MicroCT E18.5 IMPC_EMA_002

Purpose

To assess morphological defects in E18.5 embryos from lethal or subviable 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 E18.5 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_EMA_001_001 | v1.1

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**Increments:** Minimum 1
Experimenter ID IMPC_EMA_002_001 | v1.0

Equipment ID IMPC_EMA_003_001 | v1.0

Equipment Manufacturer IMPC_EMA_004_001 | v1.0

Equipment Model IMPC_EMA_005_001 | v1.0

Equipment Version IMPC_EMA_006_001 | v1.0
**Image Pixel Size** IMPC_EMA_007_001 | v1.0

- **Unit Measured:** μm

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**E18.5 MicroCT Preparation protocol** IMPC_EMA_008_001 | v1.0

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**Date equipment last calibrated** IMPC_EMA_009_001 | v1.0

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**Date of Sacrifice** IMPC_EMA_010_001 | v1.0
Date Preparation Finished IMPC_EMA_011_001 | v1.0

Date of Scan IMPC_EMA_012_001 | v1.0

Source Voltage IMPC_EMA_013_001 | v1.0

Unit Measured: kV

Source Current IMPC_EMA_014_001 | v1.1
procedureMetadata


Unit Measured: uA

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Object to Source IMPC_EMA_015_001 | v1.0

procedureMetadata


Unit Measured: mm

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Camera to Source IMPC_EMA_016_001 | v1.1

procedureMetadata


Unit Measured: mm

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Screenshots IMPC_EMA_017_001 | v1.1

seriesMediaParameter

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**Limb digits**  IMPC_EMA_018_001 | v1.0

simpleParameter


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

**Tail**  IMPC_EMA_019_001 | v1.0

simpleParameter


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**Limbs**  IMPC_EMA_020_001 | v1.0

simpleParameter


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**Embryo size** IMPC_EMA_024_001 | v1.0

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Spinal Cord IMPC_EMA_025_001 | v1.0

Spine curvature IMPC_EMA_026_001 | v1.0

Craniofacial morphology IMPC_EMA_027_001 | v1.0
**Hindbrain subarachnoid space** IMPC_EMA_028_001 | v1.0

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**Cerebral cortex** IMPC_EMA_032_001 | v1.0

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**Thalamus** IMPC_EMA_033_001 | v1.0

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**Corpus striatum** IMPC_EMA_034_001 | v1.0

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Hippocampus  IMPC_EMA_035_001 | v1.0
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Hypothalamus  IMPC_EMA_036_001 | v1.0
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Pineal gland  IMPC_EMA_037_001 | v1.0
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**Pons**  IMPC_EMA_038_001 | v1.0

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**Medulla oblongata**  IMPC_EMA_039_001 | v1.0

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**Lateral ventricles**  IMPC_EMA_040_001 | v1.0

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**Lateral ventricle choroid plexus**  IMPC_EMA_041_001 | v1.0

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4th ventricle choroid plexus  IMPC_EMA_042_001 | v1.0

simpleParameter

4th Ventricle  IMPC_EMA_043_001 | v1.0

simpleParameter

Cerebral aqueduct  IMPC_EMA_044_001 | v1.0

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**Median sulcus** IMPC_EMA_045_001 | v1.0

simpleParameter


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

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**3rd ventricle** IMPC_EMA_046_001 | v1.0

simpleParameter


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

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**Olfactory lobe** IMPC_EMA_047_001 | v1.0

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**Trigeminal ganglion** IMPC_EMA_048_001 | v1.0

*simpleParameter*

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

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**Pituitary gland** IMPC_EMA_049_001 | v1.0

*simpleParameter*

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**Spinal cord cervical region** IMPC_EMA_050_001 | v1.0

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**Dorsal root ganglion** IMPC_EMA_051_001 | v1.0

*simpleParameter*

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**Cochlea**  IMPC_EMA_052_001  | v1.0

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**Nasal septum**  IMPC_EMA_053_001  | v1.0

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Nasopharynx  IMPC_EMA_055_001 | v1.0

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Vomeronasal organ  IMPC_EMA_056_001 | v1.0

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Oropharynx  IMPC_EMA_057_001 | v1.0

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Oral cavity  IMPC_EMA_058_001 | v1.0
**Optic nerve**  IMPC_EMA_059_001 | v1.0

**Intraretinal space**  IMPC_EMA_060_001 | v1.0

**Hyaloid cavity**  IMPC_EMA_061_001 | v1.0
**Cornea** IMPC_EMA_062_001 | v1.0

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Pharyngo-tympanic tube IMPC_EMA_066_001 | v1.0

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Palate IMPC_EMA_067_001 | v1.0

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Epiglottis IMPC_EMA_068_001 | v1.0

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Tongue IMPC_EMA_069_001 | v1.0


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Mandible IMPC_EMA_070_001 | v1.0


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Lower jaw molar IMPC_EMA_071_001 | v1.0


Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,
**Upper jaw molar**  IMPC_EMA_072_001  | v1.0

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

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**Sphenoid bone**  IMPC_EMA_073_001  | v1.0

simpleParameter


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

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**Thyroid gland**  IMPC_EMA_074_001  | v1.0

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

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**Submandibular gland**  IMPC_EMA_075_001  | v1.0

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**Brown fat** IMPC_EMA_076_001 | v1.0

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**Vertebrae** IMPC_EMA_077_001 | v1.0

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**Esophagus** IMPC_EMA_078_001 | v1.0

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**Scapula**  IMPC_EMA_080_001 | v1.0

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**Ulna**  IMPC_EMA_081_001 | v1.0

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**Humerus** IMPC_EMA_082_001 | v1.0

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**Arytenoid cartilage** IMPC_EMA_083_001 | v1.0

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**Cricoid cartilage** IMPC_EMA_084_001 | v1.0

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**Trachea** IMPC_EMA_085_001 | v1.0

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Thymus IMPC_EMA_087_001 | v1.0

simpleParameter


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Sternum IMPC_EMA_088_001 | v1.0

simpleParameter


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**Rib** IMPC_EMA_089_001 | v1.0

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SimpleParameter
Superior vena cava  IMPC_EMA_093_001 | v1.0

Jugular vein  IMPC_EMA_094_001 | v1.0

Ductus arteriosus  IMPC_EMA_095_001 | v1.0
**Pulmonary valve** IMPC_EMA_096_001 | v1.0

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**Pulmonary trunk** IMPC_EMA_097_001 | v1.0

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**Dorsal aorta** IMPC_EMA_098_001 | v1.0

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**Ductus venosus** IMPC_EMA_099_001 | v1.0

simpleParameter


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**Aorta** IMPC_EMA_100_001 | v1.0

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**Aortic valve** IMPC_EMA_101_001 | v1.0

simpleParameter


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

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**Heart atrium** IMPC_EMA_102_001 | v1.0

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Heart ventricle IMPC_EMA_103_001 | v1.0

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Tricuspid valve IMPC_EMA_104_001 | v1.0

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Mitral valve IMPC_EMA_105_001 | v1.0

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Interventricular septum IMPC_EMA_106_001 | v1.0

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Pericardial cavity IMPC_EMA_107_001 | v1.0

simpleParameter


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Pericardium IMPC_EMA_108_001 | v1.0

simpleParameter


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

Main bronchus IMPC_EMA_109_001 | v1.0

simpleParameter
**Bronchus** IMPC_EMA_110_001 | v1.0

simpleParameter

**Right lung cranial lobe** IMPC_EMA_111_001 | v1.0

simpleParameter

**Right lung middle lobe** IMPC_EMA_112_001 | v1.0

simpleParameter
Right lung caudal lobe  IMPC_EMA_113_001  | v1.0

simpleParameter


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Right lung accessory lobe  IMPC_EMA_114_001  | v1.0

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Left lung  IMPC_EMA_115_001  | v1.0

simpleParameter


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**Diaphragm** IMPC_EMA_116_001 | v1.0

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**Peritoneal cavity** IMPC_EMA_117_001 | v1.0

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**Liver** IMPC_EMA_118_001 | v1.0

simpleParameter


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**Liver left lobe** IMPC_EMA_119_001 | v1.0

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Liver right lobe  IMPC_EMA_120_001  | v1.0


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Liver caudate lobe  IMPC_EMA_121_001  | v1.0


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Gallbladder  IMPC_EMA_122_001  | v1.0


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Pancreas  IMPC_EMA_124_001 | v1.0

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Stomach  IMPC_EMA_125_001 | v1.0

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Pyloric antrum  IMPC_EMA_126_001 | v1.0

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**Stomach lumen** IMPC_EMA_128_001 | v1.0

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**Small intestine** IMPC_EMA_129_001 | v1.0

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Hindgut  IMPC_EMA_130_001 | v1.0

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Midgut  IMPC_EMA_131_001 | v1.0

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Hip joint  IMPC_EMA_132_001 | v1.0

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simpleParameter


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Renal calyx IMPC_EMA_138_001 | v1.0

simpleParameter


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Bladder IMPC_EMA_139_001 | v1.0

simpleParameter


Options: present, absent, abnormal, unobservable, ambiguous, imageOnly,
**Rectum**  IMPC_EMA_140_001 | v1.0

simpleParameter


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

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**Spleen**  IMPC_EMA_141_001 | v1.0

simpleParameter


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

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**Ovary**  IMPC_EMA_142_001 | v1.0

simpleParameter


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

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**Testes**  IMPC_EMA_143_001 | v1.0

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**Penis**  IMPC_EMA_144_001 | v1.0  
*simpleParameter*

**Circumventricular organ**  IMPC_EMA_145_001 | v1.0  
*simpleParameter*

**Hyoid**  IMPC_EMA_146_001 | v1.0  
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**Severely dysmorphic** IMPC_EMA_147_001 | v1.0  
*simpleParameter*


Options: yes, no, unobservable,

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**Delayed embryonic development** IMPC_EMA_148_001 | v1.0  
*simpleParameter*


Options: yes, no, unobservable,

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