Overview

Homozygous mice with this targeted mutation of the polo-like kinase 3 (Plk3) gene develop spontaneous tumors in lung, kidney, liver and uterus as aged adults. This strain may be useful in studies of cancer and tumor development in response to oxidative and genotoxic stress.

Donating Investigator

Wei Dai, New York University Langone Medical Center
GENETIC OVERVIEW

Genetic Background  Generation

Plk3m1Dai

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Targeted (Null/Knockout)</td>
<td>Plk3</td>
<td>polo like kinase 3</td>
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RESEARCH APPLICATIONS

Cancer Research

BASE PRICE

Starting at: $2,854.50 Domestic price Cryo Recovery

Mice homozygous for this targeted mutation are born at a lower than predicted Mendelian ratio, however, newborn mice appear otherwise normal. Aging (>18 months) homozygotes develop spontaneous tumors in multiple organs. Tumor incidence is highest in lung although cancer is observed in kidney, liver and uterus. Lung and kidney tumors are composed predominantly of adenocarcinoma cells and leiomyosarcomas are found in the uterus. In general, tumors are large in size and well vascularized. Following hypoxia or nickel ion treatment, MEFs generated from this strain are hypersensitive to the induction of hypoxia inducible factor 1. This strain may be useful in studies of cancer and tumor development in response to oxidative and genotoxic stress.

Development

Control Suggestions

Selected References
Genotyping Protocols
Standard PCR: \texttt{Plk3\textsuperscript{tm1Dai}}

Genotyping resources and troubleshooting

Breeding Considerations
While maintaining a live colony, these mice are bred as heterozygotes. Homozygote matings may be possible.

Additional Breeding and Husbandry Support

Citation
When using the B6.129S4-\texttt{Plk3}\textsuperscript{tm1Dai} /J mouse strain in a publication, please cite the originating article(s) and include JAX stock #009691 in your Materials and Methods section.

Production of mice from cryopreserved embryos or sperm occurs in a maximum barrier room, G200

Pricing & Availability

\texttt{Cryo Recovery}

Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.
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>SERVICE</th>
<th>GENOTYPE</th>
<th>PRICE</th>
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</thead>
<tbody>
<tr>
<td>Frozen Mouse Embryo</td>
<td>B6;129S4-Plk3&lt;tm1Dai&gt;/J Frozen Embryo</td>
<td>$2595.00</td>
</tr>
</tbody>
</table>

### 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.

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

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**Related Strains**

- All
- By Allele
- By Gene
- By Collection

All Related Strains