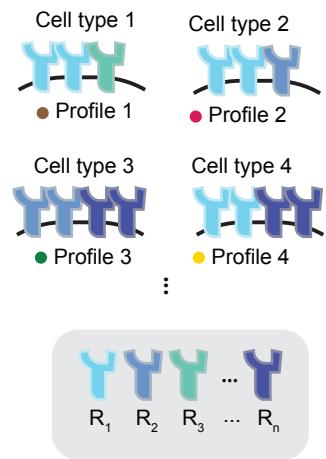


Figure 1: Pathway expression profiles could recur across diverse cell types

A

Receptor expression profiles



B

Pathway profiles could be...

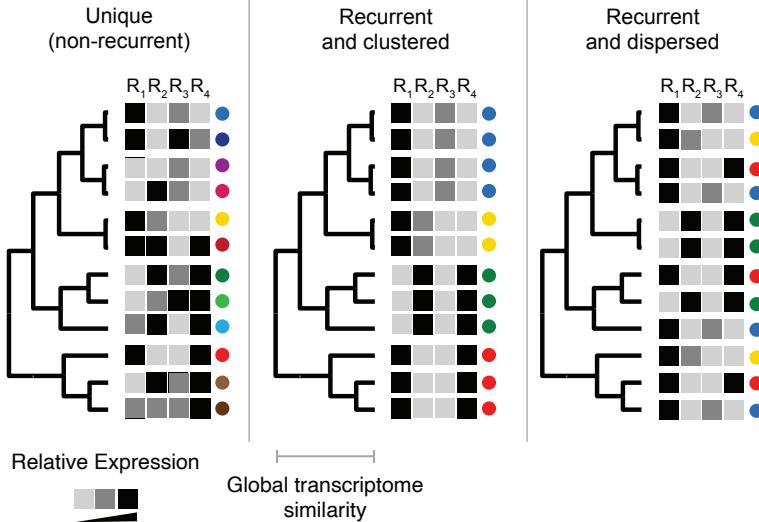
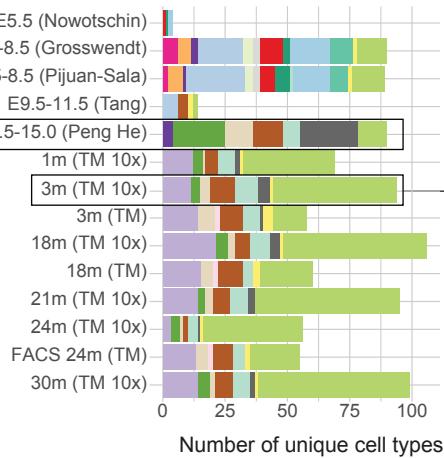


Figure 2: Pathway expression profiles could recur across diverse cell types

A

Multiple mouse cell atlas datasets

Development  
Adult  
Aging



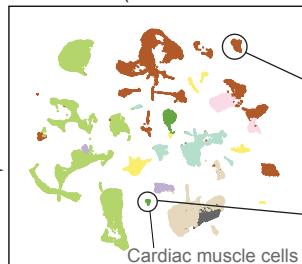
Cell type class

- Blood
- Epiblast
- Mesenchymal
- Brain/Neurons
- Epithelium
- Mesoderm
- Connective
- Ex Ectoderm
- Gut
- Endoderm
- Muscle
- Ectoderm
- Heart
- Keratinocyte
- Organ specific
- Endothelial
- Primitive streak
- Spinal cord

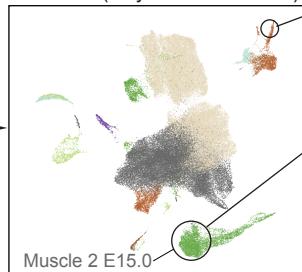
B

Individual cell atlases  
Single-cell transcriptome profiles  
1 dot = 1 cell

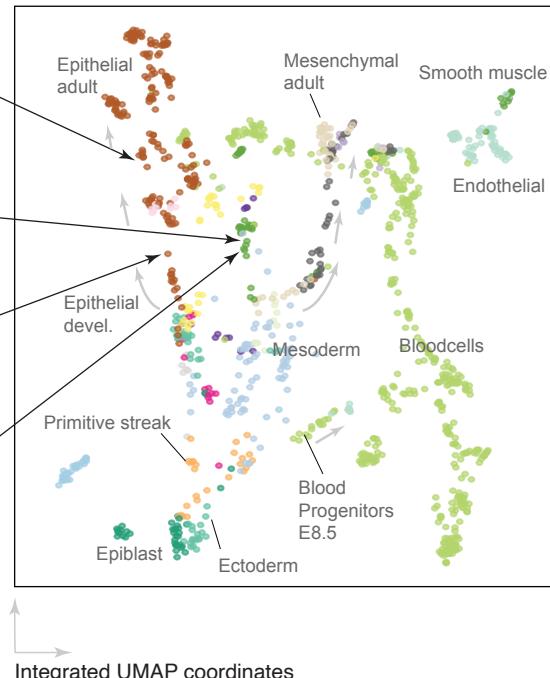
Tabula muris (3 month old mouse)



Forelimb (Days E10.5 - E15.0)



Integrated cell state atlas  
Global cluster-averaged profiles  
All data sets in (C)  
1 dot = 1 cell cluster

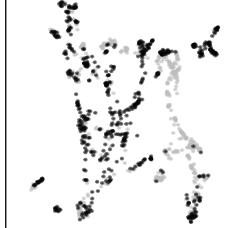


Dataset UMAP coordinates

Integrated UMAP coordinates

C

TGF- $\beta$   
52% of cell clusters



Min. # of genes exp: 2  
Threshold for exp.: 0.2

Notch  
37% of cell clusters



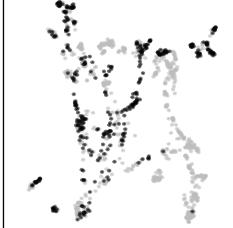
Min. # of genes exp: 2  
Threshold for exp.: 0.2

Eph-ephrin  
36% of cell clusters



Min. # of genes exp: 2  
Threshold for exp.: 0.3

Wnt  
31% of cell clusters

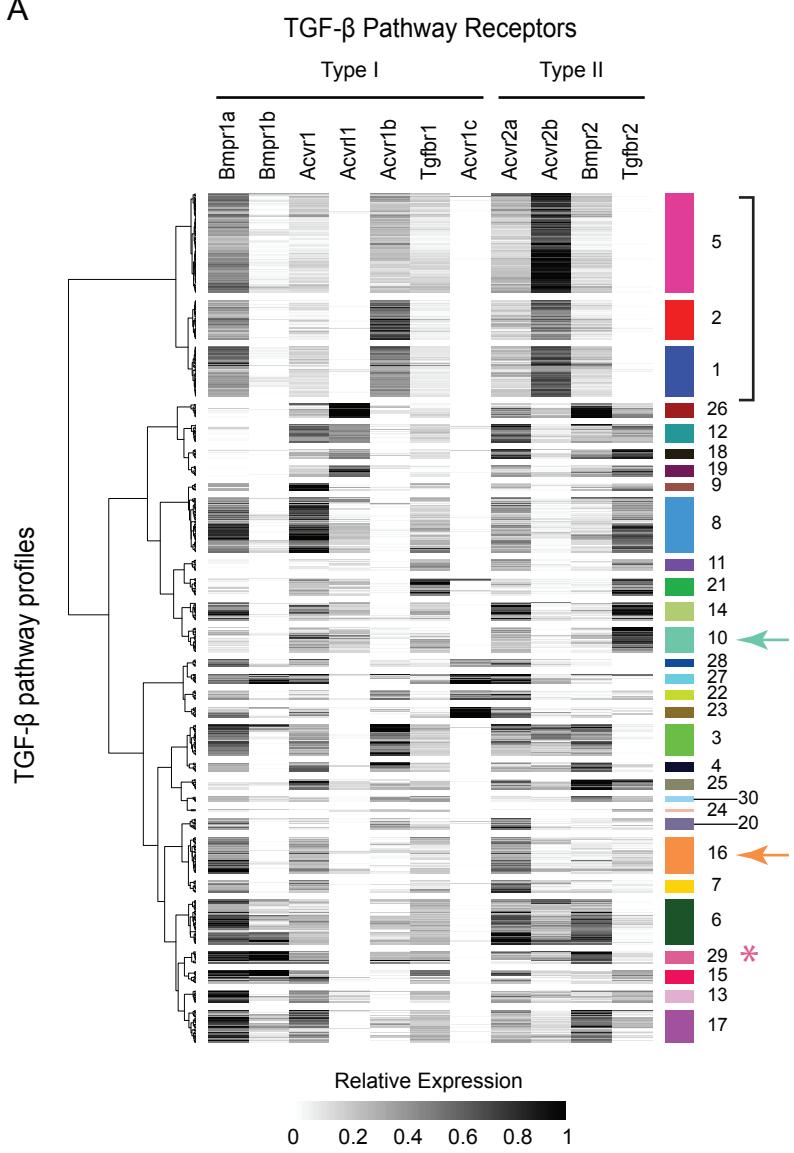


Min. # of genes exp: 2  
Threshold for exp.: 0.3

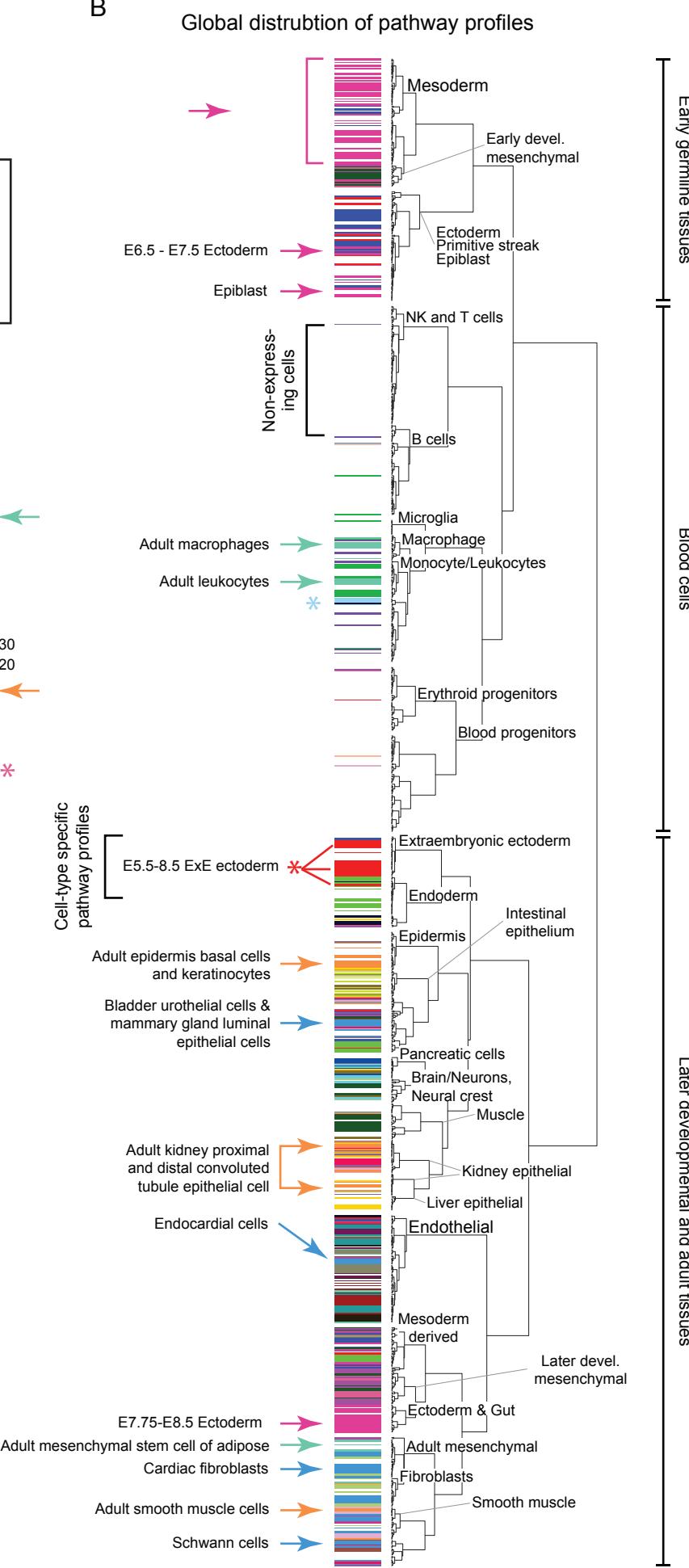
Dataset UMAP coordinates

Figure 3: TGF- $\beta$  Receptors exhibit distinct and recurrent pathway expression profiles

A



B



C

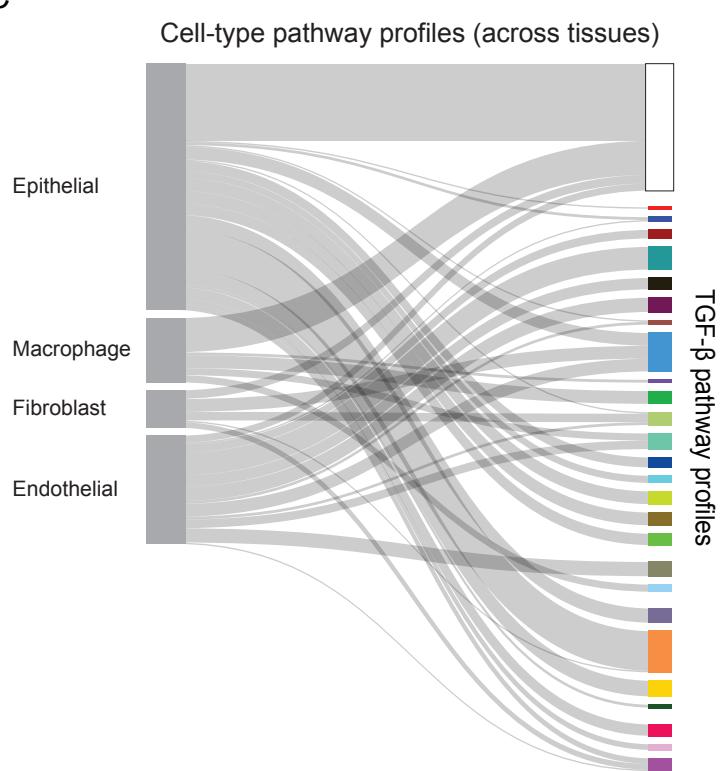


Figure 4: TGF- $\beta$  expression motifs are dispersed across cell types and organs

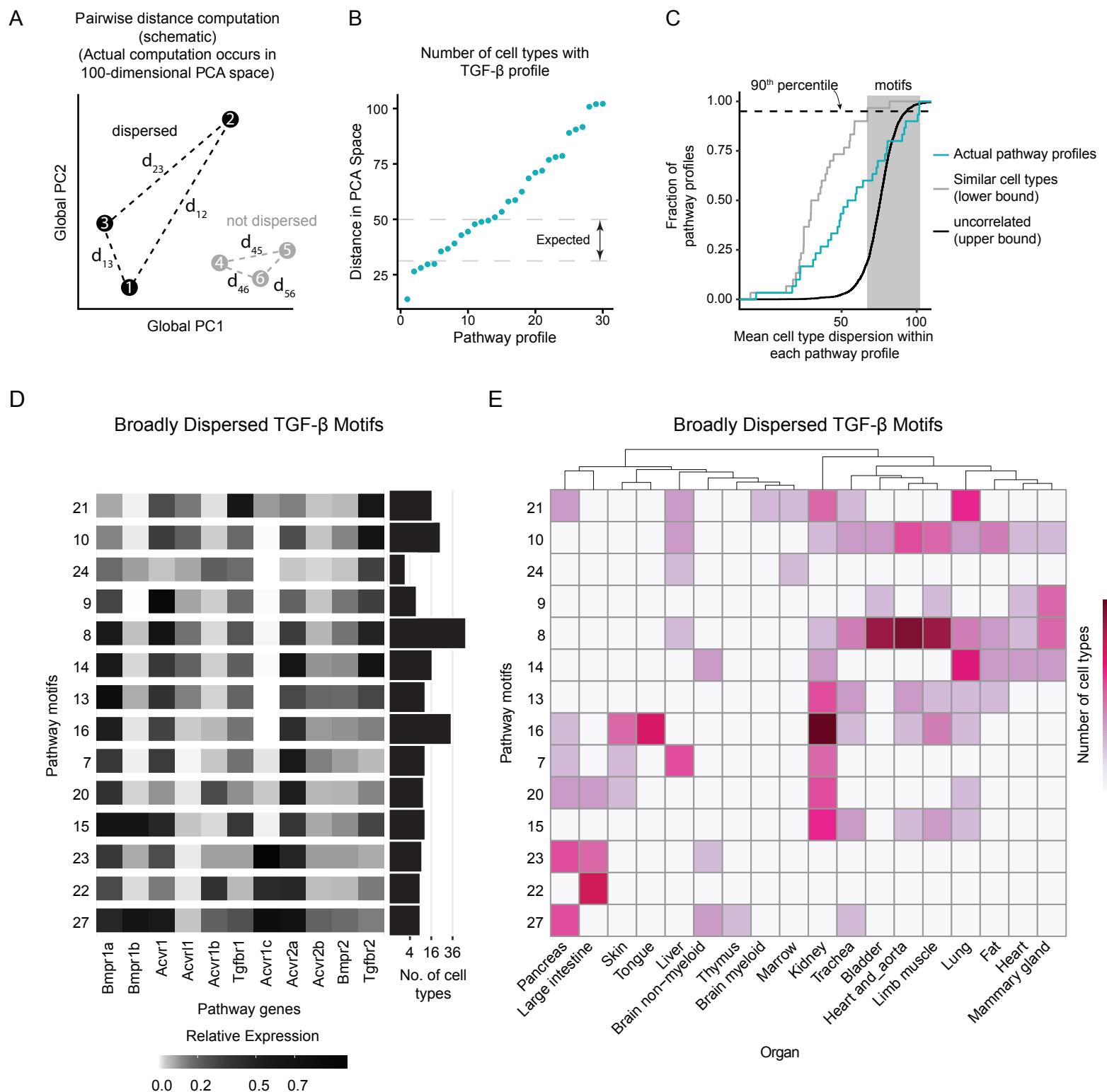


Figure 5: Other signaling pathways also exhibit recurrent expression profiles

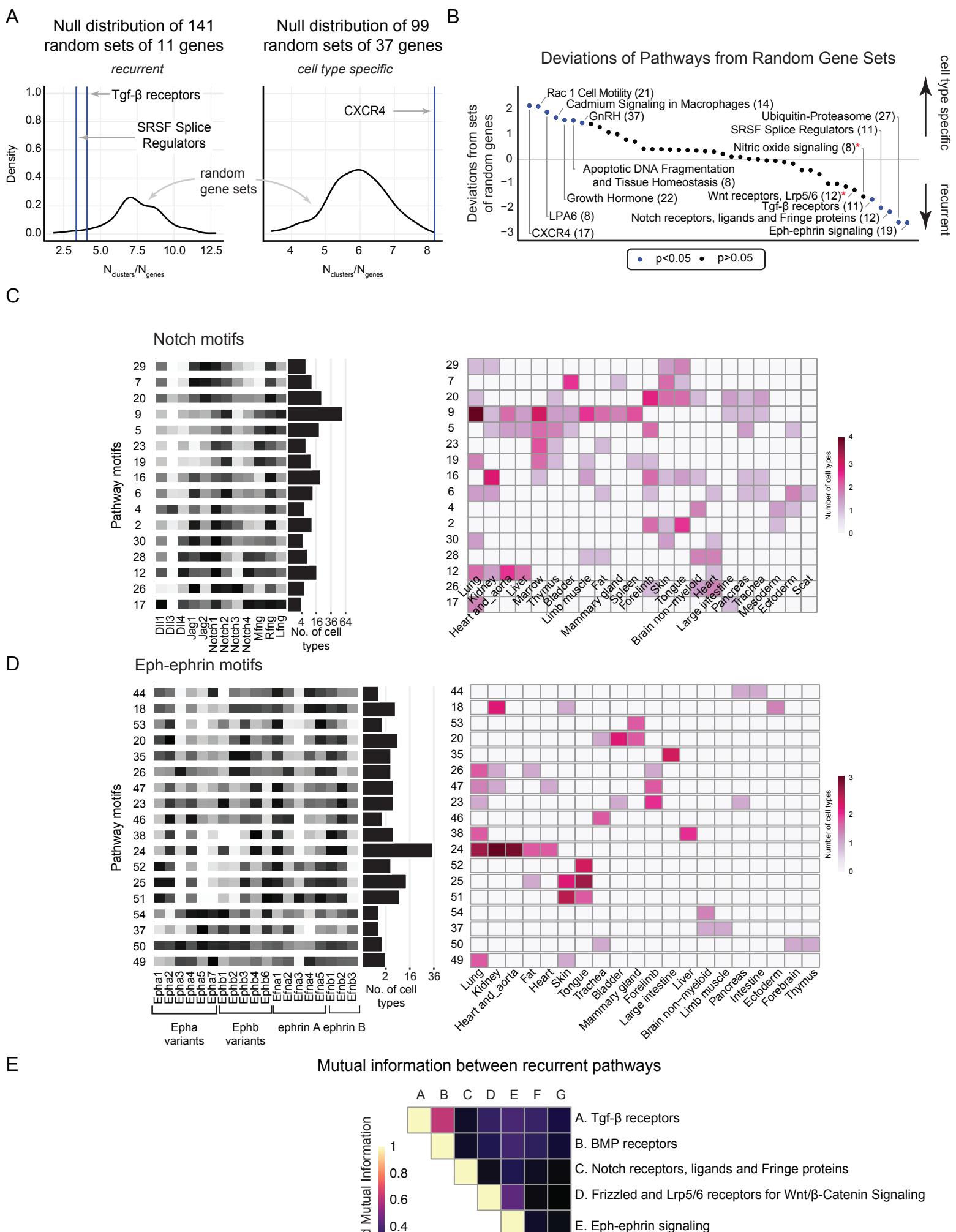


Figure 6: Title

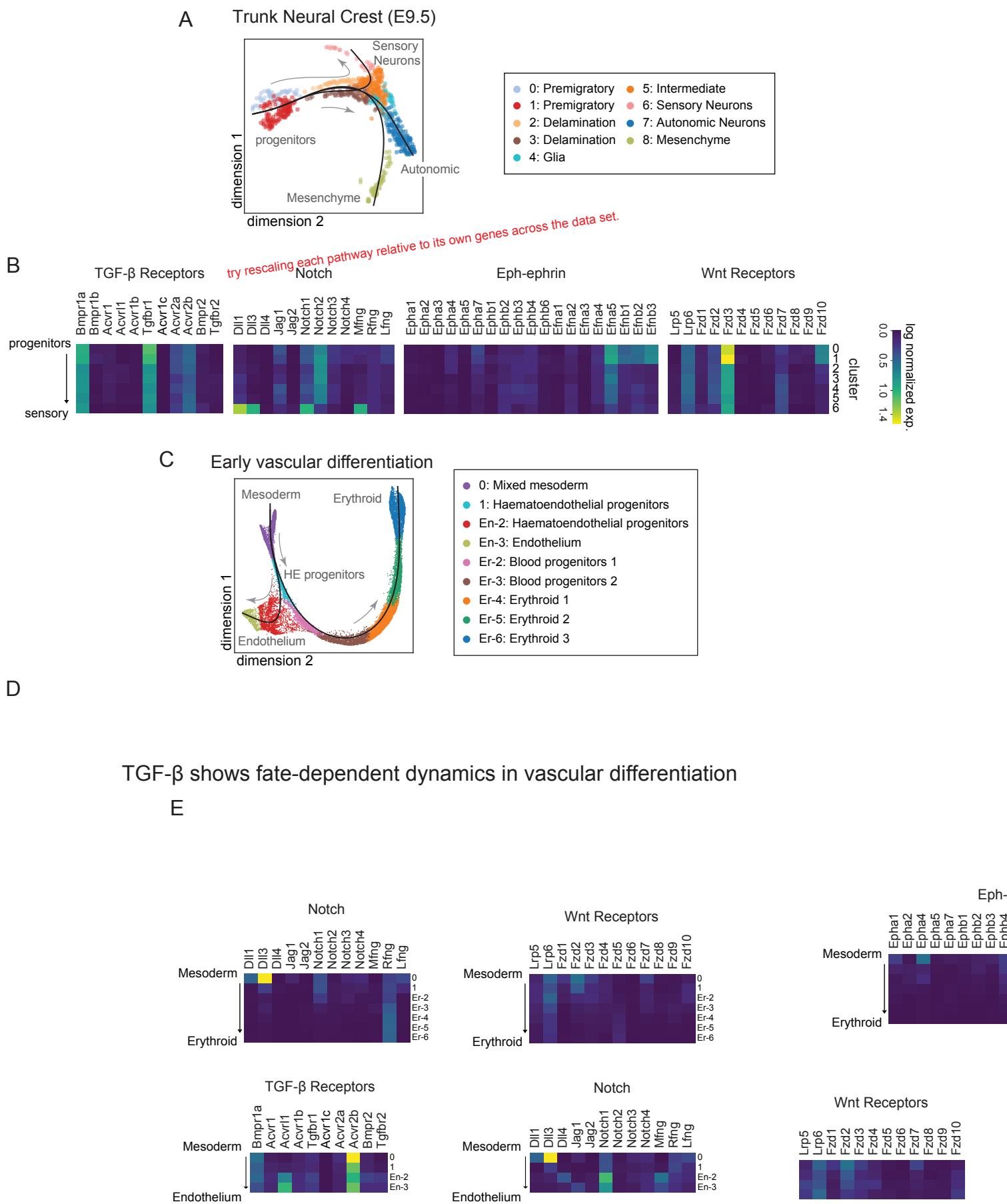
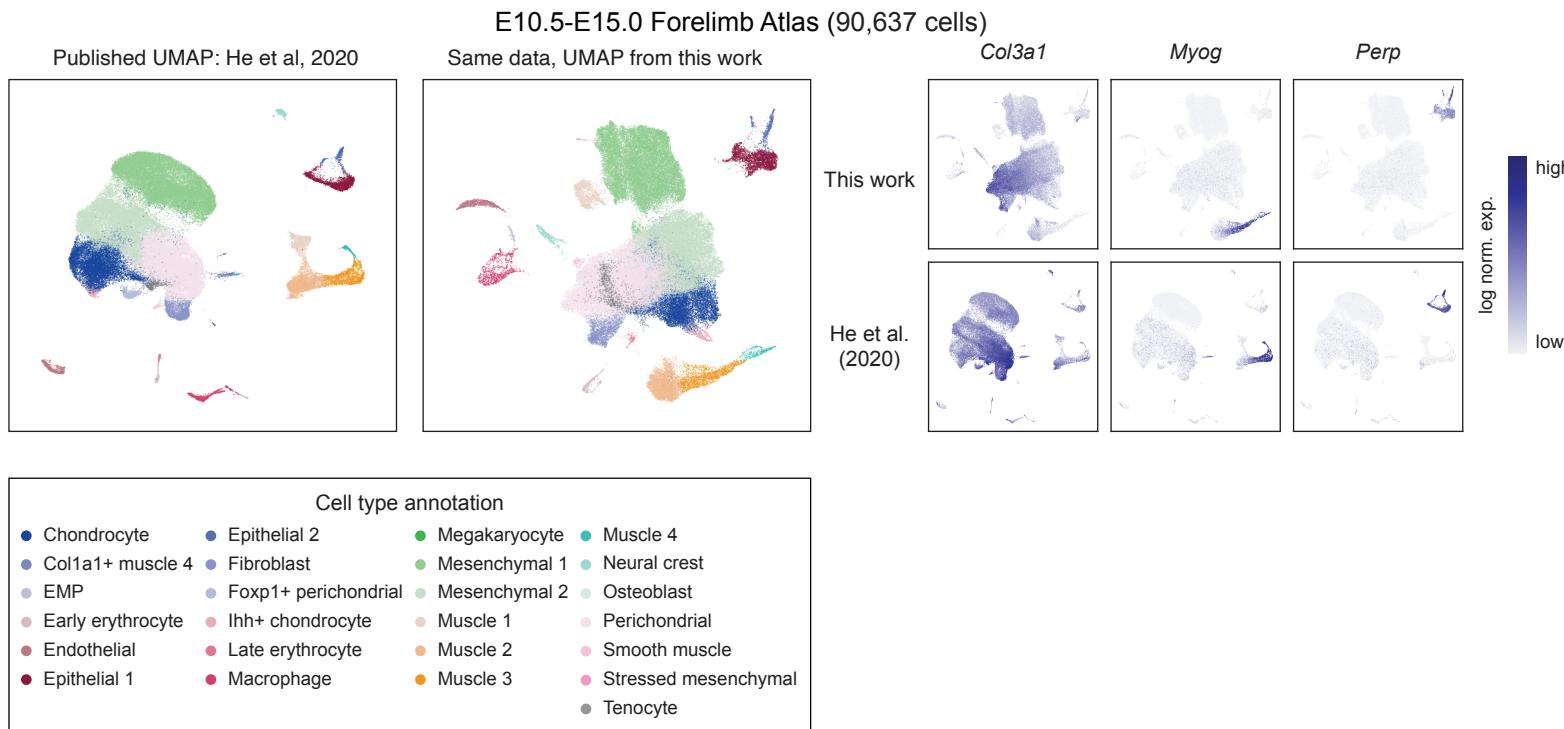
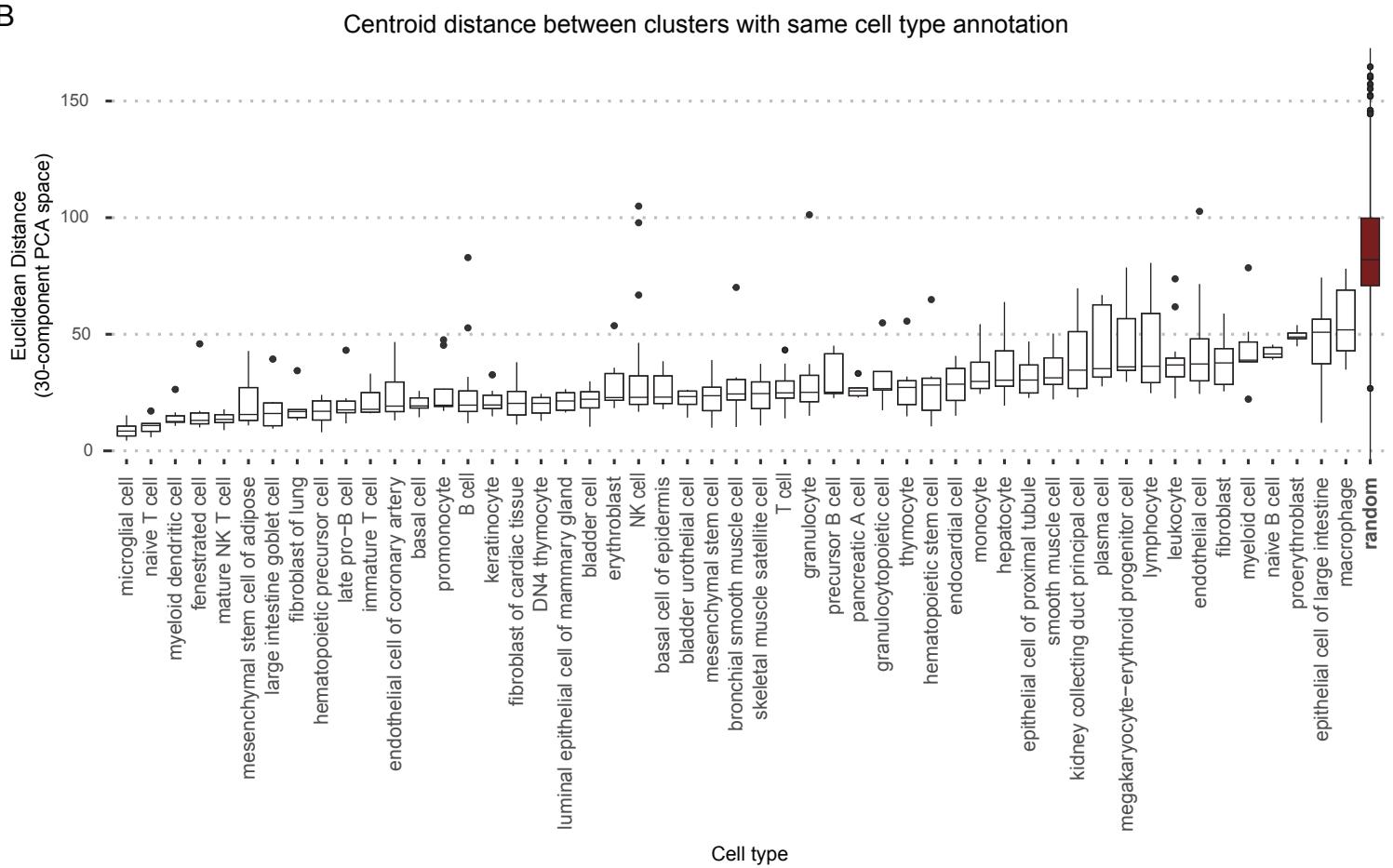


Figure 2, Supplement 1

A



B



C

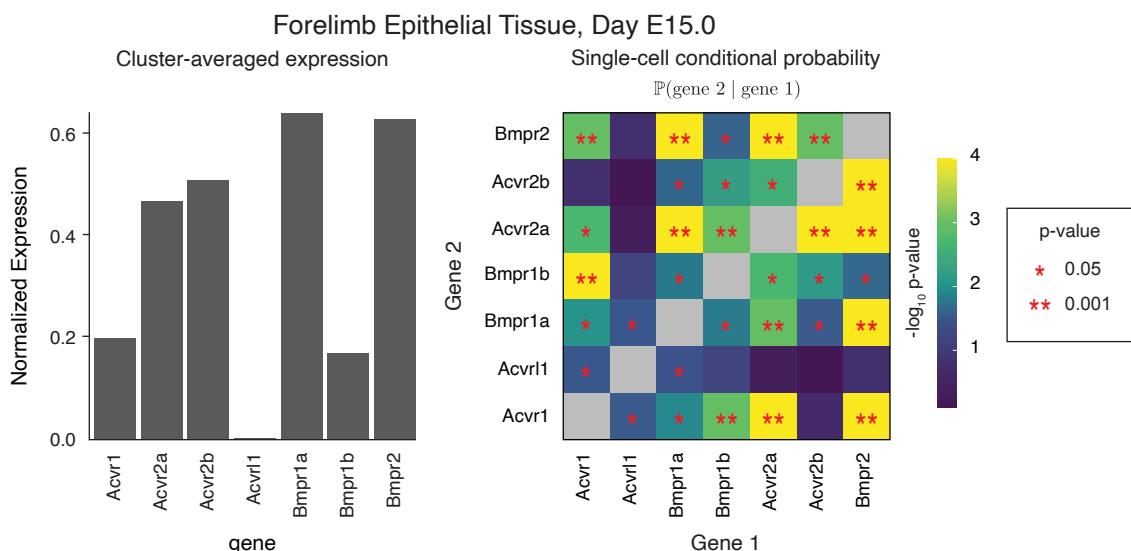
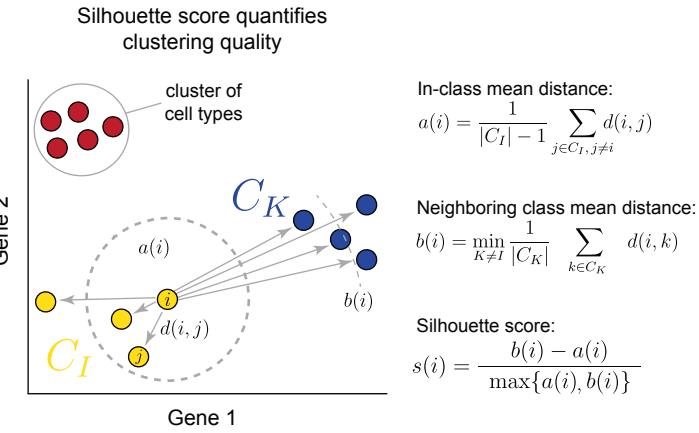


Figure 3-figure supplement 2

A



B

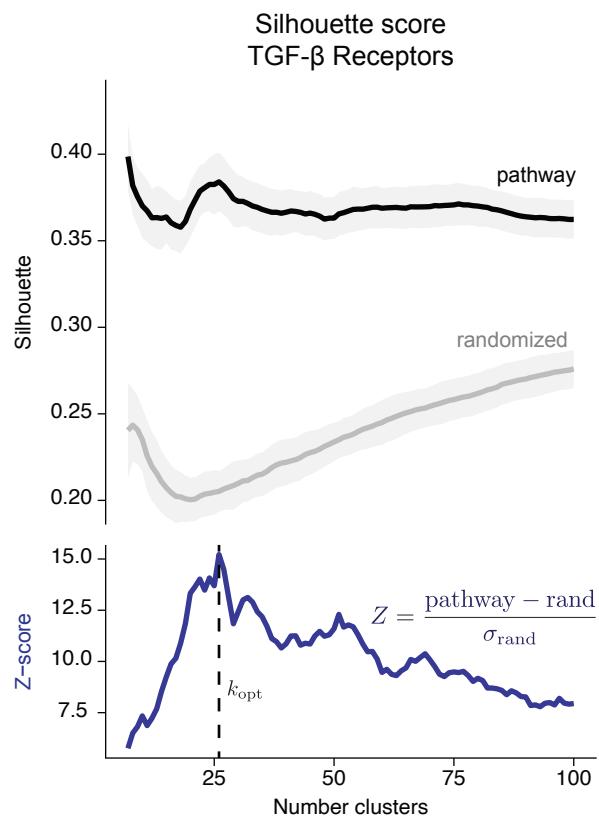
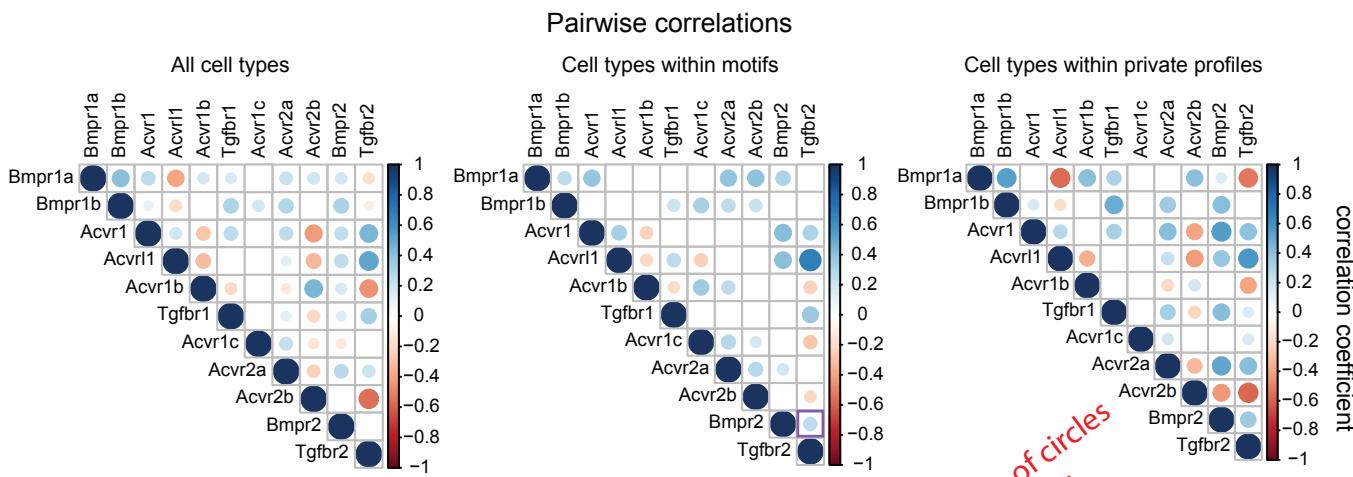
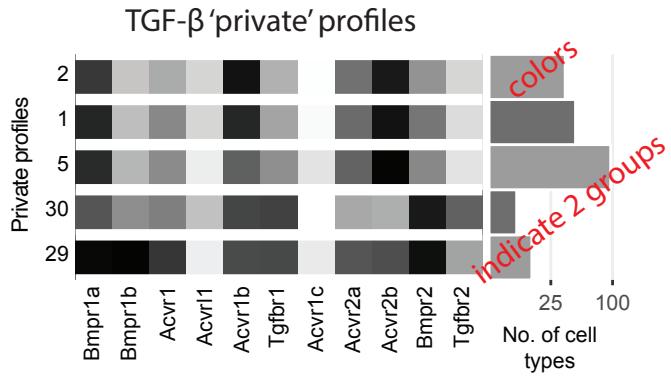


Figure 4, Supplement 1

A



B

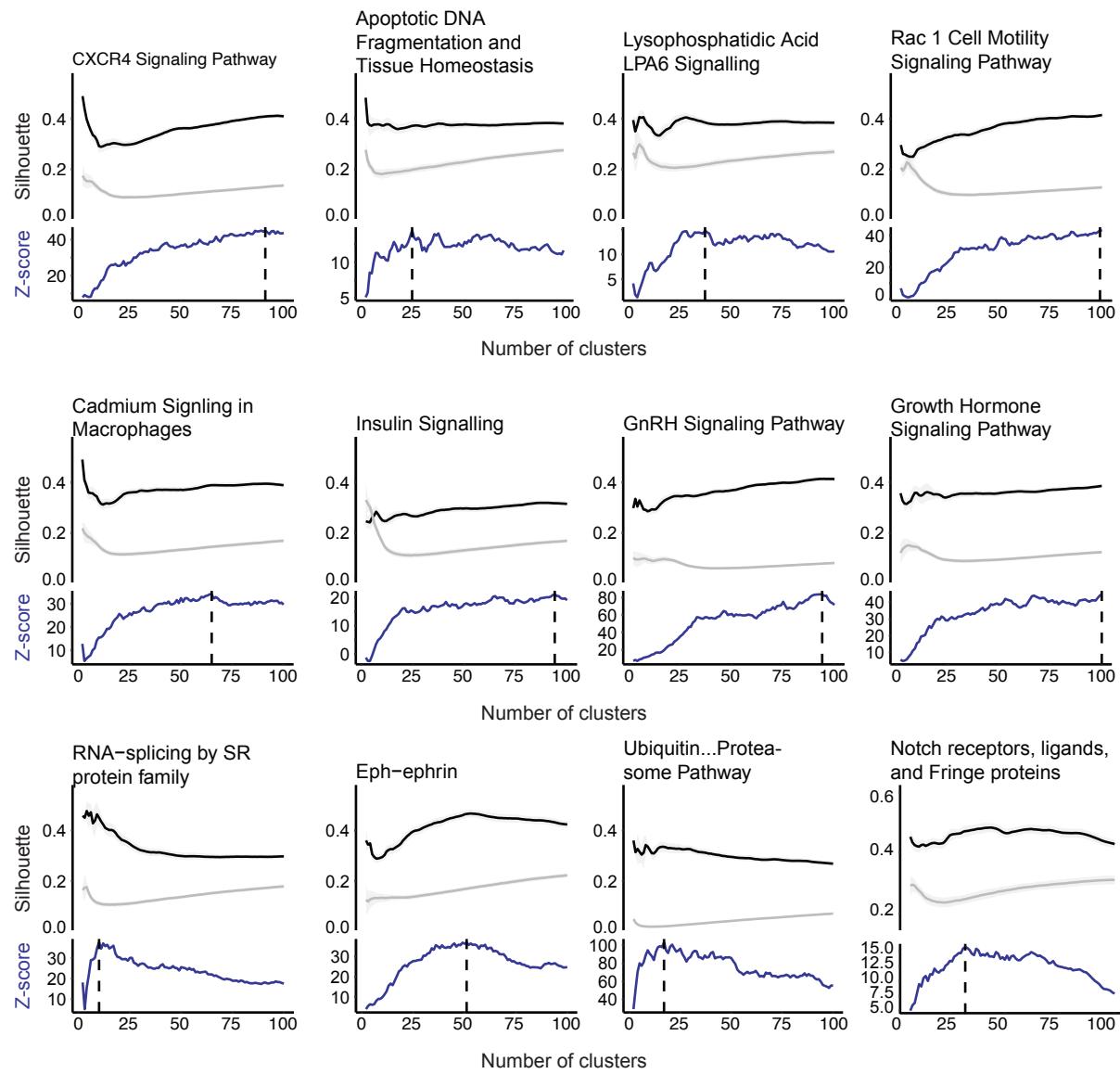


legend for sizes of circles  
and colors of circles

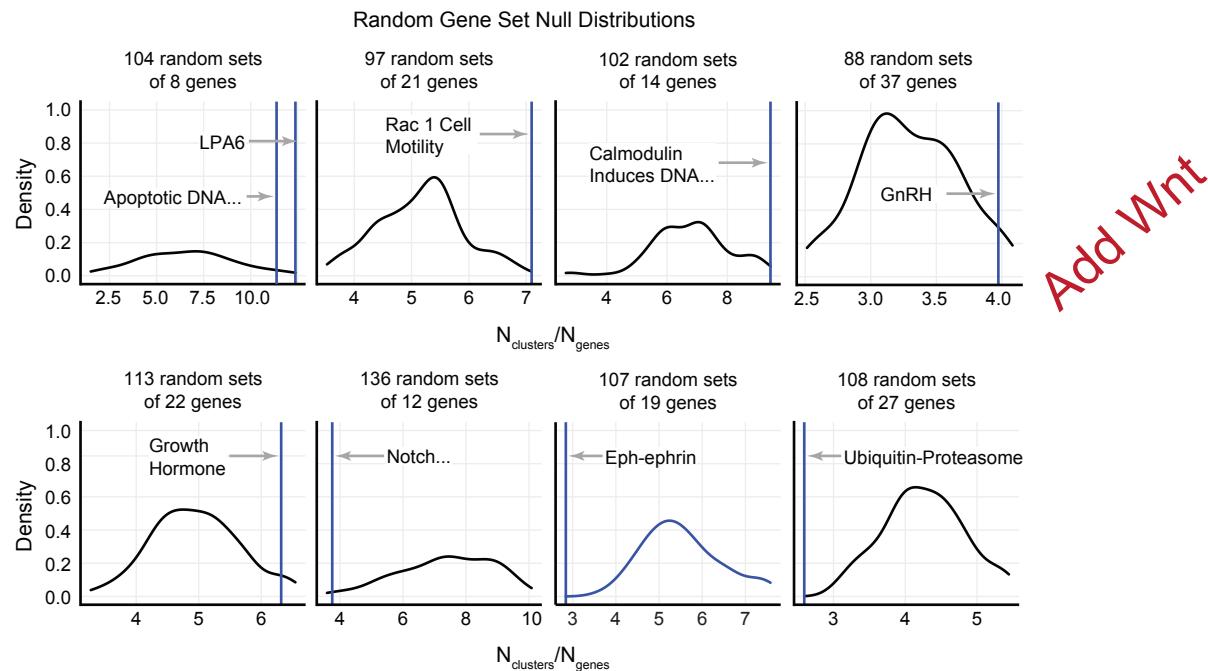
correlation coefficient

Figure 5—figure supplement 1

A

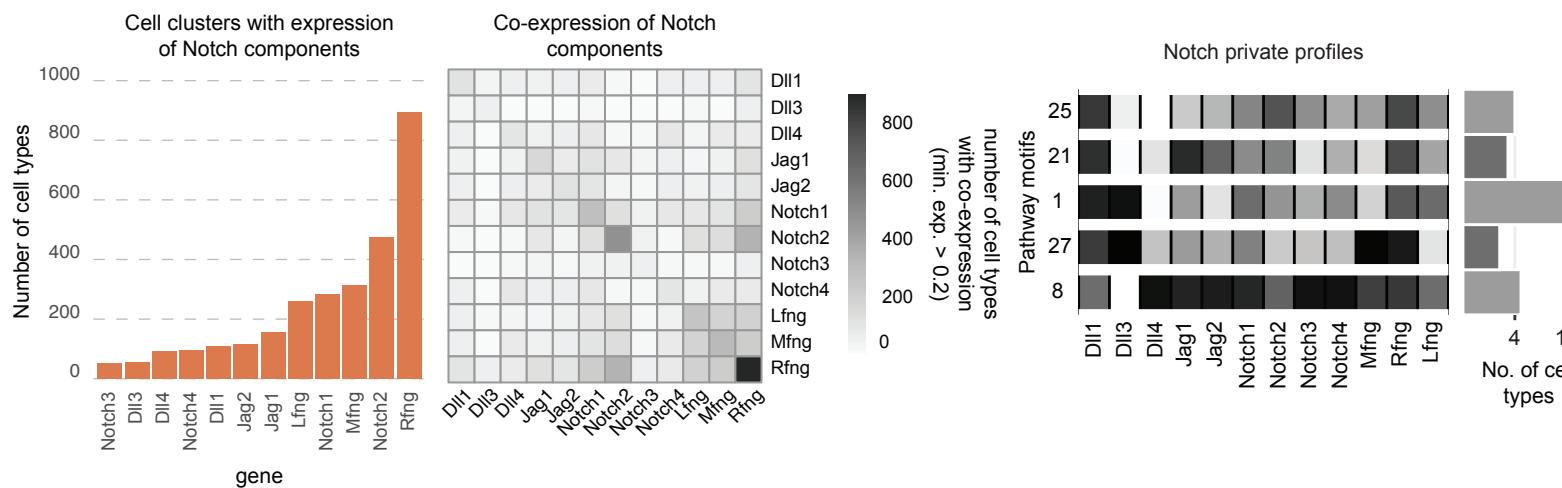


B

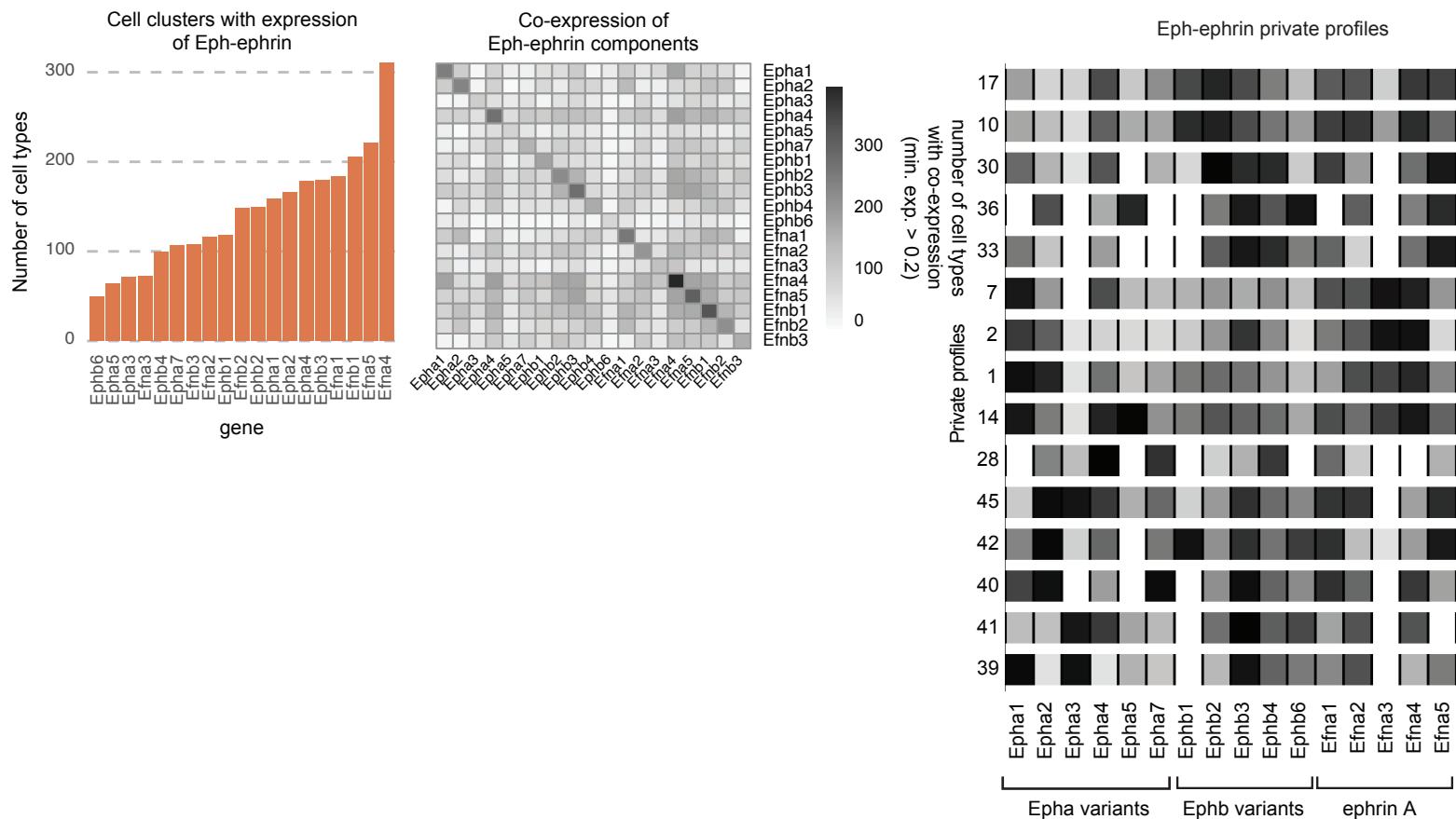


## Figure 5–figure supplement 2

A



B



C

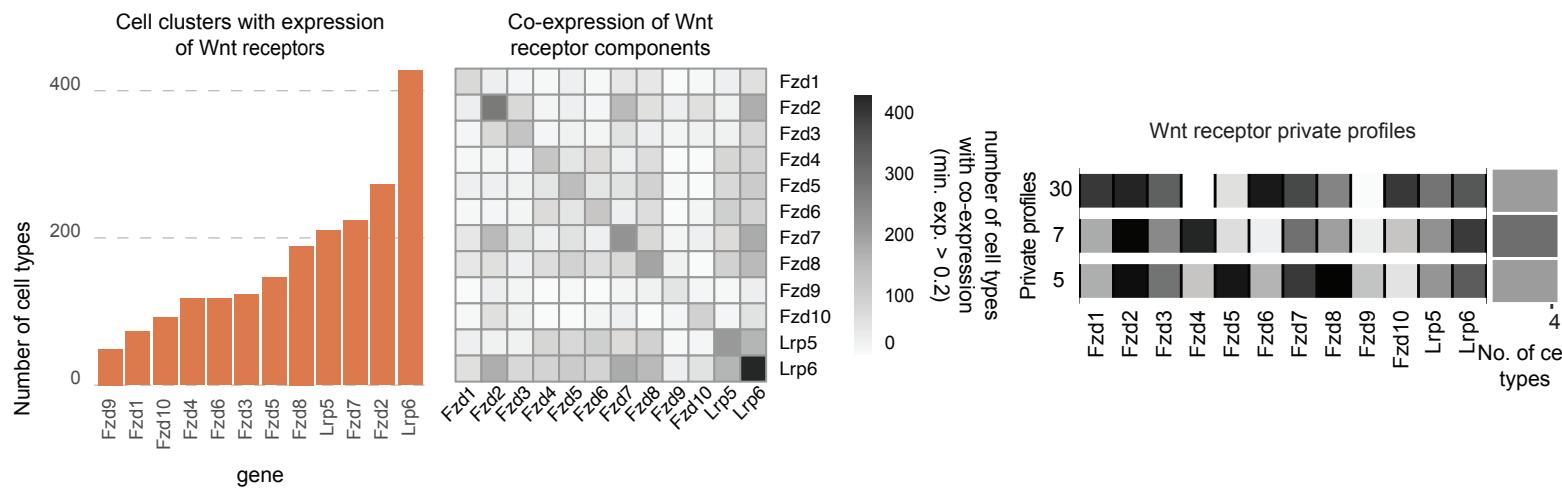


Figure 3, Supplement 1

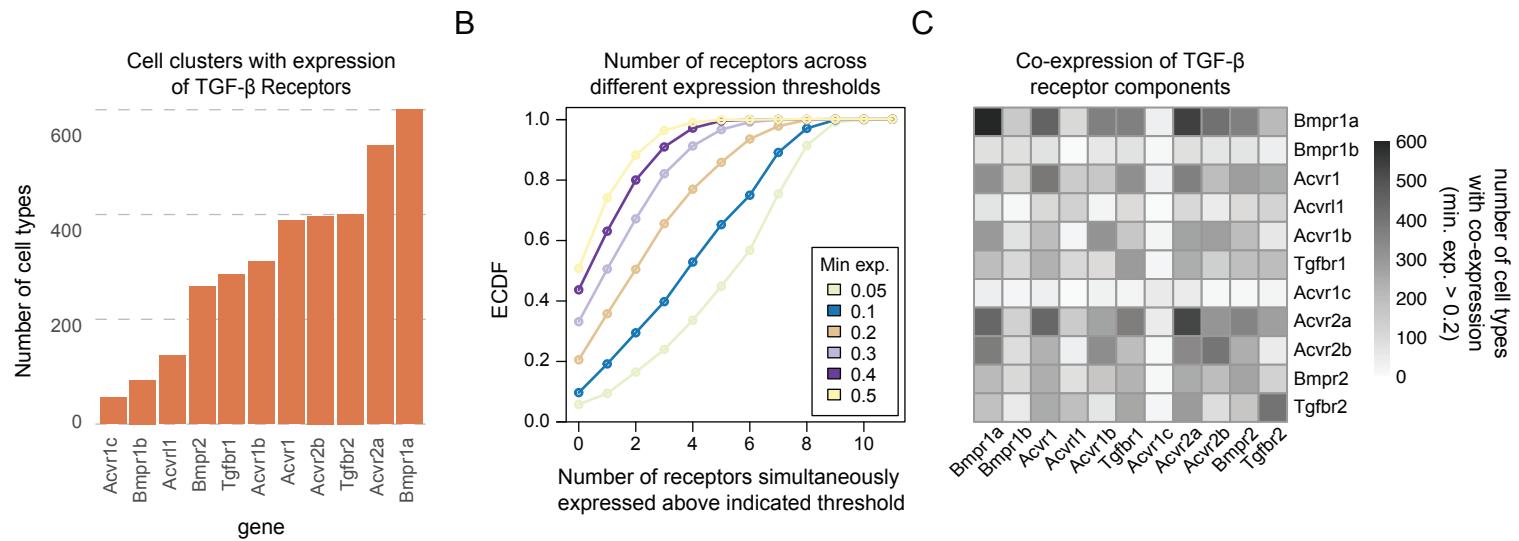
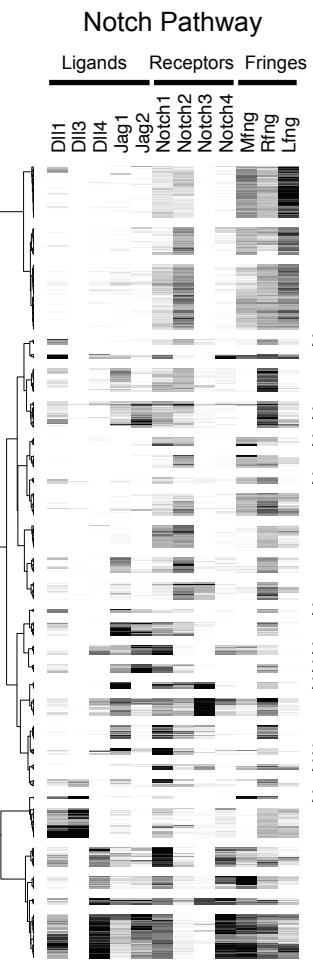
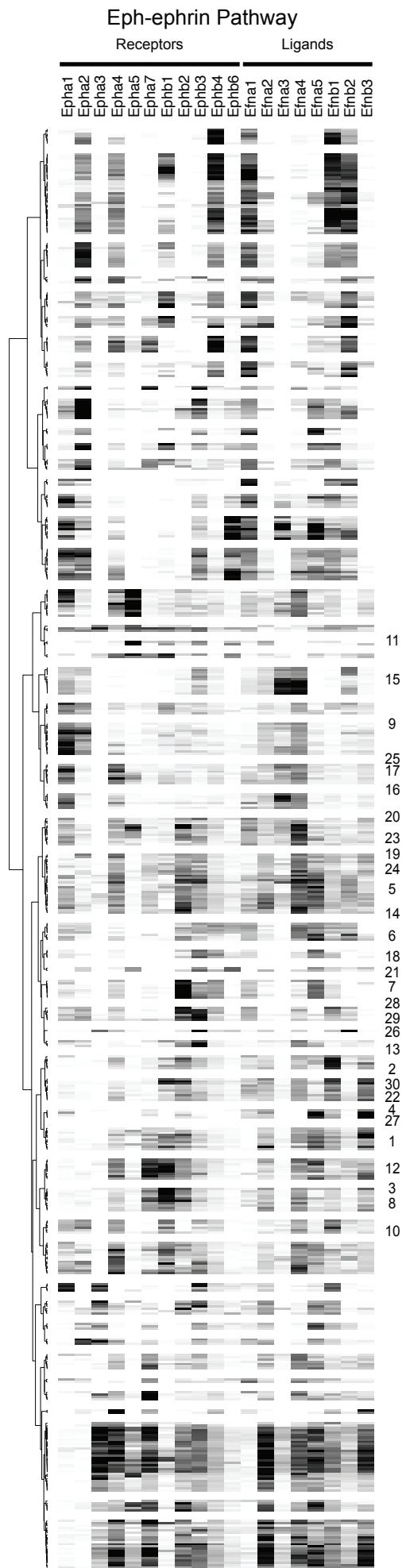


Figure 5—figure supplement 3

A



B



C

