Overview

Mice homozygous for the viable motheaten spontaneous mutation (Ptpn6<sup>me<sup>−</sup>−</sup>) develop severe autoimmune disease characterized by granulocytic skin lesions, pneumonitis, impaired humoral and cell-mediated immune responses, decreased responses to T cell and B cell mitogens and deficient cytotoxic T cell and NK cell activity. These mice also exhibit characteristics of osteoporosis.
GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
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<tr>
<td><strong>Ptpn6&lt;sup&gt;me-v&lt;/sup&gt;</strong></td>
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Allele Type: Spontaneous (Not Specified)
Gene Symbol: Ptpn6
Gene Name: protein tyrosine phosphatase, non-receptor type 6

RESEARCH APPLICATIONS
- Endocrine Deficiency Research
- Immunology, Inflammation and Autoimmunity Research
- Internal/Organ Research
- Hematological Research
- Dermatology Research

BASE PRICE
Starting at: $2,854.50 Domestic price Cryo Recovery with Progeny Testing

Details

**Detailed Description**

Mice homozygous for the viable motheaten spontaneous mutation (Ptpn6<sup>me-v</sup>) develop severe autoimmune disease. Characteristics include by granulocytic skin lesions, pneumonitis, impaired humoral and cell-mediated immune responses, decreased responses to T cell and B cell mitogens and deficient cytotoxic T cell and NK cell activity. B cells are LY-1+. Homozygous mutant mice also exhibit hyperimmunoglobulinemia, and express multiple autoantibodies. Macrophages show increased proliferative capacity. In addition to defects in the immune system, viable motheaten mice show classic symptoms of osteoporosis due to an increased number and activity of osteoclasts in the bone marrow. The osteoporosis phenotype includes significantly lower bone mineral density and mineral content in the femurs of viable motheaten mice compared to normal littermate controls. In addition, these mice show reduced amounts of trabecular bone and decreased cortical thickness. The lifespan of homozygous viable motheaten mice is approximately 9 weeks with death attributed to an autoimmune pneumonitis.

**Development**

**Control Suggestions**
Genotyping Protocols
Pyrosequencing: Ptpn6<sup>me-v</sup>
End Point Analysis: Ptpn6<sup>me-v</sup>-EP
Separated PCR: Ptpn6
Genotyping resources and troubleshooting

Appearance
black, affected (bare spots)
Related Genotype: a/a Ptpn6<sup>me-v</sup> / Ptpn6<sup>me-v</sup>

black, unaffected
Related Genotype: a/a Ptpn6<sup>me-v</sup>/+ or a/a +/+?

Citation
When using the GFP+/+ Ptpn6<sup>me-v</sup>/J mouse strain in a publication, please cite the originating article(s) and include JAX stock #000871 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.
### Conditions of Use

**Cryorecovery - Domestic Pricing**

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<th>SERVICE</th>
<th>GENOTYPE</th>
<th>PRICE</th>
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<tbody>
<tr>
<td>Cryo Recovery with Progeny Testing</td>
<td>Heterozygous or Wild-type for Ptpn6&lt;me-v&gt;</td>
<td>$2,854.50</td>
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</tbody>
</table>

A molecular assay to genotype this strain is not available. We will fulfill your order by providing at least two untested males and two untested females (two pairs). The total number, sex, and genotypes will vary, although typically 8 or more mice are provided. Untested animals typically are available to ship between 10 and 14 weeks from the date of your order. If the first recovery attempt is unsuccessful, a second recovery will be done, extending the overall recovery time to approximately 25 weeks. **Progeny testing may be required** – If recovered animals do not display a phenotype, progeny testing will be required. This testing involves breeding the recovered animals and assessing the phenotype of the offspring in order to identify animals carrying the mutation of interest. Please note that identified pairs may not reflect the mating scheme utilized by The Jackson Laboratory prior to cryopreservation of the strain. Mating schemes are sometimes modified for successful cryopreservation. 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.

**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: TechTran@jax.org

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tomorrow's cures