Fear Conditioning KMPCLA_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 55
- **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. If using video tracking equipment, ensure camera lenses are free of dust.
   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

Cue: Mouse arena colour KMPCLA_FEA_055_001 | v1.0

procedureMetadata

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

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

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Cue Baseline Average Motion Index KMPCLA_FEA_016_001 | v1.0

simpleParameter

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

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Context: Mouse arena floor KMPCLA_FEA_048_001 | v1.0

procedureMetadata

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

Options: Steel rods, Metal grill,

Conditioning: Start time of each tone stimulus KMPCLA_FEA_082_001 | v1.0

procedureMetadata

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

Unit Measured: s

Cue: Near infra red light arena KMPCLA_FEA_080_001 | v1.0

procedureMetadata

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

Options: On,

Conditioning: Length of time shock stimulus KMPCLA_FEA_038_001 | v1.0

procedureMetadata

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

Unit Measured: s

Options: 1, 0.5, 2,

Conditioning Tone Average Motion Index KMPCLA_FEA_092_001 | v1.0

simpleParameter

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

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Date equipment last calibrated (shock) KMPCLA_FEA_075_001 | v1.0

procedureMetadata

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

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Cue: Length of time no stimulus KMPCLA_FEA_061_001 | v1.0

procedureMetadata

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

Unit Measured: s

Options: 220, 0, 120,

Conditioning: Mouse arena shape KMPCLA_FEA_029_001 | v1.0

procedureMetadata

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

Options: Square, Rectangle,

Context: Date and time KMPCLA_FEA_041_001 | v1.0

procedureMetadata

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

Options: Conditioning +24h,

Conditioning: Mouse arena dimension KMPCLA_FEA_030_001 | v1.0

procedureMetadata

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

Unit Measured: cm

Options: 25 L x 21 W x 19 H cm, 30.5 cm L X 24.1 cm W X 21 cm H,
16.6 L X 17 W X 25 H cm, 25 x 25 x 19 cm, 30.5 L X 24.1 W X 24.5 H cm, 17 x 17 x 25 cm,
16 x 14 x 12 cm,

Context: Room acclimation time KMPCLA_FEA_042_001 | v1.0

procedureMetadata

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

Unit Measured: min

Options: 30, 60,

Cue: tone response measurement time KMPCLA_FEA_060_001 | v1.0

procedureMetadata

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

Unit Measured: s

Options: 120, 180,

Cue: Start time of each tone stimulus KMPCLA_FEA_086_001 | v1.0

procedureMetadata

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

Unit Measured: s

Context Minimum Motion Index KMPCLA_FEA_011_001 | v1.0

simpleParameter

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

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Conditioning Post-shock Minimum Motion Index KMPCLA_FEA_102_001 | v1.0

simpleParameter

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

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Conditioning Tone % Freezing Time KMPCLA_FEA_091_001 | v1.1

simpleParameter

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

Unit Measured: %

Derivation: mul(div('KMPCLA_FEA_090_001', 'KMPCLA_FEA_036_001'), 100)

Conditioning Shock Maximum Motion Index KMPCLA_FEA_097_001 | v1.0

simpleParameter

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

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Cue: Tone stimulus intensity (conditioned stimulus) KMPCLA_FEA_058_001 | v1.1

procedureMetadata

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

Unit Measured: dB

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

Conditioning: Shock stimulus intensity (unconditioned stimulus) KMPCLA_FEA_037_001 | v1.1

procedureMetadata

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

Unit Measured: mA

Options: 0.75, 0.4, 0.5,

Cue Baseline Minimum Motion Index KMPCLA_FEA_017_001 | v1.0

simpleParameter

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

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Conditioning: Start time of no stimulus KMPCLA_FEA_084_001 | v1.0

procedureMetadata

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

Unit Measured: s

Cue Tone % Freezing Time KMPCLA_FEA_021_001 | v1.1

simpleParameter

Req. Analysis: false   **Req. Upload:** false   **Is Annotated:** false
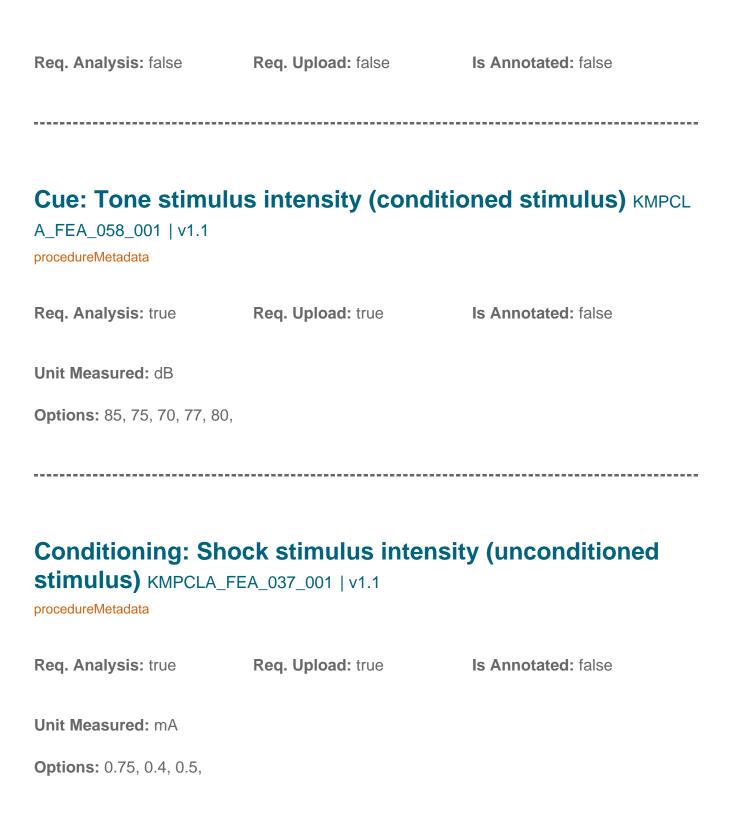
Unit Measured: %

Derivation:
mul(div(sumOfIncrements('KMPCLA_FEA_020_001',1), 'KMPCLA_FEA_060_001'), 100)

Conditioning: Date and time KMPCLA_FEA_025_001 | v1.0

procedureMetadata

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

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Conditioning Post-shock Freezing Time KMPCLA_FEA_099_001 | v1.0

simpleParameter

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

Unit Measured: s

Cue: Length of time baseline KMPCLA_FEA_057_001 | v1.0

procedureMetadata

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

Unit Measured: s

Options: 120,

Conditioning Tone Freezing Time KMPCLA_FEA_090_001 | v1.0

simpleParameter

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

Unit Measured: s

Conditioning: Mouse arena colour KMPCLA_FEA_031_001 | v1.0

procedureMetadata

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

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

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Conditioning Tone Minimum Motion Index KMPCLA_FEA_093_001 | v1.0

simpleParameter

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

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Cue Tone Average Motion Index KMPCLA_FEA_022_001 | v1.0

seriesParameter

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

Increments: Minimum 1

Context Freeze Count KMPCLA_FEA_007_001 | v1.0

simpleParameter

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

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Conditioning: Near infra red light arena KMPCLA_FEA_078_001 | v1.0

procedureMetadata

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

Options: On,

Conditioning Shock Minimum Motion Index KMPCLA_FEA_096_001 | v1.0

simpleParameter

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

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Cue: arena rotation KMPCLA_FEA_088_001 | v1.0

procedureMetadata

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

Options: 90 degrees, None,

Cue: Date and time KMPCLA_FEA_050_001 | v1.0

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

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

Sound generator manufacturer KMPCLA_FEA_069_001 | v1.0

procedureMetadata

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

Options: San Diego Instruments, Ugo Basile, Med Associates, O'hara CO Ltd.,

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Context Freezing Time KMPCLA_FEA_008_001 | v1.0

simpleParameter

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

Unit Measured: s

Experimenter ID day 2 cue KMPCLA_FEA_074_001 | v1.0

procedureMetadata

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

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Date equipment last calibrated (tone) KMPCLA_FEA_076_001 | v1.0

procedureMetadata

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

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Conditioning Baseline Freeze Count KMPCLA_FEA_001_001 | v1.0

simpleParameter

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

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Conditioning: Length of time no stimulus KMPCLA_FEA_039_001 | v1.0

procedureMetadata

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

Unit Measured: s

Options: 120, 150,

Context: White house light level in arena KMPCLA_FEA_043_001 | v1.2

procedureMetadata

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

Unit Measured: Lux

Options: 200, 40, 100, 26,

Context: Olfactory cue KMPCLA_FEA_044_001 | v1.0
procedureMetadata

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

Options: Alcohol, None,

Tracking Method KMPCLA_FEA_067_001 | v1.0
procedureMetadata

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

Options: Video tracking, Beam break,

Mouse arenaID KMPCLA_FEA_063_001 | v1.0
procedureMetadata

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

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

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Context: Mouse arena shape KMPCLA_FEA_045_001 | v1.0

procedureMetadata

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

Options: Rectangle, Square,

Cue Baseline Freeze Count KMPCLA_FEA_013_001 | v1.0

simpleParameter

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

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Cue: Olfactory cue KMPCLA_FEA_052_001 | v1.0

procedureMetadata

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

Options: 5% acetic acid, Vanillin, Cinnamon, None,

Cue Baseline Freezing Time KMPCLA_FEA_014_001 | v1.0

simpleParameter

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

Unit Measured: s

Context: Near infra red light arena KMPCLA_FEA_079_001 | v1.0

procedureMetadata

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

Options: On,

Conditioning Post-shock Freeze Count KMPCLA_FEA_098_001 | v1.0

simpleParameter

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

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Software KMPCLA_FEA_068_001 | v1.0

procedureMetadata

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

Options: Freeze Monitor, Anymaze, Med Associates Video Freeze, TimeFZ1,

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Context: Total time KMPCLA_FEA_049_001 | v1.0

procedureMetadata

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

Unit Measured: s

Options: 360, 300,

Conditioning Tone Freeze Count KMPCLA_FEA_089_001 | v1.0

simpleParameter

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

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Cue: Start time of baseline KMPCLA_FEA_085_001 | v1.0

procedureMetadata

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

Unit Measured: s

Cue Tone Freeze Count KMPCLA_FEA_019_001 | v1.0

seriesParameter

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

Increments: Minimum 1

Cue: Mouse arena dimension KMPCLA_FEA_054_001 | v1.0

procedureMetadata

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

Unit Measured: cm

Options: 20 cm dia X 30 cm H, 30.5 cm L X 24.1 cm W X 24.5cm H, 17 x 17 x 25 cm,
30.5 cm L X 24.1 cm W X 21 cm H, 25 x 25 x 19 cm, 25 L x 21 W x 19 H cm,
17 x 10 x 10 cm,

Equipment Manufacturer KMPCLA_FEA_065_001 | v1.0

procedureMetadata

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

Options: Ugo Basile, Med Assoicates, San Diego Instruments, O'hara CO Ltd.,

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Cue Tone Maximum Motion Index KMPCLA_FEA_024_001 | v1.0

seriesParameter

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

Increments: Minimum 1

Experimenter ID KMPCLA_FEA_072_001 | v1.0

procedureMetadata

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

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Context Maximum Motion Index KMPCLA_FEA_012_001 | v1.0

simpleParameter

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

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Conditioning: Start time of baseline KMPCLA_FEA_081_001 | v1.0

procedureMetadata

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

Unit Measured: s

Cue: Mouse arena shape KMPCLA_FEA_053_001 | v1.0

procedureMetadata

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

Options: A frame ceiling, Cylinder, Rectangle,

Cue: Mouse arena floor KMPCLA_FEA_056_001 | v1.0

procedureMetadata

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

Options: Plexi glass, Polyethylene, PVC, Perspex,

Cue: Tone stimulus frequency (Hz; conditioned stimulus)

KMPCLA_FEA_059_001 | v1.0

procedureMetadata

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

Unit Measured: kHz

Options: 2.8, 10, 2, 4,

Conditioning: Tone stimulus intensity (dB; conditioned stimulus) KMPCLA_FEA_034_001 | v1.0

procedureMetadata

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

Unit Measured: dB

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

Equipment Model KMPCLA_FEA_066_001 | v1.0

procedureMetadata

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

Options: MED-FVC-SCT-M, MED-VFC2-SCT-M, 46000, FearCS Mouse-46152, Freeze monitor, TimeFZ1,

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Conditioning Baseline % Freezing Time KMPCLA_FEA_003_001 | v1.1

simpleParameter

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

Unit Measured: %

Derivation: mul(div('KMPCLA_FEA_002_001', 'KMPCLA_FEA_033_001'), 100)

Conditioning: White house light level in arena KMPCLA_FEA_027_001 | v1.0

procedureMetadata

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

Unit Measured: Lux

Options: 200, 40, 100, 26,

Conditioning: Total time KMPCLA_FEA_040_001 | v1.0

procedureMetadata

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

Unit Measured: s

Options: 300, 380,

Conditioning: Length of time baseline KMPCLA_FEA_033_001 | v1.0

procedureMetadata

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

Unit Measured: s

Options: 150, 120, 240,

Cue Baseline % Freezing Time KMPCLA_FEA_015_001 | v1.1

simpleParameter

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

Unit Measured: %

Derivation: mul(div('KMPCLA_FEA_014_001', 'KMPCLA_FEA_057_001'), 100)

Conditioning Post-shock Maximum Motion Index KMPCLA_FEA_103_001 | v1.0

simpleParameter

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

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Conditioning Shock Average Motion Index KMPCLA_FEA_095_001 | v1.0

simpleParameter

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

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Context: Mouse arena colour KMPCLA_FEA_047_001 | v1.0

procedureMetadata

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

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

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Conditioning: Room acclimation time KMPCLA_FEA_026_001 | v1.0

procedureMetadata

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

Unit Measured: min

Options: 30, 60,

Cue Tone Freezing Time KMPCLA_FEA_020_001 | v1.0

seriesParameter

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

Unit Measured: s

Increments: Minimum 1

Cue Baseline Maximum Motion Index KMPCLA_FEA_018_001 | v1.0

simpleParameter

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

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Freeze definition (minimum motion index) KMPCLA_FEA_104_001 | v1.0

procedureMetadata

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

Options: 30, 18, 20,

Context: Mouse arena dimension KMPCLA_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 24.5 cm H, 25 L x 21 W x 19 H cm, 30.5 cm L X 24.1 cm W X 21 cm H, 16.6 cm L X 17 cm W X 25 cm H, 25 x 25 x 19 cm, 16 x 14 x 12 cm,

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Cue Tone Minimum Motion Index KMPCLA_FEA_023_001 | v1.0

seriesParameter

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

Increments: Minimum 1

Conditioning Baseline Freezing Time KMPCLA_FEA_002_001 | v1.0

simpleParameter

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

Unit Measured: s

Conditioning Baseline Average Motion Index KMPCLA_FEA_00 4_001 | v1.0

simpleParameter

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

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Conditioning Tone Maximum Motion Index KMPCLA_FEA_094_0 01 | v1.0

simpleParameter

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

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Conditioning: Start time of each shock stimulus KMPCLA_FEA _083_001 | v1.0

procedureMetadata

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

Unit Measured: s

Conditioning Baseline Maximum Motion Index KMPCLA_FEA_0 06_001 | v1.0

simpleParameter

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

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Context % Freezing Time KMPCLA_FEA_009_001 | v1.1

simpleParameter

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

Unit Measured: %

Derivation: mul(div('KMPCLA_FEA_008_001', 'KMPCLA_FEA_049_001'), 100)

Equipment ID KMPCLA_FEA_064_001 | v1.0

procedureMetadata

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

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

Conditioning: Mouse arena floor KMPCLA_FEA_032_001 | v1.0

procedureMetadata

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

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

Cue: Start time of no stimulus KMPCLA_FEA_087_001 | v1.0

procedureMetadata

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

Unit Measured: s

Context Average Motion Index KMPCLA_FEA_010_001 | v1.0

simpleParameter

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

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Cue: White house light level in arena KMPCLA_FEA_051_001 | v1.1

procedureMetadata

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

Unit Measured: Lux

Options: 0, 16, 14-18,

Conditioning: Tone stimulus frequency (Hz; conditioned stimulus) KMPCLA_FEA_035_001 | v1.0

procedureMetadata

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

Unit Measured: kHz

Options: 10, 4, 2.8, 2,

Cue: Total time KMPCLA_FEA_062_001 | v1.0

procedureMetadata

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

Unit Measured: s

Options: 480, 300, 240,

Conditioning Post-shock Average Motion Index KMPCLA_FEA _101_001 | v1.0

simpleParameter

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

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Conditioning: Olfactory cue KMPCLA_FEA_028_001 | v1.0

procedureMetadata

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

Options: Alcohol, None,

Experimenter ID day 2 KMPCLA_FEA_073_001 | v1.0

procedureMetadata

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

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Conditioning: Length of time tone stimulus KMPCLA_FEA_036_001 | v1.0

procedureMetadata

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

Unit Measured: s

Options: 30, 20,

Conditioning Baseline Minimum Motion Index KMPCLA_FEA_005_001 | v1.0

simpleParameter

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

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Freeze definition KMPCLA_FEA_077_001 | v1.1

procedureMetadata

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

Unit Measured: s

Options: 2, 1, 0.25,

Sound-proof box dimension KMPCLA_FEA_071_001 | v1.0

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

Options: other, 71 cm L X 63.5 cm W X 35.5 cm H, 71 cm L X 59.7 cm W X 31.7 cm H, 47 cm L X 35 cm W X 49 cm H, 40 cm L X 53 cm W X 58 cm H,

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Sound generator model KMPCLA_FEA_070_001 | v1.0

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

Options: 46000-165, other, VFC-100, CL-1010B,

Conditioning Post-shock % Freezing Time KMPCLA_FEA_100_001 | v1.1

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

Unit Measured: %

Derivation: mul(div('KMPCLA_FEA_099_001', 'KMPCLA_FEA_039_001'), 100)

Difference in Context and Conditioning Baseline % Freezing KMPCLA_FEA_105_001 | v1.0

simpleParameter

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

Derivation:
sub(mul(div('KMPCLA_FEA_008_001', 'KMPCLA_FEA_049_001'), 100), mul(div('KMPCLA_FEA_002_001', 'KMPCLA_FEA_033_001'), 100))

Difference in Cue Tone and Cue Baseline % Freezing KMPCLA_FEA_106_001 | v1.0

simpleParameter

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

Derivation:
sub(mul(div('KMPCLA_FEA_020_001', 'KMPCLA_FEA_060_001'), 100), mul(div('KMPCLA_FEA_014_001', 'KMPCLA_FEA_057_001'), 100))

Difference in Conditioning Post-shock and Conditioning Baseline % Freezing KMPCLA_FEA_107_001 | v1.0

simpleParameter

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

Derivation:
sub(mul(div('KMPCLA_FEA_099_001', 'KMPCLA_FEA_039_001'), 100), mul(div('KMPCLA_FEA_002_001', 'KMPCLA_FEA_033_001'), 100))

Cue: Length of time tone stimulus KMPCLA_FEA_108_001 | v1.0

procedureMetadata

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

Unit Measured: s

Options: 20, 120,