



## Gross Pathology and Tissue Collection IMPC\_PAT\_002

### Purpose

To perform a complete necropsy to detect and record abnormal external findings and macroscopic alterations in internal and external organs, record body and heart weights (see IMPC Heart Weight SOP), and collect a standardized list of tissues for fixation with or without further processing (see non-mandatory IMPC Tissue Embedding & Block Banking SOP).

### Experimental Design

Minimum number of mutant animals: 2 mutant males + 2 mutant females

Minimum age of animals: 16 weeks

### Equipment

- Corkplate or wax board
- pins
- jar containing tap water to rinse tools
- labelled container with fixative
- fine scissors
- bigger scissors
- forceps
- small spatula
- scalpel
- laboratory balance

### Procedure

1. Sacrifice the mouse
2. Weigh and record total body weight (if not done separately)
3. Place mouse on its back and pin the mouse onto board with extended extremities (inner side of hands and foot)
4. Wipe or spray the mouse with 70% ethanol to control hair and dander
5. Proceed with a complete necropsy and tissue collection according to Center-specific technical SOP but be sure to collect the IMPC 'Tissue Collection List' (below) and remove the heart and record its weight according to the IMPC Heart Weight SOP. Individual Centers may collect any additional tissue according to Centre-specific technical SOPs.
6. Capture any images of abnormal findings and save images in Centre-specific database
7. Place all tissue collected in a labelled jar containing a sufficient volume of fixative (minimum of 10:1 fixative to tissue)
8. Record all abnormal findings in a Center-specific database using the standardized IMPC Gross Pathology ontology:
  - i. MA ontology terms for location/topography
  - ii. MP ontology terms for presence/absence/large/small/abnormal

- iii. PATO ontology terms for descriptors (size, shape, colour, consistency, distribution of lesions)

## Notes

Banking of the fixed tissue for long-term storage is according to Centre-specific SOPs (including storage fixative). Options for long-term storage of the fixed tissue include:

- Store in labelled jar in wet fixative for future use or requests
- Trim, process, and embed fixed tissue in paraffin blocks (store or discard tissue not trimmed in)
- Trim, process, and embed fixed tissue in paraffin blocks followed by microtomy and staining of sections on glass slides (store or discard tissue not trimmed in)

## Data QC

Images of significant gross findings will be captured as static image files (.tiff or .jpg) and made available to the DCC. Images will be not be annotated but linked by metadata to the mouse line.

## Parameters

	Version	Type	Increment	Option	Derived	Unit	Data Type
Brain IMPC_PAT_001_002	2.0	ontologyParameter					TEXT
Eye with optic nerve IMPC_PAT_002_002	2.0	ontologyParameter					TEXT
Spinal cord IMPC_PAT_003_002	2.0	ontologyParameter					TEXT
Thymus IMPC_PAT_004_002	2.0	ontologyParameter					TEXT
Thyroid IMPC_PAT_005_002	2.0	ontologyParameter					TEXT
Heart IMPC_PAT_006_002	2.0	ontologyParameter					TEXT
Trachea IMPC_PAT_007_002	2.0	ontologyParameter					TEXT
Esophagus IMPC_PAT_008_002	2.0	ontologyParameter					TEXT
Lung IMPC_PAT_009_002	2.0	ontologyParameter					TEXT
Liver IMPC_PAT_010_002	2.0	ontologyParameter					TEXT
Gall bladder IMPC_PAT_011_002	2.0	ontologyParameter					TEXT
Stomach IMPC_PAT_012_002	2.0	ontologyParameter					TEXT
Small intestine IMPC_PAT_013_002	2.0	ontologyParameter					TEXT
Large intestine IMPC_PAT_014_002	2.0	ontologyParameter					TEXT

	Version	Type	Increment	Option	Derived	Unit	Data Type
Pancreas IMPC_PAT_015_002	2.0	ontologyParameter					TEXT
Spleen IMPC_PAT_016_002	2.0	ontologyParameter					TEXT
Kidney IMPC_PAT_017_002	2.0	ontologyParameter					TEXT
Adrenal gland IMPC_PAT_018_002	2.0	ontologyParameter					TEXT
Mammary gland IMPC_PAT_019_002	2.0	ontologyParameter					TEXT
Lymph node IMPC_PAT_020_002	2.0	ontologyParameter					TEXT
Skin IMPC_PAT_021_002	2.0	ontologyParameter					TEXT
Skeletal muscle IMPC_PAT_022_002	2.0	ontologyParameter					TEXT
Urinary bladder IMPC_PAT_023_002	2.0	ontologyParameter					TEXT
Testes IMPC_PAT_024_002	2.0	ontologyParameter					TEXT
Epididymis IMPC_PAT_025_002	2.0	ontologyParameter					TEXT
Prostate IMPC_PAT_026_002	2.0	ontologyParameter					TEXT
Seminal vesicle IMPC_PAT_027_002	2.1	ontologyParameter					TEXT
Ovary IMPC_PAT_028_002	2.0	ontologyParameter					TEXT
Uterus IMPC_PAT_029_002	2.0	ontologyParameter					TEXT
Body Weight IMPC_PAT_049_002	2.0	simpleParameter				g	FLOAT
Images IMPC_PAT_057_002	2.0	seriesMediaParameter					IMAGE
Comments (in English) IMPC_PAT_032_002	2.0	simpleParameter					TEXT

## Metadata

	Version	Type	Increment	Option	Derived	Unit	Data Type
Experimenter ID IMPC_PAT_052_002	2.0	procedureMetadata					TEXT
Method of sacrifice IMPC_PAT_054_002	2.0	procedureMetadata		Pentobarb (0.1ml)			TEXT
Equipment ID IMPC_PAT_056_002	2.0	procedureMetadata					TEXT

	Version	Type	Increment	Option	Derived	Unit	Data Type
Fixative IMPC_PAT_058_002	2.0	procedureMetadata		10% neutral buffer formalin, RT, O/N			TEXT
Date equipment last calibrated IMPC_PAT_059_002	2.0	procedureMetadata					DATE
Equipment manufacturer IMPC_PAT_060_002	2.0	procedureMetadata		Leica			TEXT
Equipment model IMPC_PAT_061_002	2.0	procedureMetadata		M651			TEXT
Date of sacrifice IMPC_PAT_030_002	2.0	procedureMetadata					DATE TIME
ID for sample banking protocol IMPC_PAT_031_002	2.0	procedureMetadata					TEXT