

## STOCK *Npy2r*<sup>tm1.1(cre)Lbrl</sup>/RcngJ

Stock No: 029285 | *Npy2r*-ires-Cre

 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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*Npy2r-ires-Cre* knock-in mice express Cre recombinase under the direction of the *Npy2r* promoter in vagal sensory neurons in the lung and brain stem that control respiration.

### Donating Investigator

Stephen Liberles, Harvard Medical School

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## GENETIC OVERVIEW

Genetic Background

Generation

*Npy2r*<sup>tm1.1(cre)Lbrl</sup>

**Alele Type**

Targeted (Recombinase-expressing)

**Gene Symbol**

*Npy2r*

**Gene Name**

neuropeptide Y receptor Y2

VIEW GENETICS

## RESEARCH APPLICATIONS

Neurobiology Research  
Research Tools  
Internal/Organ 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

*Npy2r-ires-Cre* mice have an IRES-Cre fusion protein inserted 3 base pairs downstream of the stop codon of the neuropeptide Y receptor Y2 (*Npy2r*) gene. The presence of IRES-Cre cassette downstream of the stop codon allows for expression of NPY2R and *cre*. NPY2R encodes a receptor present on many cell types, including a subset of slow-conducting unmyelinated A fiber vagal sensory neurons in the lung and brain stem. The *Npy2r-ires-Cre* reporter is expressed in 94% of *Npy2r* neurons when bred to a *cre*-dependent EYFP reporter. Homozygous mice are viable and fertile. When these mice are bred with mice containing *loxP*-flanked sequence, *Cre*-mediated recombination will result in deletion of the floxed sequences in the *Cre*-expressing cells of the offspring.

When *Npy2r-ires-Cre* mice were bred to B6;129S-*Gt(ROSA)26Sor<sup>tm32(CAG-COP4\*H134R/EYFP)Hze</sup>/J* (Stock No. [012569](#)) mice, which express a *cre*-inducible improved channelrhodopsin-2/EYFP fusion protein, optogenetic activation of NPY2R neurons results in rapid and shallow breathing with decreases in heart rate and gastric pressure, which are also under vagal control. Activation causes a 68% increase in respiration rate, a 44% decrease in tidal volume, and a 3% decrease in minute volume.

#### Development

#### Expression Data

#### Control Suggestions

#### Selected References

### Genetics

#### *Npy2r<sup>tm1.1(cre)Lbrl</sup>*

## – Disease/Phenotype

+ Disease Terms

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+ Research Areas By Phenotype

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+ Mammalian Phenotype Terms by Genotype

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+ References

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## – 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:[Npy2r](#)

[Genotyping resources and troubleshooting](#)

### Breeding Considerations

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

[Additional Breeding and Husbandry Support](#)

### Mating System

Homozygote x Homozygote

### Citation

When using the [Npy2r-ires-Cre](#) mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #029285 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

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/PRODUCT	DESCRIPTION	PRICE
Cryo Recovery	Heterozygous for Npy2r <sup>tm1.1(cre)</sup> Lbri	\$2,854.50

## RELATED PRODUCTS AND SERVICES

Frozen Mouse Embryo	STOCK Npy2r <sup>tm1.1(cre)</sup> Lbri/J Frozen Embryo	\$2595.00
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## PAYMENT TERMS AND CONDITIONS

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## Terms Of Use

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Q U E S T I O N S   A B O U T   T E R M S   O F   U S E

### ADDITIONAL USE RESTRICTIONS APPLY

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### LICENSING INFORMATION

Phone: 207-288-6470

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

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