NOD.Cg-Cd38 tm1Lnd Prkdc scid/LtJ

Stock No: 005345 | NOD.CD38 null, scid null

Congenic Spontaneous Mutation, Targeted Mutation

PLACE ORDER

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

Also Known As: NOD.CD38<sup>null</sup>, scid<sup>null</sup>

Combining the Prkdc<sup>scid</sup> mutation with the Cd38<sup>tm1Lnd</sup> targeted allele in these mice completely prevents Type 1 diabetes, which otherwise would develop in mice carrying only the Cd38<sup>tm1Lnd</sup> targeted allele.

Donating Investigator

Dr. Edward Leiter, The Jackson Laboratory

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GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>001289 NOD/ShiLt</td>
<td></td>
</tr>
</tbody>
</table>

**Prkdc<sup>scid</sup>**

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spontaneous</td>
<td>Prkdc</td>
<td>protein kinase, DNA activated, catalytic polypeptide</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Targeted (Null/Knockout)</td>
<td>Cd38</td>
<td>CD38 antigen</td>
</tr>
</tbody>
</table>

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RESEARCH APPLICATIONS

- Diabetes and Obesity Research
- Research Tools
- Immunology, Inflammation and Autoimmunity Research
- Internal/Organ Research
- Virology Research
- Cancer Research

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BASE PRICE

Starting at:

$2,854.50 Domestic price Cryo Recovery

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VIEW GENETICS

VIEW ALL RESEARCH APPLICATIONS

VIEW PRICE LIST
CD38 is an ADP-ribosyl cyclase/cyclic ADP-ribose hydrolase. This ubiquitously expressed ectoenzyme is the major NAD hydrolase in mice. NOD/Lt mice homozygous for the Cd38<sup>tm1Lnd</sup> targeted allele develop accelerated Type 1 diabetes associated with an ART2 (T cell ADP-ribosyltransferase)-dependent and NAD-mediated loss of regulatory CD4+CD25+ Foxp3+ and CD4+ NKT cells (Chen, J. et al 2006; Chen, Y.G et al 2006). Combining the Prkdc<sup>scid</sup> mutation with the Cd38<sup>tm1Lnd</sup> targeted allele completely prevents diabetes development. For investigators wishing to study the role of CD38 in beta cell biology, the presence of the Prkdc<sup>scid</sup> allele provides insulin-free islets for analysis. Congenic, doubly homozygous NOD.Cd38<sup>tm1Lnd</sup> Prkdc<sup>scid</sup> mutant mice exhibit no significant difference in glucose tolerance when compared to NOD or NOD. Prkdc<sup>scid</sup>, thus not supporting a previous report (Okamoto, H. and S. Takasawa; 2002) that CD38 is required for normal pancreatic beta cell glucose responsiveness. NOD.Cg-Cd38<sup>tm1Lnd</sup> Prkdc<sup>scid</sup>/LtJ mice offer an alternative means for maintaining the targeted CD38 allele on the NOD background. Without the Prkdc<sup>scid</sup> mutation, the accelerated diabetogenesis produced by CD38 deficiency makes colony propagation difficult.
Genotyping Protocols
Standard PCR: Cd38<sub>tm1Lnd</sub>
Genotyping resources and troubleshooting

Appearance
albino, pink eyed
Related Genotype: A/A Tyr<sup>C</sup>/Tyr<sup>C</sup>

Citation
When using the NOD.Cd38<sup>full</sup> scid<sup>full</sup> mouse strain in a publication, please cite the originating article(s) and include JAX stock #005345 in your Materials and Methods section.

Facility Barrier Level Descriptions
Production of mice from cryopreserved embryos or sperm occurs in a maximum barrier room, G200

Pricing & Availability

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

<table>
<thead>
<tr>
<th>SERVICE</th>
<th>GENOTYPE</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cryo Recovery</td>
<td>Homozygous for Cd38&lt;sub&gt;tm1Lnd&lt;/sub&gt;, Homozygous for Prkdc&lt;sub&gt;scid&lt;/sub&gt;, 1 pair minimum</td>
<td>$2,854.50</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 are expected within the payment terms indicated on the invoice or stated by contract. Invoices and account balances in arrears of
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General Terms and Conditions

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Phone: 207-288-6470
Email: TechTran@jax.org

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Related Strains

All

By Allele

By Gene

By Collection

All Related Strains

B6.CB17-Prkdcscid/SzJ
Stock No: 001913 | C5BL/6 scid
Related By:
Prkdc, Prkdc<sup>scid</sup>

NOD.CB17-Prkdcscid/J
Stock No: 001303 | NOD scid
Related By:
Prkdc, Prkdc<sup>scid</sup>

NOD.Cg-B2m<sup>tm1Unc</sup> Prkdcscid Il2rgtm1Wjl/SzJ
Stock No: 010636 | NSG B2m
Related By:
Prkdc, Prkdc<sup>scid</sup>

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