

B6;129S6-Rr23^{tm1Axvi}/Mmjax

MMRRC Stock No: **36888-JAX**

 Targeted Mutation

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In this knockout of the non-coding enhancer element (*Rr23* or HS746), mRNA expression of *Msx1* in mouse embryos is diminished and adult skulls exhibit significant differences in skull morphology. This strain may be useful for downstream analysis of craniofacial development.

Donating Investigator

Axel Visel, Lawrence Berkeley National Laboratory

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GENETIC OVERVIEW

Genetic Background

Generation

Rr23^{tm1Axvi}

Allele Type

Targeted (Null/Knockout,
No functional change)

Gene Symbol

Rr23

Gene Name

regulatory region 23

VIEW GENETICS

RESEARCH APPLICATIONS

Developmental Biology Research

VIEW ALL RESEARCH APPLICATIONS

Details

Detailed Description

The regulatory region 23 (*Rr23* or HS746) is a non-coding enhancer element that controls expression of *Msx1* (homeobox, msh-like 1), a gene involved in craniofacial development. qPCR analysis indicates a 1.5 fold down regulation of *Msx1* in homozygous HS1431 E11.5 and E13.5 embryos. Analysis of the adult skulls from homozygous mice by micro-computed tomography reveals significant differences in skull morphology compared to wild type. Alterations in HS746 include a shortening of the face, a widening of the posterior neurocranium, a narrowing of the palate and shortening of the cranial base. This strain may be useful for downstream analysis of craniofacial development.

Development

Control Suggestions

Genetics

Rr23^{tm1Axi}

Disease/Phenotype

Disease Terms

Research Areas By Phenotype

Mammalian Phenotype Terms by Genotype

References

Technical Support

Genotyping Protocols

Separated PCR:[Rr24alternate1](#)

Separated PCR:[Rr23Alternate 1](#)

[Genotyping resources and troubleshooting](#)

Breeding Considerations

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

[Additional Breeding and Husbandry Support](#)

Mating System

Homozygote x Homozygote

Citation

When using the B6;129S6-Rr23^{tm1A_{xxi}}/Mmjax mouse strain in a publication, please [cite the originating article\(s\)](#) and include MMRRC stock #36888 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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Q U E S T I O N S A B O U T T E R M S O F U S E

LICENSING INFORMATION

Phone: 207-288-6470

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Related Strains

All

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