

B6.129P2-*Msh2*^{tm1Mak}/Mmjax
MMRRC Stock No: 42057-JAX | MSH2

 Congenic, Targeted Mutation

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A percentage of *Msh2* (mutS homolog 2) knock-out mice develop lymphoid tumors containing microsatellite instabilities by two months of age. These mice may be useful for studies of the pathogenesis of cancer and as a screen for carcinogenic and anti-cancer agents.

Donating Investigator

Dr. Tak Mak, University Health Network/Un of Toronto

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GENETIC OVERVIEW

Genetic Background

Generation

Msh2^{tm1Mak}

Alele Type

Targeted (Null/Knockout)

Gene Symbol

Msh2

Gene Name

mutS homolog 2

VIEW GENETICS

RESEARCH APPLICATIONS

Cancer Research
Research Tools

VIEW ALL RESEARCH APPLICATIONS

Details

Detailed Description

The *Msh2* (mutS homolog 2) gene encodes a homolog of the E. coli mismatch repair gene mutS. Mutations in *Msh2* are associated with hereditary nonpolyposis colon cancer (HNPCC). Mice homozygous for the knockout allele are viable and fertile. Beginning at two months of age, some MSH2^{-/-} mice develop lymphoid tumors containing microsatellite instabilities. Five the six mice diagnosed with lymphoblastic lymphoma exhibit widely disseminated lymphoma in the spleen, liver and thymus. Mice that develop lymphomas die by 5 months of age. These mice may be useful for studies of the pathogenesis of cancer and as a screen for carcinogenic and anti-cancer agents.

Development

Control Suggestions

Selected References

Genetics

Msh2^{tm1Mak}

Disease/Phenotype

Disease Terms

Research Areas By Phenotype

Mammalian Phenotype Terms by Genotype

References

Technical Support

Genotyping Protocols

Separated PCR:[Msh2](#)

Standard PCR:[Generic Neo](#)

Probe:[Generic Neo](#)

[Genotyping resources and troubleshooting](#)

Breeding Considerations

While maintaining a live colony, these mice are bred as homozygotes.

[Additional Breeding and Husbandry Support](#)

Citation

When using the MSH2^{-/-} mouse strain in a publication, please [cite the originating article\(s\)](#) and include MMRRC stock #42057 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](#)

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