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Supplementary Data

Encapsulated VEGF-Secreting Cells Enhance Proliferation of Neuronal Progenitors in the Hippocampus of AβPP/PS1 Mice

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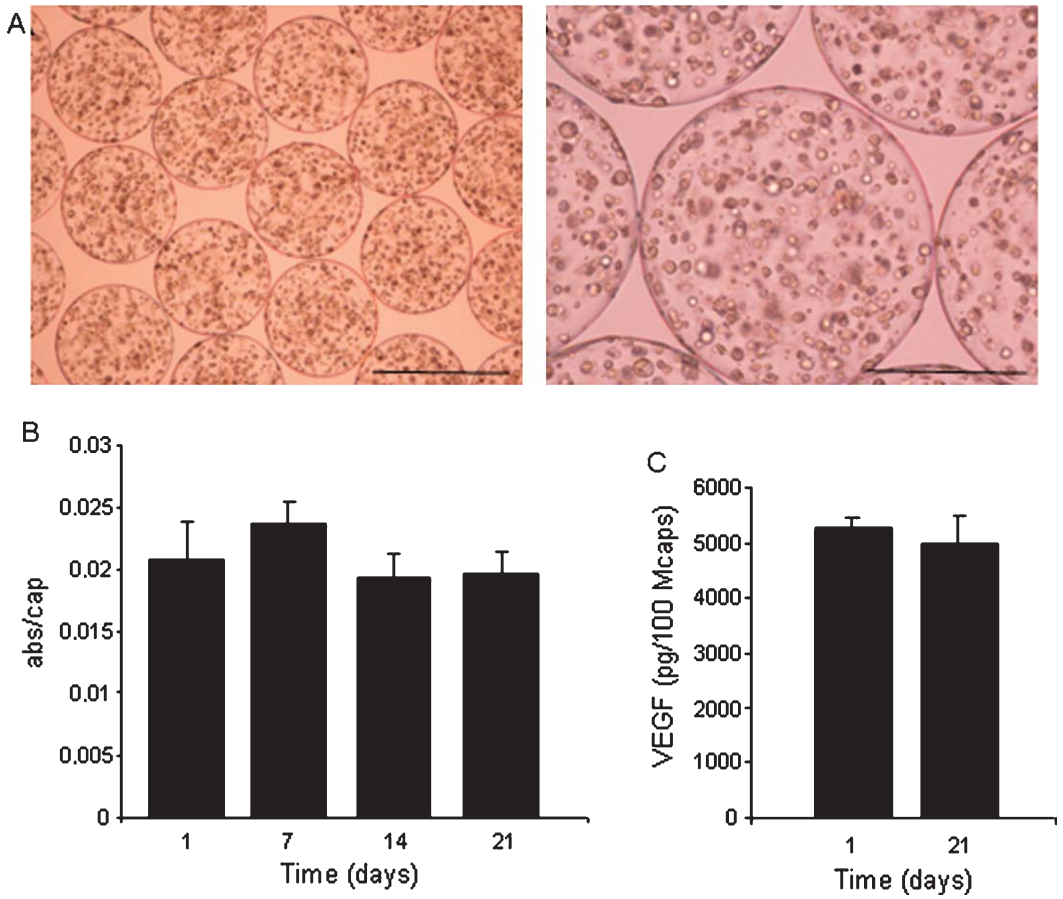
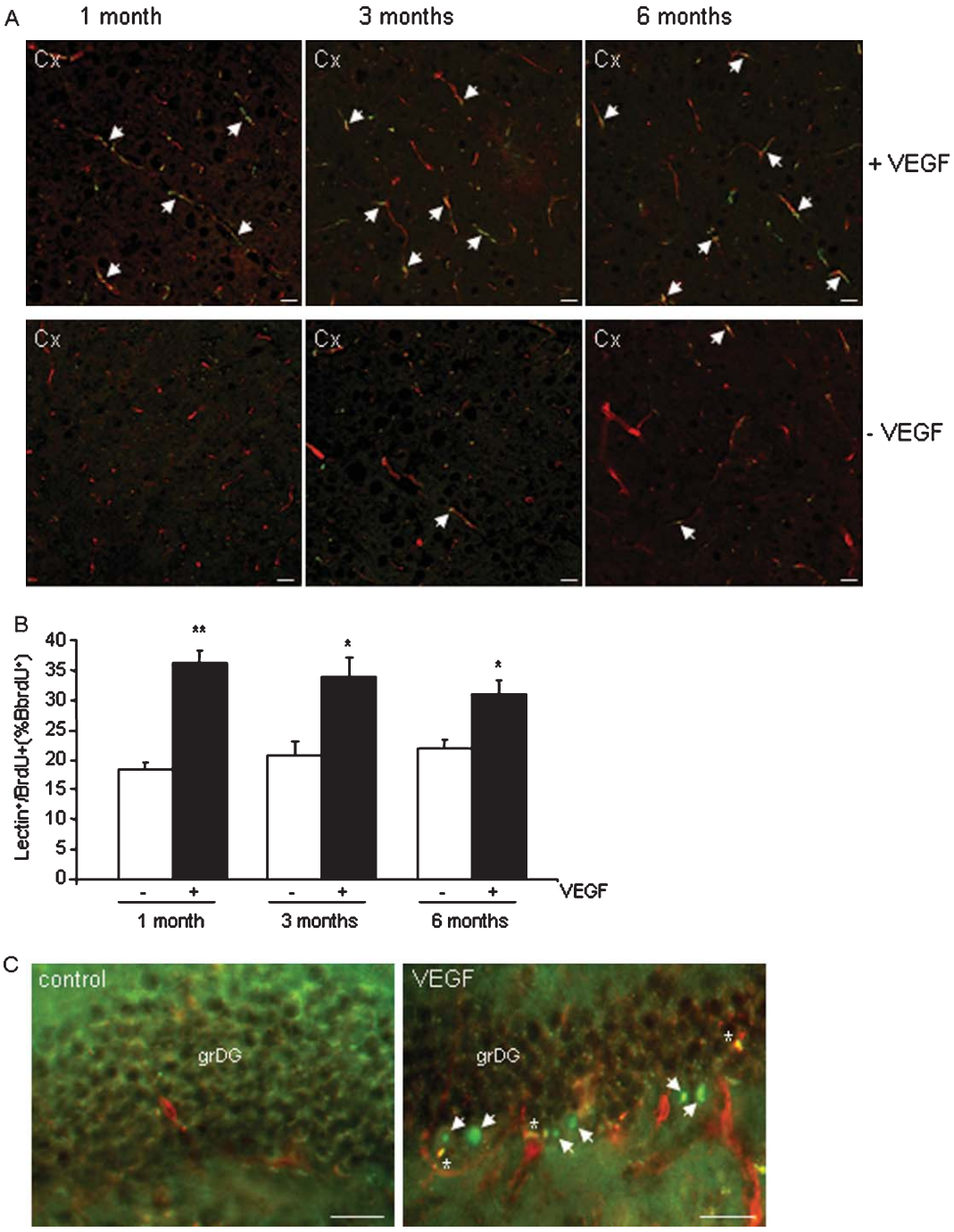


Supplementary Figure 1. VEGF-secreting encapsulated cells. A) VEGF-secreting fibroblasts are immobilized within alginate-poly-L-lysine-alginate microcapsules. Phase contrast images at ×4 (left image) and ×10 (right image) magnifications, obtained with a bright field microscope. Scale bars = 450 μm (left image) and 200 μm (right image). B) Viability of VEGF microcapsules-secreting fibroblasts for up to 21 days *in vitro*. C) VEGF production from microencapsulated VEGF-secreting fibroblasts. (Data are expressed as mean ± SD).



Supplementary Figure 2. Brain angiogenesis in AβPP/PS1 mice after implantation of VEGF microcapsules. A) Implantation of VEGF microcapsules induces proliferation of endothelial cells in the cerebral cortex (Cx) from AβPP/PS1 mice. Immunofluorescence of newly formed brain vessels (white arrows) with $BrdUrd^+$ nuclei (green) co-labeled with tomato lectin in the cytoplasm (red). Scale bars = 20 μm. B) The histograms indicate that the number of double-labeled $BrdUrd^+/lectin^+$ cells significantly increased in VEGF microcapsule-treated AβPP/PS1 mice. Data are expressed as mean ± SEM, $*p < 0.05$, $**p < 0.01$, $n = 4$–7 per group. C) Fluorescent labeled microphotographs show enhanced double-labeled $BrdUrd^+/lectin^+$ cells indicating newly formed brain vessels (white asterisks), and $BrdUrd^+$ nuclei (white arrows) in the granular cell layer of DG (grDG) in VEGF microcapsules-treated AβPP/PS1 mice for 3 months. Scale bar = 20 μm.