

# Deep sleep may be in your genes

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Swiss scientists at the University of Zurich say they've identified a genetic variation that may explain why some people sleep better than others.

The researchers say sleep intensity is related to sleep need. While genetic factors have been proposed to determine the need for sleep, the responsible genes and their effects have remained unknown.

Hans-Peter Landolt and colleagues examined the correlation between genetic variations in sleep-related brain activity and the adenosine neurotransmitter system. They found individuals with a mutation in a specific gene -- the adenosine deaminase gene -- had deeper, more intense sleep than subjects with the more common type of the gene.

Individuals with the mutated gene also reported fewer awakenings during the night. Additionally, people with a mutation in another gene in the adenosine system -- the adenosine A2A receptor -- showed altered brain wave activity both during sleep and while awake.

The scientists say their findings suggest genetic variations in the adenosine neurotransmitter system may explain human variability in sleep need and quality.

The research is detailed in the online early edition of the Proceedings of the National Academy of Sciences.

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