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pck^{lox} - Mouse Strain RES194

Mouse Information

Common Name:	pck^{lox}
MGI Official Name:	pck$^{tm1.1Mgn}$
Description:	These mice may be used to study tissue-specific functions of phosphoenolpyruvate carboxykinase (Pck1). This enzyme is essential for gluconeogenesis and also is important for regulating anapleurosis/catapleurosis of TCA cycle intermediates. By generating mice that are homozygous for the pck^{lox} allele and that contain a tissue-specific Cre transgene, Pck1 can be deleted from various sites.
Categories:	Cre-lox floxed alleles

Genetic Alterations

1) Targeted Mutagenesis

Type of Allele	Conditional Null
Targeted Gene	phosphoenolpyruvate carboxykinase 1 (Pck1 - NCBI GeneID:18534)
Targeted Allele	targeted mutation 1.1, Mark A Magnuson (Pck1$^{tm1.1Mgn}$ - MGI:2449283)
Description of Targeting Vector	A gene targeting strategy was used to flank exons 4 and 5 in the Pck1 gene with two tandomly-oriented loxP sites. DNA PCR utilizing primers 5'-AATGTTCTCTGCAAGTCCTGGTG-3' and 5'-TCTGTCAGTTCAATACCAATCT-3' amplify a 616 bp pck^{lox}band and a 518 bp wild type band. Homozygous Pck$^{lox/lox}$ animals are viable. Pck1 activity and protein content in liver and kidney do not differ from wild type. Heterozygous animals are also viable and do not differ from the wild type.
Targeting Vector Genbank File	pmPEPCK.KO2.gb

Citations

PubMedID	Citation
10938127	Phosphoenolpyruvate carboxykinase is necessary for the integration of hepatic energy metabolism. (2000) *Mol Cell Biol* **20**: 6508-17 (Added 2013-01-31 11:29:30.740593)

Strain Information

Strain Type:	Congenic Strain
Chimera/Founder Genetic Background:	129S6/SvEvTac
Current Genetic Background:	C57BL/6 (date recorded: 03/27/2015)
Strain Description:	Mice carrying the pck^{lox} allele have been backcrossed ten times into a C57Bl/6J background.

Associated Images

Image 1

Description:
The figure shows how several different pck alleles were generated through a

Access Status

This resource is publicly viewable.

Request this Resource

Request from a **repository**

Primary contributor: **Magnuson Lab**

Resource Tags

mouse, mouse strain, Pck1, pck^{lox}, pck$^{tm1.1Mgn}$

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Resource History & Actions

Approved on Feb 02, 2007
Last modified on Mar 24, 2015

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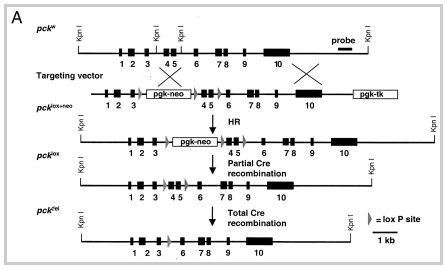
Data courtesy of dkCOIN. Only public resources are displayed.



combination of gene targeting and Cre-mediated recombination. (A) Top, map of the pck^{w} allele. Exons are indicated as solid rectangles. Middle, map of the PEPCK gene targeting vector. The vector contains a pgk-neo cassette, a pgk-tk cassette, and three loxP sites (triangles). Two of the loxP sites flank neo, and the third is located between exons 4 and 5 in the PEPCK gene. The pck$^{lox+neo}$ allele was generated by homologous recombination (HR) in ES cells. Bottom, the pck^{lox} and pck^{del} alleles were derived from pck$^{lox+neo}$ allele by partial and total Cre-mediated recombination, respectively.

Reference:
10938127

Repositories

MMRRC

Request via www.mmrrc.org website

Stock #: 011950-UNC
Availability Notes: *Not provided*

Magnuson Lab

Request this resource

Stock #: VUMC - AX
Availability Notes: Not currently maintained as live mice.

Contact Information

Preferred Contact	
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Associated Publications

Publication	Citation
10938127	She P, Shiota M, Shelton KD, Chalkley R, Postic C, Magnuson MA Phosphoenolpyruvate carboxykinase is necessary for the integration of hepatic energy metabolism. (2000) *Mol Cell Biol* **20**: 6508-17 (Added January 31, 2013)

Comments

There are no comments for this entry.

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