

SUPPLEMENTARY DATA

Loss of Newborn Neuron Function Promotes A β Accumulation in an Alzheimer's Disease Mouse Model

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SUPPLEMENTARY DATA

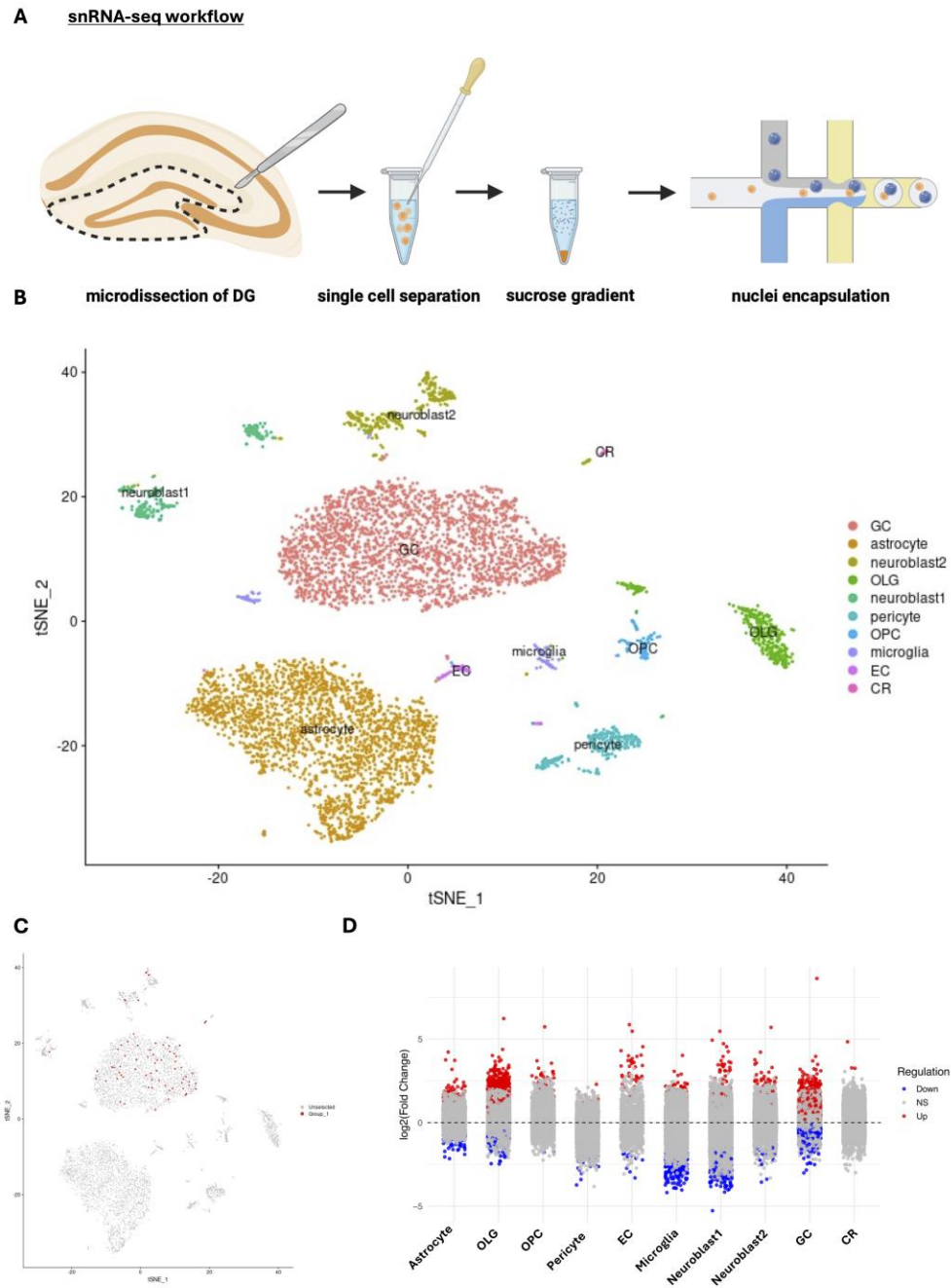


Figure S1. Overview and cell-type annotation of DG snRNA-seq data. (A) Schematic overview of the snRNA-seq workflow, including DG microdissection, nuclei isolation, and sequencing (APP: $n = 2$, NBN-APP: $n = 2$). (B) t-SNE map showing major cell-type clusters identified in the DG from both APP and NBN-APP mice. (C) Identification of immature GCs on the t-SNE plot. Cells expressing immature granule cell markers (*Bcl11b*, *Prox1*, and *Tbr1*) above a threshold (log-normalized expression > 0.5) were highlighted. (D) Violin plots showing the expression levels of representative differentially expressed genes across cell-type clusters comparing NBN-APP and APP mice. Significantly differentially expressed genes are marked by color; red dots indicate upregulated genes, and blue dots indicate downregulated genes.

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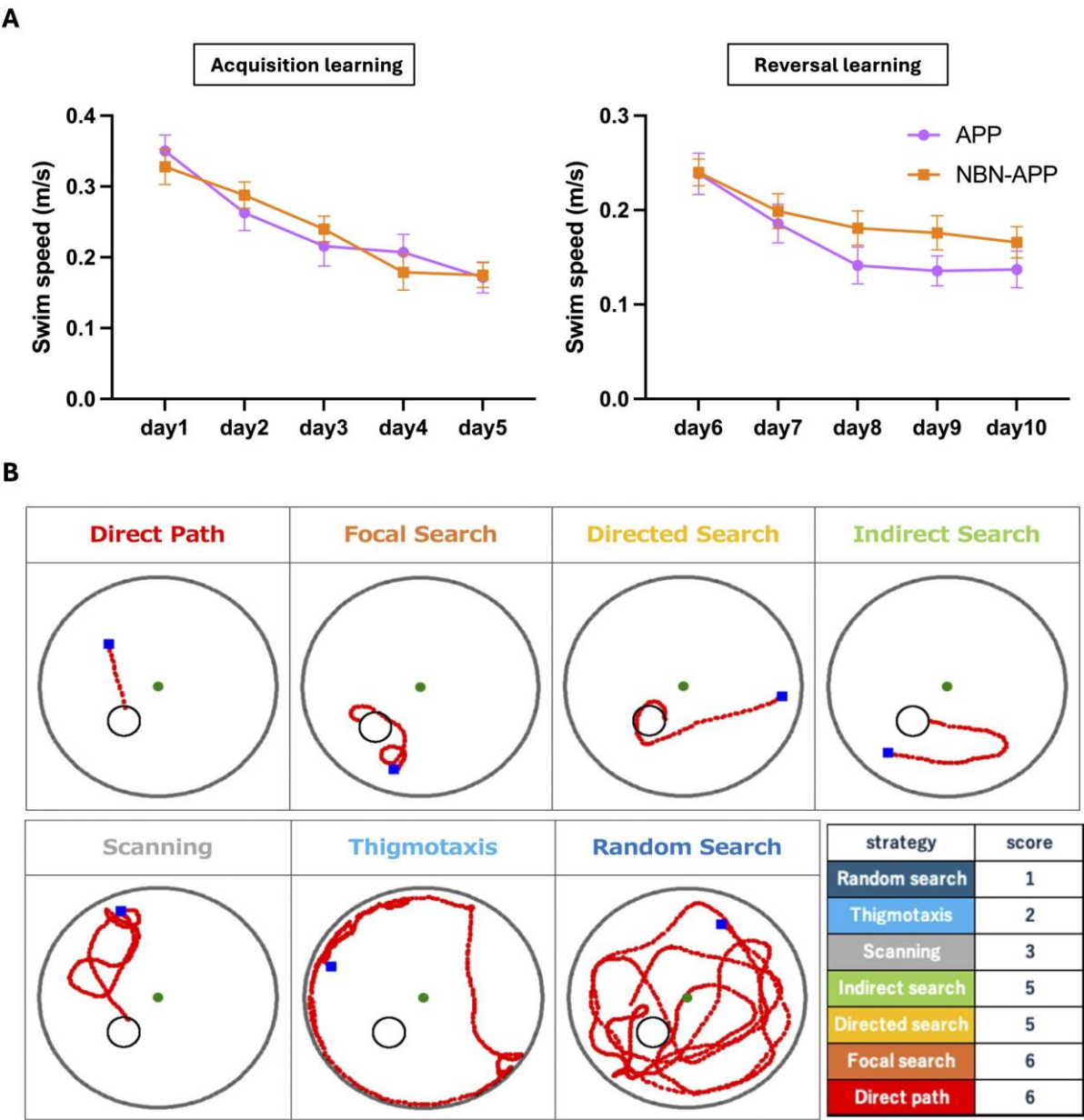


Figure S2. Swim speed and classification of search strategies in the Morris water maze. (A) Quantification of average swim speed during acquisition learning (two-way RM ANOVA, genotype: $F(1, 15) = 0.00079, p = 0.978$; day: $F(4, 60) = 21.7, p < 0.0001$; interaction: $F(4, 60) = 0.763, p = 0.553$; mean $\pm$ SEM) and reversal learning (two-way RM ANOVA, genotype: $F(1, 15) = 2.35, p = 0.146$; day: $F(4, 60) = 10.1, p < 0.0001$; interaction: $F(4, 60) = 0.539, p = 0.708$; mean $\pm$ SEM). **(B)** Representative swim traces of each strategy and the corresponding scoring list. Direct path, focal search, directed search, and indirect search were classified as hippocampus-dependent strategies, and scanning, thigmotaxis, and random search were classified as hippocampus-independent strategies.