Light-Dark Test JAXLA_LDT_002

Purpose

To monitor the anxiety-related behaviour of mice in a two-chambered light-dark arena over a defined period of time in order to assess the anxiety phenotype.

Experimental Design

- **Minimum number of animals :** 7M + 7F
- **Age at test:** Week 70
- **Sex:** We would expect the results of this test to show sexual dimorphism

Procedure

1. Light levels are set so that the light intensity within the light arena is between 100 – 200 lux and the dark arena is at 4-7 lux. Light metering is performed at the start of each test day.

2. The method of recording is set up with each arena defined. The light arena is approximately one third to half of entire chamber.

3. One mouse is placed in each ***light arena*** and recording is started.

4. A minimum of 5 minute should be recorded up to a maximum of 20 minutes.

5. At the end of the trial, the mice are removed from the arena and returned to their home cages.

6. The chambers are cleaned with disinfectant between mice to decontaminate and remove scent cues from previously tested mice.

7. Analysis of the recording is done to measure the activity of each mouse in each of the two zones and the number of transitions between zones.

Notes

Local data processing may be implemented to calculate derived measures from this data.

Data QC

Local QC data to assure all data fields have recorded data. In the case all data fields have a value of 0 that particular mouse data will be removed.

1. Verify the total time of each run

Parameters and Metadata

Light side arena dimensions (L x W x H, in mm) JAXLA_LDT_029_002 | v1.0

procedureMetadata

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

Options: 433 x 215 x 305, 180 x 207 x 140, 431.8 x 212.725 x 203.2, 250 x 190 x 250,

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Total distance travelled JAXLA_LDT_015_002 | v1.0

seriesParameter

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

Unit Measured: cm

Increments: 10, 15, 20, 5,

Entry way dimensions (L x W x H, in mm) JAXLA_LDT_031_002 | v1.0

procedureMetadata

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

Options: 90 x 3 x 115, 101.6 x 3.175 x 101.6, 50 x 100 x 5,

Vertical activity (rearing) JAXLA_LDT_012_002 | v1.0

seriesParameter

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

Unit Measured: count

Increments: 5, 20, 15, 10,

Light level light chamber JAXLA_LDT_016_002 | v1.0

procedureMetadata

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

Unit Measured: Lux

Options: 275 Lux, 100 - 200,

Percent time in light JAXLA_LDT_008_002 | v1.0

simpleParameter

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

Unit Measured: %

Derivation:
mul(div(sub(sumOfIncrements('JAXLA_LDT_002_002',1), 'JAXLA_LDT_006_002'), add (sumOfIncrements('JAXLA_LDT_004_002',1), sub(sumOfIncrements('JAXLA_LDT_002_002', 1), 'JAXLA_LDT_006_002'))), 100)

Software version JAXLA_LDT_034_002 | v1.0

procedureMetadata

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

Options: Activity Monitor V6.02, Activity Monitor V7.0.5.10,

Time mobile dark side JAXLA_LDT_005_002 | v1.0

seriesParameter

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

Unit Measured: s

Increments: 10, 20, 5, 15,

Arena version JAXLA_LDT_021_002 | v1.0

procedureMetadata

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

Options: Custom made, MED-OFAS-RSU,

Repetitive beam break ('stereotypy counts') JAXLA_LDT_014_002 | v1.0

seriesParameter

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

Unit Measured: count

Increments: 20, 5, 10, 15,

Side changes JAXLA_LDT_001_002 | v1.0

seriesParameter

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

Unit Measured: count

Increments: 15, 5, 10, 20,

Light-Darkbox set-up JAXLA_LDT_028_002 | v1.0

procedureMetadata

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

Options: Cabinet enclosure, Standalone,

Disinfectant JAXLA_LDT_025_002 | v1.0

procedureMetadata

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

Options: Distel 2%, 50% Ethanol, 70% Isopropanol, 10% Nolvasan Solution, 70% ethanol, Pursept-A, Alcohol, 1% Virkon solution, Clidox, 50% alcohol,

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Light level dark chamber JAXLA_LDT_017_002 | v1.0

procedureMetadata

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

Unit Measured: Lux

Options: 4 - 7,

Light side time spent JAXLA_LDT_002_002 | v1.0

seriesParameter

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

Unit Measured: s

Increments: 20, 5, 10, 15,

Dark side time spent JAXLA_LDT_004_002 | v1.0

seriesParameter

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

Unit Measured: s

Increments: 10, 15, 20, 5,

Starting position JAXLA_LDT_026_002 | v1.0

procedureMetadata

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

Options: Facing away from entry, Facing towards entry,

Test duration JAXLA_LDT_033_002 | v1.0

procedureMetadata

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

Unit Measured: min

Options: 5, 20, 10,

Equipment ID JAXLA_LDT_022_002 | v1.0

procedureMetadata

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

Options: Light-Dark Insert, Dark Box Insert ENV-516, Custom made,

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Arena ID JAXLA_LDT_020_002 | v1.0

procedureMetadata

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

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Horizontal activity JAXLA_LDT_013_002 | v1.0

seriesParameter

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

Unit Measured: count

Increments: 15, 10, 5, 20,

Latency to first transition into dark JAXLA_LDT_006_002 | v1.0

simpleParameter

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

Unit Measured: s

Time mobile light side JAXLA_LDT_003_002 | v1.0

seriesParameter

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

Unit Measured: s

Increments: 20, 5, 10, 15,

Equipment manufacturer JAXLA_LDT_023_002 | v1.0

procedureMetadata

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

Options: Med Associates, Accuscan, Med Association Inc., Custom made,

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Experimenter ID JAXLA_LDT_018_002 | v1.0

procedureMetadata

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

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Transition JAXLA_LDT_009_002 | v1.1

simpleParameter

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

Options: No, Yes,

Equipment model JAXLA_LDT_024_002 | v1.0

procedureMetadata

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

Options: Versamax, Custom made, Activity Test Chamber ENV-515,

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Percent time in dark JAXLA_LDT_007_002 | v1.0

simpleParameter

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

Unit Measured: %

Derivation:
mul(div(sumOfIncrements('JAXLA_LDT_004_002',1), add(sumOfIncrements ('JAXLA_LDT_004_002',1), sub(sumOfIncrements('JAXLA_LDT_002_002',1), 'JAXLA_LDT_006_002'))), 100)

Dark side arena dimensions (L x W x H, in mm) JAXLA_LDT_030_002 | v1.0

procedureMetadata

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

Options: 425 x 210 x 305, 431.8 x 212.725 x 203.2, 150 x 190 x 250, 180 x 207 x 140,

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Start time JAXLA_LDT_019_002 | v1.0

procedureMetadata

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

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Light-Darkbox's walls opaque JAXLA_LDT_027_002 | v1.0

procedureMetadata

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

Options: No, Yes,

Dark side distance travelled JAXLA_LDT_011_002 | v1.0

seriesParameter

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

Unit Measured: cm

Increments: 10, 20, 5, 15,

Light side distance travelled JAXLA_LDT_010_002 | v1.0

seriesParameter

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

Unit Measured: cm

Increments: 15, 10, 5, 20,

Time spent in the light side in the first 5 minutes JAXLA_LDT_032_002 | v1.0

simpleParameter

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

Derivation:
ifElse('JAXLA_LDT_006_002'<300, sub(incrementValue('JAXLA_LDT_002_002', 1),'JAXLA_LDT_006_002'), 300)
