B6.C57Bl6 J (CAG-Fcgrt)276Dcr/Tg (congenic, targeted mutation, transgenic)

Stock No: 004919 | FcRn KO hFcRn Tg

Available Now

Place Order

Live mice available in varying quantities. Ask Customer Service for details.
Overview

Also Known As: FcRn<-> hFcRn (276) Tg, FcRn KO hFcRn Tg

FcRn<-> hFcRn (line 276) Tg mice are useful in evaluating the pharmacokinetics and pharmacodynamics of human immunoglobulin G (hIgG), such as therapeutic IgG. These mice carry a null mutation for the mouse gene and a transgene expressing the human FcRn α-chain under the control of the ubiquitous CAG promoter.

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

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
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<tr>
<td>N1F13p+F26</td>
<td>(2019-06-12 00:00:00)</td>
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Tg(CAG-FCGRT)276Dcr

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<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
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<tbody>
<tr>
<td>Transgenic</td>
<td>Fcgrt</td>
<td>Fc receptor, IgG, alpha chain transporter</td>
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Fcgrt<tm1Dcr>

<table>
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<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
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</thead>
<tbody>
<tr>
<td>Targeted</td>
<td>Fcgrt</td>
<td>Fc receptor, IgG, alpha chain transporter</td>
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</table>
FcRn-/- hFcRn (276) Tg mice harbor a knockout allele of the FcRn α-chain (Fcgrt\(^{tm1Dcr}\)) and express the human FcRn α-chain cDNA (FCGRT) under the control the human cytomegalovirus immediate early promoter/enhancer with chicken beta-actin/rabbit beta-globin hybrid promoter (CAG). FcRn-/- mice (see Stock No. 003982) lack murine FcRn α-chain expression and fail to transport IgG across the neonatal gut; they do not recycle IgG and albumin and therefore show low plasma levels of both. In FcRn-/- hFcRn (276) Tg mice, plasma albumin levels are similar to wild-type mice, however the serum IgG levels remain low due to the species-specific behavior of human FcRn. A number of studies have shown this model's usefulness for pharmacokinetic and pharmacodynamic studies of human IgG and to screen hIgGs, with regard to their serum half-life. For example, human antibodies engineered to have enhanced binding to human FcRn (Hu4D5-IgG1, directed against human EGFR2) exhibit a significant increase in their serum half-life (2-2.5 fold) in these mice. Specifically, longer half-lives are observed in this strain with mice homozygous for the hFcRn transgene (hFcRn Tg/Tg) when compared to mice hemizygous for the hFcRn transgene (hFcRn Tg/0), indicating that higher copy number correlates with higher expression of FCGRT and provides greater protection of IgG from clearance. This mouse model is useful for studying human FcRn biology and the behavior of IgG antibodies and Fc-domain proteins, including Fc-engineered molecules.
Genotyping Protocols
Separated PCR: Tg(FCGRT)
Standard PCR: Fcgrtm1Dcr
QPCR: Tg(FCGRT)

Genotyping resources and troubleshooting

Dietary Information
LabDiet® 5K52 formulation (6% fat)

Mating System
See "Breeding Considerations"

Citation
When using the FcRn KO hFcRn Tg mouse strain in a publication, please cite the originating article(s) and include JAX stock #004919 in your Materials and Methods section.

Pricing & Availability
Live mice available in varying quantities. Ask Customer Service for details.
### Related Products and Services

**Frozen Mouse Embryo**

B6.Cg-Fcgrt<tm1Dcr> Tg(CAG-FCGRT)276Dcr/DcrJ Frozen Embryo  

$2595.00

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### Live Mouse

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<th>PRICE</th>
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**Breeder Pair**

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Related Strains

All Related Strains

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<th>Description</th>
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Related By:
- Fcgr<sup>+</sup>, Fcgr<sup>int2.2r</sup>
- Fcgr<sup>tm1Dcr</sup>, Fcgr<sup>Prkdc<sup>scid</sup></sup> Tg(FCGRT)32Dc...
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