Supporting Information

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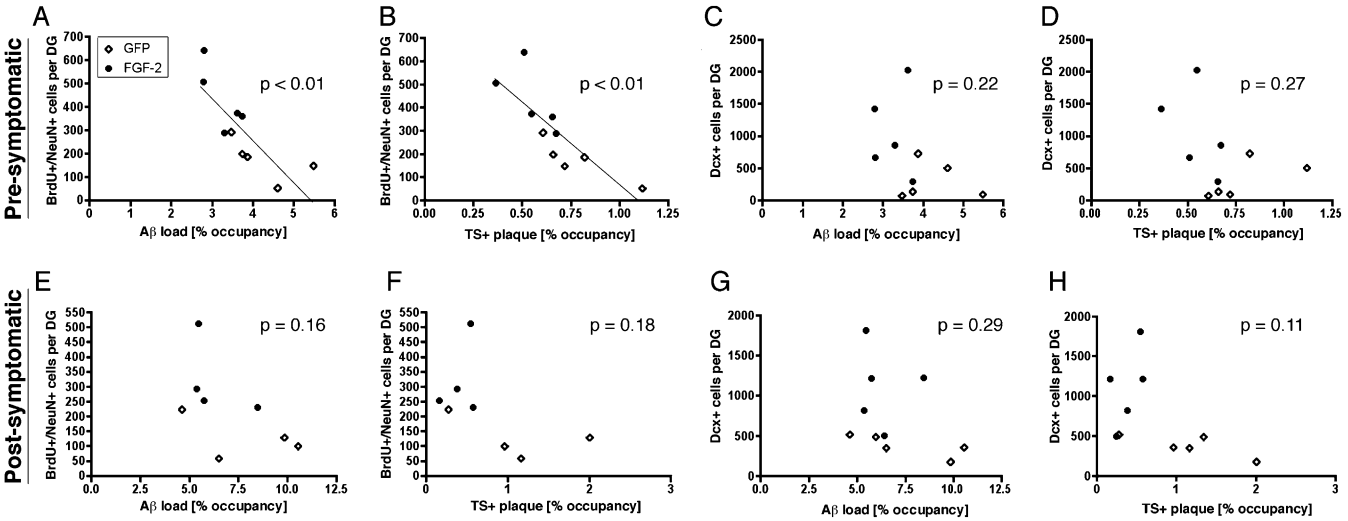

Fig. S1. Scatter plot of parameters of β-amyloidosis and neurogenesis in tested APP+PS1 mice. The datasets from AAV2/1-GFP and AAV2/1-FGF2–injected APP+PS1 mice at pre- and postsymptomatic stages were analyzed for the correlation of β-amyloidosis (Aβ load and TS^+ plaques) with neurogenesis ($BrdU^+/NeuN^+$ and Dcx^+ cell counts in the dentate gyrus). The correlation was statistically analyzed by Pearson χ^2 test, and *P* values are noted for each test. Open diamonds represent AAV2/1-GFP injected APP+PS1 mice; closed dots represent AAV2/1-FGF2 injected APP+PS1 mice. (*A–D*) Presymptomatic stage study; (*E–H*) post-symptomatic stage study.

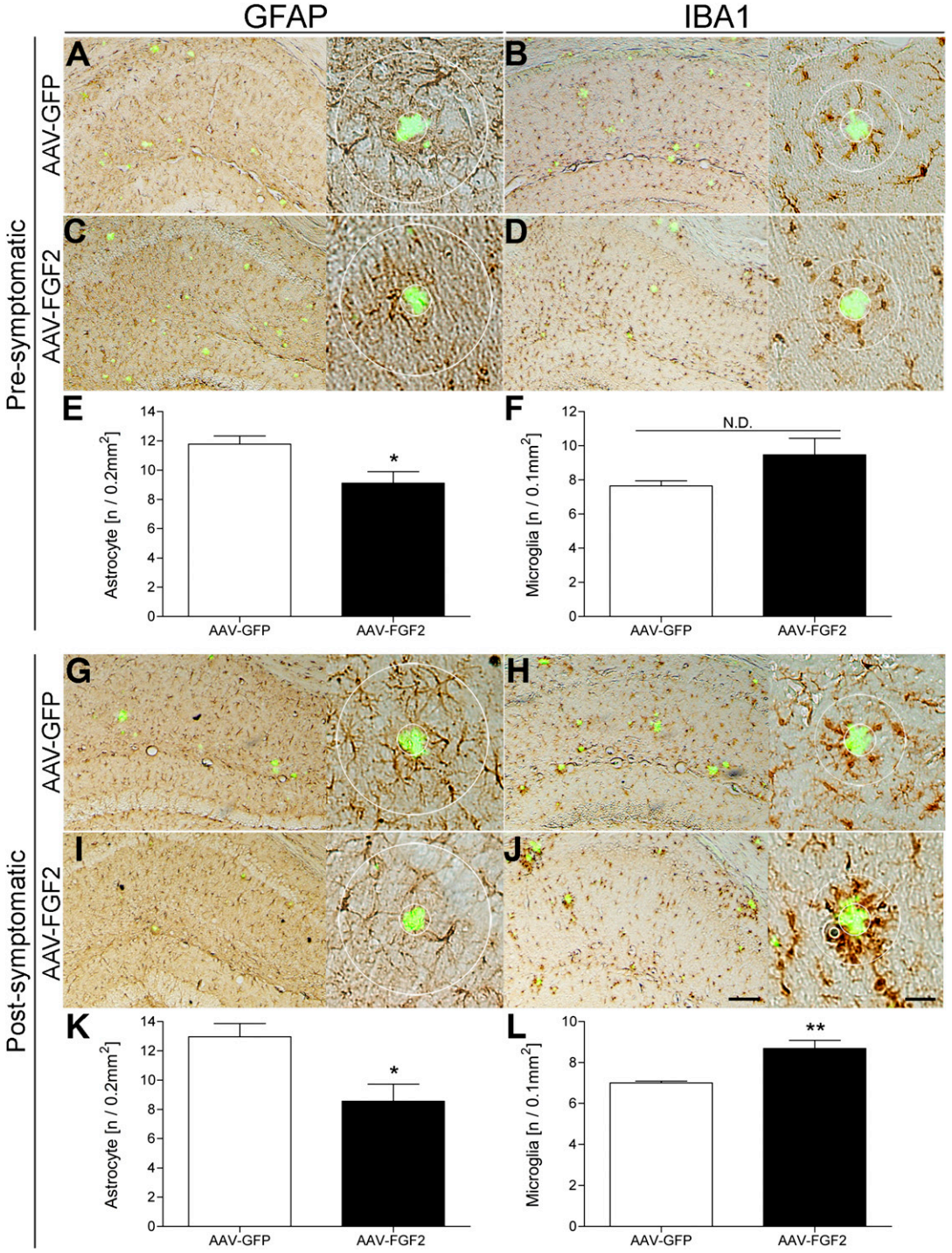

Fig. S2. Astro-/microgliosis in APP+PS1 mice and primary mouse neural stem cells. APP+PS1 mice injected with AAV2/1-GFP or AAV2/1-FGF2 in the pre-symptomatic (*A–D*) or postsymptomatic experimental design (*G–J*). The hippocampal frozen sections were immunostained for GFAP (astrocyte; *A*, *C*, *G*, and *I*) or IBA1 (microglia; *B*, *D*, *H*, and *J*), and counterstained by TS. Quantification of GFAP$^+$ (*E* and *K*) or IBA1$^+$ (*F* and *L*) cells found within the circle surrounding TS$^+$ Aβ plaques. Radii of outer concentric circles in GFAP$^+$ cells were 100 μm greater than the inner circles that surrounded the compact plaques (*A*, *C*, *G*, and *I*), and 50 μm greater in IBA1$^+$ cells (*B*, *D*, *H*, *J*). Error bars represent SEM (n = 5 per group, 10 sections per brain). *$P < 0.05$ or **$P < 0.01$, respectively, vs. AAV2/1-GFP group, as determined by Student t test. (Scale bars: *J*, *Left*, 200 μm; *J*, *Right*, 40 μm.) (*B*) Primary neural stem cell cultures were prepared from embryonic day 14 embryonic cortices as neurospheres in complete proliferation media for 7 d until spheres reached between 100 and 150 μm in diameter. Neurospheres were collected and mechanically dissociated by trituration in complete proliferation media, and plated for the differentiation study. The cells were fixed before the induction of the differentiation for the immunofluorescence of nestin (neuronal stem cell marker; *A* and *D*, red), Ki67 (cell proliferation marker; *B* and *D*, green), and DAPI (nuclear marker; *C* and *D*, blue). Original magnification: 200×.

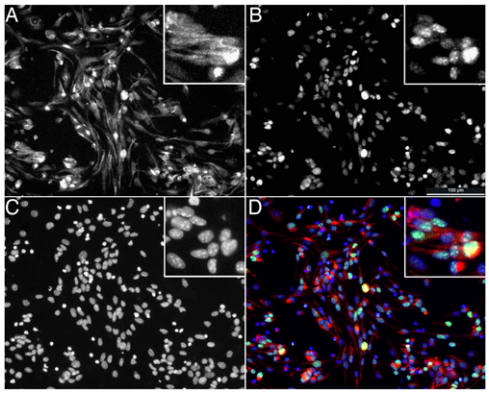

Fig. S3. Primary mouse neural stem cells. Primary neural stem cell cultures were prepared from embryonic day 14 embryonic cortices as neurospheres in complete proliferation media for 7 d until spheres reached 100 to 150 μm in diameter. Neurospheres were collected and mechanically dissociated by trituration in complete proliferation media, and plated for the differentiation study. The cells were fixed before the induction of the differentiation for the immunofluorescence of nestin (neuronal stem cell marker; *A* and *D*, red), Ki67 (cell proliferation marker; *B* and *D*, green), and DAPI (nuclear marker; *C* and *D*, blue). Original magnification: 200×.