These mutant mice possess a loxP-STOP-loxP cassette between exons 2 and 3 and a D61Y point mutation in exon 3 of the protein tyrosine phosphatase, non-receptor type 11 (Ptpn11) gene and may be useful in generating conditional mutations to study cardiac defects, fatal myeloproliferative disorder (MPD) and juvenile myelomonocytic leukemia (JMML).

Donating Investigator

Benjamin Neel, NYU School of Medicine
**Ptpn11\textsuperscript{tm6Bgn}**

<table>
<thead>
<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Targeted (Conditional ready</td>
<td>\textit{Ptpn11}</td>
<td>protein tyrosine phosphatase, non-receptor type 11</td>
</tr>
<tr>
<td>(e.g. floxed), No functional change)</td>
<td></td>
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</tr>
</tbody>
</table>

### RESEARCH APPLICATIONS

#### Research Tools

- **Details**

  **Detailed Description**

  Mice that are homozygous for the targeted mutation are not viable. When used in conjunction with a Cre recombinase-expressing strain, this strain is useful in generating tissue-specific mutants of the floxed allele. This mutant mouse strain may be useful in generating conditional mutations to study cardiac defects, fatal myeloproliferative disorder (MPD) and juvenile myelomonocytic leukemia (JMML).

  When bred to a strain expressing Cre recombinase in endothelial cells (Tg(Tek-cre)12Flv), this mutant mouse strain may be useful in studies of the cardiac defects found in Noonan syndrome.

  When bred to a strain expressing Cre recombinase in epiblast-derived tissues (\textit{Meox2}\textsuperscript{tm1(cre)Sor}), this mutant mouse strain may be useful in studies of cardiac defects.

  When bred to a strain expressing tamoxifen-inducible Cre recombinase in most tissues (Tg(CAG-cre/Esr1*)5Amc), this mutant mouse strain may be useful in studies of hematopoiesis.

  When bred to a strain expressing interferon-inducible Cre recombinase in most tissues (Tg(Mx1-cre)1Cgn), this mutant mouse strain may be useful in studies of fatal myeloproliferative disorder and juvenile myelomonocytic leukemia (JMML).

  When bred to a strain expressing Cre recombinase in neural tube, spinal cord and areas of the brain (Tg(Wnt1-cre)11Rth), this mutant mouse strain may be useful in studies of craniofacial defects.

  When bred to a strain expressing Cre recombinase in the early mouse embryo (Tg(Ella-cre)C5379Lmgd), this mutant mouse strain may be useful in studies of myeloproliferative disorders.

  *In an attempt to offer alleles on well-characterized or multiple genetic backgrounds, alleles are frequently moved to a genetic background different from that on which an allele was first characterized. It should be noted that the phenotype could vary from that originally described. We will modify the strain description if necessary as published results become available.*

- **Development**
Genotyping Protocols
Sanger sequencing: Ptpn11<sup>tm6Bgn</sup>
Genotyping resources and troubleshooting

Breeding Considerations
While maintaining a live colony, these mice are bred as heterozygotes. Mice homozygous for the mutation are not viable.

Additional Breeding and Husbandry Support

Citation
When using the B6.129S6-Ptpn11<sup>tm1Toa</sup>/Mmjax mouse strain in a publication, please cite the originating article(s) and include MMRRC stock #32103 in your Materials and Methods section.

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

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