Overview

Also Known As: D3⁻
These DRD3 knockout mice are devoid of D3 receptors in homozygotes and display enhanced cocaine seeking and self-administration behavior. They may be useful for studying dopamine autoreceptor inhibitory control in dopaminergic neurotransmission.

Donating Investigator
IMR Colony, The Jackson Laboratory
GENETIC OVERVIEW

Genetic Background: 00664 C57BL/6J

Drd3<sup>tm1Dac</sup>

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
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<tbody>
<tr>
<td>Targeted (Null/Knockout)</td>
<td>Drd3</td>
<td>dopamine receptor D3</td>
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</tbody>
</table>

RESEARCH APPLICATIONS

Cardiovascular Research
Neurobiology Research
Developmental Biology Research

BASE PRICE

Starting at:

$2,854.50 Domestic price Cryo Recovery

D3 receptors are G-protein coupled receptors localized to the limbic areas of the brain, which are associated with cognitive, emotional, and endocrine functions by inhibition of adenyl cyclase activity. Dopamine (DA) stimulation of presynaptic D3 receptors induces a negative feedback regulation that reduces DA neuron firing, DA synthesis and DA release. Defects in DA neurons have been associated with Parkinson's disease, schizophrenia, attention-deficit and hyperactivity disorder, and compulsive drug abuse.

D3 receptors are also expressed in renal proximal tubules and juxtaglomerular cells and may be responsible for the dopamine-mediated decrease in renin secretion in these cells. Homozygous are viable and fertile. Dopamine antagonist binding studies indicate the absence of D3 receptors in homozygotes and a greatly reduced number in heterozygotes. These DRD3 KO mice display enhanced cocaine self-administration and enhanced motivation for cocaine-taking and cocaine-seeking behavior. They also exhibit an increase in locomotor activity, increase in exploratory behavior, and decrease in grooming. Behavioral alterations were less pronounced in heterozygotes. When treated with cocaine they exhibit reduced hyperactivity and increased head bobbing. Both systolic and diastolic blood pressures were approximately 20 mmHg higher in heterozygotes and homozygotes compared to wild-
type mice.

Development

Control Suggestions

Selected References

Genetics

Drd3tm1Dac

Disease/Phenotype

Disease Terms

Research Areas By Genotype

Mammalian Phenotype Terms by Genotype

References

Technical Support

Genotyping Protocols
Standard PCR: Drd3tm1Dac
Genotyping resources and troubleshooting

Breeding Considerations
When maintaining a live colony, homozygous mice may be bred together.

Additional Breeding and Husbandry Support

Appearance
black
Related Genotype: a/a

Citation
When using the D3 mouse strain in a publication, please cite the originating article(s) and include JAX stock #002958 in your Materials and Methods section.

Animal Health Reports
Production of mice from cryopreserved embryos or sperm occurs in a maximum barrier room, G200
### Cryo Recovery

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

### Cryorecovery - Domestic Pricing

<table>
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<tr>
<th>SERVICE</th>
<th>GENOTYPE</th>
<th>PRICE</th>
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</thead>
<tbody>
<tr>
<td>Cryo Recovery</td>
<td>Heterozygous or wildtype for Drd3&lt;tm1Dac&gt;</td>
<td>$2,854.50</td>
</tr>
</tbody>
</table>

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>GENOTYPE</th>
<th>PRICE</th>
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<tbody>
<tr>
<td>Frozen Mouse Embryo</td>
<td>B6.129S4-Drd3&lt;tm1Dac&gt;/J Frozen Embryos</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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**Terms of Use**

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