The Jackson Laboratory

C3(Cg)-*Dscam* ^{3J}/GrsrJ

Stock No: **006046**

Spontaneous Mutation

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

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defects associated with some cases of Down syndrome.

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GENETIC OVERVIEW

Genetic Background	Generation

Dscam^{3J}

Allele Type	Gene Symbol	Gene Name
Spontaneous	*Dscam*	DS cell adhesion molecule

VIEW GENETICS

RESEARCH APPLICATIONS

Developmental Biology Research
Neurobiology Research
Cell Biology Research

VIEW ALL RESEARCH APPLICATIO

BASE PRICE

Starting at:

$2,854.50 Domestic price Cryo Recovery

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Details

Detailed Description

Dscam^{3J}, a point mutation causing an R1018P amino acid substitution in the second fibronectin domain, causes a less severe phenotype than *Dscam*^{2J}, *Dscam*^{del17}, or *Dscam* targeted null mutants. The phenotype of *Dscam* null mutants varies with genetic background and includes respiratory distress, associated perinatal lethality, changes in C4 ventral root and pre-inspiratory neuron signaling, and an abnormal response to hypercapnia. *Dscam*^{3J} homozygotes display kyphosis, domed skull, muscle stiffness, and less difficulty in the righting response than is found in *Dscam*^{2J} homozygotes, which have a truncation in the extracellular domain of this protein. *Dscam*^{3J} homozygotes have enlarged central and lateral ventricles of the brain.

Characterization of the retina shows that, similar to *Dscam*^{2J} homozygotes, *Dscam*^{3J} homozygotes have expanded inner plexiform, inner nuclear and retinal ganglion cell layers, but, distinct from *Dscam*^{2J} homozygotes, the inner nuclear layer is evenly laminated. The retinal ganglion cells have defects in arborization and soma spacing, but the dopaminergic amacrine cells have reduced defects in arborization and soma spacing compared with those of the retinas of *Dscam*^{2J} homozygotes. Retinas of *Dscam*^{3J} homozygotes also have increased incidence of juxtaposed dopaminergic amacrine cells, occasional loose fasciculation of dopaminergic amacrine cell neurites, and increased numbers of bNOS amacrine cells, which also have abnormal spacing and appear hypertrophied, but the severity of these defects is less severe than the defects caused by other *Dscam* mutant alleles. The defects in neurite lamination, laminar specificity of type 2 and type 6 cone bipolar cells, and the disrupted targeting of retinal ganglion cell axons to the dorsal lateral geniculate nucleus that are found in *Dscam*^{2J} and other *Dscam* mutant homozygotes are not distinct phenotypes in *Dscam*^{3J} homozygotes. Subcellular localization of DSCAM protein from *Dscam*^{3J} homozygotes shows increased retention in the cell bodies in the retinal ganglion cell layer consistent with a model of mis-localization of this mutant protein. (See Schramm et al., 2013 for more detail.)

Development

Control Suggestions

Selected References

Genetics

Dscam^{3J}

Disease/Phenotype

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

Technical Support

CONTACT TECHNICAL SUPPORT

Genotyping Protocols
End Point Analysis:Dscam<3J>
Genotyping resources and troubleshooting

Mating System
Heterozygote x Heterozygote

Citation
When using the C3(Cg)-*Dscam*^{3J}/GrsrJ mouse strain in a publication, please cite the originating article(s) and include JAX stock #006046 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 International

Pricing effective for USA, Canada and Mexico shipping destinations

CRYORECOVERY - DOMESTIC PRICING

SERVICE/PRODUCT	DESCRIPTION	PRICE
Cryo Recovery	Heterozygous for Dscam<3J>	$2,854.50

RELATED PRODUCTS AND SERVICES

Frozen Mouse Embryo	C3(CB17)-Dscam<3J>/GrsrJ	$2595.00

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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Email: TechTran@jax.org

Related Strains

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By Allele

By Gene

By Collection

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