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Stock No: 009340 | Perk -

Congenic, Targeted Mutation



CRYO RECOVERY

P L A C E O R D E R

Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.

## [Overview](#)

### Also Known As: Perk<sup>-</sup>

These mice harbor a knock-out mutation of the *Eif2ak3* gene and may serve as a mouse model of Wolcott-Rallison syndrome.

### Donating Investigator

David Ron, NYU School of Medicine

[READ MORE +](#)

## GENETIC OVERVIEW

Genetic Background

Generation

*Eif2ak3<sup>tm1Dron</sup>*

Allele Type

Gene Symbol

Gene Name

Targeted (Null/Knockout)

*Eif2ak3*

eukaryotic translation initiation factor 2 alpha kinase 3

[VIEW GENETICS](#)

## RESEARCH APPLICATIONS

Immunology, Inflammation and Autoimmunity Research

Neurobiology Research

Research Tools

Developmental Biology Research

Endocrine Deficiency Research

Diabetes and Obesity Research

Mouse/Human Gene Homologs

Apoptosis Research

[VIEW ALL RESEARCH APPLICATIONS](#)

## BASE PRICE

Starting at:

\$2,854.50 Domestic price Cryo Recovery

[VIEW PRICE LIST](#)

## [Details](#)

### Important Note

Of note, Perk-mutant mice may also be useful along with other Eif2ak-mutant mice from the same investigator, including Eif2ak4-knock-out mice (Stock No. 008240) and Eif2ak4-floxed mice (Stock No. 008452).

## ⊖ Detailed Description

These mice harbor a targeted mutation of the *Eif2ak3* (eukaryotic translation initiation factor 2 alpha kinase 3 [also called Perk]) locus that abolishes endogenous gene expression. To date (Feb 2010), the donating investigator has not been able to generate homozygous mice on a C57BL/6J congenic background. The following phenotype describes mice on a mixed albino Swiss Webster;129/SvEv genetic background. Heterozygous mice are viable and fertile. Homozygous (Perk<sup>-/-</sup>) mice appear runty within a few days of birth and develop a rapid and progressive decline in endocrine and exocrine pancreatic function. This results in a complex pleiotropic phenotype including hyperglycemia, exocrine pancreatic insufficiency, diabetes, growth retardation, inability to breed, and early mortality. The phenotype of the Perk<sup>-/-</sup> mice is very similar to that observed in humans with Wolcott-Rallison syndrome; the consistent feature of which is severe diabetes mellitus developing in infancy. Heterozygous mice are viable and fertile with a mild defect in glycemic control (mildly impaired glucose tolerance). Perk-mutant mice may be useful in studying eIF2 (eukaryotic initiation factor 2) phosphorylation in response to environmental or endoplasmic reticulum stresses, exocrine pancreatic dysfunction, stress signals initiated by protein misfolding, and infantile diabetes mellitus.

*In an attempt to offer alleles on well-characterized or multiple genetic backgrounds, alleles are frequently moved to a genetic background different from that on which an allele was first characterized. It should be noted that the phenotype could vary from that originally described. We may modify the strain description if necessary as published results become available.*

## + Development

## + Control Suggestions

## + Selected References

## ⊖ Genetics

## + *Eif2ak3*<sup>tm1Dron</sup>

## ⊖ Disease/Phenotype

## + Disease Terms

## + Research Areas By Genotype

## + Mammalian Phenotype Terms by Genotype

## + References

## ⊖ Technical Support

C H A T   O  F L I N E

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

QPCR: [Neo Qpcr](#)

Standard PCR: [Eif2ak3<sup>tm1Dron</sup>](#)

[Genotyping resources and troubleshooting](#)

## Breeding Considerations

When maintaining a live colony, heterozygous mice may be bred together or to wildtype siblings. The donating investigator has not been able to generate homozygous mice on a C57BL/6J congenic background to date (February 2010). On a mixed albino Swiss Webster;129/SvEv genetic background, homozygous mice appear runty within days of birth. To increase the viability of homozygous pups prior to weaning, one may remove normal sized pups (likely heterozygous or wildtype siblings) from the litter.

[Additional Breeding and Husbandry Support](#)

## Citation

When using the Park<sup>-</sup> mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #009340 in your

[Animal Health Reports](#)

[Materials and Methods section](#)

[Facility Barrier Level Descriptions](#)

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

## ➔ Pricing & Availability



Cryo Recovery

Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.

## Domestic **International**

Pricing effective for USA, Canada and Mexico shipping destinations

### Cryorecovery - Domestic Pricing

SERVICE	GENOTYPE	PRICE
Cryo Recovery	Heterozygous or wildtype for <a href="#">Eif2ak3<sup>tm1Dron</sup></a>	\$2,854.50

We will fulfill your order by providing at least two carriers for each strain ordered. The total number, sex, and genotypes provided will vary, although typically 8 or more animals are provided. Please check genotypes which will be recovered. While the genotypes of all animals produced will be communicated to you prior to scheduling shipment, the genotypes of animals provided may not reflect the mating scheme and genotypes described in the strain description. Animals are typically ready to ship in 11-14 weeks. If a second recovery is required to produce the minimum number of animals, then delivery time would increase to approximately 25 weeks. If we fail to produce animals of the correct genotype, you will not be charged. We cannot guarantee the reproductive success of mice shipped to your facility. If the mice are lost after the first three days (post-arrival) or do not produce progeny at your facility, a new order and fee will be necessary.

Cryorecovery to establish a [Dedicated Supply](#) for greater quantities of mice. Mice recovered can be used to establish a dedicated colony to contractually supply you mice according to your requirements. Price by quotation.

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Terms are granted by individual review and stated on the customer invoice(s) and account statement. These transactions are payable in U.S. currency within the granted terms. Payment for services, products, shipping containers, and shipping costs that are rendered are expected within the payment terms indicated on the invoice or stated by contract. Invoices and account balances in arrears of stated terms may result in The Jackson Laboratory pursuing collection activities including but not limited to outside agencies and court filings.

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Email: [TechTran@jax.org](mailto:TechTran@jax.org)

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