B6.FVB-Tg(ITGAM-DTR/EGFP)34Lan/J

Stock No: 006000 | CD11b-DTR

Congenic, Transgenic

Also Known As: CD11b-DTR

These transgenic mice have a diphereria toxin (DT) inducible system that transiently depletes macrophages in various tissues. The transgene insert contains a fusion product involving simian diphereria toxin receptor and green fluorescent protein under the control of the human ITGAM (integrin alpha M) promoter (CD11b). This mutant mouse strain may be useful in studies of the specific role of macrophages in the immune response.

Donating Investigator

Richard A. Lang, Cincinnati Children's Hospital

2-4 week lead time for up to 4 mice at 4-8 weeks old and age requests are not accepted
Details

Detailed Description

Mice that are homozygous for the transgene are viable, normal in size and do not display any gross physical or behavioral abnormalities. These transgenic mice have a diphtheria toxin (DT) inducible system that transiently depletes macrophages in various tissues. The transgene insert contains a fusion product involving simian diphtheria toxin receptor and green fluorescent protein under the control of the human ITGAM (integrin alpha M) promoter (CD11b). RT-PCR analysis of bone marrow macrophages detects specific transgene expression. Cytological analysis of thioglycollate treated peritoneal cells shows the absence of macrophages. Intraperitoneal injection of DT ablates monocyte/macrophage cells in the peritoneal cavity. Macrophage populations within various tissues demonstrate differential susceptibility DT induced deletion. Following DT administration macrophages are ablated in the peritoneum, kidney and ovary. Macrophage population is restored by day 4 following a single intraperitoneal dose of DT. Hepatic sinusoidal and alveolar macrophages were unaffected by administration of DT, and despite polymorphonuclear (PMN) leukocyte expression of CD11b, DT did not induce the death of recruited or circulating PMNs. When DT was administered at The Jackson Laboratory, splenic macrophages were still present, as assessed by F4/80 and CD11b staining. Higher doses (greater than 25ng/g body weight) of DT sickens the mice. Transgene expression is not sufficient to be detected by FACS analysis. This mutant mouse strain may be useful in studies of the specific role of macrophages in the immune response.

In an attempt to offer alleles on well-characterized or multiple genetic backgrounds, alleles are frequently moved to a genetic background different from that on which an allele was first characterized. It should be noted that the phenotype could vary from that originally described. We will modify the strain description if necessary as published results become available.

Development

Expression Data

Control Suggestions

Selected References

Genetics

Tg(ITGAM-DTR/EGFP)34Lan

Disease/Phenotype

Disease Terms

Research Areas By Genotype

Mammalian Phenotype Terms by Genotype
References

Technical Support

CONTACT TECHNICAL SUPPORT

Genotyping Protocols
Standard PCR: TG(DTR)
QPCR: Fluorescent Proteins -- Generic GFP
Genotyping resources and troubleshooting

Dietary Information
New Diet as of March 2015: Lab Diet® 5K0Q (6% fat)

Breeding Considerations
When maintaining a live colony, hemizygous mice may be bred together. If generated, homozygous offspring may also be bred together (although the phenotype of such animals is not currently known [Sep-2006]).

Additional Breeding and Husbandry Support

Mating System
Homozygote x Homozygote

Citation
When using the C57BL/6-Tg(DTR) mouse strain in a publication, please cite the originating article(s) and include JAX stock #006000 in your Materials and Methods section.

Facility Barrier Level Descriptions

Animal Health Reports
When using the C57BL/6-Tg(DTR) mouse strain in a publication, please cite the originating article(s) and include JAX stock #006000 in your Materials and Methods section.

Pricing & Availability

2–4 week lead time for up to 4 mice at 4–8 weeks old and age requests are not accepted

Live Mouse

<table>
<thead>
<tr>
<th>AGE</th>
<th>SEX</th>
<th>GENOTYPE</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approx 4–8 weeks</td>
<td>Female</td>
<td>Homozygous for Tg(ITGAM-DTR/EGFP)34Lan</td>
<td>$255.00</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Homozygous for Tg(ITGAM-DTR/EGFP)34Lan</td>
<td>$255.00</td>
</tr>
</tbody>
</table>

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All

By Allele

By Gene

By Collection

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