B6.129-Tmprss2^ImPsr/^J

**Stock No:** 026196

*Congenic, Targeted Mutation*

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**PLACE ORDER**

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

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**Overview**

Tmprss2^−/−^ KO mice may be useful for studying the role of TMPRSS2 in influenza virus replication and pathogenesis.

**Donating Investigator**

Peter S. Nelson, Fred Hutchinson Cancer Research Center

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## GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
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<tbody>
<tr>
<td><strong>Tmprss2^tm1Psn</strong></td>
<td></td>
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</table>

<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>Tmprss2</td>
<td>transmembrane protease, serine 2</td>
</tr>
</tbody>
</table>

### RESEARCH APPLICATIONS

**Internal/Organ Research**
**Developmental Biology Research**

### BASE PRICE

**Starting at:**

$2,595.00 Domestic price Cryo Recovery

### Details

**Detailed Description**

Tmprss2^tm1 mice contain a loxP-flanked neo cassette in place of exons 10-13 of the transmembrane protease, serine 2 (Tmprss2) gene, abolishing gene function. There is no evidence a protein product is generated from the alternatively-spliced transcript. TMPRSS2 is a membrane associated serine protease, expressed in the epithelium of the human respiratory tract and prostate glands. It has been shown to activate hemagglutinin proteins of human influenza viruses and is implicated in prostate carcinogenesis. Sequence analysis indicates the presence of a truncated Tmprss2 transcript due to splicing of exon 9 to exon 14. This transcript is present at a 20% reduction compared to the WT transcript, while there is an 80% reduction in the full length transcript compared to WT. The lungs of Tmprss2^tm1^ mice are protected against viral spread, showing only very mild pathogenesis after infection with H1N1 virus. These mice also display reduced body weight loss and mortality after H3N2 infection but to a much lower degree than for H1N1 infected mice. They also show less severe pathogenesis after infection with H3N2 virus. Viral titers are decreased in these mice after infection with both viruses compared to WT mice. No abnormal prostate phenotype is evident. Homozygotes are viable and fertile.

**Development**

**Control Suggestions**
Genotyping Protocols
High Resolution Melting: Tmprss2<sup>tm1Psn</sup>
Genotyping resources and troubleshooting

Breeding Considerations
When maintaining a live colony, homozygous mice may be bred together.
Additional Breeding and Husbandry Support

Mating System
Heterozygote x Heterozygote

Citation
When using the B6.129-Tmprss2<sup>tm1Psn</sup> /J mouse strain in a publication, please cite the originating article(s) and include JAX stock #026196 in your Materials and Methods section.

Animal Health Reports
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.
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 with mice according to your requirements. Price by quotation.

<table>
<thead>
<tr>
<th>Related Products and Services</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.

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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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Email: TechTran@jax.org

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**Related Strains**

- All
- By Allele
- By Gene
- By Collection