

## B6.129P2-*Cd38*<sup>tm1Lnd</sup>/J

Stock No: 003727 | CD38-

 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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These *Cd38* knock-out mice exhibit impairments in glucose-induced increases in ADP-ribosyl cyclase/cyclic ADP-ribose (cADPR), intracellular calcium concentration, and insulin secretion. They are unable to mount an innate immune response to bacterial pathogens.

### Donating Investigator

Frances E. Lund, The Trudeau Institute

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## GENETIC OVERVIEW

Genetic Background

Generation

*Cd38*<sup>tm1Lnd</sup>

**Alele Type**

**Gene Symbol**

**Gene Name**

Targeted (Null/Knockout)

*Cd38*

CD38 antigen

VIEW GENETICS

## RESEARCH APPLICATIONS

Immunology, Inflammation and Autoimmunity Research

Cancer Research

Diabetes and Obesity 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 homozygous for *Cd38<sup>tm1Lnd</sup>* are viable, fertile and appear to be free from gross defects. *Cd38* transcripts and protein product are not detected in these animals, nor are B lymphocytes responsive to the proliferative effects of anti-CD38 antibodies. NAD<sup>+</sup> glycohydrolase activity in spleen, liver and brain is either markedly reduced or absent and a decrease in hapten-specific IgM, IgG1 and IgE responses is observed. Kato *et al.* recently published a targeted disruption in exon 1 of the *Cd38* gene (J Biol Chem 274:1869-1872, 1999). Homozygous mutant mice show impairments in glucose-induced increases in ADP-ribosyl cyclase/cyclic ADP-ribose (cADPR), intracellular calcium concentration, and insulin secretion. These results support an essential role for CD38 in intracellular calcium mobilization by cADPR for insulin secretion. CD38 deficient mice are unable to mount an innate immune response to bacterial pathogens such as *Streptococcus pneumoniae*. In addition, CD38 dependent cADPR production is required for neutrophil chemotaxis and calcium signaling in response to the bacterially derived peptide fMLP.

#### Development

#### Control Suggestions

#### Selected References

### Genetics

#### *Cd38<sup>tm1Lnd</sup>*

### Disease/Phenotype

#### Disease Terms

[+ 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

Standard PCR:[Cd38](#)

[Genotyping resources and troubleshooting](#)

### Breeding Considerations

This strain originated on a B6;129P2 background and has been backcrossed to C57BL/6J for twelve generations. Homozygous mice are more susceptible to pathogenic bacteria so conventional specific pathogen-free (SPF) conditions are recommended.

[Additional Breeding and Husbandry Support](#)

### Citation

When using the CD38- mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #003727 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
<a href="#">Cryo Recovery</a>	Heterozygous for Cd38<tm1Lnd>	\$2,854.50

RELATED PRODUCTS AND SERVICES		
<a href="#">Frozen Mouse Embryo</a>	B6.129P2-Cd38<tm1Lnd>/J Frozen Embryos	\$2595.00

## PAYMENT TERMS AND CONDITIONS

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.

## 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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### LICENSING INFORMATION

Phone: 207-288-6470

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

## Related Strains

All

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By Gene

By Collection



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