Overview

Also Known As: hTRX-2, hTRX2-41

These hTRX-2 transgenic mice express human TXN2, thioredoxin 2, under the direction of the human ACTB, actin beta, promoter, and exhibit increased resistance to experimentally induced oxidative stress. These mice may be suitable for use in studies related to mitochondrial reactive oxygen species homeostasis and regulation of apoptosis.
Mitochondrial thioredoxin 2, encoded by the TXN2 gene, is involved in the regulation of the mitochondrial membrane potential by suppressing generation of mitochondrial reactive oxygen species and in protection against oxidant-induced apoptosis. These transgenic mice express human TXN2, thioredoxin 2, under the direction of the human ACTB, actin beta, promoter. Transgene expression is detected by western blot in hippocampal tissue. Other tissues were not tested for transgene expression.

When fed a high calorie diet transgenic mice maintain elevated levels of thioredoxin 2, while wildtype controls exhibit reduced levels of endogenous thioredoxin 2. Transgenic mice exhibit increased resistance to experimentally (diquat) induced oxidative stress in plasma and liver. Hemizygous mice are viable and fertile. Homozygous viability/fertility has not been tested (May 2017).
Genotyping Protocols
Standard PCR: Tg(ACTB-TXN2)41Mpm
Genotyping resources and troubleshooting

Breeding Considerations
When maintaining a live colony, hemizygous mice may be bred together, to wildtype siblings, or to C57BL/6J inbred mice (Stock No. 000664). The Donating Investigator has not attempted to make the strain homozygous. Homozygous viability/fertility has not been tested (May 2017).

Additional Breeding and Husbandry Support

Citation
When using the hTRX2-41 mouse strain in a publication, please cite the originating article(s) and include JAX stock #030429 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
Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.

<table>
<thead>
<tr>
<th>SERVICE</th>
<th>GENOTYPE</th>
<th>PRICE</th>
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<tbody>
<tr>
<td>Cryo Recovery</td>
<td>Hemizygous or non-carrier for Tg(ACTB-TXN2)41Mpm</td>
<td>$2,854.50</td>
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</tbody>
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We will fulfill your order by providing at least two carriers for each strain ordered. The total number, sex, and genotypes provided will vary, although typically 8 or more animals are provided. Please check genotypes which will be recovered. While the genotypes of all animals produced will be communicated to you prior to scheduling shipment, the genotypes of animals provided may not reflect the mating scheme and genotypes described in the strain description. Animals are typically ready to ship in 11-14 weeks. If a second recovery is required to produce the minimum number of animals, then delivery time would increase to approximately 25 weeks. If we fail to produce animals of the correct genotype, you will not be charged. We cannot guarantee the reproductive success of mice shipped to your facility. If the mice are lost after the first three days (post-arrival) or do not produce progeny at your facility, a new order and fee will be necessary.

Cryorecovery to establish a Dedicated Supply for greater quantities of mice. Mice recovered can be used to establish a dedicated colony to contractually supply you mice according to your requirements. Price by quotation.

### Related Products and Services

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<tr>
<th>Product</th>
<th>Genotype</th>
<th>Price</th>
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<tbody>
<tr>
<td>Frozen Mouse Embryo</td>
<td>C57BL/6-Tg(ACTB-TXN2)41Mpm/J</td>
<td>$2595.00</td>
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**Payment Terms and Conditions**

Terms are granted by individual review and stated on the customer invoice(s) and account statement. These transactions are payable in U.S. currency within the granted terms. Payment for services, products, shipping containers, and shipping costs that are rendered are expected within the payment terms indicated on the invoice or stated by contract. Invoices and account balances in arrears of stated terms may result in The Jackson Laboratory pursuing collection activities including but not limited to outside agencies and court filings.

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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.
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Related Strains

- All
- By Allele
- By Gene