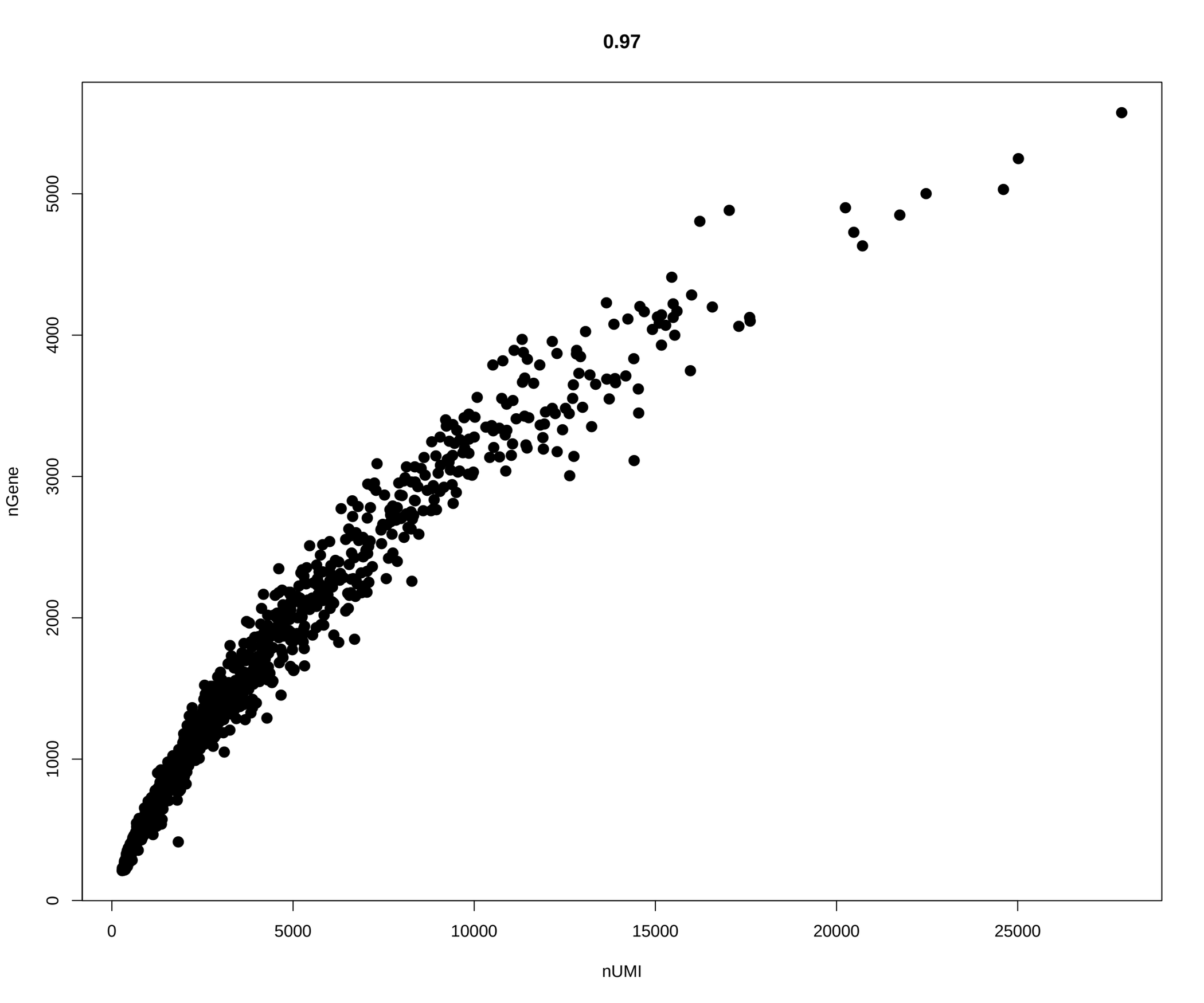
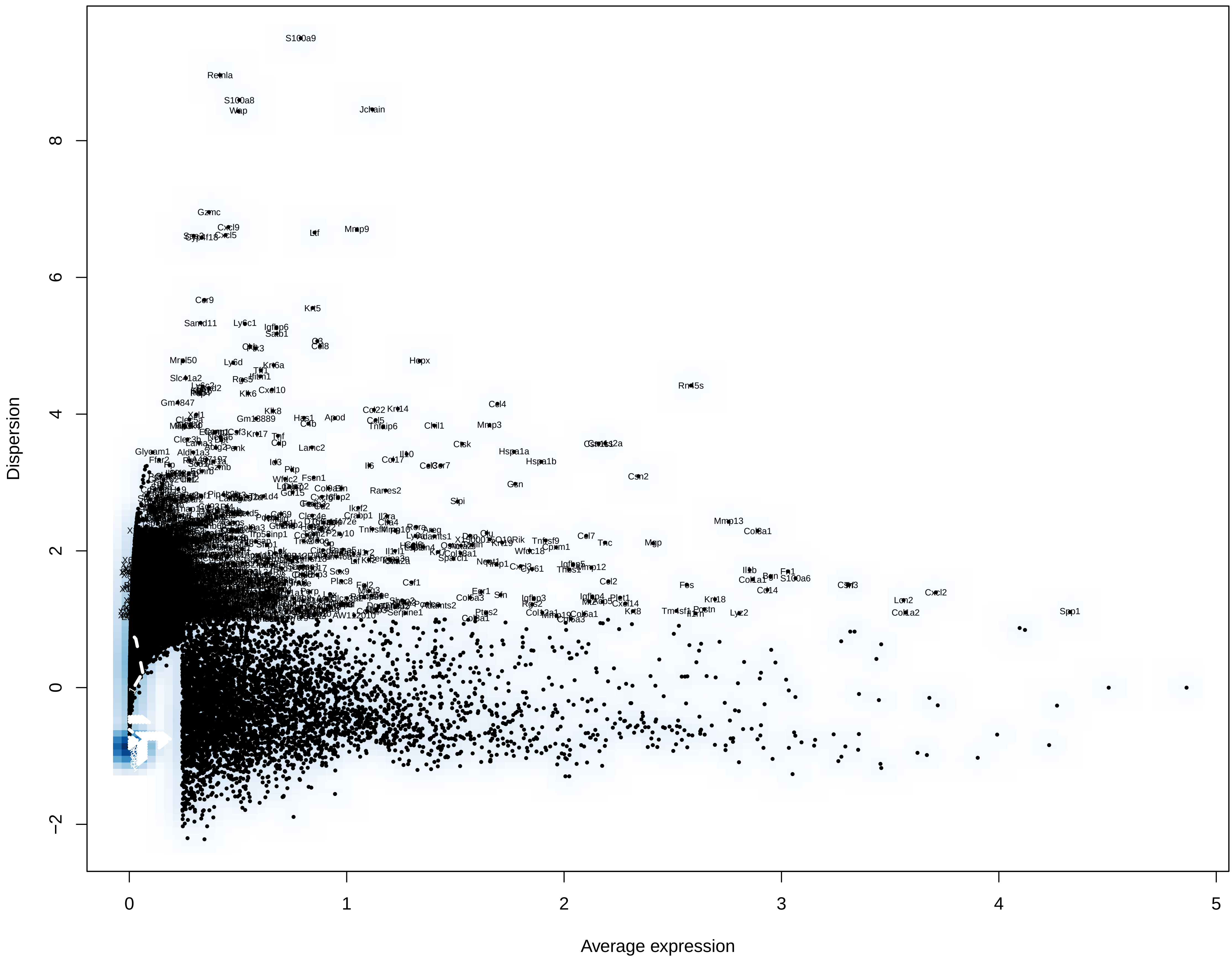
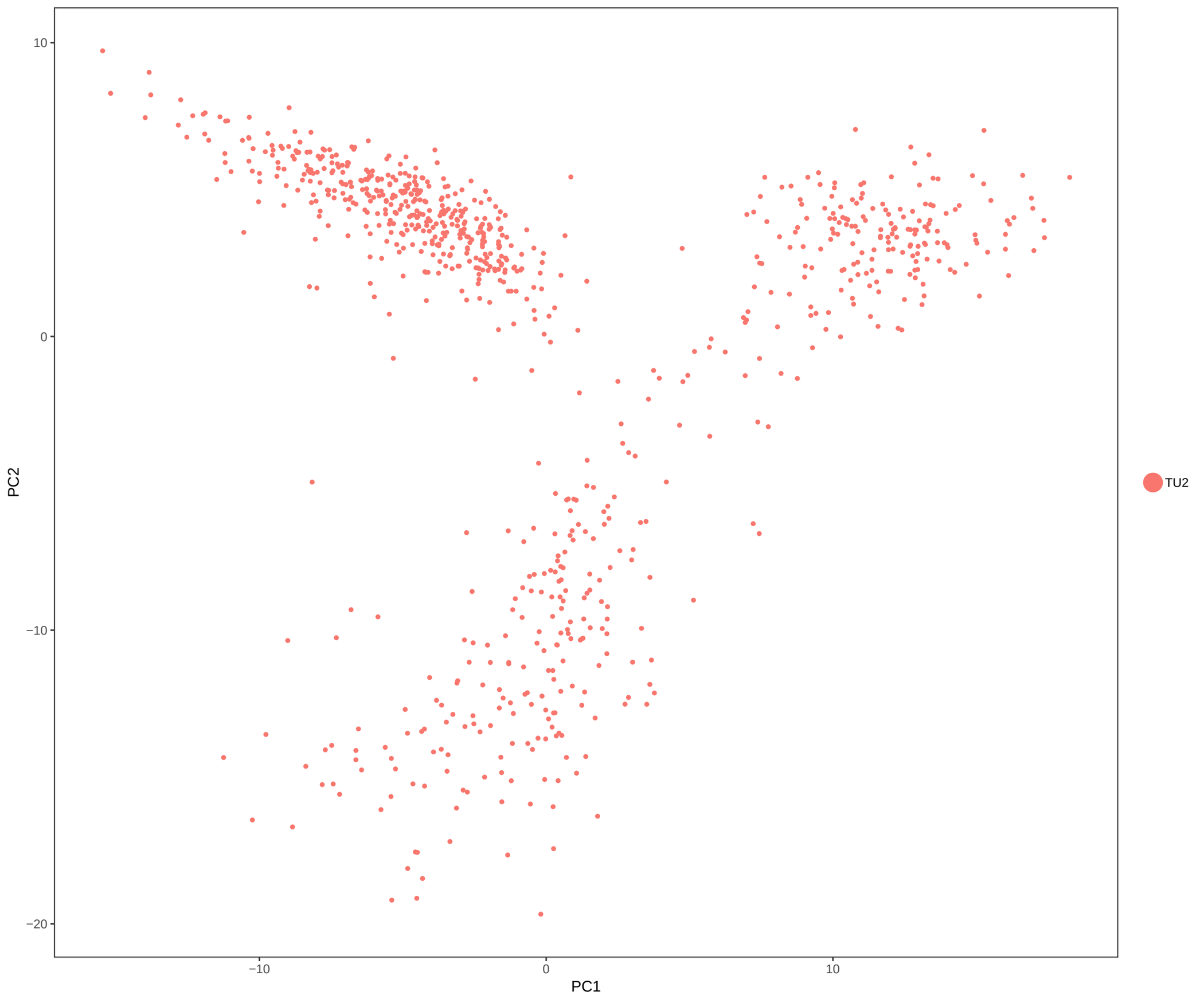
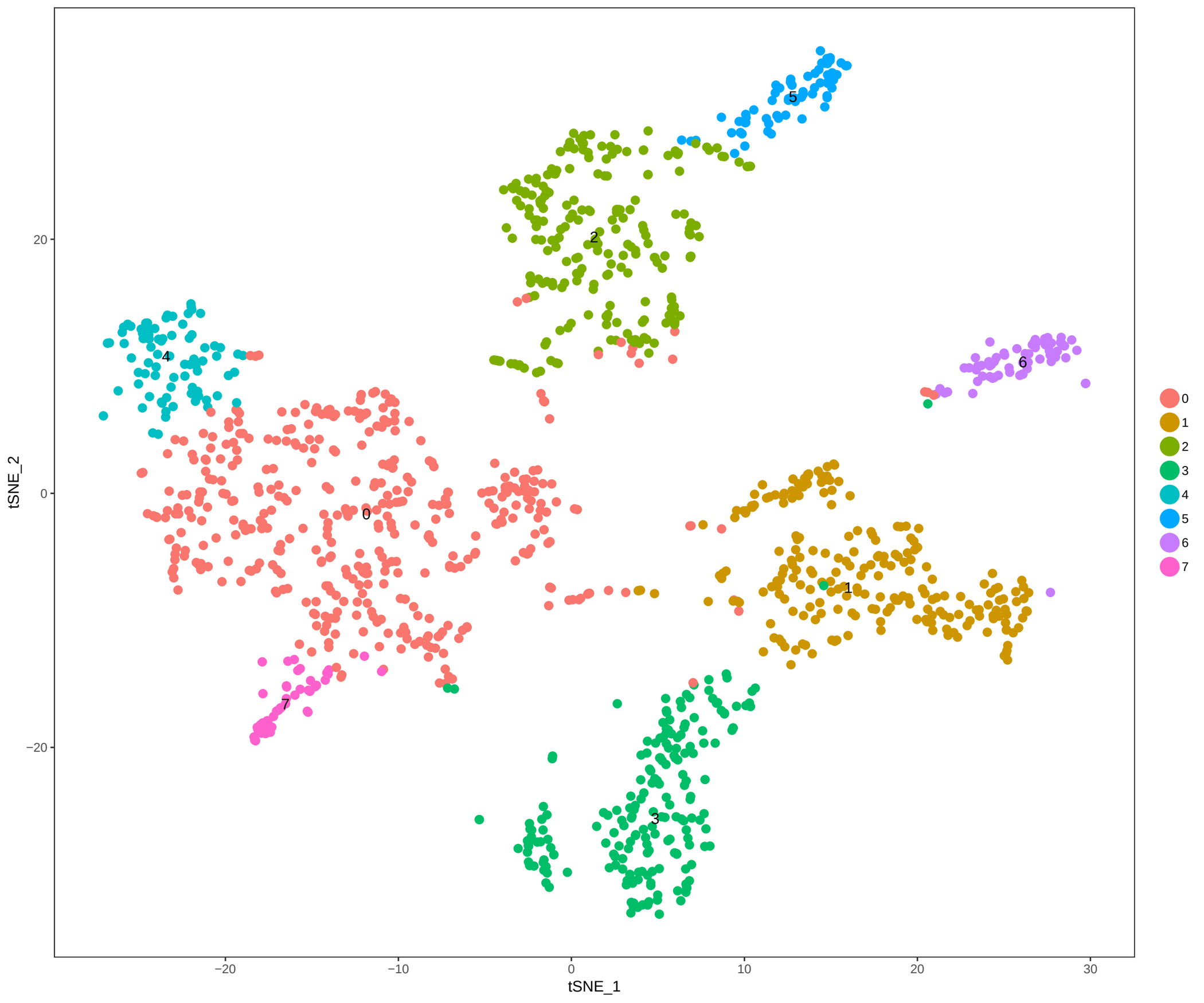

0.97
nGene
nUMI
0
1000
2000
3000
4000
5000
0
5000
10000
15000
20000
25000

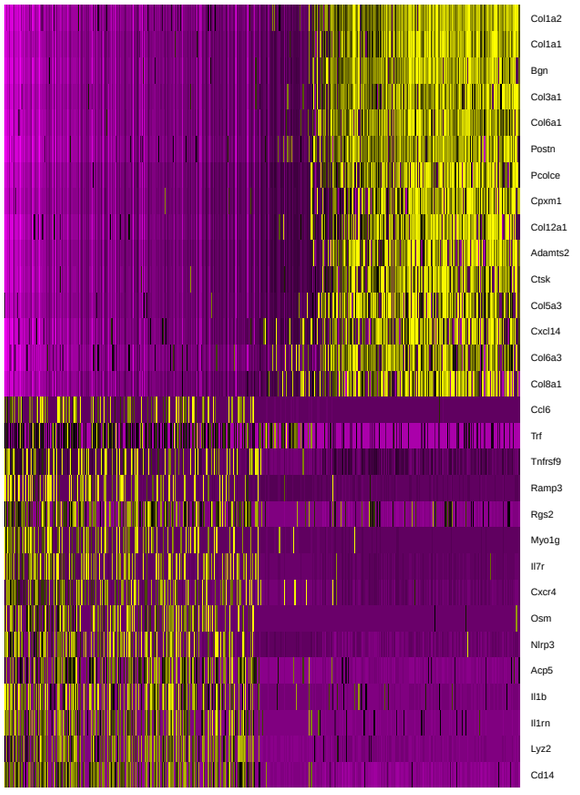


Dispersion
Average expression
−2
0
2
4
6
8
0
1
2
3
4
5
S100a9
Retnla
S100a8
Wap
Jchain
Gzmc
Cxcl9
Cxcl5
Ltf
Mmp9
Ccr9
Krt5
Samd11
Ly6c1
Igfbp6
Saa1
C3
Cd8
Mrpl50
Ly6d
Krt6a
Hopx
Slc41a2
Rgs5
Ifitm1
Cxcl10
Rn45s
Krt6
Gm4847
Klk8
Gm18889
Has1
Apod
Col22
Krt14
Cel4
Ccl5
Tnfaip6
Chil1
Mmp3
Xcl1
Krt17
Clec3b
Lamc2
Csk
Hspa1a
Hspa1b
Glycam1
Ffar2
Aldh1a3
Penk
Id3
Il6
Col17
Il10
Ccl3
Ccr7
Csn2
Fsn1
Gsn
Rarres2
Slpi
Ikzf2
Crabp1
Il2ra
Ctla4
Mmp13
Col3a1
Rora
Areg
Adamts1
Ccl7
Tnc
Mgp
Tnfsf9
Cpxm1
Wfdc18
Igfbp5
Mmp12
Il1b
Col1a1
Fn1
S100a6
Ctsk
Cxcl2
Csf1
Egr1
Fos
Sox9
Plac8
Col5a3
Igfbp3
Rgs2
Ptgs2
Col12a1
Col6a1
Col8a3
Col8a1
Ccl2
Krt18
Krt8
Postn
Lyz2
Lcn2
Col1a2
Spp1
Serpine1
Adamts2
Tmsf1
Ccl14
Ctrb1
Ptgs2

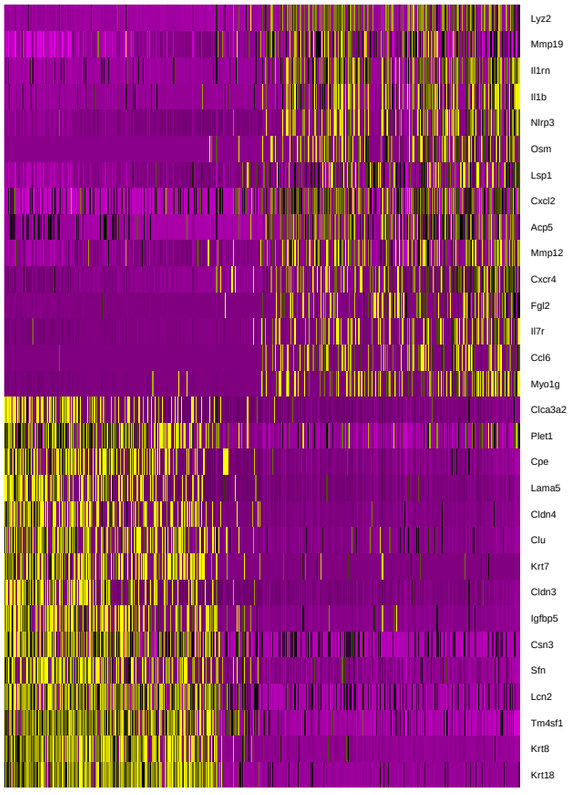

10
0
−10
−20
PC2
−10
0
10
PC1
TU2


tSNE_2
tSNE_1
20
0
−20
−20
−10
0
10
20
30
0
1
2
3
4
5
6
7

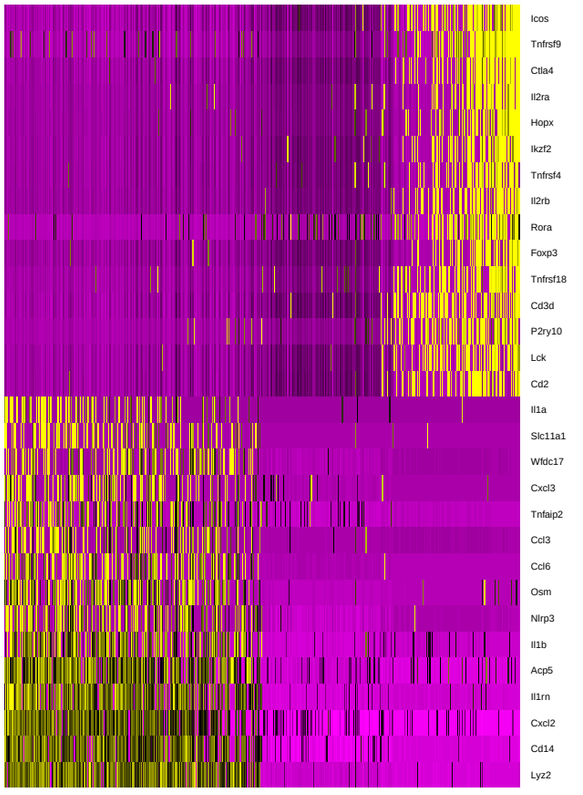
PC 1



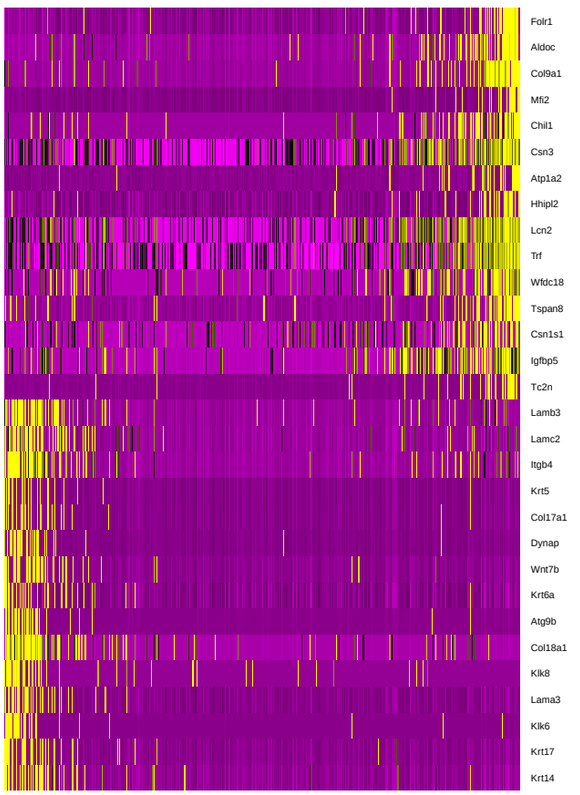
PC 2



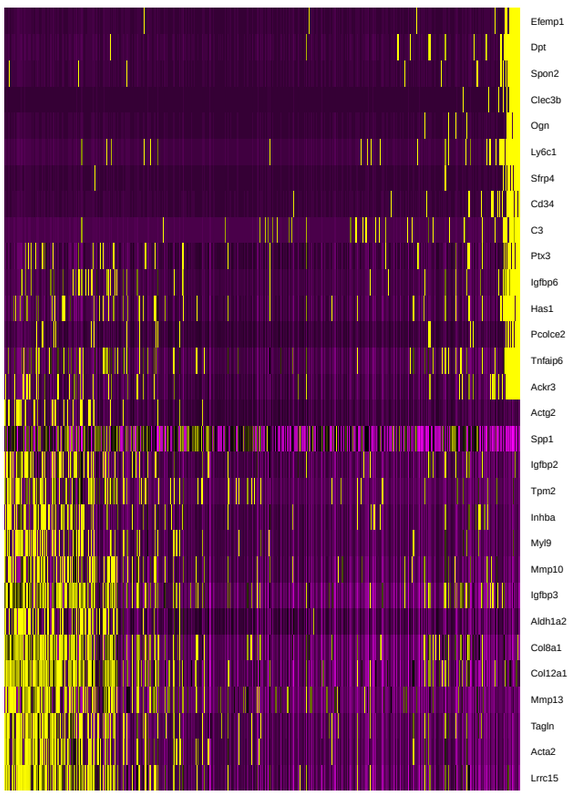
PC 3



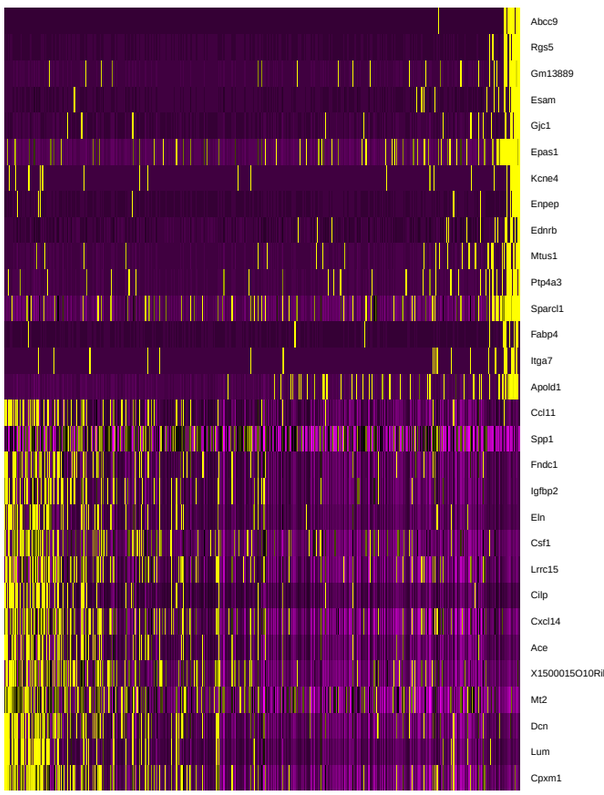
PC 4

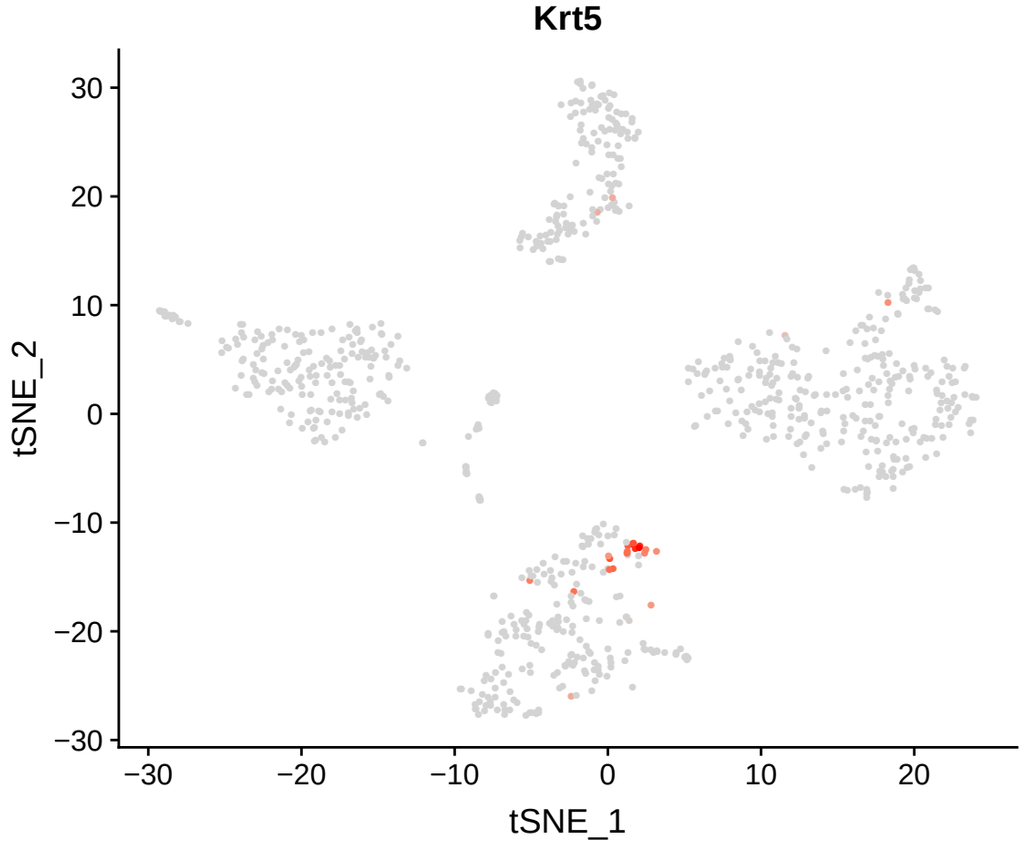


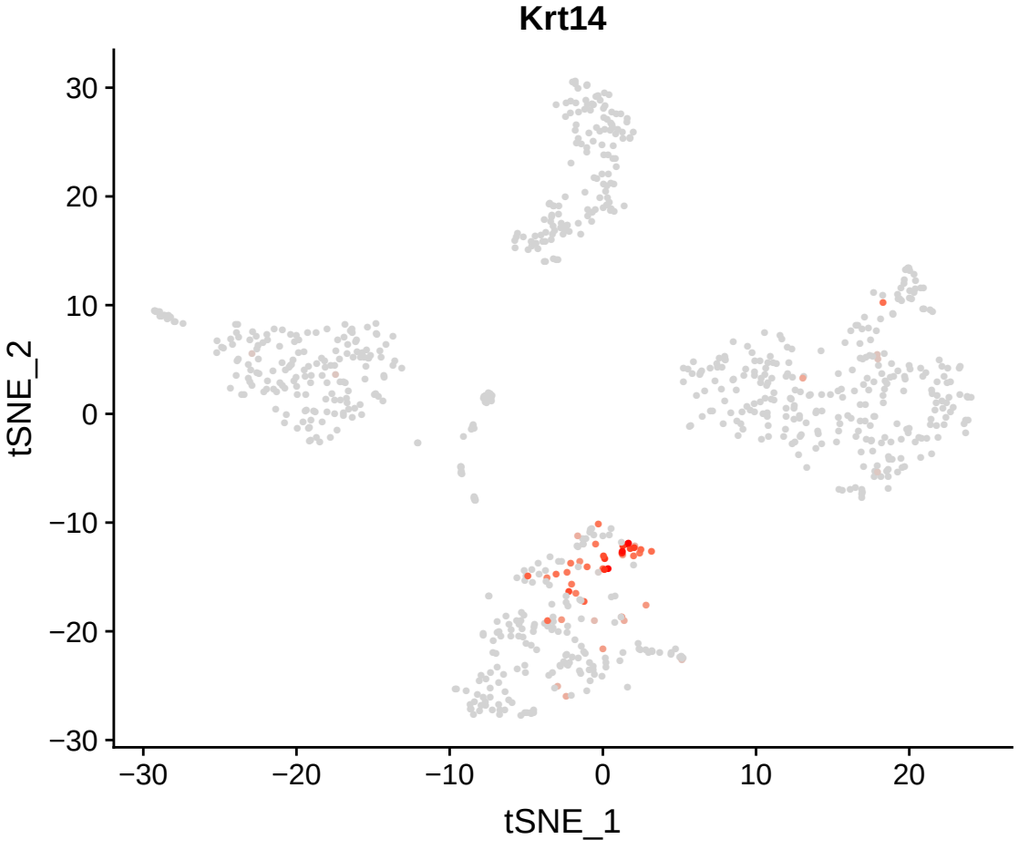
PC 5

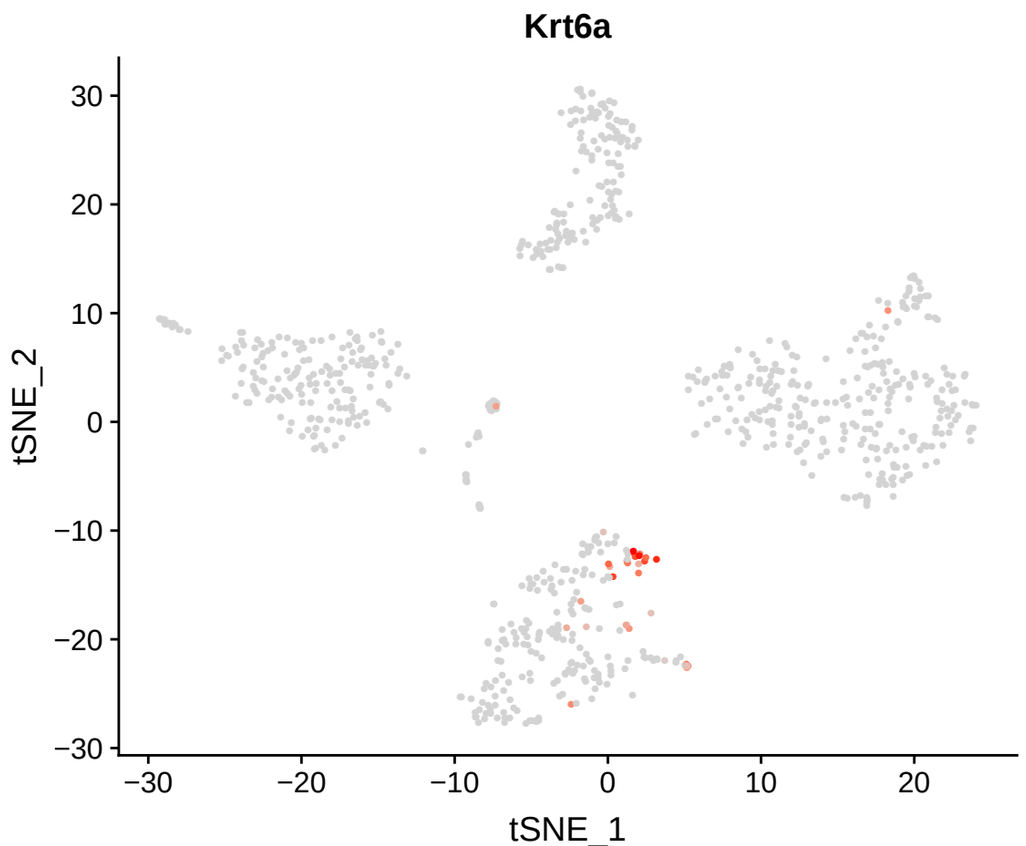


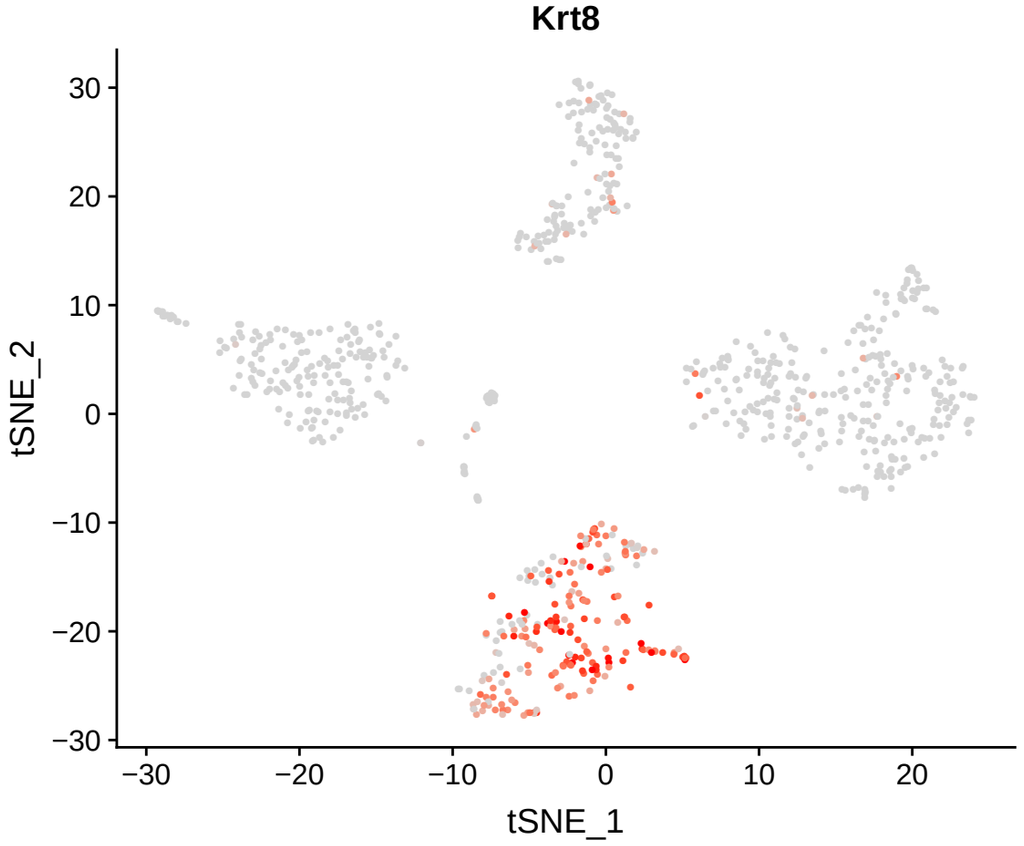
PC 6

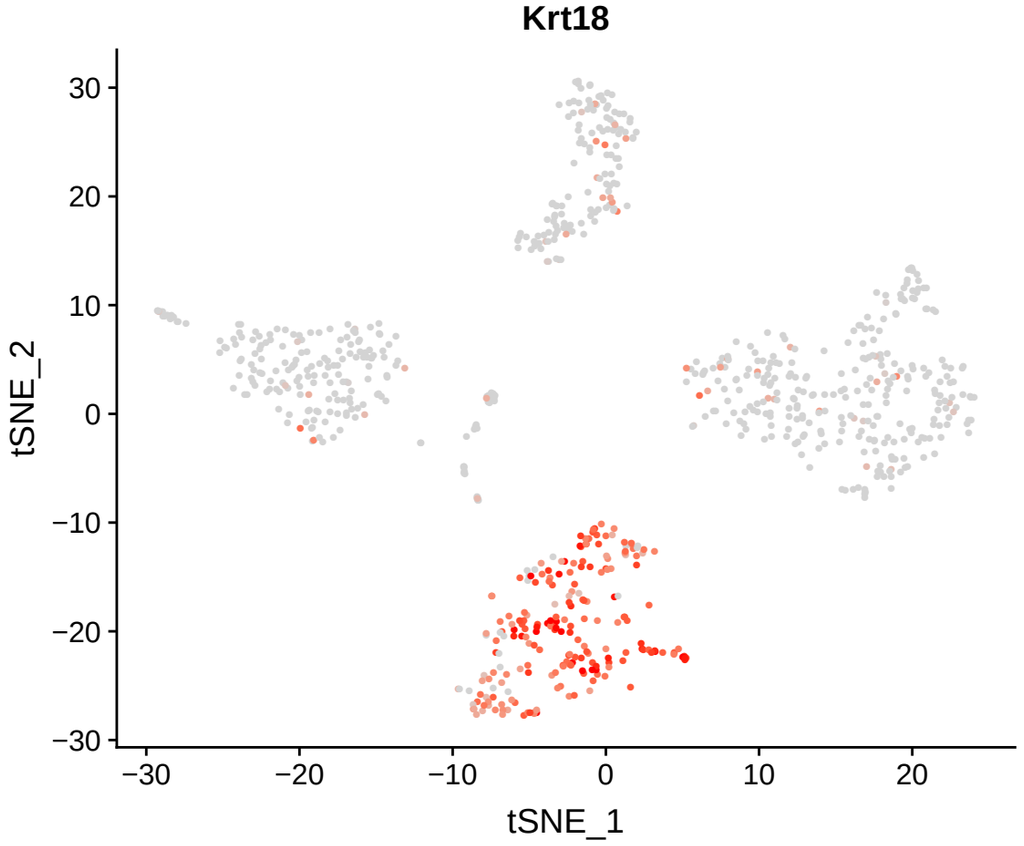


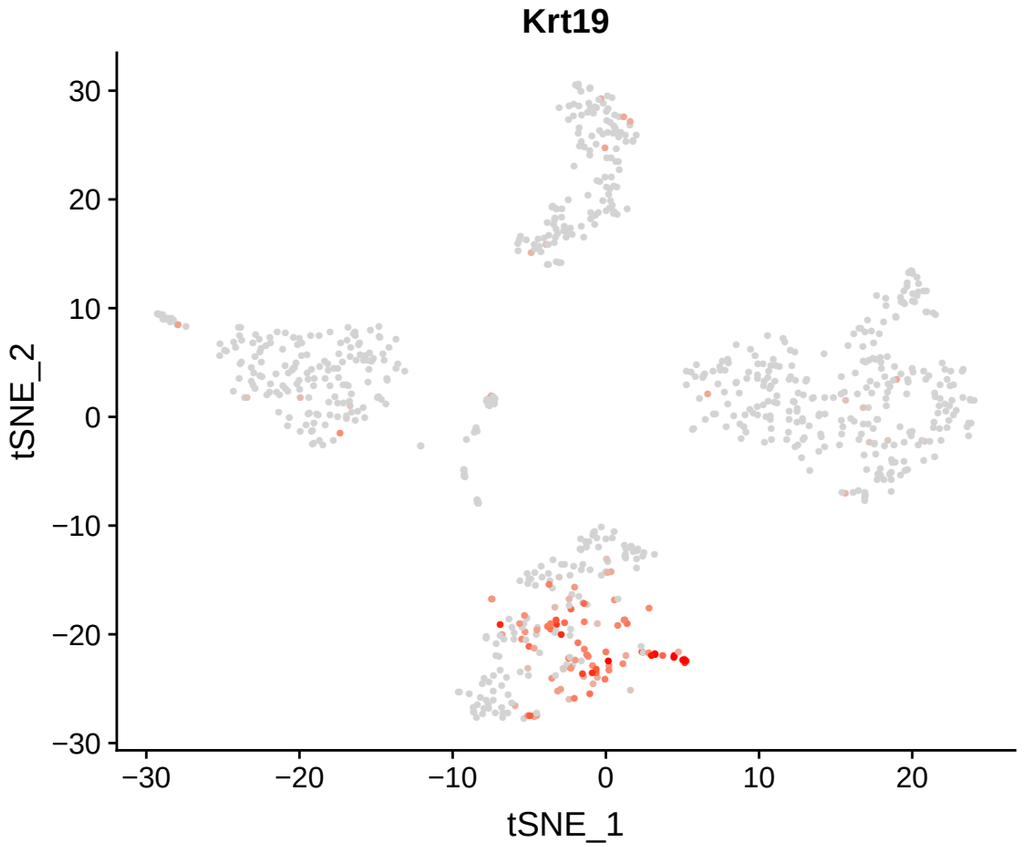

Krt5
tSNE_2
tSNE_1
30
20
10
0
−10
−20
−30
−30
−20
−10
0
10
20

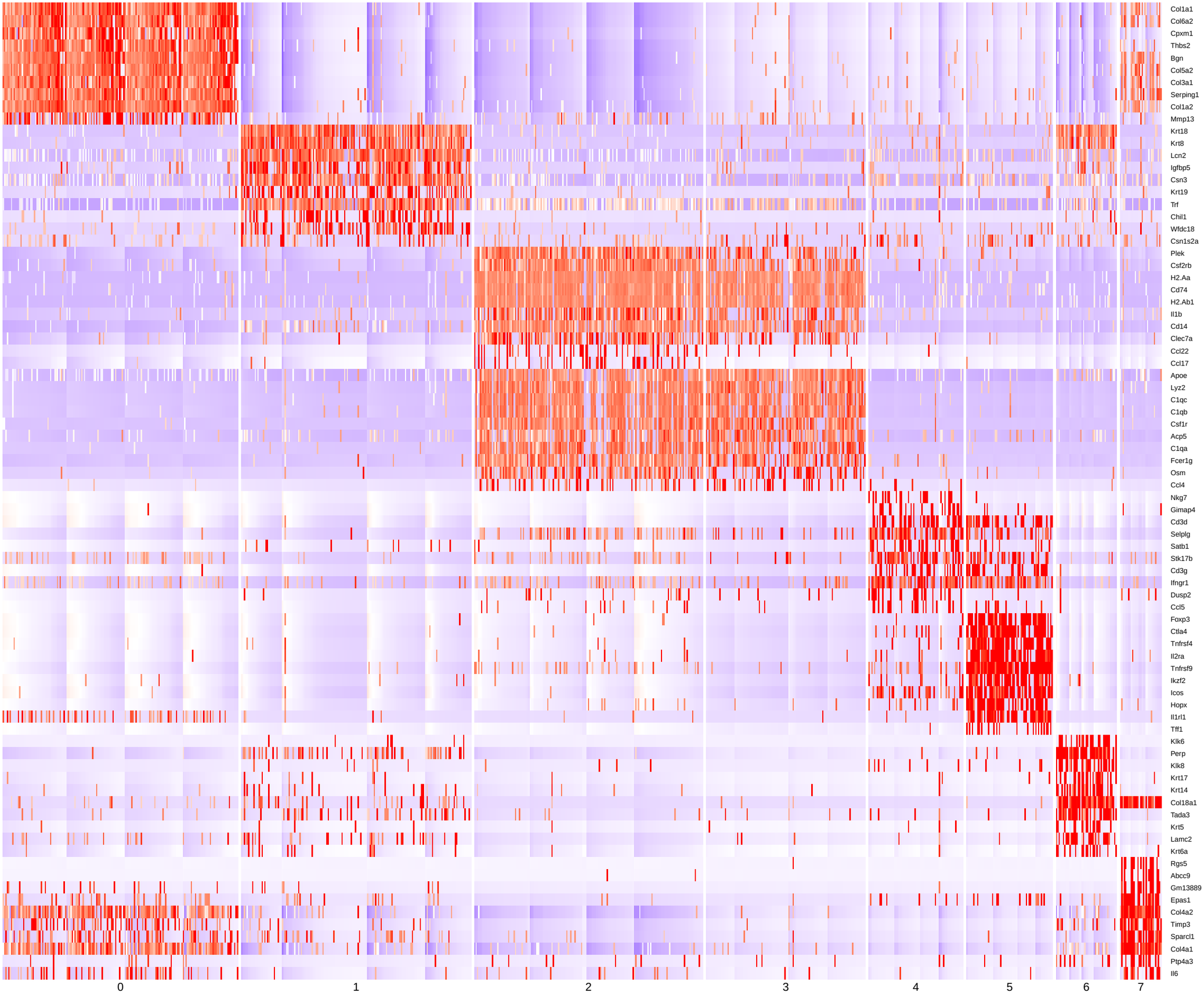

Krt14
tSNE_2
tSNE_1
30
20
10
0
−10
−20
−30
−30
−20
−10
0
10
20

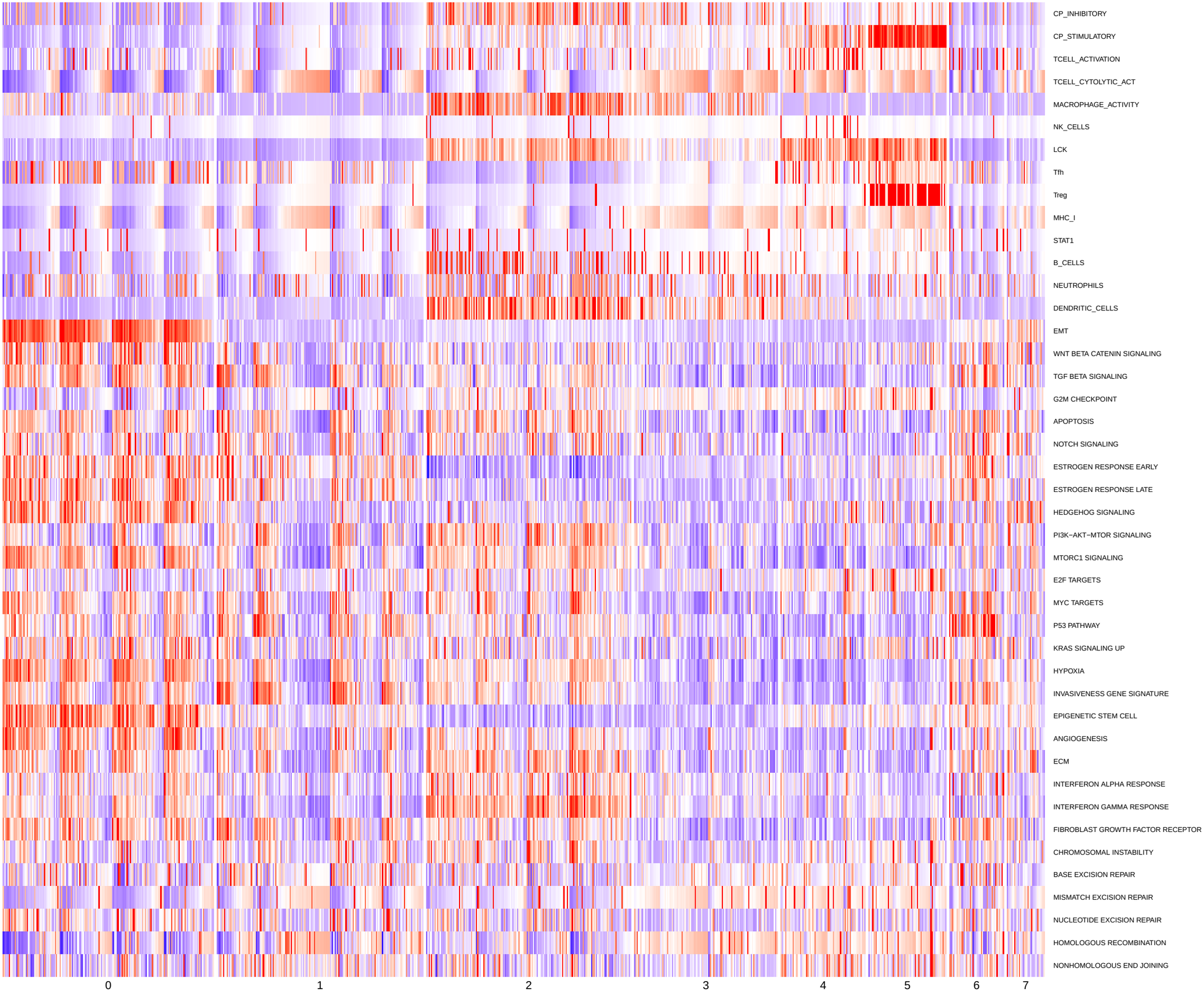

Krt6a
tSNE_2
tSNE_1
30
20
10
0
−10
−20
−30
−30
−20
−10
0
10
20


Krt8
tSNE_2
tSNE_1
30
20
10
0
−10
−20
−30
−30
−20
−10
0
10
20

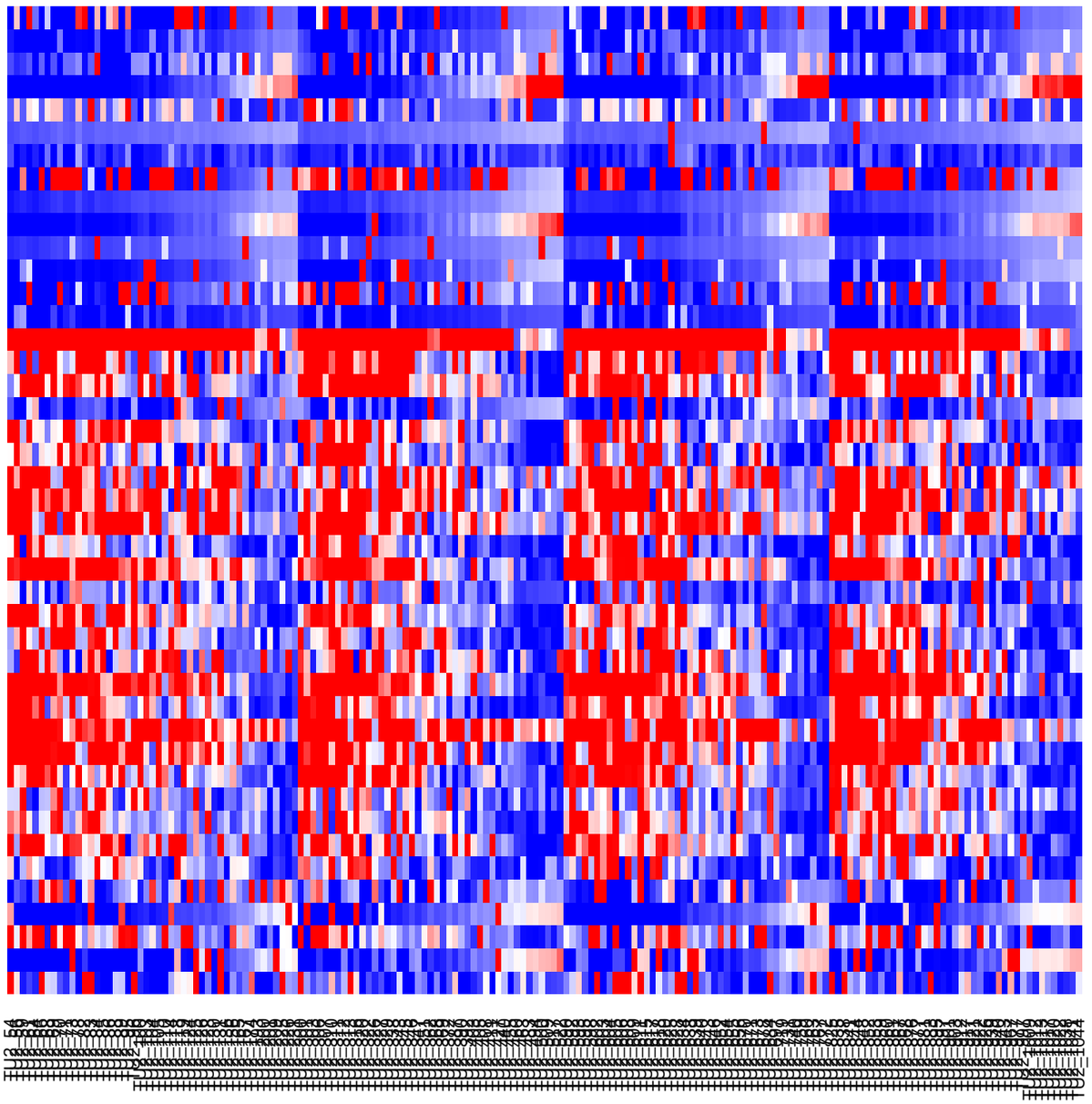

Krt18
tSNE_2
tSNE_1
30
20
10
0
−10
−20
−30
−30
−20
−10
0
10
20


Krt19
tSNE_2
tSNE_1
30
20
10
0
−10
−20
−30
−30
−20
−10
0
10
20

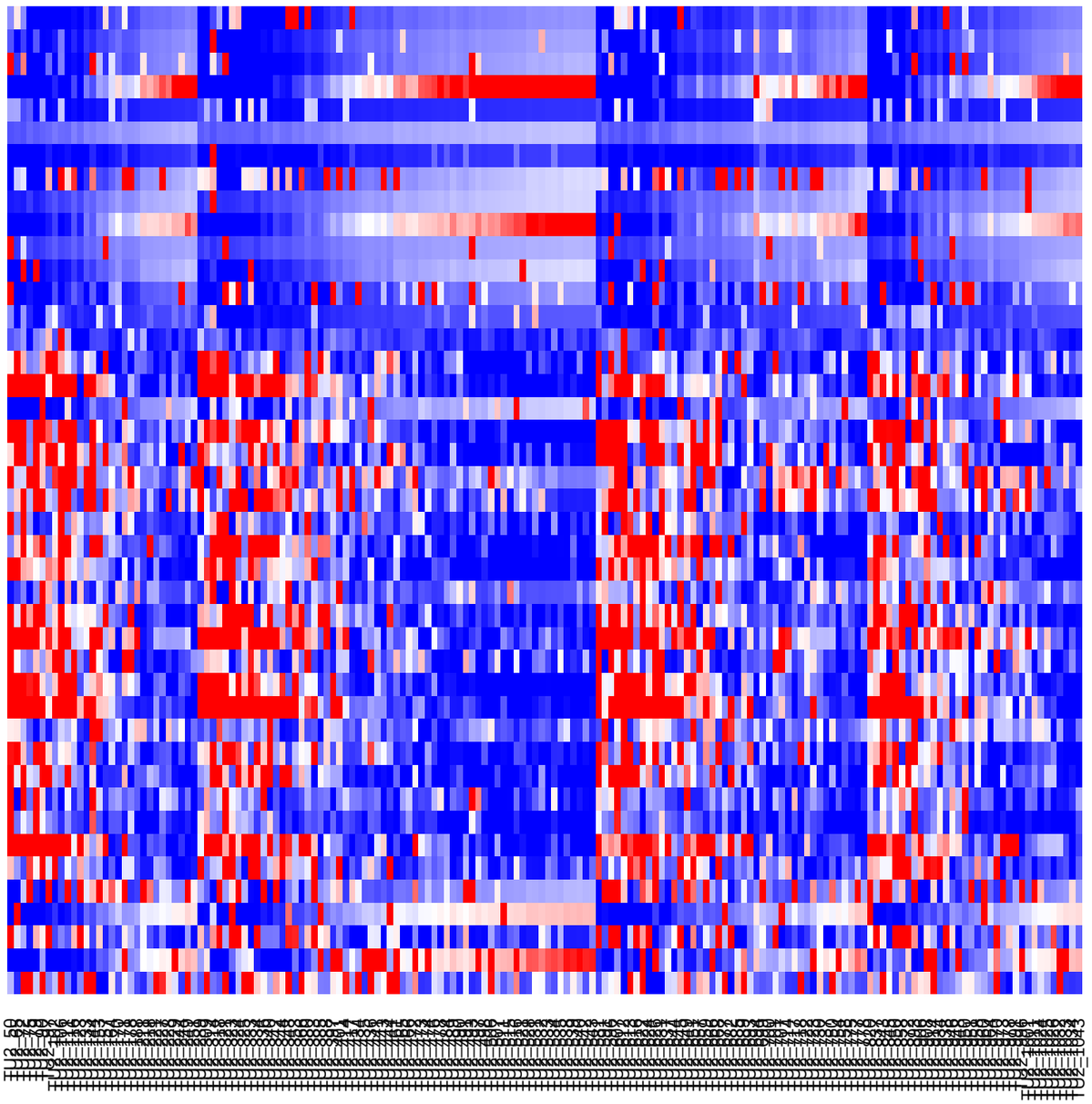

Col1a1
Col6a2
Cpxm1
Thbs2
Bgn
Col5a2
Col3a1
Serping1
Col1a2
Mmp13
Krt18
Krt8
Lcn2
Igfbp5
Csn3
Krt19
Trf
Chil1
Wfdc18
Csn1s2a
Plek
Csf2rb
H2.Aa
Cd74
H2.Ab1
Il1b
Cd14
Clec7a
Ccl22
Ccl17
Apoe
Lyz2
C1qc
C1qb
Csf1r
Acp5
C1qa
Fcer1g
Osm
Ccl4
Nkg7
Gimap4
Cd3d
Selplg
Satb1
Stk17b
Cd3g
Ifngr1
Dusp2
Ccl5
Foxp3
Ctla4
Tnfrsf4
Il2ra
Tnfrsf9
Ikzf2
Icos
Hopx
Il1rl1
Tff1
Klk6
Perp
Klk8
Krt17
Krt14
Col18a1
Tada3
Krt5
Lamc2
Krt6a
Rgs5
Abcc9
Gm13889
Epas1
Col4a2
Timp3
Sparcl1
Col4a1
Ptp4a3
Il6
0
1
2
3
4
5
6
7


CP_INHIBITORY
CP_STIMULATORY
TCELL_ACTIVATION
TCELL_CYTOLYTIC_ACT
MACROPHAGE_ACTIVITY
NK_CELLS
LCK
Tfh
Treg
MHC_I
STAT1
B_CELLS
NEUTROPHILS
DENDRITIC_CELLS
EMT
WNT BETA CATENIN SIGNALING
TGF BETA SIGNALING
G2M CHECKPOINT
APOPTOSIS
NOTCH SIGNALING
ESTROGEN RESPONSE EARLY
ESTROGEN RESPONSE LATE
HEDGEHOG SIGNALING
PI3K−AKT−MTOR SIGNALING
MTORC1 SIGNALING
E2F TARGETS
MYC TARGETS
P53 PATHWAY
KRAS SIGNALING UP
HYPOXIA
INVASIVENESS GENE SIGNATURE
EPIGENETIC STEM CELL
ANGIOGENESIS
ECM
INTERFERON ALPHA RESPONSE
INTERFERON GAMMA RESPONSE
FIBROBLAST GROWTH FACTOR RECEPTOR
CHROMOSOMAL INSTABILITY
BASE EXCISION REPAIR
MISMATCH EXCISION REPAIR
NUCLEOTIDE EXCISION REPAIR
HOMOLOGOUS RECOMBINATION
NONHOMOLOGOUS END JOINING
0
1
2
3
4
5
6
7

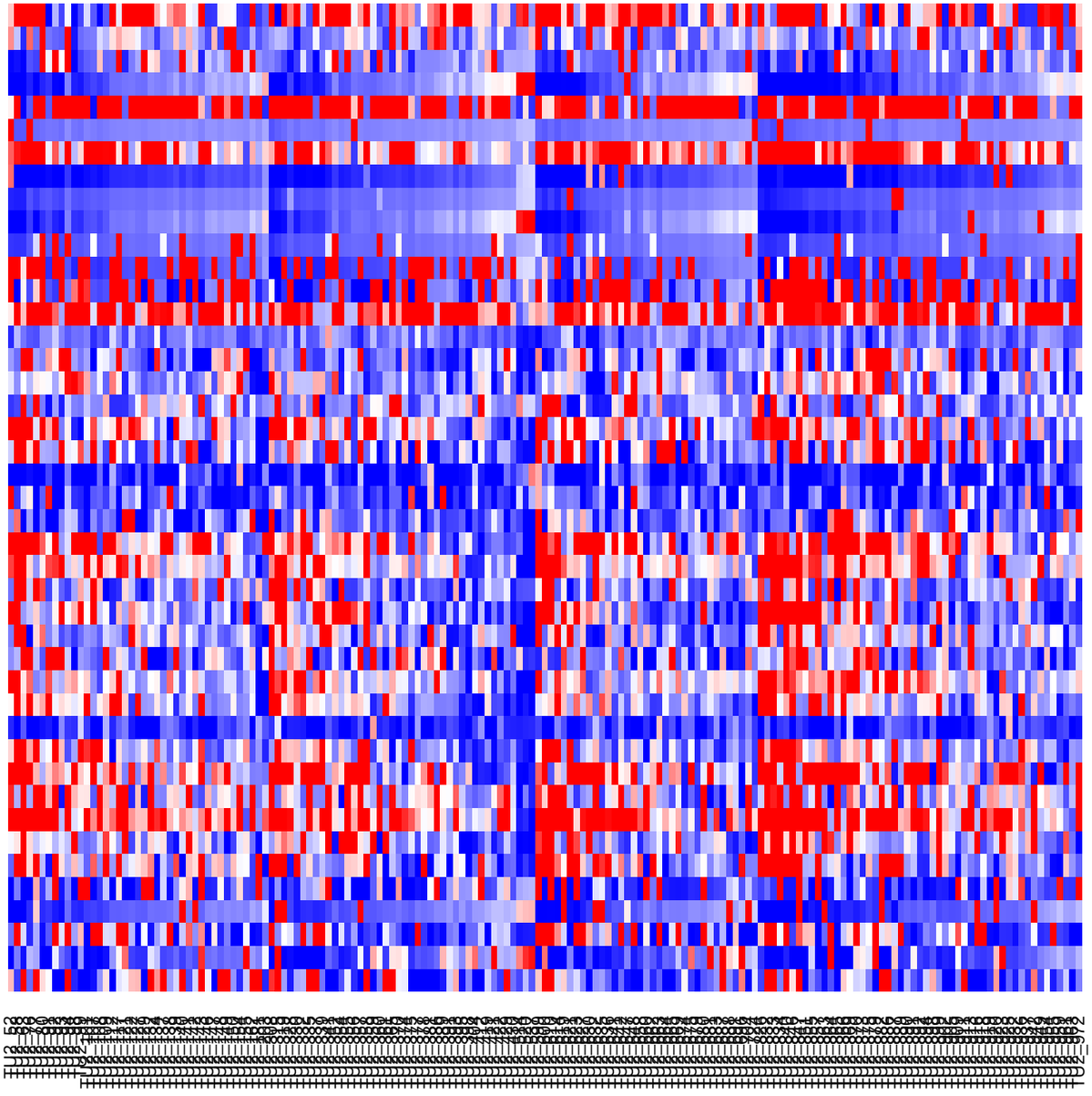
Gene−set enrichment within the cluster 0 (TU2)



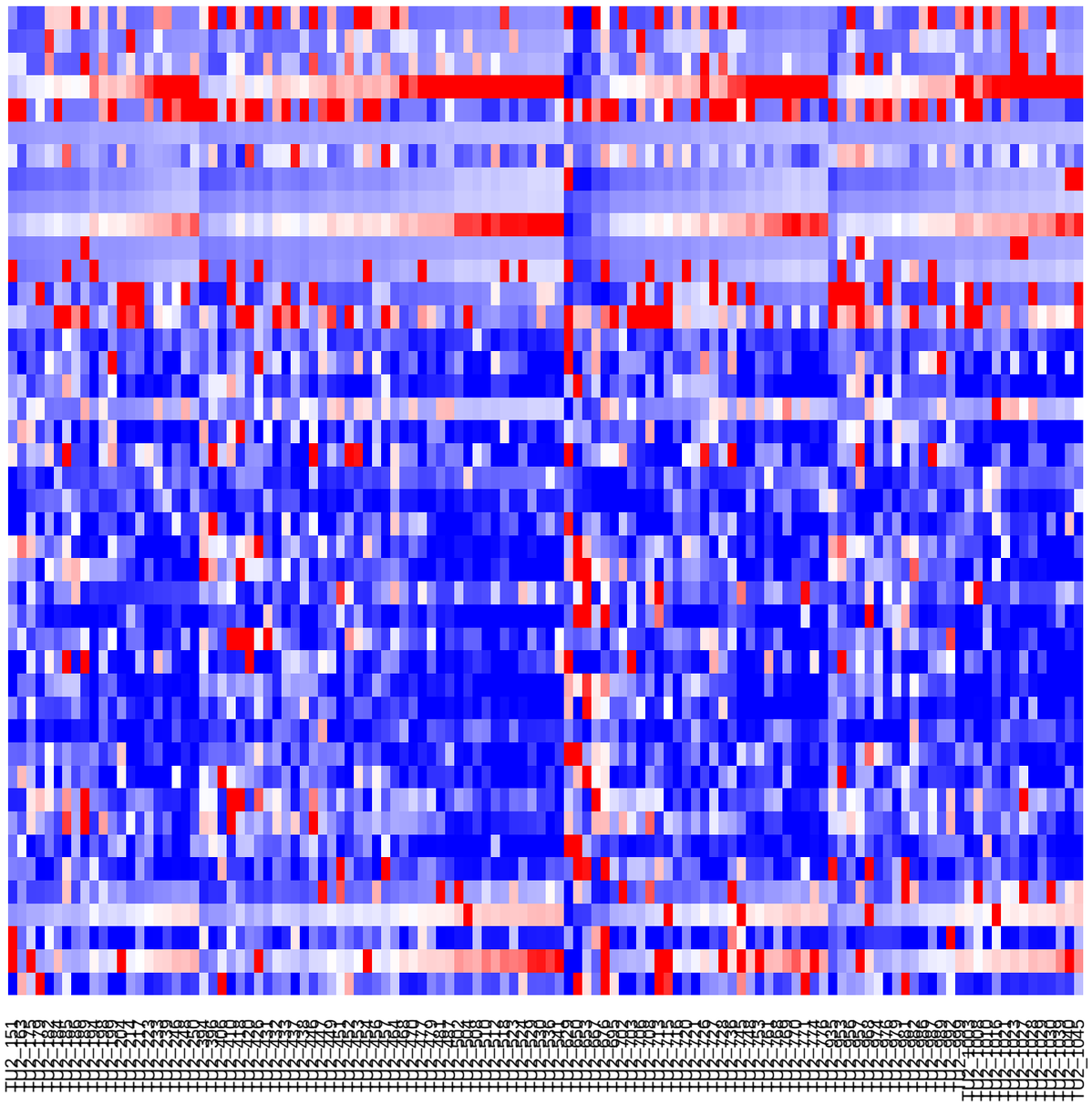
Gene−set enrichment within the cluster 1 (TU2)



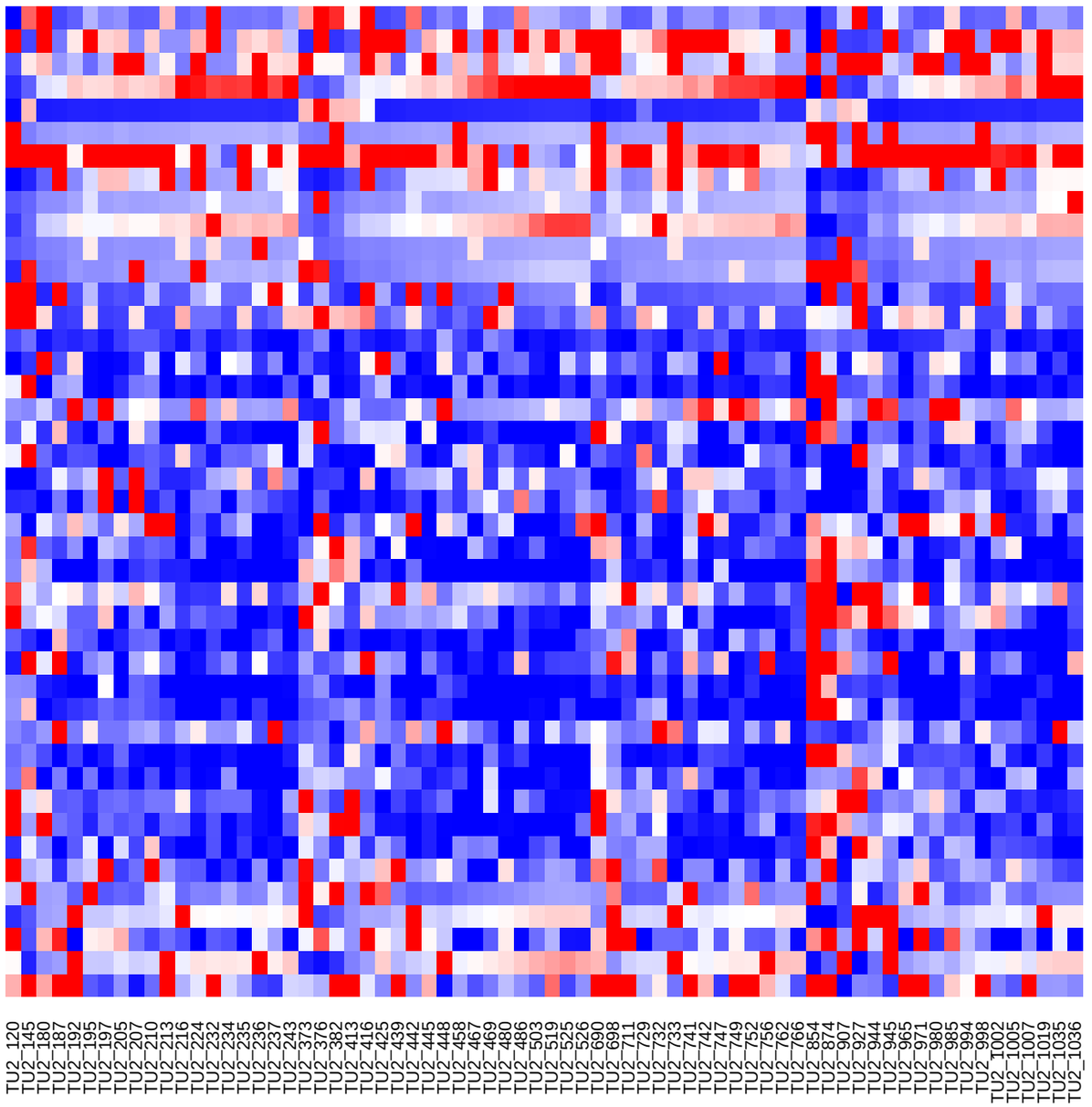
Gene−set enrichment within the cluster 2 (TU2)



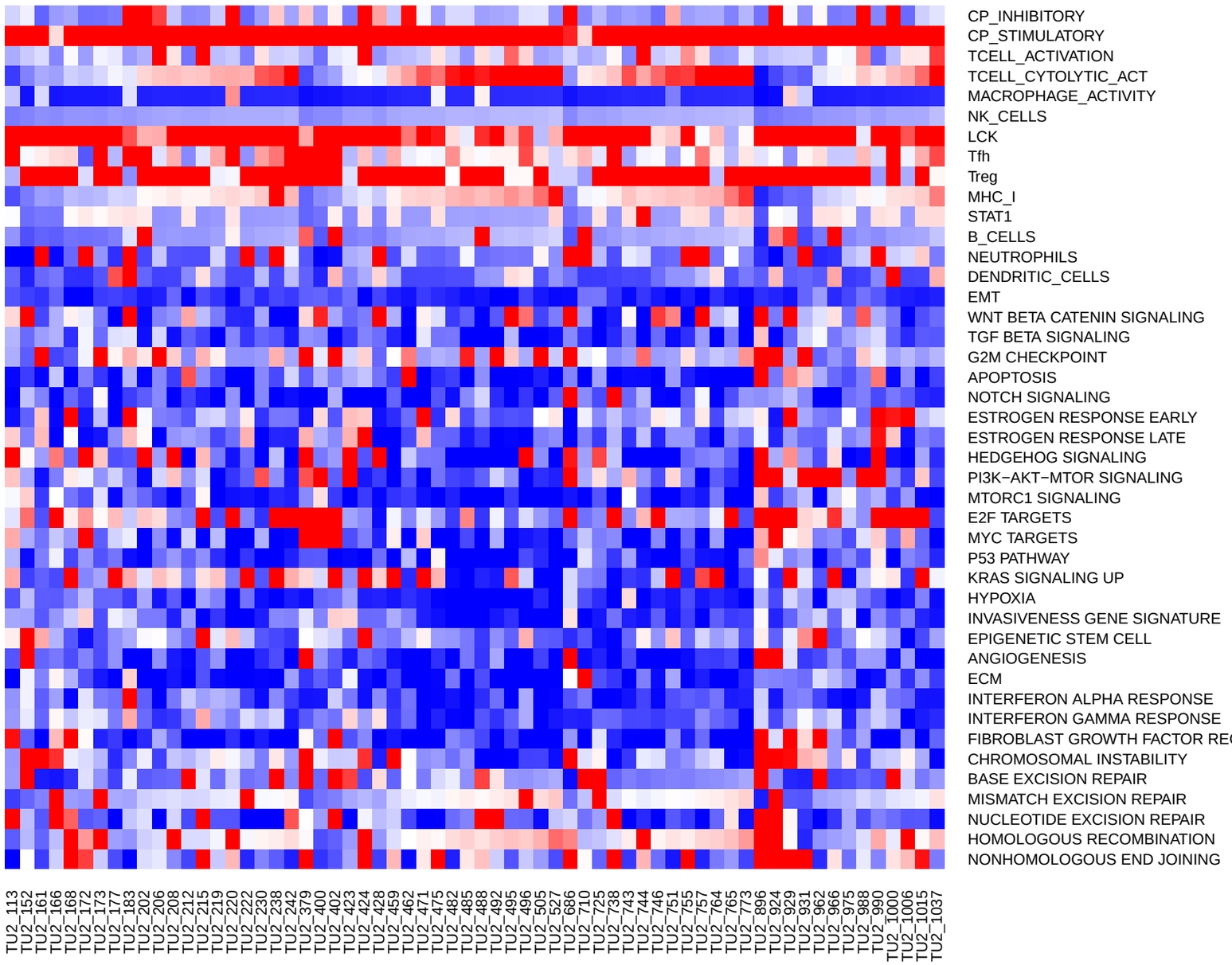
Gene−set enrichment within the cluster 3 (TU2)



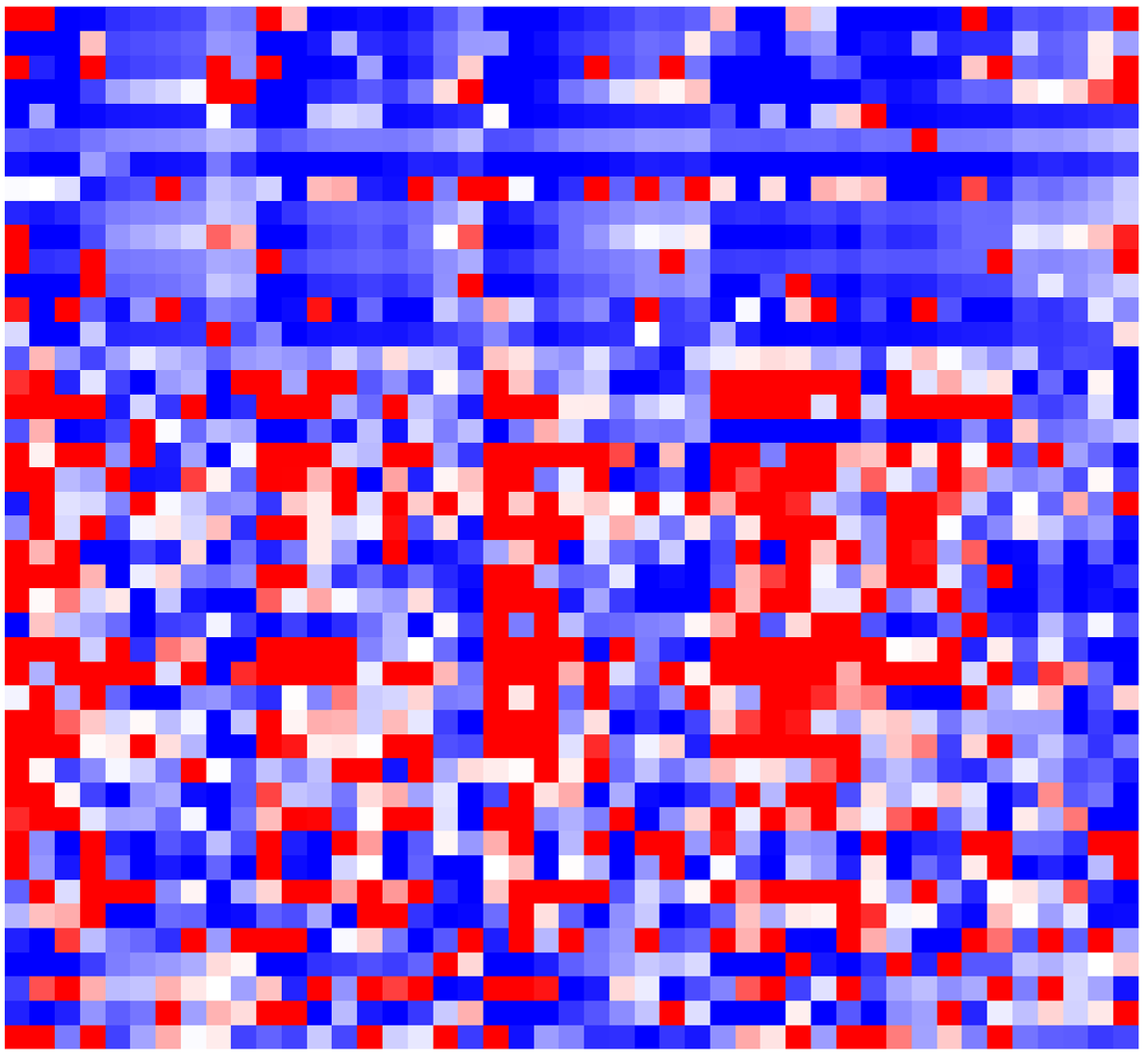
Gene−set enrichment within the cluster 4 (TU2)



Gene−set enrichment within the cluster 5 (TU2)



Gene−set enrichment within the cluster 6 (TU2)



Gene−set enrichment within the cluster 7 (TU2)