Polq- mice exhibit spontaneous and induced genome instability, and reduction in somatic hypermutation in B cells.

Donating Investigator

John Schimenti, Cornell University

**GENETIC OVERVIEW**

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
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<tbody>
<tr>
<td></td>
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</table>

**Polq**

<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>Polq</td>
<td>polymerase (DNA directed), theta</td>
</tr>
</tbody>
</table>

**RESEARCH APPLICATIONS**

Research Tools  
Hematological Research  
Cancer Research  
Cell Biology Research
Mice homozygous for this targeted mutation are viable and fertile, with no gross anatomical or behavioral abnormalities. Homozygotes exhibit significant spontaneous and induced genome instability, and have a 60-80% reduction in somatic hypermutation in B cells. Mutant mice may be useful in studies related to DNA recombination and repair, translesion polymerases, genomic instability, and the mechanisms for generating immune diversity (e.g. somatic hypermutation and immunoglobulin gene class switching).
Genotyping Protocols
Standard PCR: Polq
Genotyping resources and troubleshooting

Breeding Considerations

When maintaining a live colony, these mice are maintained as heterozygotes, since possible effects on germline mutation rates are unknown and the endogenous gene is highly expressed in testis.

Additional Breeding and Husbandry Support

Citation

When using the Polq- mouse strain in a publication, please cite the originating article(s) and include JAX stock #006194 in your Materials and Methods section.

Animal Health Reports
Facility Barrier Level Descriptions

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

Pricing & Availability

Cryo Recovery

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

<table>
<thead>
<tr>
<th>SERVICE/PRODUCT</th>
<th>DESCRIPTION</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cryo Recovery</td>
<td>Heterozygous or wildtype for Polq&lt;tm1Jcs&gt;</td>
<td>$2,854.50</td>
</tr>
</tbody>
</table>

Related Products and Services

<table>
<thead>
<tr>
<th>SERVICE/PRODUCT</th>
<th>DESCRIPTION</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frozen Mouse Embryo</td>
<td>B6.Cg-Polq&lt;tm1Jcs&gt;/J Frozen Embryo</td>
<td>$2,595.00</td>
</tr>
</tbody>
</table>
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Related Strains

All

- By Allele
- By Gene
- By Collection

All Related Strains