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

<table>
<thead>
<tr>
<th>simpleParameter</th>
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**Baseline: final filament (target force)** JAX_VFR_002_001 | v1.0

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Unit Measured: g

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

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Unit Measured: g
Baseline: 50% threshold (log scaled)  JAX_VFR_004_001  |  v1.0

Test 1: tabulation  JAX_VFR_005_001  |  v1.0

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

Unit Measured: g

Test 1: 50% threshold (grams)  JAX_VFR_007_001  |  v1.0
Unit Measured: g

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


 Test 2: tabulation  JAX_VFR_009_001  |  v1.0


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


 Unit Measured: g

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

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

**Challenge**  JAX_VFR_013_001 | v1.0

**Site of challenge injection**  JAX_VFR_014_001 | v1.0
**General anaesthetic for challenge injection**

**JAX_VFR_015_001 | v1.0**

**procedureMetadata**

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

**Options:** Isoflurane,

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**Number of runs per test**

**JAX_VFR_016_001 | v1.0**

**procedureMetadata**

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

**Options:** 1,

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**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),
Minimum interval between filament presentation JAX_VFR_01 8_001 | v1.0

Unit Measured: min

Options: 2,

Number of repeats with same filament JAX_VFR_019_001 | v1.0

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

Minimum acclimatisation period JAX_VFR_020_001 | v1.0

Unit Measured: Hours

Options: 1,
Paws tested JAX_VFR_021_001 | v1.0

**Options:** Right hind paw,

Time between baseline measurement and challenge JAX_VFR_022_001 | v1.0

**Options:** 24,

Time between challenge and test 1 JAX_VFR_023_001 | v1.0

**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,

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Tetrad manufacturer

**JAX_VFR_025_001 | v1.0**

*procedureMetadata*

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

**Options:** Ugo Basile,

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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,

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Tetrad material

**JAX_VFR_027_001 | v1.0**
Tetrad colour/opacity  JAX_VFR_028_001 | v1.0

Inset material  JAX_VFR_029_001 | v1.0

Inset colour/opacity  JAX_VFR_030_001 | v1.0
Options: Grey,

Grid material JAX_VFR_031_001 | v1.0

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

Options: Metal,

Grid hole size JAX_VFR_032_001 | v1.0

- Unit Measured: mm
- Req. Analysis: false
- Req. Upload: true
- Is Annotated: false

Options: 5 mm x 5 mm,

Filament set manufacturer JAX_VFR_033_001 | v1.0

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

Options: Stoetling,
Filament set model **JAX_VFR_034_001 | v1.0**

**procedureMetadata**

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

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Filament material **JAX_VFR_035_001 | v1.0**

**procedureMetadata**

**Options:** Nylon,

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

**procedureMetadata**

**Unit Measured:** g

**Options:** 0.008 - 4,
**Starting filament (target force)** JAX_VFR_037_001 | v1.0

- **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

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

**Experimenter ID** JAX_VFR_039_001 | v1.0

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

**Disinfectant** JAX_VFR_040_001 | v1.0

- **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')