Formalin Test IMPC_FOR_001

Purpose

To assess nocifensive behaviours triggered by the inflammatory response following a formalin injection.

Experimental Design

Minimum number of mutant animals: 5 males + 5 females
Age at test: 16 weeks

Procedure

1. Acclimatise mice in the testing room for at least 30 minutes before testing.
2. Anaesthetize mouse and administer formalin with a subcutaneous injection into the plantar surface of the chosen paw.
3. Place the mouse into the testing arena and start the recording. Run the recording for up to 90 minutes.
4. Remove the mouse from the arena and clean the arena.
5. Score the behaviour of the animals for nocifensive behaviors between 10 and 60 minutes post formalin administration.

Notes

This procedure can be performed as a terminal or non-terminal procedure. If terminal, euthanize the mouse humanely after the recording.

This procedure is a pilot study from the Pain Phenotyping Pilot

Parameters and Metadata

Total duration of lick/bite behaviour IMPC_FOR_001_001 | v1.0

simpleParameter


Unit Measured: s
Derivation: sumOfIncrements('IMPC_FOR_020_001', 1)
Total number of lick/bite events IMPC_FOR_002_001 | v1.0
simpleParameter


Total duration of drag/limp behaviour IMPC_FOR_003_001 | v1.0
simpleParameter

Unit Measured: s

Derivation: sumOfIncrements('IMPC_FOR_021_001', 1)

Total number of drag/limp events IMPC_FOR_004_001 | v1.0
simpleParameter


Total duration of flinch behaviour IMPC_FOR_005_001 | v1.0
simpleParameter
Unit Measured: s

Derivation: sumOfIncrements('IMPC_FOR_022_001', 1)

Total number of flinch events IMPC_FOR_006_001 | v1.0

Anaesthetic IMPC_FOR_007_001 | v1.0

Options: Sevoflurane, Isoflurane,

Formalin Concentration IMPC_FOR_008_001 | v1.0

Options: 5%, 2.5%,
**Amount of formalin injected**  IMPC_FOR_009_001 | v1.0

*procedureMetadata*

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

**Unit Measured:** ul

**Options:** 20, 30,

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**Syringe Gauge**  IMPC_FOR_010_001 | v1.0

*procedureMetadata*

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

**Options:** 29, 30,

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**Site of formalin injection**  IMPC_FOR_011_001 | v1.0

*procedureMetadata*

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

**Options:** Plantar surface of left hind paw, Plantar surface of right hind paw,
**Arena Manufacturer** IMPC_FOR_012_001 | v1.0

**Options:** In-house, IITC Life Science,

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**Size of testing arena** IMPC_FOR_013_001 | v1.0

**Options:** 13cm (H) x 36cm (W) x 40 cm(L), 12.7 cm (H) x 21.9 cm (W) x 21.59 cm (L), 36cm (L) X 40cm (W) X 13cm (H),

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**Recording Software** IMPC_FOR_014_001 | v1.0

**Options:** Home Cage Analyzer, Actual Analytics, Noldus Media Recorder v4,

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**Data scoring method** IMPC_FOR_015_001 | v1.0
Options: Human scorer, from video, Neural network, from video,

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**Annotation Software**  IMPC_FOR_016_001 | v1.0

Options: Simple Video Coder, Behavioral Observation Research Interactive Software (BORIS), In-house developed system,

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**Duration of observation period** IMPC_FOR_017_001 | v1.0

Options: 60 minutes, 90 minutes,

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**Camera Position** IMPC_FOR_018_001 | v1.0
Options: On the side, Below the arena,

Disinfectant IMPC_FOR_019_001 | v1.0

procedureMetadata


Options: 35% Isopropanol, Virkon 1% & 70% Ethanol, 2% Distel,

Duration of lick/bite behaviour IMPC_FOR_020_001 | v1.0

seriesParameter


Unit Measured: s
Increments: Minimum 1

Duration of drag/limp behaviour IMPC_FOR_021_001 | v1.0

seriesParameter


Unit Measured: s
Increments: Minimum 1
### Duration of flinch behaviour

**IMPC_FOR_022_001 | v1.0**

- **Series Parameter**

- **Unit Measured:** s
- **Increments:** Minimum 1

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### Duration of licking/biting behavior (10-60 minutes)

**IMPC_FOR_023_001 | v1.0**

- **Simple Parameter**

- **Unit Measured:** s

**Derivation:**

\[
\text{sum}\left(\text{incrementValue('IMPC_FOR_020_001', '10'), incrementValue('IMPC_FOR_020_001', '15'), incrementValue('IMPC_FOR_020_001', '20'), incrementValue('IMPC_FOR_020_001', '25'), incrementValue('IMPC_FOR_020_001', '30'), incrementValue('IMPC_FOR_020_001', '35'), incrementValue('IMPC_FOR_020_001', '40'), incrementValue('IMPC_FOR_020_001', '45'), incrementValue('IMPC_FOR_020_001', '50'), incrementValue('IMPC_FOR_020_001', '55')}\right)
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### Time per bin/increment

**IMPC_FOR_024_001 | v1.0**
procedureMetadata

**Time bins excluded** IMPC_FOR_025_001 | v1.0

procedureMetadata

**Experimenter ID** IMPC_FOR_026_001 | v1.0

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