

NOD.129S2(B6)-*Ins2*^{tm1Jja}/GseJ

Stock No: 005036 | NOD.*Ins2*^{null}

 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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These *Ins2* knock-out mice exhibit high levels of insulin auto-antibodies and diabetes incidence occurs in all these mice.

Donating Investigator

George Eisenbarth, U of Colorado

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GENETIC OVERVIEW

Genetic Background

001976 NOD/ShiLtJ

Generation

?+pN1
(2020-12-14 00:00:00)

Ins2^{tm1Jja}

Alele Type

Targeted (Reporter,
Null/Knockout)

Gene Symbol

Ins2

Gene Name

insulin II

VIEW GENETICS

RESEARCH APPLICATIONS

Diabetes and Obesity 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

Important Note

NOD-*Ins2* KO Diabetes incidence study performed at The Jackson Laboratory show that 90 percent of both male and female homozygous animals become diabetic by 13 weeks of age, however diabetes in untreated homozygous males and females has been identified as early as 4-5 weeks of age.

Detailed Description

Ins2^{tm1Jja} heterozygous mice are viable, fertile, normal in size, and do not display any gross physical or behavioral abnormalities.

RT-PCR detects no expression of *Ins2* in the thymus or pancreas of *Ins2*^{tm1Jja} homozygous mice and Insulin Autoantibody Assays (IAA) indicate that by four weeks of age insulin auto-antibodies were significantly higher than NOD controls. Diabetes incidence occurs in 100 percent of the homozygous females by 15 weeks of age compared with 77% wildtype females by 27 weeks of age. While 100 percent of the homozygote males are diabetic by 22 weeks old compared to 28 percent of the wildtype males by 27 weeks of age. Histological evaluation found extensive islet infiltration in 8 week old homozygous mice compared to wildtype mice in which a minority of islets were infiltrated.

NOD.129S2(B6)-*Ins2*^{tm1Jja}/GseJ is useful for studying insulin autoantigens and their role in the autoimmune process leading to Type 1 Diabetes.

Development

Expression Data

Control Suggestions

Selected References

Genetics

Ins2^{tm1Jja}

– 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:[Ins2](#)

Separated PCR:[Ins2alternate1](#)

Separated MCA:[Ins2](#)

Standard PCR:[Ins2](#)

[Genotyping resources and troubleshooting](#)

Breeding Considerations

[NOD-Ins2 KO](#) diabetes incidence study performed at The Jackson Laboratory show that 90 percent of both male and female homozygous animals become diabetic by 13 weeks of age, however diabetes in untreated homozygous males and females has been identified as early as 4-5 weeks of age. Recommended breeding scheme is heterozygous x heterozygous or heterozygous female x homozygous male.

A footpad injection of Complete Freund's Adjuvant (CFA) administered once at weaning will delay diabetes onset, thus extending the lifespan of breeders, both heterozygous and homozygous. Use of Complete Freund's Adjuvant in NOD mice can be found in [Current Protocols](#) in Immunology page 15.9.19, Reproduction.

[Additional Breeding and Husbandry Support](#)

Appearance

albino

Related Genotype: $A^?$, Tyr^c/Tyr^c

Citation

When using the NOD.[Ins2^{null}](#) mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #005036 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](#)

 [FGB29 \(Standard\)](#)

➔ 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 or wildtype for Ins2<tm1Jja>	\$2,854.50

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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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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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Email: TechTran@jax.org

Related Strains

All

By Allele

By Gene

By Collection



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