

# Heart Weight IMPC\_HWT\_001

## Purpose

To evaluate cardiac size using heart weight and body weight.

## Experimental Design

- **Minimum number of animals :** 7M + 7F
- **Age at test:** Week 17

## Equipment

- fine forceps
- surgical scissors
- fine surgical scissor
- kim wipes (tissues) or surgical compress
- laboratory balance
- labelled jar with fixative
- corkplate or wax board
- pins
- jar containing tap water to rinse the tools

## Procedure

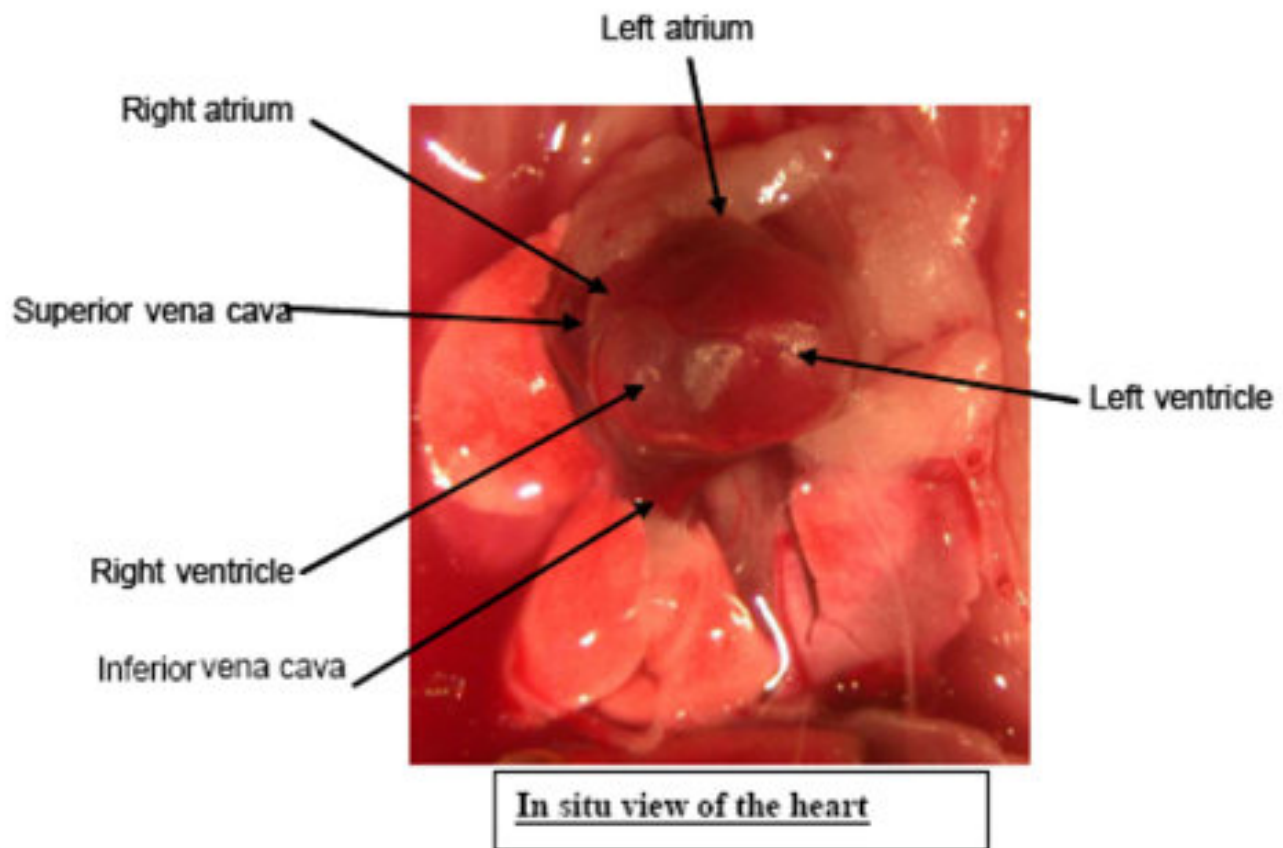
Methods and procedures used not including center-specific data entry methods.

1. Sacrifice the mouse
2. Weigh and record total body weight
3. Place mouse on its back and pin the mouse onto board with extended extremities (inner side of hands and foot)
4. Wipe or wet the mouse with 70% ethanol to control hair and dander
5. Option A (for mice that are undergoing complete necropsy):
  - Proceed with a complete necropsy and tissue collection according to Centre-specific technical SOP including removal of the heart by dissecting the aortic root immediately above the aortic valves and the superior vena cava above the atria
  - Remove adjacent mediastinal fat pads from the excised heart carefully with forceps
  - Empty heart blood by tapping the heart on a kim wipe (absorbent pad) or surgical compress. Repeat until the heart is totally dry

- Weigh the heart, record the weight in the Centre-specific database, and place the heart in fixative

6. Option B (for mice that are not undergoing complete necropsy):

- Open the skin in the ventral midline and in the direction of the extremities and extend cut to hands and feet
- Open the muscular abdominal wall in the midline and along the lower margin of the rib cage with small forceps
- Open rib cage by removing the sternum and adjacent ribs
- Remove the heart by dissecting the aortic root immediately above the aortic valves and the superior vena cava above the atria
- Remove adjacent mediastinal fat pads from the excised heart carefully with forceps
- Empty heart blood by tapping the heart on a kim wipe (absorbent pad) or surgical compress. Repeat until the heart is totally dry
- Weigh the heart and record the weight in the Centre-specific database
- Discard the heart



## Notes

All data are collected at a local workstation in the necropsy room (attached to a digital balance) and uploaded to the Centre-specific pathology data capture system.

### Data QC

Mouse weight between 5 grams and 150 grams

## IMPC Parameters (+ontology annotations)

Weight (in mg)

## Data Analysis, annotation and display (+statistics)

Statistics: ANOVA/Wilcoxon test using normalized heart weights (for body weight) displayed in boxplot

## Parameters and Metadata

### Experimenter ID IMPC\_HWT\_003\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Description: experimenter

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### Method of sacrifice IMPC\_HWT\_005\_001 | v1.1

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Description: sacrifice

**Options:** Isoflurane overdose, Exsanguination, Carbon dioxide, Avertin, Ketamine (100mg/kg)/Xylazine (10mg/kg), Ketamine(100mg/kg)/ Xylazine (10mg/kg )/ Antisedan (1mg/kg), Ketamine (110mg/kg)/Xylazine (11mg/kg), Ketamine (110mg/kg)/Xylazine (11mg/kg)/ Antisedan (1mg/kg), Pentobarb (0.1ml), Anesthetized, None, Ketamine (137mg/kg)/Xylazine (6.6mg/kg), Cervical dislocation, Cardiac puncture,

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**Equipment ID** IMPC\_HWT\_006\_001 | v1.0

procedureMetadata

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

Description: equipment\_name

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**Body weight** IMPC\_HWT\_007\_001 | v1.3

simpleParameter

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

Unit Measured: g

Description: body\_weight

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**Heart weight** IMPC\_HWT\_008\_001 | v1.2

simpleParameter

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

Unit Measured: mg

Description: heart\_weight

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**Date equipment last calibrated** IMPC\_HWT\_009\_001 | v1.2

procedureMetadata

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

**Equipment manufacturer** IMPC\_HWT\_010\_001 | v1.0

procedureMetadata

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

**Options:** Ohaus, Denver Instrument, Mettler Toledo, A & D, Sartorius AG Germany, Kern, Radwag,

**Equipment model** IMPC\_HWT\_011\_001 | v1.0

procedureMetadata

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

**Options:** Adventurer Pro, AV2101, TP-114, PG3001-S, HR-120, TE212, P-403, AV212C, GF-200, AV213C, Scout Pro SPU123, QUINTIX124-1S, MS104S, AB104-S, Adventurer AX223/E, EMB 200-2, ENTRIS 423-1S, 201-10, BCE124I-1SJP, PR224/E,

**Date of sacrifice** IMPC\_HWT\_001\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

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## Tibia length IMPC\_HWT\_002\_001 | v1.1

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Unit Measured: mm

Description: tibia\_length

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## Heart weight normalised against body weight IMPC\_HWT\_012\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

Derivation:  $\text{div}(\text{'IMPC\_HWT\_008\_001'}, \text{'IMPC\_HWT\_007\_001'})$

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## Heart weight normalised against tibia length IMPC\_HWT\_013\_001 | v1.3

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

**Derivation:** div('IMPC\_HWT\_008\_001', 'IMPC\_HWT\_002\_001')

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