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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

Morris Water Maze

Figure 1: A

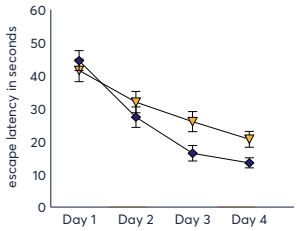


Figure 1: B

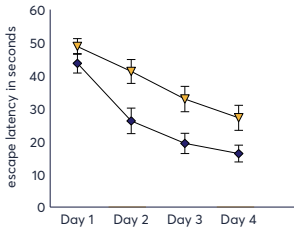


Figure 1: C

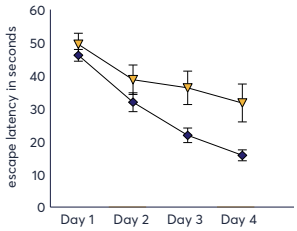


Figure 1:
Morris water maze. Escape latencies of 6, 9 and 12 months old animals. Mean ± SEM; 6 and 9 months: n = 19 - 21; 12 months: n = 13 - 22; Two-way ANOVA with Bonferroni's post hoc test; *p<0.05, **p<0.01).

Aß Expression

Figure 2: A

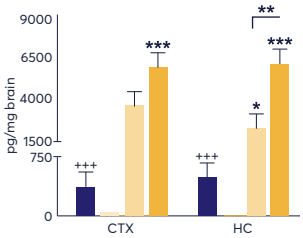


Figure 2: B

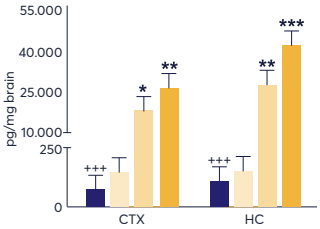


Figure 2: C

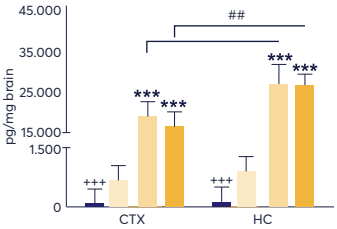


Figure 2:
Quantification of Aβ levels in APPSL mice over age. Amount of Aβ1-38 (A), Aβ1-40 (B) and Aβ1-42 (C) in cortical (CTX) and hippocampal (HC) samples of 6-, 9- and 12-month old APPSL mice and 12-month old wild type (WT) littermates measured with MSD immunosorbent assay using the 4G8 antibody. 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: A
ntg

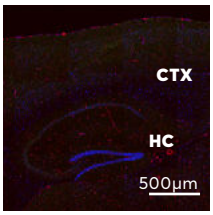


Figure 3: B
6 months APP_{SL}

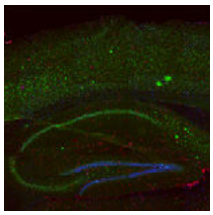


Figure 3: C
9 months APP_{SL}

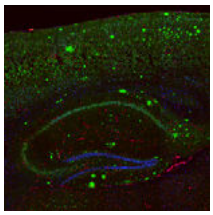
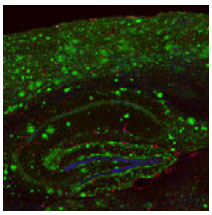


Figure 3: D
12 months APP_{SL}



6E10
collagen IV
DAPI

Figure 3:
Qualitative comparison of plaque pathology of APPSL 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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Discovery

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