NOD.Cg-*Rag1*^{tm1Mom} Tg(TcrbAI4)1Dvs/DvsJ

Stock No: **004348** | NOD.*Rag1*^{null}.AI4bTg

Congenic, Targeted Mutation, Transgenic

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

PLACE ORDER

reactive CD8 T lymphocyte clone AI4, and are incapable of rearranging endogenous T cell receptor genes as a result of the nonfunctional *Rag1*^{tm1Mom} allele.

Donating Investigator

Dr. David Serreze, The Jackson Laboratory

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GENETIC OVERVIEW

Genetic Background	Generation

Rag1^{tm1Mom}

Allele Type	Gene Symbol	Gene Name
Targeted (Null/Knockout)	*Rag1*	recombination activating gene 1

Tg(TcrbAI4)1Dvs

Allele Type
Transgenic (Inserted expressed sequence)

VIEW GENETICS

RESEARCH APPLICATIONS

Hematological Research
Immunology, Inflammation and Autoimmunity Research

Research Tools
Internal/Organ Research
Cancer Research
Diabetes and Obesity Research

VIEW ALL RESEARCH APPLICATIO

BASE PRICE

Starting at:

$2,854.50 Domestic price Cryo Recovery

VIEW PRICE LIST

Details

Detailed Description

The rearranged *Tcrb* transgene expressed in these mice is derived from the pancreatic beta cell-reactive CD8 T lymphocyte clone AI4. The presence of the nonfunctional *Rag1*^{tm1Mom} allele renders mice incapable of rearranging endogenous T cell receptor genes. When crossed with strain NOD.Cg-Tg(TcraAI4)1Dvs-*Rag1*^{tm1Mom}/DvsJ (004347), the resulting animals that carry both the alpha and beta AI4 TCR transgenes exhibit an accelerated development of insulin-dependent diabetes mellitus (IDDM). Additionally, transgenic animals bearing both TCR transgenes offer a source of CTL precursors useful in examining the diversity of beta cell peptides recognized by the autoreactive CD8+ T lymphocytes contributing to the earliest phase of IDDM development. Homozygous mice are viable and fertile.

Development

Expression Data

Control Suggestions

Selected References

Genetics

Rag1^{tm1Mom}

Tg(TcrbAl4)1Dvs

Disease/Phenotype

Disease Terms

Research Areas By Phenotype

Mammalian Phenotype Terms by Genotype

References

Technical Support

CONTACT TECHNICAL SUPPORT

Genotyping Protocols

QPCR:Tg(TcrbAl4)1Dvs/Dvs
Standard PCR:Tg(TcrbAl4)1Dvs
Standard PCR:Rag1Alternate1
Genotyping resources and troubleshooting

Breeding Considerations

These mice are maintained homozygous for *Rag1* and are severely immunodeficient, so specific pathogen-free (SPF) conditions are recommended. This strain is maintaned through mating *Rag1*$^{-}$/*Rag1*$^{-}$, Tg/? x *Rag1*$^{-}$/*Rag1*$^{-}$, Tg/?. Genotypes available are *Rag1*$^{-}$/*Rag1*$^{-}$, Tg? or *Rag1*$^{-}$/*Rag1*$^{-}$, +/+. breeder pairs available: *Rag1*$^{-}$/*Rag1*$^{-}$, Tg/? x *Rag1*$^{-}$/*Rag1*$^{-}$, Tg/?. Affected mutant is *Rag1*$^{-}$/*Rag1*$^{-}$, Tg/?

Additional Breeding and Husbandry Support

Appearance

albino, pink eyed
Related Genotype: *A/A Tyr*^{c}/*Tyr*^{c}

Citation

When using the NOD.*Rag1*^{null}.Al4bTg mouse strain in a publication, please cite the originating article(s) and include JAX stock #004348 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

Cryo Recovery

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

Domestic **International**

Pricing effective for USA, Canada and Mexico shipping destinations

CRYORECOVERY - DOMESTIC PRICING

SERVICE/PRODUCT	DESCRIPTION	PRICE
Cryo Recovery	Homozygous for Rag1<tm1Mom>, Heterozygous for Tg(TcrbAI4)1Dvs	$2,854.50

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The Jackson Laboratory has rigorous genetic quality control and mutant gene genotyping programs to ensure the genetic background of JAX® Mice strains as well as the genotypes of strains with identified molecular mutations. JAX® Mice strains are only made available to researchers after meeting our standards. However, the phenotype of each strain may not be fully characterized and/or captured in the strain data sheets. **Therefore, we cannot guarantee a strain's phenotype will meet all expectations.** To ensure that JAX® Mice will meet the needs of individual research projects or when requesting a strain that is new to your research, we suggest ordering and performing tests on a small number of mice to determine suitability for your particular project. We do not guarantee breeding performance and therefore suggest that investigators order more than one breeding pair to avoid delays in their research.

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Email: TechTran@jax.org

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