The Jackson Laboratory

C.129P2(B6)-*Il10* ^{tm1Cgn} /J

Stock No: **004333** | BALB 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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colorectal adenocarcinoma and spontaneous development of chronic enterocolitis. . These IL-10 mutant mice may be useful studying inflammatory bowel disease (Crohn's disease and/or colitis), cancer, innate and adaptive immunity, and many other areas of inflammatory or autoimmunity research.

Donating Investigator

Donna Rennick, DNAX Research Institute

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GENETIC OVERVIEW

Genetic Background	Generation
000651 BALB/cJ	

Il10^{tm1Cgn}

Allele Type	Gene Symbol	Gene Name
Targeted (Null/Knockout)	*Il10*	interleukin 10

VIEW GENETICS

RESEARCH APPLICATIONS

Hematological Research
Immunology, Inflammation and Autoimmunity Research
Cell Biology Research
Internal/Organ Research
Cancer Research

VIEW ALL RESEARCH APPLICATIO

BASE PRICE

Starting at:

$2,854.50 Domestic price Cryo Recovery

VIEW PRICE LIST

Details

Detailed Description

Mice homozygous for the *Il10*^{tm1Cgn} 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 C3H/HeJBir (Stock No. 004326 and 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

Genetics

Il10^{tm1Cgn}

Disease/Phenotype

Disease Terms

Research Areas By Phenotype

Mammalian Phenotype Terms by Genotype

References

Technical Support

CONTACT TECHNICAL SUPPORT

Genotyping Protocols

Standard PCR:Il10
Standard PCR:Il10
Genotyping resources and troubleshooting

Breeding Considerations

This strain originated on a B6;129P2 background and has been backcrossed for 18 generations on the BALB/cJ (Stock No. 000651) background. 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

Mating System

Homozygote x Homozygote

Citation

When using the BALB IL-10 KO mouse strain in a publication, please cite the originating article(s) and include JAX stock #004333 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
Cryo Recovery	Heterozygous for Il10<tm1Cgn>	$2,854.50

RELATED PRODUCTS AND SERVICES

Frozen Mouse Embryo	C.129P2(B6)-Il10<tm1Cgn>/J Frozen Embryos	$2595.00

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