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 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

**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,

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**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,

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**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**

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**Description:** head_size

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

### Facial Morphology

**IMPC_GEP_017_001 | v1.0**

**simpleParameter**

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**Description:** facial_morphology

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

### Embryo Size

**IMPC_GEP_022_001 | v1.0**

**simpleParameter**

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**Description:** embryo_size

**Options:** normal, abnormal, unobservable,
### Embryo weight

**IMPC_GEP_023_001 | v1.0**

**Description:** embryo_weight

### Body wall morphology

**IMPC_GEP_024_001 | v1.0**

**Description:** body_wall_morphology

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

### Outer ear morphology

**IMPC_GEP_026_001 | v1.0**

**Description:** outer_ear_morphology

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

### Vibrissa Morphology

**IMPC_GEP_033_001 | v1.0**
Description: vibrissa_morphology
Options: normal, abnormal, unobservable,

Skin Appearance IMPC_GEP_034_001 | v1.0
simpleParameter

Description: skin_appearance
Options: normal, abnormal, unobservable,

Pallor IMPC_GEP_035_001 | v1.0
simpleParameter

Description: pallor
Options: normal, abnormal, unobservable,

Skin Coloration IMPC_GEP_036_001 | v1.0
simpleParameter
**Description**: skin_coloration

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

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**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,

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**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,

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**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,

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**Comment on image** IMPC_GEP_063_001 | v1.0

*simpleParameter*


Description: comment_on_image

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**Images** IMPC_GEP_064_001 | v1.0

*seriesMediaParameter*


Description: images

Increments: Minimum 1

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**Experimenter ID** IMPC_GEP_065_001 | v1.0

*procedureMetadata*


Description: experimenter_id
**Equipment ID**  IMPC_GEP_066_001 | v1.0
Description: equipment_id

**Equipment Manufacturer**  IMPC_GEP_067_001 | v1.0
Description: equipment_manufacturer

**Equipment Model**  IMPC_GEP_068_001 | v1.0
Description: equipment_model

**Fixative**  IMPC_GEP_069_001 | v1.0
Description: Fixative
Description: fixative

Time of Dissection  IMPC_GEP_070_001 | v1.0

procedureMetadata


Description: time_of_dissection

Somite Stage  IMPC_GEP_071_001 | v1.1

procedureMetadata


Description: somite_stage

Time of dark cycle start  IMPC_GEP_072_001 | v1.0

procedureMetadata


Description: time_of_dark_cycle_start
Time of dark cycle end  IMPC_GEP_073_001 | v1.0

procedureMetadata

Description: time_of_dark_cycle_end

Date equipment last calibrated  IMPC_GEP_074_001 | v1.1

procedureMetadata

Description: date_equipment_last_calibrated

Spontaneous movement  IMPC_GEP_004_002 | v2.2

simpleParameter

Description: no_spontaneous_movement

Options: yes, unobservable, no,

Responsive to tactile stimuli  IMPC_GEP_005_002 | v2.2

simpleParameter

Description: none provided

Options: none provided,
Description: unresponsive_to_tactile_stimuli
Options: yes, unobservable, no,

Hemorrhage IMPC_GEP_011_002 | v2.0
simpleParameter


Description: hemorrhage
Options: yes, unobservable, no,

Facial Cleft IMPC_GEP_018_002 | v2.0
simpleParameter


Description: facial_cleft
Options: yes, unobservable, no,

Cyanosis IMPC_GEP_029_002 | v2.0
simpleParameter


Description: cyanosis
**Edema**  IMPC_GEP_030_002 | v2.0

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Description: edema
Options: yes, unobservable, no,
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**Polydactyly**  IMPC_GEP_039_002 | v2.0

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Description: polydactyly
Options: yes, unobservable, no,
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**Exencephaly**  IMPC_GEP_047_002 | v2.0

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Description: exencephaly
Options: yes, unobservable, no,
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**Holoprosencephaly** IMPC_GEP_048_002 | v2.0

*simpleParameter*


Description: holoprosencephaly

Options: yes, unobservable, no,

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**spina bifida** IMPC_GEP_049_002 | v2.0

*simpleParameter*


Description: spina bifida

Options: yes, unobservable, no,

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**Microphthalmia** IMPC_GEP_059_002 | v2.0

*simpleParameter*


Description: microphthalmia

Options: yes, unobservable, no,
Anophthalmia IMPC_GEP_060_002 | v2.0

simpleParameter


Description: anophthalmia

Options: yes, unobservable, no,

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Failure of Eyelid Fusion IMPC_GEP_061_002 | v2.0

simpleParameter


Description: failure_of_eyelid_fusion

Options: yes, unobservable, no,

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Severely Dysmorphic IMPC_GEP_075_001 | v1.2

simpleParameter


Options: no, yes, unobservable,

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Cleft palate IMPC_GEP_076_001 | v1.1

simpleParameter
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,

**Syndactly**  IMPC_GEP_082_001 | v1.1

simpleParameter

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

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

**Tongue out**  IMPC_GEP_083_001 | v1.1

simpleParameter

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

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

**Limb morphology**  IMPC_GEP_084_001 | v1.1

simpleParameter

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

**CRL** IMPC\_GEP\_085\_001 | v1.1

simpleParameter

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

**Unit Measured:** mm

**Delayed embryonic development** IMPC\_GEP\_086\_001 | v1.2

simpleParameter

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

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

**Blebs** IMPC\_GEP\_087\_001 | v1.0

simpleParameter

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

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