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


Description: head_size

Options: normal, abnormal, unobservable,

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**Embryo Size**  IMPC_GEO_019_001 | v1.0

simpleParameter


Description: embryo_size

Options: normal, abnormal, unobservable,

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**Ear Morphology**  IMPC_GEO_022_001 | v1.1

simpleParameter
Vibrissa Morphology  IMPC_GEO_028_001 | v1.0
simpleParameter


Description: vibrissa_morphology
Options: normal, abnormal, unobservable,

Skin Appearance  IMPC_GEO_029_001 | v1.0
simpleParameter


Description: skin_appearance
Options: normal, abnormal, unobservable,

Skin Coloration  IMPC_GEO_030_001 | v1.0
simpleParameter
**Description:** skin_coloration

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

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**Tail Morphology** IMPC_GEO_033_001 | v1.0

**Description:** tail_morphology

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

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**Liver Size** IMPC_GEO_037_001 | v1.0

**Description:** liver_size

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

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

Description: images

Increments: Minimum 1

Experimenter ID  IMPC_GEO_051_001 | v1.0

Description: experimenter_id

Equipment ID  IMPC_GEO_052_001 | v1.0

Description:
Description: equipment_id

quipment Manufacturer IMPC_GEO_053_001 | v1.0
procedureMetadata


Description: equipment_manufacturer

quipment Model IMPC_GEO_054_001 | v1.0
procedureMetadata


Description: equipment_model

Fixative IMPC_GEO_055_001 | v1.0
procedureMetadata


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

procedureMetadata

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

Description: time_of_dissection

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**Somite Stage** IMPC_GEO_057_001 | v1.1

procedureMetadata

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

Description: somite_stage

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

procedureMetadata

Req. Analysis: false  
Req. 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

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

Cleft Palate IMPC_GEO_018_002 | v2.0
simpleParameter


Description: cleft_palate
Options: yes, unobservable, no,

Polydactyly IMPC_GEO_034_002 | v2.0
simpleParameter


Description: polydactyly
Options: yes, unobservable, no,

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**

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

**Description:** exencephaly

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

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**Holoprosencephaly** IMPC_GEO_042_002 | v2.0

**simpleParameter**

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

**Description:** holoprosencephaly

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

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**spina bifida** IMPC_GEO_043_002 | v2.0

**simpleParameter**

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

Options: yes, unobservable, no,

Microphthalmia IMPC_GEO_047_002 | v2.3

simpleParameter


Description: microphthalmia

Options: yes, unobservable, no,

Anophthalmia IMPC_GEO_048_002 | v2.2

simpleParameter


Description: anophthalmia

Options: yes, unobservable, no,

Severely Dysmorphic IMPC_GEO_061_001 | v1.2

simpleParameter
Abdominal wall  IMPC_GEO_062_001 | v1.1
simpleParameter

Options: normal, abnormal, unobservable,

Craniofacial morphology  IMPC_GEO_063_001 | v1.1
simpleParameter

Options: normal, abnormal, unobservable,

Edema  IMPC_GEO_064_001 | v1.1
simpleParameter

Options: no, yes, unobservable,
**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
**Delayed embryonic development**  
IMPC_GEO_069_001 | v1.2

Options: no, yes, unobservable,

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**Blebs**  
IMPC_GEO_070_001 | v1.0

Options: no, yes, unobservable,

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**Facial hypoplasia**  
IMPC_GEO_071_001 | v1.0

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

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**Pallor** IMPC_GEO_072_001 | v1.0

**simpleParameter**

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

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

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