Dark-Light Test CCP_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 10
- **Sex**: We would expect the results of this test to show sexual dimorphism

Procedure

1. Acclimatise mice for at least 1 hour before test.
2. Clean the arena with disinfectant and ensure arena is dry.
3. Light intensity levels are set at 200 lux at the centre of light compartment and at 5 lux at the dark one. Light adjustment is performed at the start of each test day.
4. The method of recording is set up with each arena defined. The dark arena constitute approximately 40% of entire chamber.
5. One mouse is placed in the dark compartment and recording is started.
6. The test lasts 5 minutes.
7. At the end of the trial, the mice are removed from the arena and returned to their home cages.
8. Number of transition and time spent in each compartment are calculated automatically by software.

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

**Side changes** CCP_LDT_001_001 | v1.0

*simpleParameter*

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

- **Unit Measured:** count  
- **Description:** side_changes

**Light side time spent** CCP_LDT_002_001 | v1.0

*simpleParameter*

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

- **Unit Measured:** s  
- **Description:** light_side_time_spent

**Time mobile light side** CCP_LDT_003_001 | v1.0

*simpleParameter*

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

- **Unit Measured:** s  
- **Description:** time_mobile_light_side
Dark side time spent  CCP_LDT_004_001 | v1.0

simpleParameter

Unit Measured: s
Description: dark_side_time_spent

Time mobile dark side  CCP_LDT_005_001 | v1.0

simpleParameter

Unit Measured: s
Description: time_mobile_dark_side

Latency to first transition into light  CCP_LDT_006_001 | v1.0

simpleParameter

Unit Measured: s
Description: latency_to_first_transition_into_light

Percent time in dark  CCP_LDT_007_001 | v1.0
Percent time in light CCP_LDT_008_001 | v1.0

Unit Measured: %

Description: percent_time_in_light

Derivation:
mul(div('CCP_LDT_002_001', add('CCP_LDT_004_001', 'CCP_LDT_002_001')), 100)

Transition CCP_LDT_009_001 | v1.1

Description: transition

Options: Yes, No,
Light side distance travelled  
**CCP_LDT_010_001 | v1.0**  
simpleParameter

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

- **Unit Measured:** cm
- **Description:** light_side_distance_travelled

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Dark side distance travelled  
**CCP_LDT_011_001 | v1.0**  
simpleParameter

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

- **Unit Measured:** cm
- **Description:** dark_side_distance_travelled

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Vertical activity (rearing)  
**CCP_LDT_012_001 | v1.0**  
simpleParameter

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

- **Unit Measured:** count
- **Description:** vertical_activity_rearing
Horizontal activity  CCP_LDT_013_001 | v1.0

simpleParameter


Unit Measured: count

Description: horizontal_activity

Repetitive beam break ('stereotypy counts')  CCP_LDT_014_0

01 | v1.0

simpleParameter


Unit Measured: count

Description: repetitive_beam_break_stereotypy_counts

Total distance travelled  CCP_LDT_015_001 | v1.0

simpleParameter


Unit Measured: cm

Description: total_distance_travelled
**Light level light chamber**  CCP_LDT_016_001  | v1.0

- **Unit Measured:** Lux
- **Description:** light_level_light_chamber
- **Options:** 200,

**Light level dark chamber**  CCP_LDT_017_001  | v1.0

- **Unit Measured:** Lux
- **Description:** light_level_dark_chamber
- **Options:** 5,

**Experimenter ID**  CCP_LDT_018_001  | v1.0

- **Description:** experimenter_id
Start time CCP_LDT_019_001 | v1.0


Description: start_time

Arena ID CCP_LDT_020_001 | v1.0


Description: arena_id

Arena version CCP_LDT_021_001 | v1.0


Description: arena_version

Options: Custom made,

Equipment ID CCP_LDT_022_001 | v1.0

Description: equipment_id
Options: Custom made,

Equipment manufacturer CCP_LDT_023_001 | v1.0


Description: equipment_manufacturer
Options: Biobserve,

Equipment model CCP_LDT_024_001 | v1.0


Description: equipment_model
Options: Custom made,

Disinfectant CCP_LDT_025_001 | v1.0


Description: disinfectant
Options: 70% Isopropanol,

Starting position CCP_LDT_026_001  | v1.0


Description: starting_position

Options: Facing away from entry,

Light-Dark box's walls opaque CCP_LDT_027_001  | v1.0


Description: light_dark_box_s_walls_opaque

Options: Yes, No,

Light-Dark box set-up CCP_LDT_028_001  | v1.0


Description: light_dark_box_set_up

Options: Standalone,
**Light side arena dimensions (L x W x H, in mm)** CCP_LDT_0

29_001 | v1.0

**Description:** light_side_arena_dimensions_l_x_w_x_h_in_mm

**Options:** 490 x 285 x 190,

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**Dark side arena dimensions (L x W x H, in mm)** CCP_LDT_0

30_001 | v1.0

**Description:** dark_side_arena_dimensions_l_x_w_x_h_in_mm

**Options:** 490 x 195 x 190,

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**Entry way dimensions (L x W x H, in mm)** CCP_LDT_031_001 | v1.0

**Description:** entry_way_dimensions_l_x_w_x_h_in_mm

**Options:** 6 x 70 x 70,
**Test duration**  
CCP_LDT_032_001 | v1.0

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

Unit Measured: min

Options: 5,

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**Software version**  
CCP_LDT_033_001 | v1.0

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

Options: Viewer3,