In vivo Animal Models

Schizophrenia

MK801 Induced Mouse Model

The non-competitive NMDA receptor antagonist Dizocilpine (MK-801) produces complex symptoms that mimic positive and negative symptoms, as well as cognitive deficits of schizophrenia. C57Bl/6 mice are injected with MK-801 causing:

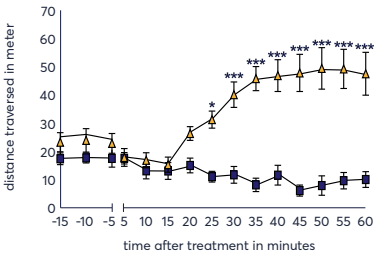
- Increased activity
- Reduced emotional learning

Figure 1:
Open field test.

A: Distance traversed of MK-801-treated animals compared to sham treated control.
B: Hyperactivity level of MK-801-treated animals compared to sham treated control. Mean ± SEM; Two-way ANOVA with Bonferroni's post hoc test. *p<0.05; ***p<0.001.

Distance Traversed

Figure 1: A



Hyperactivity

Figure 1: B

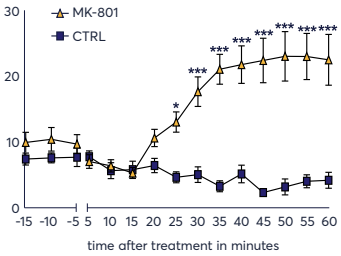
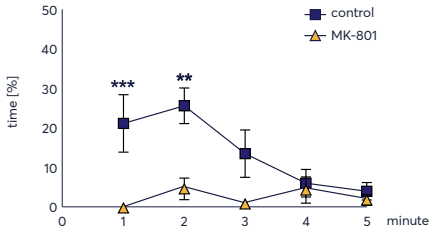


Figure 2:
Contextual fear conditioning test. Percentage of freezing of MK-801- and sham-treated animals during the contextual phase of the CFC.

A: Freezing behavior over a 5 minutes testing period;
B: total freezing time.
Mean ± SEM, Two-way ANOVA with Bonferroni's post hoc test (A), t-test (B); **p<0.01; ***p<0.001.

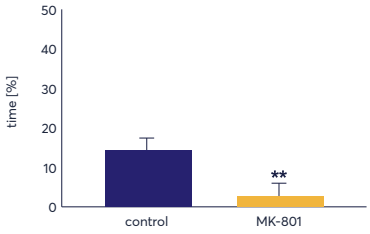
Freezing Time

Figure 2: A



Freezing Time

Figure 2: B



Csernansky JG, Martin M, Shah R, Bertchume A, Colvin J, Dong H. Neuropsychopharmacology, 2005 Dec;30(12):2135-43. Cholinesterase inhibitors ameliorate behavioral deficits induced by MK-801 in mice.

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