Homozygous Mybl1 (A-myb) knockout mice demonstrate male fertility defects, female mammary gland defects post pregnancy, and impaired serum antibody responses.

Donating Investigator
E. P. Reddy, Mount Sinai School of Medicine

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

Detailed Description

*Mybl1* (myeloblastosis oncogene-like 1; also called A-myb) encodes a nuclear protein that binds DNA in a sequence-specific manner and functions as a regulator of transcription. Expression of the protooncogene is restricted to the developing CNS, adult testes, breasts in late pregnancy, and germinal centers of secondary B cell follicles.

These mice carry a targeted knockout of the mouse gene. Northern blot analysis of testicular tissue shows normal levels of transcript in heterozygous mice, but no transcript is detected in homozygous mutant mice. Western blot analysis using a polyclonal antibody directed against the DNA binding domain confirms the absence of normal protein in homozygous mutant mice. Homozygous animals develop to term, but show defects in growth after birth, and reduced viability. Homozygous males are infertile due to a block in spermatogenesis. Germ cells in the male testes enter meiotic prophase and arrest at the pachytene stage. Adult female homozygotes show underdevelopment of breast tissue following pregnancy, and are unable to nurse their newborn pups. Fostering is an option. Homozygous mice are generally less viable, smaller than littermates and can appear hyperactive and more aggressive (especially males).

Homozygotes also display mild splenic white pulp hypoplasia and blunted primary serum antibody responses. Although the gene is not directly involved in regulation of the memory B cell response, it may play a role in enhancing peripheral B cell survival or proliferative capacity.

Development

Control Suggestions

Selected References

Genetics

*Mybl1*<sup>tm1Epr</sup>
Genotyping Protocols
Standard PCR: Mybl1-Alternate 4
Standard PCR: Generic Neo
Probe: Generic Neo
Genotyping resources and troubleshooting

Breeding Considerations
Homozygous males have defective spermatogenesis and are infertile. Sperm count is reduced in heterozygotes. Homozygous females can become pregnant but are unable to nurse their young due to defective mammary development and possible behavioral issues (no nesting of pups). Fostering is an option. Homozygous mice are generally less viable, smaller than littermates and can appear hyperactive and more aggressive (especially males).

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

Citation
When using the A-myb<sup>−/−</sup> mouse strain in a publication, please cite the originating article(s) and include JAX stock #027748 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

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<table>
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<tr>
<th>SERVICE/PRODUCT</th>
<th>DESCRIPTION</th>
<th>PRICE</th>
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<td>Cryo Recovery</td>
<td>Heterozygous or wildtype for Mybl1&lt;tm1Epr&gt;</td>
<td>$2,854.50</td>
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Cryo Recovery

Pricing effective for USA, Canada and Mexico shipping destinations

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<tr>
<th>RELATED PRODUCTS AND SERVICES</th>
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