B6.129P2-Cd38 tm1Lnd/J

Stock No: 003727 | CD38-

**Congenic, Targeted Mutation**

**CRYO RECOVERY**

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

**Also Known As: CD38-**

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

**GENETIC OVERVIEW**

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
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<tbody>
<tr>
<td><strong>Cd38 tm1Lnd</strong></td>
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<table>
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<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
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<tbody>
<tr>
<td>Targeted (Null/Knockout)</td>
<td>Cd38</td>
<td>CD38 antigen</td>
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**RESEARCH APPLICATIONS**

Immunology, Inflammation and Autoimmunity Research
Cancer Research
Diabetes and Obesity Research

**BASE PRICE**
Details

Detailed Description
Mice homozygous for Cd38\textsuperscript{tm1Led} 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+ 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\textsuperscript{tm1Led}

Disease/Phenotype

Disease Terms

Research Areas By Genotype

Mammalian Phenotype Terms by Genotype

References

Technical Support
**Genotyping Protocols**
Standard PCR: Cd38<sup>tm1Lnd</sup>
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<sup>tm1Lnd</sup> 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

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**Pricing & Availability**

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

<table>
<thead>
<tr>
<th>Domestic</th>
<th>International</th>
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<tbody>
<tr>
<td>Pricing effective for USA, Canada and Mexico shipping destinations</td>
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</table>

<table>
<thead>
<tr>
<th>Cryorecovery - Domestic Pricing</th>
<th>GENOTYPE</th>
<th>PRICE</th>
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</thead>
<tbody>
<tr>
<td>Cryo Recovery</td>
<td>Homozygous for Cd38&lt;sup&gt;tm1Lnd&lt;/sup&gt;</td>
<td>$2,595.00</td>
</tr>
</tbody>
</table>

We will fulfill your order by providing at least two carriers for each strain ordered. The total number, sex, and genotypes provided will vary, although typically 8 or more animals are provided. Please check genotypes which will be recovered. While the genotypes of all animals produced will be communicated to you prior to scheduling shipment, the genotypes of animals provided may not reflect the mating scheme and genotypes described in the strain description. Animals are typically ready to ship in 11-14 weeks. If a second recovery is required to produce the minimum number of animals, then delivery time would increase to approximately 25 weeks. If we fail to produce animals of the correct genotype, you will not be charged. We cannot guarantee the reproductive success of mice shipped to your facility. If the mice are lost after the first three days (post-arrival) or do not produce progeny at your facility, a new order and fee will be necessary.

Cryorecovery to establish a Dedicated Supply for greater quantities of mice. Mice recovered can be used to establish a dedicated colony to contractually supply you mice according to your requirements. Price by quotation.

**Related Products and Services**

| Frozen Mouse Embryo | $2,595.00 per straw or vial |

**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
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Email: TechTran@jax.org

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By Gene

By Collection

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TOMORROW'S CURES