A new spontaneous mutation on Chromosome 17 in the mouse named head slant (*hslt*)

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Mutation (allele) symbol: *hslt*

Mutation (allele) name: head slant

Gene symbol: *hslt*

Strain of origin: SJL.Cg-*Thy1*^{a}

Current strain name: SJL.Cg-*Thy1*^{a}-*hslt*/J

Stock #003961

Phenotype categories: Head tilting, circling

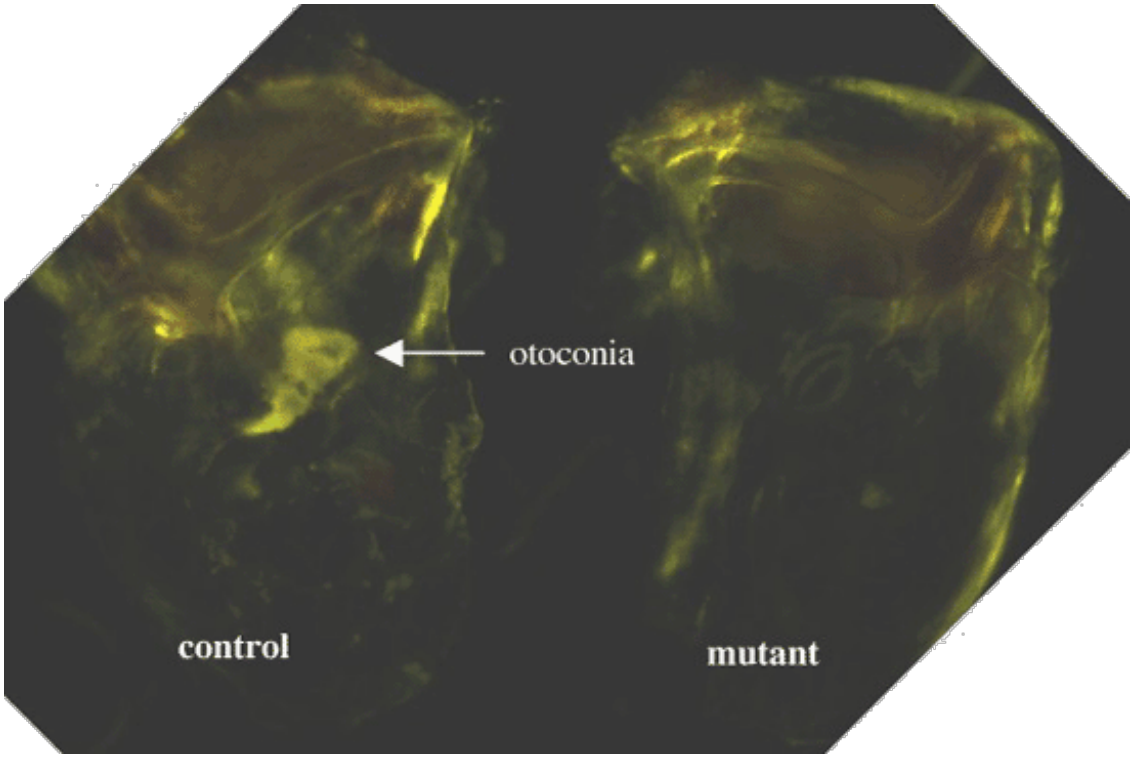
Origin and Description:
Homozygous mutants display head tilting and some circling behavior indicating vestibular dysfunction.

Genetic Analysis
Mapping: This recessive mutation was mapped to Chr 17 by a linkage intercross with CAST/Ei. Analysis of 39 F2 progeny indicated that *hslt* is between markers *D17Mit222* and *D17Mit46,* approximately 10 cM from the Chr 17 centromere.

Chromosome 17 haplotypes of 38 F2 progeny (76 meioses) from an intercross of *hslt*/+ F1 hybrids produced from mating SJL.Cg-*Thy1*^{a}-*hslt*/*hslt* and CAST/Ei mice. On the basis of these linkage results, the most likely position of the *hslt* mutation is about 10 cM from the centromere of Chr 17.

Allelism tests: A test for allelism with head-tilt (*het*), a similar mutation on proximal Chr 17 was negative. A mating between a *het/het* female and a *hslt*/+ male produced 16 progeny in two litters, all normal. A mating between a *hslt/hslt* female and a *het/het* male produced 31 progeny, all normal.

Pathology:
Whole mounts of inner ears from mutant *hslt/hslt* compared with control littermate *hslt*/+ show that the otoconia of utricle/saccule appear to be missing. Auditory-evoked brainstem response tests indicate mutants have normal hearing. Four mutants and six heterozygotes were tested, all had normal hearing.



Whole mount of inner ears from control and mutant mice, cleared and viewed with polarizing light to illuminate otoconia of the sacular and utricular maculae. Mice homozygous for the *hslt* mutation lack otoconia and thus exhibit balance dysfunction.

Acknowledgements
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