

**C3Bir.129P2(B6)-I110<sup>tm1Cgn</sup>/LtJ**

Stock No: **003968** | IL-10 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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one of several genes whose disruption induces IBD.

### Donating Investigator

Dr. Edward Leiter, The Jackson Laboratory

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## GENETIC OVERVIEW

### Genetic Background

### Generation

*Tlr4<sup>Lps-d</sup>*

#### Alele Type

Spontaneous

#### Gene Symbol

*Tlr4*

#### Gene Name

toll-like receptor 4

*I110<sup>tm1Cgn</sup>*

#### Alele Type

Targeted (Null/Knockout)

#### Gene Symbol

*I110*

#### Gene Name

interleukin 10

VIEW GENETICS

## RESEARCH APPLICATIONS

Cancer Research

Immunology, Inflammation and Autoimmunity Research

Hematological Research

## BASE PRICE

Starting at:

\$2,854.50 Domestic price Cryo Recovery

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### Details

#### Detailed Description

Mice homozygous for the *Il10*<sup>tm1Cgn</sup> targeted mutation are viable and fertile when housed under specific pathogen free (SPF) conditions. Under conventional housing conditions, *Il10*-deficiency is associated with altered lymphocyte and myeloid profiles, elevated serum amyloid A levels, altered responses to inflammatory or autoimmune stimuli (both endogenous and induced), increased prevalence of colorectal adenocarcinoma (especially on 129/Sv and, to a lesser extent, BALB/c genetic background), and spontaneous development of chronic enterocolitis (see below). As The Jackson Laboratory Repository maintains these mice at high health status conditions (high SPF), the observed or experimentally-induced *Il10*-deficient phenotype may vary from that previously published using mice from conventional mouse rooms. These IL-10 mutant mice may be useful studying inflammatory bowel disease (IBD) (Crohn's disease (CD) and/or colitis), cancer, innate and adaptive immunity, and many other areas of inflammatory or autoimmunity research.

**The onset and severity of both spontaneous and experimentally-induced inflammatory phenotype of *Il10*-deficient mice is strongly influenced by the genetic background and the husbandry conditions (specific health status/commensal flora) of the vivaria in which mice are maintained.**

For example, inflammatory bowel disease (IBD; colitis and Crohn's disease) severity in mouse models is dependent upon interactions between specific genetic background and environmental factors (an as yet undefined component of the enteric flora of which *Helicobacter spp.* appear to be associated, but not specifically the environmental trigger). Both spontaneous and induced models of IBD demonstrate that susceptibility to intestinal inflammation varies markedly among inbred strains of mice. Generally, for *Il10*-deficient models on defined genetic backgrounds, the severity of colitis-related characteristics is most severe on this C3H/HeJBir background (Stock No. 003968) or 129/Sv (Stock No. 004368), intermediate on BALB/cJ (Stock No. 004333) or NOD/Lt (Stock No. 004266), and least severe on C57BL/10 (Stock No. 002250) or C57BL/6J (Stock No. 002251). Furthermore, the husbandry conditions (specific health status/commensal flora) of the vivaria in which mice are maintained significantly alter the onset and severity of spontaneous IBD; higher SPF conditions are associated with attenuated colitis. *Il10*-deficient mice on both the C3H/HeJBir and C57BL/6J genetic backgrounds exhibit a significant increase in peripheral blood granulocyte populations upon lesion development and this metric may be used as a robust non-lethal assessment of *Il10*-deficiency induced colitis onset and severity. Other indications of *Il10*-deficiency induced colitic lesion onset may include perianal ulceration (C3H/HeJBir background) or rectal prolapse (C57BL/6J background).

#### Development

#### Control Suggestions

#### Selected References

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## – Genetics

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+ [Tlr4<sup>Lps-d</sup>](#)

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+ [Il10<sup>tm1Cgn</sup>](#)

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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:Il10](#)

[Standard PCR:Il10](#)

[Genotyping resources and troubleshooting](#)

### Breeding Considerations

When maintaining a live colony, homozygous mice may be bred together. As homozygous mice are more susceptible to pathogenic bacteria, high specific pathogen-free (SPF) conditions are recommended for optimal breeding. However, the onset and severity of both the spontaneous and experimentally-induced inflammatory phenotype of *Il10*-deficient mice is strongly influenced by the genetic background and the husbandry conditions (specific health status/commensal flora) of the vivaria in which mice are maintained and such high SPF conditions may attenuate the desired *Il10*-deficient phenotype.

[Additional Breeding and Husbandry Support](#)

### Citation

When using the IL-10 KO mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #003968 in your Materials and Methods section.

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## 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

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## Domestic | International

Pricing effective for USA, Canada and Mexico shipping destinations

### CRYORECOVERY - DOMESTIC PRICING

SERVICE/PRODUCT	DESCRIPTION	PRICE
<a href="#">Cryo Recovery</a>	Homozygous for Il10<tm1Cgn>, 1 pair minimum	\$2,854.50

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