

NONcNZO10/LtJ

Stock No: 004456

 Recombinant Congenic (RC)

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

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Also Known As:RCS-10

NONcNZO10/LtJ is a recombinant congenic strain developed at The Jackson Laboratory to model human obesity-induced Type 2 diabetes and Metabolic Syndrome. Type 2 diabetes in males of this strain results from polygenic interactions producing a moderate obesity rather than the massive obesity elicited by mutations in the leptin/leptin receptor axis. Unlike mice with monogenic obesity syndromes, NONcNZO10/LtJ males do not exhibit hypercorticism, are not hyperphagic, and show no obvious thermoregulatory defects. Male mice weaned onto LabDiet[®] 5K20 (a chow diet containing 10-11% fat by weight) develop visceral obesity, maturity-onset hyperglycemia, dyslipidemia, moderate liver steatosis, and pancreatic islet atrophy.

Donating Investigator

Dr. Edward Leiter, The Jackson Laboratory

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GENETIC OVERVIEW

Genetic Background

002423 NON/ShiLtJ

Generation

N1F17p+F18
(2021-04-06 00:00:00)

RESEARCH APPLICATIONS

Diabetes and Obesity Research

[VIEW ALL RESEARCH APPLICATIONS](#)

BASE PRICE

Starting at:

\$278.00 Domestic price for female 4-week

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Details

Detailed Description

Onset of hyperglycemia occurs between 10-12 on a 10-11% fat (wt/wt) chow diet with greater than 85% diabetic by 18 weeks. Males exhibit increased serum triglycerides, moderate to severe liver steatosis and pancreatic islet atrophy similar to NZO/HILt males. Serum insulin and leptin values are significantly lower than in NZO/HILt, and are only moderately elevated above those recorded in NON/ShiLtJ males. Unlike the very obese NZO/HILt mice, NONcNZO10/LtJ mice do not exhibit hyperphagia or hypercorticism and are much easier to breed. Although NONcNZO10/LtJ males develop only a moderate level of obesity compared to NZO/HILt males, the interaction with known diabetogenic QTL from the NON/ShiLtJ strain produce an earlier onset and higher prevalence of chronic hyperglycemia than observed in NZO/HILt males.

NONcNZO10/LtJ is differentially sensitive to adverse hepatic side effects of thiazolidinediones and may be useful for pharmacogenetic analysis. This strain represents a model of polygenic obesity and obesity-induced diabetes (diabesity).

Note that the diabetes phenotype originally characterized by Dr. Leiter in his research vivarium was performed with mice fed a 6% wt/wt diet. After the strain was rederived it was experimentally determined that it is essential to feed the mice a higher fat diet to force penetrance of the diabetes phenotype.

Development

Control Suggestions

Selected References

– Genetics

Currently there are no related genes or alleles for this strain.

– Disease/Phenotype

+ [Disease Terms](#)

+ [Research Areas By Phenotype](#)

+ [Mammalian Phenotype Terms by Genotype](#)

+ [Phenotype Information](#)

+ [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

[Genotyping resources and troubleshooting](#)

Dietary Information

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

Breeding Considerations

As of March 2015, mice in breeding are maintained on LabDiet® 5K0Q [6% fat].

Offspring are weaned onto and maintained on [LabDiet® 5K20](#) [minimum 10% fat].

[Additional Breeding and Husbandry Support](#)

Mating System

Sibling x Sibling

Appearance

albino

Related Genotype: *A/A Tyr^c/Tyr^c*

Citation

When using the NONcNZO10/LtJ mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #004456 in your Materials and Methods section.

Animal Health Reports

[Facility Barrier Level Descriptions](#)

 [AX18 \(Maximum\)](#)

🔵 Pricing & Availability



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Domestic **International**

Pricing effective for USA, Canada and Mexico shipping destinations

LIVE MOUSE			
AGE	SEX	GENOTYPE	PRICE
4 weeks	Female	Not Applicable	\$278.00
	Male	Not Applicable	\$278.00
5 weeks	Female	Not Applicable	\$278.00
	Male	Not Applicable	\$278.00
6 weeks	Female	Not Applicable	\$278.00
	Male	Not Applicable	\$278.00
7 weeks	Female	Not Applicable	\$278.00
	Male	Not Applicable	\$278.00
8 weeks	Female	Not Applicable	\$278.00
	Male	Not Applicable	\$278.00
9 weeks	Female	Not Applicable	\$278.00
	Male	Not Applicable	\$278.00
10 weeks	Female	Not Applicable	\$278.00
	Male	Not Applicable	\$278.00
11 weeks	Female	Not Applicable	\$278.00
	Male	Not Applicable	\$278.00
12 weeks	Female	Not Applicable	\$278.00
	Male	Not Applicable	\$278.00

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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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Q U E S T I O N S A B O U T T E R M S O F U S E

ADDITIONAL USE RESTRICTIONS APPLY

[Notice regarding NONcNZO10/LtJ Female](#)

[Notice regarding NONcNZO10/LtJ Male](#)

LICENSING INFORMATION

Phone: 207-288-6470

Email: TechTran@jax.org

Related Strains

All

By Allele

By Gene

By Collection



METABOLIC STRAINS

Need assistance determining which metabolic strain to choose for your experiment?

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