

**B6.129S6-Rac2<sup>tm1Mddw</sup>/J**

Stock No: **004197** | Rac2 KO

 Congenic, Targeted Mutation

Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.

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### Donating Investigator

David A. Williams, Indiana University

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## GENETIC OVERVIEW

Genetic Background

Generation

*Rac2<sup>tm1Mddw</sup>*

**Alele Type**

**Gene Symbol**

**Gene Name**

Targeted (Null/Knockout)

*Rac2*

Rac family small GTPase 2

VIEW GENETICS

## RESEARCH APPLICATIONS

Immunology, Inflammation and Autoimmunity Research

Research Tools

Developmental Biology Research

Hematological Research

Apoptosis Research

Cancer Research

VIEW ALL RESEARCH APPLICATIONS

## BASE PRICE

Starting at:

\$2,854.50 Domestic price Cryo Recovery

V I E W   P R I C E   L I S T

### Details

#### Detailed Description

Mice that are homozygous for the targeted mutation are viable, fertile, and normal in size but exhibit phagocytic immunodeficiency. No endogenous gene product (mRNA or protein) was detected by Northern blot analysis, RT-PCR or Western blot analysis. The Rac proteins are a subclass of the Rho family of GTPases, and are involved in actin cytoskeletal organization in cell movement, cell proliferation, kinase signaling pathways, and in superoxide production in phagocytic cells. Neutrophils and mast cells derived from homozygous mice display abnormal actin-based functions: cytoskeleton remodeling ability, adhesion, migration, degranulation, and phagocytosis. Diminished superoxide production in response to some agonists, and reduced total number of leukocytes and neutrophils in peritoneal exudate is observed. As result of functional deficiencies in neutrophil and mast cell populations, these mutant mice are more vulnerable to invasive infection. Slowed growth of mast cells, accompanying reduction in mast cell number and a significant decrease in growth factor-dependent survival was found to be due to increased cell apoptosis. These mutant mice may be useful in studies of phagocytic immunodeficiency, cellular inflammatory responses, hematopoietic cell regulation, and B cell development and signaling.

#### Development

#### Control Suggestions

#### Selected References

### Genetics

#### *Rac2<sup>tm1Mddw</sup>*

### Disease/Phenotype

#### Disease Terms

#### Research Areas By Phenotype

- 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:[Rac2](#)

[Genotyping resources and troubleshooting](#)

Breeding Considerations

This strain originated on a B6;129 background and has been backcrossed for at least 17 generations (11/01) on the C57BL/6 background. Homozygous mice must be maintained under specific pathogen-free conditions.

[Additional Breeding and Husbandry Support](#)

Citation

When using the Rac2 KO mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #004197 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](#)*

- Pricing & Availability



Cryo  
Recovery

Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.

Domestic | International

Pricing effective for USA, Canada and Mexico shipping destinations

CRYORECOVERY - DOMESTIC PRICING

SERVICE/PRODUCT	DESCRIPTION	PRICE
<a href="#">Cryo Recovery</a>	Heterozygous or Wild-Type for Rac2<tm1Mddw>	\$2,854.50

## RELATED PRODUCTS AND SERVICES

Frozen Mouse Embryo

B6.129S6-Rac2<tm1Mddw>/J Frozen Embryos

\$2595.00

## PAYMENT TERMS AND CONDITIONS

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## Terms Of Use

### TERMS OF USE

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### LICENSING INFORMATION

Phone: 207-288-6470

Email: [TechTran@jax.org](mailto:TechTran@jax.org)

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