

B6N.129-Nlrp3^{tm3Hhf}/J
Stock No: **017971** | Nlrp3^{D301Nneor}

◆ 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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useful in studying the role of cryopyrin in the regulation of autoinflammatory diseases.

Donating Investigator

Hal M Hoffman, UCSD

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GENETIC OVERVIEW

Genetic Background

Generation

Nlrp3^{tm3Hhf}

Alele Type

Targeted (Conditional ready (e.g. floxed), Humanized sequence, No functional change)

Gene Symbol

Nlrp3

Gene Name

NLR family, pyrin domain containing 3

VIEW GENETICS

RESEARCH APPLICATIONS

Research Tools

Immunology, Inflammation and Autoimmunity Research

Internal/Organ 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

Nlrp3^{D301NeoR} mice contain a floxed neomycin cassette in intron 2 of the NLR family, pyrin domain containing 3 gene, *Nlrp3*, in opposite orientation to gene (neoR), abolishing gene expression. These mice also contain a point mutation in exon 3, which results in a missense mutation, D301N corresponding to human amino acid 303. This mutation is commonly found in humans with neonatal onset multisystem inflammatory disease (NOMID) which is characterized by systemic inflammation and skeletal abnormalities. NLRP3 encodes the protein cryopyrin, which is a cytosolic nucleotide-binding domain and leucine-rich repeat containing (NLR) protein expressed in white blood cells and chondrocytes. Cryopyrin controls the formation of the inflammasome which regulates the immune system's response to injury, toxins, and infection by cleaving interleukin (IL)-1 β . NLRP3 mutations are known to cause autoinflammatory diseases known as cryopyrin-associated periodic syndromes (CAPS) such as NOMID, Muckle-Wells syndrome (MWS), and familial cold autoinflammatory syndrome (FCAS). Heterozygotes are viable and fertile. When bred to mice that express Cre recombinase, resulting offspring will have the floxed-neoR deleted in the cre-expressing tissues, allowing expression of the mutated gene.

For example, when bred to mice ubiquitously expressing zona pellucida glycoprotein 3 (Zp3)-cre mice, *Nlrp3*^{D301NeoR} expression results in systemic inflammation, growth retardation, growth plate disorganization, and low bone mass, and accelerated bone resorption.

Development

Control Suggestions

Genetics

Nlrp3^{tm3Hhf}

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

Pyrosequencing:[** Nlrp3*D301N](#)

Separated MCA:[Nlrp3MCA](#)

Separated PCR:[Nlrp3](#)

[Genotyping resources and troubleshooting](#)

Breeding Considerations

When maintaining a live colony, homozygous mice may be bred together.

[Additional Breeding and Husbandry Support](#)

Citation

When using the $Nlrp3^{D301NeoR}$ mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #017971 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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CRYORECOVERY - DOMESTIC PRICING

SERVICE/PRODUCT	DESCRIPTION	PRICE
Cryo Recovery	Heterozygous or wildtype for Nlrp3<tm3Hhf>	\$2,854.50

RELATED PRODUCTS AND SERVICES

Frozen Mouse Embryo	B6N.129-Nlrp3<tm3Hhf>/J	\$2595.00
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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.

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LICENSING INFORMATION

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