

# Viability E14.5-E15.5 Secondary Screen IMPC\_EVO\_001

- [Purpose](#)
- [Experimental Design](#)
- [Procedure](#)
- [Notes](#)
- [Parameters](#)
- [Metadata](#)

## Purpose

To assess the viability, sub-viability, and lethality of homozygous embryos at E14.5 or E15.5

## 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.
- Collect embryos at E14.5 or E15.5 (at least 28 total)
- Collect tissue and genotype embryos.

## Procedure

1. **Set up timed mating with heterozygous animals. Dissect and collect  $\geq 28$  alive embryos.**
2. **Collect tissue for genotyping and (OPTIONAL) score Gross Morphology and/or process for Histopathology and/or Imaging.**
3. **Genotype all embryos and**
  - a. **Strains that produce NO existing homozygous embryos will be considered LETHAL (complete embryonic lethality [MP:TBC]).**
  - b. **Strains that produce NO live (absence of heartbeat) homozygous embryos will be considered LETHAL (complete embryonic lethality [MP:TBC]).**
  - c. **Strains that produce live homozygous embryos but with an obvious defect will be left to the discretion of the center with the decision and reason recorded in the parameters.**
  - d. **X-linked strains that produce NO live hemizygous male embryos from female carriers will be considered LETHAL (complete embryonic lethality [MP:TBC]).**
4. **Flag strains that produce less than normal numbers of homozygous/hemizygous male progeny**
  - a. **Strains that produce  $< 50\%$  expected (3 or fewer) homozygous progeny will be annotated as partial embryonic lethality [MP:TBC].**
  - b. **X-linked strains that produce  $< 50\%$  expected (3 or fewer) male hemizygous progeny from female carriers will be considered partial embryonic lethality [MP:TBC].**

## Notes

## Data QC

All genotypes should be collected using validated assays.

Y chromosome assay required for X-linked lethal strains.



	Version	Type	Req. Upload	Req. Analysis	Annotation	Increment	Option	Ontology Options	Derived	Unit	Data Type
<a href="#">Total live embryos IMPC_EVO_024_001</a>	1.0	simpleParameter									INT
<a href="#">Total live WT IMPC_EVO_026_001</a>	1.0	simpleParameter									INT
<a href="#">Total live heterozygous IMPC_EVO_025_001</a>	1.0	simpleParameter									INT
<a href="#">Total live homozygous IMPC_EVO_027_001</a>	1.0	simpleParameter									INT
<a href="#">Number of reabsorptions IMPC_EVO_016_001</a>	1.1	simpleParameter									INT
<a href="#">Average Litter Size IMPC_EVO_017_001</a>	1.0	simpleParameter									FLOAT
<a href="#">% embryos WT IMPC_EVO_018_001</a>	1.2	simpleParameter							IMPC_EVO_005_001 IMPC_EVO_004_001 /	%	FLOAT
<a href="#">% embryos heterozygous IMPC_EVO_019_001</a>	1.2	simpleParameter							IMPC_EVO_006_001 IMPC_EVO_004_001 /	%	FLOAT
<a href="#">% embryos homozygous IMPC_EVO_020_001</a>	1.2	simpleParameter							IMPC_EVO_007_001 IMPC_EVO_004_001 /	%	FLOAT

## Metadata

	Version	Type	Req. Upload	Req. Analysis	Annotation	Increment	Option	Ontology Options	Derived	Unit	Data Type
<a href="#">Time of dark cycle start IMPC_EVO_021_001</a>	1.0	procedureMetadata	✓								TIME
<a href="#">Time of dark cycle end IMPC_EVO_022_001</a>	1.1	procedureMetadata	✓								TIME
<a href="#">Embryo medium IMPC_EVO_023_001</a>	1.0	procedureMetadata	✓				Warm PBS Ice				TEXT