

B6;129-Prg4^{tm2Mawa}/J

Stock No: **025740**

 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

Matthew Warman, Boston Children's Hospital, Harvard Medical School

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GENETIC OVERVIEW

Genetic Background

Generation

Prg4^{tm2Mawa}

Alele Type

Targeted (Conditional ready (e.g. floxed), Reporter, Null/Knockout, Inserted expressed sequence, Transactivator)

Gene Symbol

Prg4

Gene Name

proteoglycan 4 (megakaryocyte stimulating factor, articular superficial zone protein)

VIEW GENETICS

RESEARCH APPLICATIONS

Research Tools

Immunology, Inflammation and Autoimmunity 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

Congenital deficiency of the principal boundary lubricant in cartilage (lubricin, encoded by the gene *Prg4*, proteoglycan 4 (megakaryocyte stimulating factor, articular superficial zone protein)) increases joint friction and causes progressive joint failure.

These mice carry a floxed gene trap allele of the mouse *Prg4* gene designed to produce membrane-anchored β -galactosidase instead of lubricin in cells where *Prg4* is normally expressed. The genetrapp allele does not express wildtype *Prg4* mRNA, as determined by RT-PCR. Phenotypic features of the genetrapp allele recapitulate those of *Prg4* knockout alleles (protein deposition on cartilage by 2 months of age, increased articular joint friction, etc. - see Stock No. [025737](#)).

Cre-mediated excision of the genetrapp restores lubricin expression and the wildtype condition. Scattered areas of β -galactosidase expression may still be present in the synovium of treated mice, however, suggesting that lubricin expression may not be restored in every type B synoviocyte.

Restoring gene function prior to conception through crosses with germline-specific E1a-cre (see Stock No. [003724](#)) prevents cartilage damage. Tamoxifen-induced restoration of gene function (through crosses with *Gt(ROSA)26Sor^{CreER12}* (see Stock No. [008463](#))) at 3-weeks-of-age improves, but does not normalize, joint histology or whole joint friction. Restoring gene function in 2-month-old or 6-month-old mice has no beneficial effect.

The gene trap design additionally includes a reverse tet transactivator (rtTA) cassette.

Development

Expression Data

Control Suggestions

Genetics

[+](#) *Prg4^{tm2Mawa}*

– Disease/Phenotype

+ Disease Terms

+ Research Areas By Phenotype

+ Mammalian Phenotype Terms by Genotype

+ References

– 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

Separated PCR:[Prg4alternate1](#)

Standard PCR:[Generic Neo](#)

Standard PCR:[Generic LacZ Melt Curve Analysis](#)

Probe:[Generic Neo](#)

Probe:[Generic LacZ Probe](#)

[Genotyping resources and troubleshooting](#)

Breeding Considerations

Homozygotes and heterozygotes are viable and fertile.

[Additional Breeding and Husbandry Support](#)

Mating System

Wild-type x Heterozygote

Heterozygote x Wild-type

Citation

When using the B6;129-*Prg4*^{tm2Mawa}/J mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #025740 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



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Domestic International

Pricing effective for USA, Canada and Mexico shipping destinations

CRYORECOVERY - DOMESTIC PRICING

SERVICE/PRODUCT	DESCRIPTION	PRICE
Cryo Recovery	Heterozygous for Prg4<tm2Mawa>	\$2,854.50

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LICENSING INFORMATION

Phone: 207-288-6470

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