The Jackson Laboratory

B6Ei.GL-*Nox3* ^{het} /J

Stock No: **002557** | head-tilt

Congenic

Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.

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hyperactivity.

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GENETIC OVERVIEW

Genetic Background	Generation
000924 C57BL/6JEiJ	

Nox3^{het}

Allele Type	Gene Symbol	Gene Name
Spontaneous	*Nox3*	NADPH oxidase 3

VIEW GENETICS

RESEARCH APPLICATIONS

Sensorineural Research
Neurobiology Research
Internal/Organ Research

VIEW ALL RESEARCH APPLICATIO

BASE PRICE

Starting at:

$2,854.50 Domestic price Cryo Recovery

VIEW PRICE LIST

Details

Detailed Description

Head tilt (*het*) is an autosomal recessive mutation that can cause abnormal circling behavior and hyperactivity in affected mice. Homozygotes also exhibit a subtle head tilt. Together, the abnormal behavioral phenotype is consistent with that of a vestibular disorder. Evoked auditory brainstem response profiles are normal indicating that the mutants are not deaf. *het/het* mutants are unable to sense orientation under water and therefore, cannot swim properly. If held by the tail, *het/het* mice retract, rather than extend, their limbs; they also flex ventrally, instead of dorsally as wild type mice do. When lowered quickly by the tail, *het/het* mice fail to extend their forelimbs in a normal manner and have difficulty righting themselves if dropped vertically from a short distance. Morphological assessment of the inner ear of homozygotes reveals an abnormal appearance of the saccule and utricle owing to a complete absence of otoliths. Otoliths are tiny calciferous granules within the statoconic membrane that covers the sensory epithelia of the acoustic maculae. These ear crystals function as mass particles that stimulate gravity receptors in the maculae of the utricle and saccule in response to head tilting and gravitational forces. Electrophysiological assessment of the vestibular neurons in the *het* mutants demonstrates these cells totally lack vestibular evoked potentials in response to pulsed linear acceleration. Thus, the mutants are unable to process ostolite-mediated sensory stimuli throughout their entire lifespan. The *het* gene product is likely involved in the formation of the otolithic ear crystals (prior to embryonic day 14), perhaps through the regulation of calcium secretion by neuroepithelial cells. Structures of the cochlea and middle ear appear normal and melanocyte function is not compromised. (Sweet, 1980; Bergstrom et al., 1998; Jones et al., 1999)

Development

Control Suggestions

Genetics

Nox3^{het}

Disease/Phenotype

Disease Terms

Research Areas By Phenotype

Mammalian Phenotype Terms by Genotype

References

Technical Support

CONTACT TECHNICAL SUPPORT

Genotyping Protocols
Separated PCR:Nox3-Alternate 1
Genotyping resources and troubleshooting

Appearance
black, head tilt
Related Genotype: *a/a Nox3^{het} /Nox3^{het}*

black, unaffected
Related Genotype: *a/a Nox3^{het}* /+ or *a/a* ?/+

Citation
When using the head-tilt mouse strain in a publication, please cite the originating article(s) and include JAX stock #002557 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

Cryo Recovery

Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.

Domestic **Internatio**

Pricing effective for USA, Canada and Mexico shipping destinations

CRYORECOVERY - DOMESTIC PRICING

SERVICE/PRODUCT	DESCRIPTION	PRICE
Cryo Recovery	Heterozygous or Homozygous for Nox3<het>, 1 pair minimum	$2,854.50

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. 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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TERMS OF USE

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LICENSING INFORMATION

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Related Strains

All

By Allele

By Gene

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