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

**Holoprosencephaly** IMPC_GEP_048_002 | v2.0

simpleParameter


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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**Facial hypoplasia** IMPC_GEP_079_001 | v1.1

simpleParameter


Options: unobservable, no, yes,

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**Images** IMPC_GEP_064_001 | v1.0

seriesMediaParameter
Increments: Minimum 1

**CRL** IMPC_GEP_085_001 | v1.1

*simpleParameter*

Unit Measured: mm

**Pallor** IMPC_GEP_035_001 | v1.0

*simpleParameter*

Options: unobservable, normal, abnormal,

**Failure of Eyelid Fusion** IMPC_GEP_061_002 | v2.0

*simpleParameter*

Options: no, yes, unobservable,
Comment on image  IMPC_GEP_063_001 | v1.0

simpleParameter


Time of dark cycle end  IMPC_GEP_073_001 | v1.0

procedureMetadata


Equipment Model  IMPC_GEP_068_001 | v1.0

procedureMetadata


Respiratory System  IMPC_GEP_052_001 | v1.0

simpleParameter


Options: unobservable, abnormal, normal,

Skin Coloration  IMPC_GEP_036_001 | v1.0
Blood Vessel Morphology  IMPC_GEP_013_001 | v1.0

Options: normal, abnormal, unobservable,

Delayed embryonic development  IMPC_GEP_086_001 | v1.2

Options: unobservable, yes, no,

Tail Morphology  IMPC_GEP_038_001 | v1.0

Options: abnormal, unobservable, normal,
**Time of Dissection**  IMPC_GEP_070_001 | v1.0
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**Req. Analysis:** false  
**Req. Upload:** true  
**Is Annotated:** false

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**Polydactyly**  IMPC_GEP_039_002 | v2.0
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**Req. Analysis:** false  
**Req. Upload:** false  
**Is Annotated:** true

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

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**Equipment ID**  IMPC_GEP_066_001 | v1.0
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**Req. Analysis:** false  
**Req. Upload:** true  
**Is Annotated:** false

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**Limb morphology**  IMPC_GEP_084_001 | v1.1
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**Req. Analysis:** false  
**Req. Upload:** false  
**Is Annotated:** true

**Options:** abnormal, unobservable, normal,
**Blebs**  IMPC_GEP_087_001 | v1.0

`simpleParameter`


Options: no, unobservable, yes,

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

`simpleParameter`


Options: unobservable, normal, abnormal,

**Spontaneous movement**  IMPC_GEP_004_002 | v2.2

`simpleParameter`


Options: yes, no, unobservable,

**Experimenter ID**  IMPC_GEP_065_001 | v1.0

`procedureMetadata`

**Embryo Size**  IMPC_GEP_022_001 | v1.0

*simpleParameter*


Options: normal, unobservable, abnormal,

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

*simpleParameter*


Options: normal, unobservable, abnormal,

**spina bifida**  IMPC_GEP_049_002 | v2.0

*simpleParameter*


Options: no, yes, unobservable,

**Facial Cleft**  IMPC_GEP_018_002 | v2.0

*simpleParameter*
Head shape IMPC_GEP_015_001 | v1.0

Skin Appearance IMPC_GEP_034_001 | v1.0

Fixative IMPC_GEP_069_001 | v1.0

Cleft palate IMPC_GEP_076_001 | v1.1
simpleParameter

Heart Morphology IMPC_GEP_010_001 | v1.0

Curl or short tail IMPC_GEP_078_001 | v1.1

Time of dark cycle start IMPC_GEP_072_001 | v1.0

procedureMetadata
Edema  IMPC_GEP_030_002 | v2.0

simpleParameter


Options: yes, unobservable, no,

Head size  IMPC_GEP_016_001 | v1.0

simpleParameter


Options: normal, abnormal, unobservable,

Cyanosis  IMPC_GEP_029_002 | v2.0

simpleParameter


Options: yes, unobservable, no,

Exencephaly  IMPC_GEP_047_002 | v2.0

simpleParameter


Options: no, yes, unobservable,
Syndactyly  IMPC_GEP_082_001 | v1.1

simpleParameter


Options: no, unobservable, yes,

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Equipment Manufacturer  IMPC_GEP_067_001 | v1.0

procedureMetadata


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Microcephaly  IMPC_GEP_080_001 | v1.2

simpleParameter


Options: unobservable, no, yes,

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Tongue out  IMPC_GEP_083_001 | v1.1

simpleParameter

**Vibrissa Morphology** IMPC_GEP_033_001 | v1.0

simpleParameter

**Responsive to tactile stimuli** IMPC_GEP_005_002 | v2.2

simpleParameter

**Pale liver** IMPC_GEP_081_001 | v1.1

simpleParameter

**Hemorrhage** IMPC_GEP_011_002 | v2.0
**Facial Morphology**  IMPC_GEP_017_001 | v1.0

Options: unobservable, abnormal, normal,

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**Anophthalmia**  IMPC_GEP_060_002 | v2.0

Options: no, yes, unobservable,

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**Microphthalmia**  IMPC_GEP_059_002 | v2.0

Options: yes, unobservable, no,
Date equipment last calibrated  IMPC_GEP_074_001 | v1.1

Embryo weight  IMPC_GEP_023_001 | v1.0

Liver Size  IMPC_GEP_042_001 | v1.0

Somite Stage  IMPC_GEP_071_001 | v1.1