

ALS



TDP-43 Induced Mouse Model

C57BL/6 mice were injected into the motor cortex with adeno-associated viral (AAV) particles with serotype 9 that express human TDP-43 (AAV9-GFP-hTDP-43). Animals were 3 months of age at start and analyzed for 6 months. Control animals were injected with AAV9-GFP. AAV9-GFP-hTDP-43 injected animals show:

- · Increased anxiety
- · Learning deficits
- Early motor impairments

- · Increased neuroinflammation
- · Increased ubiquitination
- Neuronal loss

Figure 1:
Wire hanging in AAV9-GFP-hTDP-43 and control mice. Latency to fall off the wire was measured.
Two-Way-ANOVA with Bonferroni post hoc test.
Mean + SEM. Control: n = 16, hTDP-43: n = 20. * p < 0.05, ** p < 0.01, *** p < 0.001.

Figure 2:
Western blot analysis of human and total TDP-43 expression in the cortex of AAV9-GFP-hTDP-43 and control mice 6 months after injection. Samples were homogenized in RIPA buffer. GAPDH as loading control. PC: positive control = hippocampal RIPA sample of transgenic TDP-43 mouse. NC: negative control = untreated wild type mouse.

Figure 3:
Immunolabeling of GFP
(white), human TDP-43
(red), Iba1 (microglia
marker, green) and nuclei
(DAPI, blue) in the brain
of AAV9-GFP-hTDP-43
injected and control
mice. Coronally cut
brain samples at 0.62
mm. White box: Area of
injection magnified at the
right. Virus was injected
bilaterally into the motor
cortex region M1 of 3
months old mice. Mice
were sampled 6 months

Wire Hanging

Figure 1: A

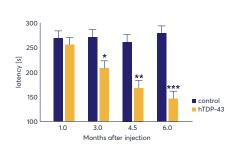


Figure 2:

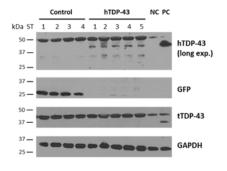


Figure 3: A

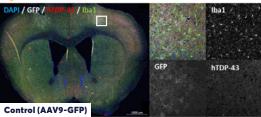
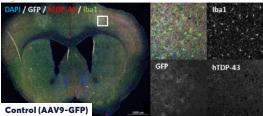


Figure 3: E



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after injection.

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