Gross Morphology Embryo E18.5 IMPC_GE P_003

Purpose

To assess visible morphological defects in E18.5 embryos from lethal or subviable 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 centre's 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

Heart Morphology IMPC_GEP_010_001 | v1.0
simpleParameter


Description: heart_morphology
Options: normal, abnormal, unobservable,

Blood Vessel Morphology IMPC_GEP_013_001 | v1.0
simpleParameter


Description: blood_vessel_morphology
Options: normal, abnormal, unobservable,

Head shape IMPC_GEP_015_001 | v1.0
simpleParameter


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,

**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


Description: embryo_weight

**Body wall morphology** IMPC_GEP_024_001 | v1.0

simpleParameter


Description: body_wall_morphology

Options: normal, abnormal, unobservable,

**Outer ear morphology** IMPC_GEP_026_001 | v1.0

simpleParameter


Description: outer_ear_morphology

Options: normal, abnormal, unobservable,

**Vibrissa Morphology** IMPC_GEP_033_001 | v1.0

simpleParameter
Description: vibrissa_morphology
Options: normal, abnormal, unobservable,

Skin Appearance IMPC_GEP_034_001 | v1.0

Description: skin_appearance
Options: normal, abnormal, unobservable,

Pallor IMPC_GEP_035_001 | v1.0

Description: pallor
Options: normal, abnormal, unobservable,

Skin Coloration IMPC_GEP_036_001 | v1.0
Description: skin_coloration
Options: normal, abnormal, unobservable,

Tail Morphology IMPC_GEP_038_001 | v1.0
simpleParameter


Description: tail_morphology
Options: normal, abnormal, unobservable,

Liver Size IMPC_GEP_042_001 | v1.0
simpleParameter


Description: liver_size
Options: normal, abnormal, unobservable,

Respiratory System IMPC_GEP_052_001 | v1.0
simpleParameter


Description: respiratory_system
Options: normal, abnormal, unobservable,
Equipment ID  IMPC_GEP_066_001 | v1.0


Description: equipment_id

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Equipment Manufacturer  IMPC_GEP_067_001 | v1.0


Description: equipment_manufacturer

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Equipment Model  IMPC_GEP_068_001 | v1.0


Description: equipment_model

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Fixative  IMPC_GEP_069_001 | v1.0

Description: fixative

Time of Dissection IMPC_GEP_070_001 | v1.0

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

Description: time_of_dissection

Somite Stage IMPC_GEP_071_001 | v1.1

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

Description: somite_stage

Time of dark cycle start IMPC_GEP_072_001 | v1.0

- 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,
**Edema**  IMPC_GEP_030_002 | v2.0

*simpleParameter*

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

**Description:** edema

**Options:** yes, unobservable, no,

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**Polydactyly**  IMPC_GEP_039_002 | v2.0

*simpleParameter*

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

**Description:** polydactyly

**Options:** yes, unobservable, no,

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**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,

**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,

**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

**Description:** anophthalmia

**Options:** yes, unobservable, no,

Failure of Eyelid Fusion  IMPC_GEP_061_002 | v2.0

**Description:** failure_of_eyelid_fusion

**Options:** yes, unobservable, no,

Severely Dysmorphic  IMPC_GEP_075_001 | v1.2

**Options:** no, yes, unobservable,

Cleft palate  IMPC_GEP_076_001 | v1.1
**Curl or short tail**  IMPC_GEP_078_001 | v1.1

**Facial hypoplasia**  IMPC_GEP_079_001 | v1.1

**Microcephaly**  IMPC_GEP_080_001 | v1.2
**Pale liver**  IMPC_GEP_081_001 | v1.1

- **simpleParameter**

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

  **Options:** no, yes, unobservable,

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**Syndactyly**  IMPC_GEP_082_001 | v1.1

- **simpleParameter**

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

  **Options:** no, yes, unobservable,

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**Tongue out**  IMPC_GEP_083_001 | v1.1

- **simpleParameter**

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

  **Options:** no, yes, unobservable,

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**Limb morphology**  IMPC_GEP_084_001 | v1.1

- **simpleParameter**

  - **Req. Analysis:** false  
  - **Req. Upload:** false  
  - **Is Annotated:** true
Options: normal, abnormal, unobservable,

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**CRL** IMPC_GEP_085_001 | v1.1

simpleParameter


Unit Measured: mm

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**Delayed embryonic development** IMPC_GEP_086_001 | v1.2

simpleParameter


Options: no, yes, unobservable,

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**Blebs** IMPC_GEP_087_001 | v1.0

simpleParameter


Options: no, yes, unobservable,