Von Frey Test TCP_VFR_001

Purpose

To detect mechanical/tactile sensitivity in the mouse paw

Experimental Design

Minimum number of mutant animals: 7 males + 7 females

Age at test: 16 weeks

Sexual dimorphism:

Procedure

1. Baseline measurement
    1. Move the mice to the testing chambers and leave to acclimate for the specified length of time.
    2. Mice should be tested using the simplified up-down method (SUDO) of Bonin et al. (2014).
    3. When the mouse is still, apply the filament to the centre of the right hindpaw. Press the filament against the paw for 3 seconds.
    4. Mark the response '0' if the mouse does not react, or 'X' if it does react to the filament.
    5. Leave the mouse for a minimum of 2 minutes before presentation of the next filament.
    6. The next filament to be tested will depend on the response to the previous 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.
    8. Continue testing the mice until 5 trials have been completed.
    9. The procedure is then repeated for a second run.
3. Challenge
    1. The challenge is administered after the baseline measurement has been completed.
5. Test 1
    1. 22 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. 142 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

A simplified up-down method (SUDO) for measuring mechanical nociception in rodents using von Frey filaments. Bonin RP, Bories C, De Koninck Y. Mol Pain. 2014 Apr 16;10:26. doi: 10.1186/1744-8069-10-26.PMID:24739328

Parameters and Metadata

Baseline: tabulation TCP_VFR_001_001 | v1.0

seriesParameter

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

Increments: Minimum 1

Baseline: final score TCP_VFR_002_001 | v1.0

seriesParameter

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

Increments: Minimum 1

Baseline: average final score TCP_VFR_003_001 | v1.0

simpleParameter

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

Derivation: meanOfIncrements('TCP_VFR_002_001',1)

Baseline: PWT force TCP_VFR_004_001 | v1.0

seriesParameter

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

Unit Measured: g

Increments: Minimum 1

Baseline: average PWT force TCP_VFR_005_001 | v1.0

simpleParameter

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

Unit Measured: g

Derivation: meanOfIncrements('TCP_VFR_004_001',1)

Test 1: tabulation TCP_VFR_006_001 | v1.0

seriesParameter

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

Increments: Minimum 1

Test 1: final score TCP_VFR_007_001 | v1.0

seriesParameter

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

Increments: Minimum 1

Test 1: average final score TCP_VFR_008_001 | v1.0

simpleParameter

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

Derivation: meanOfIncrements('TCP_VFR_007_001',1)

Test 1: PWT force TCP_VFR_009_001 | v1.0

seriesParameter

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

Unit Measured: g

Increments: Minimum 1

Test 1: average PWT force TCP_VFR_010_001 | v1.0

simpleParameter

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

Unit Measured: g

Derivation: meanOfIncrements('TCP_VFR_009_001',1)

Test 2: tabulation TCP_VFR_011_001 | v1.0

seriesParameter

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

Increments: Minimum 1

Test 2: final score TCP_VFR_012_001 | v1.0

seriesParameter

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

Increments: Minimum 1

Test 2: average final score TCP_VFR_013_001 | v1.0

simpleParameter

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

Derivation: meanOfIncrements('TCP_VFR_012_001',1)

Test 2: PWT force TCP_VFR_014_001 | v1.0

seriesParameter

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

Unit Measured: g

Increments: Minimum 1

Test 2: average PWT force TCP_VFR_015_001 | v1.0

simpleParameter

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

Unit Measured: g

Derivation: meanOfIncrements('TCP_VFR_014_001',1)

Challenge TCP_VFR_016_001 | v1.0

procedureMetadata

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

Options: CFA,

Site of challenge injection TCP_VFR_017_001 | v1.0

procedureMetadata

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

Options: Plantar surface of right hindpaw,

General anaesthetic for challenge injection TCP_VFR_018_001 | v1.0

procedureMetadata

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

Options: Isoflurane,

Number of runs per test TCP_VFR_019_001 | v1.0

procedureMetadata

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

Options: 2, 1,

Number of trials per run TCP_VFR_020_001 | v1.0

procedureMetadata

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

Options: 5,

Minimum interval between filament presentation TCP_VFR_021_001 | v1.0

procedureMetadata

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

Unit Measured: min

Options: 2,

Number of repeats with same filament TCP_VFR_022_001 | v1.0

procedureMetadata

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

Options: Once, 2-3, if response not obvious in first 2 then 3rd performed,

Minimum acclimatisation period TCP_VFR_023_001 | v1.0

procedureMetadata

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

Unit Measured: Hours

Options: 1,

Paws tested TCP_VFR_024_001 | v1.0

procedureMetadata

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

Options: Right hindpaw,

Time between baseline measurement and challenge TCP_VFR_025_001 | v1.0

procedureMetadata

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

Unit Measured: Hours

Options: 1, 2,

Time between challenge and test 1 TCP_VFR_026_001 | v1.0

procedureMetadata

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

Unit Measured: Hours

Options: 22, 24,

Time between challenge and test 2 TCP_VFR_027_001 | v1.0

procedureMetadata

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

Unit Measured: Hours

Options: 142, 144,

Tetrad manufacturer TCP_VFR_028_001 | v1.0

procedureMetadata

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

Options: IITC,

Tetrad dimensions TCP_VFR_029_001 | v1.0

procedureMetadata

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

Unit Measured: cm

Options: 12.5 cm H x 10 cm W x 10 cm L,

Tetrad material TCP_VFR_030_001 | v1.0

procedureMetadata

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

Options: Plexiglass,

Tetrad colour/opacity TCP_VFR_031_001 | v1.0

procedureMetadata

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

Options: Clear,

Inset material TCP_VFR_032_001 | v1.0

procedureMetadata

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

Options: Plexiglass,

Inset colour/opacity TCP_VFR_033_001 | v1.0

procedureMetadata

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

Options: Clear, White,

Grid material TCP_VFR_034_001 | v1.0

procedureMetadata

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

Options: Black painted metal,

Grid hole size TCP_VFR_035_001 | v1.0

procedureMetadata

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

Unit Measured: mm

Options: Hexagonal 8 mm corner to corner,

Filament set manufacturer TCP_VFR_036_001 | v1.0

procedureMetadata

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

Options: Aesthesio, Stoetling,

Filament set model TCP_VFR_037_001 | v1.0

procedureMetadata

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

Options: Aesthesio Precise Tactile Sensory Evaluator 20 piece kit,

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Filament material TCP_VFR_038_001 | v1.0

procedureMetadata

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

Options: Nylon,

Range of filaments used (target force) TCP_VFR_039_001 | v1.0

procedureMetadata

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

Unit Measured: g

Options: 0.02 - 1.4,

Starting filament (target force) TCP_VFR_040_001 | v1.0

procedureMetadata

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

Unit Measured: g

Options: 0.16,

Starting filament (filament number) TCP_VFR_041_001 | v1.0

procedureMetadata

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

Options: 5,

Date filaments last calibrated TCP_VFR_042_001 | v1.0

procedureMetadata

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

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Experimenter ID TCP_VFR_043_001 | v1.0

procedureMetadata

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

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Disinfectant TCP_VFR_044_001 | v1.0

procedureMetadata

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

Options: Clidox/Ethanol, Quaternary Ammonia (Coverage Plus),

Scaling parameter X TCP_VFR_045_001 | v1.0

procedureMetadata

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

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Scaling parameter B TCP_VFR_046_001 | v1.0

procedureMetadata

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

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Testing methodology TCP_VFR_047_001 | v1.0

procedureMetadata

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

Options: SUDO,
