Dec 19, 2023

Motor behavioral evaluation of mice

DOI
https://dx.doi.org/10.17504/protocols.io.x54v9p5kqg3e/v1

Tae-Un Han[1]

[1]National Institute of Health

Tae-Un Han
NIH/NHGRI

DOI: https://dx.doi.org/10.17504/protocols.io.x54v9p5kqg3e/v1

Protocol Citation: Tae-Un Han 2023. Motor behavioral evaluation of mice. **protocols.io** https://dx.doi.org/10.17504/protocols.io.x54v9p5kqg3e/v1

Protocol status: Working
We use this protocol and it's working

Created: December 18, 2023

Last Modified: May 31, 2024

Protocol Integer ID: 92470

Keywords: ASAPCRN, Rotarod, Beam walk, Motor behavior, motor behavioral evaluation of mice, motor coordination of mice, motor coordination, models of neurological disorder, mice, neurological disorder, behavioral evaluation, motor

Funders Acknowledgements:
ASAP
Grant ID: ASAP-000458

Abstract

This is a general protocol to test motor coordination of mice used models of neurological disorder

Rotarod test

1 On first day, mice are acclimated to standing on a non-rotating rod (Rotamex 5, Columbus Instrument) for three 00:01:00 trials with 00:10:00 interval. 11m

2 Three hours later, mice are acclimated to walking on the rod over three 00:01:30 trials at a speed of 4 rpm 1m 30s

3 On next day, latency of mice staying in the rotarod is recorded with accelerating speed of 4-40 rpm increasing by 1 rpm every 8.3 seconds for a maximum of 00:05:00 per trial. 5m

4 Repeat experiment for three trials daily for two days

Beam walk test 5m

5 Mice are trained to cross beams of 1~1.5m length of round beam. 24mm and 18mm diameter of beams are used.

6 Beam-crossing training is done for three times for two days

7 During the experimental day, its motor coordination will be measured by determining the number of slips, the latency required to cross the beam as the mouse traverses the beam.

8 For actual experiment, mice crosses both beams twice per trial for three trials win 00:05:00 resting periods in between trials 5m