



C57BL/6-Tg(Foxp3-DTR/EGFP)23.2S_p

MMRRC Stock No: 32050-JAX | DEREG

Coisogenic, Transgenic



AVAILABLE

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

Also Known As: DEREK

These "depletion of regulatory T cell" (DEREG) BAC transgenic mice express a simian diphtheria toxin receptor-enhanced green fluorescent protein (DTR-eGFP) fusion protein under control of the endogenous forkhead box P3 promoter/enhancer regions on the BAC transgene. DTR-eGFP expression is observed in fully functional $Foxp3^+CD4^+$ regulatory T cell populations allowing fluorescent detection or diphtheria toxin-induced ablation $Foxp3^+$ T reg cells.

Donating Investigator

Tim Sparwasser, University Medical Center of the Johannes Gutenberg University Mainz

READ MORE +

GENETIC OVERVIEW

Genetic Background

Generation

?+pN3F9

(2019-01-25 00:00:00)

Tg(Foxp3-DTR/EGFP)23.2Spar

Allele Type

Transgenic (Inserted expressed sequence)

VIEW GENETICS

RESEARCH APPLICATIONS

Research Tools

Immunology, Inflammation and Autoimmunity Research

Internal/Organ Research

VIEW ALL RESEARCH APPLICATIONS

Details

Detailed Description

Mice hemizygous for the "depletion of regulatory T cell" (DEREG) BAC transgene are viable and fertile, with expression of a simian diphtheria toxin receptor-enhanced green fluorescent protein (DTR-eGFP) fusion protein under control of the endogenous *Foxp3* (forkhead box P3) promoter/enhancer regions on the BAC transgene. The donating investigator reports that transcription/translation from the BAC *Foxp3* locus is disabled. These DEREK mice have DTR-eGFP expression in fully functional $Foxp3^+CD4^+$ regulatory T cell populations with no observed influence on regulation of the endogenous *Foxp3* locus. Specifically, EGFP expression (via FACS) is observed mainly in $CD25^+CD4^+$ T cells, and allows specific detection of $Foxp3^+$ regulatory T cell populations. The donating investigator also reports that EGFP expression is measurable by direct fluorescence. Diphtheria toxin (DT) administration results in ablation of $Foxp3^+CD4^+$ T reg cells with no apparent affect on $CD25^+$ effector T cells. DT-induced depletion of $Foxp3^+CD4^+$ T reg cells is associated with enhanced and prolonged delayed-type hypersensitivity (DTH) responses and neonatal development of scurfy-like symptoms. The donating investigator reports that while homozygous females breed fine, homozygous males seem infertile.

+ Development

+ Expression Data

+ Control Suggestions

+ Selected References

- Genetics

+ Tg(Foxp3-DTR/EGFP)23.2Spar

- Disease/Phenotype

+ Disease Terms

+ Research Areas By Genotype

+ Mammalian Phenotype Terms by Genotype

+ References

- Technical Support

T E C H N I C A L S P P O R T C H A T

C O N T A C T T E C H N I C A L S U P P O R T

Genotyping Protocols

QPCR:[Generic GFP](#)

Probe:[Generic GFP](#)

Standard PCR:[Tg\(Foxp3-DTR/EGFP\)23.2Spar](#)

Standard PCR:[Tg\(Foxp3-DTR/EGFP\)23.2Spar](#)

[Genotyping resources and troubleshooting](#)

Dietary Information

LabDiet® 5K52 formulation (6% fat)

Breeding Considerations

When maintaining a live colony, hemizygous mice may be bred to wildtype (noncarrier) siblings or to C57BL/6J inbred mice (Stock No. 000664). The donating investigator reports that while homozygous females breed fine, homozygous males seem infertile.

[Additional Breeding and Husbandry Support](#)

Mating System

Noncarrier x Hemizygote

Hemizygote x Noncarrier

Citation

When using the DTR/EGFP mouse strain in a publication, please [cite the originating article\(s\)](#) and include MMRRC stock #32050 in your Materials and Methods section.

Animal Health Reports

[Facility Barrier Level Descriptions](#)

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