Gross Morphology Embryo E18.5 IMPC_GEP_002

Purpose

To assess visible morphological defects in E18.5 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:** E18.5 and Older
- 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_GEP_001_001 | v1.0

simpleParameter

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

Description: alive

Options: yes, no,

Scored IMPC_GEP_002_001 | v1.0

simpleParameter

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

Description: scored

Options: yes, no,

Behavior/neurological IMPC_GEP_003_001 | v1.0

simpleParameter

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

Description: behavior_neurological

Options: normal, abnormal, unobservable,

Cardiovascular System IMPC_GEP_006_001 | v1.0

simpleParameter

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

Description: cardiovascular_system

Options: normal, abnormal, unobservable,

Cardiovascular Development IMPC_GEP_007_001 | v1.0

simpleParameter

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

Description: cardiovascular_development

Options: normal, abnormal, unobservable,

Heart Development IMPC_GEP_008_001 | v1.0

simpleParameter

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

Description: heart_development

Options: normal, abnormal, unobservable,

Outflow tract development IMPC_GEP_009_001 | v1.0

simpleParameter

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

Description: outflow_tract_development

Options: normal, abnormal, unobservable,

Heart Morphology IMPC_GEP_010_001 | v1.0

simpleParameter

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

Description: heart_morphology

Options: normal, abnormal, unobservable,

Blood Vessel Morphology IMPC_GEP_013_001 | v1.0

simpleParameter

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

Description: blood_vessel_morphology

Options: normal, abnormal, unobservable,

Craniofacial IMPC_GEP_014_001 | v1.0

simpleParameter

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

Description: craniofacial

Options: normal, abnormal, unobservable,

Head shape IMPC_GEP_015_001 | v1.0

simpleParameter

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

Description: head_shape

Options: normal, abnormal, unobservable,

Head size IMPC_GEP_016_001 | v1.0

simpleParameter

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

Description: head_size

Options: normal, abnormal, unobservable,

Facial Morphology IMPC_GEP_017_001 | v1.0

simpleParameter

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

Description: facial_morphology

Options: normal, abnormal, unobservable,

Digestive/alimentary IMPC_GEP_020_001 | v1.0

simpleParameter

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

Description: digestive_alimentary

Options: normal, abnormal, unobservable,

Digestive System Morphology IMPC_GEP_021_001 | v1.0

simpleParameter

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

Description: digestive_system_morphology

Options: normal, abnormal, unobservable,

Embryo Size IMPC_GEP_022_001 | v1.0

simpleParameter

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

Description: embryo_size

Options: normal, abnormal, unobservable,

Embryo weight IMPC_GEP_023_001 | v1.0

simpleParameter

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

Description: embryo_weight

Body wall morphology IMPC_GEP_024_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_GEP_025_001 | v1.0

simpleParameter

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

Description: hearing_vestibular_ear

Options: normal, abnormal, unobservable,

Outer ear morpholgy IMPC_GEP_026_001 | v1.0

simpleParameter

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

Description: outer_ear_morpholgy

Options: normal, abnormal, unobservable,

Ear Development IMPC_GEP_027_001 | v1.0

simpleParameter

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

Description: ear_development

Options: normal, abnormal, unobservable,

Homeostasis/metabolism IMPC_GEP_028_001 | v1.0

simpleParameter

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

Description: homeostasis_metabolism

Options: normal, abnormal, unobservable,

Integument IMPC_GEP_032_001 | v1.0

simpleParameter

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

Description: integument

Options: normal, abnormal, unobservable,

Vibrissa Morphology IMPC_GEP_033_001 | v1.0

simpleParameter

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

Description: vibrissa_morphology

Options: normal, abnormal, unobservable,

Skin Appearance IMPC_GEP_034_001 | v1.0

simpleParameter

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

Description: skin_appearance

Options: normal, abnormal, unobservable,

Skin Coloration IMPC_GEP_036_001 | v1.0

simpleParameter

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

Description: skin_coloration

Options: normal, abnormal, unobservable,

Limb Morphology IMPC_GEP_037_001 | v1.0

simpleParameter

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

Description: limb_morphology

Options: normal, abnormal, unobservable,

Tail Morphology IMPC_GEP_038_001 | v1.0

simpleParameter

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

Description: tail_morphology

Options: normal, abnormal, unobservable,

Liver/Biliary IMPC_GEP_040_001 | v1.0

simpleParameter

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

Description: liver_biliary

Options: normal, abnormal, unobservable,

Liver Morphology IMPC_GEP_041_001 | v1.0

simpleParameter

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

Description: liver_morphology

Options: normal, abnormal, unobservable,

Liver Size IMPC_GEP_042_001 | v1.0

simpleParameter

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

Description: liver_size

Options: normal, abnormal, unobservable,

Muscle IMPC_GEP_043_001 | v1.0

simpleParameter

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

Description: muscle

Options: normal, abnormal, unobservable,

Diaphragm Morphology IMPC_GEP_044_001 | v1.0

simpleParameter

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

Description: diaphragm_morphology

Options: normal, abnormal, unobservable,

Nervous System IMPC_GEP_045_001 | v1.0

simpleParameter

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

Description: nervous_system

Options: normal, abnormal, unobservable,

Brain Development IMPC_GEP_046_001 | v1.0

simpleParameter

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

Description: brain_development

Options: normal, abnormal, unobservable,

Renal/Urinary IMPC_GEP_050_001 | v1.0

simpleParameter

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

Description: renal_urinary

Options: normal, abnormal, unobservable,

Kidney IMPC_GEP_051_001 | v1.0

simpleParameter

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

Description: kidney

Options: normal, abnormal, unobservable,

Respiratory System IMPC_GEP_052_001 | v1.0

simpleParameter

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

Description: respiratory_system

Options: normal, abnormal, unobservable,

Lung Morphology IMPC_GEP_053_001 | v1.0

simpleParameter

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

Description: lung_morphology

Options: normal, abnormal, unobservable,

Lung Development IMPC_GEP_054_001 | v1.0

simpleParameter

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

Description: lung_development

Options: normal, abnormal, unobservable,

Vision/Eye IMPC_GEP_056_001 | v1.0

simpleParameter

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

Description: vision_eye

Options: normal, abnormal, unobservable,

Eye Morphology IMPC_GEP_057_001 | v1.0

simpleParameter

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

Description: eye_morphology

Options: normal, abnormal, unobservable,

Eye Size IMPC_GEP_058_001 | v1.0

simpleParameter

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

Description: eye_size

Options: normal, abnormal, unobservable,

Number of cervical vertebrae IMPC_GEP_062_001 | v1.0

simpleParameter

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

Description: number_of_cervical_vertebrae

Comment on image IMPC_GEP_063_001 | v1.0

simpleParameter

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

Description: comment_on_image

Images IMPC_GEP_064_001 | v1.0

seriesMediaParameter

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

Description: images

Increments: Minimum 1

Experimenter ID IMPC_GEP_065_001 | v1.0

procedureMetadata

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

Description: experimenter_id

Equipment ID IMPC_GEP_066_001 | v1.0

procedureMetadata

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

Description: equipment_id

Equipment Manufacturer IMPC_GEP_067_001 | v1.0

procedureMetadata

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

Description: equipment_manufacturer

Equipment Model IMPC_GEP_068_001 | v1.0

procedureMetadata

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

Description: equipment_model

Fixative IMPC_GEP_069_001 | v1.0

procedureMetadata

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

Description: fixative

Time of Dissection IMPC_GEP_070_001 | v1.0

procedureMetadata

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

Description: time_of_dissection

Somite Stage IMPC_GEP_071_001 | v1.1

procedureMetadata

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

Description: somite_stage

Time of dark cycle start IMPC_GEP_072_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_GEP_073_001 | v1.0

procedureMetadata

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

Description: time_of_dark_cycle_end

Date equipment last calibrated IMPC_GEP_074_001 | v1.1

procedureMetadata

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

Description: date_equipment_last_calibrated

Spontaneous movement IMPC_GEP_004_002 | v2.2

simpleParameter

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

Description: no_spontaneous_movement

Options: yes, unobservable, no,

Responsive to tactile stimuli IMPC_GEP_005_002 | v2.2

simpleParameter

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

Description: unresponsive_to_tactile_stimuli

Options: yes, unobservable, no,

Hemorrhage IMPC_GEP_011_002 | v2.0

simpleParameter

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

Description: hemorrhage

Options: yes, unobservable, no,

Skin Hemorrhage IMPC_GEP_012_002 | v2.0

simpleParameter

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

Description: skin_hemorrhage

Options: yes, unobservable, no,

Facial Cleft IMPC_GEP_018_002 | v2.0

simpleParameter

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

Description: facial_cleft

Options: yes, unobservable, no,

Cleft Palate IMPC_GEP_019_002 | v2.0

simpleParameter

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

Description: cleft_palate

Options: yes, unobservable, no,

Cyanosis IMPC_GEP_029_002 | v2.0

simpleParameter

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

Description: cyanosis

Options: yes, unobservable, no,

Edema IMPC_GEP_030_002 | v2.0

simpleParameter

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

Description: edema

Options: yes, unobservable, no,

Hydrops fetalis (fetal adema) IMPC_GEP_031_002 | v2.0

simpleParameter

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

Description: hydrops_fetalis_fetal_adema

Options: yes, unobservable, no,

Pallor IMPC_GEP_035_002 | v2.0

simpleParameter

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

Description: pallor

Options: yes, unobservable, no,

Polydactyly IMPC_GEP_039_002 | v2.0

simpleParameter

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

Description: polydactyly

Options: yes, unobservable, no,

Exencephaly IMPC_GEP_047_002 | v2.0

simpleParameter

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

Description: exencephaly

Options: yes, unobservable, no,

Holoprosencephaly IMPC_GEP_048_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_GEP_049_002 | v2.0

simpleParameter

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

Description: spina_bifida

Options: yes, unobservable, no,

Respiratory Failure IMPC_GEP_055_002 | v2.0

simpleParameter

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

Description: respiratory_failure

Options: yes, unobservable, no,

Microphthalmia IMPC_GEP_059_002 | v2.0

simpleParameter

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

Description: microphthalmia

Options: yes, unobservable, no,

Anophthalmia IMPC_GEP_060_002 | v2.0

simpleParameter

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

Description: anophthalmia

Options: yes, unobservable, no,

Failure of Eyelid Fusion IMPC_GEP_061_002 | v2.0

simpleParameter

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

Description: failure_of_eyelid_fusion

Options: yes, unobservable, no,

Severely Dysmorphic IMPC_GEP_075_001 | v1.2

simpleParameter

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

Options: no, yes, unobservable,