Von Frey Test HRWL_VFR_001

Purpose
To assess mechanical sensitivity using calibrated von Frey filaments.

Experimental Design
Minimum number of mutant animals: 7 males + 7 females
Age at test: 10 weeks
Sexual dimorphism:

Procedure
1. Habituation
   1. Place mice in the testing chambers on the elevated wire grid.
   2. Leave each mouse for an hour to acclimatise.
   3. The left hind paw is tested first using the following method.
      1. The 0.6g von Frey filament should be used as the starting filament.
      2. Apply the filament to the plantar surface of the hind paw. The filament should be applied with enough force to cause the filament to bend, and remain in contact for a total of 1-2 seconds.
   3. The size of the next filament to be applied will depend on the response to the previous filament.
      • If no withdrawal response was observed then the next highest filament is tested.
      • If there was a withdrawal response then the next lowest filament is tested.
   5. Continue applying filaments until the paw has been tested 5 times, with at least 2 minutes between each stimulus presentation.
5. Repeat the testing process with the right hind paw.
3. Test 1
   1. 24 hours after habituation, re-test the mouse with the von Frey filaments using the same procedure as described for the habituation period.
5. Test 2
   1. 48 hours after habituation, re-test the mouse with the von Frey filaments using the same procedure as described for the habituation period.

Notes
This procedure is a pilot study from the Pain Phenotyping Pilot

Parameters and Metadata
Habituation: tabulation  HRWL_VFR_001_001  | v1.0

seriesParameter


Increments: Left, Right,

Habituation: final filament (target force)  HRWL_VFR_002_001  | v1.0

seriesParameter


Unit Measured: g

Increments: Left, Right,

Habituation: 50% threshold (grams)  HRWL_VFR_003_001  | v1.0

seriesParameter


Unit Measured: g

Increments: Left, Right,

Habituation: 50% threshold (log scaled)  HRWL_VFR_004_001  | v1.0

v1.0
Habituation: average 50% threshold (grams)  
HRWL_VFR_005_001 | v1.0

SimpleParameter

Unit Measured: g

Derivation: meanOfIncrements('HRWL_VFR_003_001',1)

Habituation: average 50% threshold (log scaled)  
HRWL_VF_R_006_001 | v1.0

SimpleParameter

Derivation: meanOfIncrements('HRWL_VFR_004_001',1)

Test 1: tabulation  
HRWL_VFR_007_001 | v1.0

SeriesParameter
Increments: Left, Right,

Test 1: final filament (target force)  HRWL_VFR_008_001 | v1.0
seriesParameter


Unit Measured: g

Increments: Left, Right,

Test 1: 50% threshold (grams)  HRWL_VFR_009_001 | v1.0
seriesParameter


Unit Measured: g

Increments: Left, Right,

Test 1: 50% threshold (log scaled)  HRWL_VFR_010_001 | v1.0
seriesParameter


Increments: Left, Right,
Test 1: average 50% threshold (grams) HRWL_VFR_011_001 | v1.0

simpleParameter


Unit Measured: g

Derivation: meanOfIncrements('HRWL_VFR_009_001',1)

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Test 1: average 50% threshold (log scaled) HRWL_VFR_012_001 | v1.0

simpleParameter


Derivation: meanOfIncrements('HRWL_VFR_010_001',1)

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Test 2: tabulation HRWL_VFR_013_001 | v1.0

seriesParameter


Increments: Left, Right,
Test 2: final filament (target force)  

```plaintext
seriesParameter


Unit Measured: g
Increments: Left, Right,
```

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Test 2: 50% threshold (grams)  

```plaintext
seriesParameter


Unit Measured: g
Increments: Left, Right,
```

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Test 2: 50% threshold (log scaled)  

```plaintext
seriesParameter


Increments: Left, Right,
```

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Test 2: average 50% threshold (grams)  

```plaintext
simpleParameter


Increments: Left, Right,
```
Test 2: average 50% threshold (log scaled) HRWL_VFR_018_01 | v1.0

Number of runs per test HRWL_VFR_019_001 | v1.0

Number of trials per run HRWL_VFR_020_001 | v1.0
Minimum interval between filament presentation  HRWL_VF
R_021_001 | v1.0

procedureMetadata


Unit Measured: min

Options: 2,

Number of repeats with same filament  HRWL_VFR_022_001 | v1.0

procedureMetadata


Options: Once, if response unclear repeat up to 3 times,

Minimum acclimatisation period  HRWL_VFR_023_001 | v1.0

procedureMetadata


Unit Measured: Hours

Options: 1,
**Paws tested** HRWL_VFR_024_001 | v1.0

*procedureMetadata*

**Options:** Left and right hind paws,

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**Time between habituation and test 1** HRWL_VFR_025_001 | v1.0

*procedureMetadata*

**Unit Measured:** Hours

**Options:** 24,

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**Time between habituation and test 2** HRWL_VFR_026_001 | v1.0

*procedureMetadata*

**Unit Measured:** Hours

**Options:** 48,

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**Tetrad manufacturer** HRWL_VFR_027_001 | v1.0
**Tetrad dimensions**  
HRWLVFR_028_001 | v1.0

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

**Unit Measured:** cm

**Options:** 10 cm H x 6 cm W x 8 cm L,

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**Tetrad material**  
HRWLVFR_029_001 | v1.0

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

**Options:** Perspex,

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**Tetrad colour/opacity**  
HRWLVFR_030_001 | v1.0

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

**Options:** Clear,
**Inset material** HRWL_VFR_031_001 | v1.0

procedureMetadata

**Options:** Plastic,

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

**Inset colour/opacity** HRWL_VFR_032_001 | v1.0

procedureMetadata

**Options:** Opaque,

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

**Grid material** HRWL_VFR_033_001 | v1.0

procedureMetadata

**Options:** Stainless steel,

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

**Grid hole size** HRWL_VFR_034_001 | v1.0

procedureMetadata
Filament set manufacturer  
**HRWL_VFR_035_001** | v1.0

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

**Options:** Stoetling,

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Filament set model  
**HRWL_VFR_036_001** | v1.0

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

**Options:** Touch test sensory probes,

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Filament material  
**HRWL_VFR_037_001** | v1.0

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

**Options:** Nylon,
Range of filaments used (target force) HRWL_VFR_038_001 | v1.0

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

**Unit Measured:** g

**Options:** 0.04 - 4,

Starting filament (target force) HRWL_VFR_039_001 | v1.0

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

**Unit Measured:** g

**Options:** 0.6,

Date filaments last calibrated HRWL_VFR_040_001 | v1.0

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

Experimenter ID HRWL_VFR_041_001 | v1.0

- **Req. Analysis:** false
- **Req. Upload:** true
- **Is Annotated:** false
**Disinfectant**  HRWL_VFR_042_001 | v1.0

*procedureMetadata*

**Unit Measured:** g

**Derivation:**
```
sub(meanOfIncrements('HRWL_VFR_004_001',1), meanOfIncrements('HRWL_VFR_016_001',1))
```