# 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

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

**Unit Measured:** s

**Derivation:** sumOfIncrements('IMPC_FOR_020_001', 1)

## Total number of lick/bite events IMPC_FOR_002_001 | v1.0

simpleParameter

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

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

simpleParameter

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

**Unit Measured:** s

**Derivation:** sumOfIncrements('IMPC_FOR_021_001', 1)

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

simpleParameter

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

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## Total duration of flinch behaviour IMPC_FOR_005_001 | v1.0

simpleParameter

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

**Unit Measured:** s

**Derivation:** sumOfIncrements('IMPC_FOR_022_001', 1)

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

simpleParameter

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

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## Anaesthetic IMPC_FOR_007_001 | v1.0

procedureMetadata

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

**Options:** Sevoflurane, Isoflurane,

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## Formalin Concentration IMPC_FOR_008_001 | v1.0

procedureMetadata

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

**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,

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## Arena Manufacturer IMPC_FOR_012_001 | v1.0

procedureMetadata

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

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

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## Size of testing arena IMPC_FOR_013_001 | v1.0

procedureMetadata

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

**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

procedureMetadata

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

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

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## Data scoring method IMPC_FOR_015_001 | v1.0

procedureMetadata

**Req. Analysis:** true **Req. 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

procedureMetadata

**Req. Analysis:** true **Req. 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

procedureMetadata

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

**Unit Measured:** min

**Options:** 60 minutes, 90 minutes,

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## Camera Position IMPC_FOR_018_001 | v1.0

procedureMetadata

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

**Options:** On the side, Below the arena,

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## Disinfectant IMPC_FOR_019_001 | v1.0

procedureMetadata

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

**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

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

**Unit Measured:** s

**Increments:** Minimum 1

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## Duration of drag/limp behaviour IMPC_FOR_021_001 | v1.0

seriesParameter

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

**Unit Measured:** s

**Increments:** Minimum 1

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## Duration of flinch behaviour IMPC_FOR_022_001 | v1.0

seriesParameter

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

**Unit Measured:** s

**Increments:** Minimum 1

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

simpleParameter

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

**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'))

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## 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

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