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

Also Known As: Rag1-/- mFcRn-/- hFcRn Tg 276
Rag1 Fcgrt FCGRT knock-out/transgenic mice are immunodeficient and therefore applicable for xenograft studies. This humanized model may be useful in evaluating the pharmacokinetics, the pharmacodynamics and/or efficacy testing of human Fc-based molecules (e.g. human IgG, Fc-fusion proteins) or for analyzing the immunogenicity of antibodies.

Need assistance evaluating antibodies in FcRn mice? Human preclinical pharmacokinetic (PK) analysis is available. See our FcRn full service platform.

Donating Investigator
Dr. Derry Roopenian, The Jackson Laboratory

GENETIC OVERVIEW

| Genetic Background | Generation |

Tg(CAG-FCGRT)276Dcr
Allele Type
Transgenic (Inserted expressed sequence, Humanized sequence)

Rag1<sup>tm1Mom</sup>
Allele Type
Targeted (Null/Knockout)
Gene Symbol: Rag1
Gene Name: recombination activating gene 1

Fcgrt<sup>tm1Dcr</sup>
Allele Type
Targeted (Null/Knockout)
Gene Symbol: Fcgrt
Gene Name: Fc receptor, IgG, alpha chain transporter
Rag1 Fcgrt FCGRT mice harbor knockout alleles of the Fcgrt (formerly FcRn) and Rag1 genes and express a human FCGRT (FcRn α-chain) transgene under the CAG promoter. These mice have a normal level of serum albumin, but are deficient in mature B- and T-cells. In this model, longer half-lives are observed with mice homozygous for the human FCGRT transgene when compared to hemizygous mice, indicating that higher copy number correlates with higher expression of FcRn and provides greater protection of IgG from clearance. This model is useful for pharmacokinetic and pharmacodynamic studies of human IgG. It has been shown to be useful for screening of hIgGs in evaluations of serum half-life. Being immunodeficient, they are suitable for efficacy testing requiring xenografts. Zalevsky et. al. 2010 have shown good correlation between this mouse model and studies performed with Cynomolgus monkeys.
Genotyping Protocols
Separated PCR: Tg(FCGRT)
Standard PCR: Fcgrt
Standard PCR: Rag1
Standard PCR: Fcgrt
genotyping resources and troubleshooting

Breeding Considerations
When maintaining a live colony, mice homozygous for the FcRn α-chain targeted allele (Fcgr1<sup>tm1Dcr</sup>), homozygous for the RAG1<sup>null</sup> allele (Rag1<sup>tm1Mom</sup>), and hemizygous or homozygous for the hFcRn (276) transgene (Tg(CAG-FCGRT)276Dcr) may be bred together.

Additional Breeding and Husbandry Support

Citation
When using the Rag1<sup>-/-</sup> mFcRn<sup>-/-</sup> hFcRn Tg 276 mouse strain in a publication, please cite the originating article(s) and include JAX stock #016919 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.
We will fulfill your order by providing at least two carriers for each strain ordered. The total number, sex, and genotypes provided will vary, although typically 8 or more animals are provided. Please check genotypes which will be recovered. While the genotypes of all animals produced will be communicated to you prior to scheduling shipment, the genotypes of animals provided may not reflect the mating scheme and genotypes described in the strain description. Animals are typically ready to ship in 11-14 weeks. If a second recovery is required to produce the minimum number of animals, then delivery time would increase to approximately 25 weeks. If we fail to produce animals of the correct genotype, you will not be charged. We cannot guarantee the reproductive success of mice shipped to your facility. If the mice are lost after the first three days (post-arrival) or do not produce progeny at your facility, a new order and fee will be necessary.

Cryorecovery to establish a Dedicated Supply for greater quantities of mice. Mice recovered can be used to establish a dedicated colony to contractually supply you mice according to your requirements. Price by quotation.

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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.

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