

Light-Dark Test BCMLA_LDT_001

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 53
- **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

Equipment manufacturer BCMLA_LDT_023_001 | v1.0

procedureMetadata

Req. Analysis: true

Req. Upload: true

Is Annotated: false

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

Light-Dark box set-up BCMLA_LDT_028_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Options: Standalone, Cabinet enclosure,

Light-Dark box's walls opaque BCMLA_LDT_027_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Options: No, Yes,

Entry way dimensions (L x W x H, in mm) BCMLA_LDT_031_001 | v1.0

procedureMetadata

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

Options: 101.6 x 3.175 x 101.6, 90 x 3 x 115, 5 x 100 x 40, 5 x 100 x 50,

Percent time in light BCMLA_LDT_008_001 | v1.0

simpleParameter

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

Unit Measured: %

Derivation:
mul(div(sub(sumOfIncrements('BCMLA_LDT_002_001',1), 'BCMLA_LDT_006_001'), add
(sumOfIncrements('BCMLA_LDT_004_001',1), sub(sumOfIncrements
('BCMLA_LDT_002_001',1), 'BCMLA_LDT_006_001'))), 100)

Start time BCMLA_LDT_019_001 | v1.0

procedureMetadata

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

Transition BCMLA_LDT_009_001 | v1.1

simpleParameter

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

Options: No, Yes,

Starting position BCMLA_LDT_026_001 | v1.0

procedureMetadata

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

Options: Facing towards entry, Facing away from entry,

Equipment model BCMLA_LDT_024_001 | v1.0

procedureMetadata

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

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

Arena version BCMLA_LDT_021_001 | v1.0

procedureMetadata

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

Options: Custom made, MED-OFAS-RSU,

Disinfectant BCMLA_LDT_025_001 | v1.0

[procedure](#)[Metadata](#)

Req. Analysis: false

Req. Upload: true

Is Annotated: false

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

Light level light chamber BCMLA_LDT_016_001 | v1.0

[procedure](#)[Metadata](#)

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Unit Measured: Lux

Options: 275 Lux, 100 - 200,

Light side arena dimensions (L x W x H, in mm) BCMLA_LDT_029_001 | v1.0

[procedure](#)[Metadata](#)

Req. Analysis: false

Req. Upload: true

Is Annotated: false

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

Light level dark chamber BCMLA_LDT_017_001 | v1.0

procedureMetadata

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

Unit Measured: Lux

Options: 4 - 7,

Experimenter ID BCMLA_LDT_018_001 | v1.0

procedureMetadata

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

Latency to first transition into dark BCMLA_LDT_006_001 | v1.0

simpleParameter

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

Unit Measured: s

Dark side arena dimensions (L x W x H, in mm) BCMLA_LDT_030_001 | v1.0

procedureMetadata

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

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

Equipment ID BCMLA_LDT_022_001 | v1.0

procedureMetadata

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

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

Arena ID BCMLA_LDT_020_001 | v1.0

procedureMetadata

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

Percent time in dark BCMLA_LDT_007_001 | v1.0

simpleParameter

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

Unit Measured: %

Derivation:

mul(div(sumOfIncrements('BCMLA_LDT_004_001',1), add(sumOfIncrements('BCMLA_LDT_004_001',1), sub(sumOfIncrements('BCMLA_LDT_002_001',1), 'BCMLA_LDT_006_001'))), 100)

Side changes BCMLA_LDT_001_001 | v1.0

seriesParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Unit Measured: count

Increments: 20, 10, 5, 15,

Light side time spent BCMLA_LDT_002_001 | v1.0

seriesParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Unit Measured: s

Increments: 5, 20, 10, 15,

Time mobile light side BCMLA_LDT_003_001 | v1.0

seriesParameter

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

Unit Measured: s

Increments: 5, 15, 20, 10,

Dark side time spent BCMLA_LDT_004_001 | v1.0

seriesParameter

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

Unit Measured: s

Increments: 5, 20, 10, 15,

Time mobile dark side BCMLA_LDT_005_001 | v1.0

seriesParameter

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

Unit Measured: s

Increments: 5, 20, 10, 15,

Light side distance travelled BCMLA_LDT_010_001 | v1.0

seriesParameter

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

Unit Measured: cm

Increments: 20, 15, 5, 10,

Dark side distance travelled BCMLA_LDT_011_001 | v1.0

seriesParameter

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

Unit Measured: cm

Increments: 5, 20, 10, 15,

Vertical activity (rearing) BCMLA_LDT_012_001 | v1.0

seriesParameter

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

Unit Measured: count

Increments: 5, 10, 20, 15,

Horizontal activity BCMLA_LDT_013_001 | v1.0

seriesParameter

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

Unit Measured: count

Increments: 10, 15, 20, 5,

Repetitive beam break ('stereotypy counts') BCMLA_LDT_014_001 | v1.0

seriesParameter

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

Unit Measured: count

Increments: 10, 5, 15, 20,

Total distance travelled BCMLA_LDT_015_001 | v1.0

seriesParameter

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

Unit Measured: cm

Increments: 5, 10, 15, 20,

Time spent in the light side in the first 5 minutes BCMLA_LDT_032_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Derivation:

ifElse('BCMLA_LDT_006_001'<300, sub(incrementValue('BCMLA_LDT_002_001', 1), 'BCMLA_LDT_006_001'), 300)

Test duration BCMLA_LDT_033_001 | v1.0

procedureMetadata

Req. Analysis: true

Req. Upload: true

Is Annotated: false

Unit Measured: min

Options: 20, 5, 10,

Software version BCMLA_LDT_034_001 | v1.0

procedureMetadata

Req. Analysis: true

Req. Upload: true

Is Annotated: false

Options: Activity Monitor V7.0.5.10, Activity Monitor V6.02, Versamap Version 1.7,
