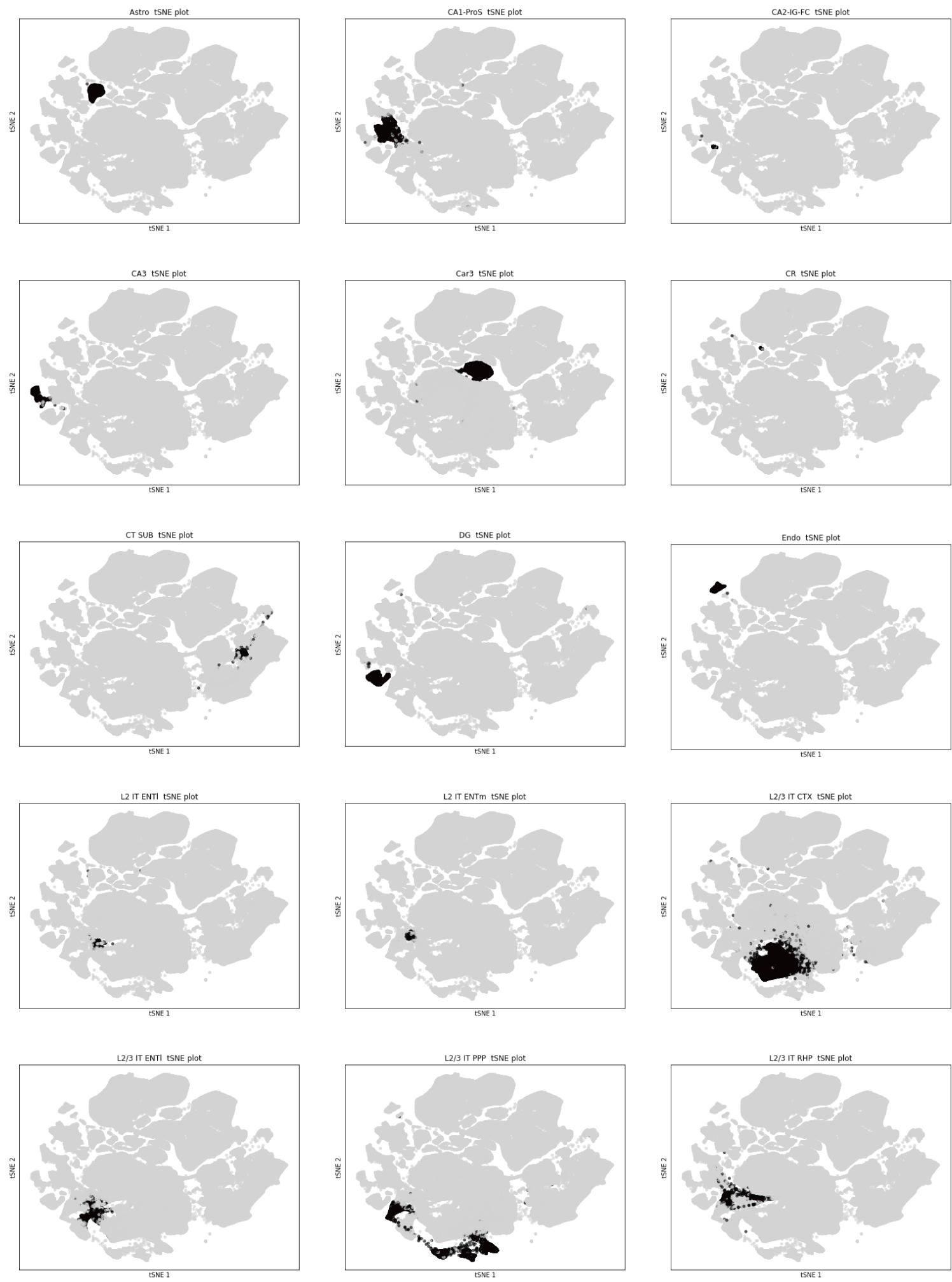
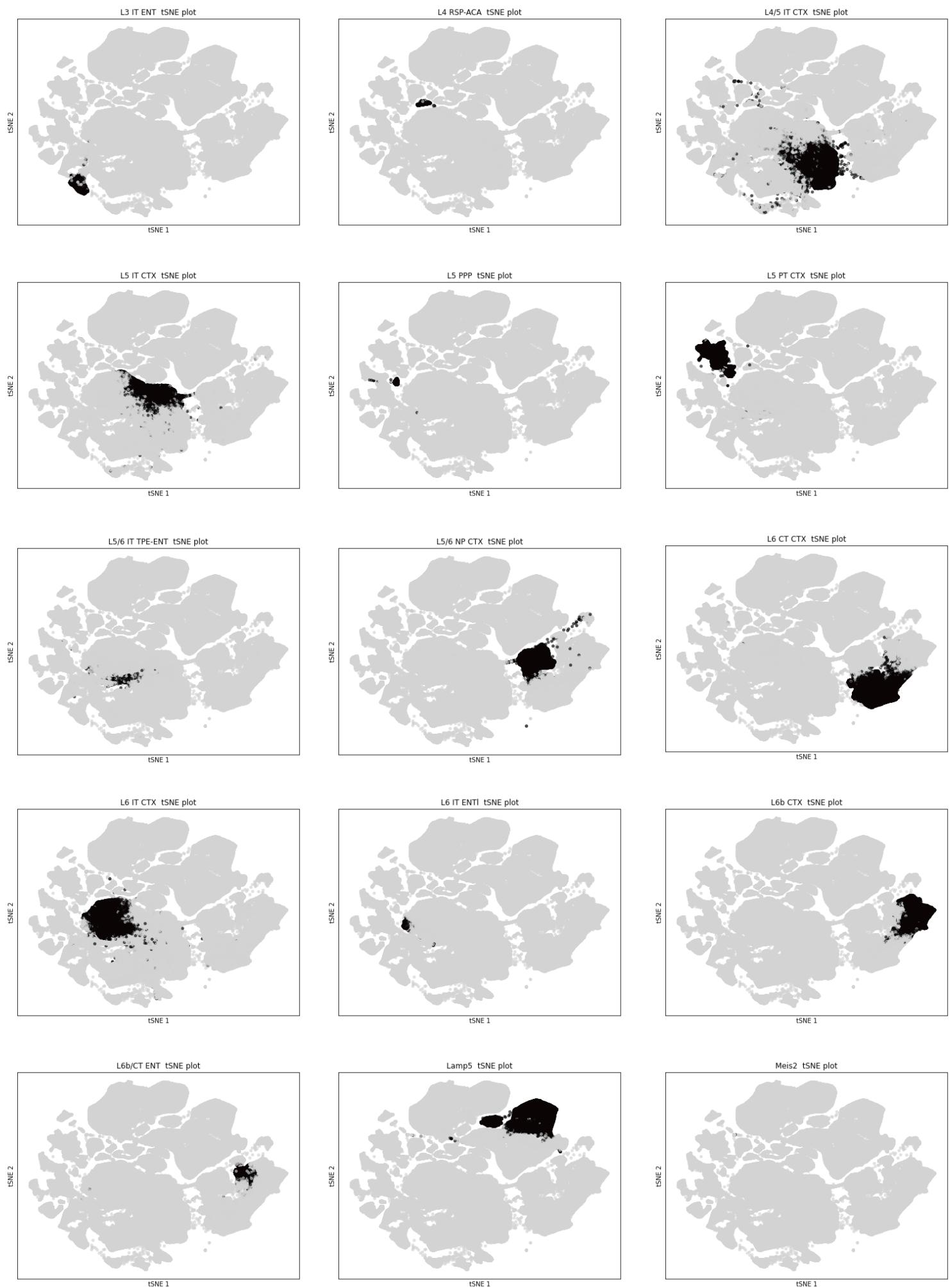
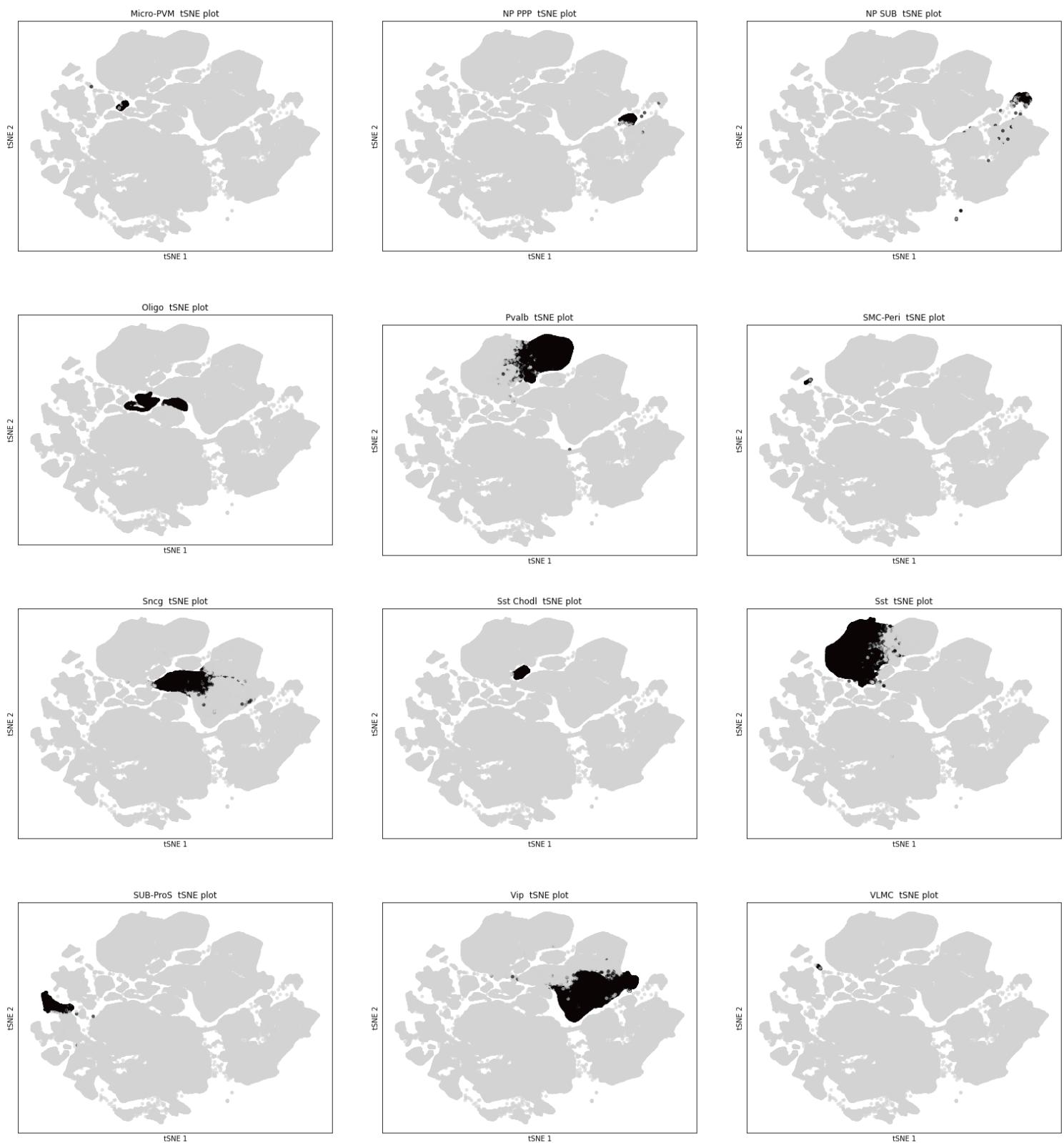


Supplementary Figure 1 | *In situ* hybridization for *Ighm* in the adult cerebral cortex.

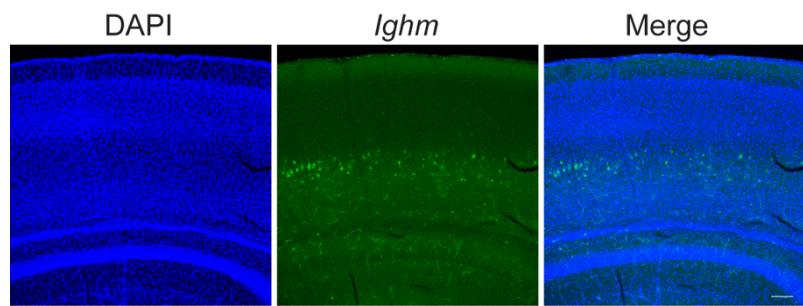
A. *In situ* hybridization for *Ighm* on a section of cerebral cortex from 8W mouse. Scale bar = 75 μ m. B. *In situ* hybridization for *Ighm* combined with IHC for FOXP2 on 8W mouse cerebral cortex. FOXP2-positive corticothalamic neurons in layer 6 express *Ighm*. Bottom panel is the magnification of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







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 μ m. 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