

NOD.129S2(B6)-*Ciita*^{tm1Ccum}/FlvJ

Stock No: **004448**

 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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Donating Investigator

Dr. Richard A. Flavell, Yale University School of Medicine

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GENETIC OVERVIEW

Genetic Background

Generation

Ciita^{tm1Ccum}

Alele Type

Gene Symbol

Gene Name

Targeted (Null/Knockout)

Ciita

class II transactivator

VIEW GENETICS

RESEARCH APPLICATIONS

Research Tools

Immunology, Inflammation and Autoimmunity Research

Diabetes and Obesity Research

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

In humans, a non-functional *C2ta* (or *Ciita*) gene causes bare lymphocyte syndrome (BLS), which is characterized by the lack of HLA class II gene expression and a reduced number of mature CD4+ T cells in the periphery.

On the C57BL/6 congenic background (see Stock No. [003239](#)) disruption of *C2ta* results in a lack of MHC Class II expression by splenic B cells, dendritic cells, and both resting and interferon gamma stimulated macrophages. However, thymic epithelium retains MHC class II expression. Homozygotes also exhibit a significant decrease in the levels of invariant chain and H-2M gene transcripts. Non-conventional MHC Class II molecules such as H-2O alpha and H-2O beta, are not affected by the disruption of *C2ta*. Despite the continued expression of MHC Class II molecules on cells of the thymic epithelium, few CD4 positive cells exist in the periphery of homozygotes. (Chang et al 1996)

Because of the role of CD4+ T cells in the onset of diabetes, the mutation was backcrossed onto the NOD/ShiLtJ background to characterize its impact on diabetes development. The resulting congenic mice (Stock No. [004448](#)) homozygous for the mutation are completely protected from diabetes after 35 weeks of age. However, they do exhibit perivascular infiltration or periinsulinitis at 15 weeks of age.. Like their C57BL/6 counterparts, NOD homozygotes exhibit a ten-fold decrease in CD4+ T cells in the periphery, while the number of CD8+ T cells in the spleen remains normal. Homozygous mice do not show defects in B cell function, as measured by immunoglobulin production after stimulation of B cells with IL4 in vitro. (Mora et al. 1999)

Development

Control Suggestions

Genetics

Ciita^{tm1Ccum}

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

[Genotyping resources and troubleshooting](#)

Appearance

albino, pink-eyed

Related Genotype: $A/A Tyr^c Tyr^c$

Citation

When using the NOD.129S2(B6)-*Ciita*^{tm1Ccum}/FlvJ mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #004448 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.

Domestic **International**

Pricing effective for USA, Canada and Mexico shipping destinations

CRYORECOVERY - DOMESTIC PRICING

SERVICE/PRODUCT

DESCRIPTION

PRICE

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

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LICENSING INFORMATION

Phone: 207-288-6470

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By Collection



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