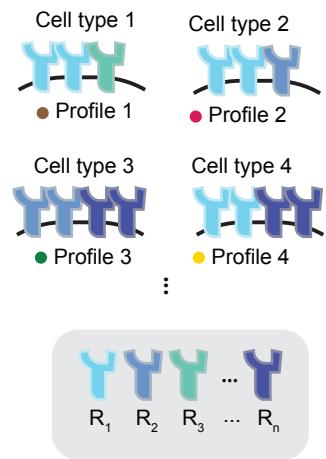


Figure 1: Pathway expression profiles could recur across diverse cell types

A

Receptor expression profiles



B

Pathway profiles could be...

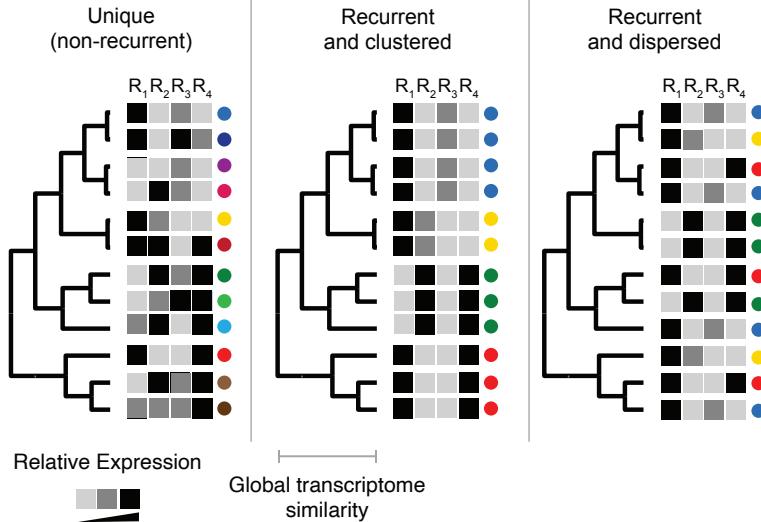
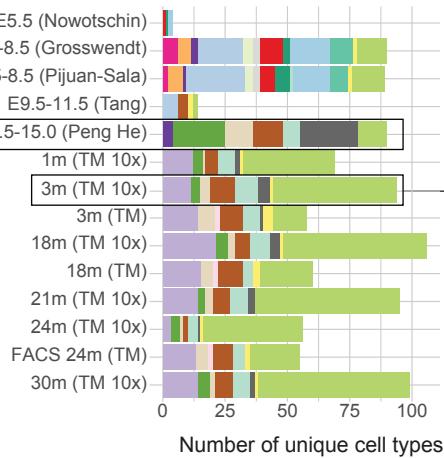


Figure 2: Pathway expression profiles could recur across diverse cell types

A

Multiple mouse cell atlas datasets

Development
Adult
Aging



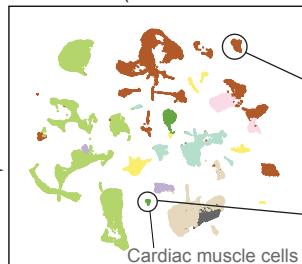
Cell type class

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

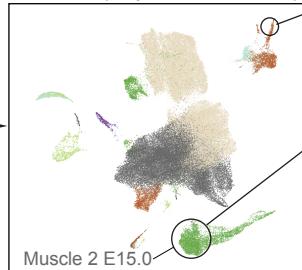
B

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

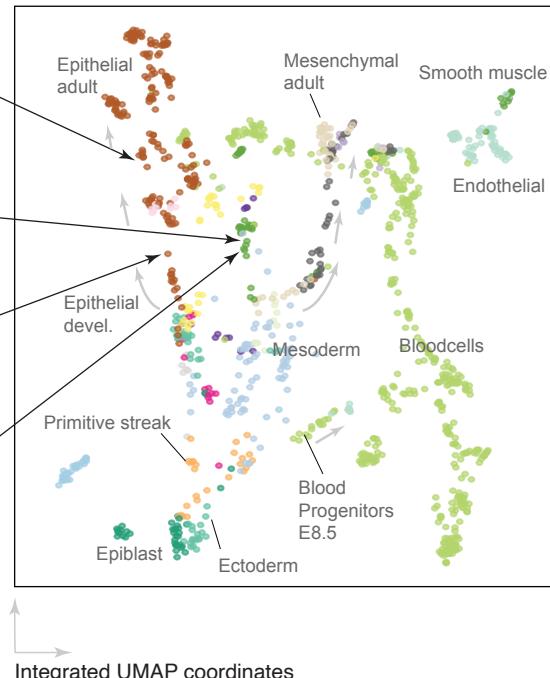
Tabula muris (3 month old mouse)



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

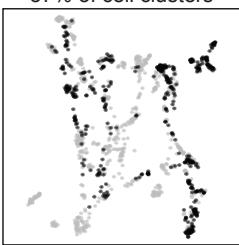
C

TGF- β
52% of cell clusters



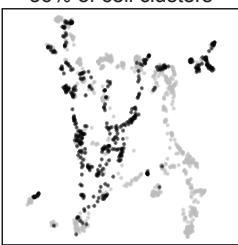
Min. # of genes exp: 2
Threshold for exp.: 0.2

Notch
37% of cell clusters



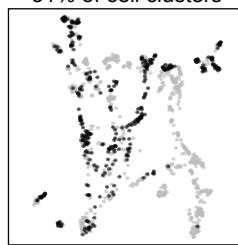
Min. # of genes exp: 2
Threshold for exp.: 0.2

Eph-ephrin
36% of cell clusters



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

Wnt
31% of cell clusters

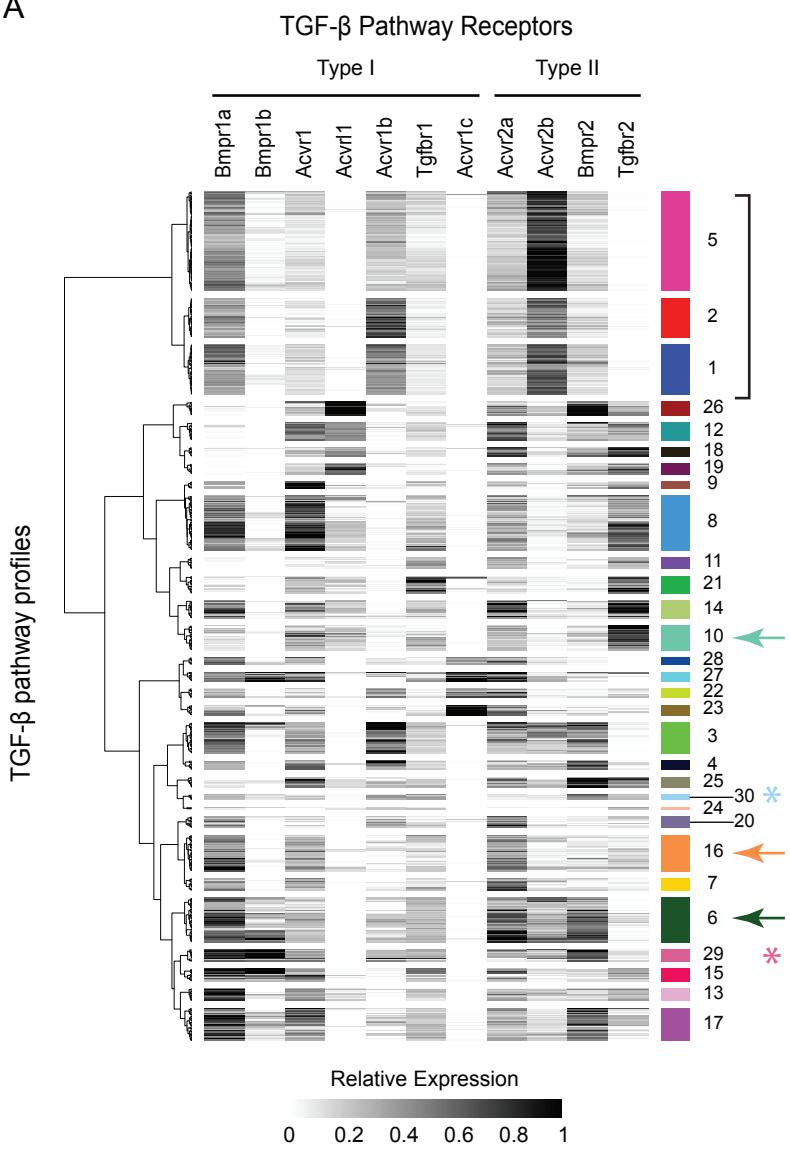


Min. # of genes exp: 2
Threshold for exp.: 0.3

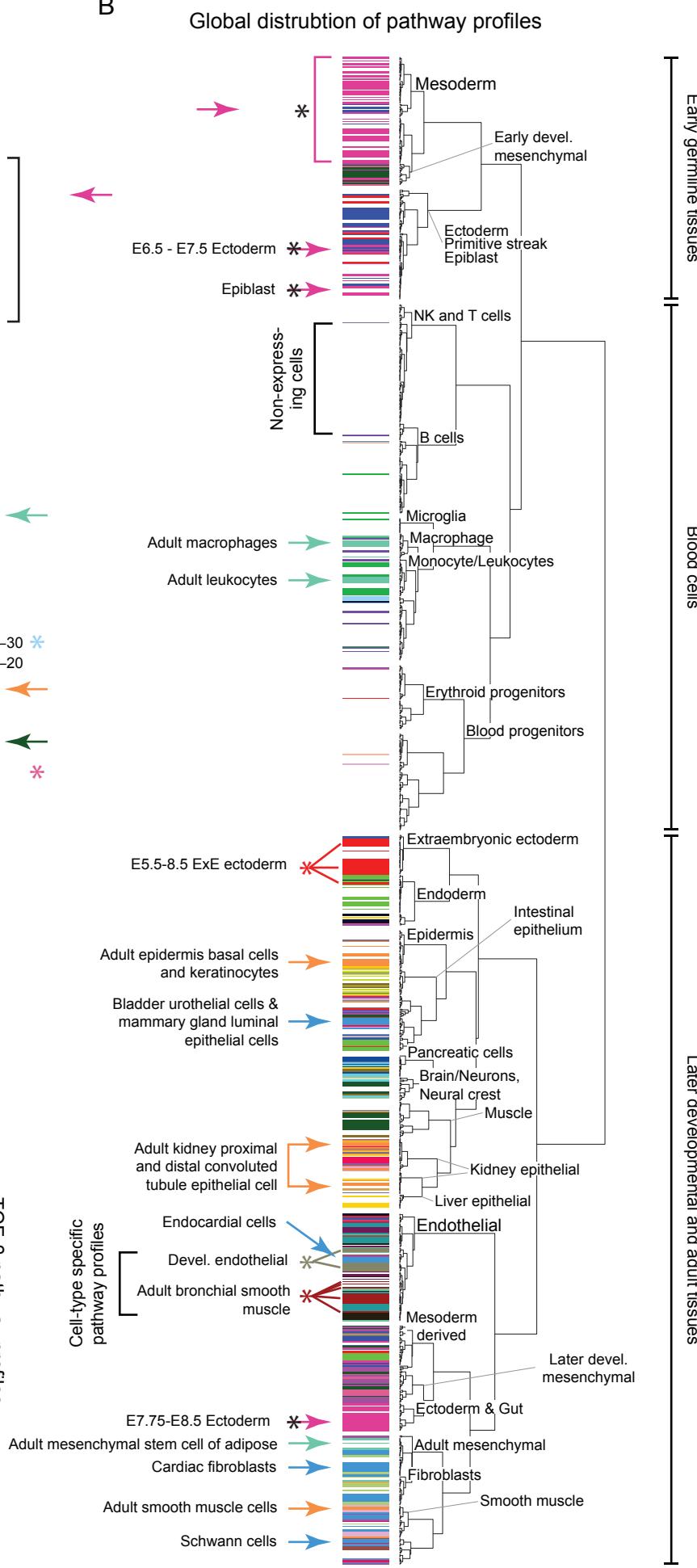
Dataset UMAP coordinates

Figure 3: TGF- β Receptors exhibit distinct and recurrent pathway expression profiles

A



B



C

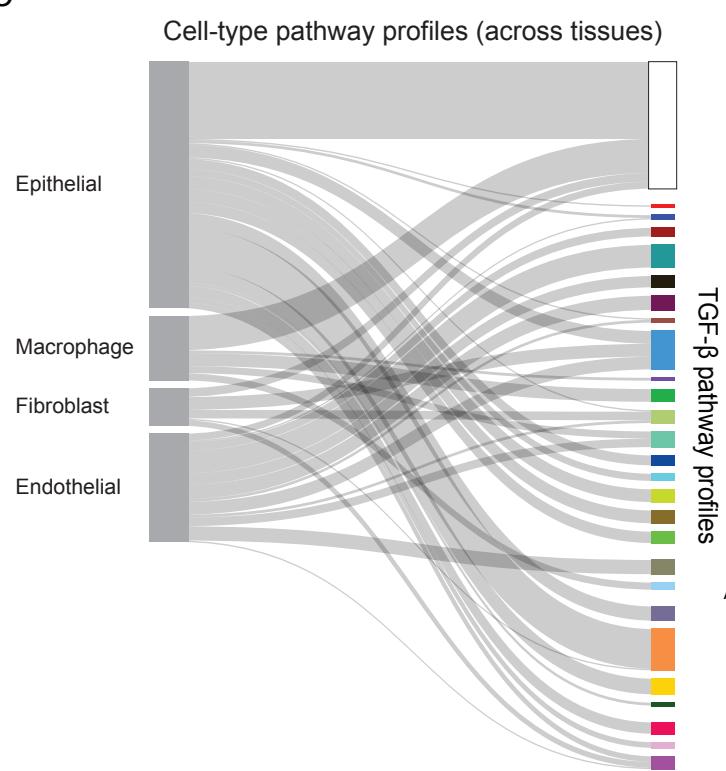


Figure 4: TGF- β expression motifs are dispersed across cell types and organs

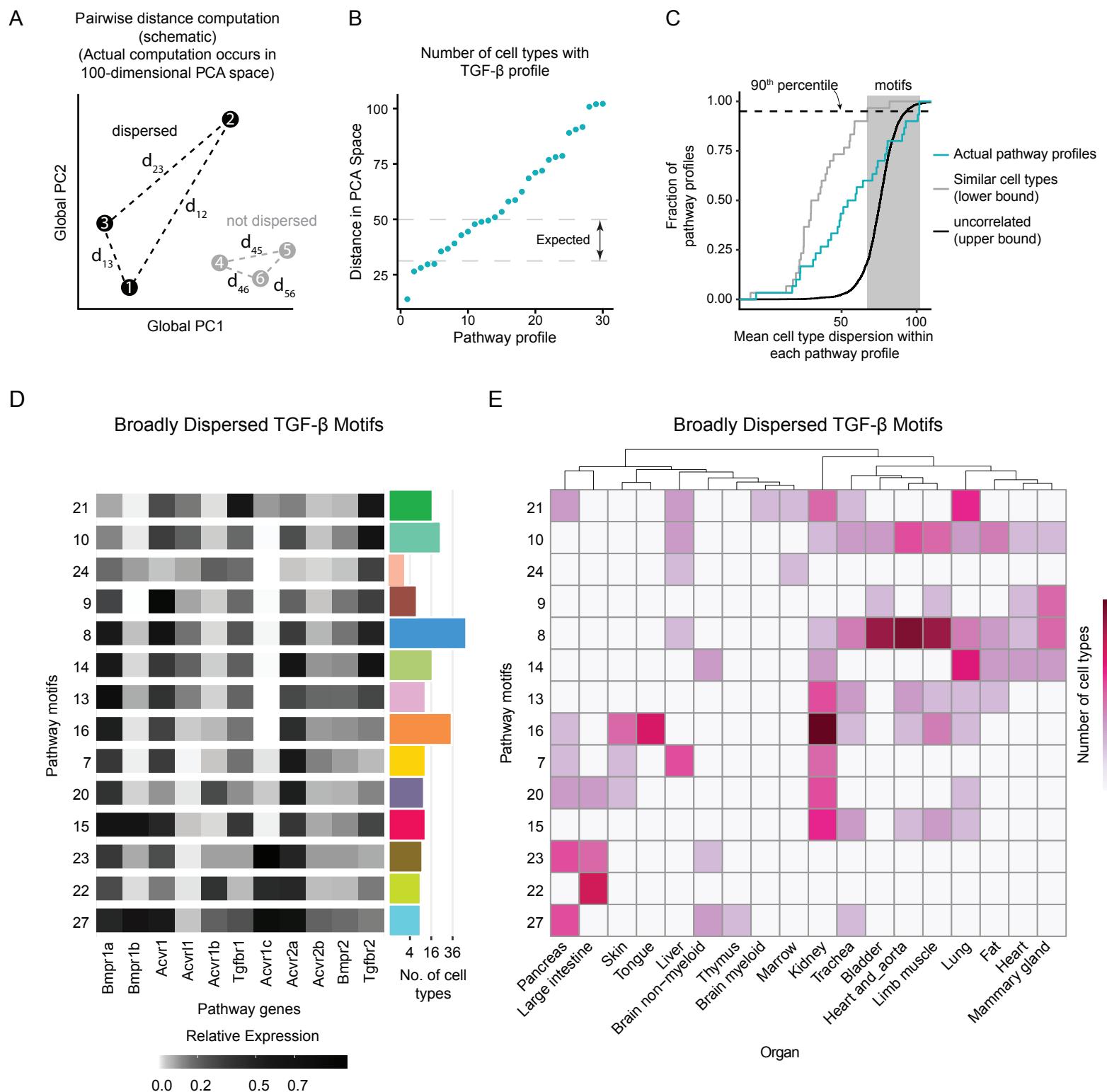
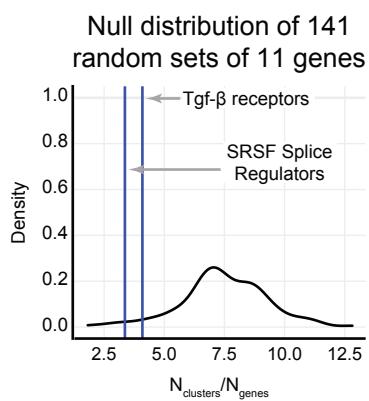


Figure 5: Wnt and Notch also show broadly dispersed recurrent pathway expression motifs

A



B

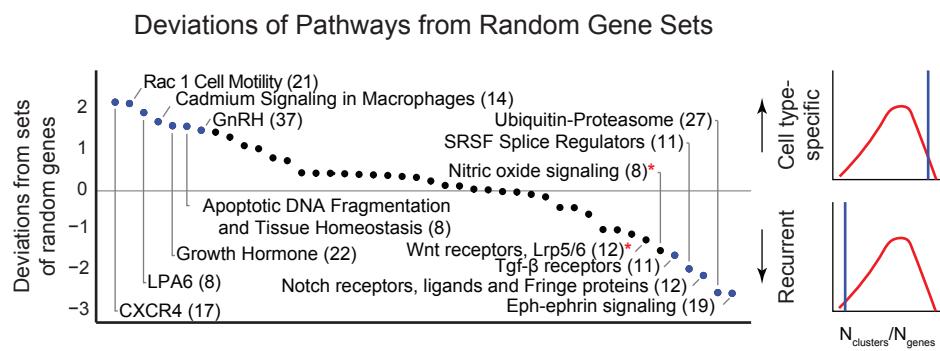
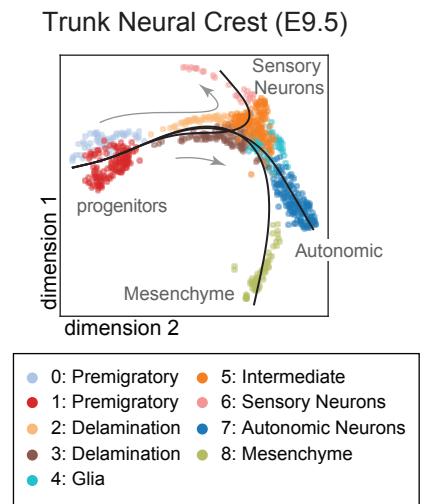


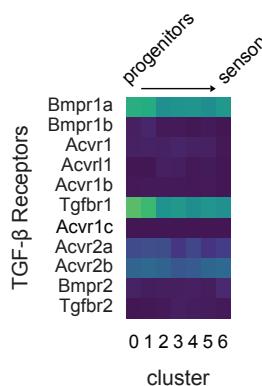
Figure 5:

Developmental signaling pathways show distinct dynamics in neural crest differentiation

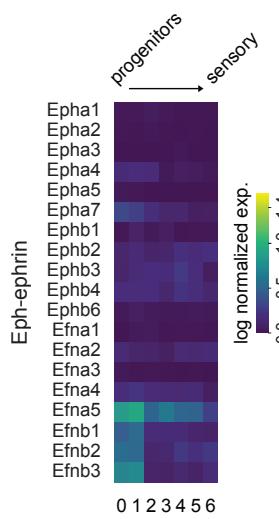
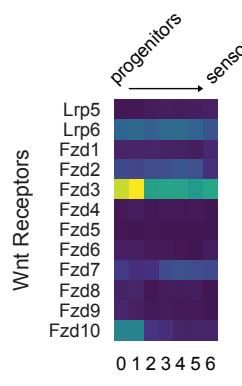
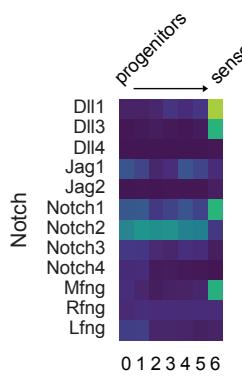
A



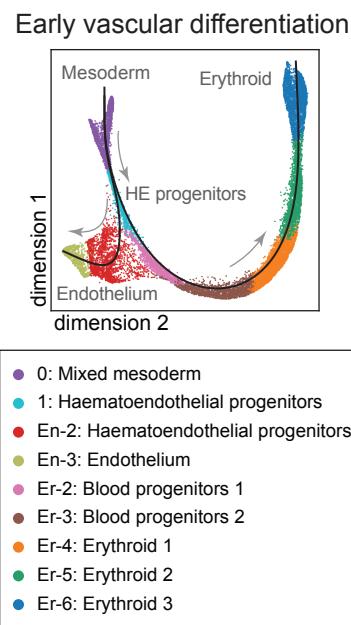
B



C



D



E

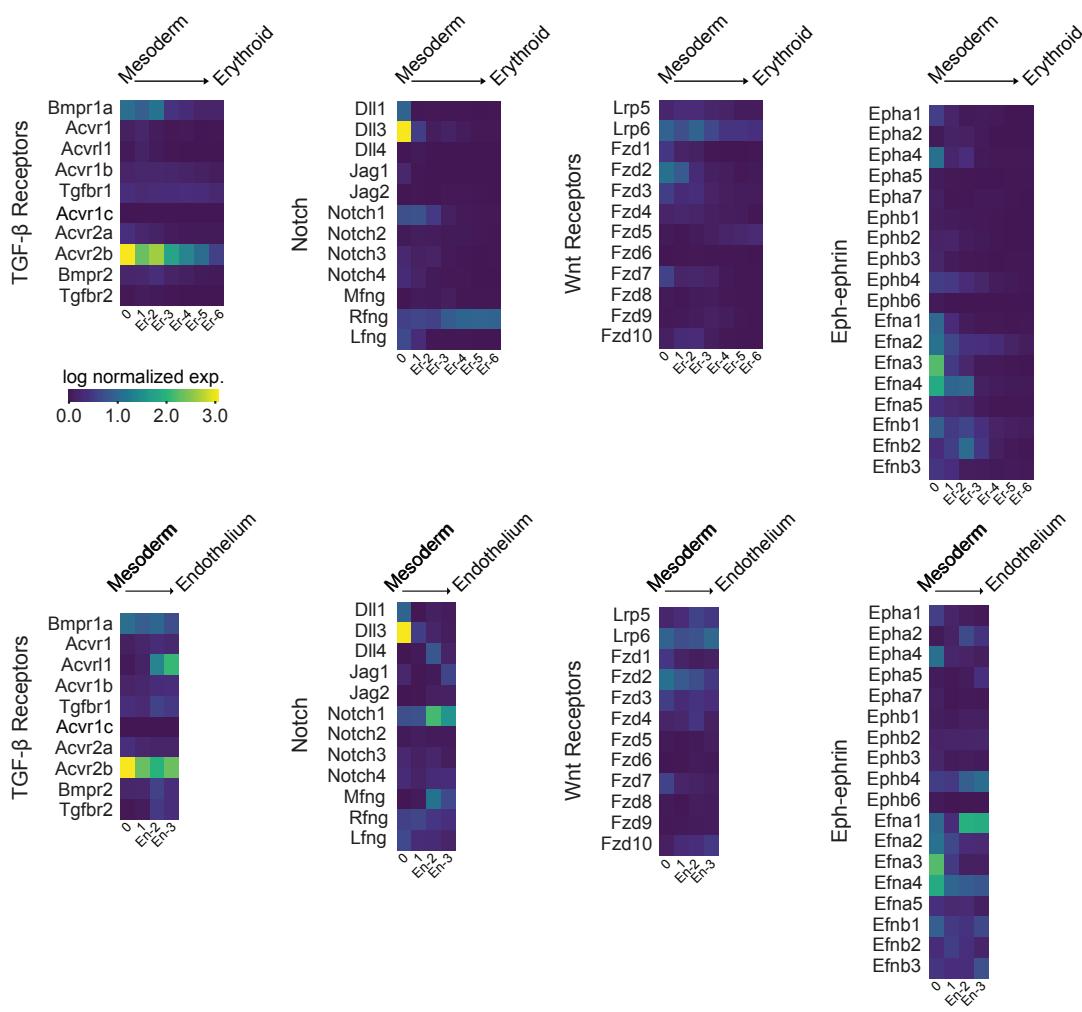
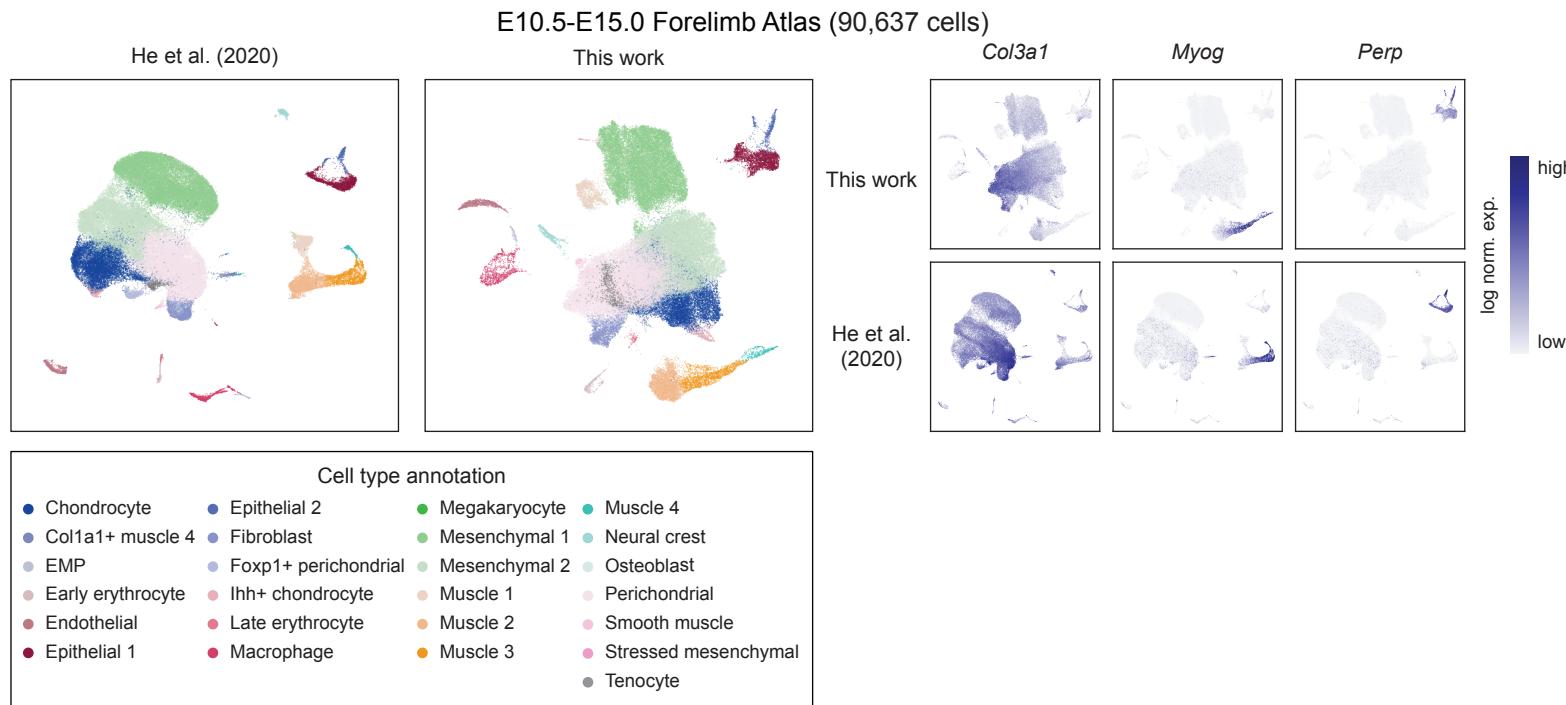
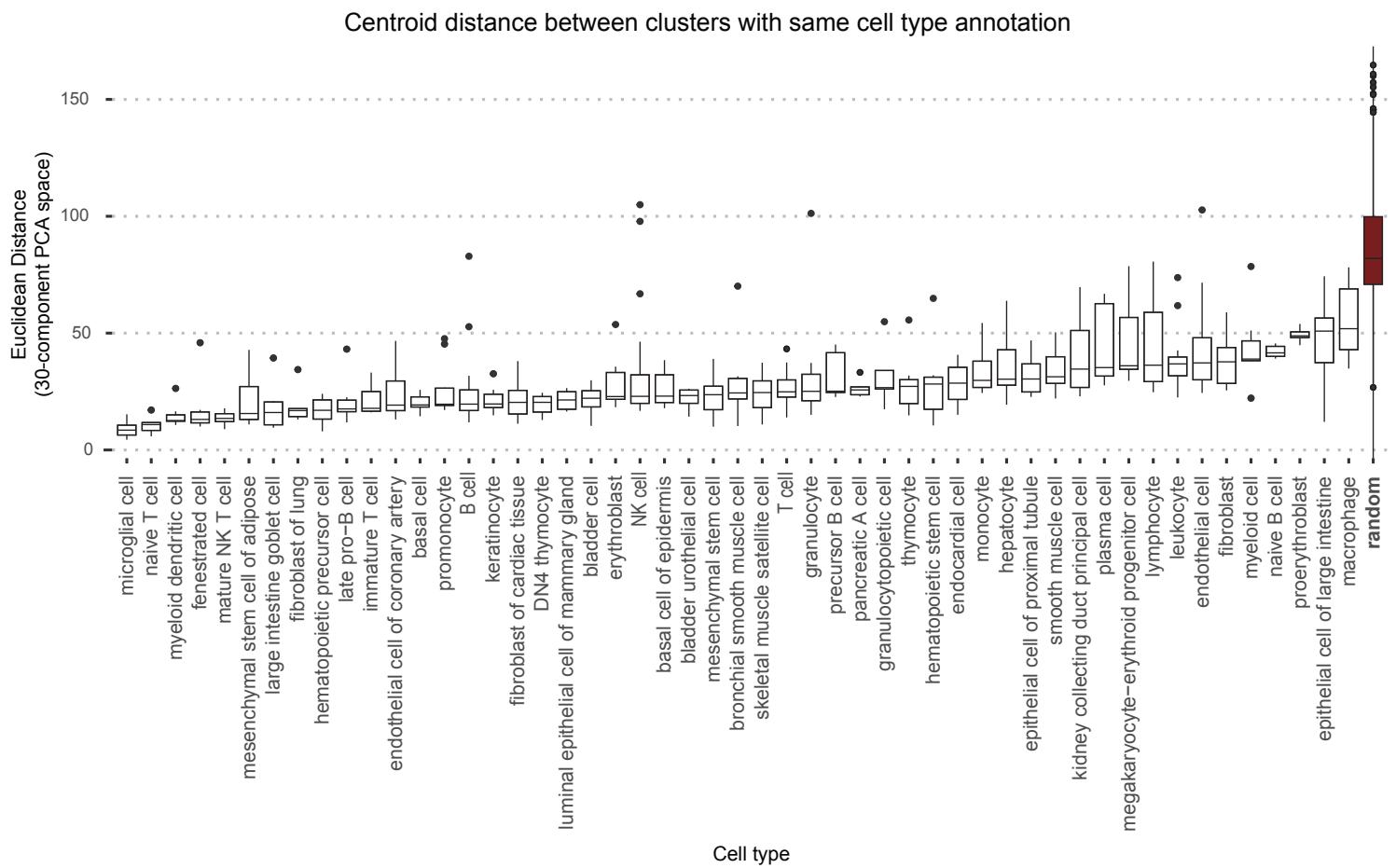


Figure 2, Supplement 1

A



B



C

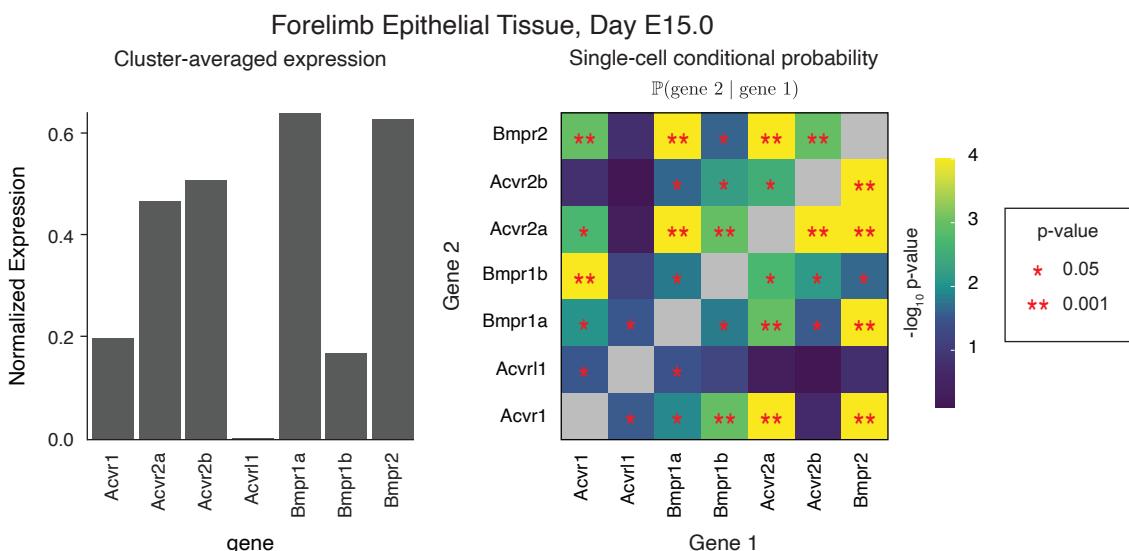
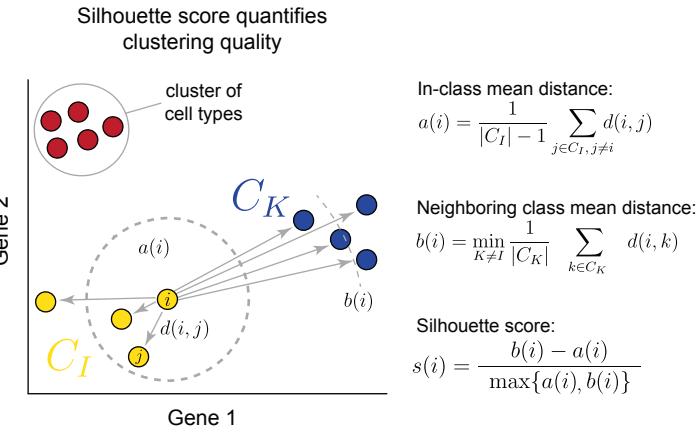


Figure 3-figure supplement 2

A



B

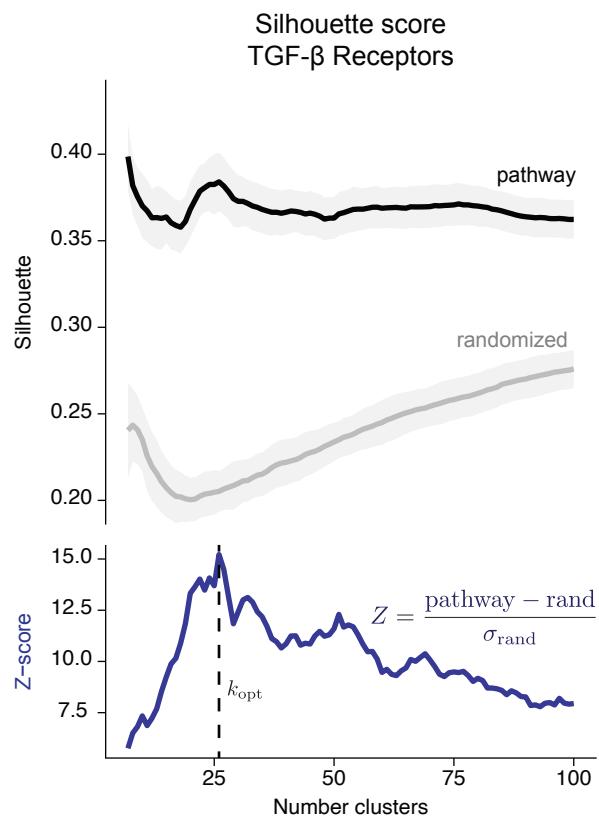
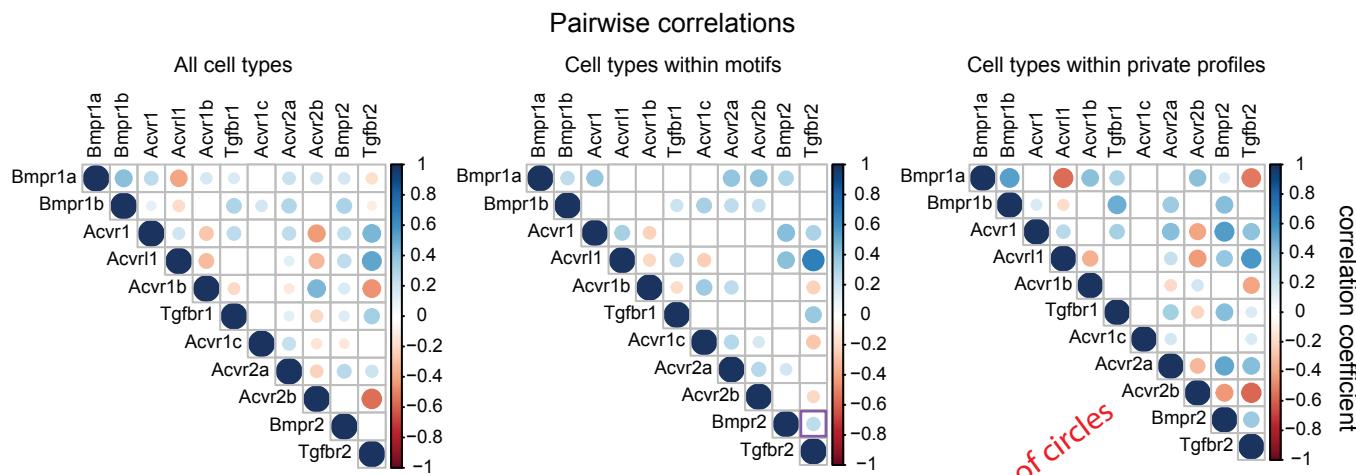


Figure 4, Supplement 1

A



B

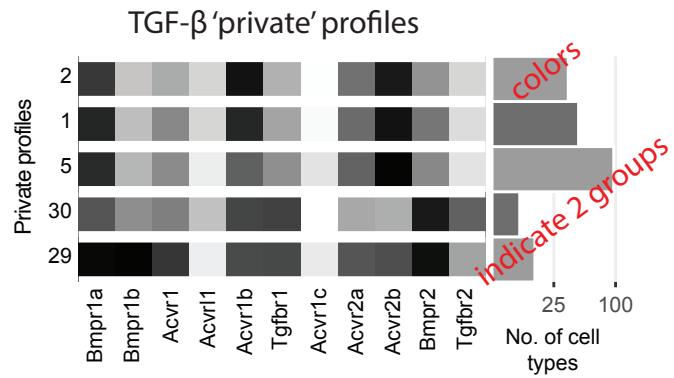
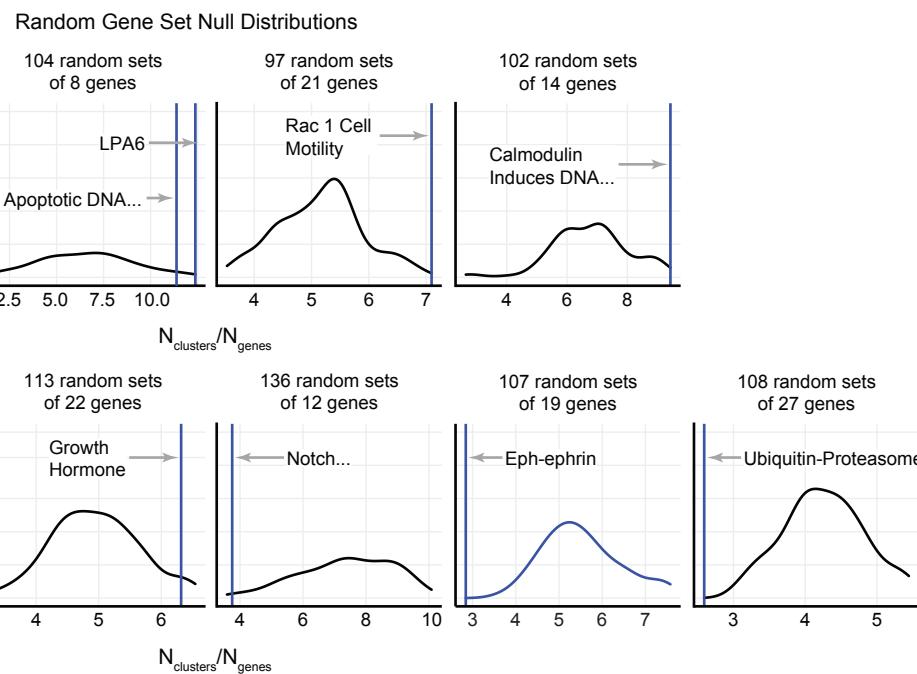


Figure 5, Supplement 1

A



B

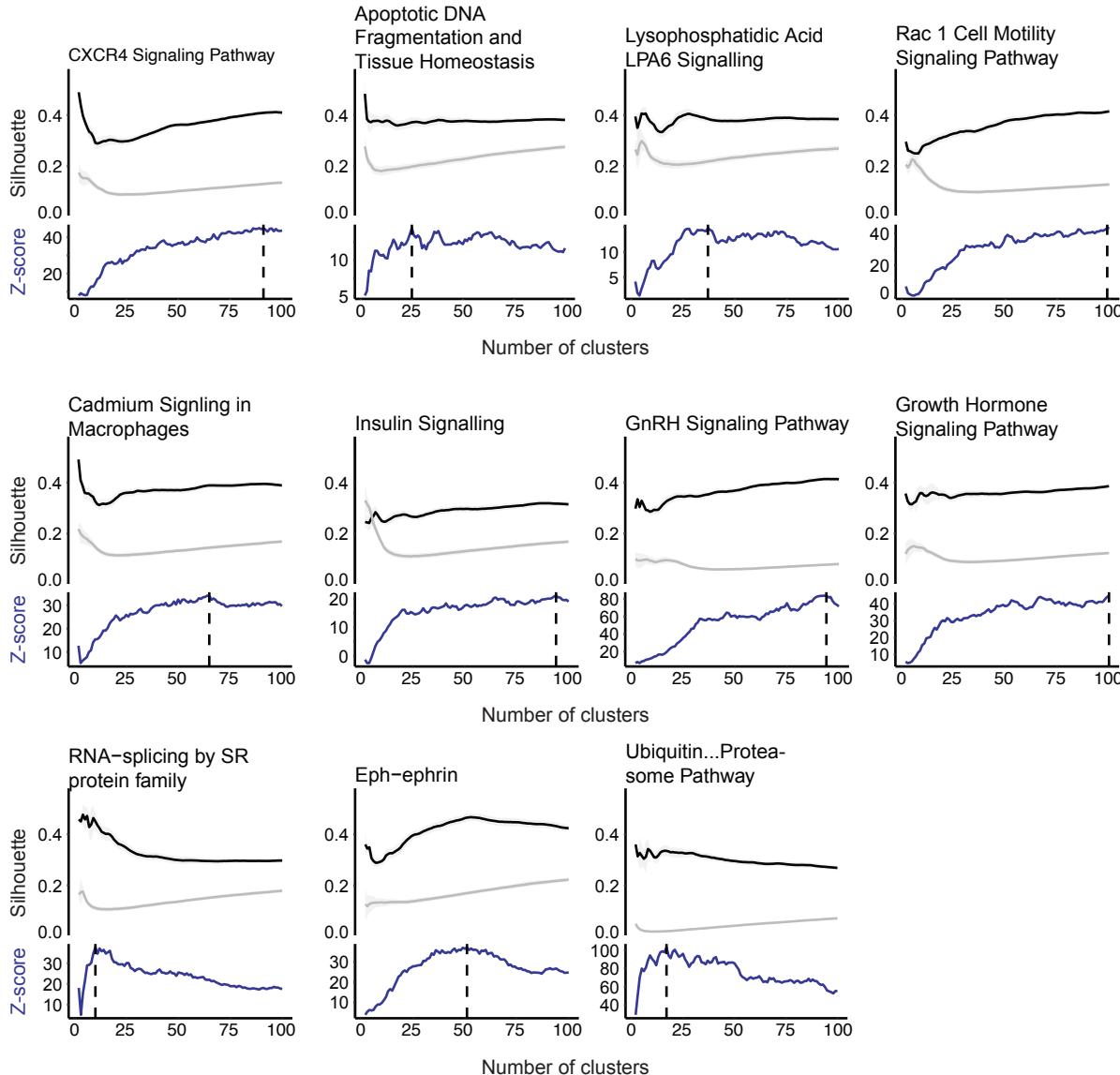
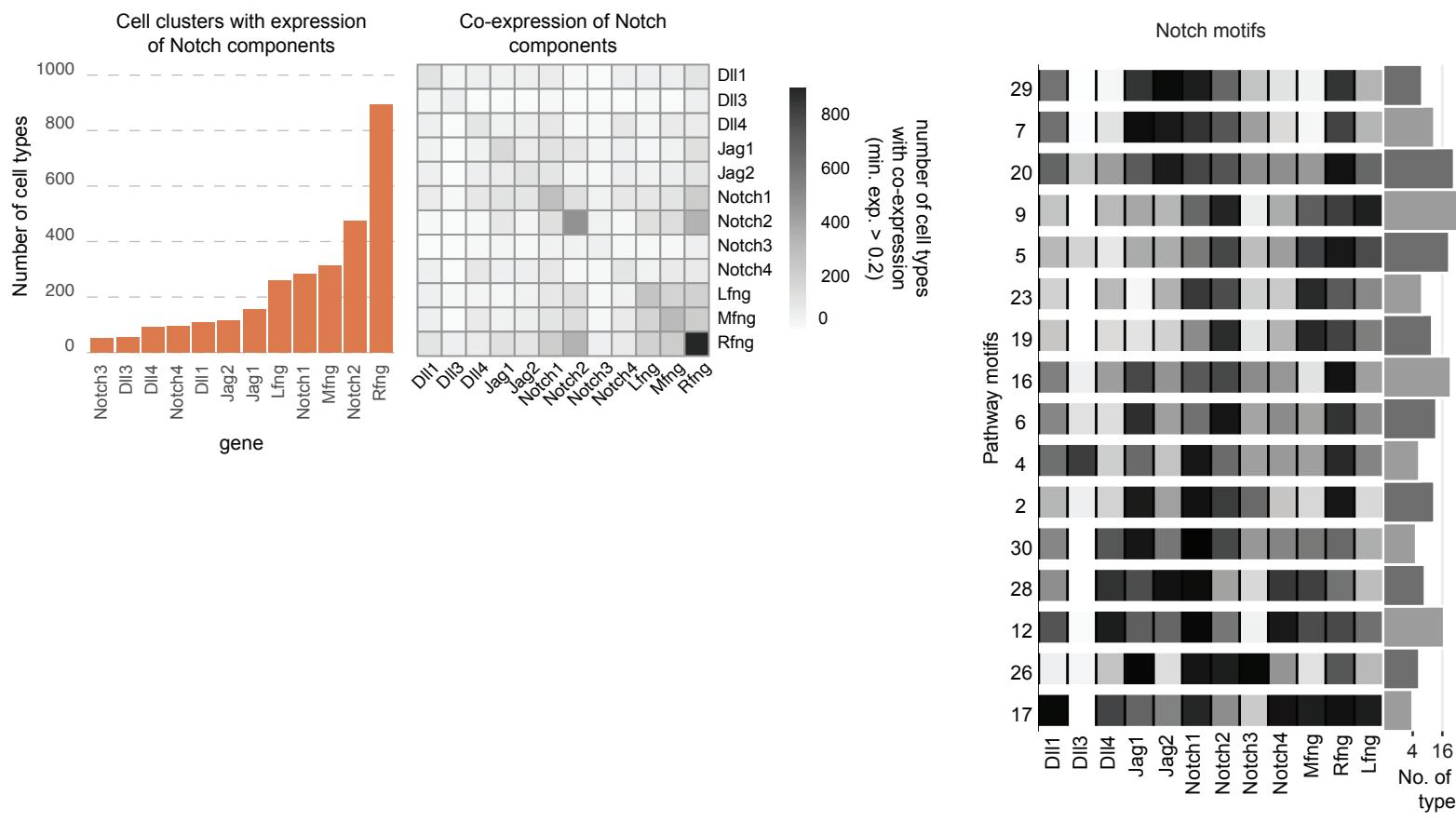
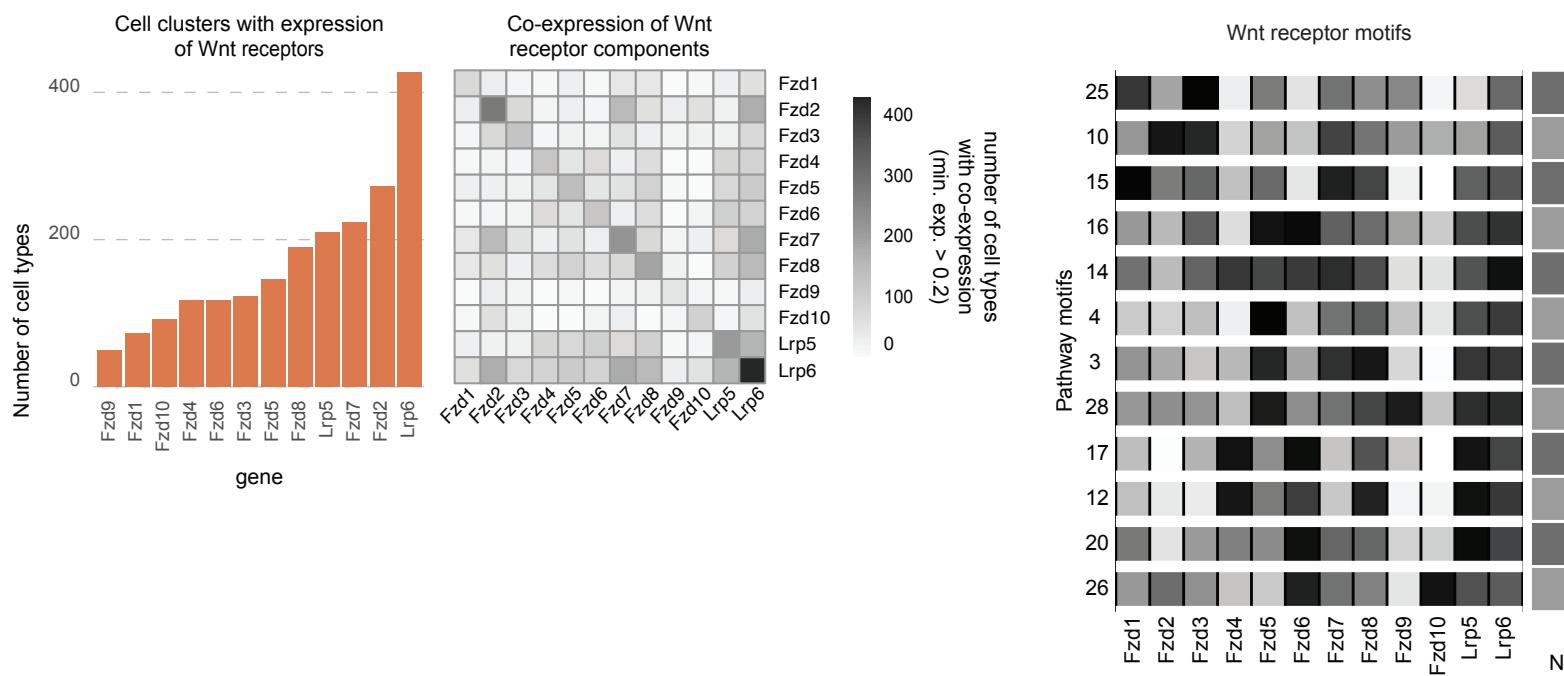


Figure 5 Supplement 2

A



B



C

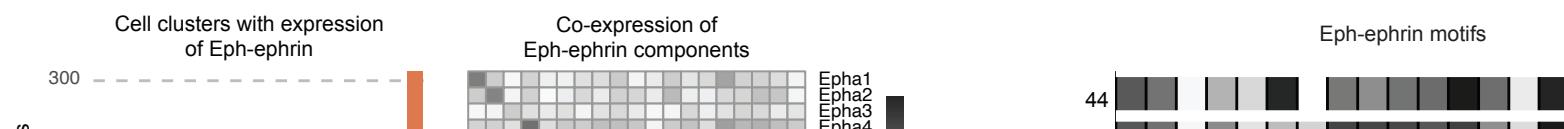
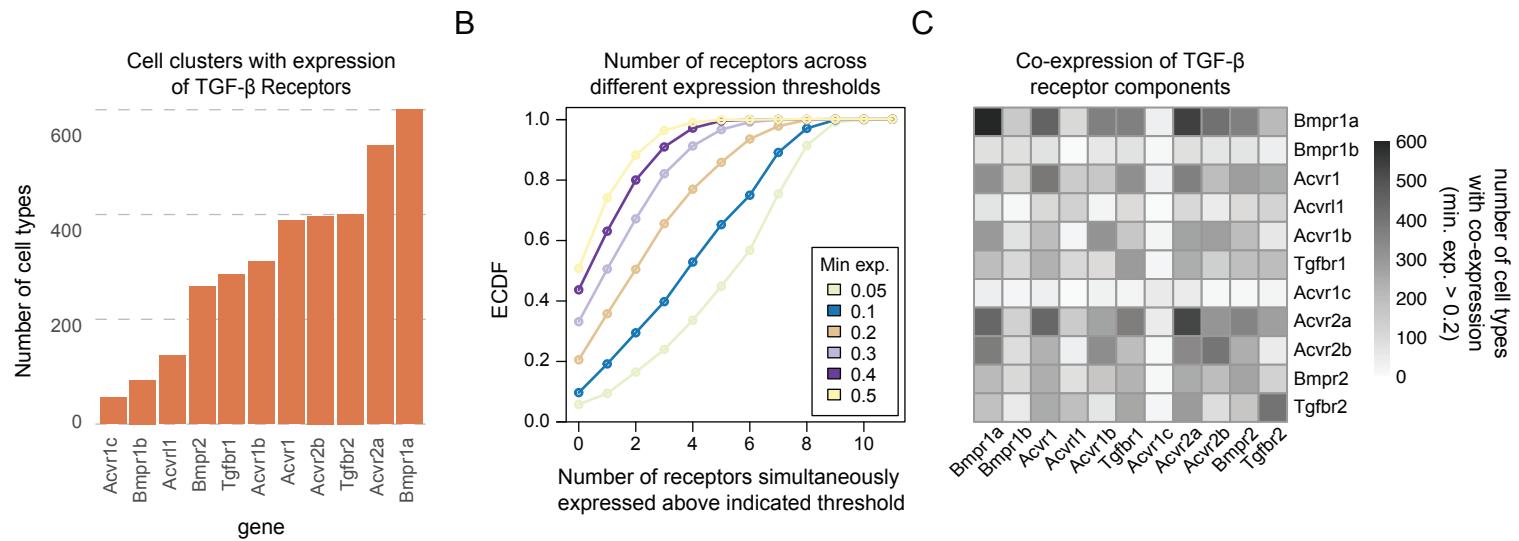


Figure 3, Supplement 1



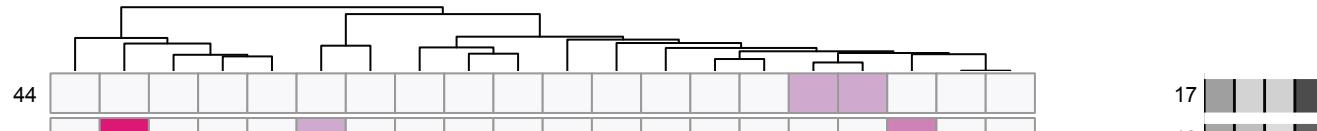
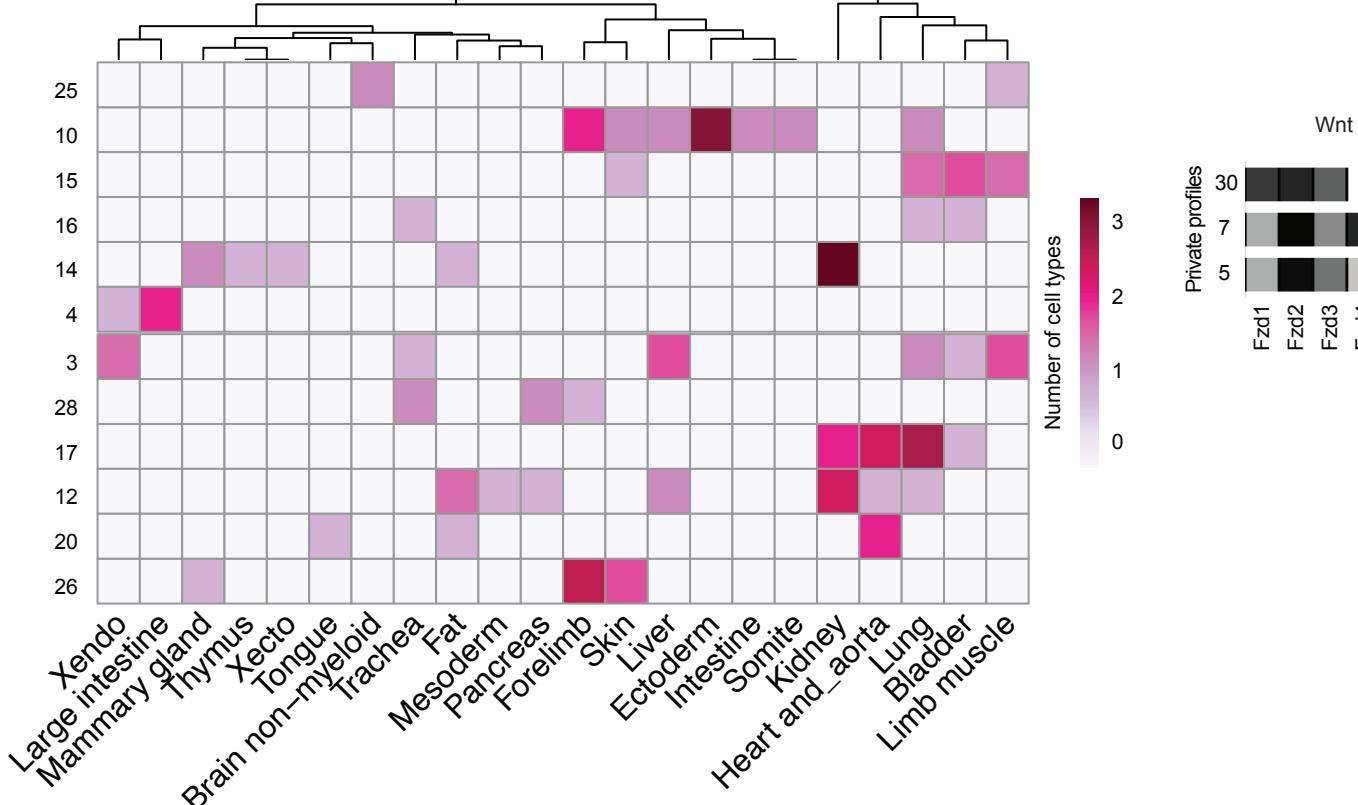
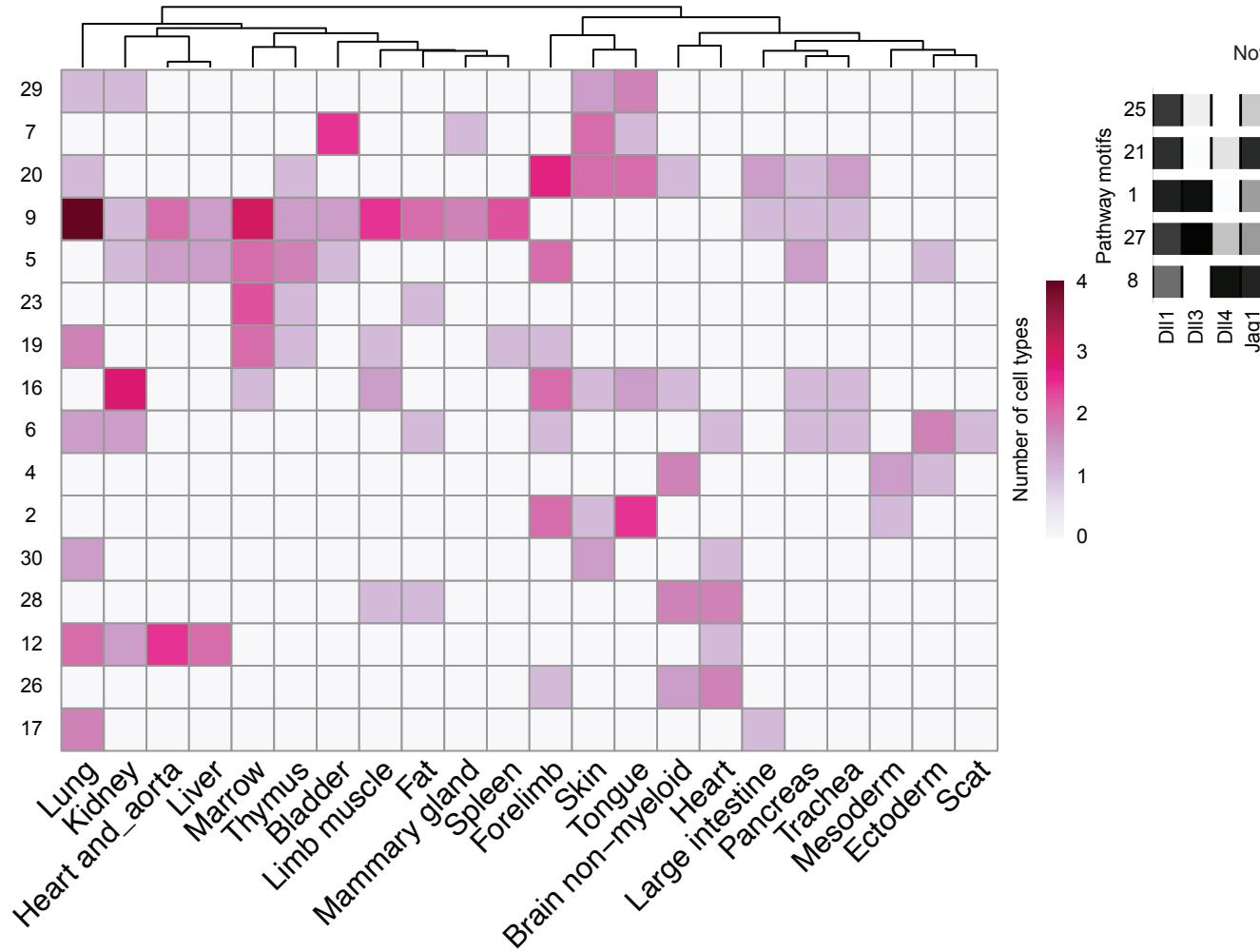
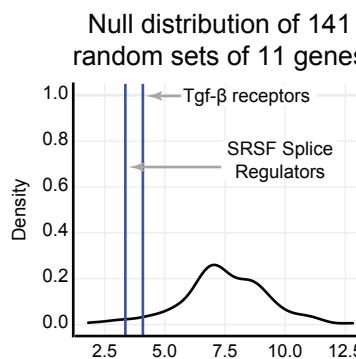
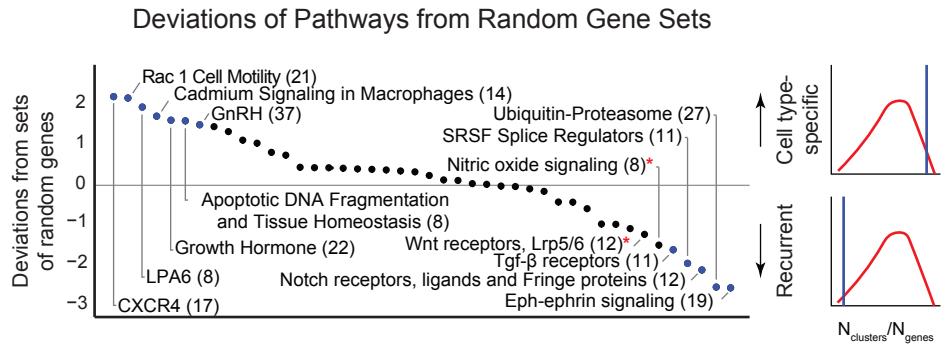


Figure 5: Wnt and Notch also show broadly dispersed recurrent pathway expression motifs

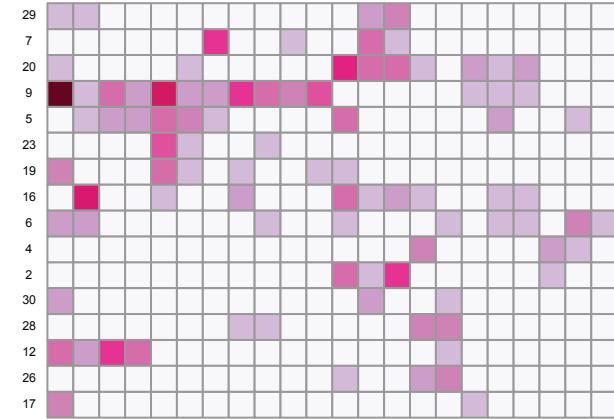
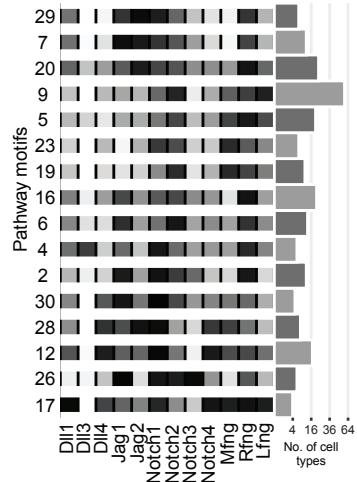
A



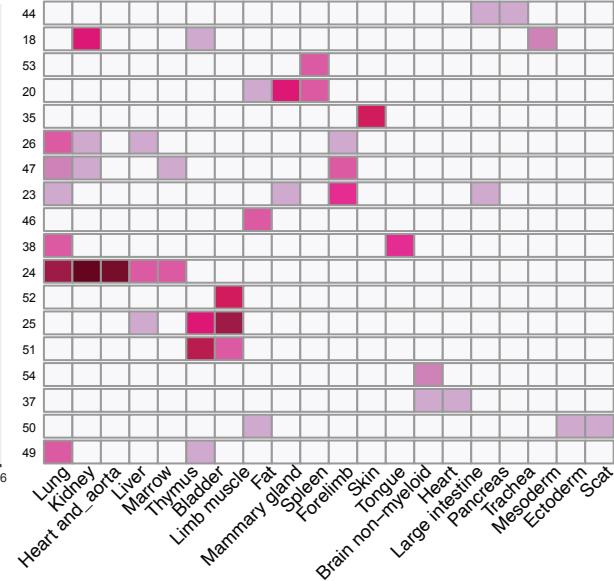
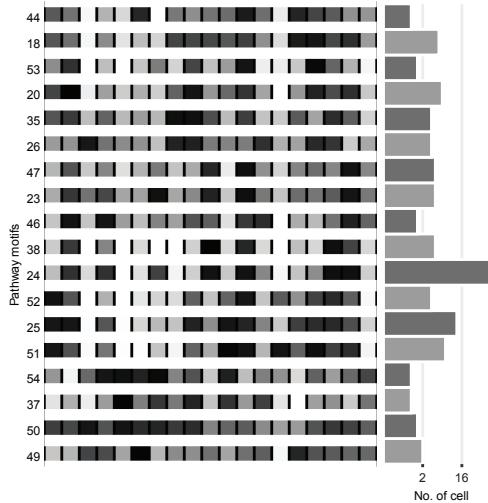
B



Notch motifs



Eph-ephrin motifs



Wnt receptor motifs

