

**B6.129S4-Gja4<sup>tm1Paul</sup> /J**

Stock No: **025698**

 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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ischemic injury recovery.

### Donating Investigator

David L Paul, Harvard Medical School

Alexander Simon, University of Arizona

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## GENETIC OVERVIEW

Genetic Background

Generation

*Gja4<sup>tm1Paul</sup>*

**Alele Type**

Targeted (Null/Knockout)

**Gene Symbol**

*Gja4*

**Gene Name**

gap junction protein, alpha 4

VIEW GENETICS

## RESEARCH APPLICATIONS

Developmental Biology Research

Cardiovascular Research

Research Tools

Reproductive Biology 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

The *Gja4* gene encodes an intercellular channel forming protein, also known as Connexin 37, that is a component of gap junctions. These mice carry a knock out mutation of the *Gja4* gene in which a PGK-NEO cassette replaces almost the entire coding region. Homozygous females are viable but infertile due to absence of ovulation (oocyte and ovarian follicle development arrest). Homozygous males and heterozygous females are viable and fertile. No gene product (mRNA or protein) is detected by RT-PCR of heart tissue from homozygous E11.5 embryos, immunohistochemical analysis of oocytes, aorta tissue, kidney, and platelets, and by Western blot analysis of aortic endothelial lysates, from homozygotes. Homozygous animals have increased numbers of collateral blood vessels and recover more quickly from experimental hindlimb ischemic injury, and exhibit enhanced ischemia-induced collateral remodeling and angiogenesis, compared to wildtype controls. In addition, arteriolar conducted vasoconstriction in the cremaster muscle is reduced. Bleeding time is reduced in homozygotes, with more rapid thrombus formation and increased platelet aggregation. Homozygous embryos exhibit enlarged jugular lymph sacs (at E13.5), and have fewer numbers of lymphatic valves at later stages. Adult homozygotes have a deficiency in lymphatic valves, including thoracic duct valves, and exhibit lymphatic dysfunction (as measured by Evans Blue dye assay). Venous valves are absent in peripheral veins of homozygous mice. During backcrossing, the Y chromosome may not have been fixed to the C57BL/6 genetic background. Male mice that are homozygous for the targeted mutation are viable and fertile.

#### + Development

#### + Control Suggestions

#### + Selected References

### – Genetics

#### + *Gja4*<sup>tm1Paul</sup>

## ⊖ Disease/Phenotype

[+ 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:[Gja4alternate1](#)

[Genotyping resources and troubleshooting](#)

### Breeding Considerations

When maintaining a live colony, heterozygous females and homozygous males can be bred. Homozygous females are infertile.

[Additional Breeding and Husbandry Support](#)

### Citation

When using the B6.129S4-*Gja4*<sup>tm1Paul</sup>/J mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #025698 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



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 wildtype for Gja4<tm1Paul>	\$2,854.50

## PAYMENT TERMS AND CONDITIONS

Terms are granted by individual review and stated on the customer invoice(s) and account statement. These transactions are payable in U.S. currency within the granted terms. Payment for services, products, shipping containers, and shipping costs that are rendered are expected within the payment terms indicated on the invoice or stated by contract. Invoices and account balances in arrears of stated terms may result in The Jackson Laboratory pursuing collection activities including but not limited to outside agencies and court filings.

## THE JACKSON LABORATORY'S GENOTYPE PROMISE

The Jackson Laboratory has rigorous genetic quality control and mutant gene genotyping programs to ensure the genetic background of JAX® Mice strains as well as the genotypes of strains with identified molecular mutations. JAX® Mice strains are only made available to researchers after meeting our standards. However, the phenotype of each strain may not be fully characterized and/or captured in the strain data sheets. **Therefore, we cannot guarantee a strain's phenotype will meet all expectations.** To ensure that JAX® Mice will meet the needs of individual research projects or when requesting a strain that is new to your research, we suggest ordering and performing tests on a small number of mice to determine suitability for your particular project. We do not guarantee [breeding performance](#) and therefore suggest that investigators order more than one breeding pair to avoid delays in their research.

## Terms Of Use

### TERMS OF USE

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Q U E S T I O N S   A B O U T   T E R M S   O F   U S E

### ADDITIONAL USE RESTRICTIONS APPLY

[Use of MICE by companies or for-profit entities requires a license prior to shipping.](#)

### LICENSING INFORMATION

Phone: 207-288-6470

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

## Related Strains

All

By Allele

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