Rotarod JAX_ROT_001

Purpose
To assess motor co-ordination, motor learning, and balance phenotype in rodents.

Description:
MP:0001516 Abnormal motor coordination/balance
MP:0002804 Abnormal motor learning

Experimental Design

- **Minimum number of animals**: 7M + 7F
- **Age at test**: Week 11
- **Sex**: We would expect the results of this test to show sexual dimorphism

Procedure

The Rotarod is equipped with a 70mm diameter rat adaptor and covered with automotive wet or dry 320 grit sandpaper or equivalent. Sandpaper is applied with rubber cement, ensuring that no gap remains between the paper and the rod dividers.

1. Mice are allowed to acclimatise to the phenotyping room for a period of 30 minutes prior to testing.
2. Mice are tested for 5 trials with an acceleration of 20 rpm/min.
3. On each trial mice are placed in separate compartments of the rotating rod.
4. The latency to fall into the tray for each mouse is recorded by photobeam break.
5. Mice remain in tray for the remainder of the trial.
6. A 30 s intertrial interval begins after the last mouse falls.
7. Equipment will be cleaned between tests using unscented 1% Virkon S.

Notes

Fusion software data output per trial per mouse. (5 trials 4 mice per trial)

Learning slope is obtained as a regression slope using the duration over the five trials as shown below. Log transformation could be used to linearize the data prior to obtaining a slope.

A description of what local QC should be undertaken, and in addition what the DCC should do.
Failure to stay on wheel at start of test-coordination issues, mice may hold any damaged edges of the sandpaper, equipment fault (Ex. Servo Reset error), Trial interrupted, and calibration/recording errors are possible reasons to exclude data point from analysis. All trial error will be shown as ServoReset or N/A in the outcome column.

If any values in a derived field are missing field it is scored as Null.

**Parameters and Metadata**

**Latency to fall** JAX_ROT_001_001 | v1.0

*seriesParameter*

Req. Analysis: false  
Req. Upload: true  
Is Annotated: true

Unit Measured: s

Increments: 1, 2, 3, 4, 5,

**Average duration** JAX_ROT_002_001 | v1.4

*simpleParameter*

Req. Analysis: false  
Req. Upload: false  
Is Annotated: true

Unit Measured: s

Derivation: meanOfIncrements('JAX_ROT_001_001', 5)

**Learning difference** JAX_ROT_003_001 | v1.3

*simpleParameter*
Learning slope JAX_ROT_004_001 | v1.2

Unit Measured: s/trial

Time of test JAX_ROT_005_001 | v1.1

Unit Measured: s

Chamber JAX_ROT_006_001 | v1.0

Options: 1, 2, 3, 4,
**Experimenter ID** JAX_ROT_008_001 | v1.1

**Diameter of rod** JAX_ROT_009_001 | v1.1

**Material of rod cover** JAX_ROT_010_001 | v1.0

**Start speed** JAX_ROT_011_001 | v1.2

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**Unit Measured:** mm

**Options:** 70,

**Options:** 320 grit sandpaper,
Unit Measured: rpm
Options: 0, 4,

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**Acceleration** JAX_ROT_012_001 | v1.3
procedureMetadata


Unit Measured: rpm

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**Max trial duration** JAX_ROT_013_001 | v1.0
procedureMetadata


Unit Measured: min
Options: 5,

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**Equipment ID** JAX_ROT_014_001 | v1.0
procedureMetadata

Equipment manufacturer JAX_ROT_015_001 | v1.0

procedureMetadata


Options: Accuscan, Med Associates,

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Equipment model JAX_ROT_016_001 | v1.0

procedureMetadata


Options: Fusion, SOF-ENV-575,