These Megf8 mutant mice carry a chemically-induced L1775P (leucine to proline) mutation that causes embryonic lethality involving pre-axial polydactyly, skeletal defects, disruption of left-right patterning, and severe heart defects.

Donating Investigator
David D. Ginty, Harvard Medical School

GENETIC OVERVIEW

<table>
<thead>
<tr>
<th>Genetic Background</th>
<th>Generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Megf8m687Ddg</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>Chemically induced (ENU)</td>
<td>Megf8</td>
<td>multiple EGF-like-domains 8</td>
</tr>
</tbody>
</table>

RESEARCH APPLICATIONS

Developmental Biology Research

BASE PRICE
Starting at:
Megf8 (multiple EGF-like-domains 8) is widely expressed during early embryonic development with strong expression in the somites, limb buds, primordial gut, developing eye, and pharyngeal arches. Throughout embryogenesis and into the postnatal period, MEGF8 is present in the sensory neurons of the dorsal root ganglion and trigeminal ganglion, as well as the central nervous system including the developing neuroepithelium, postnatal hippocampus, layer 4/5 of the cortex and the olfactory bulb. Megf8 has been identified as a novel modifier of BMP4 (bone morphogenetic protein 4) signaling in trigeminal ganglion (TG) neurons. TG axon growth is robustly inhibited by BMP4, and this inhibition is dependent on MEGF8 expression.

This mutant strain carries a chemically-induced loss-of-function L1775P (leucine to proline) mutation of the mouse Megf8 gene. Heterozygotes are viable and fertile with no overt phenotype, but homozygotes die by embryonic day 16.5 (E16.5). The mutation leads to pre-axial polydactyly, skeletal defects, disruption of left-right patterning, and severe heart defects. Homozygous embryos exhibit severe defasciculation of the ophthalmic branch of the trigeminal nerve, have a split sternum and show delayed ossification of the rib cage. Complete left-right inversion of heart looping is also seen.
Genotyping Protocols
Sanger sequencing: Megf8
Genotyping resources and troubleshooting

Breeding Considerations
Heterozygotes are viable and fertile. Homozygotes die in utero by embryonic day 16.5 (E16.5).

Additional Breeding and Husbandry Support
Mating System
Heterozygote x Wild-type
Wild-type x Heterozygote

Citation
When using the C3.B6-Megf8<sup>m</sup>687Ddg<sub>J</sub> mouse strain in a publication, please cite the originating article(s) and include JAX stock #025418 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

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 Megf8&lt;sup&gt;m687Ddg&lt;/sup&gt;</td>
<td>$2,854.50</td>
</tr>
</tbody>
</table>

Related Products and Services

Cryo Recovery
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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All

By Allele

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