Supplementary Data

Early Increases in Soluble Amyloid-β Levels Coincide with Cholinergic Degeneration in 3xTg-AD Mice

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Supplementary Figure 1. A–D) Immunohistochemistry at the level of the medial septum/vertical limb of the diagonal band of Broca (MS/VDB) and lateral septum (LS) using antibodies against choline acetyltransferase (ChAT, AB144P Millipore, 1:100, green) and amyloid-β peptides/amyloid-β protein precursor (Aβ/AβPP, 6E10, Sigma, 1:1000, red) in septum of non-Tg mice (A, 2 months) and 3xTg-AD mice (B–D, 2, 6 and 12 months, respectively). We observed qualitative reduction in the size and number of ChAT-positive neurons in 3xTg-AD compared to non-Tg mice, and between 2, 6 and 12 months of age (A–D). Aβ/AβPP was not detected in 2 month-old non-Tg (A) and 3xTg-AD (B) mice. Cells strongly expressing Aβ/AβPP were detected in proximity to ChAT-positive cells at 6 (C, arrows) and 12 (D) months. E–H, Immunohistochemistry of ChAT-positive fibers at the level of the hippocampal formation in 12 month-old non-Tg (E, F) and 3xTg-AD (G, H) mice. ChAT-positive staining appears stronger in the hippocampus of non-Tg (E, F) compared 3xTg-AD (G, H) mice. The boxed areas at the tip of the dentate gyrus in E and G are represented at high power in F and H, respectively. Scale bars: A–D = 100 μm; E, G: 200 μm; F, H: 25 μm.