NOD.129(B6)-B2m<sup>tm1Unc</sup> Ciita<sup>tm1Ccum</sup>/BhsJ

Stock No: 005356 | NOD.B2m null, C2ta null

⁻ Congenic, 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.B2m\textsuperscript{null}, C2ta\textsuperscript{null}

These double knock-out mice exhibit absence of MHC I or MHC II cell surface expression, reduced peripheral T-cell populations, and deficiency of CD4+ and CD8+ T-cells.

Donating Investigator
Bagirath Singh, Siebens-Drake Research Institute

GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
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**B2m\textsuperscript{im1Unc}**

<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>B2m</td>
<td>beta-2 microglobulin</td>
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**Ciita\textsuperscript{im1Ccum}**

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<th>Allele Type</th>
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</thead>
<tbody>
<tr>
<td>Targeted (Null/Knockout)</td>
<td>Ciita</td>
<td>class II transactivator</td>
</tr>
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RESEARCH APPLICATIONS

Metabolism Research
Immunology, Inflammation and Autoimmunity Research
Research Tools
Hematological Research
Internal/Organ Research
Diabetes and Obesity Research

BASE PRICE
Starting at:

$2,854.50 Domestic price Cryo Recovery
Detailed Description

NOD.129(B6)-B2m<sup>tm1Unc</sup>C2ta<sup>tm1Ccum</sup>/BhsJ is homozygous for linkage markers delineating Idd1-5, 7-10 and 13-15 loci of NOD origin and do not become diabetic. Histology indicates normal islet tissue structure with no cellular infiltration. Islets are intact and produce insulin. FACs analysis of peripheral blood cells of mice homozygote for B2m<sup>tm1Unc</sup> and C2ta<sup>tm1Ccum</sup> confirmed the absence of MHC I or MHC II cell surface expression, reduced peripheral T-cell populations, deficiency of CD4<sup>+</sup> and CD8<sup>+</sup> T-cells and there is no difference in B-cell numbers when compared with wild-type controls. Additionally, B2m<sup>tm1Unc</sup>C2ta<sup>tm1Ccum</sup> double homozygous animals exhibit lower IgG titers and higher IgM titers than wild-type controls. Diabetic NOD females receiving purified islets from NOD.129(B6)-B2m<sup>tm1Unc</sup>C2ta<sup>tm1Ccum</sup>/BhsJ transplanted under the kidney capsule remain normal glycemic for at least 147 days post transplant as compared to diabetic NOD mice with islet transplants from either NOD.129P2(B6)-B2m<sup>tm1Unc</sup>/J or NOD.129S2(B6)-C2ta<sup>tm1Ccum</sup>/Flv which exhibit disease recurrence by 8 days post transplantation. Histological examination of islet grafts taken at 147 days post transplantation reveals an intact mass of insulin producing islets surrounded by cellular infiltrate. The cellular infiltrate consists mostly of CD4<sup>+</sup> and CD8<sup>+</sup> T-cells and macrophages. All islet grafts, independent of survival contain IFN gamma and IL10 (Young et al., 2004).

This stock is useful to help identify the mechanism by which MHC genes mediate susceptibility to T1D and the role of MHC I and II molecules in islet destruction.

Development

Control Suggestions

Selected References

Genetics

B2m<sup>tm1Unc</sup>

Ciita<sup>tm1Ccum</sup>

Disease/Phenotype

Disease Terms

Research Areas By Genotype

Mammalian Phenotype Terms by Genotype

References

Technical Support
Genotyping Protocols
Standard PCR: B2m<sup>tm1Unc</sup>
MELT: B2m<sup>tm1Unc</sup>
Genotyping resources and troubleshooting

Breeding Considerations
These mice are immunodeficient and need to be maintained in a high barrier environment with sterile food and water.
Additional Breeding and Husbandry Support

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

Citation
When using the NOD.B2m<sup>null</sup> C2ta<sup>null</sup> mouse strain in a publication, please cite the originating article(s) and include JAX stock #005356 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.

Domestic  International
Pricing effective for USA, Canada and Mexico shipping destinations

<table>
<thead>
<tr>
<th>SERVICE</th>
<th>GENOTYPE</th>
<th>PRICE</th>
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</thead>
<tbody>
<tr>
<td>Cryo Recovery</td>
<td>Homozygous for B2m&lt;sup&gt;tm1Unc&lt;/sup&gt;, Homozygous forCita&lt;sup&gt;tm1Cum&lt;/sup&gt;</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.
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By Gene

By Collection
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