Also Known As: Rag1 KO
Mice homozygous for the $Rag1^{tm1Mom}$ 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
Mice homozygous for the \( \text{Rag1}^{tm1Mom} \) mutation produce no mature T cells or B cells. Whereas \( \text{Prkdc}^{scid} \) homozygotes produce some B cells and IgM (i.e., are "leaky"), \( \text{Rag1}^{tm1Mom} \) homozygotes lack all mature lymphocytes (i.e., are "non-leaky"). Rag1 null mice have no CD3\(^+\) 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\(^+\)CD4\(^-\) 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.
Genotyping Protocols
Standard PCR: Rag1Alternate1
Genotyping resources and troubleshooting

Breeding Considerations
This strain is a good breeder.
This Rag1\textsuperscript{tm1Mom} 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: \textit{al/a}
When using the Rag1 KO mouse strain in a publication, please cite the originating article(s) and include JAX stock #002216 in your Materials and Methods section.

### Animal Health Reports
**Facility Barrier Level Descriptions**

- RB11 (Maximum)
- AX27 (Maximum)

### Pricing & Availability

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

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Email: TechTran@jax.org

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All

By Allele

By Gene