Von Frey Test JAX_VFR_001

Purpose

To investigate mechanical sensitivity in wild type and genetically altered mice.

Experimental Design

Minimum number of mutant animals: 7 males + 7 females

Age at test: 17 weeks

Sexual dimorphism:

Procedure

1. Baseline measurement
    1. Set up the testing room and equipment. Check the condition of the von Frey filaments.
    2. Place mice into the testing arenas and leave them to habituate for the specified length of time.
    3. Once habituated, test the mouse with the starting filament. When the mouse has all four feet on the platform, position the starting filament below the mid-plantar surface of the foot.
    4. Press the filament against the foot until the filament bends. Hold the filament in position for 3 seconds, or until the mouse moves its foot.
    5. Mark the response as '0' if the mouse does not react, or 'X' if it does react to the filament.
    6. Move on to testing the next mouse with the starting filament.
    7. Once all mice have been tested with the starting filament, test them with the next filament.
        *   If the mice did respond to the previous filament, they should be tested with the filament of the next smallest size. Once tested, record the response.
        *   If the mice did not respond to the previous filament, they should be tested with the filament of the next largest size. Once tested, record the response.
    9. Continue testing the mice using the up-down pattern until the stated number of trials have been completed.
3. Challenge
    1. The challenge should be administered 24 hours after the baseline measurement took place.
    2. Prepare the challenge injection.
    3. Anaesthetise the mouse.
    4. Administer the challenge to the plantar surface of the right hind paw.
    5. Monitor the condition of the mouse as it recovers from the anaesthetic.
5. Test 1

1. 24 hours after the challenge injection, re-test the mouse with the von Frey filaments using the same procedure as described for the baseline measurement.
7. Test 2
    1. 48 hours after the challenge injection, re-test the mouse with the von Frey filaments using the same procedure as described for the baseline measurement.

Notes

This procedure is a pilot study from the Pain Phenotyping Pilot

Parameters and Metadata

Baseline: tabulation JAX_VFR_001_001 | v1.0

simpleParameter

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

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Baseline: final filament (target force) JAX_VFR_002_001 | v1.0

simpleParameter

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

Unit Measured: g

Baseline: 50% threshold (grams) JAX_VFR_003_001 | v1.0

simpleParameter

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

Unit Measured: g

Baseline: 50% threshold (log scaled) JAX_VFR_004_001 | v1.0
simpleParameter

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

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Test 1: tabulation JAX_VFR_005_001 | v1.0
simpleParameter

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

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Test 1: final filament (target force) JAX_VFR_006_001 | v1.0
simpleParameter

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

Unit Measured: g

Test 1: 50% threshold (grams) JAX_VFR_007_001 | v1.0
simpleParameter

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

Unit Measured: g

Test 1: 50% threshold (log scaled) JAX_VFR_008_001 | v1.0

simpleParameter

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

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Test 2: tabulation JAX_VFR_009_001 | v1.0

simpleParameter

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

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Test 2: final filament (target force) JAX_VFR_010_001 | v1.0

simpleParameter

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

Unit Measured: g

Test 2: 50% threshold (grams) JAX_VFR_011_001 | v1.0

simpleParameter

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

Unit Measured: g

Test 2: 50% threshold (log scaled) JAX_VFR_012_001 | v1.0
simpleParameter

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

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Challenge JAX_VFR_013_001 | v1.0
procedureMetadata

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

Options: CFA (30 ul, undiluted),

Site of challenge injection JAX_VFR_014_001 | v1.0
procedureMetadata

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

Options: Plantar surface of right hind paw,

General anaesthetic for challenge injection JAX_VFR_015_001 | v1.0

procedureMetadata

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

Options: Isoflurane,

Number of runs per test JAX_VFR_016_001 | v1.0

procedureMetadata

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

Options: 1,

Number of trials per run JAX_VFR_017_001 | v1.0

procedureMetadata

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

Options: Minimum of 6 (at least 2 changes in response recorded),

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Minimum interval between filament presentation JAX_VFR_018_001 | v1.0

procedureMetadata

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

Unit Measured: min

Options: 2,

Number of repeats with same filament JAX_VFR_019_001 | v1.0

procedureMetadata

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

Options: Once, if response unclear repeat up to 2 times,

Minimum acclimatisation period JAX_VFR_020_001 | v1.0

procedureMetadata

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

Unit Measured: Hours

Options: 1,

Paws tested JAX_VFR_021_001 | v1.0

procedureMetadata

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

Options: Right hind paw,

Time between baseline measurement and challenge JAX_VFR_022_001 | v1.0

procedureMetadata

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

Unit Measured: Hours

Options: 24,

Time between challenge and test 1 JAX_VFR_023_001 | v1.0

procedureMetadata

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

Unit Measured: Hours

Options: 24,

Time between challenge and test 2 JAX_VFR_024_001 | v1.0

procedureMetadata

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

Unit Measured: Hours

Options: 48,

Tetrad manufacturer JAX_VFR_025_001 | v1.0

procedureMetadata

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

Options: Ugo Basile,

Tetrad dimensions JAX_VFR_026_001 | v1.0

procedureMetadata

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

Unit Measured: cm

Options: 12.7 cm H x 10.16 cm W x 10.16 cm L,

Tetrad material JAX_VFR_027_001 | v1.0

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

Options: Acrylic,

Tetrad colour/opacity JAX_VFR_028_001 | v1.0

procedureMetadata

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

Options: Clear,

Inset material JAX_VFR_029_001 | v1.0

procedureMetadata

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

Options: Acrylic,

Inset colour/opacity JAX_VFR_030_001 | v1.0

procedureMetadata

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

Options: Grey,

Grid material JAX_VFR_031_001 | v1.0

procedureMetadata

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

Options: Metal,

Grid hole size JAX_VFR_032_001 | v1.0

procedureMetadata

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

Unit Measured: mm

Options: 5 mm x 5 mm,

Filament set manufacturer JAX_VFR_033_001 | v1.0

procedureMetadata

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

Options: Stoetling,

Filament set model JAX_VFR_034_001 | v1.0

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

Options: Touch test sensory probes (Item #58011),

Filament material JAX_VFR_035_001 | v1.0

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

Options: Nylon,

Range of filaments used (target force) JAX_VFR_036_001 | v1.0

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

Unit Measured: g

Options: 0.008 - 4,

Starting filament (target force) JAX_VFR_037_001 | v1.0

procedureMetadata

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

Unit Measured: g

Options: 0.4,

Date filaments last calibrated JAX_VFR_038_001 | v1.0

procedureMetadata

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

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Experimenter ID JAX_VFR_039_001 | v1.0

procedureMetadata

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

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Disinfectant JAX_VFR_040_001 | v1.0

procedureMetadata

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

Options: 70% ethanol,

Delta2: difference in log10 threshold (g) JAX_VFR_041_001 | v1.0

simpleParameter

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

Unit Measured: g

Derivation: sub('JAX_VFR_004_001','JAX_VFR_012_001')