# In vivo Animal Models **AD / Tauopathy**



## **TMHT** Transgenic Mouse Model

The TMHT (Thy1 Mutated Human Tau) mouse was developed in-house and is exclusively available at QPS Austria. TMHT mice overexpress the human TAU441 with two mutations, V337M and R406W under control of the neuron- specific murine Thy1 promoter.

- · Cognitive deficits in the Morris water maze starting at 5 months of age
- · No motor deficits
- TAU phosphorylation at Thr181, Ser202, Thr231/Ser235, Ser396/Ser404

## 5 months

soluble total rau

Figure 2: A

70.000

60.000

50.000 units]

40.000

30.000

20.000

10.000

0

[arb.



soluble ptau

Figure 2: B

200.000

175.000

150 000

125.000

75.000

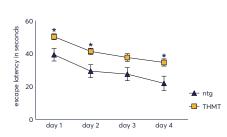
50.000

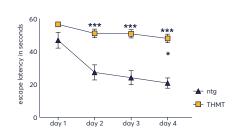
25.000

0

units

[arb. 100.000





soluble and insoluble Tau and pTau expression levels in the hippocampus of 3 to 13 months old TMHT mice compared to non-transgenic animals by MSD immunosorbent assay. A: Soluble total Tau levels. **B:** Soluble pTau Thr231 levels. n = 4 - 13. Mean ± SEM. Two-way ANOVA with Bonferroni's post hoc test. \*\*\*p< 0.001

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Figure 3: Immuofluorescent of total tau (HT7) and pTau Thr231 (AT180) labeling in the amygdala of 2, 6 and 12 months old TMHT mice.

### Figure 2:

Figure 1:

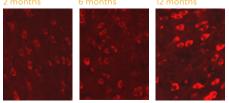
Morris water maze escape latencies of 5 and 8 month old TMHT mice. Mean ±

SEM; n = 19 - 54; Two-way

ANOVA with Bonferroni's post hoc test; \*p<0.05, \*\*\*p<0.01.

Quantitative analysis of

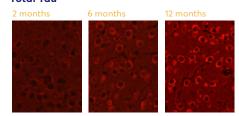
pTau Thr231



9 11 13 15

age in months

## Total Tau



7 9 11 13 15

age in months

Flunkert et al. Elevated Levels of Soluble Total and Hyperphosphorylated Tau Result in Early Behavioral Deficits and Distinct Changes in Brain Pathology in a New Tau Transgenic Mouse Model. Neurodegener Dis. 2012 Jul 10.

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