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**

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

**Unit Measured:** s  
**Description:** dark_side_time_spent

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**Time mobile dark side** CCP_LDT_005_001 | v1.0

**simpleParameter**

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

**Unit Measured:** s  
**Description:** time_mobile_dark_side

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**Latency to first transition into light** CCP_LDT_006_001 | v1.0

**simpleParameter**

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

**Unit Measured:** s  
**Description:** latency_to_first_transition_into_light

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**Percent time in dark** CCP_LDT_007_001 | v1.0
**percent_time_in_dark**

**Unit Measured:** %

**Description:** percent_time_in_dark

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

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**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)

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**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**
- **Req. Analysis:** false  
- **Req. Upload:** false  
- **Is Annotated:** false
- **Unit Measured:** count
- **Description:** horizontal_activity

Repetitive beam break (‘stereotypy counts’)  CCP_LDT_014_01  | v1.0

- **simpleParameter**
- **Req. Analysis:** false  
- **Req. Upload:** false  
- **Is Annotated:** false
- **Unit Measured:** count
- **Description:** repetitive_beam_break_stereotypy_counts

Total distance travelled  CCP_LDT_015_001  | v1.0

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

procedureMetadata


Description: start_time

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Arena ID  CCP_LDT_020_001 | v1.0

procedureMetadata


Description: arena_id

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Arena version  CCP_LDT_021_001 | v1.0

procedureMetadata


Description: arena_version

Options: Custom made,

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Equipment ID  CCP_LDT_022_001 | v1.0

procedureMetadata

**Description:** equipment_id

**Options:** Custom made,

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**Equipment manufacturer** CCP_LDT_023_001 | v1.0

**procedureMetadata**

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

**Description:** equipment_manufacturer

**Options:** Biobserve,

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**Equipment model** CCP_LDT_024_001 | v1.0

**procedureMetadata**

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

**Description:** equipment_model

**Options:** Custom made,

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**Disinfectant** CCP_LDT_025_001 | v1.0

**procedureMetadata**

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

**Description:** disinfectant
Options: 70% Isopropanol,

Starting position CCP_LDT_026_001 | v1.0
procedureMetadata

Description: starting_position

Options: Facing away from entry,

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

Description: light_dark_box_s_walls_opaque

Options: Yes, No,

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

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
procedureMetadata


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
procedureMetadata


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
procedureMetadata


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,