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,

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**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,

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**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,

Head size IMPC_GEO_016_001 | v1.0
simpleParameter


Description: head_size
Options: normal, abnormal, unobservable,

Embryo Size IMPC_GEO_019_001 | v1.0
simpleParameter


Description: embryo_size
Options: normal, abnormal, unobservable,

Ear Morphology IMPC_GEO_022_001 | v1.1
simpleParameter
Description: abnormal_ear_morphology
Options: normal, abnormal, unobservable,
Description: skin_coloration
Options: normal, abnormal, unobservable,

Tail Morphology IMPC_GEO_033_001 | v1.0

Description: tail_morphology
Options: normal, abnormal, unobservable,

Liver Size IMPC_GEO_037_001 | v1.0

Description: liver_size
Options: normal, abnormal, unobservable,

Comment on image IMPC_GEO_049_001 | v1.0
Images  IMPC_GEO_050_001 | v1.0
seriesMediaParameter

Description: images
Increments: Minimum 1

Experimenter ID  IMPC_GEO_051_001 | v1.0
procedureMetadata

Description: experimenter_id

Equipment ID  IMPC_GEO_052_001 | v1.0
procedureMetadata

Description: experimenter_id
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

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**Time of Dissection** IMPC_GEO_056_001 | v1.0

Request Analysis: false  Request Upload: true  Is Annotated: false

Description: time_of_dissection

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**Somite Stage** IMPC_GEO_057_001 | v1.1

Request Analysis: false  Request Upload: false  Is Annotated: false

Description: somite_stage

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

Request Analysis: false  Request Upload: true  Is Annotated: false

Description: time_of_dark_cycle_start

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

Request Analysis: false  Request Upload: true  Is Annotated: false

Description: time_of_dark_cycle_end
Description: time_of_dark_cycle_end

Date equipment last calibrated IMPC_GEO_060_001 | v1.1
procedureMetadata

Description: date_equipment_last_calibrated

Hemorrhage IMPC_GEO_009_002 | v2.0
simpleParameter

Description: hemorrhage
Options: yes, unobservable, no,

Facial Cleft IMPC_GEO_017_002 | v2.0
simpleParameter

Description:

Options:
Description: facial_cleft
Options: yes, unobservable, no,

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**Cleft Palate** IMPC_GEO_018_002 | v2.0
simpleParameter


Description: cleft_palate
Options: yes, unobservable, no,

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**Polydactyly** IMPC_GEO_034_002 | v2.0
simpleParameter


Description: polydactyly
Options: yes, unobservable, no,

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**Pale Liver** IMPC_GEO_038_002 | v2.0
simpleParameter

Description: pale_liver
Options: yes, unobservable, no,

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**Exencephaly** IMPC_GEO_041_002 | v2.0

*simpleParameter*


Description: exencephaly
Options: yes, unobservable, no,

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**Holoprosencephaly** IMPC_GEO_042_002 | v2.0

*simpleParameter*


Description: holoprosencephaly
Options: yes, unobservable, no,

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**spina bifida** IMPC_GEO_043_002 | v2.0

*simpleParameter*

**Description:** spina_bifida

**Options:** yes, unobservable, no,
Abdominal wall  IMPC_GEO_062_001 | v1.1
simpleParameter

Craniofacial morphology  IMPC_GEO_063_001 | v1.1
simpleParameter

Edema  IMPC_GEO_064_001 | v1.1
simpleParameter
**Limb morphology**  IMPC_GEO_065_001 | v1.1
simpleParameter


Options: normal, abnormal, unobservable,

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**Microcephaly**  IMPC_GEO_066_001 | v1.2
simpleParameter


Options: no, yes, unobservable,

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**Syndactyly**  IMPC_GEO_067_001 | v1.1
simpleParameter


Options: no, yes, unobservable,

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**CRL**  IMPC_GEO_068_001 | v1.1
**simpleParameter**

**Unit Measured:** mm

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**Delayed embryonic development** IMPC_GEO_069_001 | v1.2

**simpleParameter**

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

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**Blebs** IMPC_GEO_070_001 | v1.0

**simpleParameter**

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

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**Facial hypoplasia** IMPC_GEO_071_001 | v1.0

**simpleParameter**

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

Pallor IMPC_GEO_072_001 | v1.0

simpleParameter


Options: normal, abnormal, unobservable,