

SOP No: AHT 21

SUBJECT: Rotarod test for rodents

POLICY: This technique may only be performed by operators skilled in the technique.
The rotorod test is used for measuring coordination and balance in mice and rats.

PRECAUTIONS:

EQUIPMENT: A rotating drum (diameter 30mm) with variable speed between 8 and 40rpm
The drum is 150mm above the bench, which is lined with tissue/bench towel

PROCEDURE: Bring animals into room (with lighting levels as will be used in the experiment and doors shut) at least 30 mins before beginning experiment.
Drugs/compounds should be given at appropriate absorption times prior to introducing rats/mice to the apparatus
At the end of each trial, the rotorod is cleaned with 70% alcohol solution, and dried with paper towelling.
Protocol consists of training and testing phases;

Training:

Mice are placed on the rotating drum, which will increase speed from 8 to 40rpm gradually over 5min.
If an animal falls it is placed back on the drum immediately
This protocol is repeated 5 times over 5min

Testing:

Another day, usually one week after training, the mice are again placed on the rotating drum, however the drum is now at a fixed speed.
All animals undergo one 5min trial at 24rpm, and one 5min trial at 40rpm.

Assessments:

Latency to fall off drum in both the training and testing trials
Number of times fallen off in both the training and testing trials

Lack of balance will result in low latency to fall and how many falls encountered in all tests.

RECOMMENDATION

DATE ISSUED: 25.02.2009

REVISED:

REFERENCES

1. Hatcher, J.P., et al., (2002) The behavioural effect of middle cerebral artery occlusion on apolipoprotein-E deficient mice. *Behav Brain Res.* 131(1-2): p. 139-49.
2. Barcia, J. A., Rubio, P., Alos, M., Serralta, A., & Belda, V. (1999). Anticonvulsant and neurotoxic effects of intracerebroventricular injection of phenytoin, phenobarbital and carbamazepine in an amygdala-kindling model of epilepsy in the rat. *Epilepsy Res.* 33, 159-167.