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*


Description: alive

Options: yes, no,

**Scored**  IMPC_GEO_002_001 | v1.0

*simpleParameter*


Description: scored

Options: yes, no,

**Cardiovascular System**  IMPC_GEO_003_001 | v1.0

*simpleParameter*

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
outflow_tract_development

Options: normal, abnormal, unobservable,

Absent heartbeat IMPC_GEO_007_001 | v1.0

Description: absent_heartbeat

Options: normal, abnormal, unobservable,

Heart Morphology IMPC_GEO_008_001 | v1.0

Description: heart_morphology

Options: normal, abnormal, unobservable,

Hemorrhage IMPC_GEO_009_001 | v1.0

Description: hemorrhage

Options: normal, abnormal, unobservable,
Skin Hemorrhage  IMPC_GEO_010_001 | v1.0

Description: skin_hemorrhage
Options: normal, abnormal, unobservable,

Blood Vessel Morphology  IMPC_GEO_011_001 | v1.0

Description: blood_vessel_morphology
Options: normal, abnormal, unobservable,

Developmental Vascular Remodelling  IMPC_GEO_012_001 | v1.0

Description: hemorrhage
Options: normal, abnormal, unobservable,
developmental_vascular_remodelling

Options: normal, abnormal, unobservable,

Craniofacial IMPC_GEO_013_001 | v1.0

Options: normal, abnormal, unobservable,

Craniofacial Development IMPC_GEO_014_001 | v1.0

Options: normal, abnormal, unobservable,

Head shape IMPC_GEO_015_001 | v1.0
simpleParameter


Description: head_shape

Options: normal, abnormal, unobservable,

Head size  IMPC_GEO_016_001 | v1.0

simpleParameter


Description: head_size

Options: normal, abnormal, unobservable,

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*

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

**Description:** cleft_palate

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

*simpleParameter*

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

**Description:** body_wall_morphology

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


Description: hearing_vestibular_ear

Options: normal, abnormal, unobservable,

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Ear Morphology IMPC_GEO_022_001 | v1.1


Description: abnormal_ear_morphology

Options: normal, abnormal, unobservable,

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Ear Development IMPC_GEO_023_001 | v1.0


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


Description: integument

Options: normal, abnormal, unobservable,

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**Vibrissa Morphology**  IMPC_GEO_028_001 | v1.0

simpleParameter


Description: vibrissa_morphology

Options: normal, abnormal, unobservable,

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**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,

Limb Bud Morphology  IMPC_GEO_031_001  | v1.0

simpleParameter


Description: limb_bud_morphology

Options: normal, abnormal, unobservable,

Limb Plate Morphology  IMPC_GEO_032_001  | v1.0

simpleParameter


Description: limb_plate_morphology

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

`simpleParameter`

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

**Description:** tail_morphology

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

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**Polydactyly** IMPC_GEO_034_001 | v1.0

`simpleParameter`

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

**Description:** polydactyly

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

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

`simpleParameter`

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

**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


Description: nervous_system

Options: normal, abnormal, unobservable,

Brain Development  IMPC_GEO_040_001  |  v1.0
simpleParameter


Description: brain_development

Options: normal, abnormal, unobservable,

Exencephaly  IMPC_GEO_041_001  |  v1.0
simpleParameter


Description: exencephaly
Holoprosencephaly IMPC_GEO_042_001 | v1.0

simpleParameter


Description: holoprosencephaly

Options: normal, abnormal, unobservable,

spina bifida IMPC_GEO_043_001 | v1.0

simpleParameter


Description: spina_bifida

Options: normal, abnormal, unobservable,

Vision/Eye IMPC_GEO_044_001 | v1.0

simpleParameter


Description: vision_eye
Options: normal, abnormal, unobservable,

Eye Morphology IMPC_GEO_045_001 | v1.0
simpleParameter


Description: eye_morphology

Options: normal, abnormal, unobservable,

Eye Size IMPC_GEO_046_001 | v1.0
simpleParameter


Description: eye_size

Options: normal, abnormal, unobservable,

Microphthalmia IMPC_GEO_047_001 | v1.3
simpleParameter

**Description:** microphthalmia

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

**Anophthalmia**  
**IMPC_GEO_048_001 | v1.2**  
**simpleParameter**

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

**Description:** anophthalmia

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

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

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

**Description:** comment_on_image

**Images**  
**IMPC_GEO_050_001 | v1.0**  
**seriesMediaParameter**

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

Increments: Minimum 1

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**Experimenter ID** IMPC_GEO_051_001 | v1.0

procedureMetadata


Description: experimenter_id

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**Equipment ID** IMPC_GEO_052_001 | v1.0

procedureMetadata


Description: equipment_id

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**Equipment Manufacturer** IMPC_GEO_053_001 | v1.0

procedureMetadata


Description: equipment_manufacturer
Equipment Model  IMPC_GEO_054_001 | v1.0

Description: equipment_model

Fixative  IMPC_GEO_055_001 | v1.0

Description: fixative

Time of Dissection  IMPC_GEO_056_001 | v1.0

Description: time_of_dissection

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

**Description:** time_of_dark_cycle_start

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

**Description:** time_of_dark_cycle_end

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**Date equipment last calibrated** IMPC_GEO_060_001 | v1.1

**Description:**
Description: date_equipment_last_calibrated