Gross Morphology Embryo E12.5 IMPC_GE M_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

**Severely Dysmorphic**  IMPC_GEM_060_001  |  v1.2

simpleParameter


Options: no, yes, unobservable,

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**Time of dark cycle start**  IMPC_GEM_057_001  |  v1.0

procedureMetadata


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**Rostal-caudal patterning**  IMPC_GEM_072_001  |  v1.1

simpleParameter


Options: normal, abnormal, unobservable,

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**Heart looping**  IMPC_GEM_065_001  |  v1.1

simpleParameter

Embryo Size IMPC_GEM_019_001 | v1.0

simpleParameter


Options: unobservable, abnormal, normal,

Abdominal wall IMPC_GEM_061_001 | v1.1

simpleParameter


Options: abnormal, normal, unobservable,

Liver Size IMPC_GEM_032_001 | v1.0

simpleParameter


Options: unobservable, normal, abnormal,
Equipment Manufacturer IMPC_GEM_052_001 | v1.0

procedureMetadata


Anophthalmia IMPC_GEM_044_002 | v2.2

simpleParameter


Options: yes, unobservable, no,

Time of Dissection IMPC_GEM_055_001 | v1.0

procedureMetadata


Craniofacial morphology IMPC_GEM_062_001 | v1.1

simpleParameter


Options: abnormal, unobservable, normal,
Heart morphology  IMPC_GEM_066_001 | v1.2

simpleParameter


Options: unobservable, abnormal, normal,

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Facial cleft  IMPC_GEM_063_001 | v1.1

simpleParameter


Options: unobservable, no, yes,

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Pallor  IMPC_GEM_025_002 | v2.0

simpleParameter


Options: yes, no, unobservable,

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Comment on image  IMPC_GEM_048_001 | v1.0

simpleParameter


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Edema  IMPC_GEM_076_001  | v1.0

simpleParameter


Options: yes, no, unobservable,

Hindbrain morphology  IMPC_GEM_069_001  | v1.1

simpleParameter


Options: normal, unobservable, abnormal,

Facial hypoplasia  IMPC_GEM_064_001  | v1.1

simpleParameter


Options: yes, no, unobservable,

Fixative  IMPC_GEM_054_001  | v1.0

procedureMetadata

Midbrain morphology IMPC_GEM_070_001 | v1.1

simpleParameter


Options: unobservable, normal, abnormal,

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Limb Bud Morphology IMPC_GEM_027_001 | v1.0

simpleParameter


Options: abnormal, normal, unobservable,

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Blebs IMPC_GEM_026_002 | v2.0

simpleParameter


Options: yes, no, unobservable,

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CRL IMPC_GEM_074_001 | v1.1

simpleParameter
Equipment Model  IMPC_GEM_053_001 | v1.0

Hemorrhage  IMPC_GEM_077_001 | v1.0

Pericardium Morphology  IMPC_GEM_007_001 | v1.0

Experimenter ID  IMPC_GEM_050_001 | v1.0
Limb Plate Morphology IMPC_GEM_028_001 | v1.0

simpleParameter

Options: abnormal, normal, unobservable,

Neural Tube Closure IMPC_GEM_036_001 | v1.0

simpleParameter

Options: unobservable, abnormal, normal,

Microcephaly IMPC_GEM_071_001 | v1.2

simpleParameter

Options: no, unobservable, yes,
**Date equipment last calibrated** IMPC_GEM_059_001 | v1.1

**Eye Morphology** IMPC_GEM_041_001 | v1.0

**Tail Morphology** IMPC_GEM_029_001 | v1.0

**Pale Liver** IMPC_GEM_033_002 | v2.0

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**Options:**
- normal
- unobservable
- abnormal

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**Polydactyly** IMPC_GEM_078_001 | v1.1

**simpleParameter**

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

Options: yes, no, unobservable,

**Skin Appearance** IMPC_GEM_024_001 | v1.0

**simpleParameter**

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

Options: normal, abnormal, unobservable,

**Somite Stage** IMPC_GEM_056_001 | v1.1

**procedureMetadata**

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

**Vascular morphology** IMPC_GEM_073_001 | v1.1

**simpleParameter**

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

Options: normal, abnormal, unobservable,
**Equipment ID**  IMPC_GEM_051_001 | v1.0

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**Head shape**  IMPC_GEM_047_001 | v1.0

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

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**Microphthalmia**  IMPC_GEM_043_002 | v2.3
**Left-right axis patterning** IMPC_GEM_067_001 | v1.1

Simple Parameter


Options: unobservable, abnormal, normal,

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

Simple Parameter


Options: no, yes, unobservable,

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

Simple Parameter


Options: abnormal, normal, unobservable,

**Images** IMPC_GEM_049_001 | v1.0

Series Media Parameter
Ear Morphology IMPC_GEM_021_001 | v1.1

Options: abnormal, unobservable, normal,

Forebrain morphology IMPC_GEM_068_001 | v1.1

Options: normal, abnormal, unobservable,

Delayed embryonic development IMPC_GEM_075_001 | v1.3

Options: no, yes, unobservable,
Exencephaly  IMPC_GEM_079_001 | v2.0

simpleParameter


Description: exencephaly

Options: yes, unobservable, no,