

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 Multiple Sclerosis (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 C57BI/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.

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.

Figure 1 Beam Walk

Figure 3

Hippocampus



Figure 2
MAO Activity in the Brain

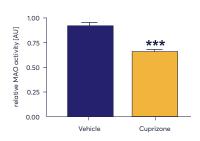
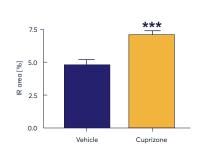


Figure 3:
Quantification of astrocytes in the hippocampus of cuprizone treated C57BI/6 mice. Immunoreactive area in percent and object density. Unpaired t-test or non-parametric Mann-Whitney U-test. n = 10 per group; Mean + SEM.

***p<0.001.



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.

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Discovery

Important note:

Representative data are shown throughout this document. However, biological variability might cause deviations from shown data.

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