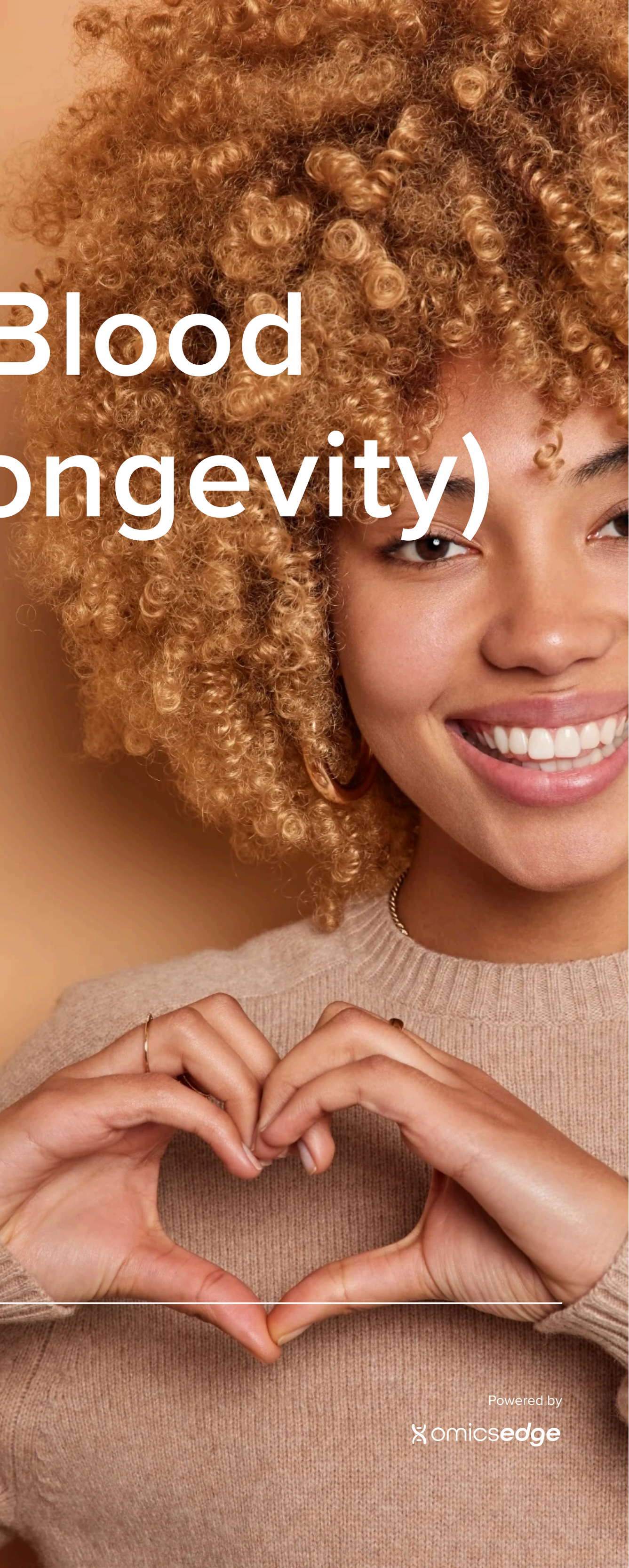
SelfDecode™

APOC3 (Blood Lipids/ Longevity)

Gene Report



REPORT CATEGORIES

HEART & BLOOD VESSELS

LONGEVITY

Sample Client

Report date: 15 January 2026

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Personal information

NAME

Sample Client

SEX AT BIRTH

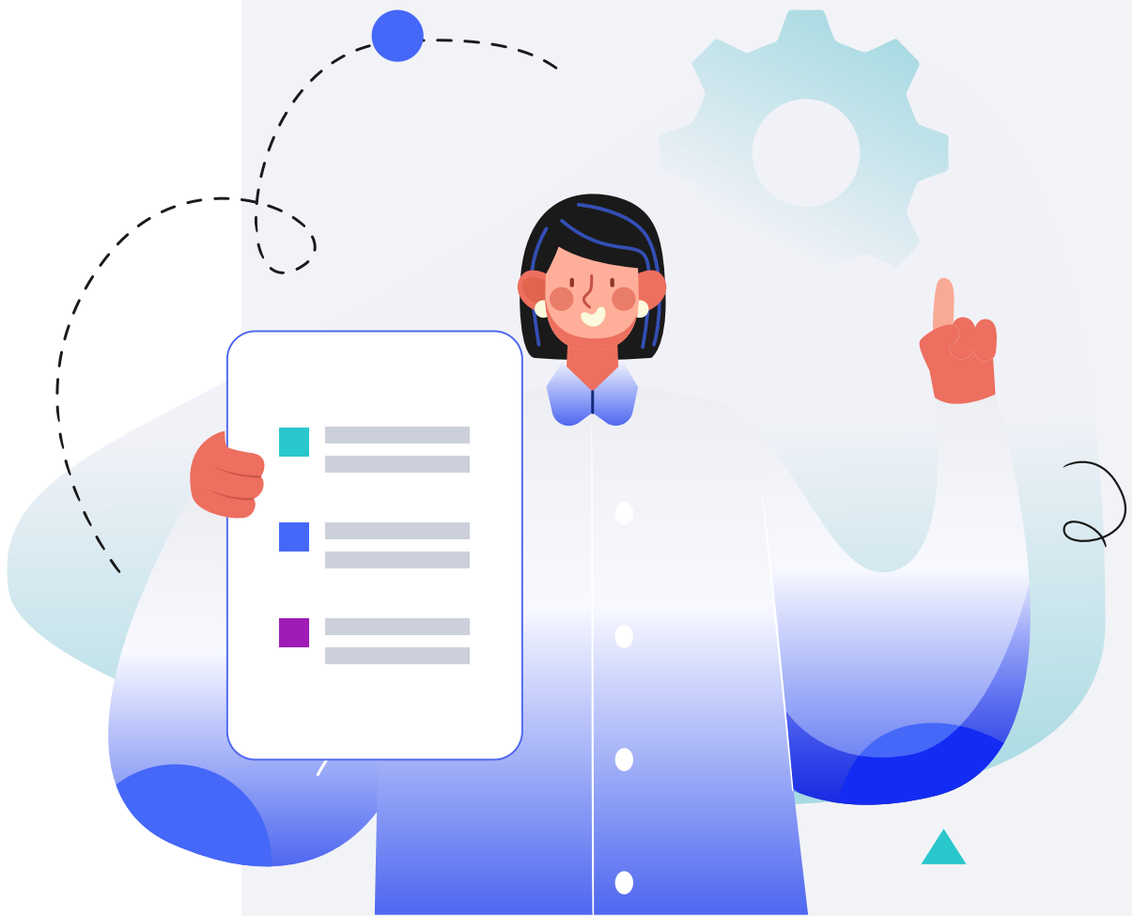
Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg

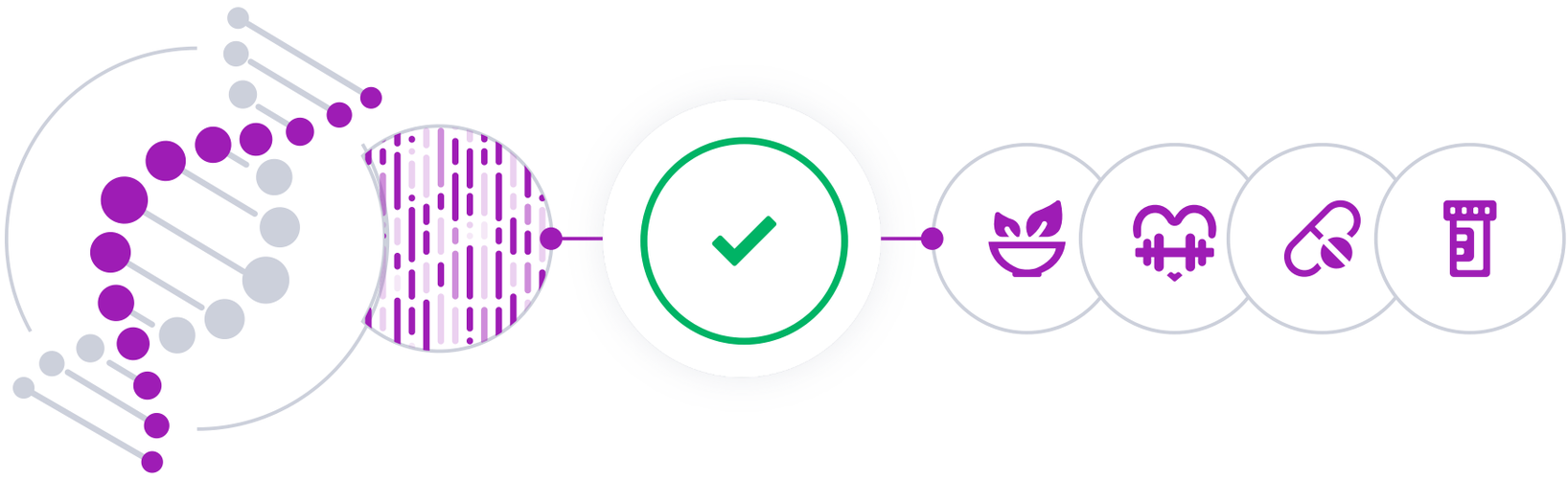


DISCLAIMER

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.

How this works

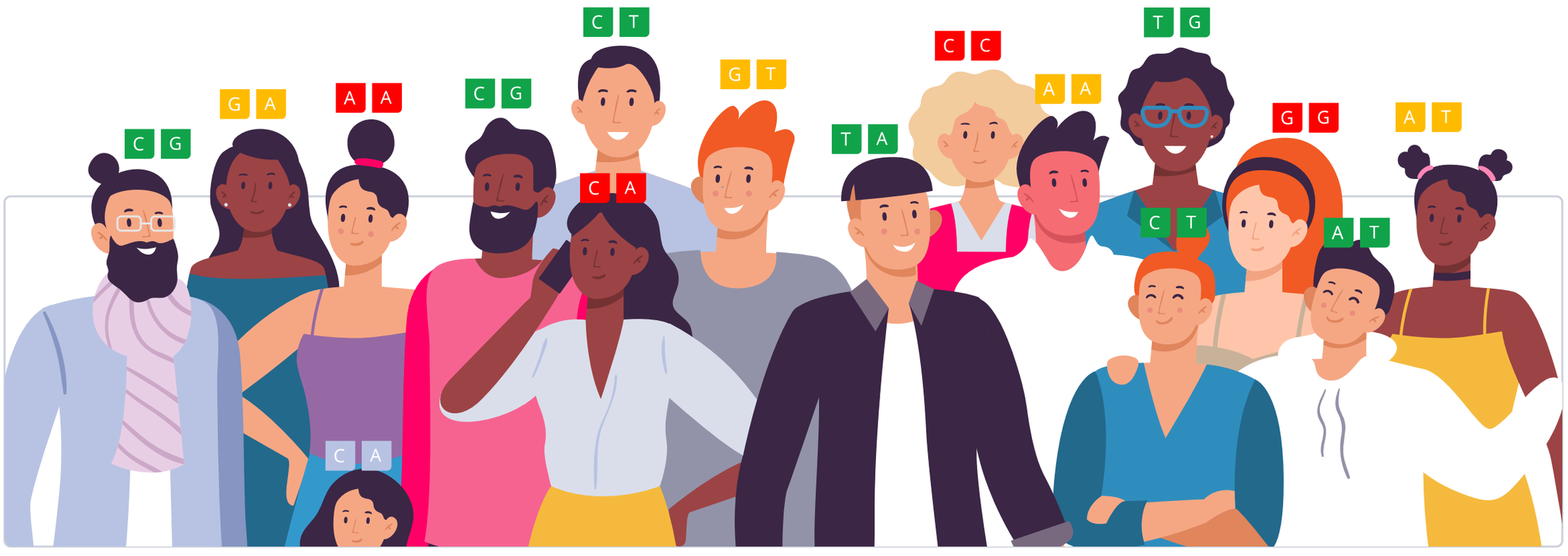
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



Similarly, our Trait Reports look at how your DNA influences your traits.

Your DNA is like an instruction manual — it contains a lot of information.
You can think of it as a blueprint for your body.

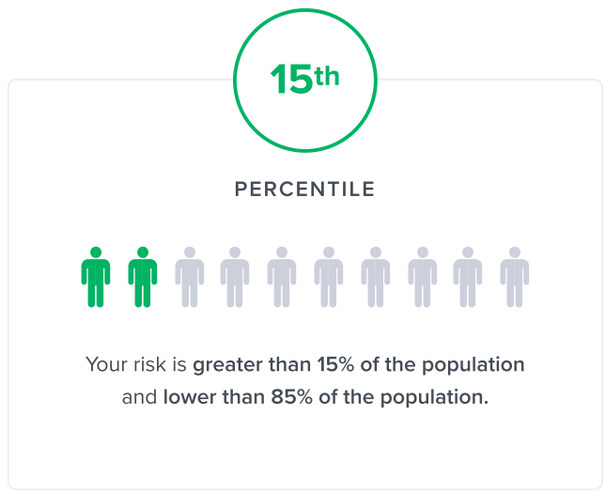
Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



We use artificial intelligence and machine learning to analyze all this information. We then summarize your results as a risk score or display it on a gauge.

When we give a risk score, the risk icon tells you if you are at a higher or lower risk compared to other people:

In total, we analyze up to 83 million genetic variants.



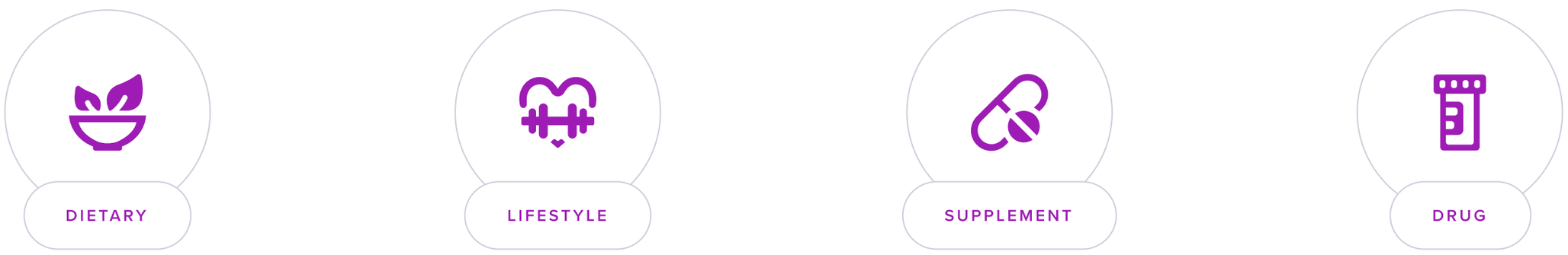
Genotype color info: AA You don't have any risk alleles | AA You have 1 risk allele | AA You have 2 risk alleles

Your risk is also displayed as a percentile. This will tell you how your risks compare to our sample population. The lower your percentile number, the lower your risk. The "50th percentile" would be an average risk.

Similarly, the gauge tells you your relative risk score compared to our sample population, or it indicates a specific trait or haplotype you are more likely to have based on your genetic variants.

When applicable, we also list top evidence-based recommendations that may help lower your risk. The focus is on recommendations that may be of benefit to you, based on your genetics.

Our recommendations come in four categories: lifestyle, diet, supplements and drugs.
The following icons tell you which category a recommendation falls into:



Our team of scientists also ranks each recommendation.
We rank based on impact and the strength of evidence in the medical literature.

Impact shows how strongly a recommendation will affect your health in a certain area.
Evidence is how much scientific support there is for the recommendation. Rankings are from 1 to 5 (low to high):

Impact

Impact scores range from 1-5. These scores reflect how much of an effect each recommendation can have. An impact score of 5 predicts the biggest effect.

When a recommendation affects something we can measure, we use those measurements to assign the impact score. For example, a recommendation that decreases cholesterol by 20% will have a higher impact score than one that decreases it by 5%.

Some recommendations affect things that we cannot directly measure, like stress or mood. For these, the impact score is based on how well they work relative to other recommendations and standard treatments. The best ones get the highest scores.

If there is a lot of research that shows a recommendation works especially well for your genotype, the impact score gets increased.

Recommendation Evidence

5 / 5

Recommendations that are considered effective and generally recommended by experts and medical bodies.

4 / 5

Recommendations that are considered likely effective and that have multiple independent meta-analyses and a great many studies supporting them.

3 / 5

Recommendations that are considered possibly effective and have many studies supporting them

2 / 5

Recommendations that have insufficient evidence, with two or several clinical trials supporting them, or many studies but with ambiguous results.

1 / 5

Recommendations that have insufficient evidence, with a single clinical trial, or with many studies most of which didn't find support for the recommendation.

0 / 5

No evidence in humans.

Genotype-specific Evidence

High-quality

Direct evidence that a recommendation helps more in people with your gene variant (many clinical trials, afew large clinical trials, or a meta-analysis).

Medium-quality

Direct evidence that a recommendation helps more in people with your gene variant (a few clinical trials or one large clinical trial).

Low-quality

Direct evidence that a recommendation helps more in people with your gene variant (a single clinical trial or more trials with inconsistent results).

Indirect

A recommendation may help more in people with your gene variant because it targets a specific gene or protein affected by your variant (e.g., MTHFR, dopamine).

In theory

A recommendation may help more in people with your gene variant because it targets a specific mechanism affected by your variant (e.g., inflammation, oxidative stress).

Some things to keep in mind:

- Genetics doesn’t play a considerable role in a condition or a trait.
- There is not enough research available to estimate a genetic predisposition.
- There are technical limitations to estimating or presenting a genetic predisposition.
- The topic is sensitive, and a genetic predisposition should only be estimated and presented by a healthcare professional.

Introduction

The APOC3 gene plays an important role in cholesterol management. It helps make the apo-CIII protein, which slows down the breakdown of triglycerides [R].

Studies have found that certain genetic variants of APOC3 are much more common in people who have exceptionally long lifespans. According to some researchers, these gene variations may improve longevity by improving cardiovascular health [R].

Triglycerides are a type of fat that the body uses to store energy. There are several enzymes in the body that break down and remove triglycerides from the blood, such as lipoprotein lipase (LPL) and hepatic lipase (HL). These enzymes are important because high triglyceride levels in the blood can lead to atherosclerosis, a buildup of plaque in the arteries [R].

The main function of apo-CIII is to inhibit these enzymes, including LPL and HL. This means that apo-CIII activity ultimately leads to increased triglyceride levels in the blood [R, R].

There is some evidence that apo-CIII may have several other mechanisms, all of which appear to also promote atherosclerosis. These other potential effects include [R]:

- Promoting the adhesion of monocytes to endothelial cells, essentially making the wall of the blood vessels “stickier” and more prone to form plaque
- Increasing the concentration of platelets, which normally play a role in blood clotting
- Disrupting the activity of HDL, which may prevent its normally beneficial effects

Atherosclerosis, in turn, is a strong risk factor for the development of cardiovascular diseases, like heart attack and stroke. According to some researchers, certain genetic variants in APOC3 that reduce the activity of apo-CIII may improve longevity by protecting against atherosclerosis and potentially preventing deadly cardiovascular diseases [R, R].

APOC3 Variants, Blood Lipids & Longevity

The main *APOC3* variants, **rs5128** and **rs2542052**, may influence the metabolism of blood lipids. Their **"C" alleles** are linked to [R, R, R]:

- Lower triglycerides
- Lower LDL or "bad" cholesterol levels
- Higher HDL or "good" cholesterol levels

However, their impact on cardiovascular health is less clear. A meta-analysis of 79 studies looked at the link between stroke and APOC3, along with many other related genes. According to the results, rs5128 and other *APOC3* SNPs have no association with stroke [R].

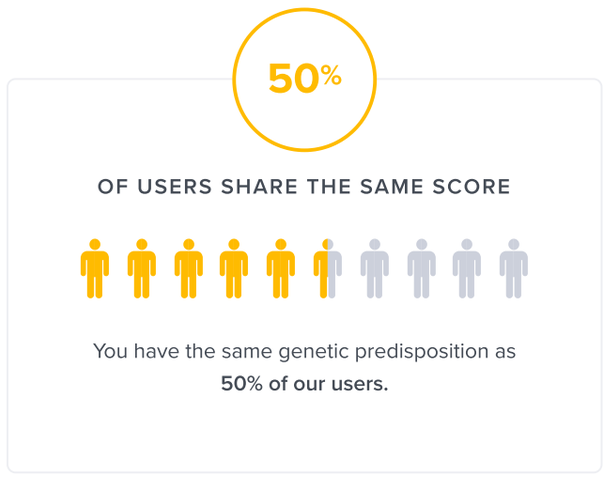
When it comes to direct links with longevity, a study looked at rs2542052 in Ashkenazi Jews. The results suggest that the **"CC" genotype** may be more common in people who live past 100 years old. They also had better cardiovascular health and glucose metabolism [R].

However, one study looked at 749 American Caucasians who have exceptionally long lifespans and found no association between rs2542052 and longevity [R].

Finally, the rare **"A"** allele of **rs138326449** encodes a version of the protein with impaired function. This variant has been associated with decreased triglyceride and VLDL cholesterol but increased HDL cholesterol levels [R, R, R, R].

TYPICAL ACTIVITY

Likely typical APOC3 activity based on the genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
SIDT2	rs2542052	AC
PCSK7	rs5128	CC

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

Your Recommendations

Your recommendations are prioritized according to the likelihood of it having an impact for you based on your genetics, along with the amount of scientific evidence supporting the recommendation.

You'll likely find common healthy recommendations at the top of the list because they are often the most impactful and most researched.

1 Choose Healthy Fats

1

Choose Healthy Fats

IMPACT 4 / 5

EVIDENCE 5 / 5

How to implement

Incorporate sources of unsaturated fats such as olive oil, avocados, nuts, seeds, and fatty fish into your daily diet. Aim for at least two servings of fatty fish per week and use olive oil for cooking and salad dressings. Replace saturated fats found in red meat, butter, and processed foods with these healthier options whenever possible.

Description

Choosing healthy fats, such as those found in avocados, nuts, and fatty fish, can support cardiovascular health, reduce inflammation, and promote overall well-being. A diet balanced in healthy fats can help manage cholesterol levels and reduce the risk of heart disease.

Based on their structure, the fats in our diet can be broadly divided into *saturated* and *unsaturated* fat. Trans fat is a type of unsaturated fat [R, R, R].

In large amounts, trans fat and saturated fat may have a negative impact on your heart and reproductive health. Processed foods and animal products like red meat and dairy are rich in these fats [R, R, R, R, R].

Some types of unsaturated fat can protect your heart and support fertility. **Experts say you should add more unsaturated fats to your diet**. Some good sources include [R, R, R]:

- Nuts
- Seeds
- Fish

Unsaturated fats include polyunsaturated fats or PUFAs (omega-3 and omega-6) and monounsaturated fats or MUFAs [R, R].

How it helps

Experts agree that eating less saturated and trans fats may help lower cholesterol. This may lower your risk of heart disease [R, R, R, R, R, R, R, R, R, R].

However, **replacing saturated fats with processed and sugary foods may not help reduce the risk of heart disease** [R].

To make a meaningful change, replace saturated fats with unsaturated fats [R, R, R, R, R, R].

Fish, walnuts, and seeds are rich in polyunsaturated fats (PUFAs). These fats may be the best replacement for saturated fat [R, R].

Next Steps

Remember, your genes only tell one important part of your health story!

Now that you've seen your DNA-based results for this health topic, let's take a look at other contributing factors.

Your lab results

Your lab results are impacted by the combined effect of your genes, environment and lifestyle.

Lab tests will give you the best picture of your current health status, while your genes provide insight into your health predispositions and which recommendations are best for you.

Apolipoprotein A1	119.5 mg/dL	128 – 190	9 Nov 2025
LDL Cholesterol	103 mg/dL	0 – 100 – 130 – 189	9 Nov 2025
Triglycerides	54 mg/dL	0 – 90 – 150 – 500	9 Nov 2025
HDL Cholesterol	42 mg/dL	40 – 90	9 Nov 2025
ApoB	108 mg/dL	40 – 80 – 120	9 Nov 2025