Gross Morphology Embryo E12.5 IMPC_GEM_003

Purpose

To assess visible morphological defects in E12.5 embryos from lethal strains

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.
- **Minimum number of animals**: 1 mutant of any sex
- **Age at test**: E12.5
- Capture gross images (optional)
- Collect tissue and genotype embryos.

Procedure

1. Set up timed mating with heterozygous animals. Dissect at a consistent time and collect >=2 homozygote embryos. Coordination with viability screen is at the centres discretion.
2. Score embryos as live or dead if possible.
3. Assess embryos according to Gross Morphology parameters.
4. Generate gross images of embryos (optional) with scored defects and control embryos.
5. Collect tissue for genotyping
6. Process embryos for Histopathology, LacZ or other imaging (OPTIONAL - depending on center pipeline)
7. Scores will be shown per embryo and split by zygosity.

If capturing images please attempt to capture left, right, front, and back views of the embryo but if this is not possible left, right is sufficient. Feel free to take higher magnification views to show morphologies of interest.

Notes

All genotypes should be collected using validated assays.
Y chromosome assay required for X-linked lethal strains.
Embryos may be processed for Histopathology or 3D Imaging

Parameters and Metadata

**Pericardium Morphology** IMPC_GEM_007_001 | v1.0

*simpleParameter*

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

**Description:** pericardium_morphology

**Options:** normal, abnormal, unobservable,

**Visceral yolk sac morphology** IMPC_GEM_017_001 | v1.0

*simpleParameter*

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

**Description:** visceral_yolk_sac_morphology

**Options:** normal, abnormal, unobservable,

**Embryo Size** IMPC_GEM_019_001 | v1.0

*simpleParameter*

- ** Req. Analysis:** false
- ** Req. Upload:** false
- ** Is Annotated:** true
Description: embryo_size
Options: normal, abnormal, unobservable,

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**Ear Morphology** IMPC_GEM_021_001 | v1.1

*simpleParameter*


Description: abnormal_ear_morphology
Options: normal, abnormal, unobservable,

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**Skin Appearance** IMPC_GEM_024_001 | v1.0

*simpleParameter*


Description: skin_appearance
Options: normal, abnormal, unobservable,

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**Limb Bud Morphology** IMPC_GEM_027_001 | v1.0

*simpleParameter*
Description: limb_bud_morphology
Options: normal, abnormal, unobservable,

Limb Plate Morphology IMPC_GEM_028_001 | v1.0

Description: limb_plate_morphology
Options: normal, abnormal, unobservable,

Tail Morphology IMPC_GEM_029_001 | v1.0

Description: tail_morphology
Options: normal, abnormal, unobservable,
Description: liver_size
Options: normal, abnormal, unobservable,

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**Neural Tube Closure** IMPC_GEM_036_001 | v1.0

simpleParameter

Description: neural_tube_closure
Options: normal, abnormal, unobservable,

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**Eye Morphology** IMPC_GEM_041_001 | v1.0

simpleParameter

Description: eye_morphology
Options: normal, abnormal, unobservable,

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**Head shape** IMPC_GEM_047_001 | v1.0

simpleParameter
**Description**: head_shape

**Options**: normal, abnormal, unobservable,
Description: experimenter_id

**Equipment ID** IMPC_GEM_051_001 | v1.0

procedureMetadata

Description: equipment_id

**Equipment Manufacturer** IMPC_GEM_052_001 | v1.0

procedureMetadata

Description: equipment_manufacturer

**Equipment Model** IMPC_GEM_053_001 | v1.0

procedureMetadata

Description: equipment_model
Fixative  IMPC_GEM_054_001  |  v1.0

Description: fixative

Time of Dissection  IMPC_GEM_055_001  |  v1.0

Description: time_of_dissection

Somite Stage  IMPC_GEM_056_001  |  v1.1

Description: somite_stage
**Time of dark cycle start** IMPC_GEM_057_001 | v1.0

*procedureMetadata*

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

*Description: time_of_dark_cycle_start*

**Time of dark cycle end** IMPC_GEM_058_001 | v1.0

*procedureMetadata*

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

*Description: time_of_dark_cycle_end*

**Date equipment last calibrated** IMPC_GEM_059_001 | v1.1

*procedureMetadata*


*Description: date_equipment_last_calibrated*

**Pale yolk sac** IMPC_GEM_016_002 | v2.0

*simpleParameter*

Description: pale_yolk_sac
Options: yes, unobservable, no,

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**Pallor** IMPC_GEM_025_002 | v2.0

simpleParameter


Description: pallor
Options: yes, unobservable, no,

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**Blebs** IMPC_GEM_026_002 | v2.0

simpleParameter


Description: blebs
Options: yes, unobservable, no,

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**Pale Liver** IMPC_GEM_033_002 | v2.0

simpleParameter
Description: pale_liver
Options: yes, unobservable, no,

Microphthalmia IMPC_GEM_043_002 | v2.3
simpleParameter

Description: microphthalmia
Options: yes, unobservable, no,

Anophthalmia IMPC_GEM_044_002 | v2.2
simpleParameter

Description: anophthalmia
Options: yes, unobservable, no,

Severely Dysmorphic IMPC_GEM_060_001 | v1.2
simpleParameter
Abdominal wall  IMPC_GEM_061_001 | v1.1

Craniofacial morphology  IMPC_GEM_062_001 | v1.1

Facial cleft  IMPC_GEM_063_001 | v1.1

Options: no, yes, unobservable,
**Facial hypoplasia** IMPC_GEM_064_001 | v1.1

*simpleParameter*

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

**Options:** no, yes, unobservable,

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**Heart looping** IMPC_GEM_065_001 | v1.1

*simpleParameter*

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

**Options:** normal, abnormal, unobservable,

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**Heart morphology** IMPC_GEM_066_001 | v1.2

*simpleParameter*

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

**Options:** normal, abnormal, unobservable,
**Left-right axis patterning** IMPC_GEM_067_001 | v1.1

Req. Analysis: false  \hspace{1cm} Req. Upload: false  \hspace{1cm} Is Annotated: true

Options: normal, abnormal, unobservable,

**Forebrain morphology** IMPC_GEM_068_001 | v1.1

Req. Analysis: false  \hspace{1cm} Req. Upload: false  \hspace{1cm} Is Annotated: true

Options: normal, abnormal, unobservable,

**Hindbrain morphology** IMPC_GEM_069_001 | v1.1

Req. Analysis: false  \hspace{1cm} Req. Upload: false  \hspace{1cm} Is Annotated: true

Options: normal, abnormal, unobservable,

**Midbrain morphology** IMPC_GEM_070_001 | v1.1

Req. Analysis: false  \hspace{1cm} Req. Upload: false  \hspace{1cm} Is Annotated: true
Options: normal, abnormal, unobservable,

Microcephaly IMPC_GEM_071_001 | v1.2

simpleParameter


Options: no, yes, unobservable,

Rostal-caudal patterning IMPC_GEM_072_001 | v1.1

simpleParameter


Options: normal, abnormal, unobservable,

Vascular morphology IMPC_GEM_073_001 | v1.1

simpleParameter


Options: normal, abnormal, unobservable,
**CRL** IMPC_GEM_074_001 | v1.1

**simpleParameter**

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

Unit Measured: mm

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**Delayed embryonic development** IMPC_GEM_075_001 | v1.3

**simpleParameter**

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

Options: no, yes, unobservable,

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**Edema** IMPC_GEM_076_001 | v1.0

**simpleParameter**

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

Options: no, yes, unobservable,

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**Hemorrhage** IMPC_GEM_077_001 | v1.0

**simpleParameter**
Polydactyly IMPC_GEM_078_001 | v1.1

- **Description:** Polydactyly
- **Options:** yes, no, unobservable,