

☆ Alzheimer's disease (Seshadri, 2010)

Sudha Seshadri, et al.

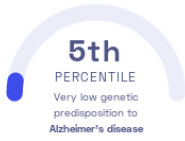
JAMA

Dementia Brain

STUDY SUMMARY

Identification of novel variants (one of which was in the BIN1 gene) associated with Alzheimer's disease.

YOUR RESULT



STUDY DESCRIPTION



Alzheimer's disease is a progressive brain disorder that slowly decreases memory and cognitive skills. It is the most common form of dementia in older adults and is known to be a highly heritable disease. This study identified new genetic variants and confirmed previously discovered variants associated with Alzheimer's in a cohort of over 35,000 people. One of the most significant novel variants found was near the BIN1 gene, which plays an important role in shaping and regulating the *plasma membrane*, which separates the inside of the cell from the outer environment.

DID YOU KNOW?

Although your chances of developing Alzheimer's disease are mostly based on your age and genetics, healthy habits may help delay disease onset and progression. Exercise, a Mediterranean diet, and sleep are the most likely ways to ward off the disease.

YOUR DETAILED RESULTS

To calculate your genetic predisposition to Alzheimer's disease we summed up the effects of genetic variants that were linked to Alzheimer's disease in the [study that this report is based on](#). These variants can be found in the table below. The variants highlighted in green have **positive effect sizes** and increase your genetic predisposition to Alzheimer's disease. The variants highlighted in blue have **negative effect sizes** and decrease your genetic predisposition to Alzheimer's disease. Variants that are not highlighted are not found in your genome and do not affect your genetic predisposition to Alzheimer's disease. By adding up the effect sizes of the highlighted variants **we calculated your polygenic score for Alzheimer's disease to be -0.32**. To determine whether your score is high or low, we compared it to the scores of 5,000 other Nebula Genomics users. We found that your polygenic score for Alzheimer's disease is in the **5th percentile**. This means that it is higher than the polygenic scores 5% of people. We consider this to be a **very low genetic predisposition to Alzheimer's disease**. However, please note that genetic predispositions do not account for important non-genetic factors like lifestyle. Furthermore, the genetics of most traits has not been fully understood yet and many associations between traits and genetic variants remain unknown. For additional explanations, click on the column titles in the table below and visit our [Nebula Library tutorial](#).

VARIANT [ⓘ]	YOUR GENOTYPE [ⓘ]	EFFECT SIZE [ⓘ]	VARIANT FREQUENCY [ⓘ]	SIGNIFICANCE [ⓘ]
rs2075650_G	A / A	0.93 (-)	14%	1.04×10^{-296}
rs11136000_T	T / T	-0.16 (↓)	39%	1.62×10^{-18}
rs3851179_T	T / C	-0.14 (↓)	37%	3.16×10^{-12}
rs744373_G 	A / G	0.14 (↑)	29%	1.59×10^{-11}
rs597668_C 	T / T	0.16 (-)	15%	6.45×10^{-9}