

A new allele of Myosin VI named Snell's waltzer 2 Jackson.

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Source of Support: The research was supported by NIH/NCRR grant RR01183 to the Mouse Mutant Resources (M.T. Davisson, PI) and DCO4301 (K.R. Johnson, PI).

Mutation (allele) symbol: *Myo6*^{sv-2J}

Mutation (allele) name: Snell's waltzer 2 Jackson

Gene symbol: *Myo6*

Strain name : B6.Cg-*Myo6*^{sv-2J}/J

Stock #006124 (jaxmice.jax.org)

Phenotype categories: Circling, Head-bobbing and Deafness

Origin and Description

The *sv-2J* mutation arose spontaneously on the NOD.CB17-*Prkdc*^{scid}/J inbred strain in 1999. Mutant males were crossed to NOD.NON-*H2*^{nb1}/LtJ, and F1 mice that did not carry the *Prkdc*^{scid} mutation (confirmed by PCR analysis) were selected as progenitors of the new strain. Since the NOD/LtJ inbred strain has significantly elevated ABR thresholds before 3 months of age (Zheng et al. 1999), a C57BL/6J congenic line was established (N8) creating the current mutant inbred strain designated B6.Cg-*Myo6*^{sv-2J}/J. Four mutant mice and two controls were evaluated for hearing by auditory-evoked brainstem response (ABR) tests at two and four months of age. The mutant mice were deaf (no detectable ABR), while the control mice retained good hearing (normal ABR thresholds). Vestibular dysfunction in mutant mice is indicated by overt circling and head tossing behavior and by swim test failure (rolling and sinking).

Genetic Analysis

An F2 intercross was performed with CAST/Ei, and 56 animals were analyzed. Linkage to Chromosome 9 was established using a DNA pooling technique (see the standard mapping protocol on the Mouse Mutant Resource website) and the mutation was localized between *D9Mit262* (75.3 Mb, NCBI m36 assembly) and *D9Mit111* (86.3 Mb) by typing individual mouse DNAs. The candidate region includes the *Myo6* gene (80 Mb), and a complementation test with *Myo6*^{sv} confirmed allelism. A heterozygous *Myo6*^{sv} female and a homozygous mutant male mating produced, in three litters, a total of 16 pups, five of which were mutant.

Acknowledgements

We thank Cheryl Maclean for identifying the first mutant animals, Heping Yu for ABR analysis and Sandra Gray for mouse colony maintenance.

References

MGI: 3618347 MGI Direct submission

Zheng QY, Johnson KR, Erway LC (1999) Assessment of hearing in 80 inbred strains of mice by ABR threshold analyses. *Hear Res* 130: 94-107.