

# Fear Conditioning HRWLLA\_FEA\_001

## Purpose

This procedure is used for measuring aversive learning and memory. A neutral conditioned stimulus (CS) such as steady tone is paired with an aversive unconditioned stimulus (US) such as one or more mild foot shocks. After conditioning, the spatial context or the CS (tone) elicits a central state of fear in the absence of the US (shock) that is expressed as reduced locomotor activity or total lack of movement (freezing). Immobility time is used as a measure of learning/memory performances.

## Experimental Design

- **Minimum number of animals** : 7M + 7F
- **Age at test**: Week 54
- **Sex**: We would expect the results of this test to show sexual dimorphism

## Equipment

- Fear conditioning chambers
- Arenas and components for cue and conditioning phases
- Computer with recording software
- Olfactory substance

## Procedure

1. Day 1: Conditioning
  - a. Transport animals to the testing area.
  - b. Set up conditioning arenas in the chambers ensuring that shocker, tone delivery and camera / beam break system are working correctly.
  - c. Remove the animals from their cages and place in the arenas. Animals are conditioned using the training protocol which consists of a baseline period, audible tone, a single foot shock that co-terminates with the tone, and a period with no stimuli at the end.
  - d. Remove animals from arenas and place back in home cage. Clean arenas.
2. Day 2: Context
  - a. To be performed 24 hours after conditioning.
  - b. Transport animals to the testing area.
  - c. Set up conditioning arenas in the chamber as on day 1 except for shocker and tone delivery system which are not used.
  - d. Remove animals from their cages and place in the arena. No CS or US stimuli are presented.
  - e. Remove animals from arenas and place back in home cage. Clean arenas.

3. Day 2: Cue
  - a. To be performed performed from 2 - 24 hours after the context protocol.
  - b. Set up cue arenas using different floors, walls, olfactory cues and / or lighting from the conditioning context. Ensure that tone delivery and camera / beam break system are working correctly.
  - c. Remove animals from their cages and place in the arena. Animals are exposed to a baseline period without any stimulus followed by the presentation of the tone.
  - d. Remove animals from arenas and place back in home cage. Clean arenas.
4. At the end of the cue protocol animals are placed back into their holding room and data is analyzed by collecting the number of freezing episodes and the total freezing /immobility time.

## Parameters and Metadata

### Conditioning Post-shock Freeze Count HRWLLA\_FEA\_098\_001 | v1

.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: false

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### Context: Date and time HRWLLA\_FEA\_041\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Options: Conditioning +24h,

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### Conditioning: Mouse arena shape HRWLLA\_FEA\_029\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Options: Rectangle, Square,

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## Conditioning: Tone stimulus intensity ( dB; conditioned stimulus) HRWLLA\_FEA\_034\_001 | v1.0

[procedureMetadata](#)

Req. Analysis: true

Req. Upload: true

Is Annotated: false

Unit Measured: dB

Options: 75, 77, 80, 70, 85,

---

## Context: Mouse arena dimension HRWLLA\_FEA\_046\_001 | v1.0

[procedureMetadata](#)

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Unit Measured: cm

Options: 17 x 17 x 25 cm, 30.5 cm L X 24.1 cm W X 21 cm H, 25 L x 21 W x 19 H cm, 25 x 25 x 19 cm, 16.6 cm L X 17 cm W X 25 cm H, 30.5 cm L X 24.1 cm W X 24.5 cm H,

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## Freeze definition HRWLLA\_FEA\_077\_001 | v1.1

[procedureMetadata](#)

**Req. Analysis:** true

**Req. Upload:** true

**Is Annotated:** false

**Unit Measured:** s

**Options:** 2, 1, 0.25,

---

## **Cue Baseline Freeze Count** HRWLLA\_FEA\_013\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** false

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## **Conditioning Shock Average Motion Index** HRWLLA\_FEA\_095\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** false

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## **Cue: Mouse arena shape** HRWLLA\_FEA\_053\_001 | v1.0

procedureMetadata

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** false

**Options:** Rectangle, Cylinder, A frame ceiling,

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## Conditioning: Start time of baseline HRWLLA\_FEA\_081\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Unit Measured: s

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## Conditioning Post-shock Average Motion Index HRWLLA\_FEA\_101\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

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## Cue Baseline Maximum Motion Index HRWLLA\_FEA\_018\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

---

## Cue: Tone stimulus intensity (conditioned stimulus) HRWLLA\_FEA\_058\_001 | v1.1

procedureMetadata

Req. Analysis: true

Req. Upload: true

Is Annotated: false

**Unit Measured:** dB

**Options:** 77, 75, 70, 85, 80,

---

## **Cue: Total time** HRWLLA\_FEA\_062\_001 | v1.0

procedureMetadata

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** false

**Unit Measured:** s

**Options:** 240, 480, 300,

---

## **Cue: Near infra red light arena** HRWLLA\_FEA\_080\_001 | v1.0

procedureMetadata

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** false

**Options:** On,

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## **Context Average Motion Index** HRWLLA\_FEA\_010\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** false

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## Conditioning Shock Maximum Motion Index HRWLLA\_FEA\_097\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

---

## Cue: Mouse arena dimension HRWLLA\_FEA\_054\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Unit Measured: cm

Options: 17 x 17 x 25 cm, 30.5 cm L X 24.1 cm W X 24.5cm H, 20 cm dia X 30 cm H, 25 x 25 x 19 cm, 30.5 cm L X 24.1 cm W X 21 cm H, 25 L x 21 W x 19 H cm,

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## Conditioning: Mouse arena colour HRWLLA\_FEA\_031\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Options: Clear, Metallic, White and Clear, Metallic, clear, White,

---

## Context % Freezing Time HRWLLA\_FEA\_009\_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Unit Measured: %

Derivation:  $\text{mul}(\text{div}(\text{'HRWLLA\_FEA\_008\_001'}, \text{'HRWLLA\_FEA\_049\_001'}), 100)$

---

## Conditioning Post-shock % Freezing Time HRWLLA\_FEA\_100\_0

01 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Unit Measured: %

Derivation:  $\text{mul}(\text{div}(\text{'HRWLLA\_FEA\_099\_001'}, \text{'HRWLLA\_FEA\_039\_001'}), 100)$

---

## Conditioning Tone Minimum Motion Index HRWLLA\_FEA\_093\_001

| v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

---

**Context: Olfactory cue** HRWLLA\_FEA\_044\_001 | v1.0



procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Options: Alcohol, None,

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## Cue Tone Freeze Count HRWLLA\_FEA\_019\_001 | v1.0

seriesParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Increments: Minimum 1

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## Context Freeze Count HRWLLA\_FEA\_007\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: false

---

## Conditioning Baseline % Freezing Time HRWLLA\_FEA\_003\_001 |

v1.1

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Unit Measured: %

Derivation: mul(div('HRWLLA\_FEA\_002\_001', 'HRWLLA\_FEA\_033\_001'), 100)

---

## Date equipment last calibrated (shock) HRWLLA\_FEA\_075\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

---

## Context Minimum Motion Index HRWLLA\_FEA\_011\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

---

## Conditioning Shock Minimum Motion Index HRWLLA\_FEA\_096\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

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## Conditioning: Date and time HRWLLA\_FEA\_025\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

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## Conditioning Post-shock Maximum Motion Index HRWLLA\_FE

A\_103\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

---

## Mouse arenaID HRWLLA\_FEA\_063\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Options: Arena 6, Arena 1, Arena 8, Arena 3, Arena 5, Arena 7, Arena 4, Arena 2,

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## Conditioning Baseline Minimum Motion Index HRWLLA\_FEA\_0

05\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

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## Experimenter ID day 2 cue HRWLLA\_FEA\_074\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

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## Conditioning Tone % Freezing Time HRWLLA\_FEA\_091\_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Unit Measured: %

Derivation:  $\text{mul}(\text{div}(\text{'HRWLLA\_FEA\_090\_001'}, \text{'HRWLLA\_FEA\_036\_001'}), 100)$

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## Conditioning: Near infra red light arena HRWLLA\_FEA\_078\_001 |

v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Options: On,

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## Cue Baseline Freezing Time HRWLLA\_FEA\_014\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Unit Measured: s

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## Sound generator manufacturer HRWLLA\_FEA\_069\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Options: Ugo Basile, Med Associates, San Diego Instruments,

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## Conditioning Baseline Maximum Motion Index HRWLLA\_FEA\_0

06\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

---

## Cue: Tone stimulus frequency (Hz; conditioned stimulus)

HRWLLA\_FEA\_059\_001 | v1.0

procedureMetadata

Req. Analysis: true

Req. Upload: true

Is Annotated: false

Unit Measured: kHz

Options: 2, 10, 2.8, 4,

---

## Conditioning: White house light level in arena HRWLLA\_FEA\_027\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Unit Measured: Lux

Options: 26, 100, 200, 40,

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## Tracking Method HRWLLA\_FEA\_067\_001 | v1.0

procedureMetadata

Req. Analysis: true

Req. Upload: true

Is Annotated: false

Options: Video tracking, Beam break,

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## Context Freezing Time HRWLLA\_FEA\_008\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Unit Measured: s

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## Cue Baseline % Freezing Time HRWLLA\_FEA\_015\_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Unit Measured: %

Derivation:  $\text{mul}(\text{div}(\text{'HRWLLA\_FEA\_014\_001'}, \text{'HRWLLA\_FEA\_057\_001'}), 100)$

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## Conditioning: Tone stimulus frequency (Hz; conditioned stimulus) HRWLLA\_FEA\_035\_001 | v1.0

procedureMetadata

Req. Analysis: true

Req. Upload: true

Is Annotated: false

Unit Measured: kHz

Options: 4, 2, 10, 2.8,

---

## Cue: Mouse arena floor HRWLLA\_FEA\_056\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Options: Plexi glass, Polyethylene, Perspex, PVC,

---

## Conditioning: Length of time no stimulus HRWLLA\_FEA\_039\_001

| v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Unit Measured: s

Options: 150, 120,

---

## Cue Baseline Minimum Motion Index HRWLLA\_FEA\_017\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

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## Conditioning: Shock stimulus intensity (unconditioned stimulus) HRWLLA\_FEA\_037\_001 | v1.1

procedureMetadata

Req. Analysis: true

Req. Upload: true

Is Annotated: false

Unit Measured: mA

Options: 0.75, 0.5, 0.4,

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## Cue: Length of time baseline HRWLLA\_FEA\_057\_001 | v1.0

procedureMetadata

Req. Analysis: true

Req. Upload: true

Is Annotated: false

Unit Measured: s

Options: 120,

---

## Cue: Date and time HRWLLA\_FEA\_050\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Options: Context + 24h, Context + 4h, Context + 2-4h,

---

## Conditioning Baseline Freezing Time HRWLLA\_FEA\_002\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Unit Measured: s

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## Cue Baseline Average Motion Index HRWLLA\_FEA\_016\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

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## Sound-proof box dimension HRWLLA\_FEA\_071\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Options: 47 cm L X 35 cm W X 49 cm H, 71 cm L X 59.7 cm W X 31.7 cm H, other, 71 cm L X 63.5 cm W X 35.5 cm H,

---

## Context Maximum Motion Index HRWLLA\_FEA\_012\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

---

## Context: White house light level in arena HRWLLA\_FEA\_043\_001

| v1.2

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Unit Measured: Lux

Options: 100, 200, 40, 26,

---

## Context: Mouse arena colour HRWLLA\_FEA\_047\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Options: Metallic, White and Clear, White, Clear, Metallic, clear,

---

## Cue: Start time of baseline HRWLLA\_FEA\_085\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Unit Measured: s

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## Date equipment last calibrated (tone) HRWLLA\_FEA\_076\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

---

## Conditioning Post-shock Freezing Time HRWLLA\_FEA\_099\_001 |

v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Unit Measured: s

---

## Cue Tone % Freezing Time HRWLLA\_FEA\_021\_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Unit Measured: %

Derivation:

$\text{mul}(\text{div}(\text{sumOfIncrements}(\text{'HRWLLA\_FEA\_020\_001'}, 1), \text{'HRWLLA\_FEA\_060\_001'}), 100)$

---

## Cue: Start time of no stimulus HRWLLA\_FEA\_087\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Unit Measured: s

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## Experimenter ID HRWLLA\_FEA\_072\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

---

## Sound generator model HRWLLA\_FEA\_070\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Options: other, VFC-100, 46000-165,

---

## Freeze definition (minimum motion index) HRWLLA\_FEA\_104\_001 | v1.0

procedureMetadata

Req. Analysis: true

Req. Upload: false

Is Annotated: false

Options: 18, 30,

---

## Conditioning: Length of time tone stimulus HRWLLA\_FEA\_036\_001 | v1.0

procedureMetadata

Req. Analysis: true

Req. Upload: true

Is Annotated: false

Unit Measured: s

Options: 30, 20,

---

## Context: Room acclimation time HRWLLA\_FEA\_042\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Unit Measured: min

Options: 30, 60,

---

## Cue Tone Minimum Motion Index HRWLLA\_FEA\_023\_001 | v1.0

seriesParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Increments: Minimum 1

---

## Conditioning Baseline Average Motion Index HRWLLA\_FEA\_004\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

---

## Conditioning: Start time of no stimulus HRWLLA\_FEA\_084\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Unit Measured: s

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## Context: Total time HRWLLA\_FEA\_049\_001 | v1.0

procedureMetadata

Req. Analysis: true

Req. Upload: true

Is Annotated: false

Unit Measured: s

Options: 360, 300,

---

## Cue: Mouse arena colour HRWLLA\_FEA\_055\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Options: Red, Black and white, Clear, Beige, black and white,

---

## Conditioning Baseline Freeze Count HRWLLA\_FEA\_001\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: false

---

## Conditioning: Length of time baseline HRWLLA\_FEA\_033\_001 | v1.

0

procedureMetadata

Req. Analysis: true

Req. Upload: true

Is Annotated: false

Unit Measured: s

Options: 120, 240, 150,

---

## Conditioning: Mouse arena dimension HRWLLA\_FEA\_030\_001 | v1

.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Unit Measured: cm

Options: 30.5 cm L X 24.1 cm W X 21 cm H, 16.6 L X 17 W X 25 H cm,  
25 L x 21 W x 19 H cm, 25 x 25 x 19 cm, 17 x 17 x 25 cm, 30.5 L X 24.1 W X 24.5 H cm,

---



## Conditioning: Olfactory cue HRWLLA\_FEA\_028\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Options: Alcohol, None,

---

## Cue Tone Freezing Time HRWLLA\_FEA\_020\_001 | v1.0

seriesParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Unit Measured: s

Increments: Minimum 1

---

## Equipment ID HRWLLA\_FEA\_064\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Options: Machine B, Machine A, Machine 1, Machine 2,

---

## Context: Mouse arena shape HRWLLA\_FEA\_045\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Options: Rectangle, Square,

---

## Cue: tone response measurement time HRWLLA\_FEA\_060\_001 | v1.0

procedureMetadata

Req. Analysis: true

Req. Upload: true

Is Annotated: false

Unit Measured: s

Options: 120, 180,

---

## Context: Near infra red light arena HRWLLA\_FEA\_079\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Options: On,

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## Conditioning Tone Freezing Time HRWLLA\_FEA\_090\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Unit Measured: s

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**Cue: Start time of each tone stimulus** HRWLLA\_FEA\_086\_001 | v1.

0

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Unit Measured: s

---

**Conditioning: Room acclimation time** HRWLLA\_FEA\_026\_001 | v1.

0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Unit Measured: min

Options: 30, 60,

---

**Equipment Model** HRWLLA\_FEA\_066\_001 | v1.0

procedureMetadata

**Req. Analysis:** true

**Req. Upload:** true

**Is Annotated:** false

**Options:** FearCS Mouse-46152, Freeze monitor, 46000, MED-FVC-SCT-M, MED-VFC2-SCT-M,

---

## **Context: Mouse arena floor** HRWLLA\_FEA\_048\_001 | v1.0

procedureMetadata

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** false

**Options:** Steel rods, Metal grill,

---

## **Cue: Length of time no stimulus** HRWLLA\_FEA\_061\_001 | v1.0

procedureMetadata

**Req. Analysis:** true

**Req. Upload:** true

**Is Annotated:** false

**Unit Measured:** s

**Options:** 220, 120, 0, 100,

---

## **Conditioning: Mouse arena floor** HRWLLA\_FEA\_032\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Options: Steel rods, Clean saw dust, Metal grill,

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## Conditioning Tone Average Motion Index HRWLLA\_FEA\_092\_001

| v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

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## Cue Tone Average Motion Index HRWLLA\_FEA\_022\_001 | v1.0

seriesParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Increments: Minimum 1

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## Conditioning: Start time of each tone stimulus HRWLLA\_FEA\_

082\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Unit Measured: s

---

## Cue: White house light level in arena HRWLLA\_FEA\_051\_001 | v1.1

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Unit Measured: Lux

Options: 0, 16, 14-18,

---

## Software HRWLLA\_FEA\_068\_001 | v1.0

procedureMetadata

Req. Analysis: true

Req. Upload: true

Is Annotated: false

Options: Freeze Monitor, Anymaze, Med Associates Video Freeze,

---

## Equipment Manufacturer HRWLLA\_FEA\_065\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Options: San Diego Instruments, Med Assoiates, Ugo Basile,

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## Conditioning Post-shock Minimum Motion Index HRWLLA\_FE

A\_102\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

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## Cue Tone Maximum Motion Index HRWLLA\_FEA\_024\_001 | v1.0

seriesParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Increments: Minimum 1

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## Experimenter ID day 2 HRWLLA\_FEA\_073\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

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## Conditioning Tone Freeze Count HRWLLA\_FEA\_089\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

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## Conditioning Tone Maximum Motion Index HRWLLA\_FEA\_094\_0

01 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

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## Cue: Olfactory cue HRWLLA\_FEA\_052\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Options: 5% acetic acid, Vanillin, Cinnamon,

---

## Conditioning: Length of time shock stimulus HRWLLA\_FEA\_03

8\_001 | v1.0

procedureMetadata

Req. Analysis: true

Req. Upload: true

Is Annotated: false

Unit Measured: s

Options: 0.5, 1, 2,

---



## Conditioning: Start time of each shock stimulus HRWLLA\_FE

A\_083\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Unit Measured: s

---

## Cue: arena rotation HRWLLA\_FEA\_088\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Options: 90 degrees,

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## Conditioning: Total time HRWLLA\_FEA\_040\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Unit Measured: s

Options: 380, 300, 260,

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## Difference in Context and Conditioning Baseline % Freezing

HRWLLA\_FEA\_105\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

### Derivation:

sub(mul(div('HRWLLA\_FEA\_008\_001', 'HRWLLA\_FEA\_049\_001'), 100), mul(div('HRWLLA\_FEA\_002\_001', 'HRWLLA\_FEA\_033\_001'), 100))

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## Difference in Cue Tone and Cue Baseline % Freezing

HRWLLA\_FEA\_106\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

### Derivation:

sub(mul(div('HRWLLA\_FEA\_020\_001', 'HRWLLA\_FEA\_060\_001'), 100), mul(div('HRWLLA\_FEA\_014\_001', 'HRWLLA\_FEA\_057\_001'), 100))

---

## Difference in Conditioning Post-shock and Conditioning Baseline % Freezing

HRWLLA\_FEA\_107\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

### Derivation:

sub(mul(div('HRWLLA\_FEA\_099\_001', 'HRWLLA\_FEA\_039\_001'), 100), mul(div('HRWLLA\_FEA\_002\_001', 'HRWLLA\_FEA\_033\_001'), 100))

---

## Cue: Length of time tone stimulus HRWLLA\_FEA\_108\_001 | v1.0

procedureMetadata

**Req. Analysis:** true

**Req. Upload:** false

**Is Annotated:** false

**Unit Measured:** s

**Options:** 20, 120,

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