B6.129S7-Rag1 tm1Mom/J

Stock No: 002216 | Rag1 KO

Congenic Targeted Mutation

READILY AVAILABLE

PLACE ORDER

Sized to accommodate orders of up to 100 or more. Call Customer Service for details.

Overview
Also Known As: Rag1 KO
Mice homozygous for the Rag1<sup>tm1Mom</sup> mutation produce no mature T cells or B cells. Their phenotype can be described as a "non-leaky" immune deficiency.

Donating Investigator
IMR Colony, The Jackson Laboratory

GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
<th>Contact Technical Support</th>
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</thead>
<tbody>
<tr>
<td>000664 C57BL/6J</td>
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<td>(2018-07-27 00:00:00)</td>
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Rag1<sup>tm1Mom</sup>

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
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<tbody>
<tr>
<td>Targeted (Null/Knockout)</td>
<td>Rag1</td>
<td>recombination activating gene 1</td>
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RESEARCH APPLICATIONS
Research Tools
Immunology, Inflammation and Autoimmunity Research
Internal/Organ Research
Cancer Research
Hematological Research

VIEW ALL RESEARCH APPLICATIONS
Details

Detailed Description

Mice homozygous for the Rag1\textsuperscript{tm1Mom} mutation produce no mature T cells or B cells. Whereas Prkdcs\textsuperscript{cid} homozygotes produce some B cells and IgM (i.e., are "leaky"), Rag1\textsuperscript{tm1Mom} homozygotes lack all mature lymphocytes (i.e., are "non-leaky"). Rag1 null mice have no CD3\textsuperscript{+} or T cell receptor (TCR) alpha-beta positive cells. The thymus of the mutant mice contains 15 to 130 times fewer cells than heterozygous or wild-type siblings. The thymocytes are CD8\textsuperscript{+}CD4\textsuperscript{−} and most are IL2 receptor-positive. Neither the spleen nor the bone marrow contain any IgM or IgD staining cells, indicating an absence of mature B cells. These and other data suggest that B cell and T cell development has been arrested at an early stage. Macroscopically, the mutants are indistinguishable from heterozygotes or normal wild-type siblings.

View Flow Cytometry Characterization Data for Immunodeficient JAX Strains

Development

Control Suggestions

Selected References

Genetics

Rag1\textsuperscript{tm1Mom}

Disease/Phenotype

Disease Terms

Research Areas By Genotype

Mammalian Phenotype Terms by Genotype

References
Genotyping Protocols
MELT: \text{Rag}^{1\text{tm1Mom}}\text{Alternate1}
Genotyping resources and troubleshooting

Dietary Information
LabDiet\textsuperscript{®} 5K52 formulation (6\% fat)

Breeding Considerations
\textit{This strain is a good breeder.}
This \text{Rag}^{1\text{tm1Mom}}\text{ strain is maintained by mating homozygous siblings. This strain should be housed under pathogen free conditions similar to Prkdc\textsuperscript{scid}/Prkdc\textsuperscript{scid} mice or any other immunodeficient strain. Only homozygous mice may be ordered.}

Additional Breeding and Husbandry Support

Mating System
Homozygote x Homozygote

Appearance
black
Related Genotype: a/a

Citation
When citing the Bar Harbor \textsc{X} strain in a publication, please cite the originating articles and include JAX stock \#002216 in your Materials and Methods section.

Facility Barrier Level Descriptions
- AX30 (Maximum)
- RB11 (Maximum)

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Pricing & Availability

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Phone: 207-288-6470

Email: TechTran@jax.org

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