

Description of Procedure:

This test is used to evaluate motor coordination and balance.

Supplies:

- Rotarod apparatus
- Computer-controlled automated system (optional)
- Padding that is easy to maintain and disinfect (optional depending on height of apparatus).

Example of Rota Rod:



Mouse Rota Rod Treadmill

Procedure Steps:

1. The rod is typically 15 cm above the base. The rod and base are cleaned prior to use.
2. The animal is placed in a lane on the rod, which is either stationary or already rotating, facing away from the researcher.
3. In the fixed speed version of the test, the rod turns at a constant rotation speed (4-16 rpm) for the entire length of the trial, which is typically 1-5 minutes. In the accelerating speed version of the test, the rod slowly accelerates from 4 rpm to up to 40 rpm. Performance is usually assessed by averaging the length of multiple trials, with a minimum of 10 minutes inter-trial-interval (ITI). Multiple sessions may be run in 1 day, with a maximum of 6 trials per animal per day.
4. The trial ends when the animal falls off the rod or when the maximum trial length cutoff is reached.
5. Variations of trial length cutoffs and re-run trials can be used. For example, a fourth (re-run) trial may be performed if the animal does not move and instead clings to passively rotate (instead of actively running to remain at the apex of the rotating surface) 1 or 3 consecutive times, or if the animal falls off <5 seconds after the start of trial. The maximum trial length is 5 minutes, and the maximum number of trials is 6 trials per animal per day.
6. Animals should be given at least 24 hours between testing days and tested no more than 3 times per week.
7. Some strains may require a training session prior to testing.

8. Computerized systems can automatically record the rpm at the time of fall, latency to fall and termination of the trial.

Protocol requirements:

RIO Documents Section:

- Email a completed [Documentation of Sanitation Procedures form](#) to LARC (ORRodentNurses@ucsf.edu) for review and to request ATP testing. Once sanitation procedure is approved, upload completed form to Documents section of RIO protocol and post in procedure room.