

STOCK *Pik3r1^{tm1Lca}* /J

Stock No: 012871

 Targeted Mutation

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be useful in generating conditional mutations for studying class IA phosphoinositide 3-kinases (PI3Ks) in cell growth, cell proliferation cell survival signaling, insulin signaling and tumor angiogenesis, as well as genomic aberrations that promote tumorigenesis/cancer through upregulation of the PI3K/AKT signaling axis.

Donating Investigator

Lewis C Cantley, Beth Israel Deaconess Medical Center

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GENETIC OVERVIEW

Genetic Background

Generation

Pik3r1^{tm1Lca}

Alele Type

Targeted (Conditional ready (e.g. floxed), No functional change)

Gene Symbol

Pik3r1

Gene Name

phosphoinositide-3-kinase regulatory subunit 1

VIEW GENETICS

RESEARCH APPLICATIONS

Immunology, Inflammation and Autoimmunity Research

Cancer Research

Research Tools

Cell Biology Research

Diabetes and Obesity Research

BASE PRICE

Starting at:

\$2,854.50 Domestic price Cryo Recovery

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Details

Detailed Description

Mice homozygous for this $p85\alpha^{loxP}$ allele are viable and fertile, with *loxP* sites flanking exon 7 of the targeted gene. The *Pik3r1* locus encodes three proteins ($p85\alpha$, $p55\alpha$, and $p50\alpha$) that arise from alternative transcription initiation sites; and exon 7 is the first common exon for all three isoforms. When bred to mice that express Cre recombinase, the resulting offspring will have exon 7 deleted in the *cre*-expressing tissue(s); splicing of upstream exons (exon 6, 1b, or 1c) directly into the downstream exon 8 results in a frameshift mutation that introduces an immediate stop codon. Such a deletion should prevent the translation of the SH2 and p110-binding domains, eliminating the ability to form a functional protein from any of the three transcription initiation sites. These mutant mice may be useful in generating conditional mutations for studying class IA phosphoinositide 3-kinases (PI3Ks) in cell growth, cell proliferation cell survival signaling, insulin signaling and tumor angiogenesis, as well as genomic aberrations that promote tumorigenesis/cancer through upregulation of the PI3K/AKT signaling axis.

When these $p85\alpha^{loxP}$ mice are bred with $p85\beta$ mutant mice (Stock No. [012872](#)) and Tie2-Cre transgenic mice (Stock No. [004128](#)), the resulting multiple mutant mice may be used to study vascular integrity during development and tumor neovascularization/angiogenesis.

When these $p85\alpha^{loxP}$ mice are bred with $p85\beta$ mutant mice (Stock No. [012872](#)) and MCK-Cre transgenic mice (Stock Nos. [006405](#) or [006475](#)), the resulting multiple mutant mice may be used to study protection from cardiac hypertrophy.

Development

Control Suggestions

Selected References

Genetics

+ [Pik3r1^{tm1Lca}](#)

– Disease/Phenotype

+ [Disease Terms](#)

+ [Research Areas By Phenotype](#)

+ [Mammalian Phenotype Terms by Genotype](#)

+ [References](#)

– Technical Support

C O N T A C T T E C H N I C A L S U P P O R T

Genotyping Protocols

Standard PCR:[Pik3r1](#)

[Genotyping resources and troubleshooting](#)

Breeding Considerations

When maintaining a live colony, homozygous mice may be bred together.

[Additional Breeding and Husbandry Support](#)

Citation

When using the STOCK *Pik3r1^{tm1Lca}*/J mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #012871 in your Materials and Methods section.

Animal Health Reports

[Facility Barrier Level Descriptions](#)

Production of mice from cryopreserved embryos or sperm occurs in a maximum barrier room, [G200](#)

➔ Pricing & Availability



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Pricing effective for USA, Canada and Mexico shipping destinations

CRYORECOVERY - DOMESTIC PRICING

SERVICE/PRODUCT	DESCRIPTION	PRICE
Cryo Recovery	Heterozygous for Pik3r1<tm1Lca>	\$2,854.50

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The Jackson Laboratory has rigorous genetic quality control and mutant gene genotyping programs to ensure the genetic background of JAX® Mice strains as well as the genotypes of strains with identified molecular mutations. JAX® Mice strains are only made available to researchers after meeting our standards. However, the phenotype of each strain may not be fully characterized and/or captured in the strain data sheets. **Therefore, we cannot guarantee a strain's phenotype will meet all expectations.** To ensure that JAX® Mice will meet the needs of individual research projects or when requesting a strain that is new to your research, we suggest ordering and performing tests on a small number of mice to determine suitability for your particular project. We do not guarantee [breeding performance](#) and therefore suggest that investigators order more than one breeding pair to avoid delays in their research.

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LICENSING INFORMATION

Phone: 207-288-6470

Email: TechTran@jax.org

☰ Related Strains

All

By Allele

By Gene

By Collection



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