

Understanding the antiepileptic benefits of an Atkins-like diet

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Some individuals with epilepsy fail to respond to treatment with conventional drugs but benefit from consuming a ketogenic diet — a high-fat, low-carbohydrate diet similar to the more commonly known Atkins diet. A team of researchers, led by Detlev Boison, at the Legacy Research Institute, Portland, has now identified in mice the molecular mechanism responsible for the antiepileptic effects of the ketogenic diet.

The team found that a ketogenic [diet](#) reduces seizures in mice by decreasing expression of the protein Adk, which is responsible for clearing the natural antiepileptic agent adenosine from the brain. The clinical relevance of these data are highlighted by the team's finding that brain tissue from patients with [epilepsy](#) that fails to respond to treatment with conventional drugs shows increased levels of Adk.

The team suggests that their data could lead to the development of less-restrictive antiepileptic diets and alternate pharmaceutical approaches to treatment, notions with which Robert Greene, at The University of Texas Southwestern Medical Center, Dallas, concurs in an accompanying commentary.

More information: A ketogenic diet suppresses seizures in mice through adenosine A1 receptors, www.jci.org/articles/view/5781...b823f84a9a31512e6849

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