**Overview**

**Also Known As:** dreher Jackson

These mice carry a spontaneous mutation at the *Lmx1a* locus characterized by the appearance of a tiny filament at the tip of the tail which disappears by 2 days after birth leaving either a short tail or distinctly blunted tail. Mutaants also display reduced size of the cerebellum with unusual patterns of folliation, and a delayed development of the righting reflex and hyperactivity.

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

Genetic Background | Generation
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<tr>
<th>Allele Type</th>
<th>Gene Symbol</th>
<th>Gene Name</th>
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<tbody>
<tr>
<td>Spontaneous</td>
<td>a</td>
<td>nonagouti</td>
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<th>Allele Type</th>
<th>Gene Symbol</th>
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<tr>
<td>Spontaneous</td>
<td>Lmx1a</td>
<td>LIM homeobox transcription factor 1 alpha</td>
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RESEARCH APPLICATIONS
Developmental Biology Research
Neurobiology Research
Sensorineural Research

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

Details

Lmx1a encodes a LIM homeodomain (LIM-hd) protein that is expressed in the roof plate along the neuraxis during CNS development. The Lmx1a<sup>dr-J</sup> mutation replaces a conserved cysteine in the LIM1 domain of the protein with a tyrosine (Millonig et al. 2000).

Mice homozygous for Lmx1a<sup>dr-J</sup> are identifiable at birth by a thin filament extending from the end of the tail, which drops off within a few days, and a short or blunt tail. They may also have a head bleb. When fur develops, there may be a white belly spot. Lmx1a<sup>dr-J</sup>/Lmx1a<sup>dr-J</sup> mice are ataxic and hyperactive and have difficulty righting themselves, and they do not reproduce (Sweet and Wahlsten 1983). They also exhibit circling behavior, are deaf, and have inner ear and vertebral malformations (Manzanares et al. 2000).

Lmx1a<sup>dr-J</sup> homozygotes exhibit defects of three classes of anatomic structures: the hindbrain roof plate, neural crest derived tissues, and the axial skeleton. Failure of roofplate development results in absence of dorsal interneurons of the spinal cord and of granule neurons of the cerebellar cortex and failure of the dorsal vertebral neural arches to form (Millonig et al. 2000). The cerebellum is
smaller than normal, in some cases virtually absent, and exhibits disrupted foliation (Sweet and Wahlsten 1983; Sekiguchi et al. 1992). The cytoarchitectural organization of the neocortex, the hippocampus and the dentate gyrus is disrupted (Sekiguchi et al. 1992, 1993, 1994, 1996). Skeletal anomalies include abnormal neural crest derived cranial bones and improper fusion of cervical and thoracic vertebrae at the dorsal midline (Mananares et al. 2000). Deafness may be the consequence of "serious morphogenetic defects of the otic vesicle due to the dorsal neural tube abnormalities," perhaps augmented by "abnormal sensory and motor projections" in the region of rhombomeres 4-6 (Manzanares et al. 2000). Although they have no external or behavioral phenotype, 50% of heterozygotes exhibit histological pathology of the hippocampus qualitatively similar, but less extensive, than that of homozygotes (Patrylo et al. 1990).
Citation

When using the dreher Jackson mouse strain in a publication, please cite the originating article(s) and include JAX stock #000636 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.

Cryorecovery - Domestic Pricing

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<th>SERVICE/PRODUCT</th>
<th>DESCRIPTION</th>
<th>PRICE</th>
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<tr>
<td>Cryo Recovery</td>
<td>Heterozygous or Homozygous or Wild-type for Lmx1a&lt;dr-J&gt;, 1 pair minimum</td>
<td>$2,854.50</td>
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Terms Of Use

Terms General Terms and Conditions

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