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*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

**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).

Figure 1
**Morris Water Maze**

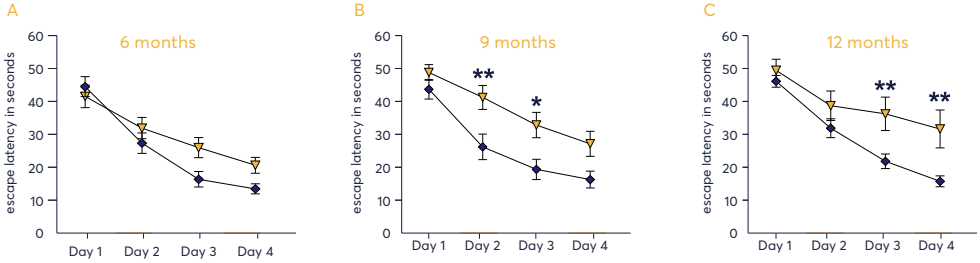



**Figure 2:**
Quantification of Aβ levels in $APP_{SL}$ mice over age. Amount of Aβ1-38 (A), Aβ1-40 (B) and Aβ1-42 (C) in cortical (CTX) and hippocampal (HC) samples of 6-, 9- and 12-month old $APP_{SL}$ mice and 12-month old wild type (WT) littermates measured with MSD immunosorbent assay using the 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 2
**Aß Expression**

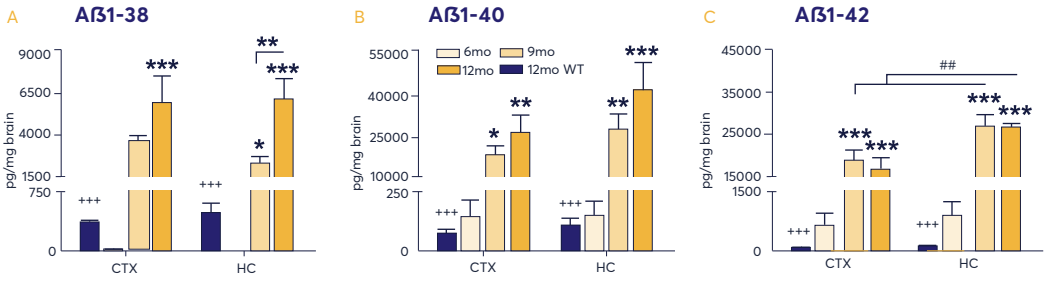
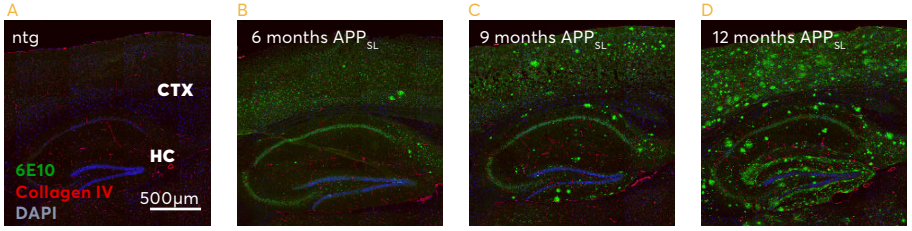



**Figure 3:**
Qualitative comparison of plaque pathology of $APP_{SL}$ transgenic mice at 6, 9 and 12 month of age compared to non-transgenic littermates. Tissue was labeled with antibody 6E10 (green), collagen IV (red) and DAPI (blue).

Figure 3





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Discovery


**Important note:**
Representative data are shown throughout this document. However, biological variability might cause deviations from shown data.


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