NONcNZ010/LtJ

Stock No: 004456

- Recombinant Congenic (RC)

**AVAILABLE FOR PRE-ORDER**

**PRE-ORDER NOW**

Estimated to begin distribution on Jul 1, 2019

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**Overview**

Also Known As: RCS-10

NONcNZ010/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, NONcNZ010/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.<br>

This strain is experiencing poor productivity. There will be a delay filling orders while we expand our colony

Donating Investigator
Dr. Edward Leiter, The Jackson Laboratory

GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
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<tbody>
<tr>
<td>002423 NON/ShiLtJ</td>
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</tr>
</tbody>
</table>

RESEARCH APPLICATIONS
Diabetes and Obesity Research

BASE PRICE
Starting at:
$278.00 Domestic price for female

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 (diabetes). 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.

Genetics

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

Disease/Phenotype

Genotyping Protocols
Genotyping resources and troubleshooting

Breeding Considerations
Mice in breeding are maintained on LabDiet® 5K54.
Offspring are weaned onto and maintained on LabDiet® 5K20.
Additional Breeding and Husbandry Support

Mating System
Sibling x Sibling

Appearance
albino
Related Genotype: A/A Tyr+/Tyr+
Pricing & Availability

Estimated to begin distribution on Jul 1, 2019

Available for Pre-order

Domestic International
Pricing effective for USA, Canada and Mexico shipping destinations

Live Mouse

<table>
<thead>
<tr>
<th>AGE</th>
<th>SEX</th>
<th>GENOTYPE</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approx 4-8 weeks</td>
<td>Female</td>
<td>Not Applicable</td>
<td>$278.00</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Not Applicable</td>
<td>$278.00</td>
</tr>
</tbody>
</table>

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Terms of Use
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Notice regarding NONcNZ010/LtJ Male

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Email: TechTran@jax.org
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Related Strains

All

By Allele