SelfDecode™

APOE

Gene Report

REPORT CATEGORY

COGNITION

Sample Client

Report date: 03 September 2025

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Personal information

NAME

Sample Client

SEX AT BIRTH

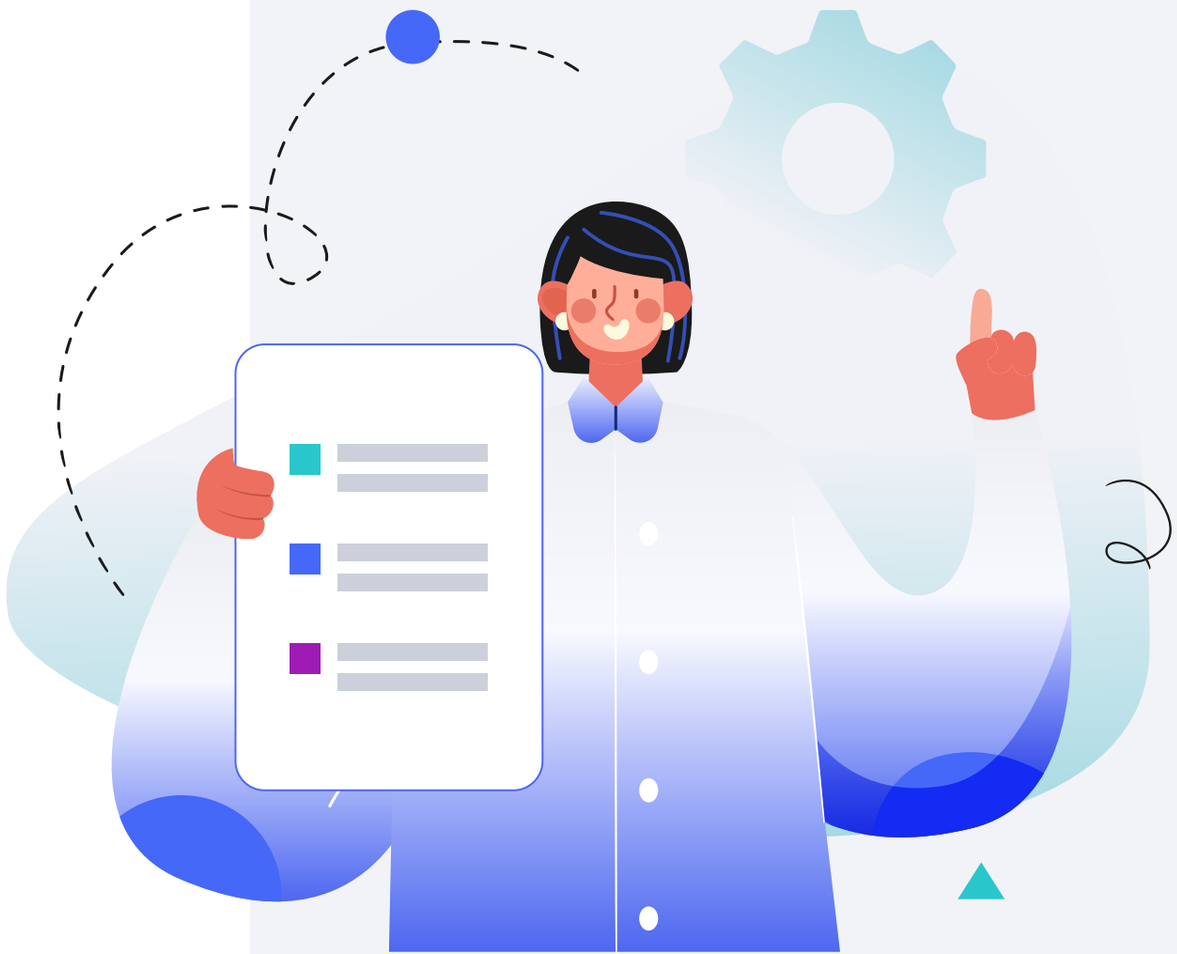
Male

HEIGHT

5ft 9" 175.0cm

WEIGHT

165lb 75.0kg



DISCLAIMER

This report does not diagnose this or any other health conditions. Please talk to a healthcare professional if this condition runs in your family, you think you might have this condition, or you have any concerns about your results.

Introduction

The *APOE* gene makes Apolipoprotein E (ApoE). ApoE is a protein critical for the transport and metabolism of fats throughout the body [R, R, R, R, R].

ApoE also plays a role in [R, R, R, R, R, R]:

- Nerve cell function
- Heart and blood vessel function
- Clearance of proteins from the brain
- The immune response

The *APOE* gene can make different forms of the ApoE protein based on an individual's genetics. It may be harder for certain ApoE proteins to clear fats from the blood. This can raise levels of fat in the blood and contribute to artery hardening [R, R].

Despite the important role of ApoE in heart health, most of the research has been focused on the brain. *APOE* is the major gene affecting the risk of late-onset (after the age of 65) Alzheimer's disease [R, R].

However, it is important to keep in mind that there are many other variants, genes and environmental factors that influence your risk of Alzheimer's disease. A lot of people who have one or even two high-risk *APOE* variants don't develop Alzheimer's disease. Moreover, the disease can occur in people who don't have risk variants [R, R, R].

Alzheimer's disease is the most common cause of dementia. Dementia is a group of symptoms that include memory, judgment, and communication problems [R].

In Alzheimer's disease, protein pieces can impair the normal function of brain cells. They can also begin to build up and form plaques in the brain. One form of ApoE may have trouble clearing this protein from the brain [R, R].

APOE Genetics

PERSONALIZED TO GENES

You have two copies of the ε3 form of *APOE*.

ε3 is the most common form of the gene. This allele is linked to a typical lifetime risk of Alzheimer's disease [R].

Key Takeaways:

- If you carry one or both **ε4** variants, your risk for Alzheimer's disease may be higher.
- The risk is greatest for late onset (after age 65) Alzheimer's disease.
- Even if your risk is higher due to the **ε4** variants, numerous other factors from your environment to lifestyle to other genetic variants impact overall risk.
- People with both variants may never get Alzheimer's, and some who have neither variant can get the disease.

There are three major forms (variants) of the *APOE* gene. These are called ε2, ε3, and ε4. You can have two copies of the same variant or two different variants [R, R].

ε2, ε3, and ε4 change the shape of the ApoE protein. This can impact how well ApoE functions [R, R].

ε3 is the most common variant. It makes a protein that is good at clearing plaque from the brain and fats from the blood. Most people have two ε3 variants and a typical risk of Alzheimer's disease [R].

ε4 is less common. It makes a protein that is not as good at clearing plaque from the brain and fats from the blood. ε4 has been linked to a higher risk of Alzheimer's disease and artery hardening [R, R].

ε2 is another less common variant. It makes a protein that is better than ε3 at removing plaque from the brain, but not

E3/E3

You carry two APOE ε3 variants based on the genetic variants we looked at

62%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **62% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
APOE	rs7412	CC
APOE	rs429358	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

as good at removing fats from the blood. ε2 has been linked to a lower risk of Alzheimer's disease [R, R, R].

However, it has also been linked to a higher risk of artery hardening in people with two ε2 variants and an underlying chronic health condition, such as obesity or diabetes [R, R, R].

Did you know? The **ε4** variant was much more common among ancient hunter-gatherers. Scientists suggest this variant might have improved their [R]:

- Inflammatory response to germs in the wilderness
- Vitamin D status in less sunny European areas
- Aerobic endurance, crucial for a hunter-gatherer lifestyle

As humans largely switched to farming, some effects of this variant became useless or even harmful. For this reason, evolution strongly favored the **ε3** variant in ancient farmers and their modern descendants [R].