

# The effect of diol on behavior in a MPTP-induced model of Parkinson's disease in mice



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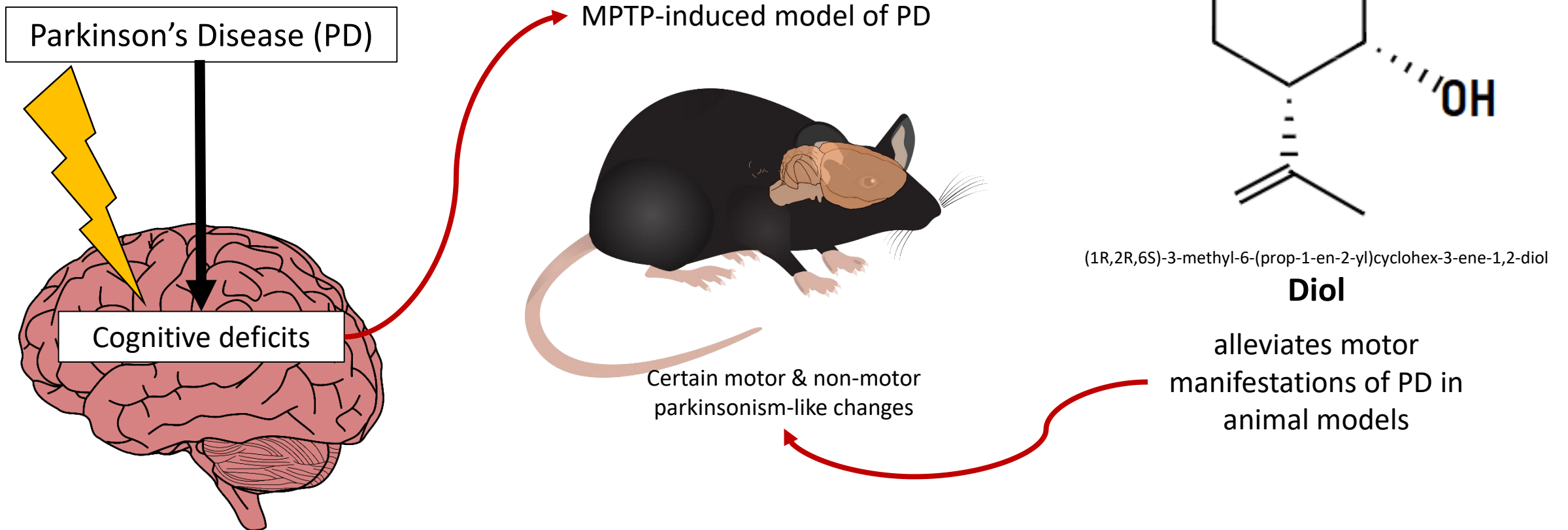
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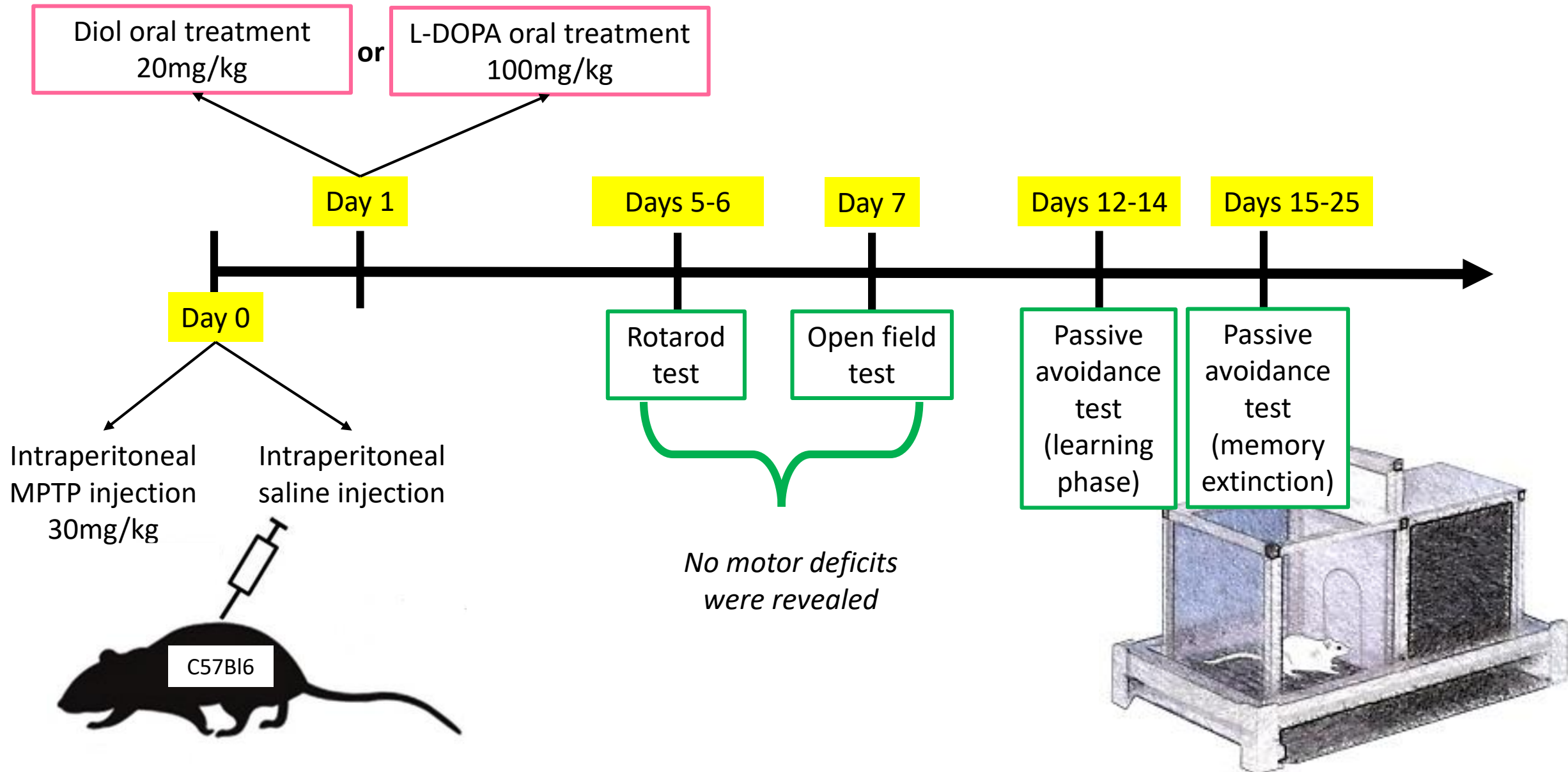
# Background & goal

**Aim:** evaluating cognitive function using behavioral tests in mice with MPTP-induced PD-like disturbances treated with Diol.

**Modeling of PD** was performed by intraperitoneal injecting 30 mg/kg MPTP



# Materials & methods

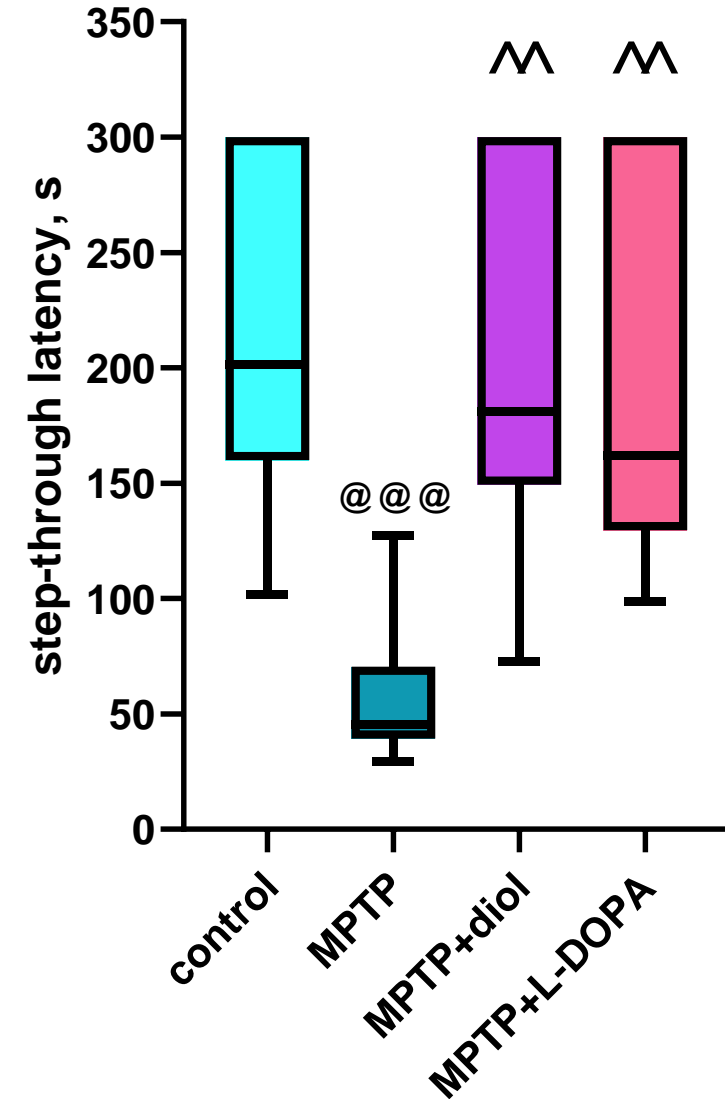


# Results



Compared to mice treated with MPTP, those treated with MPTP and Diol showed a *recovery in learning*

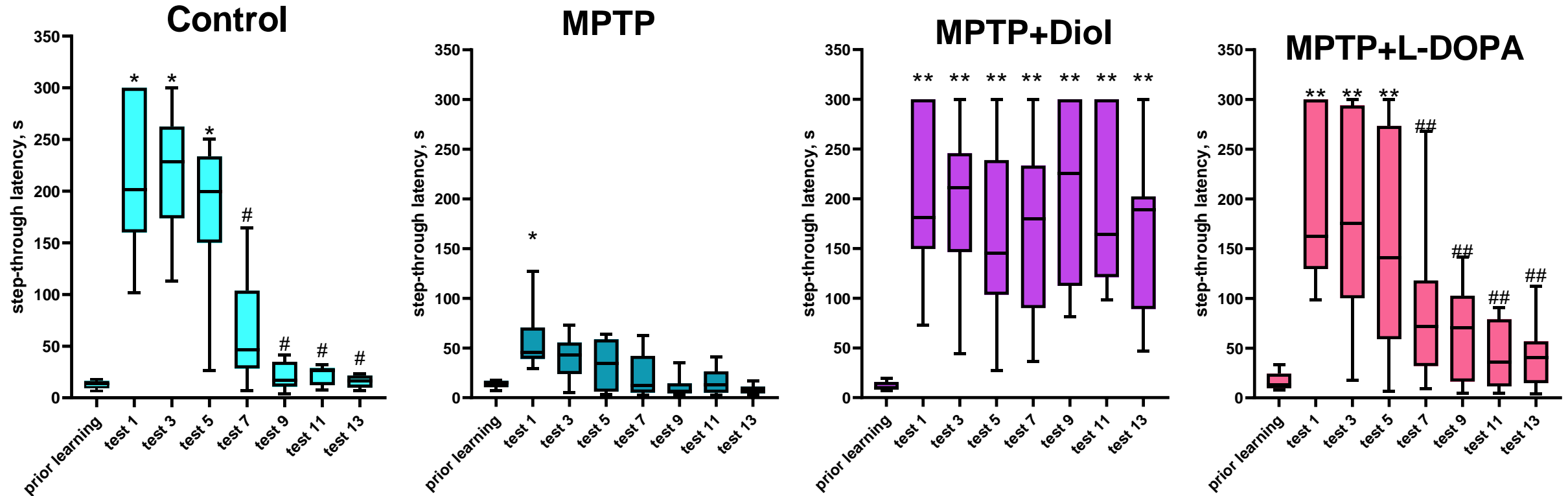
Step-through latency at the 1st testing day



@@@ -  $p < 0.001$  comparing to control group,  
^^ -  $p < 0.01$  comparing to MPTP-treated group

# Results

## Learning and extinction of passive avoidance response dynamics



\* -  $p < 0.05$ ; \*\* -  $p < 0.01$  comparing to the level prior learning;  
# -  $p < 0.05$ ; ## -  $p < 0.01$  comparing to the 1st day of testing (test 1).

Compared to mice treated with MPTP, those treated with MPTP and Diol showed an **enhanced memory reconsolidation**. L-DOPA had similar to Diol positive effect on learning while the dynamics of memory extinction was similar to that in control group.

# Main observations

*Comparing to mice treated with MPTP, mice treated with MPTP and Diol showed:*

- 👁️ a recovery in learning;
- 👁️ enhanced memory reconsolidation;
- 👁️ no signs of motor disturbances;
- 👁️ similar to the L-DOPA positive effect on learning.

# Conclusion



Thus, ***the Diol indeed has beneficial effect on behavioral changes*** (namely cognitive deficits) in MPTP-induced model of Parkinson's disease in mice

**Acknowledgement.** The study was supported by budgetary funding for basic scientific research of the Scientific Research Institute of Neurosciences and Medicine (theme No. 122042700001-9 (2021-2025)). The studies were partially implemented using the Unique scientific installation "Biological collection - Genetic biomodels of neuro-psychiatric disorders" (No 493387) at the Scientific Research Institute of Neurosciences and Medicine.