Parkinson's disease (PD) is a common neurodegenerative disorder which cardinal clinical features include tremor, slowness of movement, stiffness, and postural instability. These symptoms are primarily attributable to the degeneration of dopaminergic neurons in the substantia nigra pars compacta and the consequent loss of their projecting nerve fibers in the striatum. Mice treated with MPTP selectively lose significant numbers of nigrostriatal dopaminergic neurons. MPTP-induced dopaminergic cell loss in the substantia nigra mimics clinical conditions of PD and is therefore a useful preclinical model to test anti-parkinsonian drugs.

To use this model for compound tests against PD, it is important to understand the progressive development of MPTP lesioning to choose the correct timing for analysis after the MPTP lesion.

C57Bl/6 mice were treated with a MPTP regime and analyzed for Dopamine (DA), DOPAC and HVA 4 days after MPTP lesioning. For MPTP lesioning, animals were treated i.p. 4 times with 20 mg/kg MPTP within 6 hours. 7-Nitroindazole in peanut oil was given i.p. 30 min before and 90 min after first MPTP treatment. Vehicle: PBS; n = 5; Mean + SEM. *p<0.005; **p<0.01; One-way ANOVA. Compared to vehicle treated animals.

**RESULTS**

**SUMMARY and CONCLUSION**

Our results show that it is of high importance to select the correct brain region and time point after MPTP lesioning for evaluation of different readouts.

Analyses of DA levels shortly after the MPTP lesioning resulted in increased DA levels in the substantia nigra at very early and later time points but decreased levels after 12 hours. Similar effects could be observed for DOPAC while HVA levels stayed almost constant. Evaluations in the striatum 4 days after MPTP lesioning showed severely reduced DA, DOPAC and also HVA levels that could partially be rescued by 7-nitroindazole treatment.