

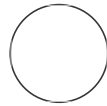


SEP 26, 2023

Rotarod test for assessing motor coordination and balance (Rat)

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Protocol Citation: devilbiss 2023. Rotarod test for assessing motor coordination and balance (Rat).
protocols.io
<https://protocols.io/view/rotarod-test-for-assessing-motor-coordination-and-c2j9ycr6>

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

Created: Sep 26, 2023

Last Modified: Sep 26, 2023

PROTOCOL integer ID:
88417

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ABSTRACT

This is a variant of the published Med-Associates protocol used to study the effects of mild TBI on motor performance and balance. The original manual/protocol can be found here: <https://med-associates.com/wp-content/uploads/2022/09/DOC-056-R2.2-ENV-577-ROTA-ROD-TREADMILLS.pdf>

In these experiments, animals were trained/acclimated to the Rotarod for 3 consecutive days (9 trials total) prior to induction of TBI. Post-injury, animals were re-tested on days 1, 3, and 5 to assess sensorimotor performance and balance improvements over time.

MATERIALS

Rotarod device (e.g. <https://med-associates.com/product/rota-rod/>)
Disinfectant wipes (70% EtOH or <https://peroxigard.com/product-information/wipes/>)

Daily testing on Rotarod

- 1 Setup Rotarod for daily use
 - 1.1 Turn on Rotarod and sanitize with an IACUC-approved method (e.g. <https://peroxigard.com/product-information/wipes/>)
 - 1.2 Verify Rotarod is set to accelerate from 4-40 RPM over 5 Min (Setting #9 on ENV-577; Med-Associates. Inc.)
 - 1.3 Reset all photobeams and counters
- 2 Start the Rotarod at a fixed rotational speed.
(Push the toggle switch down to the RESET position and release)
- 3 Test animal's ability to remain on accelerating Rotarod
 - 3.1 Place animal(s) on rod (facing away from you).
(animals will walk in a forward motion).
 - 3.2 Allow animal(s) a 5 sec. to acclimate to task.
 - 3.3 Start acceleration of rod rotation and timer

(Move switch to ON/ACCEL position)

- 3.4** Record time (in sec.) when
- 1) animal falls (breaks IR beam) or
 - 2) maintains grip for a full rotation of rod or
 - 3) 300 sec has passed
- (remove animal from testing lane as each one completes task and return to home cage)

- 4** Allow animals 15 min inter-trial interval rest in home cage.

- 5**  go to step #1.3 Repeat for a total of 3 trials

- 6** Average times across each of the 3 trials.