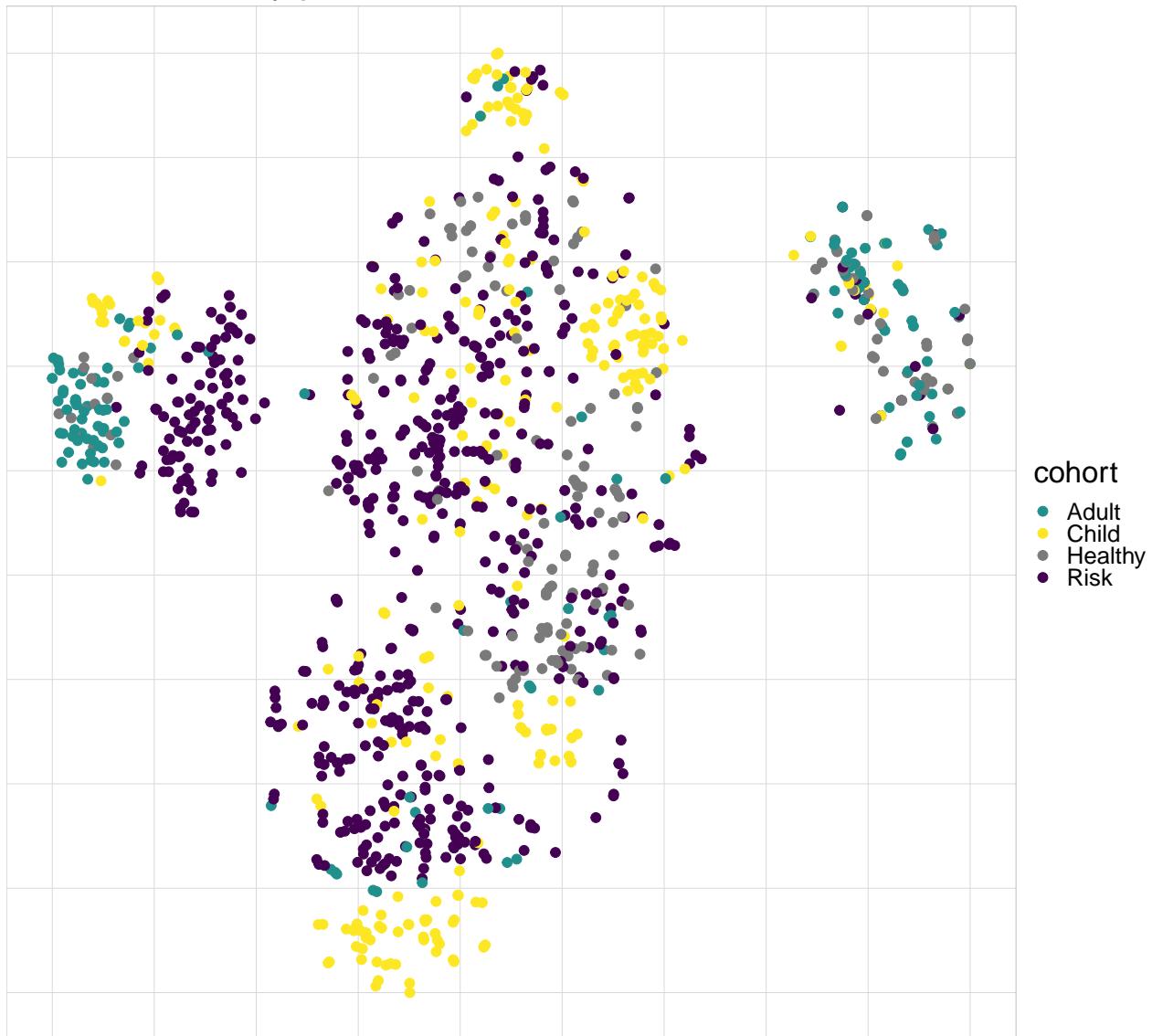


0 / 1204 cells were removed due to low gene expression (cluster ID of removed clusters:)

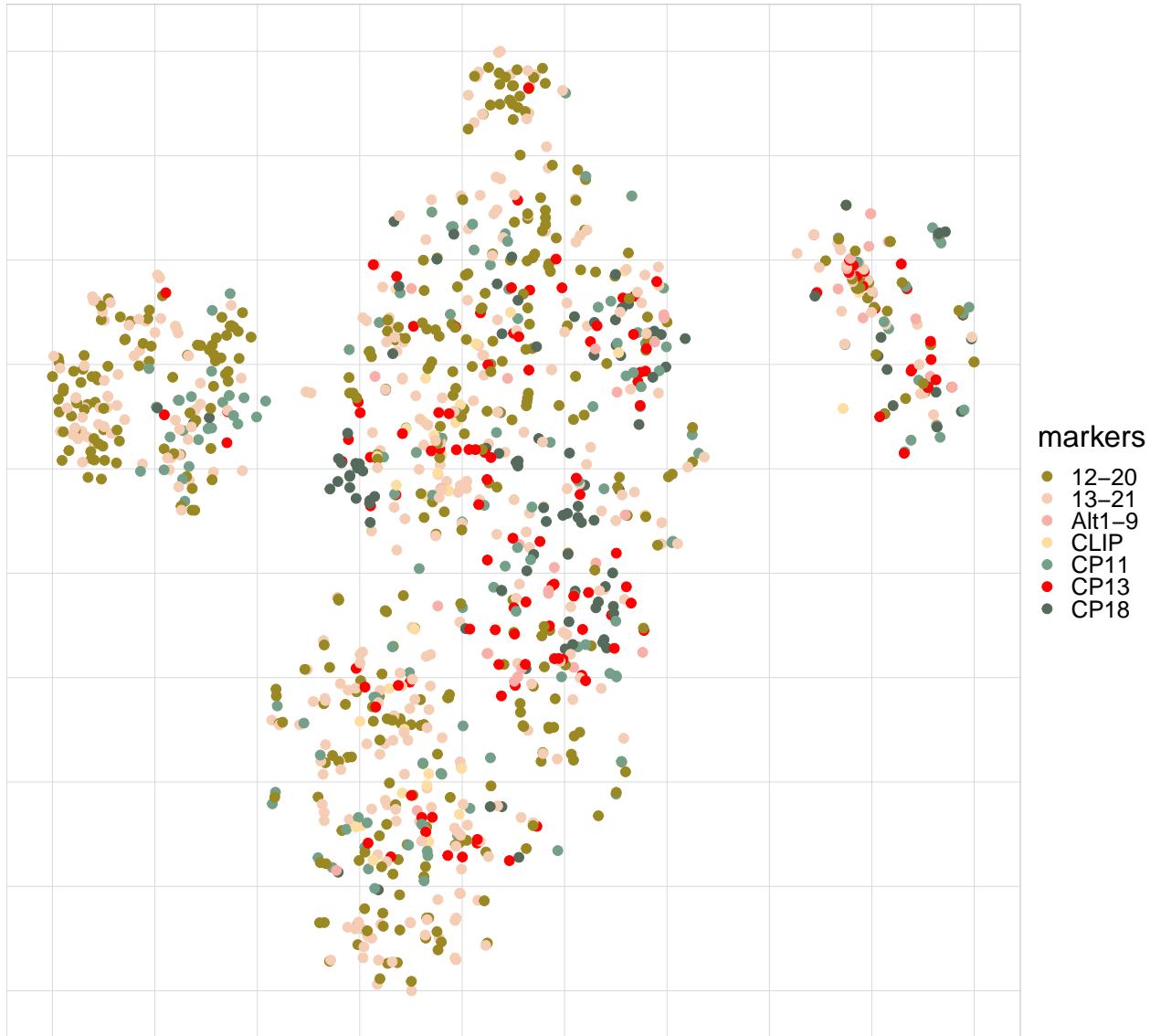
t-SNE colored by kmeans.cluster



t-SNE colored by patient cohorts



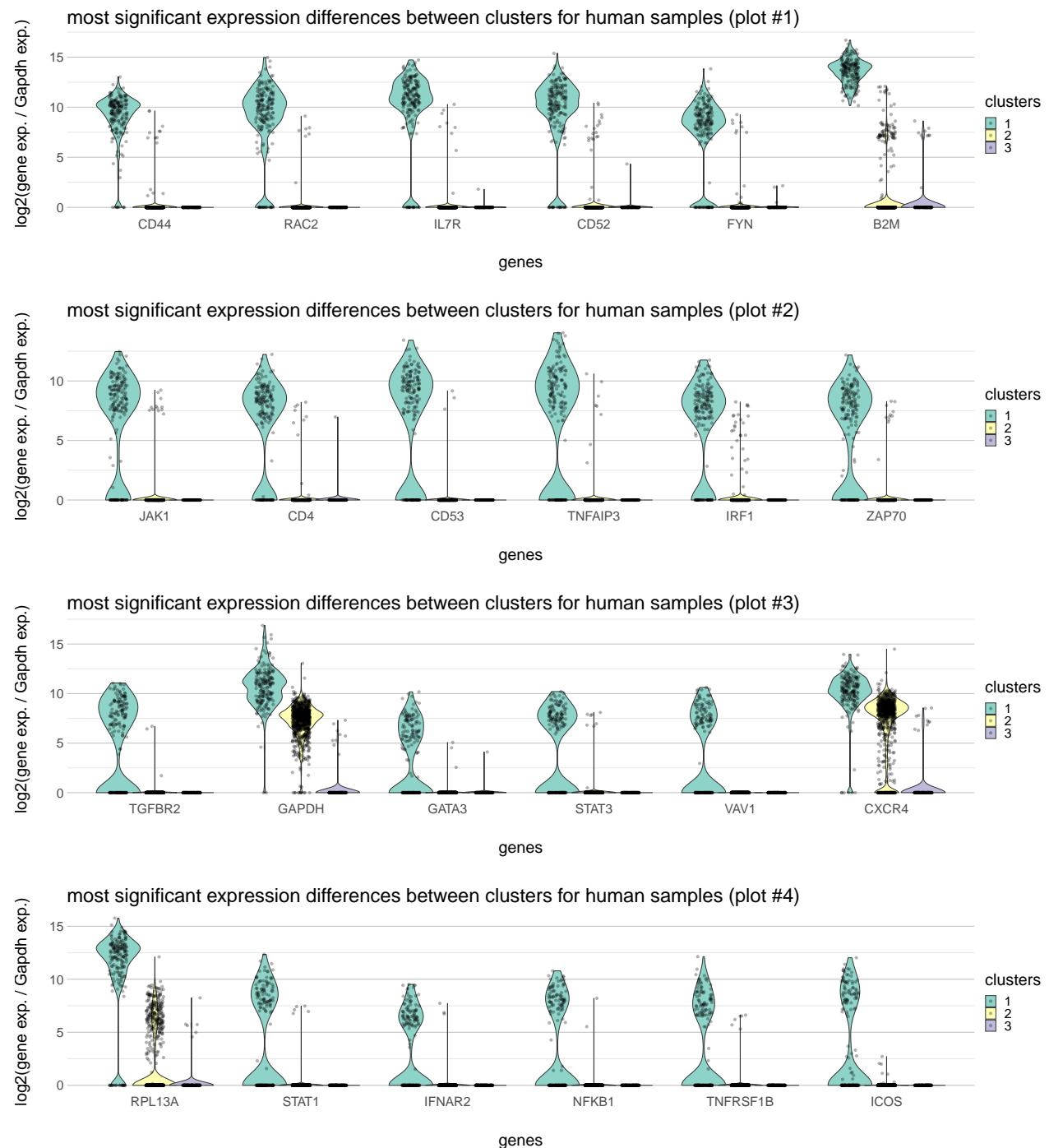
t-SNE colored by different markers

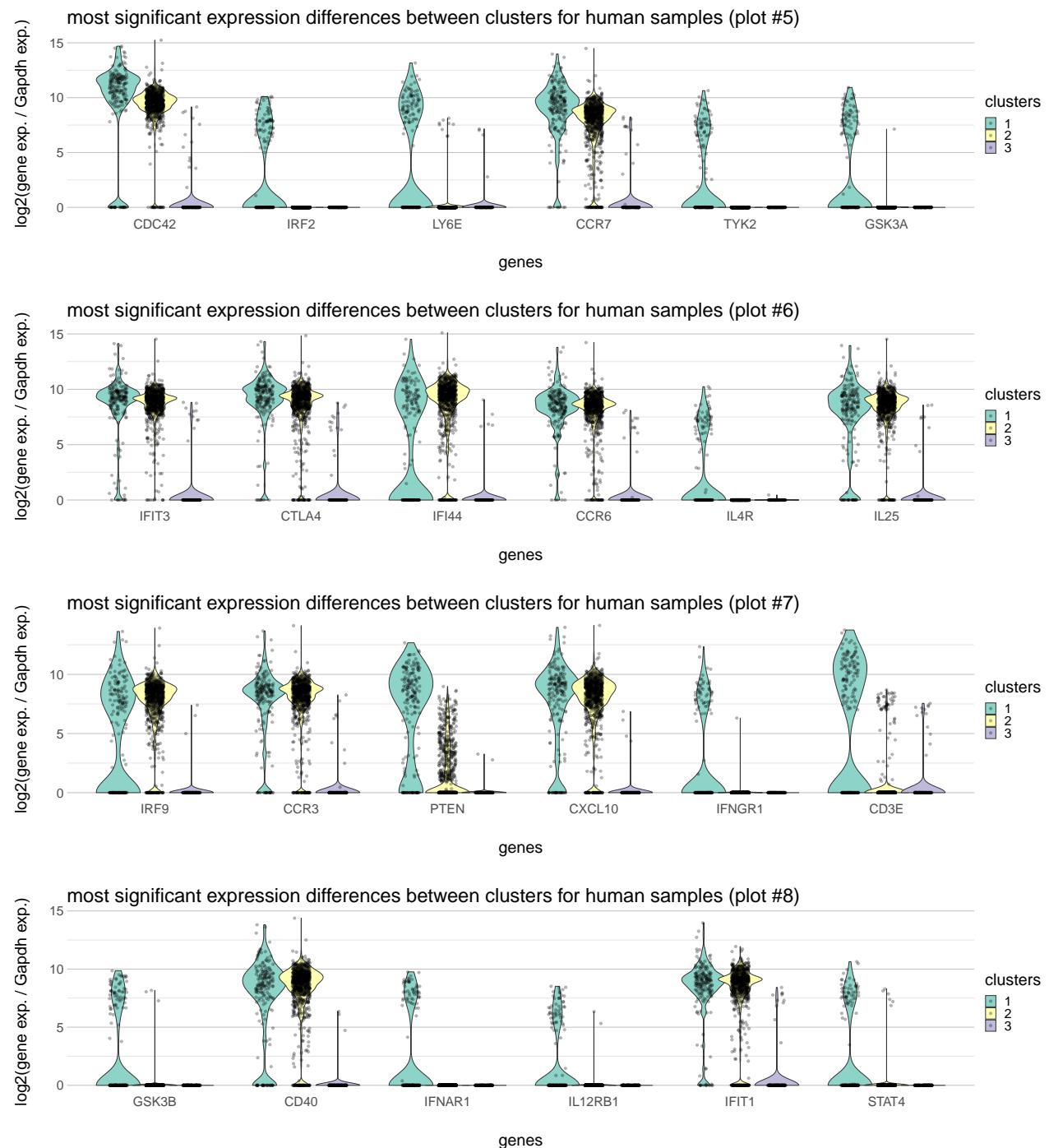


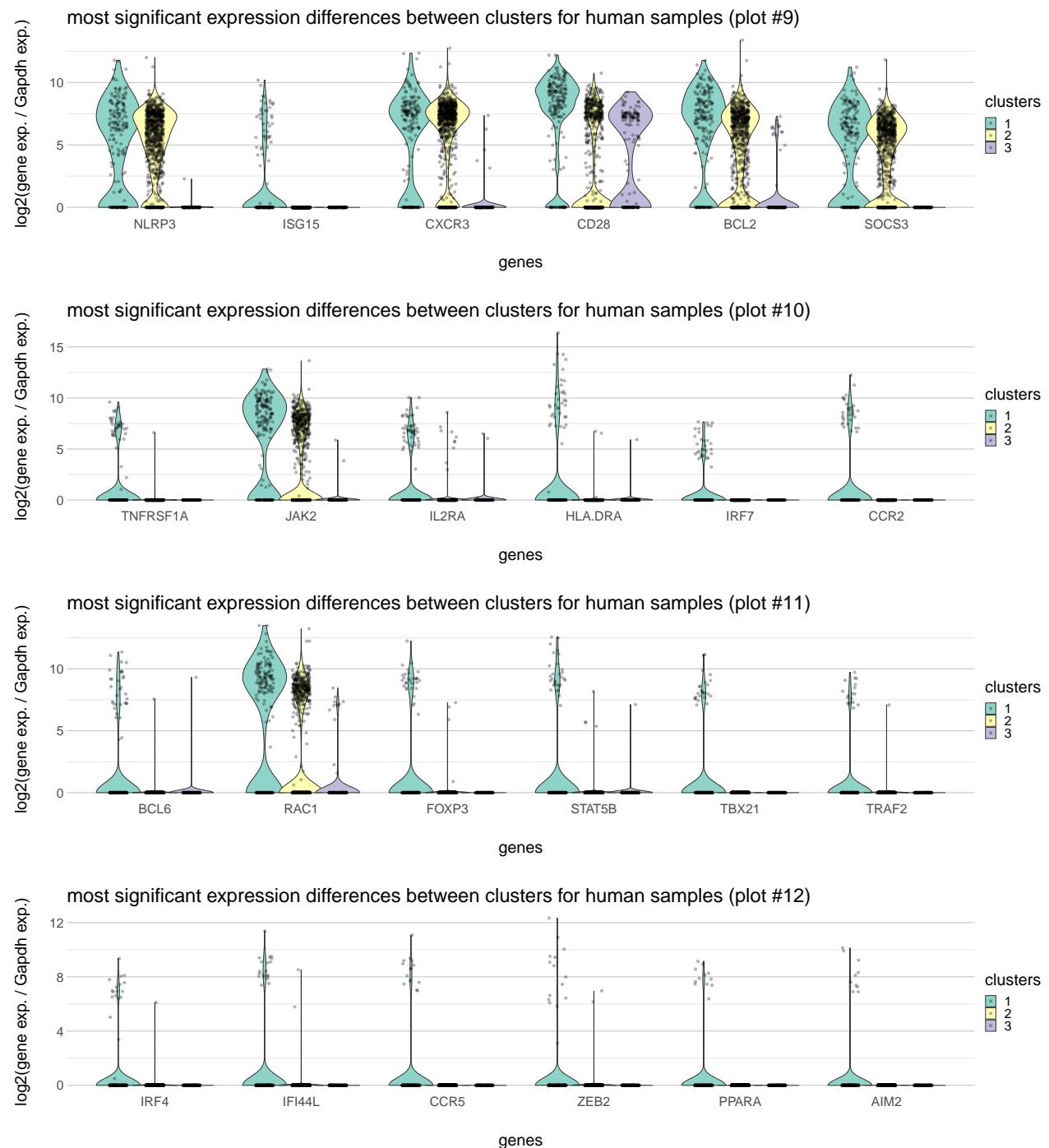
[1] Differentially expressed genes between clusters for human samples:

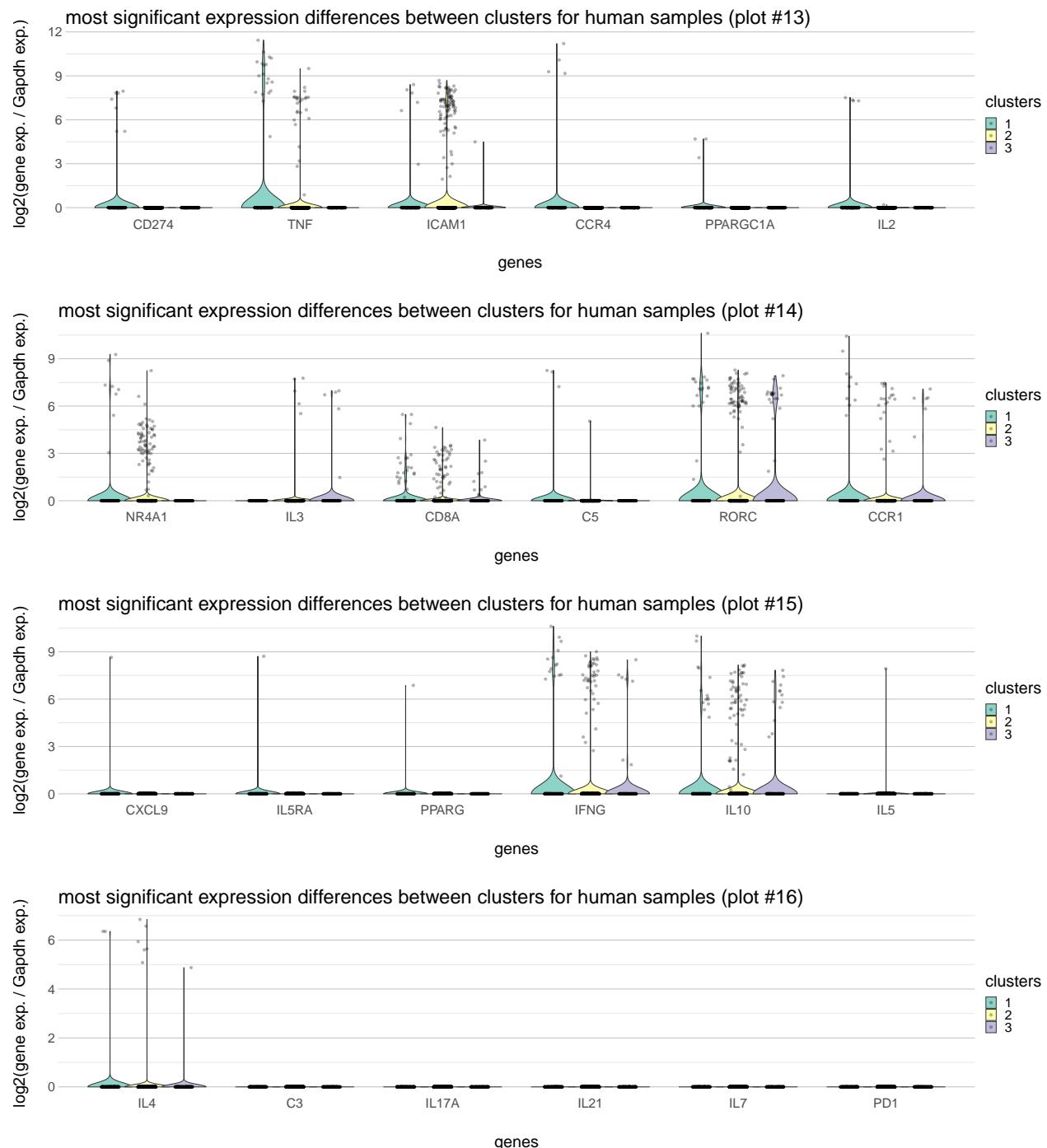
[1]	CD44: 1.754e-226	RAC2: 1.467e-217	IL7R: 4.137e-216
[4]	CD52: 3.576e-203	FYN: 1.959e-187	B2M: 4.334e-184
[7]	JAK1: 3.3e-171	CD4: 2.878e-170	CD53: 5.615e-167
[10]	TNFAIP3: 6.146e-156	IRF1: 6.152e-153	ZAP70: 3.721e-152
[13]	TGFBR2: 2.246e-144	GAPDH: 6.46e-142	GATA3: 3.635e-126
[16]	STAT3: 4.815e-123	VAV1: 3.469e-115	CXCR4: 2.611e-111
[19]	RPL13A: 1.142e-109	STAT1: 2.127e-108	IFNAR2: 2.503e-106
[22]	NFKB1: 3.872e-104	TNFRSF1B: 1.008e-101	ICOS: 5.13e-98
[25]	CDC42: 9.393e-93	IRF2: 3.485e-91	LY6E: 1.136e-89
[28]	CCR7: 5.557e-86	TYK2: 5.917e-86	GSK3A: 9.236e-86
[31]	IFIT3: 2.941e-82	CTLA4: 2.602e-80	IFI44: 1.273e-79
[34]	CCR6: 7.583e-79	IL4R: 4.638e-78	IL25: 1.88e-75
[37]	IRF9: 2.023e-74	CCR3: 6.185e-74	PTEN: 1.06e-73
[40]	CXCL10: 6.405e-73	IFNGR1: 6.896e-73	CD3E: 2.287e-72
[43]	GSK3B: 2.484e-72	CD40: 2.678e-72	IFNAR1: 1.601e-70

[46]	IL12RB1:	9.423e-69	IFIT1:	1.35e-66	STAT4:	1.846e-64
[49]	NLRP3:	1.071e-59	ISG15:	1.617e-56	CXCR3:	1.284e-52
[52]	CD28:	3.379e-50	BCL2:	3.592e-49	SOCS3:	2.076e-47
[55]	TNFRSF1A:	5.819e-45	JAK2:	3.86e-44	IL2RA:	4.96e-43
[58]	HLA.DRA:	5.606e-41	IRF7:	7.583e-38	CCR2:	7.583e-38
[61]	BCL6:	4.63e-36	RAC1:	8.872e-34	FOXP3:	3.422e-31
[64]	STAT5B:	5.068e-30	TBX21:	2.733e-29	TRAF2:	1.598e-20
[67]	IRF4:	1.606e-20	IFI44L:	2.309e-20	CCR5:	2.047e-18
[70]	ZEB2:	1.276e-15	PPARA:	7.872e-15	AIM2:	1.898e-12
[73]	CD274:	6.918e-09	TNF:	4.505e-07	ICAM1:	1.524e-05
[76]	CCR4:	2.357e-05	PPARGC1A:	0.0003517	IL2:	0.0004203
[79]	NR4A1:	0.0007116	IL3:	0.001539	CD8A:	0.004495
[82]	C5:	0.004994	RORC:	0.02534		



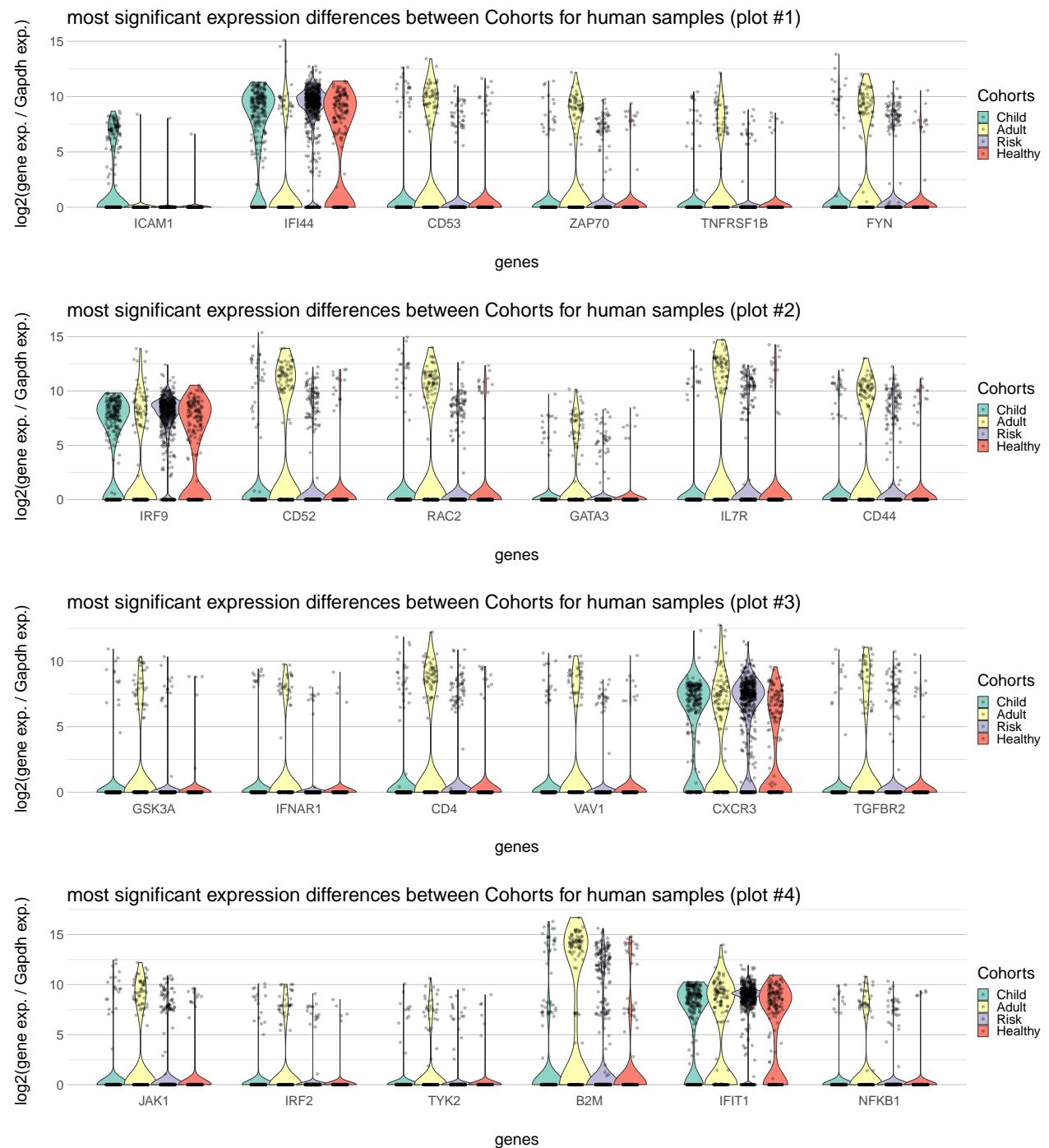


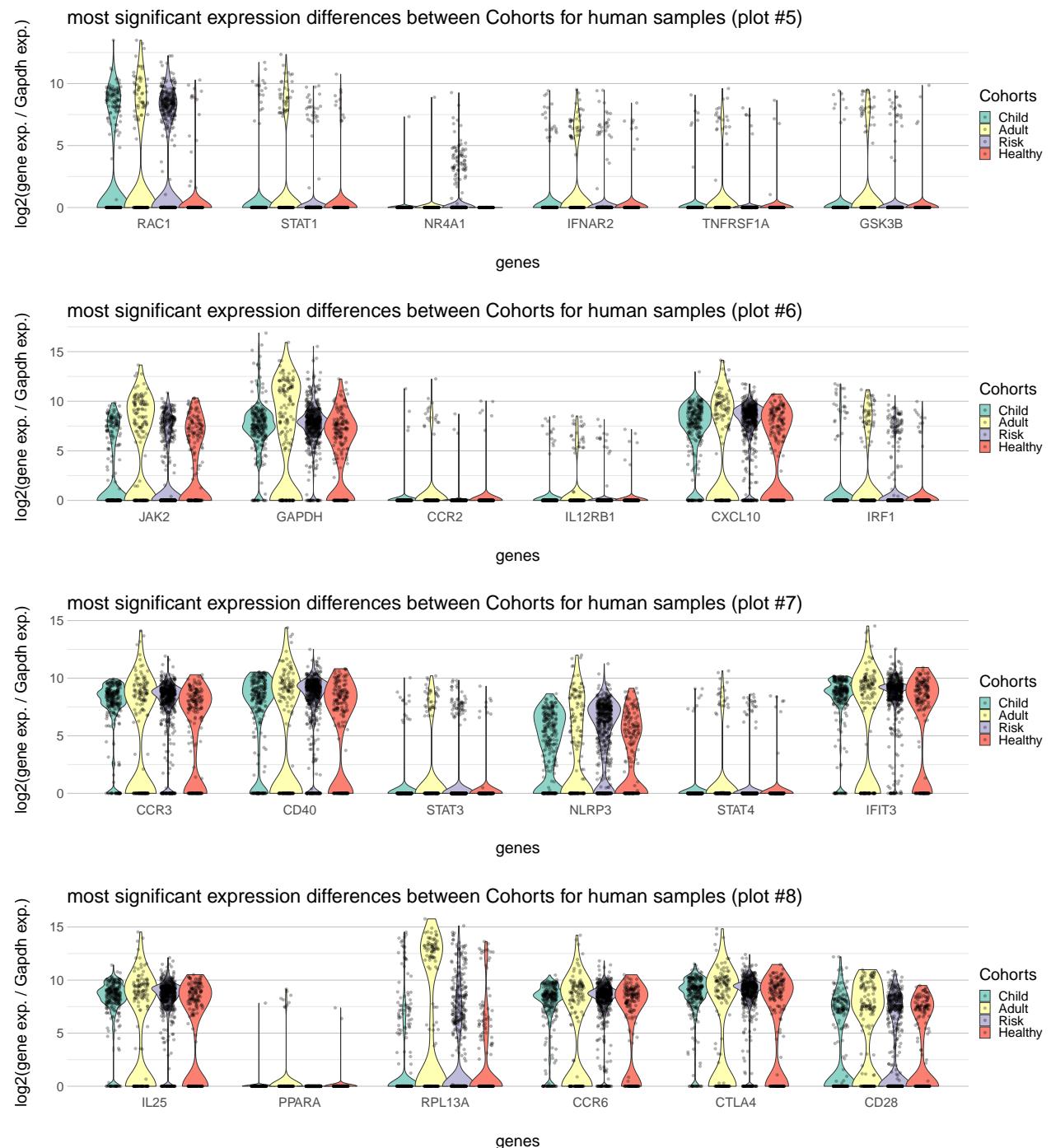


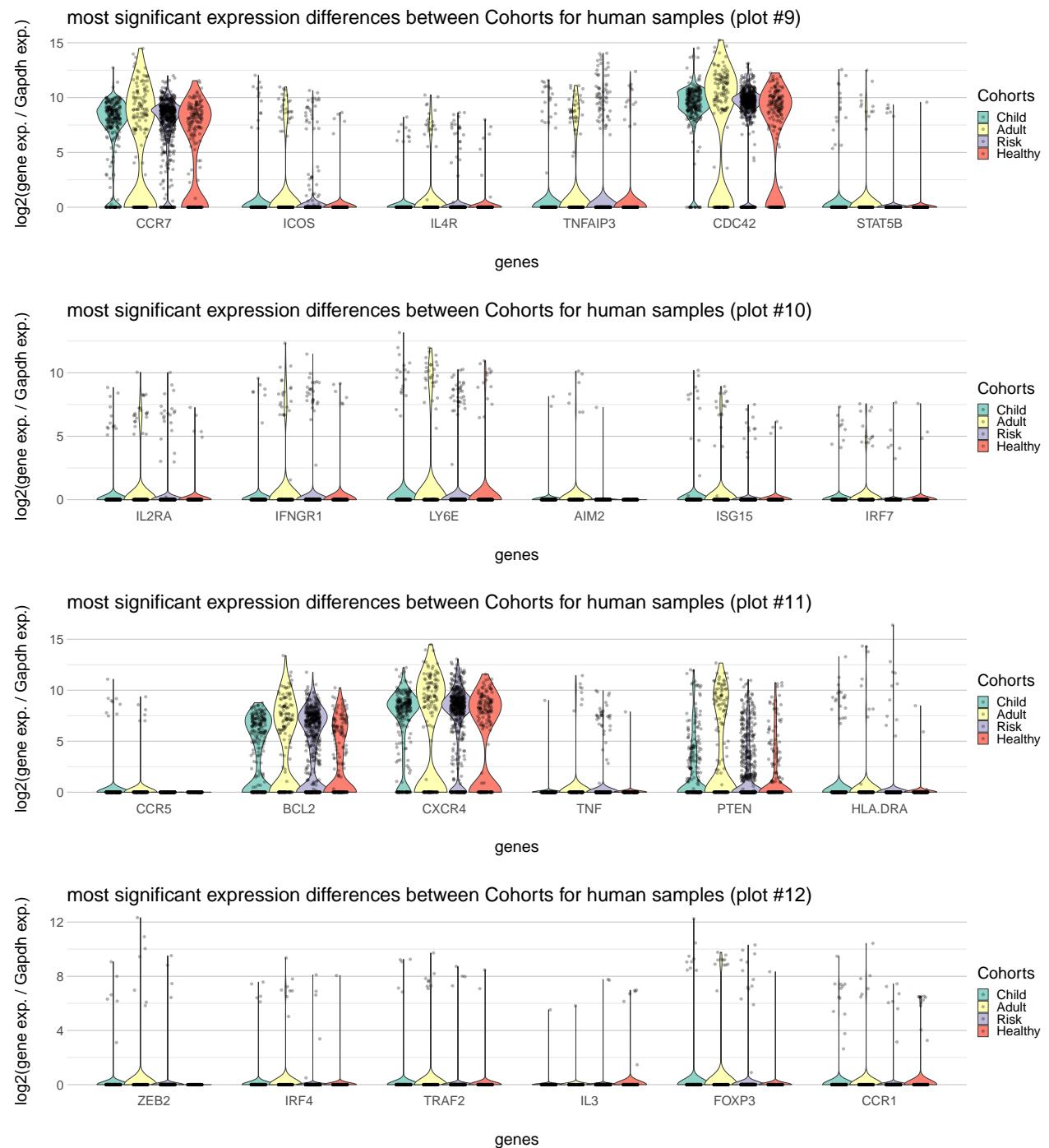


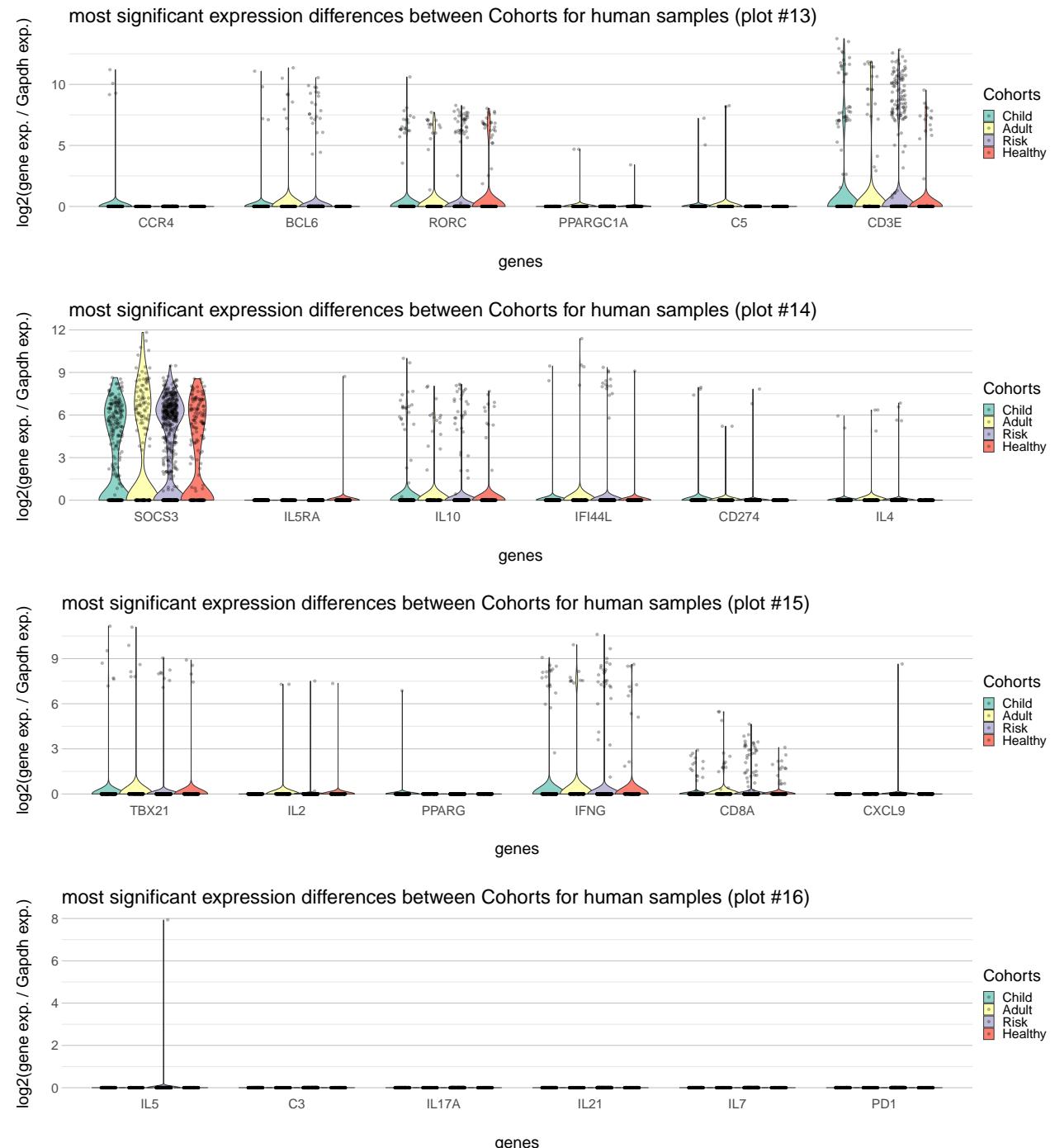
```
[1] Differentially expressed genes between Cohorts for human samples:
[1] ICAM1: 5.945e-68    IFI44: 7.411e-50    CD53: 4.791e-28
[4] ZAP70: 2.571e-26    TNFRSF1B: 3.841e-26   FYN: 1.099e-25
[7] IRF9: 1.943e-25     CD52: 1.995e-25     RAC2: 1.156e-24
[10] GATA3: 2.909e-23   IL7R: 5.929e-23     CD44: 1.419e-22
[13] GSK3A: 1.019e-21   IFNAR1: 2.568e-21   CD4: 1.251e-20
[16] VAV1: 8.191e-19    CXCR3: 2.243e-18   TGFBR2: 3.754e-18
[19] JAK1: 8.103e-18    IRF2: 2.165e-17    TYK2: 7.817e-17
[22] B2M: 9.478e-17    IFIT1: 6.421e-16    NFKB1: 7.484e-16
[25] RAC1: 1.2e-15      STAT1: 1.225e-15   NR4A1: 1.729e-15
```

[28]	IFNAR2:	4.784e-15	TNFRSF1A:	1.608e-14	GSK3B:	2.641e-14
[31]	JAK2:	1.495e-13	GAPDH:	4.925e-13	CCR2:	5.301e-13
[34]	IL12RB1:	1.166e-12	CXCL10:	1.171e-12	IRF1:	1.138e-11
[37]	CCR3:	2.481e-11	CD40:	4.357e-11	STAT3:	1.653e-10
[40]	NLRP3:	2.713e-10	STAT4:	1.007e-09	IFIT3:	3.251e-09
[43]	IL25:	3.427e-09	PPARA:	3.934e-09	RPL13A:	7.976e-09
[46]	CCR6:	1.071e-08	CTLA4:	1.928e-08	CD28:	2.454e-08
[49]	CCR7:	4.743e-08	ICOS:	9.008e-08	IL4R:	9.008e-08
[52]	TNFAIP3:	1.49e-07	CDC42:	5.146e-07	STAT5B:	5.418e-07
[55]	IL2RA:	8.476e-07	IFNGR1:	1.041e-06	LY6E:	1.837e-06
[58]	AIM2:	1.837e-06	ISG15:	2.686e-06	IRF7:	5.169e-06
[61]	CCR5:	5.169e-06	BCL2:	2.017e-05	CXCR4:	7.159e-05
[64]	TNF:	8.772e-05	PTEN:	0.0001144	HLA.DRA:	0.000311
[67]	ZEB2:	0.0009393	IRF4:	0.001267	TRAF2:	0.001285
[70]	IL3:	0.001932	FOXP3:	0.002129	CCR1:	0.00285
[73]	CCR4:	0.003728	BCL6:	0.009401	RORC:	0.01148
[76]	PPARGC1A:	0.02742	C5:	0.04805	CD3E:	0.04946









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

```

[1] RAC1: 3.492e-18      NR4A1: 3.018e-16      TNF: 3.762e-14
[4] B2M: 1.281e-13      GAPDH: 9.687e-12      CD44: 3.572e-11
[7] CD52: 7.491e-11      ICAM1: 1.074e-10      IL7R: 1.194e-09
[10] RAC2: 1.342e-09     CD4: 1.656e-09      JAK1: 4.984e-09
[13] FYN: 2.485e-08      CD53: 3.058e-08      PTEN: 3.604e-07
[16] CXCR3: 3.604e-07    CXCR4: 4.502e-07      TNFRSF1B: 5.715e-07
[19] GATA3: 9.812e-07    ZAP70: 1.362e-06      TNFAIP3: 1.591e-06
[22] TGFB2R2: 2.052e-06   CDC42: 2.504e-06      CD40: 8.854e-06
[25] VAV1: 1.137e-05     STAT1: 2.79e-05       LY6E: 4.148e-05

```

[28]	IL25:	6.437e-05	IFNAR2:	6.909e-05	IFIT1:	6.909e-05
[31]	STAT3:	0.0001182	CD28:	0.000139	GSK3A:	0.0001611
[34]	NFKB1:	0.0002109	RPL13A:	0.0003219	IRF9:	0.0003255
[37]	BCL2:	0.0003255	IRF1:	0.0003984	IRF2:	0.00103
[40]	CCR6:	0.001032	CD3E:	0.001094	IFIT3:	0.001192
[43]	IL12RB1:	0.001322	CCR7:	0.001449	TYK2:	0.001515
[46]	CCR3:	0.001835	IL2RA:	0.002613	CTLA4:	0.003576
[49]	ISG15:	0.004494	GSK3B:	0.004538	IFNAR1:	0.006226
[52]	TNFRSF1A:	0.006527	IL4R:	0.006783	STAT4:	0.00802
[55]	CXCL10:	0.009685	IFI44:	0.0107	CCR2:	0.01422
[58]	STAT5B:	0.02368	AIM2:	0.02718	IFNGR1:	0.02751
[61]	NLRP3:	0.03463	ICOS:	0.03788	BCL6:	0.04012

