Overview

Also Known As: hypothyroid
These mice carry a spontaneous mutation at the Tshr locus characterized by growth retardation, low thyroid hormone levels, elevated thyroid stimulating hormone (TSH), hypoplastic thyroid glands, and stereocilia defects of the cochlear hair cells resulting in deafness.

READ MORE +
**Tshr<sup>hyt</sup>**

### Allele Type
Spontaneous

### Gene Symbol
Tshr

### Gene Name
thyroid stimulating hormone receptor

### RESEARCH APPLICATIONS
Endocrine Deficiency Research  
Internal/Organ Research  
Neurobiology Research  
Sensorineural Research  
Mouse/Human Gene Homologs

### BASE PRICE
Starting at:

- $2,854.50 Domestic price Cryo Recovery

### Details

#### Detailed Description
Mice homozygous for the hypothyroid spontaneous mutation (Tshr<sup>hyt</sup>) are characterized by growth retardation, low thyroid hormone levels, elevated thyroid stimulating hormone (TSH) and hypoplastic thyroid glands. Homozygous mice of both sexes are infertile but fertility as well as growth can be restored by treatment with thyroid hormone. The mice do not respond to exogenous TSH.

Homozygous mutant mice also have delayed eye-opening and raising of the ear-pinna to 17 and 20 days of age respectively, and display auditory defects characterized by morphologic abnormalities of the stereocilia on both inner and outer hair cell systems. Administration of thyroxin from conception through postnatal day 28 ameliorates the phenotypes of hearing, body weight, and age of eye-opening and pinna-raising to a greater degree than administration only prenatally and a much greater degree than administration only postnatally (Spremkle et al., 2001).

#### Control Suggestions

#### Genetics

- **Tshr<sup>hyt</sup>**

#### Disease/Phenotype
Genotyping Protocols
Pyrosequencing: Tshr
Genotyping resources and troubleshooting

Breeding Considerations
This strain carrying the hypothyroid mutation is maintained by mating heterozygous females with homozygous males. Male mice used for breeding at The Jackson Laboratory are implanted with a 60-day timed-release capsule containing 5 mg of L-thyroxine under the skin. Homozygous females are not used for breeding because implanted L-thyroxine will pass through the milk to nursing pups. Implantation is done under the skin at the back of the neck at 5-7 weeks of age. Some male homozygotes will begin breeding prior to implantation, and if this is the case, we do not use the capsule. Capsules are not replaced at the end of 60 days, but our breeder pairs here at The Jackson Laboratory will often continue to breed for up to a year. Capsules may be purchased from Innovative Research of America, Sarasota, FL. The Jackson Laboratory does not implant L-thyroxine capsules in male homozygous mice prior to distribution.

Additional Breeding and Husbandry Support

Appearance
albino
Related Genotype: A/A Tyrp1b/Tyrp1b Tyrp1c/Tyrp1c

Citation
When using the hypothyroid mouse strain in a publication, please cite the originating article(s) and include JAX stock #000805 in your Materials and Methods section.

Animal Health Reports
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.

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

Cryorecovery - Domestic Pricing
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**

<table>
<thead>
<tr>
<th>Product</th>
<th>Price</th>
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<tbody>
<tr>
<td>Frozen Mouse Embryo</td>
<td>$2,595.00 per straw or vial</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.

**The Jackson Laboratory’s Genotype Promise**

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.

**Terms Of Use**

Terms of Use

General Terms and Conditions

QUESTIONS ABOUT TERMS OF USE

**Licensing Information**

Phone: 207-288-6470
Email: TechTran@jax.org

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