

B6.129(SJL)-*Cnr1*^{tm1.1Kpm}/J

Stock No: 026849 | S426A/S430A mutant mice

 Congenic, Targeted Mutation

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and enhanced cannabinoid dependence. The may be suitable for use in studies of cannabinoid receptor 1-mediated effects on metabolism, drug addiction and learning.

Donating Investigator

Ken Mackie , Indiana University

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GENETIC OVERVIEW

Genetic Background

Generation

Cnr1^{tm1.1Kpm}

Allele Type

Gene Symbol

Gene Name

Targeted (Not Specified)

Cnr1

cannabinoid receptor 1 (brain)

VIEW GENETICS

RESEARCH APPLICATIONS

Neurobiology Research
Research Tools

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

The *Cnr1* gene encodes the cannabinoid receptor 1, which is involved in cannabinoid-induced central nervous system effects by inhibiting adenylate cyclase activity in a dose-dependent, pertussis toxin-sensitive manner. Cannabinoid receptor 1, like other G protein coupled receptors, can be desensitized by continuous activation, through phosphorylation by GPCR kinases (GRKs) and subsequent β arrestin binding. Chronic administration of cannabinoids leads to the rapid development of tolerance. These mice express a desensitization resistant form of cannabinoid receptor 1, with an N-terminal HA tag. The two point mutations that change serines 426 and 430 to alanines, S426A and S430A, are putative GRK3 phosphorylation sites. The mutant receptor was detected by PCR analysis. Western blot analysis confirmed that protein levels in the brain remain unchanged except for a 15% decrease in the cerebellum. Ligand affinity and G-protein activation were not altered in the mutant receptor. Homozygous mice exhibit increased sensitivity to endogenous and exogenous cannabinoids, delayed development of tolerance to THC (delta-9-tetrahydrocannabinol), and enhanced cannabinoid dependence (increased severity of withdrawal symptoms). Mice that are homozygous for the targeted mutation are viable and fertile.

Development

Expression Data

Control Suggestions

Selected References

Genetics

Cnr1^{tm1.1Kpm}

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:[Cnr1](#)

Sanger sequencing:[Cnr1S426A/S430A](#)

[Genotyping resources and troubleshooting](#)

Breeding Considerations

When maintaining a live colony, these mice can be bred as homozygotes.

[Additional Breeding and Husbandry Support](#)

Citation

When using the S426A/S430A mutant mice mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #026849 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

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Domestic **International**

Pricing effective for USA, Canada and Mexico shipping destinations

CRYORECOVERY - DOMESTIC PRICING

SERVICE/PRODUCT	DESCRIPTION	PRICE
Cryo Recovery	Heterozygous or wildtype for Cnr1<tm1.1Kpm>	\$2,854.50

RELATED PRODUCTS AND SERVICES

Frozen Mouse Embryo	B6.129(SJL)-Cnr1<tm1.1Kpm>/J	\$2595.00
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