

B6.129S4-Cyb5r4^{tm1Hfb}/HfbJ

Stock No: 005517 | B6.Ncb5or,sup>null

 Congenic, Targeted Mutation

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

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H. F. Bunn, Brigham and Womens Hospital

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GENETIC OVERVIEW

Genetic Background

Generation

Cyb5r4^{tm1Hfb}

Alele Type

Gene Symbol

Gene Name

Targeted (Null/Knockout)

Cyb5r4

cytochrome b5 reductase 4

VIEW GENETICS

RESEARCH APPLICATIONS

Diabetes and Obesity Research

Metabolism Research

Research Tools

Endocrine Deficiency Research

VIEW ALL RESEARCH APPLICATIONS

BASE PRICE

Starting at:

\$2,854.50 Domestic price Cryo Recovery

V I E W P R I C E L I S T

Details

Detailed Description

Mice heterozygous for the targeted mutation are viable and fertile, glucose tolerant, have normal blood sugar levels, serum lipid profiles and white adipose tissue mass.

No protein from the targeted gene was detected by Western Blot analysis of mice homozygous for the allele. Homozygous mice consume more food, have decreased adipose tissue mass and are hyperlipidemic compared to wildtype controls post-weaning. At 4 weeks of age glucose levels are normal but insulin levels are 40% of wildtype controls. At 7 weeks of age clinical diabetes is present in both male and female of homozygous mice. Histological evaluation of pancreas from 21 week old homozygote animals revealed a significant reduction in the number of islets and decreased cytoplasmic to nuclear ratio in the islet cells and there was no insulinitis nor phagocytosis of necrotic beta cell fragments. While there is a progressive loss of beta cells in aging homozygous mice, there is no loss of alpha, delta or PP cells. Electron microscopy reveals degranulated beta cells and hypertrophic and hyperplastic mitochondria.

This strain is useful in islet transplantation research, stem cell research and as a tool for studying the role of oxidative stress in diabetes.

Development

Control Suggestions

Selected References

Genetics

$Cyb5r4^{tm1Hfb}$

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

Separated PCR:[Cyb5r4](#)

[Genotyping resources and troubleshooting](#)

Breeding Considerations

When maintaining a live colony, heterozygous mice may be bred to wildtype mice from the colony. Due to early diabetes onset, the colony is not maintained by homozygote matings.

[Additional Breeding and Husbandry Support](#)

Appearance

black

Related Genotype: *a/a*

Citation

When using the B6.Ncb5or,sup>null mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #005517 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](#)



Cryo
Recovery

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

CRYORECOVERY - DOMESTIC PRICING

SERVICE/PRODUCT	DESCRIPTION	PRICE
Cryo Recovery	Heterozygous or Wild-type for Cyb5r4<tm1Hfb>	\$2,854.50

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THE JACKSON LABORATORY'S GENOTYPE PROMISE

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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Email: TechTran@jax.org

Related Strains

All

By Allele

By Gene

By Collection



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