

TDP-43 Transgenic Mouse Model

This Amyotrophic Lateral Sclerosis (ALS) mouse model overexpresses the human wild type TDP-43 gene under the regulatory control of the murine Thyl promoter.

- Neuronal TARDBP expression in the whole CNS
- Neuronal loss in the lumbar spinal cord
- Strong neuronal loss in the thalamus starting from very young age
- Neuroinflammation
- Early onset of motor deficits & anxiety, worsening over age
- Impaired emotional learning

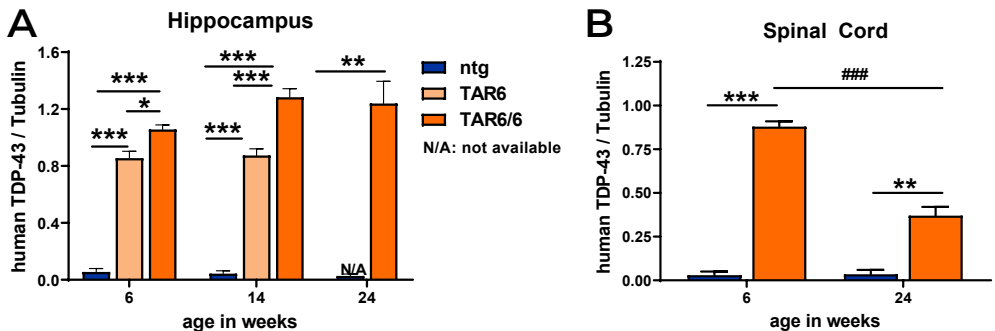


Figure 1: Quantitative human TDP-43 expression in the hippocampus and spinal cord of 6, 14 and 24 week old TAR6/6, TAR6 and non-transgenic (ntg) mice. Densitometric analysis of human TDP-43 levels normalized to tubulin levels of hippocampal homogenates. Two-way ANOVA with Newman-Keul's multiple comparison test. Mean + SEM; n = 3 - 4; *p<0.05; **p<0.01; ***p<0.001.

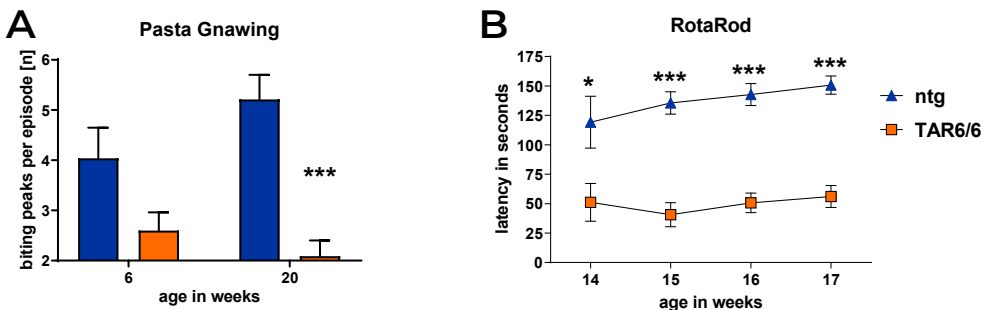


Figure 2: Motor deficits of TAR6/6 transgenic mice. Biting peaks per episode in the pasta gnawing test (A) and latency to fall off the RotaRod (B) of TAR6/6 male animals compared to ntg littermates. n = 10-15; Two-way ANOVA with Bonferroni's *post hoc* test; ***p<0.001.

Wills et al., TDP-43 transgenic mice develop spastic paralysis and neuronal inclusions characteristic of ALS and frontotemporal lobar degeneration. PNAS USA. 2010 Feb 23; 107(8):3858-63.