Gross Morphology Embryo E12.5 IMPC_GEM_002

Purpose

To assess visible morphological defects in E12.5 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:** E12.5
- 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, LacZ 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_GEM_001_001 | v1.0

simpleParameter

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

Description: alive

Options: yes, no,

Scored IMPC_GEM_002_001 | v1.0

simpleParameter

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

Description: scored

Options: yes, no,

Cardiovascular System IMPC_GEM_003_001 | v1.0

simpleParameter

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

Description: cardiovascular_system

Options: normal, abnormal, unobservable,

Cardiovascular Development IMPC_GEM_004_001 | v1.0

simpleParameter

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

Description: cardiovascular_development

Options: normal, abnormal, unobservable,

Vascular Development IMPC_GEM_005_001 | v1.0

simpleParameter

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

Description: vascular_development

Options: normal, abnormal, unobservable,

Outflow tract development IMPC_GEM_006_001 | v1.0

simpleParameter

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

Description: outflow_tract_development

Options: normal, abnormal, unobservable,

Pericardium Morphology IMPC_GEM_007_001 | v1.0

simpleParameter

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

Description: pericardium_morphology

Options: normal, abnormal, unobservable,

Craniofacial IMPC_GEM_009_001 | v1.0

simpleParameter

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

Description: craniofacial

Options: normal, abnormal, unobservable,

Craniofacial Development IMPC_GEM_010_001 | v1.0

simpleParameter

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

Description: craniofacial_development

Options: normal, abnormal, unobservable,

Embryogenesis Phenotype IMPC_GEM_011_001 | v1.0

simpleParameter

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

Description: embryogenesis_phenotype

Options: normal, abnormal, unobservable,

Extraembryonic tissue morphology IMPC_GEM_012_001 | v1.0

simpleParameter

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

Description: extraembryonic_tissue_morphology

Options: normal, abnormal, unobservable,

Allantois Morphology IMPC_GEM_013_001 | v1.0

simpleParameter

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

Description: allantois_morphology

Options: normal, abnormal, unobservable,

Vitelline vasculature morphology IMPC_GEM_014_001 | v1.0

simpleParameter

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

Description: vitelline_vasculature_morphology

Options: normal, abnormal, unobservable,

Vitelline vein morphology IMPC_GEM_015_001 | v1.0

simpleParameter

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

Description: vitelline_vein_morphology

Options: normal, abnormal, unobservable,

Visceral yolk sac morphology IMPC_GEM_017_001 | v1.0

simpleParameter

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

Description: visceral_yolk_sac_morphology

Options: normal, abnormal, unobservable,

Chorioallantoic fusion IMPC_GEM_018_001 | v1.0

simpleParameter

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

Description: chorioallantoic_fusion

Options: normal, abnormal, unobservable,

Embryo Size IMPC_GEM_019_001 | v1.0

simpleParameter

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

Description: embryo_size

Options: normal, abnormal, unobservable,

Hearing/Vestibular/Ear Phenotype IMPC_GEM_020_001 | v1.0

simpleParameter

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

Description: hearing_vestibular_ear_phenotype

Options: normal, abnormal, unobservable,

Ear Morphology IMPC_GEM_021_001 | v1.1

simpleParameter

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

Description: abnormal_ear_morphology

Options: normal, abnormal, unobservable,

Ear Development IMPC_GEM_022_001 | v1.0

simpleParameter

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

Description: ear_development

Options: normal, abnormal, unobservable,

Integument IMPC_GEM_023_001 | v1.0

simpleParameter

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

Description: integument

Options: normal, abnormal, unobservable,

Skin Appearance IMPC_GEM_024_001 | v1.0

simpleParameter

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

Description: skin_appearance

Options: normal, abnormal, unobservable,

Limb Bud Morphology IMPC_GEM_027_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_GEM_028_001 | v1.0

simpleParameter

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

Description: limb_plate_morphology

Options: normal, abnormal, unobservable,

Tail Morphology IMPC_GEM_029_001 | v1.0

simpleParameter

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

Description: tail_morphology

Options: normal, abnormal, unobservable,

Liver/Biliary IMPC_GEM_030_001 | v1.0

simpleParameter

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

Description: liver_biliary

Options: normal, abnormal, unobservable,

Liver Morphology IMPC_GEM_031_001 | v1.0

simpleParameter

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

Description: liver_morphology

Options: normal, abnormal, unobservable,

Liver Size IMPC_GEM_032_001 | v1.0

simpleParameter

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

Description: liver_size

Options: normal, abnormal, unobservable,

Nervous System IMPC_GEM_035_001 | v1.0

simpleParameter

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

Description: nervous_system

Options: normal, abnormal, unobservable,

Neural Tube Closure IMPC_GEM_036_001 | v1.0

simpleParameter

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

Description: neural_tube_closure

Options: normal, abnormal, unobservable,

Forebrain development IMPC_GEM_037_001 | v1.0

simpleParameter

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

Description: forebrain_development

Options: normal, abnormal, unobservable,

Midbrain development IMPC_GEM_038_001 | v1.0

simpleParameter

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

Description: midbrain_development

Options: normal, abnormal, unobservable,

Hindbrain development IMPC_GEM_039_001 | v1.0

simpleParameter

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

Description: hindbrain_development

Options: normal, abnormal, unobservable,

Vision/Eye IMPC_GEM_040_001 | v1.0

simpleParameter

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

Description: vision_eye

Options: normal, abnormal, unobservable,

Eye Morphology IMPC_GEM_041_001 | v1.0

simpleParameter

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

Description: eye_morphology

Options: normal, abnormal, unobservable,

Eye Size IMPC_GEM_042_001 | v1.0

simpleParameter

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

Description: eye_size

Options: normal, abnormal, unobservable,

Failure heart looping IMPC_GEM_045_001 | v1.0

simpleParameter

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

Description: failure_heart_looping

Options: normal, abnormal, unobservable,

Gastrulation IMPC_GEM_046_001 | v1.1

simpleParameter

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

Description: abnormal_gastrulation

Options: normal, abnormal, unobservable,

Head shape IMPC_GEM_047_001 | v1.0

simpleParameter

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

Description: head_shape

Options: normal, abnormal, unobservable,

Comment on image IMPC_GEM_048_001 | v1.0

simpleParameter

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

Description: comment_on_image

Images IMPC_GEM_049_001 | v1.0

seriesMediaParameter

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

Description: images

Increments: Minimum 1

Experimenter ID IMPC_GEM_050_001 | v1.0

procedureMetadata

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

Description: experimenter_id

Equipment ID IMPC_GEM_051_001 | v1.0

procedureMetadata

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

Description: equipment_id

Equipment Manufacturer IMPC_GEM_052_001 | v1.0

procedureMetadata

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

Description: equipment_manufacturer

Equipment Model IMPC_GEM_053_001 | v1.0

procedureMetadata

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

Description: equipment_model

Fixative IMPC_GEM_054_001 | v1.0

procedureMetadata

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

Description: fixative

Time of Dissection IMPC_GEM_055_001 | v1.0

procedureMetadata

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

Description: time_of_dissection

Somite Stage IMPC_GEM_056_001 | v1.1

procedureMetadata

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

Description: somite_stage

Time of dark cycle start IMPC_GEM_057_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_GEM_058_001 | v1.0

procedureMetadata

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

Description: time_of_dark_cycle_end

Date equipment last calibrated IMPC_GEM_059_001 | v1.1

procedureMetadata

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

Description: date_equipment_last_calibrated

Pale yolk sac IMPC_GEM_016_002 | v2.0

simpleParameter

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

Description: pale_yolk_sac

Options: yes, unobservable, no,

Pallor IMPC_GEM_025_002 | v2.0

simpleParameter

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

Description: pallor

Options: yes, unobservable, no,

Blebs IMPC_GEM_026_002 | v2.0

simpleParameter

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

Description: blebs

Options: yes, unobservable, no,

Pale Liver IMPC_GEM_033_002 | v2.0

simpleParameter

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

Description: pale_liver

Options: yes, unobservable, no,

Microphthalmia IMPC_GEM_043_002 | v2.3

simpleParameter

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

Description: microphthalmia

Options: yes, unobservable, no,

Anophthalmia IMPC_GEM_044_002 | v2.2

simpleParameter

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

Description: anophthalmia

Options: yes, unobservable, no,

Severely Dysmorphic IMPC_GEM_060_001 | v1.2

simpleParameter

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

Options: no, yes, unobservable,

Absent Heartbeat IMPC_GEM_008_002 | v1.0

simpleParameter

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

Options: yes, no, unobservable,

Gastroschisis (herniated abdominal wall) IMPC_GEM_034_002 | v1.0

simpleParameter

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

Options: yes, no, unobservable,