**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


Increments: Left, Right,

--------------------

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


Unit Measured: g

Increments: Left, Right,

--------------------

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


Unit Measured: g

Increments: Left, Right,
Habituation: 50% threshold (log scaled)  HRWL_VFR_004_001  | v1.0

seriesParameter


Increments: Left, Right,

-----------------------------------------------

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_VFR_006_001  | v1.0

simpleParameter


Derivation: meanOfIncrements('HRWL_VFR_004_001',1)
**Test 1: tabulation** HRWL_VFR_007_001 | v1.0

*seriesParameter*

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

Increments: Left, Right,

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

*seriesParameter*

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

Unit Measured: g  
Increments: Left, Right,

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

*seriesParameter*

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

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)

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

simpleParameter


Derivation: meanOfIncrements('HRWL_VFR_010_001',1)
Test 2: tabulation  HRWL_VFR_013_001 | v1.0

seriesParameter


Increments: Left, Right,

Test 2: final filament (target force)  HRWL_VFR_014_001 | v1.0

seriesParameter


Unit Measured: g

Increments: Left, Right,

Test 2: 50% threshold (grams)  HRWL_VFR_015_001 | v1.0

seriesParameter


Unit Measured: g

Increments: Left, Right,

Test 2: 50% threshold (log scaled)  HRWL_VFR_016_001 | v1.0
**Test 2: average 50% threshold (grams)**  
HRWL_VFR_017_001 | v1.0

**simpleParameter**

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

**Unit Measured:** g

**Derivation:** `meanOfIncrements('HRWL_VFR_015_001',1)`

---

**Test 2: average 50% threshold (log scaled)**  
HRWL_VFR_018_001 | v1.0

**simpleParameter**

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

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

---

**Number of runs per test**  
HRWL_VFR_019_001 | v1.0

**procedureMetadata**
Options: 2 (left paw first, right paw second),

Number of trials per run HRWL_VFR_020_001 | v1.0

Options: 5,

Minimum interval between filament presentation HRWL_VFR_021_001 | v1.0

Unit Measured: min

Options: 2,

Number of repeats with same filament HRWL_VFR_022_001 | v1.0
Options: Once, if response unclear repeat up to 3 times,

--------------------------------------------------------

**Minimum acclimatisation period**  
HRWL_VFR_023_001 | v1.0

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

**Unit Measured:** Hours

**Options:** 1,

--------------------------------------------------------

**Paws tested**  
HRWL_VFR_024_001 | v1.0

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

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

--------------------------------------------------------

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

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

**Unit Measured:** Hours
Time between habituation and test 2

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

**Unit Measured:** Hours

**Options:** 24, 48

Tetrad manufacturer

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

**Options:** Built in-house

Tetrad dimensions

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

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

---

**Tetrad material**  HRWL_VFR_029_001 | v1.0

procedureMetadata


Options: Perspex,

---

**Tetrad colour/opacity**  HRWL_VFR_030_001 | v1.0

procedureMetadata


Options: Clear,

---

**Inset material**  HRWL_VFR_031_001 | v1.0

procedureMetadata


Options: Plastic,
**Inset colour/opacity**  HRWL_VFR_032_001 | v1.0


Options: Opaque,

**Grid material**  HRWL_VFR_033_001 | v1.0


Options: Stainless steel,

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


Unit Measured: mm

Options: 5 mm x 5 mm,

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

procedureMetadata
Filament set model HRWL_VFR_036_001 | v1.0

Options: Touch test sensory probes,

Filament material HRWL_VFR_037_001 | v1.0

Options: Nylon,

Range of filaments used (target force) HRWL_VFR_038_001 | v1.0
**Unit Measured:** g

**Options:** 0.04 - 4,
**Disinfectant** HRWL_VFR_042_001 | v1.0

procedureMetadata

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

**Options:** Distel 2%,

**Delta2: difference in log10 threshold (g)** HRWL_VFR_043_001 | v1.0

simpleParameter

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

**Unit Measured:** g

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