

B6N.129S2-Ncf1^{tm1Shl}/J
Stock No: **027331** | p47^{phox}

 Congenic, Targeted Mutation

Live mice available in varying quantities. Ask Customer Service for details.

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Donating Investigator

Steven M Holland, National Institute of Allergy and Infectious Diseases

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GENETIC OVERVIEW

Genetic Background

Generation

N?+pN1F13
(2020-01-16 00:00:00)

Ncf1^{tm1Shl}

Alele Type

Gene Symbol

Gene Name

Targeted (Null/Knockout)

Ncf1

neutrophil cytosolic factor 1

VIEW GENETICS

RESEARCH APPLICATIONS

Virology Research
Research Tools

VIEW ALL RESEARCH APPLICATIONS

BASE PRICE

Starting at:

\$270.00 Domestic price for female 4-week

V I E W P R I C E L I S T

Details

Detailed Description

$p47^{phox-/-}$ mice contain a neo cassette interrupting exon 7, at amino acid 221, of the neutrophil cytosolic factor 1 (*Ncf1*) gene, abolishing gene function. Mice homozygous for this allele are viable and fertile. $p47^{phox}$ is the cytosolic subunit of phagocyte nicotinamide dinucleotide phosphate (NADPH) oxidase, and is required for its activation and subsequent production of superoxide. Superoxide is a toxic oxygen species that has been noted for the oxidative damage it causes during aging and in the development of some autoimmune diseases and cancers. Superoxide is also deployed by the immune system for use in oxygen-dependent killing mechanisms of invading pathogens. Mutations in $p47^{phox}$ has been linked to the onset of the immunodeficiency syndrome chronic granulomatous disease (CGD) which is characterized by extreme susceptibility to infection.

Homozygous $p47^{phox-/-}$ mice are susceptible to infections by pathogens such as *Staphylococcus spp.*, *Lactobacillus*, the *Burkholderia cepacia* complex, *Serratia marcescens*, *Aspergillus spp.*, and *Nocardia spp.* but not *Escherichia coli*. Following intraperitoneal injection with thioglycolate, mice exhibit inflammation recruiting twice as many leukocytes as controls. Homozygotes develop lethal infections and granulomatous inflammation similar to those encountered in human CGD patients. Leukocyte numbers and survival in heterozygotes are not significantly different from that seen in wildtype control mice.

Development

Control Suggestions

Selected References

Genetics

$Ncf1^{tm1Shl}$

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

Standard PCR:[Ncf1](#)

[Genotyping resources and troubleshooting](#)

Dietary Information

New Diet as of March 2015: Lab Diet® 5K0Q (6% fat)

Breeding Considerations

When maintaining a live colony, homozygous mice may be bred together. Due to the increase in lethality after infection, the donating investigator maintains their colony in a specific pathogen free (SPF) facility.

[Additional Breeding and Husbandry Support](#)

Mating System

Homozygote x Homozygote

Citation

When using the p47^{phox} mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #027331 in your Materials and Methods section.

Animal Health Reports

[Facility Barrier Level Descriptions](#)

 [AX18 \(Maximum\)](#)

[- Pricing & Availability](#)



Live mice available in varying quantities. Ask Customer Service for details.

Available

Domestic **International**

Pricing effective for USA, Canada and Mexico shipping destinations

LIVE MOUSE

AGE

SEX

GENOTYPE

PRICE

4 weeks	SEX	Homozygous for Ncf1 ^{tm1Shl}	\$270.00
	Male	Homozygous for Ncf1 ^{tm1Shl}	\$270.00
5 weeks	Female	Homozygous for Ncf1 ^{tm1Shl}	\$270.00
	Male	Homozygous for Ncf1 ^{tm1Shl}	\$270.00
6 weeks	Female	Homozygous for Ncf1 ^{tm1Shl}	\$270.00
	Male	Homozygous for Ncf1 ^{tm1Shl}	\$270.00
7 weeks	Female	Homozygous for Ncf1 ^{tm1Shl}	\$270.00
	Male	Homozygous for Ncf1 ^{tm1Shl}	\$270.00
8 weeks	Female	Homozygous for Ncf1 ^{tm1Shl}	\$270.00
	Male	Homozygous for Ncf1 ^{tm1Shl}	\$270.00
9 weeks	Female	Homozygous for Ncf1 ^{tm1Shl}	\$270.00
	Male	Homozygous for Ncf1 ^{tm1Shl}	\$270.00
10 weeks	Female	Homozygous for Ncf1 ^{tm1Shl}	\$270.00
	Male	Homozygous for Ncf1 ^{tm1Shl}	\$270.00
11 weeks	Female	Homozygous for Ncf1 ^{tm1Shl}	\$270.00
	Male	Homozygous for Ncf1 ^{tm1Shl}	\$270.00
12 weeks	Female	Homozygous for Ncf1 ^{tm1Shl}	\$270.00
	Male	Homozygous for Ncf1 ^{tm1Shl}	\$270.00

RELATED PRODUCTS AND SERVICES

Frozen Mouse Embryo	B6N.129S2-Ncf1<tm1Shl>/J Frozen Embryo	\$2595.00
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Q U E S T I O N S A B O U T T E R M S O F U S E

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