

# MicroCT E9.5 IMPC\_EML\_002

## Purpose

To assess morphological defects in E9.5 embryos from lethal strains with MicroCT.

## Experimental Design

- Set up timed matings with heterozygous mice
- Day 0 is defined as the midpoint of the prior dark cycle following the identification of a copulation plug.
- Collect embryos at E9.5 with 3 minimum homozygous and 1 littermate control
- Ensure embryos are bled as much as possible.
- Reconstruct the scans according to manufacturer's instructions.

## Procedure

1. **Set up timed mating with heterozygous animals. Dissect and collect  $\geq 3$  homozygote embryos.**
2. **Process the embryos using the centre's staining and embedding protocol . Centre-specific methods are recorded within a document**
3. **Scan and generate reconstructions of embryos.**

## Notes

Embryos may be processed for Histopathology.

## Parameters and Metadata

**Camera to Source** IMPC\_EML\_010\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Unit Measured: mm

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## Equipment Version IMPC\_EML\_006\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

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## Image Pixel Size IMPC\_EML\_007\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Unit Measured:  $\mu\text{m}$

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## Date of Scan IMPC\_EML\_014\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

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## Equipment Manufacturer IMPC\_EML\_004\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

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## Equipment ID IMPC\_EML\_003\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

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## E9.5 MicroCT Preparation protocol IMPC\_EML\_008\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

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## Screenshots IMPC\_EML\_017\_001 | v1.1

seriesMediaParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

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## Object to Source IMPC\_EML\_009\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Unit Measured: mm

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## Source Current IMPC\_EML\_016\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Unit Measured: uA

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## Date of Sacrifice IMPC\_EML\_012\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

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## Date Preparation Finished IMPC\_EML\_013\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

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## Embryo reconstruction IMPC\_EML\_001\_001 | v1.2

seriesMediaParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: false

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## Experimenter ID IMPC\_EML\_002\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

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## Source Voltage IMPC\_EML\_015\_001 | v1.1

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

Unit Measured: kV

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## Date equipment last calibrated IMPC\_EML\_011\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: false

Is Annotated: false

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## Equipment Model IMPC\_EML\_005\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

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## Hindbrain IMPC\_EML\_018\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## 4th ventricle IMPC\_EML\_019\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## Mesencephalic vesicle IMPC\_EML\_020\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## Forebrain IMPC\_EML\_021\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## **Telecenphalic (lateral) ventricle** IMPC\_EML\_022\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## **Rhombomeres** IMPC\_EML\_023\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## **Notochord** IMPC\_EML\_024\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** true

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## Infundibular recess of 3rd ventricle IMPC\_EML\_025\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** true

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## Rathke's pouch IMPC\_EML\_026\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## Optic vesicle IMPC\_EML\_027\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## Otocyst IMPC\_EML\_028\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## **1st branchial arch** IMPC\_EML\_029\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## **1st arch artery** IMPC\_EML\_030\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** true

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## **2nd branchial arch** IMPC\_EML\_031\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## 2nd arch artery IMPC\_EML\_032\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** true

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## Oropharynx IMPC\_EML\_033\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## 3rd branchial arch IMPC\_EML\_034\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## 3rd arch artery IMPC\_EML\_035\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## Aortic sac IMPC\_EML\_036\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## Common atrial chamber IMPC\_EML\_037\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## Atrioventricular canal IMPC\_EML\_038\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## **Heart ventricle** IMPC\_EML\_039\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## **Primitive heart tube cardiac muscle** IMPC\_EML\_040\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** true

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## **Dorsal aorta** IMPC\_EML\_041\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## Hepatic primordium IMPC\_EML\_042\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** true

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## Hindgut IMPC\_EML\_043\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## Forelimb bud IMPC\_EML\_044\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## Neural tube IMPC\_EML\_045\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## Caudal neuropore IMPC\_EML\_046\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## Somite IMPC\_EML\_047\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## Somite count IMPC\_EML\_048\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: false

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## Delayed embryonic development IMPC\_EML\_049\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: true

Is Annotated: true

Options: yes, no,

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## Vitelline artery IMPC\_EML\_050\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## Umbilical vein IMPC\_EML\_051\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## Foregut IMPC\_EML\_052\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** true

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## **Midgut** IMPC\_EML\_053\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** true

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## **Pericardial cavity** IMPC\_EML\_054\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** true

**Is Annotated:** true

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## **Peritoneal cavity** IMPC\_EML\_055\_001 | v1.0

simpleParameter

**Req. Analysis:** false

**Req. Upload:** false

**Is Annotated:** true

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## Sinus venosus IMPC\_EML\_056\_001 | v1.0

simpleParameter

Req. Analysis: false

Req. Upload: false

Is Annotated: true

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,

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## Annotator ID IMPC\_EML\_057\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

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## Date of Annotation IMPC\_EML\_058\_001 | v1.0

procedureMetadata

Req. Analysis: false

Req. Upload: true

Is Annotated: false

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