Hargreaves Test JAX_HRG_001

Purpose

To assess thermal hyperalgesia in the mouse paw.

Experimental Design

Minimum number of mutant animals: 7 males + 7 females

Age at test: either 8 weeks or 17 weeks

Sexual dimorphism:

Procedure

1. Baseline measurement
   1. Transfer mouse to the testing arena and allow to acclimate to the test environment.
   2. Ensure that the intensity and cut-off timer of the radiant heat source are set correctly.
   3. Position the light source below the platform and directed at the correct part of the paw.
   4. Turn the light source on and record the latency to paw withdrawal. The stimulus is terminated once a response is registered, or if the maximum exposure time is reached before the animal responds.
   5. Repeat the test so that each mouse is tested three times with the same paw.

3. Challenge
   1. The challenge is administered after the baseline measurement has been completed.
   2. Anaesthetise the mouse and administer the challenge injection.

5. Test 1
   1. After the specified length of time since the challenge injection, the mouse is re-tested using the same procedure as described for the baseline measurement.

7. Test 2
   1. After the specified length of time since the challenge injection, the mouse is re-tested again using the same procedure as described for the baseline measurement.

Notes

This procedure is a pilot study from the Pain Phenotyping Pilot

Parameters and Metadata
Baseline: latency to withdrawal  JAX_HRG_001_001 | v1.0

seriesParameter


Unit Measured: s

Increments: 1, 2, 3,

Baseline: average latency to withdrawal  JAX_HRG_002_001 | v1.0

simpleParameter


Unit Measured: s

Derivation: meanOfIncrements('JAX_HRG_001_001',1)

Test 1: latency to withdrawal  JAX_HRG_003_001 | v1.0

seriesParameter


Unit Measured: s

Increments: 1, 2, 3,
Test 1: average latency to withdrawal  JAX_HRG_004_001 | v1.0

simpleParameter


Unit Measured: s

Derivation: meanOfIncrements('JAX_HRG_003_001',1)

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Test 2: latency to withdrawal  JAX_HRG_005_001 | v1.0

seriesParameter


Unit Measured: s

Increments: 1, 2, 3

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Test 2: average latency to withdrawal  JAX_HRG_006_001 | v1.0

simpleParameter


Unit Measured: s

Derivation: meanOfIncrements('JAX_HRG_005_001',1)
Length of acclimatisation period JAX_HRG_007_001 | v1.0

**Unit Measured:** min

**Options:** 30, 30 - 60, 60,

Glass base heated during acclimatisation JAX_HRG_008_001 | v1.0

**Options:** Yes,

Maximum exposure time JAX_HRG_009_001 | v1.0

**Unit Measured:** s

**Options:** 20, 30,
**Number of repeats per paw** JAX_HRG_010_001 | v1.0

*procedureMetadata*

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

**Options:** Right hind paw tested 3 times,

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**Minimum time between stimulus presentation** JAX_HRG_011_01 | v1.0

*procedureMetadata*

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

**Unit Measured:** min

**Options:** 2,

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**Challenge** JAX_HRG_012_001 | v1.0

*procedureMetadata*

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

**Options:** CFA,
Site of challenge injection JAX_HRG_013_001 | v1.0

Options: Plantar surface of right hind paw,

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Anaesthetic for challenge injection JAX_HRG_014_001 | v1.0

Options: Isoflurane,

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Time between baseline measurement and challenge injection JAX_HRG_015_001 | v1.0

Unit Measured: Hours

Options: 0.5-1, 2, 24,

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Time between challenge and test 1 JAX_HRG_016_001 | v1.0
**Time between challenge and test 2** JAX_HRG_017_001 | v1.0

**Glass base temperature: settings** JAX_HRG_018_001 | v1.0
Glass base temperature: measured  JAX_HRG_019_001 | v1.0

Unit Measured: C
Options: 29-32,

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Idle intensity  JAX_HRG_020_001 | v1.0

Unit Measured: %
Options: 2, 3, 10,

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Test intensity  JAX_HRG_021_001 | v1.0

Unit Measured: %
Options: 15, 25, 30, 100,
**Tetrad manufacturer**  JAX_HRG_022_001 | v1.0

_requiemMetadata_

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

**Options:** IITC,

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**Tetrad material**  JAX_HRG_023_001 | v1.0

_requiemMetadata_

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

**Options:** Acrylic,

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**Tetrad colour/opacity**  JAX_HRG_024_001 | v1.0

_requiemMetadata_

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

**Options:** Clear,

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**Inset material**  JAX_HRG_025_001 | v1.0

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Inset colour/opacity  JAX_HRG_026_001   | v1.0
procedureMetadata

Options: Clear, White opaque,

Lid material  JAX_HRG_027_001   | v1.0
procedureMetadata

Options: Acrylic,

Lid colour/opacity  JAX_HRG_028_001   | v1.0
procedureMetadata

Options: Clear,
**Testing chamber dimensions**  JAX_HRG_029_001  |  v1.0

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**Unit Measured:** cm

**Options:** 12.7 cm H x 10.16 cm W x 10.16 cm L, 12.5 cm H x 10 cm W x 10 cm L,

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**Glass base manufacturer**  JAX_HRG_030_001  |  v1.0

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**Options:** IITC,

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**Glass base model**  JAX_HRG_031_001  |  v1.0

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**Options:** Model 400 Heated Base (Item #400G),
Radiant heat light source manufacturer  JAX_HRG_032_001 | v1.0

procedureMetadata


Options: IITC,

Radiant heat light source model  JAX_HRG_033_001 | v1.0

procedureMetadata


Options: 390 Plantar test head (Item #300TH),

Experiment ID  JAX_HRG_034_001 | v1.0

procedureMetadata


Disinfectant  JAX_HRG_035_001 | v1.0

procedureMetadata

Delta2: difference in latency to withdrawal

\[ \text{sub(meanOfIncrements('JAX_HRG_001_001', 1), meanOfIncrements('JAX_HRG_005_001', 1))} \]

Unit Measured: s