

B6;129-Epn2^{tm1Ocr}/J
Stock No: **031166** | *Epn2*

 Targeted Mutation

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Donating Investigator

Pietro De Camilli, Yale University School of Medicine, HHMI

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GENETIC OVERVIEW

Genetic Background Generation

Epn2^{tm1Ocr}

Alele Type	Gene Symbol	Gene Name
Targeted (Null/Knockout)	<i>Epn2</i>	epsin 2

VIEW GENETICS

RESEARCH APPLICATIONS

VIEW ALL RESEARCH APPLICATIONS

 Details

– Detailed Description

These mice carry a targeted knock-out of the mouse *Epn2* (epsin2) gene, useful in a range of research areas, including embryonic development and organogenesis. An absence of protein expression was confirmed by the donating laboratory through western blotting of multiple tissues from homozygous mice. Homozygous *Epn2* knock-out mice demonstrate no overt phenotype.

Widespread knock-out of *Epn1* (derived from Stock No. [031165](#)) combined with a knock-out of *Epn2* results in embryonic lethality at approximately E9.5.

Mice carrying both a knock-out of *Epn2* and a vascular endothelial knock-out of *Epn1*, achieved via crosses with a tamoxifen-inducible *Cdh5* (VEcadherin)-cre strain, demonstrate decreased tumor growth. A 50% reduced incidence at 1 week is observed in animals subcutaneously implanted mouse Lewis lung carcinoma (LLC) or melanoma cells. Reduced growth of gliomas, colorectal tumors, and prostate tumors have also been shown in compound mutant mice.

Triple knock-out mice derived from an *Epn1* floxed line (see [031165](#)), this *Epn2* knock-out strain, and *Epn3* knock-out mice (see Stock No. [014108](#)) are also embryonic lethal. Their cells display a dramatic cell division defect and a robust impairment in clathrin-mediated endocytosis.

+ Development

+ Control Suggestions

+ Selected References

– Genetics

+ *Epn2*^{tm1Ocr}

– Disease/Phenotype

+ Disease Terms

+ Research Areas By Phenotype

+ Mammalian Phenotype Terms by Genotype

+ References

– Technical Support

Genotyping Protocols

Probe: [Generic Neo](#)

Separated PCR: [Epn1 Alternate2](#)

[Genotyping resources and troubleshooting](#)

Breeding Considerations

Homozygous males and females are viable and fertile.

[Additional Breeding and Husbandry Support](#)

Mating System

Heterozygote x Heterozygote

Citation

When using the *Epn2^{-/-}* mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #031166 in your Materials and Methods section.

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Frequency

Product

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