In vivo Animal Models

Alzheimer's Disease

APP_{SL} Transgenic Mouse Model

The APP_{SL} mouse model overexpresses human APP751 with Swedish and London mutations under the control of the neuron specific murine Thy1 promoter.

- Early onset of brain pathology (3-4 months)
- Progressive learning & memory impairments in the Morris water maze (MWM)
- Progressive increase in amyloid plaque burden and CAA
- Early concomitant microgliosis & astrocytosis
- Increased oxidative stress & altered cholesterol profile

Morris Water Maze

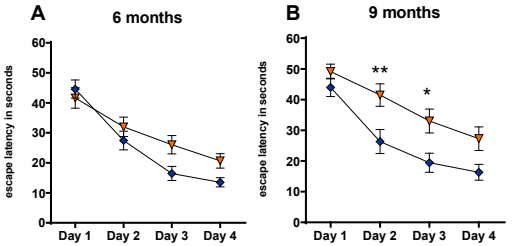

Figure 1. Morris water maze. Escape latencies of 6, 9 and 12 months old animals. Mean ± SEM; 6 and 9 months: n = 19 - 21; 12 months: n = 13 - 22; Two-way ANOVA with Bonferroni's *post hoc* test; *p<0.05, **p<0.01).

Aβ Expression

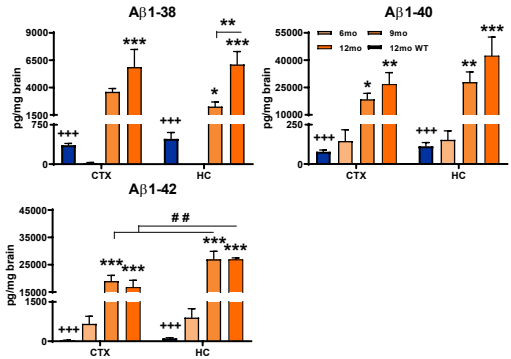

Figure 2: Quantification of Aβ levels in APP_{SL} mice over age. Amount of $Aβ_{1-38}$ (A), $Aβ_{1-40}$ (B) and $Aβ_{1-42}$ (C) in cortical (CTX) and hippocampal (HC) samples of 6-, 9- and 12-month old APP_{SL} mice and 12-month old wild type (WT) littermates measured with MSD immunosorbent assay using the 4G8 antibody. n = 8 - 10 per group. Two-way ANOVA with Bonferroni's *post hoc* test. *p<0.05, **p<0.01; ***p<0.001.

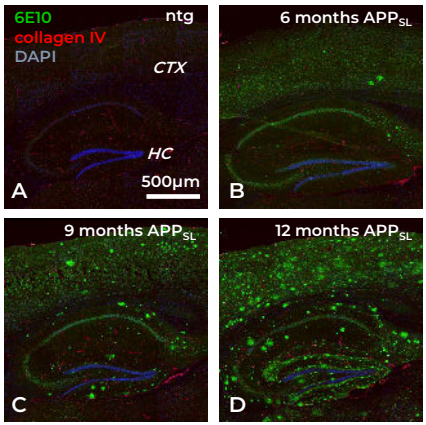

Figure 3: Qualitative comparison of plaque pathology of APP_{SL} transgenic mice at 6, 9 and 12 month of age compared to non-transgenic littermates. Tissue was labeled with antibody 6E10 (green), collagen IV (red) and DAPI (blue).

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