B6. Crgag^tm^Mom Fc^tm^Dcr Tg (CAG-FCGRT)276Dcr/DcrJ

Stock No: 016919 | Rag1/- mFcRn/- hFcRn Tg 276

Congenic, Targeted Mutation, Transgenic

PLACE ORDER

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

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GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
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**Tg(CAG-FCGRT)276Dcr**

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Transgenic (Inserted expressed sequence, Humanized sequence)</th>
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</thead>
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**Rag1**

<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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**Fcgrt**

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<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>Fcgrt</td>
<td>Fc receptor, IgG, alpha chain transporter</td>
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</table>
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.

Development

Expression Data

Control Suggestions

Selected References

Genetics

Tg(CAG-FCGRT)276Dcr
Genotyping Protocols
Separated PCR: Tg(FCGRT) alternate1
Standard PCR: Fcgrt
Standard PCR: Rag1 Alternate1
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 RAG<sup>1null</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 Rag<sup>1</sup>-/- mFcRn-/- 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
Cryo Recovery
Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.
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