Gross Morphology Embryo E14.5-E15.5 IMP C_GEO_001

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

**Alive** IMPC_GEO_001_001 | v1.0

*simpleParameter*

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

**Description:** alive

**Options:** yes, no,

**Scored** IMPC_GEO_002_001 | v1.0

*simpleParameter*

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

**Description:** scored

**Options:** yes, no,

**Cardiovascular System** IMPC_GEO_003_001 | v1.0

*simpleParameter*

- **Req. Analysis:** false
- **Req. Upload:** false
- **Is Annotated:** true
Description: cardiovascular_system

Options: normal, abnormal, unobservable,

Cardiovascular Development IMPC_GEO_004_001 | v1.0

simpleParameter


Description: cardiovascular_development

Options: normal, abnormal, unobservable,

Heart Development IMPC_GEO_005_001 | v1.0

simpleParameter


Description: heart_development

Options: normal, abnormal, unobservable,

Outflow tract development IMPC_GEO_006_001 | v1.0

simpleParameter
Description: outflow_tract_development

Options: normal, abnormal, unobservable,

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**Absent heartbeat** IMPC_GEO_007_001 | v1.0

Description: absent_heartbeat

Options: normal, abnormal, unobservable,

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**Heart Morphology** IMPC_GEO_008_001 | v1.0

Description: heart_morphology

Options: normal, abnormal, unobservable,

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**Hemorrhage** IMPC_GEO_009_001 | v1.0
Skin Hemorrhage  IMPC_GEO_010_001 | v1.0

Blood Vessel Morphology  IMPC_GEO_011_001 | v1.0

Developmental Vascular Remodelling  IMPC_GEO_012_001 | v1.0
Description: developmental_vascular_remoulding
Options: normal, abnormal, unobservable,

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Craniofacial IMPC_GEO_013_001 | v1.0

simpleParameter

Description: craniofacial
Options: normal, abnormal, unobservable,

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Craniofacial Development IMPC_GEO_014_001 | v1.0

simpleParameter

Description: craniofacial_development
Options: normal, abnormal, unobservable,

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Head shape IMPC_GEO_015_001 | v1.0
**simpleParameter**

**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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**Facial Cleft** IMPC_GEO_017_001 | v1.0

**simpleParameter**

**Description:** facial_cleft

**Options:** normal, abnormal, unobservable,
**Cleft Palate**  IMPC_GEO_018_001  | v1.0

simpleParameter

**Description:** cleft_palate

**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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**Body wall morphology**  IMPC_GEO_020_001  | v1.0

simpleParameter

**Description:** body_wall_morphology

**Options:** normal, abnormal, unobservable,
**Hearing/Vestibular/Ear** IMPC_GEO_021_001 | v1.0

**simpleParameter**

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

**Description:** hearing_vestibular_ear

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

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**Ear Morphology** IMPC_GEO_022_001 | v1.1

**simpleParameter**

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

**Description:** abnormal_ear_morphology

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

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**Ear Development** IMPC_GEO_023_001 | v1.0

**simpleParameter**

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

**Description:** ear_development

**Options:** normal, abnormal, unobservable,
**Homeostasis/metabolism** IMPC_GEO_024_001 | v1.0

*simpleParameter*


Description: homeostasis_metabolism

Options: normal, abnormal, unobservable,

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**Hydrops fetalis (fetal adema)** IMPC_GEO_025_001 | v1.0

*simpleParameter*


Description: hydrops_fetalis_fetal_adema

Options: normal, abnormal, unobservable,

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**Gastroschisis (herniated abdominal wall)** IMPC_GEO_026_001 | v1.0

*simpleParameter*


Description: gastroschisis_herniated_abdominal_wall

Options: normal, abnormal, unobservable,
**Integument** IMPC_GEO_027_001 | v1.0

*simpleParameter*

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

**Description:** integument

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

**Vibrissa Morphology** IMPC_GEO_028_001 | v1.0

*simpleParameter*

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

**Description:** vibrissa_morphology

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

**Skin Appearance** IMPC_GEO_029_001 | v1.0

*simpleParameter*

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

**Description:** skin_appearance

**Options:** normal, abnormal, unobservable,
**Skin Coloration**  IMPC_GEO_030_001  |  v1.0

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

**Description:** skin_coloration

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

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**Limb Bud Morphology**  IMPC_GEO_031_001  |  v1.0

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

**Description:** limb_bud_morphology

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

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**Limb Plate Morphology**  IMPC_GEO_032_001  |  v1.0

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

**Description:** limb_plate_morphology

**Options:** normal, abnormal, unobservable,
**Tail Morphology** IMPC_GEO_033_001 | v1.0

simpleParameter


Description: tail_morphology

Options: normal, abnormal, unobservable,

**Polydactyly** IMPC_GEO_034_001 | v1.0

simpleParameter


Description: polydactyly

Options: normal, abnormal, unobservable,

**Liver/Biliary** IMPC_GEO_035_001 | v1.0

simpleParameter


Description: liver_biliary

Options: normal, abnormal, unobservable,
Liver Morphology IMPC_GEO_036_001 | v1.0

Description: liver_morphology

Options: normal, abnormal, unobservable,

Liver Size IMPC_GEO_037_001 | v1.0

Description: liver_size

Options: normal, abnormal, unobservable,

Pale Liver IMPC_GEO_038_001 | v1.0

Description: pale_liver

Options: normal, abnormal, unobservable,
**Nervous System** IMPC_GEO_039_001 | v1.0

*simpleParameter*

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

*Description:* nervous_system

*Options:* normal, abnormal, unobservable,

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**Brain Development** IMPC_GEO_040_001 | v1.0

*simpleParameter*

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

*Description:* brain_development

*Options:* normal, abnormal, unobservable,

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**Exencephaly** IMPC_GEO_041_001 | v1.0

*simpleParameter*

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

*Description:* exencephaly
**Holoprosencephaly** IMPC_GEO_042_001 | v1.0

*simpleParameter*

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

**Description:** holoprosencephaly

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

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**spina bifida** IMPC_GEO_043_001 | v1.0

*simpleParameter*

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

**Description:** spina bifida

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

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**Vision/Eye** IMPC_GEO_044_001 | v1.0

*simpleParameter*

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

**Description:** vision_eye
**Eye Morphology** IMPC_GEO_045_001 | v1.0

simpleParameter

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

Description: eye_morphology

Options: normal, abnormal, unobservable,

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**Eye Size** IMPC_GEO_046_001 | v1.0

simpleParameter

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

Description: eye_size

Options: normal, abnormal, unobservable,

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**Microphthalmia** IMPC_GEO_047_001 | v1.3

simpleParameter

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

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

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**Anophthalmia** IMPC_GEO_048_001 | v1.2

*simpleParameter*

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

**Description:** anophthalmia

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

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

*simpleParameter*

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

**Description:** comment_on_image

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**Images** IMPC_GEO_050_001 | v1.0

*seriesMediaParameter*

- **Req. Analysis:** false
- **Req. Upload:** false
- **Is Annotated:** false
**Description**: images

**Increments**: Minimum 1

**Experimenter ID** IMPC_GEO_051_001 | v1.0

**procedureMetadata**

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

**Description**: experimenter_id

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**Equipment ID** IMPC_GEO_052_001 | v1.0

**procedureMetadata**

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

**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
Equipment 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


Description: time_of_dissection

Somite Stage IMPC_GEO_057_001 | v1.1
**Time of dark cycle start**  IMPC_GEO_058_001 | v1.0

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

**Date equipment last calibrated**  IMPC_GEO_060_001 | v1.1
Description: date_equipment_last_calibrated