These mice carry a triple knock-out of the Cd38, Art2a-ps, and Art2b genes and whose combined deficient T cells are resistant to NAD-induced killing in vitro. The mice also exhibit suppression of diabetes development.

**GENETIC OVERVIEW**

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

**Art2b<sup>tm1Fkn</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>Art2b</td>
<td>ADP-ribosyltransferase 2b</td>
</tr>
</tbody>
</table>

**Art2a<sup>tm1Fkn</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>Art2a</td>
<td>ADP-ribosyltransferase 2a</td>
</tr>
</tbody>
</table>

**RESEARCH APPLICATIONS**

Diabetes and Obesity Research
Ubiquitously expressed CD38 and T cell-expressed ADP-ribosyltransferase 2 (ART2) are ectoenzymes competing for NAD substrate. CD38 exerts pleiotropic actions in hemopoietic and nonhemopoietic compartments via effects on calcium mobilization. ART2 is an ADP-ribosyltransferase on naive CD4+ and CD8+ T cells. The balance between T-effector and T-regulatory cells, disturbed in CD38-deficient but ART2-intact NOD mice, is corrected in these combined CD38/ART2-deficient mice. These mice are resistant to NAD-induced killing in vitro, and diabetes development is strongly suppressed.
Genotyping Protocols

Standard PCR: Cd38
Genotyping resources and troubleshooting

Appearance
albino
Related Genotype: A/A Tyr^c/Tyr^c

Citation
When using the NOD.CD38^-ART^- mouse strain in a publication, please cite the originating article(s) and include JAX stock #005347 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

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

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Terms Of Use

General Terms and Conditions

Licensing Information

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

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Related Strains

All

By Allele

By Gene

By Collection

All Related Strains