Mouse Information

Common Name: NOD-Rag1nullIL2rgnullIns2Akita
MGI Official Name: NOD.Cg-Rag1nullIns2AkitaIl2rgnullSz
Description: Backcrossing of the Rag1 null allele onto the NOD/Lt strain background (NOD-Rag1null mice) provided a radio-resistant and longer-lived model for human-cell engraftment. Mutations in X-chromosome-linked Il2rg gene cause X-linked severe combined immunodeficiency (XSCID). Immunodeficient NOD-Rag1nullIL2rgnull mice tolerated much higher levels of irradiation conditioning than did NOD-Prkdcscid IL2rgnull mice. This immunodeficient mouse also develops spontaneous hyperglycemia based on the Ins2Akita mutation.

Categories: HUMANE

Genetic Alterations

1) Targeted Mutagenesis

<table>
<thead>
<tr>
<th>Type of Allele</th>
<th>Global Null</th>
</tr>
</thead>
<tbody>
<tr>
<td>Targeted Gene</td>
<td>recombination activating gene 1 (Rag1 - NCBI GeneID:19073)</td>
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<td>Targeted Allele</td>
<td>Not provided (Rag1null, MGI:97848)</td>
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<tr>
<td>Description of Targeting Vector</td>
<td>Not provided</td>
</tr>
<tr>
<td>Targeting Vector Genbank File</td>
<td>Not provided</td>
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Citations

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<tr>
<th>PubMedID</th>
<th>Citation</th>
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3) Targeted Mutagenesis

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<th>Type of Allele</th>
<th>Global Null</th>
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<tbody>
<tr>
<td>Targeted Gene</td>
<td>interleukin 2 receptor, gamma chain (IL2RG - NCBI GeneID:16186)</td>
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<td>Description of Targeting Vector</td>
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Strain Information

Access Status

This resource is publicly viewable.

Request this Resource

Primary contributor: Shultz Lab
Co-contributed by:
- Greiner Lab
- Herrera Lab

Resource Tags

mouse, mouse strain, NOD-Rag1nullIL2rgnullIns2Akita

Resource History & Actions

Approved on Mar 13, 2009
Last modified on Mar 16, 2009

Related resources

BCBC
No matching resources

Other Consortia
No matching resources

Data courtesy of dkCOIN. Only public resources are displayed.
Strain Type: Not provided
Chimera/Founder Genetic Background: Not provided
Current Genetic Background: Not provided (date recorded: Not provided)
Strain Description: Not provided

Associated Images

Image 1
Description:
Spontaneous development of hyperglycemia in NOD-Rag1nullIL2rgnullIns2Akita mice. Groups of mice were analysed for the development of hyperglycemia over time and stratified by sex. Additionally, littermates of each sex were typed at Ins2 to determine mice that were homozygous wild-type (white circles) or with a single Akita allele (black circles). (hyperglycemia)
Reference: Not provided

Image 2
Description:
NOD-Rag1nullIL2rgnullIns2Akita mice following human (a) or mouse (b) islet transplantation. Blood glucose levels in individual mice at each human islet dose are shown over the follow-up period. (islet transplantation)
Reference: Not provided

Repositories
No repositories indicated.

Contact Information
Preferred Contact
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Institution: The Jackson Laboratory
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Email: lenny.shultz@jax.org

Associated Publications
No publications associated

Comments
There are no comments for this entry.