Gross Morphology Embryo E18.5 IMPC_GEP_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

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

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,

Facial hypoplasia IMPC_GEP_079_001 | v1.1

simpleParameter

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

Options: unobservable, no, yes,

Images IMPC_GEP_064_001 | v1.0

seriesMediaParameter

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

Increments: Minimum 1

CRL IMPC_GEP_085_001 | v1.1

simpleParameter

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

Unit Measured: mm

Pallor IMPC_GEP_035_001 | v1.0

simpleParameter

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

Options: unobservable, normal, abnormal,

Failure of Eyelid Fusion IMPC_GEP_061_002 | v2.0

simpleParameter

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

Options: no, yes, unobservable,

Comment on image IMPC_GEP_063_001 | v1.0

simpleParameter

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

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Time of dark cycle end IMPC_GEP_073_001 | v1.0

procedureMetadata

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

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Equipment Model IMPC_GEP_068_001 | v1.0

procedureMetadata

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Respiratory System IMPC_GEP_052_001 | v1.0

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Options: unobservable, abnormal, normal,

Skin Coloration IMPC_GEP_036_001 | v1.0

simpleParameter

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

Options: abnormal, unobservable, normal,

Blood Vessel Morphology IMPC_GEP_013_001 | v1.0

simpleParameter

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

Options: normal, abnormal, unobservable,

Delayed embryonic development IMPC_GEP_086_001 | v1.2

simpleParameter

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Options: unobservable, yes, no,

Tail Morphology IMPC_GEP_038_001 | v1.0

simpleParameter

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Options: abnormal, unobservable, normal,

Time of Dissection IMPC_GEP_070_001 | v1.0

procedureMetadata

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Polydactyly IMPC_GEP_039_002 | v2.0

simpleParameter

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Options: no, yes, unobservable,

Equipment ID IMPC_GEP_066_001 | v1.0

procedureMetadata

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Limb morphology IMPC_GEP_084_001 | v1.1

simpleParameter

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Options: abnormal, unobservable, normal,

Blebs IMPC_GEP_087_001 | v1.0

simpleParameter

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Options: no, unobservable, yes,

Outer ear morpholgy IMPC_GEP_026_001 | v1.0

simpleParameter

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Options: unobservable, normal, abnormal,

Spontaneous movement IMPC_GEP_004_002 | v2.2

simpleParameter

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Options: yes, no, unobservable,

Experimenter ID IMPC_GEP_065_001 | v1.0

procedureMetadata

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Embryo Size IMPC_GEP_022_001 | v1.0

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Options: normal, unobservable, abnormal,

Body wall morphology IMPC_GEP_024_001 | v1.0

simpleParameter

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Options: normal, unobservable, abnormal,

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spina bifida IMPC_GEP_049_002 | v2.0

simpleParameter

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Options: no, yes, unobservable,

Facial Cleft IMPC_GEP_018_002 | v2.0

simpleParameter

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Options: no, yes, unobservable,

Head shape IMPC_GEP_015_001 | v1.0

simpleParameter

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Options: unobservable, abnormal, normal,

Skin Appearance IMPC_GEP_034_001 | v1.0

simpleParameter

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Options: abnormal, normal, unobservable,

Fixative IMPC_GEP_069_001 | v1.0

procedureMetadata

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Cleft palate IMPC_GEP_076_001 | v1.1

simpleParameter

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Options: yes, unobservable, no,

Heart Morphology IMPC_GEP_010_001 | v1.0

simpleParameter

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Options: abnormal, unobservable, normal,

Curl or short tail IMPC_GEP_078_001 | v1.1

simpleParameter

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Options: unobservable, yes, no,

Time of dark cycle start IMPC_GEP_072_001 | v1.0

procedureMetadata

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Edema IMPC_GEP_030_002 | v2.0

simpleParameter

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Options: yes, unobservable, no,

Head size IMPC_GEP_016_001 | v1.0

simpleParameter

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Options: normal, abnormal, unobservable,

Cyanosis IMPC_GEP_029_002 | v2.0

simpleParameter

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

Options: yes, unobservable, no,

Exencephaly IMPC_GEP_047_002 | v2.0

simpleParameter

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

Options: no, yes, unobservable,

Syndactyly IMPC_GEP_082_001 | v1.1

simpleParameter

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Options: no, unobservable, yes,

Equipment Manufacturer IMPC_GEP_067_001 | v1.0

procedureMetadata

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Microcephaly IMPC_GEP_080_001 | v1.2

simpleParameter

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Options: unobservable, no, yes,

Tongue out IMPC_GEP_083_001 | v1.1

simpleParameter

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Options: no, yes, unobservable,

Vibrissa Morphology IMPC_GEP_033_001 | v1.0

simpleParameter

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Options: unobservable, abnormal, normal,

Responsive to tactile stimuli IMPC_GEP_005_002 | v2.2

simpleParameter

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

Options: yes, unobservable, no,

Pale liver IMPC_GEP_081_001 | v1.1

simpleParameter

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

Options: yes, unobservable, no,

Hemorrhage IMPC_GEP_011_002 | v2.0

simpleParameter

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

Options: unobservable, no, yes,

Facial Morphology IMPC_GEP_017_001 | v1.0

simpleParameter

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

Options: unobservable, abnormal, normal,

Anophthalmia IMPC_GEP_060_002 | v2.0

simpleParameter

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Options: no, yes, unobservable,

Microphthalmia IMPC_GEP_059_002 | v2.0

simpleParameter

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

Options: yes, unobservable, no,

Date equipment last calibrated IMPC_GEP_074_001 | v1.1

procedureMetadata

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Embryo weight IMPC_GEP_023_001 | v1.0

simpleParameter

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

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Liver Size IMPC_GEP_042_001 | v1.0

simpleParameter

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

Options: unobservable, abnormal, normal,

Somite Stage IMPC_GEP_071_001 | v1.1

procedureMetadata

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