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

**Heart Morphology** IMPC_GEO_008_001 | v1.0

*simpleParameter*

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

Description: heart_morphology

Options: normal, abnormal, unobservable,

**Blood Vessel Morphology** IMPC_GEO_011_001 | v1.0

*simpleParameter*

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

Description: blood_vessel_morphology

Options: normal, abnormal, unobservable,

**Head shape** IMPC_GEO_015_001 | v1.0

*simpleParameter*

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

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

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**Head size** IMPC_GEO_016_001 | v1.0
simpleParameter

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

**Description:** head_size

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

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**Embryo Size** IMPC_GEO_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_GEO_022_001 | v1.1
simpleParameter
Description: abnormal_ear_morphology
Options: normal, abnormal, unobservable,

Vibrissa Morphology IMPC_GEO_028_001 | v1.0

Description: vibrissa_morphology
Options: normal, abnormal, unobservable,

Skin Appearance IMPC_GEO_029_001 | v1.0

Description: skin_appearance
Options: normal, abnormal, unobservable,

Skin Coloration IMPC_GEO_030_001 | v1.0

simpleParameter
Description: skin_coloration
Options: normal, abnormal, unobservable,

Tail Morphology IMPC_GEO_033_001 | v1.0
simpleParameter

Description: tail_morphology
Options: normal, abnormal, unobservable,

Liver Size IMPC_GEO_037_001 | v1.0
simpleParameter

Description: liver_size
Options: normal, abnormal, unobservable,

Comment on image IMPC_GEO_049_001 | v1.0
simpleParameter
Description: comment_on_image

Images IMPC_GEO_050_001 | v1.0

Description: images
Increments: Minimum 1

Experiment ID IMPC_GEO_051_001 | v1.0

Description: experimenter_id

Equipment ID IMPC_GEO_052_001 | v1.0

Description: procedureMetadata
Description: equipment_id

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**Equipment Manufacturer** IMPC_GEO_053_001 | v1.0

*procedureMetadata*

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

Description: equipment_manufacturer

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**Equipment Model** IMPC_GEO_054_001 | v1.0

*procedureMetadata*

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

Description: equipment_model

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**Fixative** IMPC_GEO_055_001 | v1.0

*procedureMetadata*

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

Description: fixative
**Time of Dissection**  IMPC_GEO_056_001 | v1.0

procedureMetadata


Description: time_of_dissection

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**Somite Stage**  IMPC_GEO_057_001 | v1.1

procedureMetadata


Description: somite_stage

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**Time of dark cycle start**  IMPC_GEO_058_001 | v1.0

procedureMetadata


Description: time_of_dark_cycle_start

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**Time of dark cycle end**  IMPC_GEO_059_001 | v1.0

procedureMetadata
**Description:** facial_cleft

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

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**Cleft Palate** IMPC_GEO_018_002 | v2.0

**simpleParameter**

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

**Description:** cleft_palate

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

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**Polydactyly** IMPC_GEO_034_002 | v2.0

**simpleParameter**

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

**Description:** polydactyly

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

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**Pale Liver** IMPC_GEO_038_002 | v2.0

**simpleParameter**

**Req. Analysis:** false  **Req. Upload:** false  **Is Annotated:** true
Description: pale_liver
Options: yes, unobservable, no,

Exencephaly  IMPC_GEO_041_002 | v2.0
simpleParameter

Description: exencephaly
Options: yes, unobservable, no,

Holoprosencephaly  IMPC_GEO_042_002 | v2.0
simpleParameter

Description: holoprosencephaly
Options: yes, unobservable, no,

spina bifida  IMPC_GEO_043_002 | v2.0
simpleParameter

**Description:** spina_bifida

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

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**Microphthalmia** IMPC_GEO_047_002 | v2.3

*simpleParameter*

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

**Description:** microphthalmia

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

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**Anophthalmia** IMPC_GEO_048_002 | v2.2

*simpleParameter*

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

**Description:** anophthalmia

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

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**Severely Dysmorphic** IMPC_GEO_061_001 | v1.2

*simpleParameter*
Abdominal wall IMPC_GEO_062_001 | v1.1

Options: no, yes, unobservable,

Craniofacial morphology IMPC_GEO_063_001 | v1.1

Options: normal, abnormal, unobservable,

Edema IMPC_GEO_064_001 | v1.1

Options: no, yes, unobservable,
Limb morphology  IMPC_GEO_065_001 | v1.1

simpleParameter


Options: normal, abnormal, unobservable,

Microcephaly  IMPC_GEO_066_001 | v1.2

simpleParameter


Options: no, yes, unobservable,

Syndactyly  IMPC_GEO_067_001 | v1.1

simpleParameter


Options: no, yes, unobservable,

CRL  IMPC_GEO_068_001 | v1.1
Delayed embryonic development IMPC_GEO_069_001 | v1.2

Options: no, yes, unobservable,

Blebs IMPC_GEO_070_001 | v1.0

Options: no, yes, unobservable,

Facial hypoplasia IMPC_GEO_071_001 | v1.0
Options: no, yes, unobservable,

Pallor IMPC_GEO_072_001 | v1.0

simpleParameter


Options: normal, abnormal, unobservable,