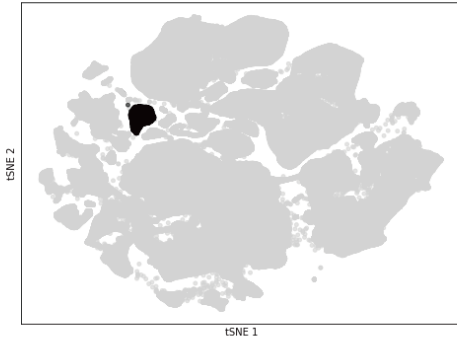


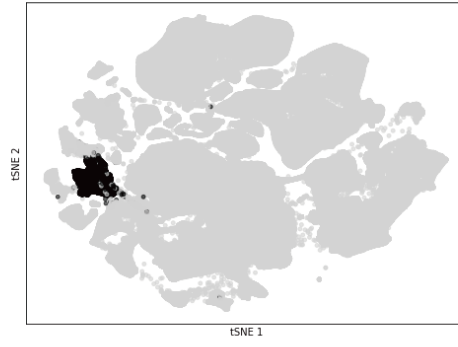
Supplementary Figure 1 | *In situ* hybridization for *Ighm* in the adult cerebral cortex.

A. *In situ* hybridization for *Ighm* on a section of cerebral cortex from 8W mouse. Scale bar = 75 μ m. B. *In situ* hybridization for *Ighm* combined with IHC for FOXP2 on 8W mouse cerebral cortex. FOXP2-positive corticothalamic neurons in layer 6 express *Ighm*. Bottom panel is the magnification of the top panel. Scale bar = 75 μ m (top panel), 5 μ m (bottom panel). WM: white matter, GM: gray matter. n = 4 brains.

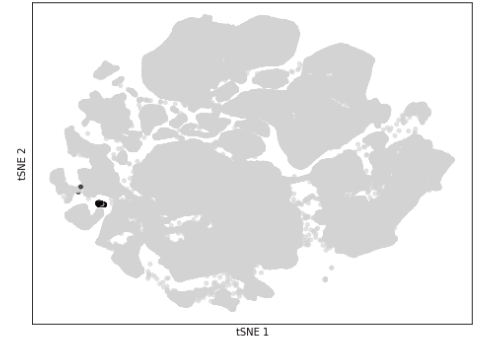
Astro tSNE plot



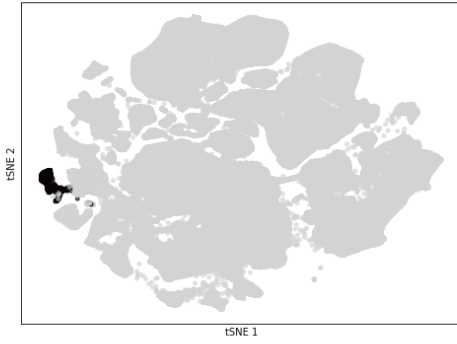
CA1-ProS tSNE plot



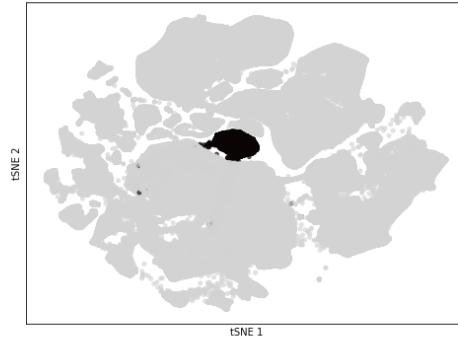
CA2-IG-FC tSNE plot



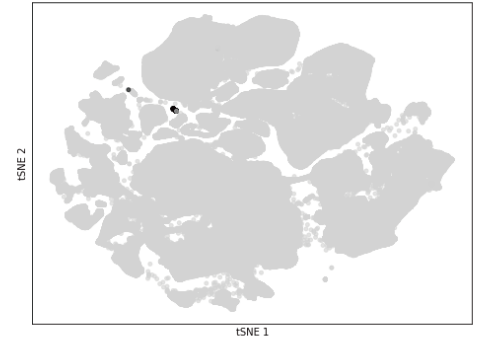
CA3 tSNE plot



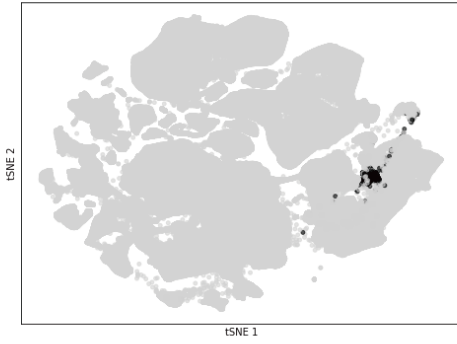
Car3 tSNE plot



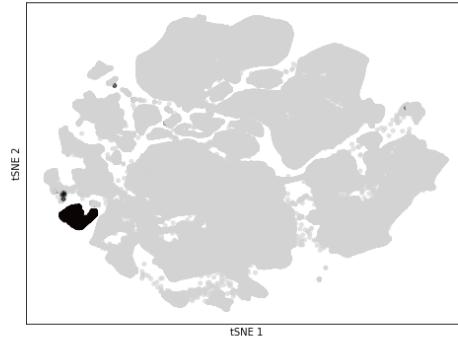
CR tSNE plot



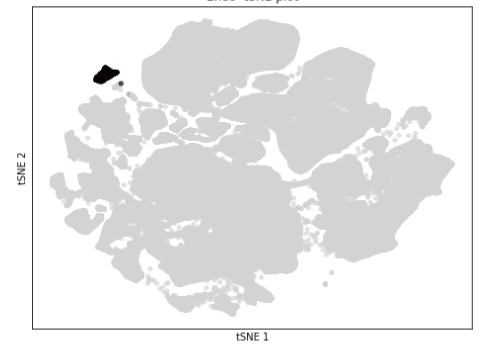
CT SUB tSNE plot



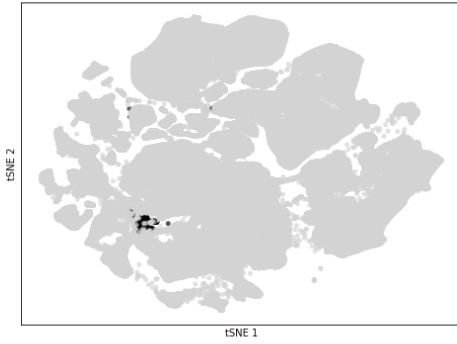
DG tSNE plot



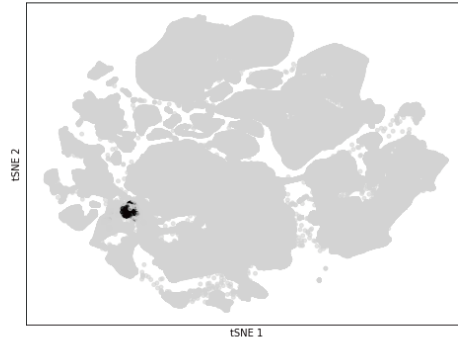
Endo tSNE plot



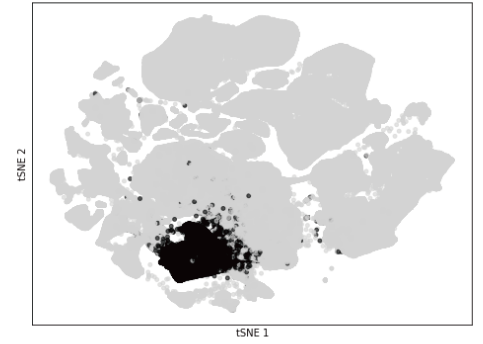
L2 IT ENT1 tSNE plot



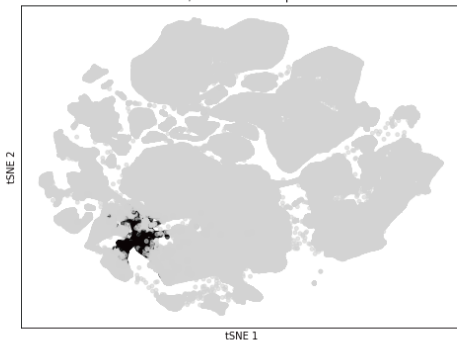
L2 IT ENTm tSNE plot



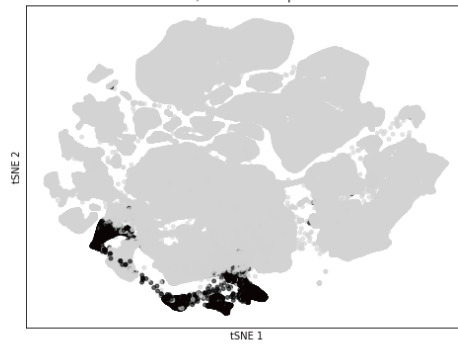
L2/3 IT CTX tSNE plot



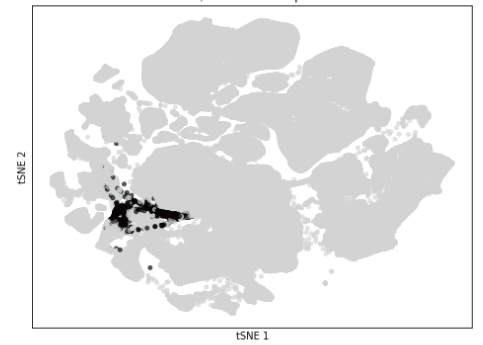
L2/3 IT ENT1 tSNE plot



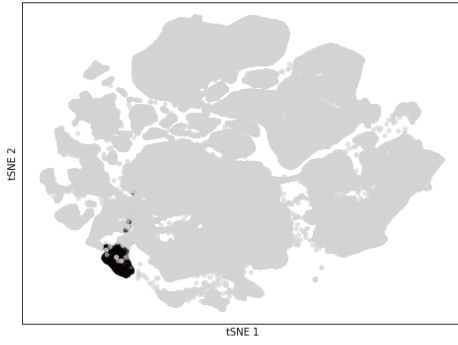
L2/3 IT PPP tSNE plot



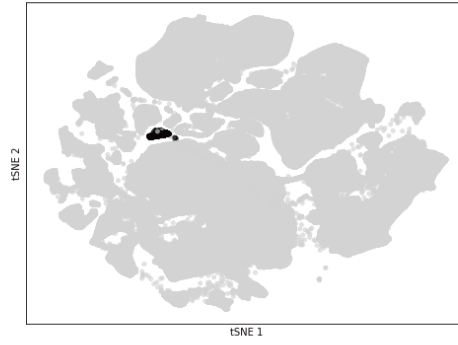
L2/3 IT RHP tSNE plot



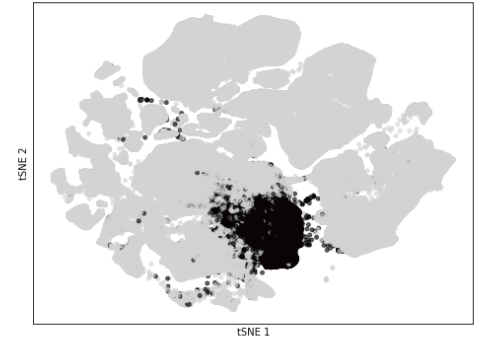
L3 IT ENT tSNE plot



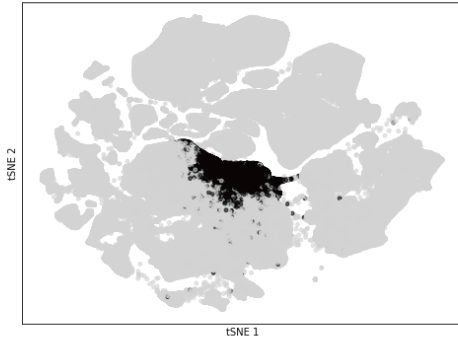
L4 RSP-ACA tSNE plot



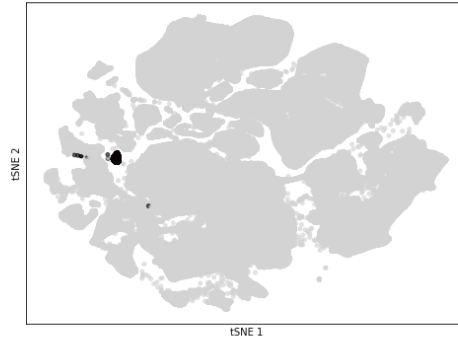
L4/5 IT CTX tSNE plot



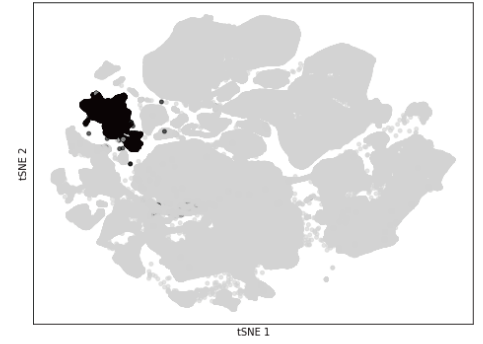
L5 IT CTX tSNE plot



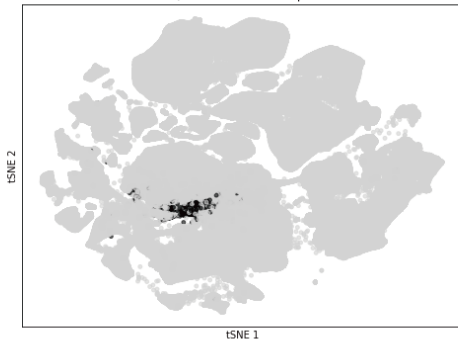
L5 PPP tSNE plot



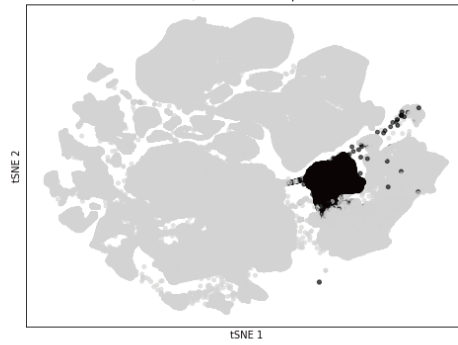
L5 PT CTX tSNE plot



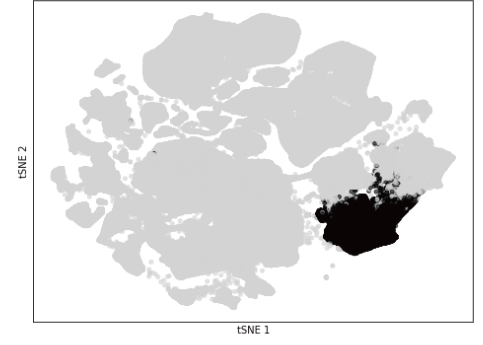
L5/6 IT TPE-ENT tSNE plot



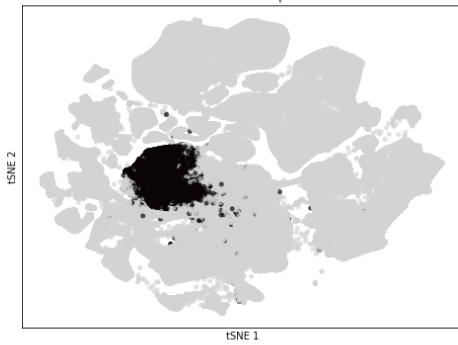
L5/6 NP CTX tSNE plot



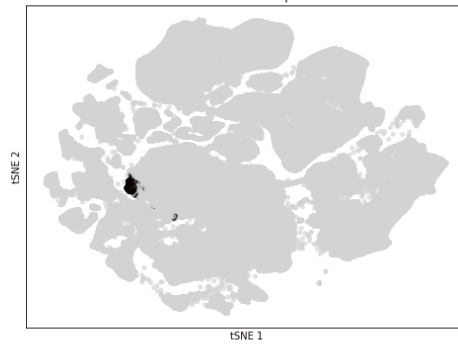
L6 CT CTX tSNE plot



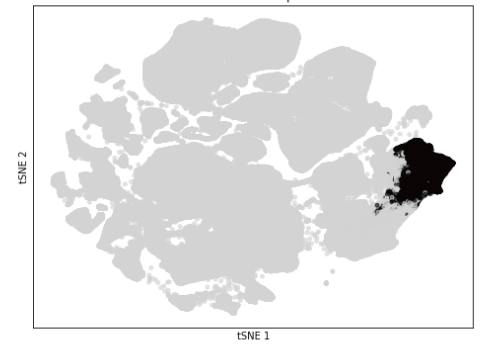
L6 IT CTX tSNE plot



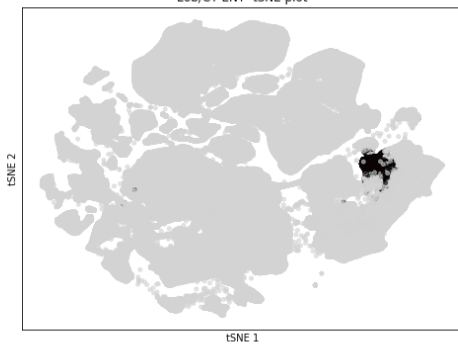
L6 IT ENT1 tSNE plot



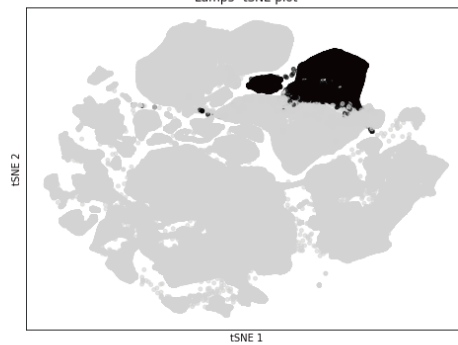
L6b CTX tSNE plot



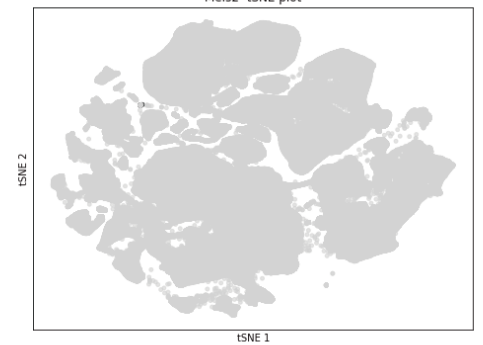
L6b/CT ENT tSNE plot



Lamp5 tSNE plot



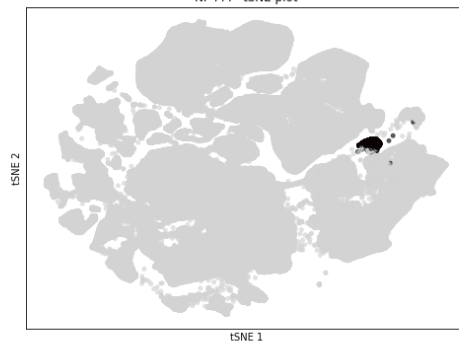
Meis2 tSNE plot



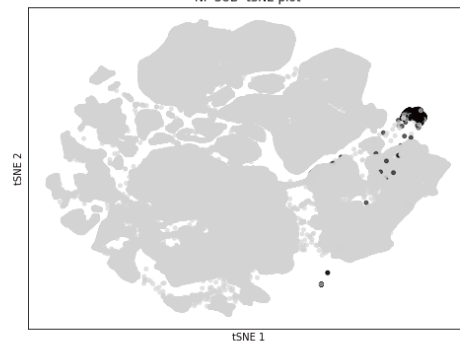
Micro-PVM tsNE plot



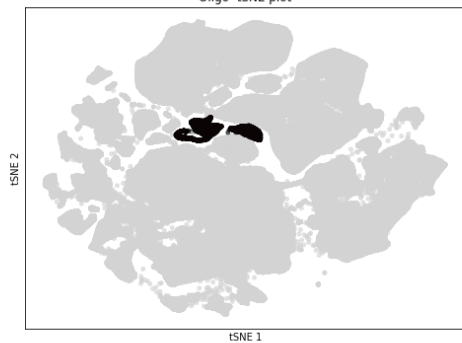
NP PPP tsNE plot



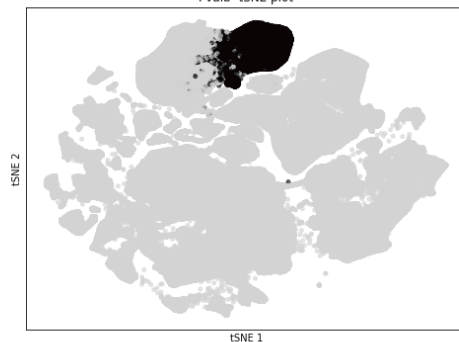
NP SUB tsNE plot



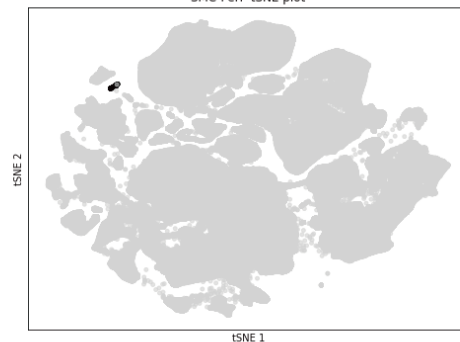
Oligo tsNE plot



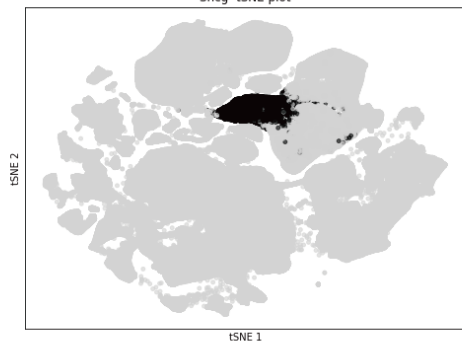
Pvalb tsNE plot



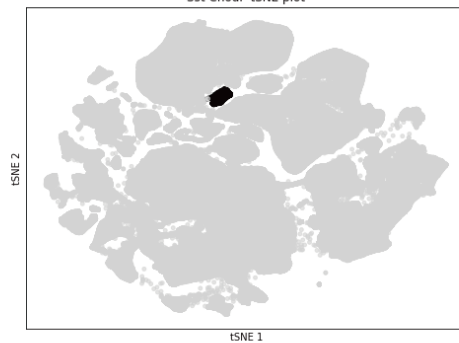
SMC-Peri tsNE plot



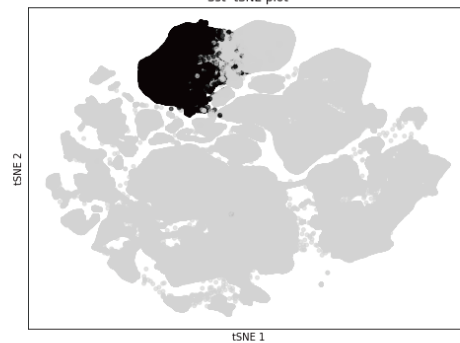
Sncg tsNE plot



Sst Chodl tsNE plot



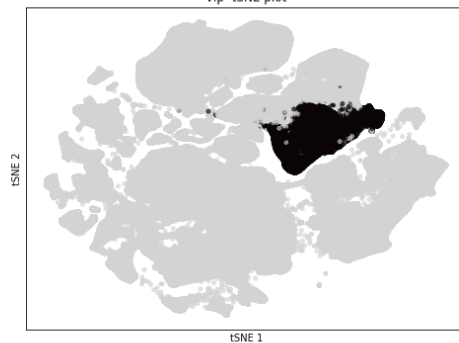
Sst tsNE plot



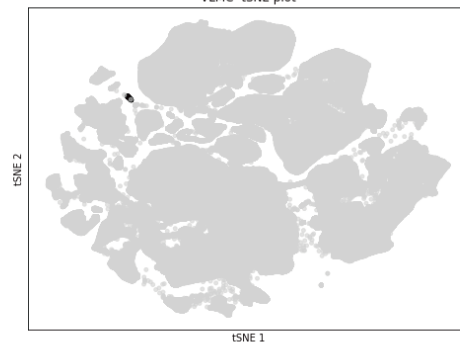
SUB-ProS tsNE plot



Vip tsNE plot

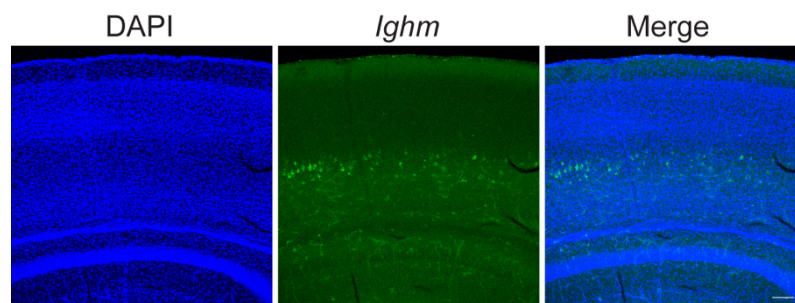


VLMC tsNE plot



Supplementary Figure 2 | Distribution of each subclass of cells illustrated on tSNE plot.

Each point represents an individual cell, and cells are color-coded according to their respective subclass. One specific subclass is highlighted in black for emphasis.



Supplementary Figure 3 | *In situ* hybridization for *Ighm* in P14 cerebral cortex.

A. *In situ* hybridization for *Ighm* on a section of cerebral cortex from P14 mouse. Scale bar = 100 μm . n = 2 brains.

Supplemental Table 1 | Details of Ig related genes expression in E16.0-E18.0 scRNA-seq data

Supplemental Table 2 | Details of Ig related genes expression in P0 scRNA-seq data

Supplemental Table 3 | Details of Ig related genes expression in adult scRNA-seq data

Supplemental Table 4 | Percentage of Ig related genes expression related to Figure 4