The Jackson Laboratory

B6.129S7-*B4galt1* ^{tm2Shur} /J

Stock No: **006943**

Congenic, Targeted Mutation

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

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glycosidic molecular interactions and function, and cell-to-extracellular matrix (ECM) interactions.

Donating Investigator

Barry D Shur, Emory University

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GENETIC OVERVIEW

Genetic Background	Generation

B4galt1^{tm2Shur}

Allele Type	Gene Symbol	Gene Name
Targeted (Modified isoform(s))	*B4galt1*	UDP-Gal:betaGlcNAc beta 1,4- galactosyltransferase, polypeptide 1

VIEW GENETICS

RESEARCH APPLICATIONS

Cell Biology Research
Endocrine Deficiency Research
Reproductive Biology Research

VIEW ALL RESEARCH APPLICATION

BASE PRICE

Starting at:

$2,854.50 Domestic price Cryo Recovery

VIEW PRICE LIST

Details

Detailed Description

These mice carry a mutant allele that has a point mutation in the first translation initiation codon in exon 1, which initiates translation of the long isoform of beta 1,4-galactosyltransferase. The second translation initiation codon in exon 1 is not affected. These mice express only the shorter isoform of beta 1,4-galactosyltransferase. No long isoform protein is detected in mammary tissue by Western blot analysis. Mice that are homozygous for the targeted mutation are viable, fertile, normal in size and do not display any gross physical or behavioral abnormalities. Total Beta 1,4-galactosyltransferase activity is reduced to 72% of wildtype levels in mammary gland epithelial cells while activity on mammary epithelial cell surfaces is diminished by over 60%. Sperm and testis exhibit near wildtype levels of enzyme activity and glycoprotein galactosylation. The short isoform is expressed ectopically in sperm. Although able to undergo normal acrosomal exocytosis induced by calcium ionophore, homozygous sperm do not exhibit acrosome reaction to zona pellucida glycoproteins or anti-galactosyltransferase antibodies. Homozygous females exhibit abnormal mammary gland morphology including excessive mammary epithelial duct branching. Approximately 20% of homozygous females do not support their young. Mutants have elevated levels of expression of metalloproteinases (Mmp14 and Mmp7). Laminin espression in basal lamina is abnormal. This mutant mouse strain may be useful in studies of glycosidic molecular interactions and function, and cell-to-extracellular matrix (ECM) interactions.

This strain was transferred from the collection of the Consortium for Functional Glycomics.

Development

Control Suggestions

Selected References

Genetics

B4galt1^{tm2Shur}

Disease/Phenotype

- Disease Terms
- Research Areas By Phenotype
- Mammalian Phenotype Terms by Genotype
- References

Technical Support

CONTACT TECHNICAL SUPPORT

Genotyping Protocols

Pyrosequencing:B4galt1
Genotyping resources and troubleshooting

Breeding Considerations

When maintaining a live colony, these mice can be bred as homozygotes.

Additional Breeding and Husbandry Support

Citation

When using the B6.129S7-*B4galt1*^{tm2Shur}/J mouse strain in a publication, please cite the originating article(s) and include JAX stock #006943 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 Internatic

Pricing effective for USA, Canada and Mexico shipping destinations

CRYORECOVERY - DOMESTIC NOT-FOR-PROFIT & ACADEMIC PRICING		
SERVICE/PRODUCT	DESCRIPTION	PRICE
Cryo Recovery	Heterozygous for B4galt1<tm2Shur>	$2,854.50

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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.

Terms Of Use

TERMS OF USE

General Terms and Conditions

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ADDITIONAL USE RESTRICTIONS APPLY

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Use of MICE only available to non-profit entities.

LICENSING INFORMATION

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

Related Strains

All

By Allele

By Gene

By Collection