

**B6;129S-Matn1<sup>tm1Goe</sup>/J**

Stock No: **024003**

 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

Qian Chen, Rhode Island Hospital, Brown University

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## GENETIC OVERVIEW

Genetic Background

Generation

*Matn1<sup>tm1Goe</sup>*

Alele Type

Gene Symbol

Gene Name

Targeted (Null/Knockout)

*Matn1*

matrilin 1, cartilage matrix protein

VIEW GENETICS

## RESEARCH APPLICATIONS

Internal/Organ Research

Cell 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

Matrilin-1 (cartilage matrix protein; *Matn1*) is a homotrimeric protein that forms collagen-dependent and collagen-independent fibrils in the extracellular matrix of cartilage.

These targeted mutant mice carry a knockout allele of the *Matn1* gene. Ultrastructural studies of the cartilage of long bone growth plates from homozygotes reveals an abnormal type II collagen fibrillogenesis and fibril organization in the matrix of the zone of maturation. In contrast to the meshwork-like organization of collagen fibrils in wildtype cartilage, the fibrils of matrilin null animals are unidirectional. Fibrils in the mutant cartilage also become significantly larger in diameter than those of controls. The cartilage matrix is stiffer in knockout mice, and the knee joint is prone to injury-induced osteoarthritis.

Reduced matrilin content in the pericellular matrix surrounding chondrocytes decreases their proliferative/gene expression responses to mechanical stimulation. Chondrocytes from the knockout mice cultured under mechanical pressure show only a 0.5-fold increase in mRNA levels of collagen type X, in comparison to the more than 2.5-fold increase seen in wildtype chondrocytes.

Mice heterozygous or homozygous for the targeted allele grow normally and display no major phenotypic differences from the wild-type littermates during skeletal development. Homozygous null mice are fully viable with normal fecundity.

### Development

### Control Suggestions

### Selected References

## Genetics

### *Matn1*<sup>tm1Goe</sup>

## Disease/Phenotype

### Disease Terms

[+ Research Areas By Phenotype](#)

[+ Mammalian Phenotype Terms by Genotype](#)

[+ References](#)

## [- Technical Support](#)

### CONTACT TECHNICAL SUPPORT

#### Genotyping Protocols

Standard PCR:[Matn1alternate3](#)

Standard PCR:[Generic Neo](#)

Probe:[Generic Neo](#)

[Genotyping resources and troubleshooting](#)

#### Breeding Considerations

Homozygotes and heterozygotes are viable and fertile.

[Additional Breeding and Husbandry Support](#)

#### Citation

When using the B6;129S-*Matn1*<sup>tm1Goe</sup>/J mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #024003 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 for <i>Matn1</i> <tm1Goe>	\$2,854.50

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

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