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
Details

Detailed Description

Rag1 Fggt 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.
Genetics

- Tg(CAG-FCGRT)276Dcr
- Rag1<sup>tm1Mom</sup>
- Fcgrt<sup>tm1Dcr</sup>

Disease/Phenotype

- Disease Terms
- Research Areas By Phenotype
- Mammalian Phenotype Terms by Genotype
- References

Technical Support

Genotyping Protocols
- Separated PCR: Tg(FCGRT) alternate1
- Standard PCR: Fcgrt
- Standard PCR: Rag1Alternate1
- Standard PCR: Fcgrt Alternate1

Genotyping resources and troubleshooting

Breeding Considerations

When maintaining a live colony, mice homozygous for the FcRn α-chain targeted allele (Fcgrt<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.
Production of mice from cryopreserved embryos or sperm occurs in a maximum barrier room, **G200**.

**Pricing & Availability**

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

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<tr>
<td>Cryo Recovery</td>
<td>Homozygous for Rag1&lt;tm1Mom&gt;, Homozygous for Fcgrt&lt;tm1Dcr&gt;, Hemizygous for Tg(CAG-FCGRT)276Dcr</td>
<td>$2,854.50</td>
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