

Gene variant may be linked to better memory, protection against Alzheimer's

People with a newly identified genetic variant perform better on certain types of memory tests, a discovery that may point the way to new treatments for the memory impairments caused by Alzheimer's disease or other age-associated conditions.

In what the international research team is calling the largest study to date of human memory, an analysis of genomic data and memory test results from more than 14,000 older adults identified a location in the genome that was associated with better memory performance. The researchers noted that the gene has not been associated with cognition in the past.

The genome-wide study found that better performance on tests of [episodic memory](#) was associated with a change in the DNA on chromosome 2—a G instead of the more common A nucleotide in a gene known as FASTKD2. The genetic variant—known as a [single nucleotide polymorphism](#), or SNP—was also associated with a larger hippocampus and more dense gray matter in the brain on [magnetic resonance imaging](#) scans. The hippocampus is a brain structure involved in storing and retrieving memory. The inability to recall a recent current event, a newspaper article or what one had for dinner is one of the earliest symptoms of Alzheimer's disease and is also related to hippocampal atrophy.

The FASTKD2 gene is responsible for the production of a protein involved in apoptosis, a process of programmed [cell death](#). The researchers also examined cerebrospinal fluid samples from 82 participants and found lower levels of proteins associated with cell death in the participants with the memory-protective G variant.

More research will be needed to determine whether drugs targeting the FASTKD2 gene could be used to protect against memory loss and related issues in Alzheimer's disease, Dr. Saykin said.

Read full, original article: [Team identifies genetic variant linked to better memory performance](#)