MicroCT E14.5-E15.5 IMPC_EMO_002

Purpose

To assess morphological defects in E14.5-E15.5 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 E14.5 or E15.5 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

Embryo reconstruction IMPC_EMO_001_001 | v1.2

seriesMediaParameter


Increments: Minimum 1
Image Pixel Size  IMPC_EMO_007_001 | v1.0

Unit Measured: $\mu$m

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E14.5-E15.5 MicroCT Preparation protocol  IMPC_EMO_008_001 | v1.0

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Object to Source  IMPC_EMO_009_001 | v1.0

Unit Measured: mm
Camera to Source  IMPC_EMO_010_001 | v1.0
procedureMetadata


Unit Measured: mm

Date equipment last calibrated  IMPC_EMO_011_001 | v1.0
procedureMetadata


Date of Sacrifice  IMPC_EMO_012_001 | v1.0
procedureMetadata


Date Preparation Finished  IMPC_EMO_013_001 | v1.0
procedureMetadata

**Date of Scan** IMPC_EMO_014_001 | v1.0

*procedureMetadata*


**Source Voltage** IMPC_EMO_015_001 | v1.1

*procedureMetadata*


Unit Measured: kV

**Source Current** IMPC_EMO_016_001 | v1.0

*procedureMetadata*


Unit Measured: uA

**Screenshots** IMPC_EMO_017_002 | v2.1

*seriesMediaParameter*


Increments: Minimum 1
**3rd ventricle**  IMPC_EMO_018_001  |  v1.0

*simpleParameter*

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

**Description:** 3rd_ventricle

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

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**Median sulcus**  IMPC_EMO_019_001  |  v1.0

*simpleParameter*

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

**Description:** median_sulcus

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

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**4th ventricle**  IMPC_EMO_020_001  |  v1.0

*simpleParameter*

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

**Description:** 4th_ventricle
**Adrenal gland**  IMPC_EMO_021_001  |  v1.0

**Description:** adrenal_gland

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

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**Aorta**  IMPC_EMO_022_001  |  v1.0

**Description:** aorta

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

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**Arch of aorta**  IMPC_EMO_023_001  |  v1.0

**Description:** arch_of_aorta
Heart atrium  IMPC_EMO_024_001  | v1.0

simpleParameter


Description: heart_atrium

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

basioccipital bone  IMPC_EMO_025_001  | v1.0

simpleParameter


Description: basioccipital_bone

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

Bladder  IMPC_EMO_026_001  | v1.0

simpleParameter

**Description:** bladder

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

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**Bronchus**  IMPC_EMO_027_001 | v1.0

*simpleParameter*

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

**Description:** bronchus

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

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**Brown fat**  IMPC_EMO_028_001 | v1.0

*simpleParameter*

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

**Description:** brown_fat

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

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**Dorsal root ganglia**  IMPC_EMO_029_001 | v1.0

*simpleParameter*

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

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

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

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4th ventricle choroid plexus IMPC_EMO_033_001 | v1.0

simpleParameter


Description: 4th_ventricle_choroid_plexus

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

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lateral ventricle choroid plexus IMPC_EMO_034_001 | v1.0

simpleParameter


Description: lateral_ventricle_choroid_plexus

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

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Clavicle IMPC_EMO_035_001 | v1.0

simpleParameter
Description: clavicle

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

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

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**Diaphragm** IMPC_EMO_039_001 | v1.0

Description: diaphragm

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

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**Diencephalon** IMPC_EMO_040_001 | v1.0

Description: diencephalon

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

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**Limb digit** IMPC_EMO_041_001 | v1.0

Description: 

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

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

**Description:** ejaculatory_duct

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

**Spinal cord cervical region** IMPC_EMO_045_001 | v1.0

**simpleParameter**

**Description:** spinal_cord_cervical_region

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

**Epiglottis** IMPC_EMO_046_001 | v1.0

**simpleParameter**

**Description:** epiglottis

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,
**Esophagus**  IMPC_EMO_047_001 | v1.0

*simpleParameter*

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

Description: esophagus

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

**Pharyngo-tympanic tube**  IMPC_EMO_048_001 | v1.0

*simpleParameter*

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

Description: pharyngo_tympanic_tube

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

**Exoccipital bone**  IMPC_EMO_049_001 | v1.0

*simpleParameter*

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

Description: exoccipital_bone

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,
Eyelid IMPC_EMO_050_001 | v1.0

simpleParameter


Description: eyelid

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

Femur IMPC_EMO_051_001 | v1.0

simpleParameter


Description: femur

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

Fibula IMPC_EMO_052_001 | v1.0

simpleParameter


Description: fibula

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,
**T1 rib**  IMPC_EMO_053_001 | v1.0  
simpleParameter

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

**Description:** t1_rib

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

**Soft palate**  IMPC_EMO_054_001 | v1.0  
simpleParameter

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

**Description:** soft_palate

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

**Palate**  IMPC_EMO_055_001 | v1.0  
simpleParameter

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

**Description:** palate

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,
Gallbladder IMPC_EMO_056_001 | v1.0

simpleParameter


Description: gallbladder

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

Gluteus maximus IMPC_EMO_057_001 | v1.0

simpleParameter


Description: gluteus_maximus

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

Hepatic duct IMPC_EMO_058_001 | v1.0

simpleParameter


Description: hepatic_duct

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,
**Midgut** IMPC_EMO_059_001 | v1.0

simpleParameter


Description: midgut

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

**herniated abdominal wall** IMPC_EMO_060_001 | v1.0

simpleParameter


Description: herniated_abdominal_wall

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

**Hindbrain** IMPC_EMO_061_001 | v1.0

simpleParameter


Description: hindbrain

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

**IMPC_EMO_062_001 | v1.0**

**simpleParameter**

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

**Description:** hindgut

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

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**Hip**

**IMPC_EMO_063_001 | v1.0**

**simpleParameter**

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

**Description:** hip

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

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**Hippocampus**

**IMPC_EMO_064_001 | v1.0**

**simpleParameter**

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

**Description:** hippocampus

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,
**Humerus**  IMPC_EMO_065_001  | v1.0

*simpleParameter*

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

**Description:** humerus

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,
**Hypothalamus**  IMPC_EMO_068_001 | v1.0

simpleParameter


Description: hypothalamus

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

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**Inferior vena cava**  IMPC_EMO_069_001 | v1.0

simpleParameter


Description: inferior_vena_cava

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

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**Pituitary gland**  IMPC_EMO_070_001 | v1.0

simpleParameter


Description: pituitary_gland

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,
Pigmented retinal epithelium IMPC_EMO_071_001 | v1.0


Description: pigmented_retinal_epiithelium

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

Innominate artery IMPC_EMO_072_001 | v1.0


Description: innominate_artery

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

Interventricular septum IMPC_EMO_073_001 | v1.0


Description: interventricular_septum

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,
**Intraretinal space** IMPC_EMO_074_001 | v1.0

*simpleParameter*

**Description:** intraretinal_space

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

**Vomeronasal organ** IMPC_EMO_075_001 | v1.0

*simpleParameter*

**Description:** vomeronasal_organ

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

**Jejunum** IMPC_EMO_076_001 | v1.0

*simpleParameter*

**Description:** jejunum

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,
Jugular lymph sac  IMPC_EMO_077_001 | v1.0

**simpleParameter**

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

**Description:** jugular_lymph_sac

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

Kidney  IMPC_EMO_078_001 | v1.0

**simpleParameter**

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

**Description:** kidney

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

Kidney pelvis  IMPC_EMO_079_001 | v1.1

**simpleParameter**

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

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

Renal cortex  IMPC_EMO_080_001  v1.0

simpleParameter


Description: renal_cortex

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

Renal medulla  IMPC_EMO_081_001  v1.0

simpleParameter


Description: renal_medulla

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

Larynx  IMPC_EMO_082_001  v1.0

simpleParameter


Description: larynx
**Lateral ventricle** IMPC_EMO_083_001 | v1.0

`simpleParameter`

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

**Description:** lateral_ventricle

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

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**Lens** IMPC_EMO_084_001 | v1.0

`simpleParameter`

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

**Description:** lens

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

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**Limb muscle** IMPC_EMO_085_001 | v1.0

`simpleParameter`

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

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

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

Ductus venosus IMPC_EMO_089_001 | v1.0


Description: ductus_venosus

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

Liver left lobe IMPC_EMO_090_001 | v1.0


Description: liver_left_lobe

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

Liver right lobe IMPC_EMO_091_001 | v1.0

**Description:** liver_right_lobe

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

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**Lower jaw molar** IMPC_EMO_092_001 | v1.0

**simpleParameter**

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

**Description:** lower_jaw_molar

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

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**Right lung cranial lobe** IMPC_EMO_093_001 | v1.0

**simpleParameter**

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

**Description:** right_lung_cranial_lobe

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

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**Right lung accessory lobe** IMPC_EMO_094_001 | v1.0

**simpleParameter**
**Description:** right_lung_accessory_lobe

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

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

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**Mandible** IMPC_EMO_098_001 | v1.0

**Description:** mandible

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

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**Masseter** IMPC_EMO_099_001 | v1.0

**Description:** masseter

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

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**Meckel’s cartilage** IMPC_EMO_100_001 | v1.0

**Description:**

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

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

Medulla oblongata IMPC_EMO_101_001 | v1.0

Description: medulla_oblongata

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

Midbrain IMPC_EMO_102_001 | v1.0

Description: midbrain

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

Midbrain roof plate IMPC_EMO_103_001 | v1.0
**Midbrain roof plate**

*Description:* midbrain_roof_plate

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

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**Mitral valve**  IMPC_EMO_104_001 | v1.0

*Description:* mitral_valve

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

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**Nasal capsule**  IMPC_EMO_105_001 | v1.0

*Description:* nasal_capsule

*Options:* present, absent, abnormal, unobservable, ambiguous, imageOnly,
**Nasal cavity** IMPC_EMO_106_001 | v1.0

simpleParameter

**Description:** nasal_cavity

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

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**Nasal septum** IMPC_EMO_107_001 | v1.0

simpleParameter

**Description:** nasal_septum

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

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**Nasopharynx** IMPC_EMO_108_001 | v1.0

simpleParameter

**Description:** nasopharynx

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,
**Neural retina**  IMPC_EMO_109_001  | v1.0

**simpleParameter**

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

**Description:** neural_retina

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

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**Olfactory epithelium**  IMPC_EMO_110_001  | v1.0

**simpleParameter**

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

**Description:** olfactory_epithelium

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

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**Olfactory lobe**  IMPC_EMO_111_001  | v1.0

**simpleParameter**

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

**Description:** olfactory_lobe

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,
**Optic nerve**  IMPC_EMO_112_001 | v1.0

*simpleParameter*

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

Description: optic_nerve

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

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**Oropharynx**  IMPC_EMO_113_001 | v1.0

*simpleParameter*

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

Description: oropharynx

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

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**Oral cavity**  IMPC_EMO_114_001 | v1.0

*simpleParameter*

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

Description: oral_cavity

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,
Ovary IMPC_EMO_115_001 | v1.0

Description: ovary

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,
**Parathyroid gland**  IMPC_EMO_118_001 | v1.0

```plaintext
simpleParameter


Description: parathyroid_gland

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

**Penis**  IMPC_EMO_119_001 | v1.0

```plaintext
simpleParameter


Description: penis

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

**Pericardial cavity**  IMPC_EMO_120_001 | v1.0

```plaintext
simpleParameter


Description: pericardial_cavity

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,
```
**Pericardium**  IMPC_EMO_121_001 | v1.0

*simpleParameter*

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

**Description:** pericardium

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

**Peritoneal cavity**  IMPC_EMO_122_001 | v1.0

*simpleParameter*

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

**Description:** peritoneal_cavity

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

**Pineal primordium**  IMPC_EMO_123_001 | v1.0

*simpleParameter*

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

**Description:** pineal_primordium

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,
**Pinna** IMPC_EMO_124_001 | v1.0

*simpleParameter*

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

Description: pinna

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

**Pons** IMPC_EMO_125_001 | v1.0

*simpleParameter*

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

Description: pons

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

**Portal vein** IMPC_EMO_126_001 | v1.0

*simpleParameter*

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

Description: portal_vein

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,
Primary palate  IMPC_EMO_127_001 | v1.0

Description: primary_palate

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

Pulmonary artery  IMPC_EMO_128_001 | v1.0

Description: pulmonary_artery

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

Quadriceps muscle  IMPC_EMO_129_001 | v1.0

Description: quadriceps_muscle

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,
**Radius**  IMPC_EMO_130_001  |  v1.0

`simpleParameter`

**Description:** radius

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

**Rathke's pouch**  IMPC_EMO_131_001  |  v1.0

`simpleParameter`

**Description:** rathke_s_pouch

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

**Rectum**  IMPC_EMO_132_001  |  v1.0

`simpleParameter`

**Description:** rectum

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,
**Rib**  IMPC_EMO_133_001  |  v1.0

*simpleParameter*

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

**Description:** rib

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

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**S1 vertebral cartilage condensation**  IMPC_EMO_134_001  |  v1.0

*simpleParameter*

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

**Description:** s1_vertebral_cartilage_condensation

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

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**Scapula**  IMPC_EMO_135_001  |  v1.0

*simpleParameter*

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

**Description:** scapula

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,
Semicircular canal IMPC_EMO_136_001 | v1.0

**simpleParameter**

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

**Description:** semicircular_canal

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

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Small intestine IMPC_EMO_137_001 | v1.0

**simpleParameter**

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

**Description:** small_intestine

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

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Sphenoid bone IMPC_EMO_138_001 | v1.0

**simpleParameter**

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

**Description:** sphenoid_bone
**Spinal cord** IMPC_EMO_139_001 | v1.0

*simpleParameter*

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

**Description:** spinal_cord

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

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**Spinal cord central canal** IMPC_EMO_140_001 | v1.0

*simpleParameter*

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

**Description:** spinal_cord_central_canal

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

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**Spleen primordium** IMPC_EMO_141_001 | v1.0

*simpleParameter*

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

**Description:** spleen_primordium

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

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**Sternum** IMPC_EMO_142_001 | v1.0

*simpleParameter*


Description: sternum

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

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**Stomach** IMPC_EMO_143_001 | v1.0

*simpleParameter*


Description: stomach

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

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**Stomach lumen** IMPC_EMO_144_001 | v1.0

*simpleParameter*

Description: stomach_lumen

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

Stomach wall IMPC_EMO_145_001 | v1.0


Description: stomach_wall

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

Stomach fundus IMPC_EMO_146_001 | v1.0


Description: stomach_fundus

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

Stomach pyloric region IMPC_EMO_147_001 | v1.0

**Description**: stomach_pyloric_region

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

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**Subclavian artery** IMPC_EMO_148_001 | v1.0

*simpleParameter*

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

**Description**: subclavian_artery

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

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**Submandibular gland** IMPC_EMO_149_001 | v1.0

*simpleParameter*

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

**Description**: submandibular_gland

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

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**Tail** IMPC_EMO_150_001 | v1.0

*simpleParameter*

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

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

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

Thalamus IMPC_EMO_154_001 | v1.0

Description: thalamus

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

Descending aorta IMPC_EMO_155_001 | v1.2

Description: descending_thoracic_aorta

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

Thymus IMPC_EMO_156_001 | v1.0

Description: thymus
Description: thymus

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

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**Thyroid gland** IMPC_EMO_157_001 | v1.0

simpleParameter

Description: thyroid_gland

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

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**Tibia** IMPC_EMO_158_001 | v1.0

simpleParameter

Description: tibia

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

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**Tongue** IMPC_EMO_159_001 | v1.0

simpleParameter
Description: tongue

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

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**Trachea** IMPC_EMO_160_001 | v1.0

simpleParameter

Description: trachea

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

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**Tricuspid valve** IMPC_EMO_161_001 | v1.0

simpleParameter

Description: tricuspid_valve

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

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**Trigeminal V ganglion** IMPC_EMO_162_001 | v1.0
simpleParameter

**trigeminal_v_ganglion**

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

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**Ulna** IMPC_EMO_163_001 | v1.0

simpleParameter

**ulna**

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

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**Upper jaw incisor** IMPC_EMO_164_001 | v1.0

simpleParameter

**upper_jaw_incisor**

**Options:** present, absent, abnormal, unobservable, ambiguous, imageOnly,
**Upper jaw molar** IMPC_EMO_165_001 | v1.0

*simpleParameter*

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

Description: upper_jaw_molar

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

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**Urethra** IMPC_EMO_166_001 | v1.0

*simpleParameter*

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

Description: urethra

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

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**Vagal trunk** IMPC_EMO_167_001 | v1.0

*simpleParameter*

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

Description: vagal_trunk

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,
**Vena cava**  IMPC_EMO_168_001 | v1.0

simpleParameter


Description: vena_cava

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

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**Heart ventricle**  IMPC_EMO_169_001 | v1.0

simpleParameter


Description: heart_ventricle

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

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**Vertebra**  IMPC_EMO_170_001 | v1.0

simpleParameter


Description: vertebra

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,
Vibrissa  IMPC_EMO_171_001 | v1.0

simpleParameter


Description: vibrissa

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

Oedema  IMPC_EMO_172_001 | v1.0

simpleParameter


Description: oedema

Options: yes, no, unobservable,

physiological umbilical hernia morphology  IMPC_EMO_173_001 | v1.0

simpleParameter


Description: physiological_umbilical_hernia_morphology

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,
Cervical flexure morphology  IMPC_EMO_174_001 | v1.0

simpleParameter


Description: cervical_flexure_morphology

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

Size  IMPC_EMO_175_001 | v1.0

simpleParameter


Description: size

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

Spine curvature  IMPC_EMO_176_001 | v1.0

simpleParameter


Description: spine_curvature

Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,
**Craniofacial morphology** IMPC_EMO_177_001 | v1.0

**simpleParameter**

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

**Description:** craniofacial_morphology

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

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**Annotator ID** IMPC_EMO_178_001 | v1.0

**procedureMetadata**

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

**Description:** annotator_id

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**Date of Annotation** IMPC_EMO_179_001 | v1.0

**procedureMetadata**

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

**Description:** date_of_annotation