

## C.B6-Tg(Foxp3-DTR/EGFP)23.2Spar/Mmjax

MMRRC Stock No: 32049-JAX | DEREG

 Congenic, Transgenic

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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<sup>+</sup> CD4<sup>+</sup> regulatory T cell populations allowing fluorescent detection or diphtheria toxin-induced ablation Foxp3<sup>+</sup> T reg cells.

### Donating Investigator

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

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## GENETIC OVERVIEW

Genetic Background

Generation

### Tg(Foxp3-DTR/EGFP)23.2Spar

#### Alele Type

Transgenic (Inserted expressed sequence)

VIEW GENETICS

## RESEARCH APPLICATIONS

### Research Tools

Immunology, Inflammation and Autoimmunity Research

Internal/Organ Research

VIEW ALL RESEARCH APPLICATIONS

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## 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 DEREG 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.

*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.*

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### Development

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### Expression Data

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### Control Suggestions

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### Selected References

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## Genetics

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### Tg(Foxp3-DTR/EGFP)23.2Spar

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## Disease/Phenotype

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### Disease Terms

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### Research Areas By Phenotype

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### Mammalian Phenotype Terms by Genotype

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### References

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## 🔍 Technical Support

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

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

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

[Genotyping resources and troubleshooting](#)

### Breeding Considerations

When maintaining a live colony, hemizygous mice may be bred to wildtype (noncarrier) siblings or to BALB/cByJ inbred mice (Stock No. [001026](#)). The donating investigator reports that while homozygous females breed fine, homozygous males seem infertile.

[Additional Breeding and Husbandry Support](#)

### Citation

When using the DEREK mouse strain in a publication, please [cite the originating article\(s\)](#) and include MMRRC stock #32049 in your Materials and Methods section.

### Animal Health Reports

[Facility Barrier Level Descriptions](#)

*Production of mice from cryopreserved embryos or sperm occurs in a maximum barrier room, [G200](#)*

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