New allele of potassium voltage-gated channel, subfamily Q, member 1 (*Kcnq1*) named vertigo 2 Jackson.

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Source of Support: This research was supported by NIH/NCRR grant RR01183 to the Mouse Mutant Resource (M.T. Davisson, PI) and DC04301 (K.R. Johnson. P.I.)

Mutation (allele) symbol: *vtg-2J*

Mutation (allele) name: vertigo 2 Jackson

Gene symbol: *Kcnq1*

Strain of Origin: C3H/HeJCrlBR-$Il2^{tm1Hor}$

Current strain name: C3H/HeJCrl-$Kcnq1^{vtg\text{-}2J}$/J

Stock #004407 (jaxmice.jax.org)

Phenotype categories: Head tossing/bobbing and deafness

Origin and Description:
The recessive mutation vertigo 2 Jackson (*vtg-2J*) arose spontaneously on the C3H/HeJCrlBR-$Il2^{tm1Hor}$ strain. The *Il2* targeted mutation was selected against in colony development and its absence was confirmed by PCR analysis. The strain is maintained by matings of heterozygous females with homozygous mutant males. Vertigo 2 Jackson mutants exhibit hyperactive head tossing and bobbing behavior. They are deaf by eight weeks as confirmed by ABR analysis. They are unable to swim; they repeatedly roll and then sink.

Genetic Analysis:
An intercross was performed with CAST/Ei F1 hybrids and 30 F2 mice were analyzed. Linkage was established with Chromosome 7 and the mutation was placed distal to *D7Mit105.* A search of this region suggested *Kcnq1* as a likely candidate because mutations of this gene cause a similar phenotype. A complementation test with the vertigo (*vtg*) mutation of *Kcnq1* was performed. A heterozygous female (*vtg-2J*/+) was mated with a homozygous vertigo male ($Kcnq1^{vtg}$/$Kcnq1^{vtg}$) yielding three litters with 10 mutants out of a total 19 pups, thus confirming allelism.

Acknowledgements:
We thank Jay Young for identification of the mutant phenotype, Sandra Gray, Susan Cook, Katherine Pelletier, and Julie Seavey for colony maintenance, Coleen Marden, Heping Yu, Qing Yin Zheng and Norm Hawes for their technical expertise.