### GENETIC OVERVIEW

**Genetic Background**

| Generation | F7×F21 (2020-03-17 00:00:00) |

**Rag2^tm1.1Flv**

<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>Rag2</td>
<td>recombination activating gene 2</td>
</tr>
</tbody>
</table>

**Il2rg^tm1.1Flv**

<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>Il2rg</td>
<td>interleukin 2 receptor, gamma chain</td>
</tr>
</tbody>
</table>

### RESEARCH APPLICATIONS

**Research Tools**

Immunology, Inflammation and Autoimmunity Research
Both the \textit{Rag2} and the X-linked \textit{Il2rg} genes were targeted in these compound mutant mice. Homozygous \textit{Rag2} and hemizygous male/homozygous female \textit{Il2rg} animals lack T, B, and NK cells. Their immunodeficiencies make them particularly useful as transplant hosts. Liver hematopoietic stem and progenitor cell transplants create a humanized model that may be used to develop and test novel immune therapeutic and preventative strategies.

The creation of this strain was funded by the Bill and Melinda Gates Foundation.
Genotyping Protocols
Standard PCR: Laragen
Separated MCA: Rag2 Alternate 1
Standard PCR: Il2rg Alternate 1
QPCR: Generic Neo Quantitative PCR-QPCR- 1.2
Standard PCR: Generic Neo
Standard PCR: Rag2
Probe: Generic Neo

Genotyping resources and troubleshooting
Dietary Information
LabDiet® 5K52 formulation (6% fat)
Breeding Considerations

When maintained as a live colony, mice that are both homozygous for the Rag2 mutation and hemizygous/homozygous for the X-linked Il2rg mutation may be intercrossed.

Additional Breeding and Husbandry Support
Mating System
See "Breeding Considerations"

Citation
When using the Rag2- γc- mouse strain in a publication, please cite the originating article(s) and include JAX stock #014593 in your Materials and Methods section.

Animal Health Reports
Facility Barrier Level Descriptions

 AX11 (Maximum)
Available Now


### Live Mouse

<table>
<thead>
<tr>
<th>AGE</th>
<th>SEX</th>
<th>GENOTYPE</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 weeks</td>
<td>Female</td>
<td>Homozygous for Rag2(^{tm1.1Flv}) Homozygous for Il2rg(^{tm1.1Flv})</td>
<td>$183.00</td>
</tr>
<tr>
<td>4 weeks</td>
<td>Male</td>
<td>Homozygous for Rag2(^{tm1.1Flv}) Hemizygous for Il2rg(^{tm1.1Flv})</td>
<td>$183.00</td>
</tr>
<tr>
<td>5 weeks</td>
<td>Female</td>
<td>Homozygous for Rag2(^{tm1.1Flv}) Homozygous for Il2rg(^{tm1.1Flv})</td>
<td>$183.00</td>
</tr>
<tr>
<td>5 weeks</td>
<td>Male</td>
<td>Homozygous for Rag2(^{tm1.1Flv}) Hemizygous for Il2rg(^{tm1.1Flv})</td>
<td>$183.00</td>
</tr>
<tr>
<td>6 weeks</td>
<td>Female</td>
<td>Homozygous for Rag2(^{tm1.1Flv}) Homozygous for Il2rg(^{tm1.1Flv})</td>
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</tr>
<tr>
<td>6 weeks</td>
<td>Male</td>
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<td>$183.00</td>
</tr>
<tr>
<td>7 weeks</td>
<td>Female</td>
<td>Homozygous for Rag2(^{tm1.1Flv}) Homozygous for Il2rg(^{tm1.1Flv})</td>
<td>$183.00</td>
</tr>
<tr>
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<td>Male</td>
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<td>$183.00</td>
</tr>
<tr>
<td>8 weeks</td>
<td>Female</td>
<td>Homozygous for Rag2(^{tm1.1Flv}) Homozygous for Il2rg(^{tm1.1Flv})</td>
<td>$183.00</td>
</tr>
<tr>
<td>8 weeks</td>
<td>Male</td>
<td>Homozygous for Rag2(^{tm1.1Flv}) Hemizygous for Il2rg(^{tm1.1Flv})</td>
<td>$183.00</td>
</tr>
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</table>

### Related Products and Services

**Frozen Mouse Embryo**

C;129S4-Rag2\(^{tm1.1Flv}\) Il2rg\(^{tm1.1Flv}\)/J $2595.00

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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General Terms and Conditions

Additional Use Restrictions Apply

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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