Gross Morphology Embryo E14.5-E15.5 IMPC_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

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

Description: cardiovascular_development

Options: normal, abnormal, unobservable,

Heart Development IMPC_GEO_005_001 | v1.0

simpleParameter

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

Description: heart_development

Options: normal, abnormal, unobservable,

Outflow tract development IMPC_GEO_006_001 | v1.0

simpleParameter

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

Description: outflow_tract_development

Options: normal, abnormal, unobservable,

Absent heartbeat IMPC_GEO_007_001 | v1.0

simpleParameter

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

Description: absent_heartbeat

Options: normal, abnormal, unobservable,

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,

Hemorrhage IMPC_GEO_009_001 | v1.0

simpleParameter

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

Description: hemorrhage

Options: normal, abnormal, unobservable,

Skin Hemorrhage IMPC_GEO_010_001 | v1.0

simpleParameter

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

Description: skin_hemorrhage

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,

Developmental Vascular Remodelling IMPC_GEO_012_001 | v1.0

simpleParameter

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

Description: developmental_vascular_remodelling

Options: normal, abnormal, unobservable,

Craniofacial IMPC_GEO_013_001 | v1.0

simpleParameter

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

Description: craniofacial

Options: normal, abnormal, unobservable,

Craniofacial Development IMPC_GEO_014_001 | v1.0

simpleParameter

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

Description: craniofacial_development

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,

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,

Facial Cleft IMPC_GEO_017_001 | v1.0

simpleParameter

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

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,

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,

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

simpleParameter

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

Description: hearing_vestibular_ear

Options: normal, abnormal, unobservable,

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,

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

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

Description: homeostasis_metabolism

Options: normal, abnormal, unobservable,

Hydrops fetalis (fetal adema) IMPC_GEO_025_001 | v1.0

simpleParameter

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

Description: hydrops_fetalis_fetal_adema

Options: normal, abnormal, unobservable,

Gastroschisis (herniated abdominal wall) IMPC_GEO_026_001 | v1.0

simpleParameter

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

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

simpleParameter

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

Description: skin_coloration

Options: normal, abnormal, unobservable,

Limb Bud Morphology IMPC_GEO_031_001 | v1.0

simpleParameter

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

Description: limb_bud_morphology

Options: normal, abnormal, unobservable,

Limb Plate Morphology IMPC_GEO_032_001 | v1.0

simpleParameter

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

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

Description: tail_morphology

Options: normal, abnormal, unobservable,

Polydactyly IMPC_GEO_034_001 | v1.0

simpleParameter

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

Description: polydactyly

Options: normal, abnormal, unobservable,

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

simpleParameter

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

Description: liver_morphology

Options: normal, abnormal, unobservable,

Liver Size IMPC_GEO_037_001 | v1.0

simpleParameter

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

Description: liver_size

Options: normal, abnormal, unobservable,

Pale Liver IMPC_GEO_038_001 | v1.0

simpleParameter

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

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,

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,

Exencephaly IMPC_GEO_041_001 | v1.0

simpleParameter

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

Description: exencephaly

Options: normal, abnormal, unobservable,

Holoprosencephaly IMPC_GEO_042_001 | v1.0

simpleParameter

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

Description: holoprosencephaly

Options: normal, abnormal, unobservable,

---

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,

Vision/Eye IMPC_GEO_044_001 | v1.0

simpleParameter

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

Description: vision_eye

Options: normal, abnormal, unobservable,

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,

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,

Microphthalmia IMPC_GEO_047_001 | v1.3

simpleParameter

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

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

Experimenter ID IMPC_GEO_051_001 | v1.0

procedureMetadata

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

Description: experimenter_id

Equipment ID IMPC_GEO_052_001 | v1.0

procedureMetadata

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

Description: equipment_id

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

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

Description: equipment_model

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

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

Description: time_of_dissection

Somite Stage IMPC_GEO_057_001 | v1.1

procedureMetadata

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

Description: somite_stage

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

Time of dark cycle end IMPC_GEO_059_001 | v1.0

procedureMetadata

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

Description: time_of_dark_cycle_end

Date equipment last calibrated IMPC_GEO_060_001 | v1.1

procedureMetadata

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

Description: date_equipment_last_calibrated