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 bleed as much as possible.
- Reconstruct the scans according to manufacturer’s instructions.

Procedure

1. Set up timed mating with heterozygous animals. Dissect and collect >=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
Equipment Version IMPC_EML_006_001 | v1.0


Image Pixel Size IMPC_EML_007_001 | v1.0


Unit Measured: µm

Date of Scan IMPC_EML_014_001 | v1.0


Equipment Manufacturer IMPC_EML_004_001 | v1.0

Equipment ID: IMPC_EML_003_001 | v1.0
procedureMetadata


E9.5 MicroCT Preparation protocol: IMPC_EML_008_001 | v1.0
procedureMetadata


Screenshots: IMPC_EML_017_001 | v1.1
seriesMediaParameter


Object to Source: IMPC_EML_009_001 | v1.0
procedureMetadata


Unit Measured: mm
Source Current  IMPC_EML_016_001 | v1.0
procedureMetadata


Unit Measured: uA

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Date of Sacrifice  IMPC_EML_012_001 | v1.0
procedureMetadata


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Date Preparation Finished  IMPC_EML_013_001 | v1.0
procedureMetadata


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Embryo reconstruction  IMPC_EML_001_001 | v1.2
seriesMediaParameter


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**Experimenter ID** IMPC_EML_002_001 | v1.0

**Source Voltage** IMPC_EML_015_001 | v1.1

**Date equipment last calibrated** IMPC_EML_011_001 | v1.0

**Equipment Model** IMPC_EML_005_001 | v1.0
**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
Telecenphalic (lateral) ventricle

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


Rhombomeres

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


Notochord

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

1st branchial arch IMPC_EML_029_001 | v1.0

simpleParameter

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

1st arch artery IMPC_EML_030_001 | v1.0

simpleParameter

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

2nd branchial arch IMPC_EML_031_001 | v1.0

simpleParameter

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

**Oropharynx** IMPC_EML_033_001 | v1.0

`simpleParameter`

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

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

**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,
**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
**Heart ventricle**  IMPC_EML_039_001 | v1.0

simpleParameter

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

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**Primitive heart tube cardiac muscle**  IMPC_EML_040_001 | v1.0

simpleParameter

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

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**Dorsal aorta**  IMPC_EML_041_001 | v1.0

simpleParameter

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,
**Hepatic primordium** **IMPC_EML_042_001 | v1.0**

simpleParameter


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

**Hindgut** **IMPC_EML_043_001 | v1.0**

simpleParameter


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

**Forelimb bud** **IMPC_EML_044_001 | v1.0**

simpleParameter


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

**Neural tube** **IMPC_EML_045_001 | v1.0**

simpleParameter
Caudal neuropore  IMPC_EML_046_001 | v1.0

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

Somite  IMPC_EML_047_001 | v1.0

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

Somite count  IMPC_EML_048_001 | v1.0

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,
**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
Midgut  IMPC_EML_053_001 | v1.0

Pericardial cavity IMPC_EML_054_001 | v1.0

Peritoneal cavity IMPC_EML_055_001 | v1.0
**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