Gross Morphology Embryo E14.5-E15.5 IMP C_GEO_003

Purpose

To assess visible morphological defects in E14.5-E15.5 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:** E14.5-E15.5
- 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, 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

Head shape IMPC_GEO_015_001 | v1.0

simpleParameter

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

Options: abnormal, normal, unobservable,

Experimenter ID IMPC_GEO_051_001 | v1.0

procedureMetadata

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

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Delayed embryonic development IMPC_GEO_069_001 | v1.2

simpleParameter

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Options: unobservable, no, yes,

Equipment ID IMPC_GEO_052_001 | v1.0

procedureMetadata

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Syndactyly IMPC_GEO_067_001 | v1.1

simpleParameter

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Options: no, unobservable, yes,

Images IMPC_GEO_050_001 | v1.0

seriesMediaParameter

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Increments: Minimum 1

CRL IMPC_GEO_068_001 | v1.1

simpleParameter

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

Unit Measured: mm

Blood Vessel Morphology IMPC_GEO_011_001 | v1.0

simpleParameter

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Options: unobservable, abnormal, normal,

Time of dark cycle start IMPC_GEO_058_001 | v1.0

procedureMetadata

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Fixative IMPC_GEO_055_001 | v1.0

procedureMetadata

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Ear Morphology IMPC_GEO_022_001 | v1.1

simpleParameter

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Options: normal, unobservable, abnormal,

Polydactyly IMPC_GEO_034_002 | v2.0

simpleParameter

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Options: unobservable, yes, no,

Pallor IMPC_GEO_072_001 | v1.0

simpleParameter

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Options: abnormal, unobservable, normal,

Vibrissa Morphology IMPC_GEO_028_001 | v1.0

simpleParameter

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Options: normal, unobservable, abnormal,

Skin Coloration IMPC_GEO_030_001 | v1.0

simpleParameter

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Options: abnormal, normal, unobservable,

Embryo Size IMPC_GEO_019_001 | v1.0

simpleParameter

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Options: normal, abnormal, unobservable,

Hemorrhage IMPC_GEO_009_002 | v2.0

simpleParameter

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Options: no, yes, unobservable,

Heart Morphology IMPC_GEO_008_001 | v1.0

simpleParameter

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Options: unobservable, abnormal, normal,

Head size IMPC_GEO_016_001 | v1.0

simpleParameter

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Options: normal, unobservable, abnormal,

Liver Size IMPC_GEO_037_001 | v1.0

simpleParameter

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Options: abnormal, unobservable, normal,

Craniofacial morphology IMPC_GEO_063_001 | v1.1

simpleParameter

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Options: normal, abnormal, unobservable,

Equipment Manufacturer IMPC_GEO_053_001 | v1.0

procedureMetadata

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Edema IMPC_GEO_064_001 | v1.1

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Options: unobservable, no, yes,

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spina bifida IMPC_GEO_043_002 | v2.0

simpleParameter

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Options: unobservable, no, yes,

Pale Liver IMPC_GEO_038_002 | v2.0

simpleParameter

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Options: yes, no, unobservable,

Tail Morphology IMPC_GEO_033_001 | v1.0

simpleParameter

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Options: abnormal, normal, unobservable,

Comment on image IMPC_GEO_049_001 | v1.0

simpleParameter

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Facial hypoplasia IMPC_GEO_071_001 | v1.0

simpleParameter

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Options: no, unobservable, yes,

Time of dark cycle end IMPC_GEO_059_001 | v1.0

procedureMetadata

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Anophthalmia IMPC_GEO_048_002 | v2.2

simpleParameter

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Options: unobservable, yes, no,

Abdominal wall IMPC_GEO_062_001 | v1.1

simpleParameter

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Options: abnormal, unobservable, normal,

Skin Appearance IMPC_GEO_029_001 | v1.0

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Options: abnormal, normal, unobservable,

Blebs IMPC_GEO_070_001 | v1.0

simpleParameter

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Options: yes, unobservable, no,

Microphthalmia IMPC_GEO_047_002 | v2.3

simpleParameter

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Options: unobservable, yes, no,

Time of Dissection IMPC_GEO_056_001 | v1.0

procedureMetadata

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Cleft Palate IMPC_GEO_018_002 | v2.0

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Options: unobservable, no, yes,

Facial Cleft IMPC_GEO_017_002 | v2.0

simpleParameter

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Options: no, unobservable, yes,

Holoprosencephaly IMPC_GEO_042_002 | v2.0

simpleParameter

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Options: yes, no, unobservable,

Exencephaly IMPC_GEO_041_002 | v2.0

simpleParameter

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Options: yes, no, unobservable,

Limb morphology IMPC_GEO_065_001 | v1.1

simpleParameter

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Options: unobservable, abnormal, normal,

Microcephaly IMPC_GEO_066_001 | v1.2

simpleParameter

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Options: yes, no, unobservable,

Severely Dysmorphic IMPC_GEO_061_001 | v1.2

simpleParameter

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Options: yes, unobservable, no,

Somite Stage IMPC_GEO_057_001 | v1.1

procedureMetadata

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Equipment Model IMPC_GEO_054_001 | v1.0

procedureMetadata

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Date equipment last calibrated IMPC_GEO_060_001 | v1.1

procedureMetadata

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