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

Severely Dysmorphic IMPC_GEM_060_001 | v1.2

simpleParameter

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

Options: no, yes, unobservable,

Time of dark cycle start IMPC_GEM_057_001 | v1.0

procedureMetadata

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

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Rostal-caudal patterning IMPC_GEM_072_001 | v1.1

simpleParameter

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

Options: normal, abnormal, unobservable,

Heart looping IMPC_GEM_065_001 | v1.1

simpleParameter

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

Options: abnormal, unobservable, normal,

Embryo Size IMPC_GEM_019_001 | v1.0

simpleParameter

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

Options: unobservable, abnormal, normal,

Abdominal wall IMPC_GEM_061_001 | v1.1

simpleParameter

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

Options: abnormal, normal, unobservable,

Liver Size IMPC_GEM_032_001 | v1.0

simpleParameter

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

Options: unobservable, normal, abnormal,

Equipment Manufacturer IMPC_GEM_052_001 | v1.0

procedureMetadata

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

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Anophthalmia IMPC_GEM_044_002 | v2.2

simpleParameter

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

Options: yes, unobservable, no,

Time of Dissection IMPC_GEM_055_001 | v1.0

procedureMetadata

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

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Craniofacial morphology IMPC_GEM_062_001 | v1.1

simpleParameter

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

Options: abnormal, unobservable, normal,

Heart morphology IMPC_GEM_066_001 | v1.2

simpleParameter

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

Options: unobservable, abnormal, normal,

Facial cleft IMPC_GEM_063_001 | v1.1

simpleParameter

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

Options: unobservable, no, yes,

Pallor IMPC_GEM_025_002 | v2.0

simpleParameter

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

Options: yes, no, unobservable,

Comment on image IMPC_GEM_048_001 | v1.0

simpleParameter

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

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Edema IMPC_GEM_076_001 | v1.0

simpleParameter

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

Options: yes, no, unobservable,

Hindbrain morphology IMPC_GEM_069_001 | v1.1

simpleParameter

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

Options: normal, unobservable, abnormal,

Facial hypoplasia IMPC_GEM_064_001 | v1.1

simpleParameter

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

Options: yes, no, unobservable,

Fixative IMPC_GEM_054_001 | v1.0

procedureMetadata

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

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Midbrain morphology IMPC_GEM_070_001 | v1.1

simpleParameter

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

Options: unobservable, normal, abnormal,

Limb Bud Morphology IMPC_GEM_027_001 | v1.0

simpleParameter

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

Options: abnormal, normal, unobservable,

Blebs IMPC_GEM_026_002 | v2.0

simpleParameter

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

Options: yes, no, unobservable,

CRL IMPC_GEM_074_001 | v1.1

simpleParameter

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

Unit Measured: mm

Equipment Model IMPC_GEM_053_001 | v1.0

procedureMetadata

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

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Hemorrhage IMPC_GEM_077_001 | v1.0

simpleParameter

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

Options: unobservable, no, yes,

Pericardium Morphology IMPC_GEM_007_001 | v1.0

simpleParameter

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

Options: normal, unobservable, abnormal,

Experimenter ID IMPC_GEM_050_001 | v1.0

procedureMetadata

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

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Limb Plate Morphology IMPC_GEM_028_001 | v1.0

simpleParameter

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

Options: abnormal, normal, unobservable,

Neural Tube Closure IMPC_GEM_036_001 | v1.0

simpleParameter

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

Options: unobservable, abnormal, normal,

Microcephaly IMPC_GEM_071_001 | v1.2

simpleParameter

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

Options: no, unobservable, yes,

Date equipment last calibrated IMPC_GEM_059_001 | v1.1

procedureMetadata

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

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Eye Morphology IMPC_GEM_041_001 | v1.0

simpleParameter

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

Options: normal, unobservable, abnormal,

Tail Morphology IMPC_GEM_029_001 | v1.0

simpleParameter

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

Options: normal, unobservable, abnormal,

Pale Liver IMPC_GEM_033_002 | v2.0

simpleParameter

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

Options: yes, unobservable, no,

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

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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

procedureMetadata

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

Head shape IMPC_GEM_047_001 | v1.0

simpleParameter

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Description: head_shape

Options: normal, abnormal, unobservable,

Time of dark cycle end IMPC_GEM_058_001 | v1.0

procedureMetadata

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

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Microphthalmia IMPC_GEM_043_002 | v2.3

simpleParameter

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

Options: no, unobservable, yes,

Left-right axis patterning IMPC_GEM_067_001 | v1.1

simpleParameter

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

Options: unobservable, abnormal, normal,

Pale yolk sac IMPC_GEM_016_002 | v2.0

simpleParameter

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

Options: no, yes, unobservable,

Visceral yolk sac morphology IMPC_GEM_017_001 | v1.0

simpleParameter

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

Options: abnormal, normal, unobservable,

Images IMPC_GEM_049_001 | v1.0

seriesMediaParameter

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

Increments: Minimum 1

Ear Morphology IMPC_GEM_021_001 | v1.1

simpleParameter

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

Options: abnormal, unobservable, normal,

Forebrain morphology IMPC_GEM_068_001 | v1.1

simpleParameter

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

Options: normal, abnormal, unobservable,

Delayed embryonic development IMPC_GEM_075_001 | v1.3

simpleParameter

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

Options: no, yes, unobservable,

Exencephaly IMPC_GEM_079_001 | v2.0

simpleParameter

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

Description: exencephaly

Options: yes, unobservable, no,