

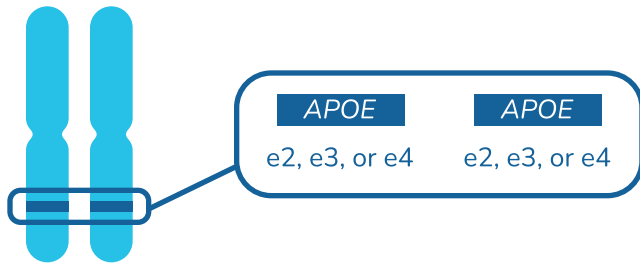


APOE Genetics

Genetic Support Foundation Fact Sheet

What is the APOE gene?

- The *APOE* gene provides instructions for building a protein called apolipoprotein E (ApoE), which is important for transporting lipids such as cholesterol to different parts of the body.
- We all have two copies of the *APOE* gene, one inherited from each parent. We may inherit different versions or "alleles" of the *APOE* gene. The most common alleles are called e2, e3, and e4.



When is APOE genetic testing recommended?

- The drug Leqembi (lecanamab) may be considered to help slow the progression of Alzheimer's Disease (AD) in people with early AD symptoms. People with one or two copies of the *APOE* e4 allele are thought to have an increased risk of potentially serious side effects of this drug. For this reason, *APOE* genetic testing is recommended before initiating this treatment.
- We are not currently able to accurately predict or provide medical recommendations for AD or cardiovascular disease (CVD) based on a person's *APOE* alleles. For this reason, *APOE* genetic testing for the purpose of better understanding these risks is not currently recommended.

How does the APOE gene relate to Alzheimer's Disease (AD)?

- About 10% of people age 65 and older and 30% of people age 85 and older will have dementia due to Alzheimer's Disease (AD). Some genes like *APOE* have a role in increasing the risk of AD, but do not guarantee that AD will develop.
- People who have one or two copies of the *APOE* e4 allele have an increased risk of developing AD and are more likely to develop AD at younger ages.
- However, not all people with AD have the *APOE* e4 allele, and not all people who have this allele will develop AD. About 15-25% of the general population have one or two copies of the e4 allele.

How does the APOE gene relate to cardiovascular disease (CVD)?

- Because the ApoE protein helps regulate cholesterol levels in the body, different versions of this gene can affect risk of cardiovascular diseases (CVD) such as heart attacks, coronary artery disease, and lipid disorders.
- People who have one or two copies of the *APOE* e4 allele have an increased risk of developing CVD. However, this risk is also influenced by factors such as other genes, lifestyle, and diet.

APOE Allele	Alzheimer's and Cardiovascular Disease Association
e2	Protective against disease development
e3	Neutral effect on disease development
e4	Increased risk of disease development

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