

IsK Knockout Mouse

Inventors:

Steve Heinemann

Applications:

Molecular Neurobiology, CNS, Drug Discovery and Development

Mouse model for waltzer syndrome exhibiting hyperactivity, head tilt and bobbing

The IsK gene encodes a small protein of 129-130 amino acids that spans the cell membrane only once and gives rise to slowly activating, voltage dependent K⁺ conductances. The IsK gene is expressed in the kidney, heart and inner ear. Gene targeting techniques were used in mouse embryonic stem cells to produce mice with a null mutation of the IsK gene. A standard replacement vector was created and used to delete the entire coding sequence of the IsK gene. These IsK knockout mice, which express aberrant behavior due to the K⁺ channel defect, are models for the waltzer syndrome exhibiting hyperactivity, bi-directional circling, head tilt and bobbing.

References:

Workshop on Inner Ear Biology, August 31 - September 3, 1996, Utrecht, The Netherlands

Nature 384: News and Views (1996)

J. Membr. Biol. 146: 283-291 (1995) and 147: 263-273 (1995)

Neuron 17: 1251-1264 (1996)

Patent Status:

No Application filed

License Terms:

Nonexclusive license negotiable

Reference Number: ISK

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