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

Unit Measured: s

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

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

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

Total duration of flinch behaviour  IMPC_FOR_005_001 | v1.0
Derivation: sumOfIncrements('IMPC_FOR_022_001', 1)

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**Total number of flinch events** IMPC_FOR_006_001 | v1.0

simpleParameter

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**Anaesthetic** IMPC_FOR_007_001 | v1.0

procedureMetadata

Options: Sevoflurane, Isoflurane,

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**Formalin Concentration** IMPC_FOR_008_001 | v1.0

procedureMetadata

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

**Procedure Metadata**

<table>
<thead>
<tr>
<th>Req. Analysis</th>
<th>Req. Upload</th>
<th>Is Annotated</th>
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<tbody>
<tr>
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**Unit Measured:** ul

**Options:** 20, 30,

Syringe Gauge  IMPC_FOR_010_001 | v1.0

**Procedure Metadata**

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**Options:** 29, 30,

Site of formalin injection  IMPC_FOR_011_001 | v1.0

**Procedure Metadata**

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**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,

**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),

**Recording Software**  IMPC_FOR_014_001  |  v1.0

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

**Data scoring method**  IMPC_FOR_015_001  |  v1.0
Requests Analysis: true  
Requests Upload: true  
Is Annotated: false

Options: Human scorer, from video, Neural network, from video,

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**Annotation Software**  
**IMPC_FOR_016_001 | v1.0**

Requests Analysis: true  
Requests Upload: true  
Is Annotated: false

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**

Requests Analysis: false  
Requests Upload: true  
Is Annotated: false

Options: 60 minutes, 90 minutes,

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**Camera Position**  
**IMPC_FOR_018_001 | v1.0**

Requests Analysis: true  
Requests Upload: true  
Is Annotated: false
Options: On the side, Below the arena,

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Disinfectant IMPC_FOR_019_001 | v1.0

procedureMetadata


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

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Duration of lick/bite behaviour IMPC_FOR_020_001 | v1.0

seriesParameter


Unit Measured: s

Increments: Minimum 1

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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

seriesParameter


Unit Measured: s

Increments: Minimum 1

Duration of licking/biting behavior (10-60 minutes)  IMPC_FOR_023_001 | v1.0

simpleParameter


Unit Measured: s

Derivation:
sum(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'))

Time per bin/increment  IMPC_FOR_024_001 | v1.0
procedureMetadata

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

**Options**: 5 minutes,

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

procedureMetadata

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

**Options**: Bin/increment 0 (anaesthesia effect), None,

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**Experimenter ID**  
IMPC_FOR_026_001 | v1.0

procedureMetadata

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