B6.129-Kras^{Im1Bbd/J}

Stock No: 026924 | Kras^{LSLG12Vgeo}

- Congenic, Targeted Mutation

**REQUEST CRYORECOVERY**

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

**Also Known As: Kras^{LSLG12Vgeo}**

Mice bearing the Cre recombinase-inducible Kras^{LSLG12Vgeo} allele may be useful for studying K-RAS driven lung adenocarcinomas.

**Donating Investigator**

Dr. Mariano Barbacid, Centro Nacional de Investigaciones Oncol

**GENETIC OVERVIEW**

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kras^{Im1Bbd}</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Targeted</td>
<td>Kras</td>
<td>Kirsten rat sarcoma viral oncogene homolog</td>
</tr>
</tbody>
</table>

**VIEW GENETICS**

**RESEARCH APPLICATIONS**

Research Tools
Developmental Biology Research
Cancer Research

**VIEW ALL RESEARCH APPLICATIONS**

**BASE PRICE**

Starting at:
Details

Detailed Description

Kras<sup>LSLG12Vgeo</sup> mice contain a 5' floxed-STOP followed by a G12V mutation in the Kras (v-Ki-ras2 Kirsten rat sarcoma viral oncogene homolog) gene, and a 3' IRES-eGFP cassette. Ras genes are small GTPases that act downstream of receptors and nonreceptor tyrosine protein kinases in multiple pathways to transfer information to the nucleus. K-ras has been found to be activated in human tumors in pancreatic, colon, breast, and lung cancer. The unrecoumbined Kras<sup>LSLG12Vgeo</sup> allele is null. Hence, homozygous embryos die at midgestation as the Kras<sup>LSLG12Vgeo</sup> mice. Cre-dependent removal of the floxed-STOP cassette allows concomitant expression of the Kras<sup>G12V</sup> oncprotein along with expression of the chimeric Geo protein which has lacZ activity. Expression of the Kras<sup>G12V</sup> oncprotein in germ line, by breeding to B6.C-Tg(CMV-cre)1Cgn/J mice (Stock No. 006054), is embryonic lethal with embryos dying at around E9.5. In some cases partial recombination leading to mosaic embryos was observed. Embryonic lethality in these cases depended on the extent of KrasG12V oncprotein expression. No such mosaic embryos were observed when crossing to the Ella-Cre transgenic strain, which resulted in more efficient cleavage of the STOP cassette in the germ line.

Ubiquitous expression of the Kras<sup>G12V</sup> oncprotein in adult mice, by crossing to strains that express the inducible CreERT2 recombinase under the control of various ubiquitous promoters followed by exposure to a tamoxifen diet, selectively results in the induction of lung adenomas and adenocarcinomas. In some occasions, benign lesions have been observed in other tissues such as stomach and skin papillomas. Lung adenocarcinomas are also observed upon tracheal infection with Adeno-Cre particles. Treated mice display multifocal lesions in lungs, ranging from small patches of bronchiole-alveolar hyperplasias to large bronchiole-alveolar adenomas and adenocarcinomas that compress adjacent lung structures. Alveolar type II (ATII) cells yield malignant adenocarcinomas while Clara cells required an inflammatory response to yield hyperplasias and adenomas.

When Kras<sup>LSLG12Vgeo</sup> mice were bred to bitransgenic Elas-tTA/tetO-Cre mice that express the Cre recombinase under the control of the Elastase promoter in a tet-off system, they developed pancreatic intraepithelial neoplasias (PanIN) with 100% incidence. They also developed full blown pancreatic ductal adenocarcinomas albeit with lesser frequency (20% by one year of age). Exposure of these mice to the antibiotic doxycyclin in order to prevent expression of the Cre recombinase until the mice reach adulthood, completely prevents the development of PanIN lesions in spite of wide spread expression of the Kras<sup>G12V</sup> oncprotein in acinar cells. Induction of PanIN lesions and occasional PDAC tumors in these adult mice can be achieved by inducing pancreatic damage by treating them with low doses of caerulein.

Finally, embryonic fibroblasts (MEFs) from these mice do not undergo proliferative senescence and proliferate continuously as immortal cells upon Cre-mediated recombination of the Kras<sup>LSLG12Vgeo</sup> allele.

Development

Expression Data

Control Suggestions

Selected References

Genetics

Kras<sup>im118d</sup>
Genotyping Protocols

MELT: Kras<sup>tm1Bbd</sup>-Alternate 1
Genotyping resources and troubleshooting

Breeding Considerations

When maintaining a live colony, heterozygous mice may be bred to wildtype mice from the colony. Homozygous embryos die at midgestation.

Additional Breeding and Husbandry Support

Citation

When using the Kras<sup>LSL012Vgec</sup> mouse strain in a publication, please cite the originating article(s) and include JAX stock #026924 in your Materials and Methods section.

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

Pricing & Availability

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

<table>
<thead>
<tr>
<th>Cryorecovery - Domestic Pricing</th>
<th>GENOTYPE</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cryo Recovery</td>
<td>Heterozygous or wildtype for Kras&lt;sup&gt;tm1Bbd&lt;/sup&gt;</td>
<td>$2,595.00</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>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frozen Mouse Embryo</td>
<td>$2,595.00 per straw or vial</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.

### Terms Of Use

#### Terms of Use

**General Terms and Conditions**

#### Licensing Information

Phone: 207-288-6470
Email: Tech1Tran@jax.org

### JAX® Mice, Products & Services Conditions of Use

“MICE” means mouse strains, their progeny derived by inbreeding or crossbreeding, unmodified derivatives from mouse strains or their progeny supplied by The Jackson Laboratory (“JACKSON”). “PRODUCT(S)” means biological materials supplied by JACKSON, and their derivatives. “SERVICES” means projects conducted by JACKSON for other parties that may include but are not limited to the use of MICE or PRODUCTS. “RECIPIENT” means each recipient of MICE, PRODUCTS, or SERVICES provided by JACKSON including each institution, its employees and other researchers under its control. MICE or PRODUCTS shall not be: (i) used for any purpose other than internal research, (ii) sold or otherwise provided to any third party for any use, or (iii) provided to any agent or other third party to provide breeding or other services. Acceptance of MICE, PRODUCTS or SERVICES from JACKSON shall be deemed as agreement by RECIPIENT to these conditions, and departure from these conditions requires JACKSON’s prior written authorization.

### No Warranty

MICE, PRODUCTS AND SERVICES ARE PROVIDED “AS IS”. JACKSON EXTENDS NO WARRANTIES OF ANY KIND, EITHER EXPRESS, IMPLIED, OR STATUTORY, WITH RESPECT TO MICE, PRODUCTS OR SERVICES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ANY WARRANTY OF NON-INFRINGEMENT OF ANY PATENT,
Credit for PRODUCTS or SERVICES
In case of dissatisfaction for a valid reason and claimed in writing by a purchaser within ninety (90) days of receipt of, PRODUCTS or SERVICES, JACKSON will, at its option, provide credit or replacement for the PRODUCT received or the SERVICES provided. JACKSON makes no other representations and this shall be the exclusive remedy of the purchaser. Please note specific policy for live mice.

Animal Care and Use for SERVICES
Consistent with the requirement for a written understanding regarding animal care and use, the JACKSON Animal Care and Use Committee will review the animal care and use protocol(s) associated with any SERVICES to be performed at JACKSON, and JACKSON shall have ultimate responsibility and authority for the care of animals while on site or in JACKSON custody.

No Liability
In no event shall JACKSON, its trustees, directors, officers, employees, and affiliates be liable for any causes of action or damages, including any direct, indirect, special, or consequential damages, arising out of the provision of MICE, PRODUCTS, or SERVICES, including economic damage or injury to property and lost profits, and including any damage arising from acts or negligence on the part of JACKSON, its agents or employees. Unless prohibited by law, in purchasing or receiving MICE, PRODUCTS, or SERVICES from JACKSON, purchaser or recipient, or any party claiming by or through them, expressly releases and discharges JACKSON from all such causes of action or damages, and further agrees to defend and indemnify JACKSON from any costs or damages arising out of any third party claims.

MICE, PRODUCTS or SERVICES are to be used in a safe manner and in accordance with all applicable governmental rules and regulations.
The foregoing represents the General Terms and Conditions applicable to JACKSON’s MICE, PRODUCTS or SERVICES. In addition, special terms and conditions of sale of certain MICE, PRODUCTS, or SERVICES may be set forth separately in JACKSON web pages, catalogs, price lists, contracts, and/or other documents, and these special terms and conditions shall also govern the sale of these MICE, PRODUCTS and SERVICES by JACKSON, and by its licensees and distributors.

Acceptance of delivery of MICE, PRODUCTS or SERVICES shall be deemed agreement to these terms and conditions. No purchase order or other document transmitted by purchaser or recipient that may modify the terms and conditions hereof, shall be in any way binding on JACKSON, and instead the terms and conditions set forth herein, including any special terms and conditions set forth separately, shall govern the sale of MICE, PRODUCTS or SERVICES by JACKSON.

Related Strains

All

By Allele

By Gene

By Collection

All Related Strains
Leading the search for

TOMORROW'S CURES