

# Multiple Sclerosis



## Cuprizone Induced Mouse Model

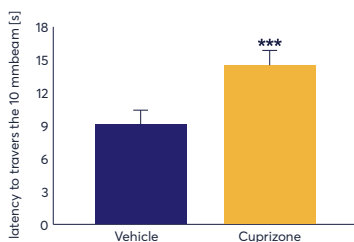
Cuprizone is a copper chelator, that causes rapid demyelination and gliosis, and rapid proliferation of glia subtypes. The cuprizone mouse model captures several aspects of MS pathology like demyelination / remyelination, cognitive decline, altered activity and motor deficits. C57Bl/6 mice are fed with cuprizone-containing chow for 1 month. Behavioral changes are analyzed within the last week of cuprizone treatment.

- Motor deficits
- Reduced myelination
- Reduced MAO activity
- Neuroinflammation

**Figure 1:**  
Beam walk test of C57Bl/6 mice after 4 weeks of cuprizone treatment. Latency to traverse a 10 mm wide square beam in seconds. Mean + SEM; n = 10 per group; Mann-Whitney test; \*\*\*p<0.001.

### Beam Walk

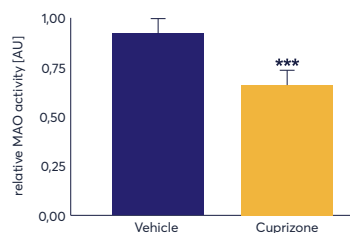
Figure 1:



**Figure 2:**  
MAO activity in brain lysates of C57Bl/6 mice after 4 weeks of cuprizone treatment. Mean + SEM; n = 10 per group; t-test; \*\*\*p<0.001.

### MAO Activity in the Brain

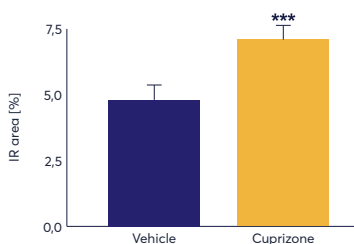
Figure 2:



**Figure 3:**  
Quantification of astrocytes in the hippocampus of cuprizone treated C57Bl/6 mice. Immunoreactive area in percent and object density. Unpaired t-test or non-parametric Mann-Whitney U-test. n = 10 per group; Mean + SEM. \*\*\*p<0.001.

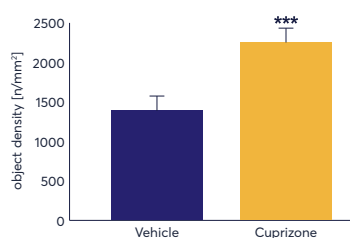
### Hippocampus

Figure 3:



### GFAP

Figure 3:



Xu H. et al., 2009: Xu H, Yang HJ, Zhang Y, Clough R, Browning R, Li XM. Behavioral and neurobiological changes in C57BL/6 mice exposed to cuprizone. Behav Neurosci. 2009 Apr;123(2):418-29.

