SelfDecode™

Cardia100X Functional DNA Report

Health Report

REPORT CATEGORY

HEART & BLOOD VESSELS

Sample Client

Report date: 28 July 2025

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Personal information

NAME

Sample Client

SEX AT BIRTH

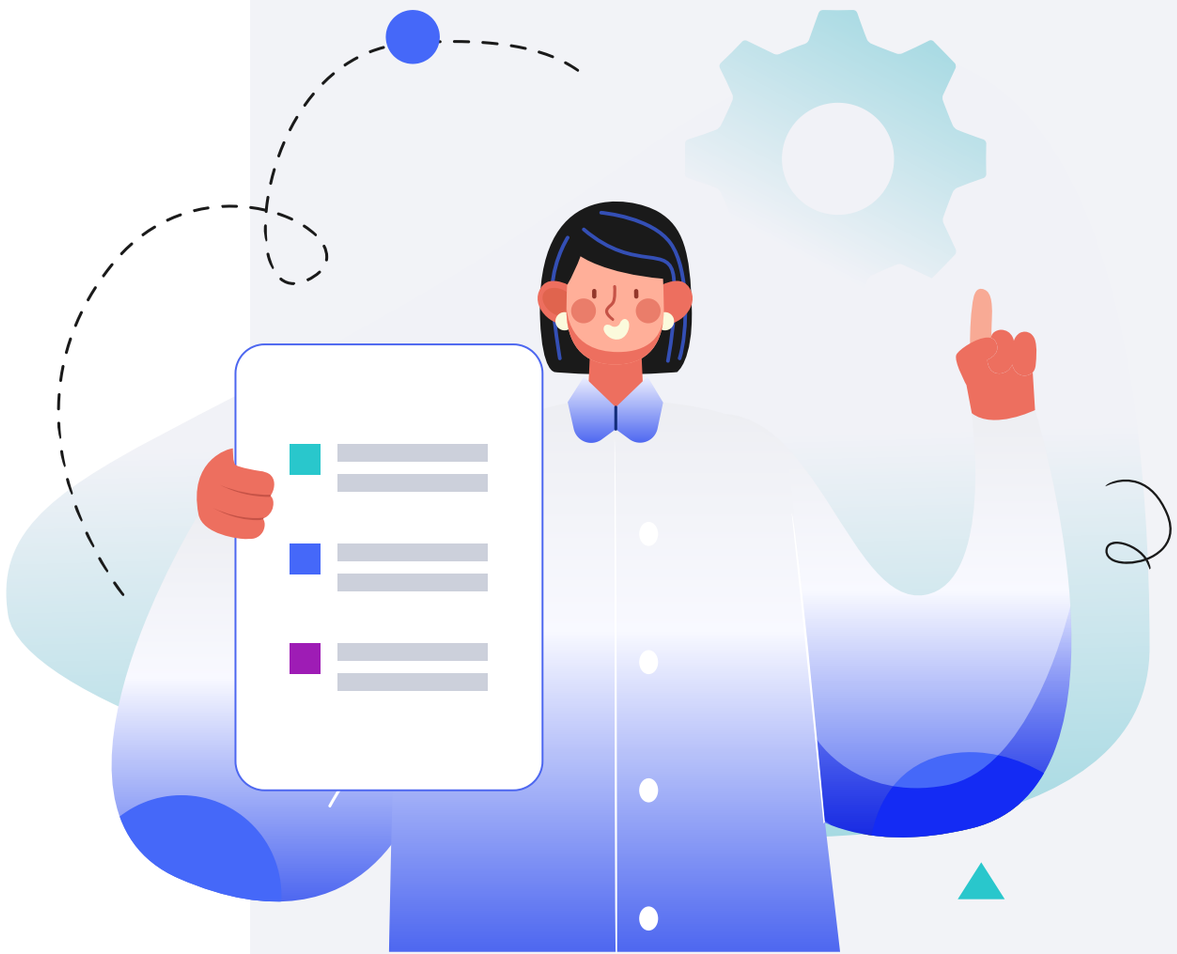
Male

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.

Summary

We've all heard the warning: "That will give you a heart attack!" Whether it's high cholesterol, stress, or poor diet, heart disease remains the number one cause of death worldwide. But here's the good news: **about a third of heart disease-related deaths could be prevented!**

Heart health is a complex interplay of genetics, lifestyle, and environmental factors. In fact, your genetic makeup plays a significant role in your predisposition to conditions like high blood pressure, elevated cholesterol, blood clotting disorders, and more. Understanding your genetic risks can empower you to take preventive steps and make informed decisions about your heart health.

By analyzing specific variants in the most relevant genes, this comprehensive report explores your genetic predisposition to various factors that influence heart health, including:

- Blood Pressure
- Blood Lipids
- Blood Clots
- Heart and Blood Vessel Development
- Catecholamine Neurotransmitters
- Detox

Understanding these genetic factors gives you the tools to take action before heart disease becomes a problem. Let's dive into your genetic predispositions and how they relate to your heart health!

This summary report contains:

59 Genetic Results

33 Recommendations

Overview of Your Results

Blood Pressure

HIGHER ACTIVITY

AGT (Cardiovascular & Fitness)

Likely higher AGT activity

HIGHER ACTIVITY

AGTR1 (Blood Pressure)

Predisposed to higher AGTR1 activity

WORSE GENETICS

PHACTR1 (Cardiovascular)

Predisposed to a worse PHACTR1 genetics

LOWER ACTIVITY

CYP4A11 (Blood Pressure)

Predisposed to a lower CYP4A11 activity

HIGHER ACTIVITY

AVPR1A (Blood Pressure/Anxiety/Depression)

Predisposed to a higher AVPR1A activity

TYPICAL ACTIVITY

NOS3 (Cardiovascular)

Likely typical NOS3 activity

TYPICAL GENETICS

CORIN (Cardiovascular)

Predisposed to a typical CORIN genetics

TYPICAL ACTIVITY

BPIFB4 (Cardiovascular & Longevity)

Predisposed to typical BPIFB4 activity

TYPICAL ACTIVITY

CYP3A5 (Detox/Blood Pressure)

Predisposed to a typical CYP3A5 activity

TYPICAL GENETICS

SLC4A5 (Salt & Blood Pressure)

Likely typical SLC4A5 genetics

TYPICAL ACTIVITY

EDN1 (Blood Pressure)

Predisposed to a typical EDN1 activity

LOWER ACTIVITY

ACE (Fitness/ Cardiovascular)

Likely lower ACE activity

HIGHER ACTIVITY

GCH1 (Cardiovascular)

Likely higher GCH1 activity

HIGHER ACTIVITY

CYP4F2 (Blood Pressure)

Predisposed to a higher CYP4F2 activity

Blood Lipids

HIGHER ACTIVITY

PCSK9 (Cholesterol)

Likely higher PCSK9 activity

LOWER ACTIVITY

DOCK7 (Blood Lipids)

Likely lower DOCK7 activity

TYPICAL ACTIVITY

APOC3 (Blood Lipids/ Longevity)

Likely typical APOC3 activity

E3/E3

APOE

You carry two APOE ε3 variants

TYPICAL ACTIVITY

HMGCR (Cholesterol)

Likely typical HMGCR activity

TYPICAL ACTIVITY

APOA2 (Weight, Blood Lipids)

Likely typical APOA2 activity

TYPICAL ACTIVITY

ABCG8 (Cholesterol & Gallstones)

Predisposed to typical ABCG8 activity

TYPICAL ACTIVITY

APOB Gene (Cardiovascular)

Likely typical APOB activity

TYPICAL GENETICS

ABCA1 (Cholesterol)

Likely typical ABCA1 genetics

TYPICAL GENETICS

ABCA6 (Cholesterol)

Likely typical ABCA6 genetics

TYPICAL ACTIVITY

APOA5 (Cardiovascular)

Predisposed to typical APOA5 activity

TYPICAL ACTIVITY

LPA (Blood Lipids & Heart Health)

Predisposed to typical LPA activity

TYPICAL ACTIVITY

LDLR (Cholesterol, Cardiovascular)

Predisposed to typical LDLR activity

LOWER ACTIVITY

FABP2 (Blood Sugar/ Cardiovascular)

Likely lower FABP2 activity

TYPICAL GENETICS

SCARB1 (Cardiovascular)

Predisposed to a typical SCARB1 genetics

TYPICAL ACTIVITY

DHCR7 (Cholesterol)

Predisposed to typical DHCR7 activity

TYPICAL ACTIVITY

APOA1 (Blood Lipids)

Predisposed to a typical APOA1 activity

LOWER ACTIVITY

CETP (Cholesterol/ Longevity)

Likely lower CETP activity

HIGHER ACTIVITY

LIPC (Cardiovascular)

Likely higher LIPC activity

LOWER ACTIVITY

MLXIPL (Triglycerides, Cardiovascular)

Likely lower MLXIPL activity

LOWER ACTIVITY

SOAT1 (Cholesterol/ Cognition)

Likely lower SOAT1 activity

Blood Clots

HIGHER ACTIVITY

ITGB3 (Cardiovascular)

Predisposed to higher ITGB3 activity

WORSE GENETICS

HIVEP1 (Blood Clots)

Predisposed to a worse HIVEP1 genetics

TYPICAL ACTIVITY

FN1 (Neurodegeneration, Cardiovascular)

Predisposed to typical FN1 activity

TYPICAL ACTIVITY

SERPINE1/PAI-1 (Blood Clots)

Predisposed to typical SERPINE1 activity

Heart And Blood Vessel Development

LOWER ACTIVITY

CDKN2B-AS (Cardiovascular)

Predisposed to a lower CDKN2B-AS activity

LOWER ACTIVITY

PITX2 (Cardiovascular)

Predisposed to a lower PITX2 activity

HIGHER ACTIVITY

CELSR2-PSRC1-SORT1 (Cardiovascular)

Likely higher CELSR2-PSRC1-SORT1 activity

WORSE GENETICS

NAF1 (Longevity & Heart Health)

Predisposed to worse NAF1 genetics

TYPICAL ACTIVITY

CDKN2A

Likely typical CDKN2A activity

TYPICAL ACTIVITY

ACYP2 (Cardiovascular, Cancer)

Likely typical ACYP2 activity

HIGHER ACTIVITY

KDR (Heart Disease, Drug Response)

Predisposed to a higher KDR activity

Catecholamine Neurotransmitters

HIGHER ACTIVITY

ADRB1 (Cardiovascular)

Predisposed to higher ADRB1 activity

HIGHER ACTIVITY

MAOA (Dopamine/Serotonin)

Likely higher MAOA activity

HIGHER ACTIVITY

MAOB (Dopamine/ Norepinephrine)

Likely higher MAOB activity

TYPICAL ACTIVITY

COMT

Likely typical COMT activity

TYPICAL ACTIVITY

TH (Mental Health, Blood Pressure)

Predisposed to a typical TH activity

Detox

LOWER ACTIVITY

MTHFR

Likely lower MTHFR activity

LOWER ACTIVITY

CPS1 (Cardiovascular, Kidney Health)

Likely lower CPS1 activity

TYPICAL ACTIVITY

ACMSD (Cardiovascular)

Predisposed to typical ACMSD activity

TYPICAL ACTIVITY

CYP1A1 (Detox)

Likely typical CYP1A1 activity

TYPICAL ACTIVITY

CYP11B2 (Aldosterone & Blood Pressure)

Predisposed to typical CYP11B2 activity

HIGHER ACTIVITY

GLUL (Cardiovascular)

Predisposed to a higher GLUL activity

HIGHER ACTIVITY

CYP1A2 (Detox)

Likely higher CYP1A2 activity

HIGHER ACTIVITY

GPX1 (Glutathione/Detox)

Likely higher GPX1 activity

Recommendations Overview

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.

		DOSAGE
1	Methylfolate	400 mcg
2	Dietary Folate	
3	Betaine (TMG)	500 mg
4	Leafy Green Vegetables	
5	Avoid High-Dose Niacin Supplements	35 mg
6	Zinc	15 mg
7	Dietary Riboflavin (Vitamin B2)	
8	Riboflavin (Vitamin B2)	25 mg
9	Tryptophan	500 mg
10	Dark Chocolate	
11	Blackcurrants	
12	Limit Saturated Fat	
13	Mediterranean Diet	
14	Avoid Air Pollution	
15	Cognitive Activity	15 minutes
16	Maintain Optimal Vitamin D Levels	1000 iu
17	Omega-3 (Fish Oil)	500 mg
18	Carnosine And Anserine	1 g
19	Dietary B Vitamins	
20	Limit Coffee Intake	
21	Sleep for 7+ Hours	
22	Avoid Exposure to Heavy Metals	
23	SAM-e	200 mg
24	Limit Caffeine Intake	
25	L-Theanine	100 mg
26	White Mulberry	
27	Hibiscus	250 mg
28	High-Intensity Interval Training (HIIT)	30 minutes
29	Indole-3-Carbinol	200 mg
30	Keto Diet	

31 **Low-Carbohydrate Diet**

32 **Resveratrol** 150 mg

33 **Decaffeinated Coffee**

Your Results in Details

Blood Pressure

Your circulatory system is set up to maintain a certain amount of pressure to keep blood flowing properly. **High blood pressure, in particular, can be dangerous**; it's hard to notice and plays a major role in heart disease, stroke, and more.

Certain gene variants may contribute to the risk of developing high blood pressure, which can increase the likelihood of heart disease, stroke, and kidney issues. Genes like *NOS3*, *ACE*, and *AGT* are involved in the production of molecules that affect blood vessel dilation and fluid balance, while *AGTR1* and *CORIN* regulate sodium and water retention. Understanding how your genes impact blood pressure regulation can help you take proactive steps in managing your health.

HIGHER ACTIVITY

AGT (Cardiovascular & Fitness)

Likely higher AGT activity

HIGHER ACTIVITY

AGTR1 (Blood Pressure)

Predisposed to higher AGTR1 activity

WORSE GENETICS

PHACTR1 (Cardiovascular)

Predisposed to a worse PHACTR1 genetics

LOWER ACTIVITY

CYP4A11 (Blood Pressure)

Predisposed to a lower CYP4A11 activity

HIGHER ACTIVITY

AVPR1A (Blood Pressure/Anxiety/Depression)

Predisposed to a higher AVPR1A activity

TYPICAL ACTIVITY

NOS3 (Cardiovascular)

Likely typical NOS3 activity

TYPICAL GENETICS

CORIN (Cardiovascular)

Predisposed to a typical CORIN genetics

TYPICAL ACTIVITY

BPIFB4 (Cardiovascular & Longevity)

Predisposed to typical BPIFB4 activity

TYPICAL ACTIVITY

CYP3A5 (Detox/Blood Pressure)

Predisposed to a typical CYP3A5 activity

TYPICAL GENETICS

SLC4A5 (Salt & Blood Pressure)

Likely typical SLC4A5 genetics

TYPICAL ACTIVITY

EDN1 (Blood Pressure)

Predisposed to a typical EDN1 activity

LOWER ACTIVITY

ACE (Fitness/ Cardiovascular)

Likely lower ACE activity

HIGHER ACTIVITY

GCH1 (Cardiovascular)

Likely higher GCH1 activity

HIGHER ACTIVITY

CYP4F2 (Blood Pressure)

Predisposed to a higher CYP4F2 activity

AGT (Cardiovascular & Fitness)

The main *AGT* polymorphism is **rs699**, commonly called M235T in the literature. Its 'G' allele may increase angiotensinogen production, thereby promoting the production of angiotensin II and aldosterone [R].

This variant has been associated with an increased risk of:

- Hypertension [R, R, R]
- Preeclampsia [R, R, R]
- Ischemic stroke [R, R, R]
- Coronary heart disease [R, R, R, R, R]
- Heart failure [R, R]
- Heart attack [R, R]
- Diabetic nephropathy [R]
- End-stage kidney disease [R]

Moreover, carriers of this variant may see a weaker reduction of their blood pressure in response to exercise [R].

On the bright side, this variant may confer greater athletic performance in power sports [R, R].

HIGHER ACTIVITY

Likely higher AGT activity based on the genetic variants we looked at

64%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **64% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
AGT	rs699	GG

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

AGTR1 (Blood Pressure)

The main *AGTR1* polymorphism is **rs5186**, commonly called A1166C in the literature. Its minor 'C' allele may increase the expression of this gene, potentially increasing RAS signaling [R].

In line with this, this variant has been associated with an increased risk of:

- Hypertension [R, R, R, R, R, R]
- Hypertensive disorders of pregnancy [R, R, R, R]
- Chronic kidney disease [R]
- End-stage kidney disease [R]
- Coronary artery disease [R, R, R]
- Myocardial infarction [R]
- Metabolic syndrome [R]
- Aortic aneurysm [R]

Interestingly, this variant has been associated with higher triglycerides and cholesterol but lower adiponectin levels in response to dietary fats, predicting an increased risk of NAFLD, insulin resistance, and impaired blood vessel function in people eating a high-fat diet [R].

HIGHER ACTIVITY

Predisposed to higher AGTR1 activity based on the genetic variants we looked at

46%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **46% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CPA3	rs5186	CA

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

PHACTR1 (Cardiovascular)

The best-characterized *PHACTR1* variant is **rs9349379**. Its minor 'G' allele may lower *PHACTR1* expression in vascular cells. This variant has been associated with an increased risk of [R, R]:

- Coronary artery disease [R, R, R, R, R]
- Coronary artery calcification, especially in smokers [R, R, R, R]
- Coronary atherosclerosis [R, R, R, R]
- Coronary microvascular dysfunction [R]
- Myocardial infarction [R, R]
- Unstable angina [R]
- Restenosis after stent placement or coronary artery bypass grafting [R]

However, this variant has also been associated with a decreased risk of:

- Hypertension [R, R]
- Migraines [R, R, R, R]
- Fibromuscular dysplasia [R]
- Spontaneous cervical and coronary artery dissection [R, R, R, R, R].

Another well-researched variant is **rs12526453**. Its major 'C' allele has been associated with an increased risk of:

- Myocardial infarction [R, R]
- Coronary artery disease [R, R, R]
- Coronary artery calcification [R, R, R]
- Coronary artery stenosis [R]

This variant has also been linked to higher LDL cholesterol and ApoB levels, which may in part explain its association with heart disease [R].

However, a study of almost 1000 patients with ST-elevation myocardial infarction associated this variant with better long-term survival [R]

WORSE GENETICS

Predisposed to a worse PHACTR1 genetics based on 2 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
PHACTR1	rs9349379	GG
TBC1D7	rs12526453	CC

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

CYP4A11 (Blood Pressure)

The best-characterized *CYP4A11* polymorphism is **rs1126742** (T8590C). Its minor 'G' allele encodes a protein with significantly decreased catalytic activity, resulting in a reduced urinary excretion of 20-HETE. This variant has been associated with an increased risk of hypertension in healthy individuals, survivors of myocardial infarction, and patients with hypertensive kidney damage [R, R, R, R, R, R, R, R].

The risk conferred by this allele may be even higher in smokers or people consuming a high-salt diet [R, R, R].

In patients with coronary artery disease, this polymorphism may increase the constriction of the coronary artery [R].

The 'T' allele of **rs4660980** has also been associated with an increased risk of hypertension. Because it is usually inherited with the previous variant, you will most likely have both alleles or neither of them [R].

Another, less well-researched variant is **rs3890011**. Its minor 'G' allele has been associated with an increased risk of hypertension and progression to chronic kidney disease in hypertensive subjects [R, R].

Carriers of this variant may not respond to mineralocorticoid receptor antagonists such as spironolactone for blood pressure lowering. Instead, they may be more responsive to ENaC inhibitors such as amiloride [R].

The minor 'A' allele of **rs9332982** has also been associated with an increased risk of hypertension and progression to chronic kidney disease in hypertensive subjects [R].

Finally, a study on a Mongolian population associated the 'C' allele of **rs9333025** with an increased risk of hypertension [R].

LOWER ACTIVITY

Predisposed to a lower CYP4A11 activity based on 5 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CYP4A11	rs1126742	AG
CYP4A11	rs3890011	GG
CYP4B1	rs9332982	AG
CYP4B1	rs9333025	TC
CYP4A11	rs4660980	TC

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

AVPR1A (Blood Pressure/Anxiety/Depression)

One of the main *AVPR1A* polymorphisms is **rs11174811**. Its minor 'A' allele may increase the expression of the gene and has been associated with an increased risk of hypertension in Caucasian and Chinese Han, but not South Indian populations [R, R, R].

In turn, the major 'C' allele has been associated with higher anxiety levels, higher odds of heroin addiction, higher spousal satisfaction (only in men), and an increased risk of severe acetaminophen-induced liver injury [R, R, R].

Another variant, the 'A' allele of **rs1042615**, possibly reducing *AVPR1A* expression, has been associated with higher fasting glucose levels and an increased risk of diabetes in people eating a high-fat diet. This variant has also been associated with higher sensory sensitivity [R, R].

On the bright side, carriers of this allele may benefit more from interval walking training in terms of lowering diastolic blood pressure and LDL cholesterol [R].

Finally, the 'A' allele of **rs3803107** has also been associated with higher *AVRP1A* expression and an increased risk of hypertension in Chinese Han. This allele has also been associated with an increased risk of depression, but only in Russians [R, R].

HIGHER ACTIVITY

Predisposed to a higher AVPR1A activity based on 3 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
AVPR1A	rs11174811	AA
AVPR1A	rs1042615	GG
AVPR1A	rs3803107	AA

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

NOS3 (Cardiovascular)

Among the different *NOS3* polymorphisms, rs1799983 has been most widely studied. The ‘T’ variant produces a protein that can’t reach its activation sites in cell membranes, ultimately decreasing NO production [R].

In line with the beneficial cardiovascular effects of NO, the ‘T’ variant has been associated with an increased risk of coronary heart disease and heart attack in several studies. It’s also more frequent in children with congenital heart disease and predicts a faster progression of heart damage in people with diabetes [R, R, R, R].

However, overproducing ‘GG’ genotype may also have negative effects on the heart. It’s associated with reduced heart function in people with kidney disease, increased risk of death in those with high blood pressure, and heart failure in African-Brazilians [R, R, R].

The ‘T’ allele of rs1549758 has also been associated with an increased risk of coronary heart disease and hypertension but is usually inherited with the ‘T’ allele of rs1799983, meaning you will most likely have both or neither of them [R].

Another SNP, rs2070744, is also linked to an increased risk of coronary heart disease. The ‘C’ allele can be bound by a protein that blocks *NOS3* production. However, the ‘T’ variant at this polymorphism is the one associated with myocardial infarction [R, R, R].

These variants may exert their harmful effects through their associations with:

- Higher blood pressure [R, R, R, R, R, R, R, R, R, R, R]
- Higher vessel stiffness and blood cholesterol [R, R, R, R]
- Increased risk of complications after heart surgery [R, R, R]
- Reduced effectiveness of conventional and alternative therapies [R, R]

The minor variants of rs179983 and rs2070744 have also been associated with:

- Worse athletic performance in power sports [R, R, R, R, R, R]
- Longer and more frequent migraines [R, R, R, R]

TYPICAL ACTIVITY

Likely typical NOS3 activity based on 2 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
NOS3	rs2070744	TC
NOS3	rs1549758	CT
NOS3	rs3918226	CT

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

On the bright side, they are also linked to:

- Improved performance in aerobic sports and soccer [R, R, R]
- Greater decreases in triglycerides, cholesterol, and blood pressure in response to unsaturated fats such as omega-3 fatty acids and extra virgin olive oil [R, R, R, R, R]

Finally, the ‘T’ allele of rs3918226 also results in lower NOS3 levels and is associated with a higher risk and severity of heart and coronary events. Fortunately, this allele is extremely rare and most people (81-99%) have the ‘CC’ genotype [R, R, R].

CORIN (Cardiovascular)

A study of 6814 Black Americans identified two minor *CORIN* alleles, 'T' of **rs111253292** (Q568P) and 'A' of **rs75770792** (T555I) with higher blood pressure and increased risk of hypertension. These variants, encoding versions of the protein with impaired activation, are found in 12% of Black Americans and may, in part, explain the higher risk of hypertension observed in this ethnicity [R, R].

These variants have also been associated with an increased risk of death or hospitalization in patients with heart failure (rs111253292) and left ventricular hypertrophy in patients with untreated hypertension (rs75770792) [R, R].

However, the most recent study failed to associate these variants with changes in blood pressure or ANP levels [R].

In Chinese populations, the following *CORIN* variants have been associated with higher blood pressure and an increased risk of hypertension:

- 'T' of **rs2271037** [R]
- 'G' of **rs3749585** [R]
- 'G' of **rs73814824** [R]

A study of 124 families from 7 Chinese villages associated the 'G' variant of **rs3749584** with a greater reduction of DBP and MAP in response to a low-salt diet, while 'T' of **rs4695253** and 'A' of **rs17654278** were associated with a greater reduction of PP with this diet [R].

Moreover, the same study associated the following variants with a lower increment of SBP, DBP, and MAP in response to a high-salt diet [R]:

- 'T' of rs2271037
- 'T' of **rs2271036**
- 'A' of **rs12641823**
- 'T' of **rs2351783**

The rs2271036 and rs2271037 alleles have also been associated with a decreased risk of preeclampsia in Caucasian women [R].

TYPICAL GENETICS

Predisposed to a typical CORIN genetics based on 11 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CORIN	rs111253292	TT
CORIN	rs73814824	GG
NFXL1	rs2271037	TT
NFXL1	rs3749584	CC
CORIN	rs17654278	GG
ATP10D	rs4695253	CT
CORIN	rs2351783	CT
CORIN	rs75770792	GG
CORIN	rs3749585	AA
NFXL1	rs2271036	TT
CORIN	rs12641823	AA

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

BPIFB4 (Cardiovascular & Longevity)

The main BPIFB4 variant is **rs2070325**. People with two copies of its minor allele (GG) may have [R, R, R, R]:

- Longer lifespan
- Reduced frailty in older age
- Lower blood pressure

This variant likely increases BPIFB4 activity and boosts blood vessel function through nitric oxide [R, R].

TYPICAL ACTIVITY

Predisposed to typical BPIFB4 activity based on the genetic variants we looked at

84%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **84% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
BPIFB4	rs2070325	AA

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

CYP3A5 (Detox/Blood Pressure)

There are over 25 variants of this enzyme, but many of them are non-functional. The fully functional variant is known as the *CYP3A5*1*. Only individuals with at least one *CYP3A5*1* have large amounts of the enzyme. They metabolize some CYP3A substrates more rapidly than do people without this enzyme [R].

The frequency of the functional variant is substantially different across ethnic groups. The functional enzyme is found in 45–94% of subjects of African descent, 8–15% of Whites, and 23–40% of Asians [R, R].

The main non-functional variant is the 'C' allele of **rs776746**, commonly designated as *CYP3A5*3*. Its frequency ranges from 14% among sub-Saharan Africans to over 95% in European populations [R, R].

This variant has been mainly studied regarding its ability to metabolize immunosuppressive drugs such as tacrolimus and sirolimus. Compared to the expresser *CYP3A5*1* allele, this variant has been associated with lower dose requirements and a decreased risk of kidney graft rejection (in Asian patients) [R, R, R, R, R, R, R, R, R, R].

Similarly, the 'C' allele has been associated with a better response to and lower required dose of:

- Anticoagulants [R]
- Antiseizure medications [R]
- Anticancer drugs [R]

The *CYP3A5*3* allele has also been associated with higher blood pressure in Whites, but not in Africans. However, this variant may protect against salt-sensitive hypertension. This may be because it reduces sodium reabsorption in the kidneys [R, R, R, R].

However, this variant has also been associated with an increased risk of the following cancer types:

- Leukemia [R, R]
- Prostate cancer [R]
- Colorectal cancer [R]

TYPICAL ACTIVITY

Predisposed to a typical CYP3A5 activity based on 2 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CYP3A5	rs10264272	CC
CYP3A5	rs41303343	TT
CYP3A5	rs776746	CC

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

The ‘T’ allele of **rs10264272** encodes another non-functional variant, commonly referred to as *CYP3A5*6*. It is frequent in Africans (7-17%), but rare or absent in Europeans and Asians [R, R].

This variant has been associated with higher levels of immunosuppressive drugs such as tacrolimus and cyclosporine due to slower clearance [R, R, R].

Finally, the ‘TA’ allele of **rs41303343** encodes another non-functional variant (*CYP3A5*7*) that has also been associated with higher levels of immunosuppressive drugs. This variant is most common in Africans (12%) and usually absent in other ethnicities such as Europeans and Asians [R, R, R].

SLC4A5 (Salt & Blood Pressure)

One study of 185 Caucasian (European) individuals found that two SNPs in the *SLC4A5* gene may be associated with salt sensitivity — **rs7571842 and rs10177833**. More specifically, the **'A' allele** in both these SNPs was linked to significantly **higher increases in blood pressure** in response to salt intake compared to other alleles [R].

Another study of 20 Caucasian adults confirmed these findings and suggested that people with "risk" alleles consume more salt [R].

The third variant, **rs8179526-C**, may be linked to higher blood pressure due to salt intake in women of African origin [R, R].

It's not completely clear exactly how these particular genetic variants lead to salt sensitivity. Some researchers theorize that these variants may increase the amount of salt that the kidneys reabsorb from the urine. This means that more salt is retained in the body, which can increase blood pressure [R, R].

These variants are often inherited together, so many people will have either none or all of them.

TYPICAL GENETICS

Likely typical SLC4A5 genetics based on 3 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
SLC4A5	rs10177833	AA
SLC4A5	rs7571842	AG
SLC4A5	rs8179526	CT

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

EDN1 (Blood Pressure)

The main *EDN1* gene variant is **rs5370**, also known as Lys198Asn. Its minor 'T' allele may increase endothelin 1 levels. This variant has been associated with an increased risk of [R]:

- Hypertension [R, R, R]
- Pulmonary hypertension [R]
- Ischemic stroke [R, R, R, R]
- Preeclampsia [R]
- Coronary artery disease [R]
- Coronary atherosclerosis [R, R]
- Lupus [R]
- Age-related hearing impairment [R]

The risk of hypertension may be higher in low-fit subjects. Moreover, carriers of the 'T' allele may respond less to endurance exercise training [R].

This variant has also been associated with lower HDL cholesterol levels [R].

Another well-researched polymorphism is **rs1800541**. Its major 'T' allele may increase endothelin-1 levels and has been associated with an increased risk of [R]:

- Subarachnoid hemorrhage [R]
- Diabetic kidney disease [R]
- Chemoresistant or metastatic osteosarcoma [R, R]
- Hormone-refractory prostate cancer [R]
- Sudden infant death [R]

On the bright side, this variant has been associated with a decreased risk of fibromyalgia [R].

The 'T' allele of **rs2070699** may also increase endothelin-1 levels and has been associated with an increased risk of [R]:

- Pulmonary hypertension [R]
- Aneurysm rebleeding after subarachnoid hemorrhage [R]
- Lupus [R]
- Acute mountain sickness [R]
- Colorectal cancer [R, R]

In contrast, this variant has been associated with a decreased risk of ischemic stroke, chemoresistant osteosarcoma, and hormone-refractory prostate cancer [R, R, R].

TYPICAL ACTIVITY

Predisposed to a typical EDN1 activity based on 4 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
EDN1	rs5370	GT
EDN1	rs1800541	TG
EDN1	rs2070699	TG
EDN1	rs3087459	AC

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

Finally, the ‘A’ allele of **rs3087459** has been associated with higher endothelin-1 levels and an increased risk of [R]:

- Coronary artery disease [R]
- Acute coronary syndrome [R]

However, this variant has been associated with a decreased risk of lupus [R].

ACE (Fitness/ Cardiovascular)

The two main ACE gene variants, **rs4341 and rs4343**, influence gene and enzyme activity. Their **“G” alleles** may increase ACE activity and levels. In line with this, they are linked to **high blood pressure and heart disease** [R, R, R, R].

Regarding athletic performance, higher ACE activity may favor short, high-intensity bursts of activity. This makes it advantageous for **power-based sports** [R, R, R].

Conversely, **rs4341-C and rs4343-A** are linked to lower ACE activity, which may offer some protection against hypertension and cardiovascular conditions. Lower ACE activity can enhance **endurance** by improving blood flow and oxygen delivery to muscles during prolonged physical activity [R, R, R, R].

Please note: Some people's genetic files don't contain the rs4341 variant, so we didn't include it in the model. However, this variant is almost always inherited with rs4343, so one of them is sufficient to estimate your ACE genetics.

LOWER ACTIVITY

Likely lower ACE activity based on the genetic variants we looked at

15%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **15% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ACE	rs4343	AA

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

GCH1 (Cardiovascular)

The following three variants may **reduce GCH1 activity**. They have been linked to **lower BH4 levels,** especially in people with both copies [R]:

- **rs10483639-C**
- **rs3783641-A**
- **rs8007267-T**

People with these variants may be prone to **blood vessel issues**, especially if they have diabetes or heart disease. Lower BH4 levels mean less nitric oxide, a substance that widens the blood vessels and keeps them healthy [R, R].

On the other hand, BH4 is involved in pain signalling, and these variants are linked to **reduced pain sensitivity** [R, R, R].

Note that these variants are often inherited together, meaning you will likely have either all or none.

HIGHER ACTIVITY

Likely higher GCH1 activity based on the genetic variants we looked at

60%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **60% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
GCH1	rs10483639	GG
GCH1	rs8007267	CC
GCH1	rs3783641	TT

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

CYP4F2 (Blood Pressure)

The main *CYP4F2* polymorphism is **rs2108622** (V433M). Its minor 'T' allele may reduce 20-HETE production but increase its urinary excretion. This variant has been associated with an increased risk of hypertension (especially in men) and ischemic stroke [R, R, R, R, R, R].

Moreover, weight loss and consumption of omega-3 fatty acids may be less effective for lowering blood pressure in carriers of this allele [R, R].

Another well-researched polymorphism is **rs3093100** (G421C). Its minor 'G' allele decreases *CYP4F2* expression and has been associated with elevated urinary 20-HETE levels and an increased risk of hypertension [R, R].

Finally, the 'GG' genotype of the **rs1558139** polymorphism was associated with essential hypertension in a Japanese study [R].

HIGHER ACTIVITY

Predisposed to a higher CYP4F2 activity based on 3 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CYP4F2	rs3093100	CC
CYP4F2	rs2108622	CC
CYP4F11	rs1558139	AA

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

Blood Lipids

Cholesterol and triglycerides (blood lipids) are key lab markers when it comes to heart health! Too much can increase the risk of health issues like heart disease.

How your body handles fats and cholesterol depends on a variety of factors, including your genetics. Variants of genes involved in the metabolism and transport of blood lipids, such as *APOB*, *CETP*, *LDLR*, or *FABP2*, may cause their buildup in the blood vessels, ultimately increasing the risk of heart disease. Knowing your genetic risks can help you implement lifestyle changes to counteract the effects of these variants.

HIGHER ACTIVITY

PCSK9 (Cholesterol)

Likely higher PCSK9 activity

LOWER ACTIVITY

DOCK7 (Blood Lipids)

Likely lower DOCK7 activity

TYPICAL ACTIVITY

APOC3 (Blood Lipids/ Longevity)

Likely typical APOC3 activity

E3/E3

APOE

You carry two APOE ε3 variants

TYPICAL ACTIVITY

HMGCR (Cholesterol)

Likely typical HMGCR activity

TYPICAL ACTIVITY

APOA2 (Weight, Blood Lipids)

Likely typical APOA2 activity

TYPICAL ACTIVITY

ABCG8 (Cholesterol & Gallstones)

Predisposed to typical ABCG8 activity

TYPICAL ACTIVITY

APOB Gene (Cardiovascular)

Likely typical APOB activity

TYPICAL GENETICS

ABCA1 (Cholesterol)

Likely typical ABCA1 genetics

TYPICAL GENETICS

ABCA6 (Cholesterol)

Likely typical ABCA6 genetics

TYPICAL ACTIVITY

APOA5 (Cardiovascular)

Predisposed to typical APOA5 activity

TYPICAL ACTIVITY

LPA (Blood Lipids & Heart Health)

Predisposed to typical LPA activity

TYPICAL ACTIVITY

LDLR (Cholesterol, Cardiovascular)

Predisposed to typical LDLR activity

LOWER ACTIVITY

FABP2 (Blood Sugar/ Cardiovascular)

Likely lower FABP2 activity

TYPICAL GENETICS

SCARB1 (Cardiovascular)

Predisposed to a typical SCARB1 genetics

TYPICAL ACTIVITY

DHCR7 (Cholesterol)

Predisposed to typical DHCR7 activity

TYPICAL ACTIVITY

APOA1 (Blood Lipids)

Predisposed to a typical APOA1 activity

LOWER ACTIVITY

CETP (Cholesterol/ Longevity)

Likely lower CETP activity

HIGHER ACTIVITY

LIPC (Cardiovascular)

Likely higher LIPC activity

LOWER ACTIVITY

MLXIPL (Triglycerides, Cardiovascular)

Likely lower MLXIPL activity

LOWER ACTIVITY

SOAT1 (Cholesterol/ Cognition)

Likely lower SOAT1 activity

PCSK9 (Cholesterol)

One PCSK9 variant, **rs562556-G**, is linked to **lower LDL cholesterol levels and lower odds of heart disease** [R, R].

In a large study, two rare PCSK9 variants have shown similar protective associations [R]:

- **rs11591147-T (R46L)**: 15% lower LDL and 2 times lower odds of heart disease in people of European ancestry.
- **rs28362286-A (C679X)**: 28% lower LDL and 9 times lower odds of heart disease in people of African ancestry.

The second variant is extremely rare and exists only in people of African ancestry.

These variants reduce PCSK9 activity, which then increases the number of LDL receptors and enhances cholesterol metabolism.

HIGHER ACTIVITY

Likely higher PCSK9 activity based on the genetic variants we looked at

63%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **63% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
PCSK9	rs562556	AA
PCSK9	rs11591147	GG
PCSK9	rs28362286	CC

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

DOCK7 (Blood Lipids)

One of the most widely researched *DOCK7* polymorphism is **rs10889353**. Its minor 'C' allele has been associated with higher *DOCK7* expression, lower total cholesterol, LDL cholesterol, and triglyceride levels, and a decreased risk of coronary heart disease [R, R, R, R, R].

Another well-characterized polymorphism is **rs2131925**. Its minor 'G' allele has been associated with lower total cholesterol, LDL cholesterol, and triglyceride levels, higher vitamin D levels, and an a decreased risk of hypertension [R, R, R, R, R, R, R, R].

These variants are usually inherited together in people of Europena ancestry, meaning you will most likely have both or neither of them.

LOWER ACTIVITY

Likely lower DOCK7 activity based on the genetic variants we looked at

49%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **49% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
DOCK7	rs2131925	TT
DOCK7	rs10889353	AA

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

APOC3 (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

50%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **50% of our users.**

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.

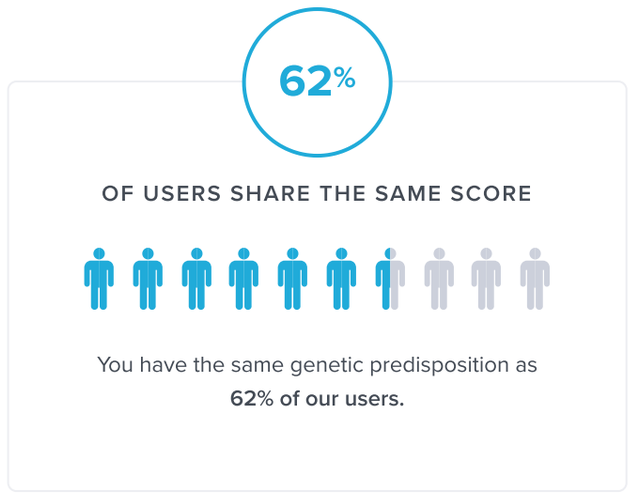
APOE

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.

E3/E3

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



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.

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 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].

HMGCR (Cholesterol)

The most well-researched *HMGCR* polymorphism is rs3846662. Its 'G' allele results in an increased production of an inactive HMGCR version and has been associated with higher LDL apoB, and total cholesterol but lower HDL cholesterol levels. On the bright side, carriers of this variant may lower their LDL cholesterol more in response to statins [R, R, R, R, R, R, R, R, R, R, R, R, R].

This allele has also been associated with an increased risk of:

- Alzheimer's disease [R, R, R, R, R]
- Mild cogntive impairment [R]
- Myocardial infarction [R]
- Overweight, especially in those with low soy intake [R]

Another well-researched polymorphism is rs12916. Its 'C' allele, linked to lower *HMGCR* expression in the liver, has been associated with higher total and LDL cholesterol levels and increased risk of ovarian cancer, but also with an increased effectiveness of statin treatment [R, R, R, R, R].

This variant has also been associated with:

- Insomnia [R]
- Prostate cancer [R]
- Aortic aneurysm [R]
- Premature triple-vessel coronary disease and residual cholesterol risk [R, R]

The 'T' allele of rs17244841 has been associated with a reduced effectiveness of statin therapy at lowering LDL cholesterol. Interestingly, a study of 306 patients with Parkinson's disease found that those carrying this allele had higher HDL cholesterol levels [R, R, R, R, R].

Finally, the 'G' allele at rs17238540 has been associated with a reduced effectiveness of statin therapy at lowering cholesterol and triglycerides, as well as with [R, R, R]:

- Greater triglyceride decrease in response to a low-fat, high-fiber diet [R]
- Higher blood pressure and increased stroke risk [R]

Because this variant and rs17244841 are usually inherited together, you will most likely carry either both or neither of them.

TYPICAL ACTIVITY

Likely typical HMGCR activity based on 4 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
HMGCR	rs3846662	GA
HMGCR	rs12916	CT
ANKRD31	rs17244841	AA
HMGCR	rs17238540	TT

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

APOA2 (Weight, Blood Lipids)

Scientists have observed the association between one *APOA2* variation, rs5082, and obesity across different ethnic groups. **People with the "GG" genotype have significantly higher BMIs and obesity rates** [R, R].

According to two major trials, the "GG" genotype at rs5082 lowers apo A-II levels and correlates with increased calorie intake. Detailed analyses have confirmed the role of apo A-II in appetite control [R, R, R].

One study gathered data from three populations (3,462 total participants) and found a robust association between rs5082, obesity, and saturated fat (SF) intake. The "GG" carriers had 84% higher obesity rates compared with other genotypes, but only when their SF intake was high. **In cases of low SF intake, *APOA2* didn't correlate with obesity** [R].

Another trial of 4,600 Asian and Mediterranean subjects came to the same conclusion. Additionally, the "GG" allele was associated with insulin resistance in Chinese and Indian people who consumed more SF [R].

One study analyzed dairy intake in two populations (n=2,071) with a proven link between rs5082 and saturated fat. In both groups, the "GG" carriers who consumed more high-fat dairy had significantly higher BMIs [R].

Among 180 diabetic patients, unsaturated fatty acids positively affected those with the "GG" genotype. Increased intake of omega-3 and MUFA was associated with lower inflammatory markers (IL-18 and CRP) and stronger antioxidant defense (SOD) [R, R].

This *APOA2* variant may increase the levels of ghrelin or the "hunger hormone." A study of 1,225 obese subjects found that people with the "GG" genotype who consume more SF have higher ghrelin levels. In other words, SF fails to satiate their hunger [R].

On the bright side, this variant has been associated with a **better blood lipid profile**.

TYPICAL ACTIVITY

Likely typical APOA2 activity based on the genetic variants we looked at

85%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **85% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
FCER1G	rs5082	AA

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

By reducing *APOA2* expression, rs5082 can stimulate VLDL and triglyceride metabolism. Indeed, in a study of 88 participants, those with the “GG” genotype had lower triglyceride and cholesterol levels in response to a high-fat meal [R, R, R, R].

Among 700 diabetes patients, the “GG” carriers also had significantly lower triglycerides and total cholesterol but not HDL. In a trial of 982 Australian subjects, people with this variant had nearly two times lower rates of heart disease [R, R].

ABCG8 (Cholesterol & Gallstones)

ABCG8 promotes the removal of excess cholesterol through bile. This effect is good in moderation but may contribute to gallstones if too much cholesterol is processed [R].

In line with this, variants that increase ABCG8 activity are linked to **lower total and LDL cholesterol but higher odds of gallstones**. They include:

- rs11887534-C
- rs6544713-C
- rs4148217-A

TYPICAL ACTIVITY

Predisposed to typical ABCG8 activity based on 3 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ABCG8	rs4148217	AC
ABCG8	rs11887534	GG
ABCG8	rs6544713	CC

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

APOB Gene (Cardiovascular)

The best-studied *APOB* polymorphism is **rs693**, also known as XbaI. Its minor 'A' allele may increase APOB activity, leading to higher total cholesterol, LDL cholesterol, VLDL cholesterol, apoB, and triglycerides but lower levels of HDL cholesterol. This variant has been associated with an increased risk of [R, R, R, R, R, R, R, R]:

- Coronary artery disease [R]
- Metabolic syndrome [R]
- Calcific aortic stenosis [R]
- Ischemic stroke [R, R, R]
- Gallstone disease [R, R]

Another well-characterized *APOB* variant is **rs515135**. Its minor 'T' allele has been associated with higher total and LDL cholesterol levels, as well as with an increased risk of coronary artery disease [R, R, R, R, R, R].

Another variant linked to increased total cholesterol, LDL cholesterol, and ApoB levels, 'T' at **rs1801701**, has been associated with an increased risk of [R]:

- Myocardial infarction [R]
- Coronary artery disease [R]
- Ischemic stroke [R]

Finally, the minor 'A' allele of **rs934197** increases *APOB* expression and has been associated with higher total and LDL cholesterol levels [R, R, R, R, R].

TYPICAL ACTIVITY

Likely typical APOB activity based on 4 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
APOB	rs693	AG
APOB	rs934197	AG
APOB	rs515135	CC
APOB	rs1801701	CC

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

ABCA1 (Cholesterol)

A variant in the ABCA1 gene, **rs1883025-T**, is linked to **lower levels of cholesterol (all subtypes) and lower heart disease rates** [R].

This variant is also linked to a lower risk of **age-related macular degeneration** (AMD), an eye condition that can cause vision loss. It may help remove cholesterol from cells in the macula, a critical part of the retina [R].

Another notable ABCA1 variant is **rs2230808**, with the “T” allele linked to lower cholesterol levels and lower inflammation [R].

ABCA1 variants have robust links with HDL or “good” cholesterol. **Despite the reduction in HDL, the net effect on heart health is protective**, likely due to LDL reduction [R, R].

A rare variant, rs9282541-A (R230C), was linked to lower HDL levels and poor metabolic profile in Mexican women who consumed a high-carb diet. Women with this variant on a high-fat diet had higher LDL and better metabolic profiles [R].

TYPICAL GENETICS

Likely typical ABCA1 genetics based on 3 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ABCA1	rs1883025	CC
ABCA1	rs2230808	CC
ABCA1	rs9282541	GG

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

ABCA6 (Cholesterol)

A rare ABCA6 variant, **rs77542162-G**, is linked to **higher levels** of [R]:

- Total cholesterol
- LDL cholesterol
- ApoB

Interestingly, people with this variant may see a greater **LDL reduction from fish oil supplements** [R].

While scientists haven't fully mapped out all of ABCA6's functions, we know it's particularly active in the liver, the body's main cholesterol processing center. ABCA6 controls how cells handle cholesterol and other fatty molecules, potentially influencing how much cholesterol moves in and out of cells.

TYPICAL GENETICS

Likely typical ABCA6 genetics based on the genetic variants we looked at

98%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **98% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ABCA6	rs77542162	AA

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

APOA5 (Cardiovascular)

Different *APOA5* variants are linked to impaired metabolic and cardiovascular health, more precisely [R, R, R, R, R, R, R, R]:

- Higher triglycerides, LDL, and apoB levels
- Lower HDL and vitamin D levels
- Heart problems

They may reduce **APOA5 activity**, impairing the removal of excess fat and cholesterol from the blood [R].

TYPICAL ACTIVITY

Predisposed to typical APOA5 activity based on 6 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
APOA5	rs2075291	CC
PCSK7	rs662799	AA
SIDT2	rs651821	TT
SIDT2	rs2266788	AA
SIDT2	rs964184	CC
APOA5	rs3135506	GG

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

LPA (Blood Lipids & Heart Health)

In line with the *LPA* gene roles, its variants are linked to [R, R]:

- Lipoprotein(a) levels
- Total and LDL cholesterol levels
- Heart disease (CAD)

These variants likely **increase LPA activity**, resulting in higher Lp(a) levels and negative downstream effects.

In one large study, low-dose aspirin canceled out the cardiovascular risk from the *LPA* gene variant rs3798220-C [R].

TYPICAL ACTIVITY

Predisposed to typical LPA activity based on 7 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
LPA	rs41272114	CC
LPA	rs6415084	TT
LPA	rs1853021	GG
SLC22A3	rs10755578	GC
SLC22A3	rs9364559	AA
LPA	rs10455872	AA
LPA	rs3798220	TT

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

LDLR (Cholesterol, Cardiovascular)

The best-researched *LDLR* polymorphism is **rs688**. Its minor 'T' allele may decrease LDLR production and has been associated with higher total and LDL cholesterol levels, as well as with an increased risk of [R, R, R, R, R, R, R]:

- Coronary artery disease [R, R]
- Ischemic stroke [R, R, R, R, R]
- Cardiovascular disease in end-stake kidney disease patients [R]

Similarly, the minor 'C' allele of **rs5925** has been associated with a decreased *LDLR* expression, higher total cholesterol, LDL cholesterol, and triglyceride levels, and an increased risk of ischemic stroke and coronary artery disease [R, R, R, R, R, R].

These variants are usually inherited together, meaning you will most likely have both or neither of them.

Another well-characterized polymorphism is **rs6511720**. Its minor 'T' allele may increase *LDLR* expression by creating binding sites for proteins that enhance it in the gene sequence. Multiple studies have associated this allele with lower LDL cholesterol levels, as well as with a decreased risk of [R, R, R, R, R, R, R, R, R, R]:

- Coronary heart disease [R, R, R]
- Ischemic stroke [R]
- Myocardial infarction [R]
- Athersoclerosis [R]

Another variant, the minor 'T' allele of **rs1122608,** has been associated with lower total cholesterol and LDL cholesterol levels, as well as with a decreased risk of [R]:

- Coronary artery disease [R, R]
- Myocardial infarction, especially in people who smoke or drink alcohol [R, R]
- Ischemic stroke [R]

Interestingly, this variant may decrease the expression of a nearby gene (*SRSF3*), resulting in lower levels of the IL-1β cytokine [R].

TYPICAL ACTIVITY

Predisposed to typical LDLR activity based on 5 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
LDLR	rs6511720	GG
LDLR	rs2228671	CC
LDLR	rs688	TC
LDLR	rs5925	CT
SMARCA4	rs1122608	TG

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

Finally, the minor ‘T’ allele of **rs2228671**, has also been associated with lower LDL cholesterol levels and a decreased risk of coronary artery disease [R, R, R].

FABP2 (Blood Sugar/ Cardiovascular)

The most widely researched polymorphism is **rs1799883**, also called Ala54Thr. Its minor ‘T’ allele encodes a protein with an amino acid substitution that increases its affinity for long-chain fatty acids. As a result, the mutated version of this protein increases intestinal fatty acid absorption while reducing insulin sensitivity [R].

In line with its link to reduced insulin sensitivity, this variant has been associated with an increased risk of type 2 diabetes, especially in Asians [R, R, R, R].

This variant has also been associated with:

- High blood pressure [R]
- High triglycerides [R]
- High BMI, body weight, and hip circumference [R, R]
- Metabolic syndrome [R]
- Coronary artery disease [R]
- Ischemic stroke [R, R]

Moreover, women with the ‘C’ variant lowered their total cholesterol, triglycerides, fasting glucose, and HbA1c more after following a low-glycemic-index diet for 4-5 weeks in a study on 165 patients with type 2 diabetes. However, this variant didn’t modify the effectiveness of the intervention in men [R].

Alternatively, carriers of the ‘T’ allele increased their insulin resistance and decreased their HDL to total cholesterol ratio more when consuming a diet high in saturated fat in a trial of 2148 participants [R].

LOWER ACTIVITY

Likely lower FABP2 activity based on the genetic variants we looked at

56%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **56% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
FABP2	rs1799883	CC

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

SCARB1 (Cardiovascular)

The main *SCARB1* polymorphism is **rs5888**. Its minor 'A' allele has been associated with lower SCARB1 levels. This variant has been associated with a decreased risk of coronary heart disease and myocardial infarction, lower triglycerides, and higher HDL cholesterol levels [R, R, R, R, R].

People with this variant may also respond better to vitamin A supplementation in terms of decreased adiposity and cardiometabolic risk. Moreover, women with acute coronary syndrome may lower their total cholesterol, LDL cholesterol, and ApoB levels after atorvastatin treatment more if they carry this variant [R, R, R].

Another well-researched variant is **rs4238001**. Its 'T' allele has also been associated with lower levels of the SCARB1 protein and an increased risk of coronary heart disease and myocardial infarction [R, R, R].

This variant has also been linked to higher LDL cholesterol levels, especially in people eating a diet high in saturated fats. In contrast, people with myocardial infarction taking rosuvastatin may raise their HDL cholesterol levels more if they have the 'CC' genotype [R, R].

Finally, the minor 'C' allele of **rs10846744** may not affect *SCARB1* expression but has been suggested to affect the expression of genes involved in cell death, inflammation, and endothelial injury repair. This variant has been associated with an increased risk of atherosclerosis and coronary artery disease, as well as with higher total cholesterol, LDL cholesterol, triglycerides, and Lp-PLA2 activity [R, R, R, R, R, R, R, R].

TYPICAL GENETICS

Predisposed to a typical SCARB1 genetics based on 3 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
SCARB1	rs5888	AG
SCARB1	rs10846744	GC
SCARB1	rs4238001	CC

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

DHCR7 (Cholesterol)

Smith-Lemli-Opitz syndrome (SLOS) is caused by DHCR7 variants that impair 7-dehydrocholesterol reductase function. This leads to both cholesterol deficiency and toxic accumulation of 7DHC, resulting in developmental abnormalities [R].

The main variant linked to this condition is rs138659167-G. It is rare, and a person needs to carry two risk alleles for the condition to occur. **People with one risk allele are just carriers**. They may not have any signs or symptoms and may have slightly lower cholesterol levels [R, R, R].

Other variants, rs11555217-T and rs80338853-A, are linked to SLOS. However, most people don't have them in their genetic files, so we couldn't include them in the model [R].

Please note: This report is not diagnostic of SLOS. Other genetic variants not analyzed in this report may cause the condition. Commercial genetic testing may not detect very rare mutations with high accuracy.

TYPICAL ACTIVITY

Predisposed to typical DHCR7 activity based on the genetic variants we looked at

98%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **98% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
DHCR7	rs138659167	CC

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

APOA1 (Blood Lipids)

By far, the best-characterized *APOA1* variant is **rs670** (75G>A). Its minor 'T' allele may increase *APOA1* expression, resulting in higher ApoA-I levels. This variant has been associated with [R, R, R, R, R, R, R, R, R]:

- Higher HDL cholesterol
- Lower BMI
- Decreased risk of dyslipidemia
- Decreased risk of diabetes and hyperglycemia
- Decreased risk of metabolic syndrome
- Decreased risk of arterial stiffness

Moreover, dietary interventions with low calorie or high PUFA intake may improve HDL cholesterol, total and LDL cholesterol, fat mass, insulin, and insulin resistance more in people with this variant [R, R, R, R, R].

However, this allele has also been associated with an increased risk of gout [R].

TYPICAL ACTIVITY

Predisposed to a typical APOA1 activity based on the genetic variants we looked at

71%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **71% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
APOA1	rs670	CC

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

CETP (Cholesterol/ Longevity)

Certain variants in *CETP* are associated with longevity in some studies. According to researchers, this life-extending effect may be due to improved cholesterol levels, which may help prevent a number of heart conditions [R].

Longevity research has focused on two particular variants. The 'GG' genotype in **rs5882** (also known as the "I405V" polymorphism) and the 'AA' genotype in **rs708272** (also called the "TaqIB" polymorphism) have each been associated with lower CETP activity and longer lifespan [R].

These variants have also been associated with a more favorable blood lipid profile characterized by [R, R, R, R, R, R]:

- Higher HDL
- Larger HDL and LDL particle size
- Higher apolipoprotein A-I
- Lower triglycerides

LOWER ACTIVITY

Likely lower CETP activity based on the genetic variants we looked at

15%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **15% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CETP	rs5882	AG
CETP	rs708272	AA

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

LIPC (Cardiovascular)

The most well-researched LIPC polymorphism is rs1800588. Its 'T' allele encodes an enzyme with lower activity and has been associated with higher total cholesterol, HDL cholesterol, apolipoprotein AI, and triglyceride levels. The HDL-cholesterol and triglyceride profile may be more unfavorable in 'T' carriers who eat a diet high in saturated fats [R, R, R].

This variant has also been associated with an increased risk of [R, R, R, R, R]:

- Type 2 diabetes
- Hypertriglyceridemia
- Coronary artery disease
- Coronary artery calcification
- Vitamin D insufficiency

On the bright side, aerobic exercise may improve HDL-cholesterol more in carriers of this allele. In contrast, people with two copies of the 'C' allele may benefit more from a high-carbohydrate diet for decreasing their apoB100/apoAI ratio [R, R].

The minor 'A' allele of another polymorphism, rs2070895 (250A/G), has been associated with higher LDL cholesterol and lower HDL cholesterol, as well as with an increased risk of [R]:

- Coronary artery disease [R]
- Artery hardening [R]
- Diabeic dyslipidemia [R]
- Hypertension, especially in alcohol drinkers [R, R]
- Peripheral artery disease [R]

However, this variant may be protective for stroke and type 2 diabetes [R, R].

Interestingly, carriers of this variant may lower their total and LDL cholesterol levels more if they adopt a low-fat diet and raise their HDL cholesterol level more if they exercise [R, R].

Another well-researched *LIPC* variant is rs10468017. Its minor 'T' allele may increase enzyme activity in the liver and has been linked to higher HDL and triglycerides, and lower LDL cholesterol levels. This variant has also been associated with a

HIGHER ACTIVITY

Likely higher LIPC activity based on 4 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ADAM10	rs1800588	CC
ADAM10	rs2070895	GG
ALDH1A2	rs10468017	TT
ALDH1A2	rs493258	TT

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

decreased risk of age-related macular degeneration and choroidal neovascularization [R, R, R, R, R, R].

Finally, the ‘T’ allele of rs493258 may also be linked to increased LIPC activity in the liver and has been associated with a decreased risk of age-related macular degeneration and higher plasma zeaxanthin levels [R, R, R].

MLXIPL (Triglycerides, Cardiovascular)

The best-researched *MLXIPL* polymorphism is **rs3812316** (G771C). The rare 'G' allele has been associated with lower triglyceride levels due to the production of an unstable version of the protein. This allele has also been associated with a decreased risk of [R, R, R, R, R, R, R]:

- Coronary artery disease [R, R, R, R]
- Myocardial infarction [R]
- NAFLD [R]
- Obesity [R]
- Metabolic syndrome [R]
- Elevated uric acid levels [R]

Interestingly, the beneficial effects of this variant may be enhanced by the Mediterranean diet [R].

LOWER ACTIVITY

Likely lower MLXIPL activity based on the genetic variants we looked at

21%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **21% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
MLXIPL	rs3812316	CG

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

SOAT1 (Cholesterol/ Cognition)

The main *SOAT1* (ACAT-1) variant is **rs1044925**. Its **"C" allele is generally considered "bad"** due to its link with higher SOAT1 activity, which may imply increased cholesterol buildup.

Studies have linked this variant to [R, R, R, R]:

- Higher cholesterol levels in men
- Higher blood pressure
- Alzheimer's disease
- Chagas disease (tropical disease that may involve heart problems)

However, some studies didn't find a link between this variant and blood lipids or Alzheimer's. One study even found a protective effect on heart health due to higher HDL cholesterol levels [R, R, R, R].

Other SOAT1 variants include:

- rs11545566-G: A study linked it to heart disease and artery hardening [R]
- rs2247071-C: May be linked to Alzheimer's disease [R]
- rs13306731-G: Studies have linked it to heart problems [R]

Lower SOAT1 (ACAT-1) activity means less conversion of free cholesterol to cholesterol esters. This reduces cholesterol storage in cells and may help prevent foam cell formation in arteries. It may also reduce the formation of amyloid plaques in the brain [R, R].

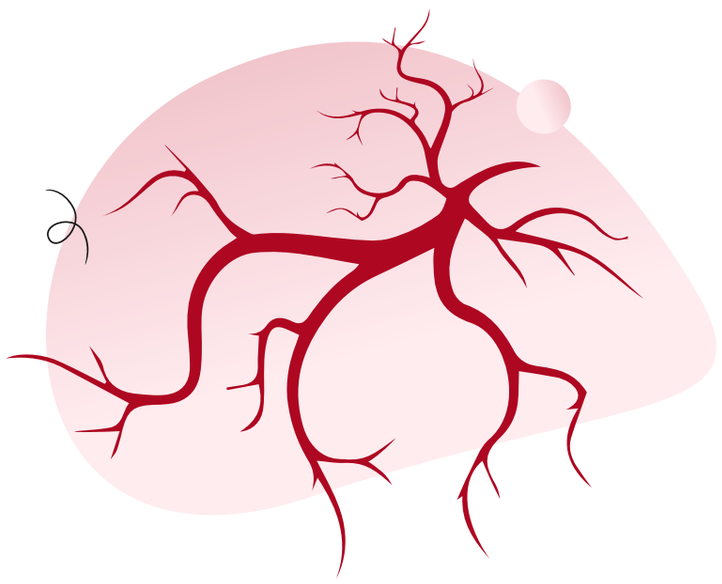
LOWER ACTIVITY

Likely lower SOAT1 activity based on 4 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
AXDND1	rs11545566	GG
TOR3A	rs2247071	CC
AXDND1	rs1044925	AA
SOAT1	rs13306731	AA

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



Blood Clots

Blood clot formation is a crucial process for repairing injured tissues and preventing bleeding. **However, their formation inside blood vessels can impede blood flow.** This can reduce oxygen supply and cause tissue damage, ultimately leading to dangerous conditions such as deep vein thrombosis, pulmonary embolism, or stroke.

Genetic variants in certain genes can affect how your body regulates clotting. Genes like *ITGB3* and *SERPINE1* play key roles in platelet aggregation and fibrinolysis, while *FN1* and *HIVEP1* are involved in tissue repair and inflammatory response. Understanding your genetic predisposition to blood clotting can help you take measures to reduce your risk and manage potential health concerns.

HIGHER ACTIVITY

ITGB3 (Cardiovascular)

Predisposed to higher ITGB3 activity

WORSE GENETICS

HIVEP1 (Blood Clots)

Predisposed to a worse HIVEP1 genetics

TYPICAL ACTIVITY

FN1 (Neurodegeneration, Cardiovascular)

Predisposed to typical FN1 activity

TYPICAL ACTIVITY

SERPINE1/PAI-1 (Blood Clots)

Predisposed to typical SERPINE1 activity

ITGB3 (Cardiovascular)

The *ITGB3* polymorphism most strongly associated with cardiovascular outcome is **rs5918** (Leu59Pro), commonly referred to as *PIA1/A2*. Its minor 'C' allele (*PIA2*) encodes an αIIbβ3 protein that makes platelets more likely to clump together. This variant has been associated with an increased risk of [R]:

- Coronary artery disease [R, R]
- Myocardial infarction [R, R]
- Sudden cardiac death and coronary thrombosis [R]
- Congenital heart defects [R]
- Heart failure [R]
- Metabolic syndrome [R]
- Atherosclerotic plaque rupture [R]

HIGHER ACTIVITY

Predisposed to higher ITGB3 activity based on the genetic variants we looked at

24%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **24% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ITGB3	rs5918	TC

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

HIVEP1 (Blood Clots)

A study of 5862 individuals with venous thromboembolism and 7112 healthy controls associated the ‘C’ allele of **rs169713** with an increased risk of venous thromboembolism. This variant has also been associated with fatal pulmonary embolism [R, R].

A study of 1542 cases and 1110 controls confirmed the link of the previous variant with venous thromboembolism and associated another *HIVEP1* variant, ‘G’ of **rs2228220**, with this condition [R].

WORSE GENETICS

Predisposed to a worse HIVEP1 genetics based on 2 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
HIVEP1	rs169713	TC
HIVEP1	rs2228220	GA

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

FN1 (Neurodegeneration, Cardiovascular)

A study of 3,578 individuals identified two rare *FN1* variants that decrease the risk of Alzheimer's disease in carriers of the *APOE* ε4 allele: 'T' of **rs140926439** and 'A' of **rs116558455**. Based on the potential contribution of fibronectin to neurodegeneration, the authors speculated that these variants reduce the levels of this protein. A more recent study confirmed the protective role of the rs140926439 variant [R, R].

Another variant decreasing fibronectin levels, the minor 'T' allele of **rs1250229**, wasn't identified in the previously-mentioned studies but has been associated with a reduced risk of coronary artery disease and lower total and LDL cholesterol levels [R, R, R, R, R, R].

TYPICAL ACTIVITY

Predisposed to typical FN1 activity based on 3 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
FN1	rs140926439	CC
FN1	rs116558455	GG
ATIC	rs1250229	CC

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

SERPINE1/PAI-1 (Blood Clots)

Several *SERPINE1* polymorphisms increase the levels of PAI-1, resulting in an increased risk of blood clots and associated conditions such as ischemic stroke or myocardial infarction. Some of them include:

- The ‘D’ allele of **rs1799768**, which acts as a proxy for another variant (4G/5G) and has been associated with myocardial infarction, ischemic stroke, asthma exacerbations, multiple organ dysfunction in critically ill patients, metabolic syndrome, sepsis, and cancer (particularly, endometrial) [R, R, R, R, R, R, R, R].
- The ‘A’ allele of **rs2227631**, which is usually inherited with the previous one and has been associated with an increased risk of acute coronary heart disease, atherosclerosis, coronary syndrome, stroke, subarachnoid hemorrhage, PCOS, osteonecrosis of the femoral head, and breast cancer, as well as with worse outcomes in COVID-19 and Parkinson’s disease patients [R, R, R, R, R, R, R, R, R, R, R].
- The ‘G’ allele of **rs7242**, which has been associated with an increased risk of myocardial infarction and major depression disorder, worse outcomes in subarachnoid hemorrhage patients, and reduced risk of radiation-induced lung inflammation in lung cancer patients [R, R, R, R].
- The ‘A’ allele of **rs6092**, which has been associated with an increased risk of blood clots in COVID-19 patients, osteonecrosis in children with acute lymphoblastic leukemia, and oral premalignant disorders, decreased survival in colorectal cancer patients, and a decreased risk of type 2 diabetes [R, R, R, R, R, R].
- The ‘T’ allele of **rs2227692**, which has been associated with an increased risk of blood clots in COVID-19 patients and diffuse-type gastric cancer, but a decreased risk of recurrence or metastasis in patients with breast cancer [R, R, R].

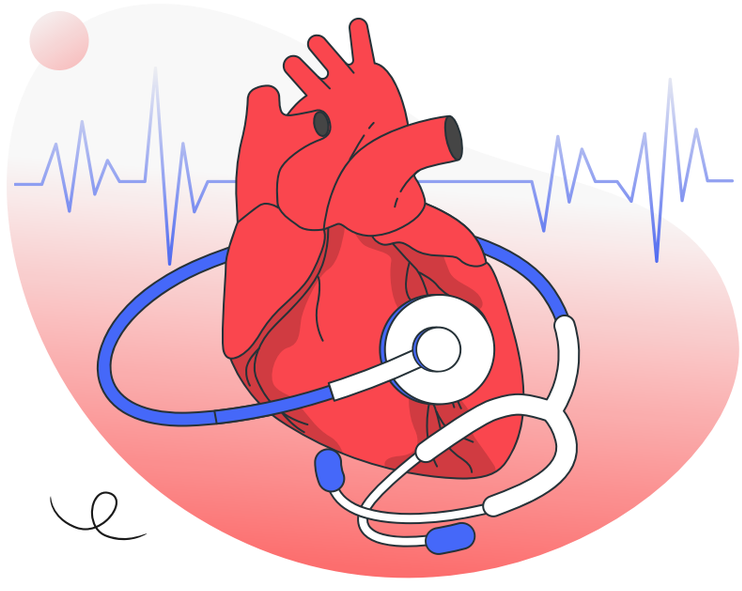
TYPICAL ACTIVITY

Predisposed to typical SERPINE1 activity based on 4 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
SERPINE1	rs1799768	TT
SERPINE1	rs2227631	GA
SERPINE1	rs6092	AG
NAT16	rs7242	TG
AP1S1	rs2227692	CC

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



Heart and Blood Vessel Development

The development of the heart and blood vessels is a complex process that shapes their structure and function throughout life. Genetic variants affecting this development can increase the risk of congenital heart defects, vascular abnormalities, arrhythmias, and other cardiovascular diseases.

Genes like *CDKN2B-AS* and *CDKN2A* play roles in cell cycle regulation and may impact heart tissue growth, while *PITX2* is crucial for proper heart formation during development. Additionally, genes such as *NAF1* and *KDR* are involved in vascular development and endothelial cell function, influencing overall heart health. Understanding these genetic factors can provide insights into your risk of heart disease related to developmental processes.

LOWER ACTIVITY

CDKN2B-AS (Cardiovascular)

Predisposed to a lower CDKN2B-AS activity

LOWER ACTIVITY

PITX2 (Cardiovascular)

Predisposed to a lower PITX2 activity

HIGHER ACTIVITY

CELSR2-PSRC1-SORT1 (Cardiovascular)

Likely higher CELSR2-PSRC1-SORT1 activity

WORSE GENETICS

NAF1 (Longevity & Heart Health)

Predisposed to worse NAF1 genetics

TYPICAL ACTIVITY

CDKN2A

Likely typical CDKN2A activity

TYPICAL ACTIVITY

ACYP2 (Cardiovascular, Cancer)

Likely typical ACYP2 activity

HIGHER ACTIVITY

KDR (Heart Disease, Drug Response)

Predisposed to a higher KDR activity

CDKN2B-AS (Cardiovascular)

The most widely investigated *CDKN2B-AS* variant is **rs10757278**. Its minor 'G' allele has been associated with an increased risk of:

- Coronary artery disease [R, R, R, R, R]
- Ischemic stroke [R, R, R, R]
- Myocardial infarction [R]
- Intracranial aneurysm [R, R]
- Cancer (especially, breast and prostate) [R]

Another well-researched variant, the 'G' allele of **rs10757274**, has been associated with an increased risk of:

- Coronary artery disease [R, R, R, R, R, R, R]
- Ischemic stroke [R, R, R, R]
- Sudden cardiac death [R]
- Angina pectoris [R]

The 'G' allele of **rs2383206** also increases *CDKN2B-AS* expression. This variant has been associated with an increased risk of:

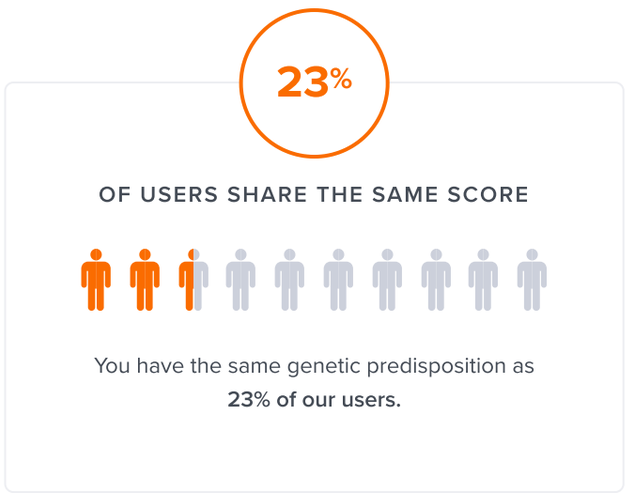
- Coronary artery disease [R, R, R, R, R]
- Ischemic stroke [R, R, R]

Finally, the 'G' allele of **rs2383207** has been associated with an increased risk of coronary artery disease [R, R, R].

These variants are associated with lower expression of a region in this gene and are usually inherited together, meaning you will most likely have all or none of them [R].

LOWER ACTIVITY

Predisposed to a lower CDKN2B-AS activity based on the genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CDKN2B	rs10757278	GG
CDKN2A	rs10757274	GG
CDKN2B	rs2383206	GG
CDKN2B	rs2383207	GG

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

PITX2 (Cardiovascular)

Several *PITX2* variants have been associated with an increased risk and recurrence of atrial fibrillation, as well as an increased risk of ischemic stroke. These include:

- 'T' of **rs2200733** [R, R, R, R, R, R, R, R, R]
- 'T' of **rs10033464** [R, R, R, R, R, R]
- 'A' of **rs1906591** [R, R, R]

Although their effects on PITX2 activity are poorly understood, reduced *PITX2* expression in the heart has been associated with an abnormal development of the atrial chambers. Based on this mechanism, these variants may reduce PITX2 activity [R].

LOWER ACTIVITY

Predisposed to a lower PITX2 activity based on 3 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
PITX2	rs2200733	CT
PITX2	rs1906591	GA
PITX2	rs10033464	GG

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

CELSR2-PSRC1-SORT1 (Cardiovascular)

The best-characterized polymorphism within this cluster is **rs599839**. Its minor 'A' allele may increase *PSRC1* and *SORT1* expression. This variant has been associated with higher total cholesterol, LDL cholesterol, ApoB, CRP, IL-1beta, and TNF-alpha levels, as well as with an increased risk of coronary artery disease and myocardial infarction [R, R, R, R, R, R, R, R, R].

Another well-researched polymorphism is **rs646776**. Its minor 'T' allele may increase *PSRC1* and *SORT1* expression. This variant has been associated with higher total cholesterol, LDL cholesterol, and ApoB levels, as well as an increased risk of cardiovascular disease, including coronary artery disease, peripheral artery disease, and myocardial infarction [R, R, R, R, R].

These variants are usually inherited together, meaning you will most likely have both or neither of them.

HIGHER ACTIVITY

Likely higher CELSR2-PSRC1-SORT1 activity based on the genetic variants we looked at

61%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **61% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
SORT1	rs599839	AA
SORT1	rs646776	TT

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

NAF1 (Longevity & Heart Health)

The main NAF1 variant is rs7675998. Its “A” allele is linked to [R, R, R]:

- Shorter telomeres
- High blood pressure
- Heart disease
- Stroke
- Alzheimer’s disease

According to preliminary evidence, telomere shortening may be the culprit behind other negative associations. In one study, a genetic predisposition to shorter telomeres was associated with worse cardiovascular health and faster disease progression. Research has also linked telomere shortening and Alzheimer’s disease [R, R].

WORSE GENETICS

Predisposed to worse NAF1 genetics based on the genetic variants we looked at

43%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **43% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
NAF1	rs7675998	AA

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

CDKN2A

The minor ‘G’ allele of rs2811712 may decrease *CDKN2A* expression and was associated with reduced physical impairment in a study of 938 older participants [R, R].

However, this allele has also been associated with:

- Cerebral small vessel disease [R]
- Acute lymphoblastic leukemia [R]

Another variant reducing gene expression, ‘T’ at rs3731249 (Ala148Thr), has been associated with acute lymphoblastic leukemia in several studies [R, R, R, R, R, R, R, R, R].

This variant has also been associated with

- Ovarian cancer [R]
- Coronary artery disease [R]
- Cognitive decline in Alzheimer’s disease [R]

Another minor allele, ‘G’ at rs11515, has been associated with an increased risk and worse prognosis of:

- Breast cancer [R]
- Glioblastoma [R]
- Alzheimer’s disease [R]

However, this variant has also been associated with a decreased risk of thyroid cancer [R]

In contrast, the minor ‘C’ allele of rs3731217 seems to increase gene expression and has been associated with a decreased risk of:

- Thyroid cancer [R]
- Endometrial cancer [R]
- Acute lymphoblastic leukemia (with mixed results) [R, R, R, R, R, R, R]
- Death from oropharyngeal cancer [R]

Similarly, the minor ‘A’ allele of rs3088440 impairs the binding of a protein that prevents *CDKN2A* expression and has been associated with an increased risk and severity of [R]:

- Coronary artery disease [R]
- Acute lymphoblastic leukemia [R, R]
- Endometrial cancer [R]

TYPICAL ACTIVITY

Likely typical CDKN2A activity based on 6 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CDKN2A	rs3731217	AA
CDKN2A	rs3088440	GG
CDKN2B	rs3217992	TT
CDKN2B	rs11515	GC
CDKN2A	rs3731249	CC
CDKN2B	rs2811712	AA

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

- Melanoma [R]

However, this variant may decrease the risk of:

- Head and neck cancer [R, R]
- Esophageal cancer [R]
- Cervical cancer [R, R]
- DNA damage in workers exposed to vinyl chloride [R]

Finally, the 'T' allele of rs3217992 may impair the binding of a regulatory protein to the gene and has been associated with a decreased risk of [R, R]:

- Acute lymphoblastic leukemia [R]
- Breast cancer [R]
- Lung cancer [R]
- Rheumatoid arthritis [R]
- Psoriasis [R]

However, this allele has been associated with an increased risk and severity of:

- Myocardial infarction and cardiovascular disease [R, R]
- Periodontitis [R]
- Pancreatic cancer [R]
- Osteosarcoma [R]

ACYP2 (Cardiovascular, Cancer)

Several minor alleles of *ACYP2* polymorphisms have been associated with an increased risk of ischemic stroke. These include [R]:

- 'A' of **rs11125529** (also associated with coronary heart disease) [R]
- 'A' of **rs12615793** (especially in smokers) [R]
- 'T' of **rs843711**
- 'A' of **rs843706**
- 'C' of **rs17045754**

These and other variants have also been associated with an increased risk of the following cancer types:

- Stomach (rs11125529, rs12615793, rs84371, rs17045754, rs843706, 'G' of **rs6713088**) [R]
- Oropharyngeal (rs11125529) [R]
- Laryngeal (rs11125529, rs12615793, rs84371, rs17045754) [R]
- Esophageal (rs11125529, rs17045754) [R]
- Kidney (rs843711, rs6713088) [R]
- Liver (rs84371, rs843706, rs6713088, 'G' of **rs843645**) [R, R]
- Colorectal (rs84371, rs843706, rs6713088, rs843645) [R]

However, they have been associated with a decreased risk of breast cancer (rs11125529, rs84371, rs17045754, rs843706) [R].

The 'G' allele of rs6713088 has also been associated with increased telomerase levels, while the 'A' allele of rs11125529 has been associated with longer telomere length. This suggests these variants may decrease ACYP2 activity and contribute to cancer through enhanced immortalization of malignant cells [R, R].

TYPICAL ACTIVITY

Likely typical ACYP2 activity based on 7 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
TSPYL6	rs11125529	CC
TSPYL6	rs17045754	GG
ACYP2	rs12615793	GG
TSPYL6	rs843711	CC
TSPYL6	rs843706	CC
ACYP2	rs843645	TT
ACYP2	rs6713088	CC

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

KDR (Heart Disease, Drug Response)

The main *KDR* gene variant is **rs1870377**, commonly referred to as Gln472His. Its minor 'A' allele encodes a protein with reduced binding affinity for VEGF. This variant has been associated with an increased risk of [R]:

- Glioma [R]
- Coronary heart disease [R, R, R]
- Hypertension in cancer patients [R]
- Atherosclerotic cardiovascular diseases [R]
- Severe COVID-19 [R]
- Cancer hyperprogression [R]
- Rheumatoid arthritis [R]
- Schizophrenia [R]
- Invasive pituitary adenoma [R]
- Clopidogrel resistance post percutaneous coronary intervention [R]
- High total and LDL cholesterol [R, R]

However, this variant has also been associated with a reduced risk of stroke, astrocytomas, and intractable Graves' disease [R, R, R].

Another well-researched polymorphism is **rs2071559**. Its 'G' allele reduces *KDR* gene expression. This variant has been associated with an increased risk of [R]:

- Glioma [R]
- Poor prognosis of cancer treatment [R]
- Myocardial infarction [R]
- Astrocytomas [R]
- Nasopharyngeal cancer metastasis [R]
- Diabetic nephropathy [R]
- Vascular dementia [R]
- Intractable Graves' disease [R]
- ACL rupture [R]

However, this variant has been associated with a decreased risk of age-related macular degeneration, stroke, pituitary adenoma, coronary artery stenosis, and rheumatoid arthritis [R, R, R, R, R].

Finally, the 'T' allele of **rs2305948** reduces the affinity of KDR for VEGF and has been associated with an increased risk of [R]:

HIGHER ACTIVITY

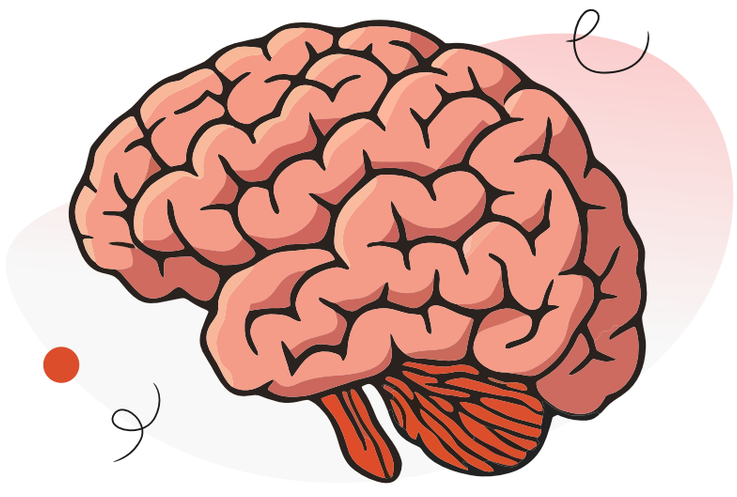
Predisposed to a higher KDR activity based on 3 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
KDR	rs2071559	GA
KDR	rs2305948	CC
KDR	rs1870377	TT

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

- Glioma [R]
- Atherosclerotic cardiovascular diseases [R]
- Poor prognosis of cancer treatment [R]
- Astrocytomas [R]
- Coronary heart disease [R]
- Hemorrhagic stroke [R]
- Ovarian hyperstimulation syndrome [R]
- Rheumatoid arthritis [R]
- Clopidogrel resistance post percutaneous coronary intervention [R]



Catecholamine Neurotransmitters

Epinephrine and norepinephrine are key catecholamine neurotransmitters that regulate your body's response to stress and play a vital role in cardiovascular health. **They influence heart rate, blood pressure, and the force of heart contractions.** Imbalances in their regulation can contribute to heart disease, including hypertension and arrhythmias.

The *MAOA* and *COMT* genes are involved in the breakdown of these neurotransmitters, while *MAOB* and *TH* affect their production from dopamine. Collectively, they impact epinephrine and norepinephrine availability in the body. In turn, variants in *ADRB1* can affect how your body responds to these neurotransmitters, potentially increasing your risk for cardiovascular issues. Understanding your genetic risk can help you better manage your heart health and reduce the potential for stress-related cardiovascular conditions.

HIGHER ACTIVITY

ADRB1 (Cardiovascular)

Predisposed to higher ADRB1 activity

HIGHER ACTIVITY

MAOA (Dopamine/Serotonin)

Likely higher MAOA activity

HIGHER ACTIVITY

MAOB (Dopamine/ Norepinephrine)

Likely higher MAOB activity

TYPICAL ACTIVITY

COMT

Likely typical COMT activity

TYPICAL ACTIVITY

TH (Mental Health, Blood Pressure)

Predisposed to a typical TH activity

ADRB1 (Cardiovascular)

The best-researched *ADRB1* polymorphism is **rs1801253** (Arg389). Its minor 'C' allele may increase the activation of the beta-1 adrenergic receptors and has been associated with [R]:

- Higher blood pressure [R, R, R, R, R]
- Increased risk of cardiovascular disease [R, R, R, R]
- Increased risk of sudden cardiac death [R]
- Higher LDL cholesterol levels [R]
- Lower training-induced exercise tolerance [R]
- Increased risk of postoperative pain [R]

On the bright side, carriers may have a decreased risk of adverse effects in response to blood pressure medication (beta blockers) [R, R].

Another variant, 'A' of **rs1801252** (Ser49Gly), may increase ADRB1 stability and has been associated with [R]:

- Higher blood pressure [R]
- Increased risk of cardiovascular disease [R]
- Increased risk of sudden cardiac death [R]
- Lower odds of LVEF recovery in heart failure patients [R]
- Lower renin levels [R]

However, this variant has also been associated with a better response to beta blockers. Moreover, people with resistant hypertension are less likely to carry this variant [R, R].

Finally, the 'T' allele of **rs10787516** has been associated with relatively higher blood pressure. This variant may also increase ADRB1 activity, leading to increased heart rate and contraction pressure [R, R].

HIGHER ACTIVITY

Predisposed to higher ADRB1 activity based on 3 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ADRB1	rs1801253	CC
ADRB1	rs1801252	AA
ADRB1	rs10787516	TT

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

MAOA (Dopamine/Serotonin)

There are multiple *MAOA* variants affecting enzyme activity. While low-activity variants lead to increased levels of the monoamine neurotransmitters dopamine, serotonin, and norepinephrine, variants with high activity decrease them. Among them, two of the most well-researched ones are rs6323, rs1137070, and rs909525. Their “G”, “T”, and “C” alleles, respectively, encode MAOA proteins with higher activity [R].

The first low-activity variants described were associated with increased aggressiveness, which earned *MAOA* the nickname “the Warrior gene.” This received high media coverage and raised the ethical question of whether carriers of certain variants should be held fully responsible for their actions. In some cases, it even resulted in sentence reductions [R, R, R, R]!

Other conditions associated with lower MAOA activity include:

- Autism [R, R, R]
- Schizophrenia [R, R, R]
- Suicidal behavior [R, R, R]
- Alcoholism [R, R, R]
- Substance use disorder [R, R]
- Obesity [R, R, R]

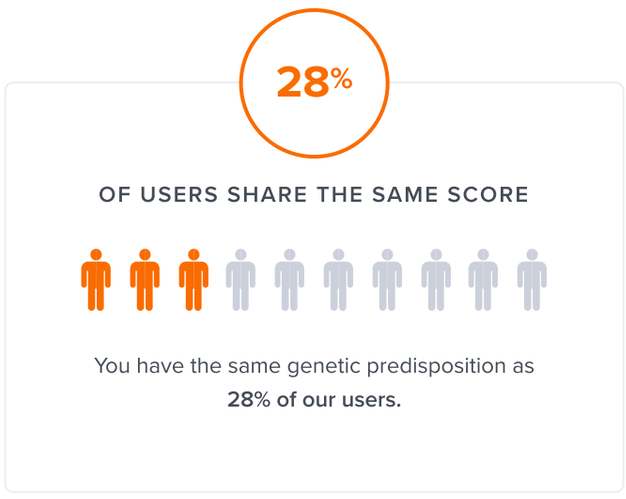
In contrast, variants with high activity lead to reduced dopamine, serotonin, and norepinephrine levels. These variants have been associated with the following conditions:

- Depression [R, R, R, R]
- Panic disorder [R, R]
- Obsessive-compulsive disorder [R, R]
- ADHD [R, R, R, R, R]
- Tourette syndrome [R, R]
- Heavy smoking [R, R, R]
- Parkinson’s disease [R, R]
- Migraines [R, R]
- Chronic fatigue syndrome [R]

Drugs that block MAOA can improve several of these conditions and are commonly prescribed for mood disorders. However, inhibitors of another monoamine oxidase version (MAOB) are

HIGHER ACTIVITY

Likely higher MAOA activity based on the genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
MAOA	rs6323	G
MAOA	rs1137070	T

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

preferred in the case of Parkinson's disease because they are more effective for motor symptoms and brain cell death [R, R].

MAOA also plays a role in **histamine metabolism**. It breaks down histamine by removing an amine group, primarily in brain and gut tissues. When MAOA activity is reduced, histamine remains active longer, potentially contributing to prolonged allergy symptoms or sensitivity reactions.

Nevertheless, keep in mind that the research on the health effects of *MAOA* variants is very complex, and often results in mixed or inconsistent findings. Factors that may modify the associations of specific *MAOA* variants with health conditions include:

- Their combination with other *MAOA* variants
- Many other genes
- Gender and sex hormone levels
- Environmental factors

MAOB (Dopamine/ Norepinephrine)

A higher amount of monoamine oxidase B implies lower monoamine levels (due to increased breakdown), and vice versa. *MAOB* variants with increased activity have been associated with chronic fatigue syndrome [R, R].

The main variants associated with this condition are [R]:

- 'G' at rs3027452
- 'G' at rs2283729
- 'T' at rs1799836

The 'T' allele of rs1799836 is also associated with higher anger [R].

The 'G' allele of rs3027452 is linked to lower blood pressure and higher mood improvement in response to tryptophan treatment [R, R].

MAOB also plays a role in **histamine metabolism**. While it primarily targets other compounds, it is a backup system for histamine degradation when MAOA function is insufficient. It's crucial in the liver and certain brain regions where it can compensate for limited MAOA activity in processing excess histamine.

HIGHER ACTIVITY

Likely higher MAOB activity based on the genetic variants we looked at

45%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **45% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
MAOB	rs3027452	G
MAOB	rs2283729	G
MAOB	rs1799836	T

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

COMT

One common variant of the *COMT* gene, rs4680, may affect COMT enzyme activity. Some people call rs4680 the “worrier or warrior” variant [R, R].

The “G” allele of this variant is linked to a higher COMT enzyme activity. People with two copies of this allele (GG) have been nicknamed the “warriors.” They break down stress-related chemical messengers more quickly. This may help improve their performance under stress [R].

On the negative side, “warriors” may have lower cognitive performance under relaxed conditions [R, R, R].

People with two copies of the “A” allele (AA) may have lower COMT enzyme activity. They have been nicknamed the “worriers.” They break down stress-related chemical messengers more slowly in the brain. For this reason, they may be more vulnerable to stress. This includes an increased susceptibility to heart disease, possibly due to the effects of these chemical messengers on blood pressure and heart rate [R, R, R, R].

The good news is that "worriers" may become more emotionally resilient with age. They also tend to have enhanced cognitive performance under relaxed conditions. Interestingly, "worriers" seem to have a more pronounced placebo response due to higher dopamine levels [R, R, R, R, R].

People carrying both alleles (AG) tend to be in between the described extremes [R, R].

Did you know? People with “warrior” genetics may be more likely to engage in combat sports, justifying the nickname of this variant [R].

However, keep in mind that your cognitive function and response to stress are also influenced by other factors, such as:

- Other variants in the *COMT* gene
- Many other genes
- Environmental factors

TYPICAL ACTIVITY

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

45%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **45% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
COMT	rs4680	AG

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

TH (Mental Health, Blood Pressure)

The best-characterized *TH* polymorphism is **rs6356**, whose minor 'T' allele may increase enzyme activity. This variant has been associated with:

- Increased risk of late-onset Parkinson's disease [R]
- Increased risk of schizophrenia [R]
- Increased risk of migraines [R]
- Increased risk of cognitive and attentional impulsivity in maltreated children [R]
- Increased risk of hypertension [R]
- Higher SHGB levels [R]

Another variant, the 'A' allele of **rs10770141**, may increase *TH* expression. This variant has been associated with [R]:

- Increased risk of schizophrenia [R]
- Higher IQ in people with schizophrenia [R]
- Better cognitive control in case of consciously perceived conflicts [R]
- Lower novelty seeking [R]
- Lower persistence in patients with chronic fatigue syndrome [R]
- Increased risk of opioid dependence [R]
- Increased sensitivity to both "good" and "bad" effects of cocaine [R]
- Higher blood pressure in response to cold stress [R]
- Decreased risk of retinopathy of prematurity [R]

This allele is usually inherited together with the 'C' allele of **rs10770140**, which also increases *TH* expression and has been associated with an increased risk of opioid dependence [R, R].

Finally, the 'G' allele of **rs2070762** may also increase *TH* expression and has been associated with:

- Increased risk of pre-eclampsia [R]
- Increased risk of hypertension [R, R]
- Increased risk of migraines [R]
- Increased risk of mild arm pain [R]
- Increased risk of cocaine and opioid dependence [R, R]
- Greater body height [R]

TYPICAL ACTIVITY

Predisposed to a typical TH activity based on 4 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
C11ORF21	rs2070762	GG
TH	rs10770141	AG
TH	rs6356	CC
TH	rs10770140	TT

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

Detox

Detoxification is a critical process in maintaining overall health, including heart health. The body's ability to detoxify can influence the risk of cardiovascular diseases, as **the accumulation of toxins and oxidative stress can damage the heart and blood vessels over time.**

Genes like *ACMSD* and *CPS1* are involved in the regulation of ammonia detoxification, while *CYP1A1*, *CYP1A2*, and *CYP11B2* are key players in the metabolism of environmental toxins, drugs such as caffeine, and hormones. Additionally, *GPX1* and *MTHFR* are important for managing oxidative stress and homocysteine levels. Understanding your genetic predisposition to detoxification can help you manage factors that influence heart disease risk.

LOWER ACTIVITY

MTHFR

Likely lower MTHFR activity

LOWER ACTIVITY

CPS1 (Cardiovascular, Kidney Health)

Likely lower CPS1 activity

TYPICAL ACTIVITY

ACMSD (Cardiovascular)

Predisposed to typical ACMSD activity

TYPICAL ACTIVITY

CYP1A1 (Detox)

Likely typical CYP1A1 activity

TYPICAL ACTIVITY

CYP11B2 (Aldosterone & Blood Pressure)

Predisposed to typical CYP11B2 activity

HIGHER ACTIVITY

GLUL (Cardiovascular)

Predisposed to a higher GLUL activity

HIGHER ACTIVITY

CYP1A2 (Detox)

Likely higher CYP1A2 activity

HIGHER ACTIVITY

GPX1 (Glutathione/Detox)

Likely higher GPX1 activity

MTHFR

Key Takeaways:

- MTHFR is an enzyme that helps your body process folate, an important nutrient for many body functions and processes.
- If you have lower MTHFR activity due to genetics, make sure you include folate-rich foods in your diet, like fruits and vegetables or other fortified foods. This is even more important with pregnancy.

The most common *MTHFR* SNP is **rs1801133** (C677T). The **'A' variant** of this SNP decreases the activity of the MTHFR enzyme. People with two 'A' variants may have about 16% lower blood folate levels ('A' equals 'T' on the opposite DNA strand) [R].

The **'G' variant*** of another SNP, **rs1801131** (A1298C), also decreases MTHFR enzyme activity, but less so than rs1801133. The effects of this variant may only be meaningful in people who also have the other low-activity variant, rs1801133-AA ('G' equals 'C' on the opposite DNA strand) [R, R, R, R, R].

Read this blog post for more details about MTHFR variants and potential ways to reduce their impact.

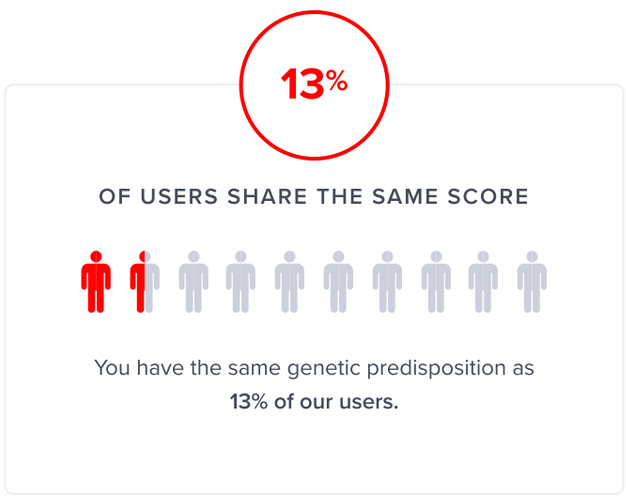
If you carry a lower-activity variant, make sure your diet is healthy, well-balanced, and contains plenty of folate-rich food sources. These include [R, R, R]:

- Spinach
- Black-eyed and green peas
- Asparagus
- Lettuce
- Avocado
- Broccoli
- Citrus fruits
- Fortified rice, bread, and pasta

Some sources recommend methylfolate supplements instead of folic acid. Methylfolate supplements would in theory bypass the MTHFR enzyme, which converts folic acid to methylfolate. However, even if you have lower-activity *MTHFR* variants, experts say you can still process folic acid without any issues [R].

LOWER ACTIVITY

Likely lower MTHFR activity based on the genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
MTHFR	rs1801133	AA
MTHFR	rs1801131	TT

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

Importantly, CDC notes that folic acid is the only folate supplement proven to reduce neural tube defects. Methylfolate supplements have not been properly studied [R].

In addition to folate, there is some evidence that people with *MTHFR* variants may do better if they get more riboflavin (vitamin B2). This vitamin helps MTHFR work properly [R, R, R, R, R, R, R, R, R, R].

Good sources of riboflavin include [R, R]:

- Eggs
- Dairy (milk, cheese, yogurt)
- Lean and organ meats
- Green vegetables
- Fortified cereals
- Mushrooms
- Almonds

CPS1 (Cardiovascular, Kidney Health)

The best-characterized *CPS1* polymorphism is **rs1047891** (T1405N), formerly known as rs7422339. Its minor 'A' allele has been associated with lower urea levels in the blood and ammonia levels in the liver, suggesting lower enzyme activity. This variant has also been associated with higher LDL cholesterol, homocysteine, and glycine levels but lower HDL cholesterol and apoA1 levels, as well as with [R, R, R, R]:

- Hyperammonemia in epilepsy patients taking valproic acid [R, R, R, R, R, R]
- Increased risk of coronary artery disease [R]
- Increased risk of migraine and CKD [R, R]
- Lower platelet count [R]
- Lower eGFR [R]

However, this variant has been associated with a decreased risk of liver scarring in people with NAFLD and lower odds of necrotizing enterocolitis [R, R, R].

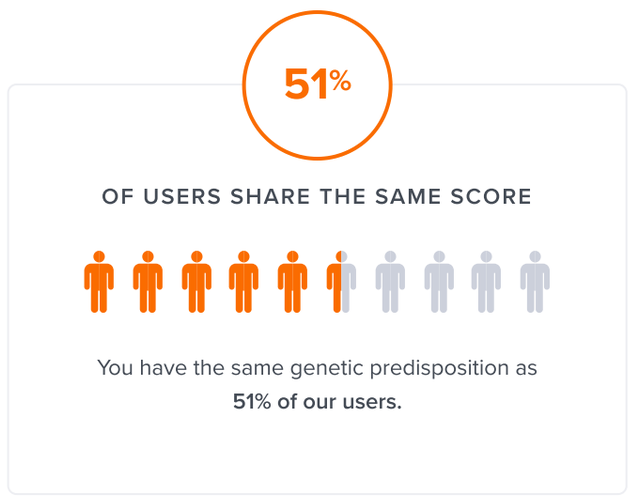
Another variant believed to decrease *CPS1* expression, 'C' of **rs715**, has been associated with:

- Higher glycine and lower citrulline and TMAO levels [R, R]
- Lower eGFR [R]
- Higher BMI [R]
- Decreased risk of macular telangiectasia type 2 [R]
- Decreased risk of severe coronary artery disease [R]

This variant is usually inherited together with rs1047891, meaning you will most likely have both or neither of them.

LOWER ACTIVITY

Likely lower CPS1 activity based on the genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CPS1	rs1047891	AC
CPS1	rs715	CT

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

ACMSD (Cardiovascular)

A study of 1,162 participants associated the ‘T’ allele of an *ACMSD* polymorphism (**rs10496731**) with higher 4PY and VCAM-1 levels, as well as with an increased risk of cardiovascular events. The risk may be higher in people with high niacin intake [R].

The same study also associated the ‘C’ allele of **rs6430553** and the ‘G’ allele of **rs6729702** with higher 4PY levels, suggesting similar negative effects on cardiovascular risk [R].

These variants are usually inherited together, meaning you will most likely have all or none of them.

TYPICAL ACTIVITY

Predisposed to typical ACMSD activity based on the genetic variants we looked at

46%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **46% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CCNT2	rs10496731	TG
CCNT2	rs6430553	CT
CCNT2	rs6729702	GA

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

CYP1A1 (Detox)

The ‘G’ allele of rs4646903, linked to higher CYP1A1 levels, has been associated with an increased risk of leukemia, cervical, hepatocellular, lung, prostate, colorectal, breast and head and neck cancers, possibly by turning PAHs into cancer-causing chemicals. This variant may also increase the risk of PCOS, recurrent pregnancy loss, and male infertility through its role in estrogen metabolism [R, R, R, R, R, R, R, R, R].

Similarly, the ‘C’ variant of rs1048943 increases CYP1A1 activity and has been associated with an increased risk of lung cancer, laryngeal cancer, oral cancer, colorectal cancer, cervical cancer, hepatocellular carcinoma, prostate cancer, and leukemia. In the case of lung cancer, the risk may be even higher in smokers carrying this variant [R, R, R, R, R, R, R, R, R, R, R].

The ‘A’ allele of rs2606345 may decrease CYP1A1 levels. This variant has been associated with an increased risk of lung conditions such as pneumonia or ARDS, possibly by increasing inflammation and oxidative stress in the lungs. In contrast, the ‘C’ allele has been associated with esophageal and testicular cancer [R, R, R, R, R, R, R, R].

The ‘T’ allele of rs2472297 may increase CYP1A1 activity. This variant has been associated with greater coffee consumption, as well as with a decreased increment in blood glucose after consuming caffeine [R, R, R, R].

Finally, the ‘A’ allele of rs4646421 has been associated with hepatocellular carcinoma, endometrial cancer (especially in women with abdominal obesity), esophageal cancer (in hot tea drinkers), laryngeal cancer, decreased lung function in elderly people exposed to PAHs, and chronic hepatitis B infection [R, R, R, R, R, R].

TYPICAL ACTIVITY

Likely typical CYP1A1 activity based on 4 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CSK	rs2606345	AC
ULK3	rs2472297	CC
CYP1A1	rs4646903	AA
CYP1A1	rs1048943	TT
ARID3B	rs4646421	GG

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

CYP11B2 (Aldosterone & Blood Pressure)

The main CYP11B2 variant is rs1799998 (-344C/T). Most studies suggest that its **“A” allele** is linked to [R, R, R, R, R]:

- Higher aldosterone levels
- Higher blood pressure
- Stroke and other cardiovascular conditions

However, some studies didn’t confirm this or even found the opposite results [R, R].

This variant likely **increases CYP11B2 activity, raising aldosterone levels**. Steroid hormones are interconnected and share many pathways. In line with this, the variant is also linked to higher testosterone levels [R].

Some CYP11B2 variants are linked to aldosterone synthase deficiency, including rs28931609-A and rs104894072-G. However, these variants are extremely rare and can’t be analyzed with sufficient precision [R, R].

TYPICAL ACTIVITY

Predisposed to typical CYP11B2 activity based on the genetic variants we looked at

49%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **49% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
LYPD2	rs1799998	GA

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

GLUL (Cardiovascular)

The main *GLUL* variant is **rs10911021**. Its minor 'T' allele has been associated with a decreased risk and mortality of coronary heart disease in patients with type 2 diabetes. Moreover, this variant has been associated with a better blood lipid profile (lower LDL and lipoprotein(a) but higher HDL cholesterol levels) and better antioxidant status (lower MDA and GSSG and higher GSH levels) [R, R, R, R, R, R].

This variant has been associated with higher *GLUL* expression, resulting in enhanced ammonia and glutamate detoxification. The authors of the study suggested that supplementation with glutamine may help prevent coronary heart disease in carriers of the 'C' allele [R].

HIGHER ACTIVITY

Predisposed to a higher GLUL activity based on the genetic variants we looked at

52%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **52% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ZNF648	rs10911021	TC

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

CYP1A2 (Detox)

CYP1A2 is an enzyme that helps break down caffeine, drugs, and certain toxins like mold. Variants in the *CYP1A2* gene affect how fast people break down those substances [R, R, R].

The "slow metabolizer" variants make a less efficient enzyme. People who carry these variants may be more **sensitive to caffeine**. Accordingly, they may be more likely to experience negative effects when drinking coffee [R, R, R].

In terms of detox, they may be more susceptible to the adverse effects of certain drugs and toxins. However, the link between CYP1A2 variants and environmental toxins is more complex and requires further investigation [R, R].

The "fast metabolizer" variant makes a protein that breaks down caffeine. People with these variants may be less sensitive to its effects [R, R, R, R].

Nevertheless, "fast metabolizers" may experience the benefits of caffeine supplementation on athletic performance after a short time while "slow metabolizers" may need a longer ingestion period [R, R].

The following factors and substances may **increase** CYP1A2 activity:

- Cigarette smoke: 1.72-fold for >20 cigarettes per day [R, R]
- Coffee consumption: 1.45-fold per liter of coffee drunk daily [R, R]
- Meat pan-fried at high temperatures: 1.4-fold [R]
- Chargrilled meat: 1.89-fold [R]
- Cruciferous vegetables [R, R, R]
- Green and black tea [R]
- Insulin [R]
- Being female: 0.90-fold [R]
- Heavy exercise [R]
- Omeprazole [R]
- Evodioa
- Reishi
- Andrographis,
- Modafinil
- Glycyrrhizin (liquorice)

HIGHER ACTIVITY

Likely higher CYP1A2 activity based on the genetic variants we looked at

41%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **41% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CYP1A2	rs762551	AA
LMAN1L	rs2069514	GG

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

The following factors and substances may **decrease** CYP1A2 activity:

- Apiaceous vegetables (carrots, parsnips, celery, and parsley) [R]
- Curcumin [R]
- Grapefruit juice and its component naringenin [R]
- Echinacea [R]
- Quercetin [R]
- Antibiotic fluoroquinolones [R]
- Fluvoxamine, an antidepressant [R]
- Peppermint, chamomile, and dandelion tea [R]
- Garlic
- Berberine
- Chamomile
- Lactoferrin
- Hops
- Galangin (galangal root)
- Scutellaria baicalensis,
- Tangeritin
- Trans-resveratrol

GPX1 (Glutathione/Detox)

One study found a direct link between a common *GPX1* variant and human longevity. According to a cohort of elderly Danish people born in 1905, the heterozygous **genotype 'AG' at rs1050450 was significantly more common in the very elderly** than in the general population [R].

The authors of the study suggested there could be some kind of survival benefit for the 'AG' genotype, but they did not speculate as to why the heterozygote might have an advantage over 'AA' and 'GG' [R].

That said, other studies have strongly suggested that the **'G' allele at rs1050450 confers higher GPx activity**, which is linked to better health outcomes [R, R].

Along with other variants, like rs1800668 and rs3811699, this variant has also been linked to [R, R, R, R, R, R, R]:

- Rheumatoid arthritis
- Kashin-Beck disease
- Heart disease
- Some types of cancer

Kashin-Beck disease (KBD) is a bone disease that causes arthritis-like joint pain, enlarged joints, and decreased range of motion. People with KBD tend to have significantly higher oxidative stress and significantly lower selenium, suggesting that the disease could be caused (at least in part) by poor GPx activity [R, R].

Please note: These three variants are closely linked, so if you have a "bad" allele at one, you will likely also have "bad" alleles at others.

HIGHER ACTIVITY

Likely higher GPX1 activity based on the genetic variants we looked at

43%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **43% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
GPX1	rs1050450	GG

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

Recommendations Details

1 Methylfolate

Take an L-methyl folate supplement (400-800 micrograms daily), ideally with a meal, to improve absorption. This dosage is recommended for adults, including pregnant women, to support overall health, especially to reduce the risk of neural tube defects in developing fetuses. Continue daily use as part of your regular supplement routine.

TYPICAL STARTING DOSE

400 mcg

Helps with these Symptoms & Conditions:

Artery Hardening | Cognitive Decline

Helps with these Goals:

Cognitive Function | Fat Loss | Libido | Mood

Helps with these DNA Risks:

MTHFR

How it helps

MTHFR

IMPACT 5 / 5

EVIDENCE 5 / 5

People with lower MTHFR activity may have 16% lower folate levels, and they tend to have increased homocysteine [R].

Supplementation with folate (0.5-1 mg/day) may lower homocysteine levels. It may work in healthy people, those with [R, R, R, R, R, R, R]:

- Heart problems
- Cognitive decline
- High blood sugar

CDC notes that **folic acid** is the only supplement proven to reduce birth defects due to low folate [R].

2 Dietary Folate

Increase your intake of folate-rich foods such as leafy green vegetables, fruits, nuts, and legumes. Aim to consume these foods daily, incorporating them into various meals throughout the day to meet the recommended dietary allowance of 400 micrograms for adults.

Helps with these Symptoms & Conditions:

Cognitive Decline | Food Allergies

Helps with these Goals:

Energy | Mood

Helps with these DNA Risks:

⚠ MTHFR

How it helps

⚠ MTHFR

IMPACT 5 / 5 | EVIDENCE 5 / 5

People with lower MTHFR activity may have 16% lower folate levels, and they tend to have increased homocysteine [R].

High dietary intake of folate is associated with lower homocysteine levels [R, R].

It's always a good practice to get plenty of folate by eating a variety of fresh fruits and vegetables. This is especially true for people with lower MTHFR activity. Folate in food sources is natural or "active" form. In theory, this means it is equally beneficial for people with lower MTHFR activity [R, R, R, R, R].

Rich sources of folate include [R, R]:

- Beef liver
- Spinach
- Black-eyed peas
- Asparagus
- Citrus fruits

3 Betaine (TMG)

To take Betaine (TMG) as a supplement, consume 500-2000 mg daily, preferably with a meal to enhance absorption. It is recommended to start at the lower end of the dosage range and adjust based on personal tolerance and effectiveness. This supplement can be taken indefinitely for ongoing support of heart health and liver function.

TYPICAL STARTING DOSE
500 mg

Helps with these Goals:

Fat Loss

Strength

Helps with these DNA Risks:

MTHFR

How it helps

MTHFR

IMPACT 3 / 5

EVIDENCE 2 / 5

TMG or betaine helps turn homocysteine into methionine. For this reason, it plays a key role in the methylation cycle.

People with lower MTHFR activity and poor methylation may have reduced betaine production. To make up for this effect, consume a variety of betaine-rich foods such as [R]:

- Liver meats
- Quinoa
- Beets
- Wheat germ
- Spinach

Supplementing with TMG (1.5-4 g/day for 6-24 weeks) may lower homocysteine levels, which tend to be higher in people with impaired MTHFR function [R, R].

Homocystinuria is a rare genetic disorder that results in elevated homocysteine levels in the urine. In people with this condition, TMG is approved by the FDA to lower urinary homocysteine [R].

A study of 860 mothers observed much lower neural tube defect (NTD) rates for the highest vs. lowest dietary intakes of choline, betaine, and methionine. NTDs are of particular concern for people with reduced MTHFR activity due to impaired methylation [R].

According to preliminary findings, early betaine supplementation may improve outcomes in cases of MTHFR deficiency [R].

Please note: *Doses above 4 g/day may increase LDL and triglyceride levels. TMG supplementation can cause a person's urine and sweat to smell fishy* [R, R].

4

Leafy Green Vegetables

Incorporate at least one serving of leafy green vegetables, such as spinach, kale, or Swiss chard, into your diet daily. This can be done by adding them to salads, smoothies, or as a side dish to your meals.

Helps with these Symptoms & Conditions:

Artery Hardening

Helps with these Goals:

Longevity | Memory | Short Term Memory

Helps with these DNA Risks:

MTHFR

How it helps

MTHFR

IMPACT 3 / 5

EVIDENCE 2 / 5

Research indicates that higher intake of dark green leafy vegetables is associated with a lower risk of cutaneous squamous cell carcinoma (SCC) in people carrying specific MTHFR gene variants [R].

Additionally, a study found that people with the MTHFR TT genotype may experience increased benefits from high green vegetable intake, which may lower their risk of breast cancer compared to those with low intake [R].

Leafy green vegetables may help due to their high folate content.

5 Avoid High-Dose Niacin Supplements

Ensure your daily intake of niacin (vitamin B3) from supplements does not exceed 35 mg, which is the upper intake level for adults, to prevent the risk of negative side effects like flushing and liver damage. Always check the label of your supplement to confirm the niacin dosage.

TYPICAL STARTING DOSE

35 mg

Helps with these DNA Risks:

MTHFR

How it helps

MTHFR

IMPACT 2 / 5

EVIDENCE 1 / 5

MTHFR is essential for converting homocysteine to methionine. High doses of niacin can exacerbate the accumulation of homocysteine in individuals with reduced MTHFR function.

This is because niacin in large amounts can deplete methyl donors like SAMe (S-adenosylmethionine), which are needed for homocysteine metabolism [R].

6 Zinc

Take a 15 mg zinc supplement daily, ideally with a meal to enhance absorption.

TYPICAL STARTING DOSE

15 mg

Helps with these Symptoms & Conditions:

Artery Hardening | Food Allergies | Hair Loss | Underactive Thyroid

Helps with these Goals:

Cognitive Function | Focus | Libido | Memory | Mood

Helps with these DNA Risks:

MTHFR

How it helps

MTHFR

IMPACT 2 / 5

EVIDENCE 2 / 5

Zinc is important for folate absorption and healthy methylation. Ensure that your zinc levels are optimal [R].

If you are deficient in zinc, your gut enzymes can't break down folate into the form you can absorb [R, R].

Zinc also helps folate carry out its role in the body [R].

7 Dietary Riboflavin (Vitamin B2)

Include riboflavin-rich foods in your daily diet, such as milk, cheese, eggs, lean meats, green leafy vegetables (like spinach), almonds, and fortified cereals. Aim for an intake of 1.1 to 1.3 mg of riboflavin per day for adults, as recommended by dietary guidelines.

Helps with these DNA Risks:

MTHFR

How it helps

MTHFR

IMPACT 1 / 5

EVIDENCE 2 / 5

There is some evidence that people with MTHFR variants may do better if they get more riboflavin (vitamin B2) [R, R, R, R, R, R, R, R].

This vitamin helps MTHFR work properly [R, R, R].

Good sources of riboflavin include [R, R]:

- Eggs
- Dairy
- Lean and organ meats
- Green vegetables
- Fortified cereals

8 Riboflavin (Vitamin B2)

Take a riboflavin (vitamin B2) supplement daily, with a dose ranging from 5mg to 400mg, depending on the specific health concern or advice from a healthcare provider. Swallow the supplement with water, preferably with a meal to enhance absorption. This regimen can be continued long-term or as directed by a healthcare professional.

TYPICAL STARTING DOSE

25 mg

Helps with these Goals:

Mood

Helps with these DNA Risks:

MTHFR

How it helps

MTHFR

IMPACT 1 / 5

EVIDENCE 3 / 5

There is some evidence that people with MTHFR variants may do better if they get more riboflavin (vitamin B2) [R, R, R, R, R, R, R, R].

For example, supplementing with riboflavin may decrease blood pressure more in people with reduced MTHFR activity [R, R, R, R].

This vitamin helps MTHFR work properly [R, R, R].

9 Tryptophan

Take 500 mg of tryptophan supplement daily. This dosage can be taken all at once, preferably before bedtime to support sleep, or as directed by a healthcare professional.

TYPICAL STARTING DOSE

500 mg

Helps with these Symptoms & Conditions:

- Food Allergies

Helps with these Goals:

- Mood

Helps with these DNA Risks:

- MAOA (Dopamine/Serotonin)
- MAOB (Dopamine/ Norepinephrine)

How it helps

MAOA (Dopamine/Serotonin)

IMPACT 2 / 5

EVIDENCE 2 / 5

Low tryptophan levels are associated with depression [R, R, R].

Foods rich in tryptophan—such as oats, bananas, dried prunes, milk, tuna, cheese, bread, chicken, turkey, peanuts, and chocolate—may help restore normal serotonin levels in people with high MAOA activity [R, R, R].

A supplement with tryptophan, tyrosine, and blueberry juice designed to counteract the negative effects of high MAOA activity (increased monoamine breakdown and oxidative stress) helped prevent postpartum depression in a clinical trial. However, this supplement failed to prevent depression caused by cigarette withdrawal in smokers [R, R].

MAOB (Dopamine/ Norepinephrine)

IMPACT 3 / 5

EVIDENCE 3 / 5

Low tryptophan levels are associated with depression [R, R, R].

Consider increasing your intake of tryptophan-rich foods.

10 Dark Chocolate

Eat dark chocolate with a cocoa content of at least 70-85%, limiting intake to about 1-2 ounces (28-56 grams) a day to gain cardiovascular and mood-related benefits without excessive calorie intake.

Helps with these Symptoms & Conditions:

Artery Hardening | Cognitive Decline

Helps with these Goals:

Cognitive Function | Energy | Fat Loss | Longevity | Memory | Mood | Short Term Memory

Helps with these DNA Risks:

MAOB (Dopamine/ Norepinephrine)

How it helps

MAOB (Dopamine/ Norepinephrine)

IMPACT 2 / 5

EVIDENCE 2 / 5

Interestingly, dark chocolate contains phenylethylamine, serotonin, dopamine, and their precursors -- although scientists warn that individuals may need to eat plenty of dark chocolate to reap the associated benefits from these compounds [R, R, R].

A meta-analysis of 9 studies concluded that consuming cocoa products (including dark chocolate) has moderate effects on anxiety and depression [R].

11 Blackcurrants

Incorporate about 1/2 cup of fresh or frozen blackcurrants into your daily diet. You can add them to your morning yogurt, oatmeal, or smoothies. For those who prefer, blackcurrant juice or preserves can also be consumed, but be mindful of added sugars in processed forms.

Helps with these DNA Risks:

MAOB (Dopamine/ Norepinephrine)

How it helps

MAOB (Dopamine/ Norepinephrine)

IMPACT 1 / 5

EVIDENCE 1 / 5

In two randomized controlled trials, blackcurrant juice was found to temporarily increase monoamine levels, while also improving mood. Although this effect was attributed to inhibition of monoamine oxidase B, it was almost completely reversed 24 hours after consumption of a single (500 mg blackcurrant polyphenol) drink [R, R].

12 Limit Saturated Fat

Reduce your intake of saturated fats by choosing lean cuts of meat, opting for low-fat or fat-free dairy products, and using cooking oils high in unsaturated fats (like olive or canola oil) instead of butter or lard. Aim to keep saturated fat to less than 10% of your total daily calories. For someone consuming 2000 calories a day, this means 20 grams or less of saturated fat per day.

Helps with these Symptoms & Conditions:

- Artery Hardening

Helps with these Goals:

- Fat Loss

13 Mediterranean Diet

Incorporate a variety of primarily plant-based foods, such as fruits, vegetables, whole grains, nuts, and legumes, into every meal. Choose healthy fats, like olive oil, over saturated fats and consume fish and poultry at least twice a week. Limit red meat to a few times a month and include a moderate amount of dairy products. Opt for water and red wine in moderation as your beverages.

Helps with these Symptoms & Conditions:

- Artery Hardening
- Cognitive Decline
- Hair Loss
- Hashimoto's Disease

Helps with these Goals:

- Cognitive Function
- Energy
- Fat Loss
- Focus
- Libido
- Longevity
- Memory
- Mood
- Short Term Memory

14 Avoid Air Pollution

Stay indoors on days when air quality indexes (AQI) indicate high pollution levels, which are often reported by weather services or government environmental agencies. **Install air purifiers** in your home, especially in bedrooms, to reduce indoor pollutants. Limit outdoor exercise when air pollution warnings are issued, opting for indoor activities instead.

Helps with these Symptoms & Conditions:

- Cognitive Decline

Helps with these Goals:

- Cognitive Function
- Longevity
- Mood

15 Cognitive Activity

Engage in mentally stimulating activities, such as puzzles, reading, or learning a new skill, for at least 15 minutes daily. Consistency is key, so incorporate these activities into your daily routine for ongoing cognitive health benefits.

TYPICAL STARTING DOSE

15 minutes

Helps with these Symptoms & Conditions:

- Cognitive Decline

Helps with these Goals:

- Cognitive Function
- Memory
- Short Term Memory

16 Maintain Optimal Vitamin D Levels

Check your vitamin D levels, they should ideally be in the 30-66 ng/mL range. If your levels are lower than that, take a vitamin D supplement, 1000-4000 IU daily, to reach an optimal range.

TYPICAL STARTING DOSE

1000 iu

Helps with these Symptoms & Conditions:

- Artery Hardening
- Cognitive Decline
- Food Allergies
- Hair Loss
- Hashimoto's Disease
- Underactive Thyroid

Helps with these Goals:

Cognitive Function | Energy | Focus | Libido | Longevity | Mood | Strength

Helps with these DNA Risks:

MAOA (Dopamine/Serotonin)

How it helps

MAOA (Dopamine/Serotonin)

IMPACT 2 / 5

EVIDENCE 3 / 5

Active vitamin D (calcitriol) reduced MAOA levels and increased dopamine and serotonin production in studies on brain cells. Similarly, supplementation with this vitamin reduced MAOA to normal levels in diabetic rats [R, R, R].

Vitamin D (400-5,000 IU/day for 6-8 weeks) may improve symptoms of depression. However, more research is necessary to confirm this benefit [R, R, R, R].

Vitamin D may help by increasing the levels of [R, R]:

- Dopamine
- Norepinephrine (noradrenaline)
- Epinephrine (adrenaline)

Please note: *Experts recommend getting 600-800 IU of vitamin D per day. Medical bodies recommend against taking more than 4,000 IU per day* [R].

17

Omega-3 (Fish Oil)

Take 1-2 g of omega-3 (fish oil) supplement daily, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

500 mg

Helps with these Symptoms & Conditions:

Artery Hardening | Cognitive Decline

Helps with these Goals:

Focus | Longevity | Memory | Mood | Strength

18 Carnosine And Anserine

Take a combined dose of 1 to 1.5 grams of carnosine and anserine supplements daily. Divide this total dose into two smaller doses to take in the morning and evening. Continue this supplementation daily for at least 8 to 12 weeks to observe benefits.

TYPICAL STARTING DOSE

1 g

Helps with these Symptoms & Conditions:

- Cognitive Decline

19 Dietary B Vitamins

Incorporate foods rich in B vitamins like whole grains, meat, eggs, dairy products, leafy green vegetables, beans, peas, and nuts into your daily meals. For a balanced intake, aim to include at least one serving of a B vitamin-rich food in each meal throughout the day.

Helps with these Symptoms & Conditions:

- Cognitive Decline
- Hair Loss

Helps with these Goals:

- Energy
- Mood

20 Limit Coffee Intake

Reduce your coffee consumption to no more than 2-3 cups (approximately 200-300 mg of caffeine) per day. Try to avoid drinking coffee after 2 PM to minimize potential impacts on sleep.

21 Sleep for 7+ Hours

Ensure you allocate enough time in your schedule to achieve a minimum of 7 hours of sleep each night. This might involve going to bed earlier or adjusting your evening routine to promote relaxation and make it easier to fall asleep.

Helps with these Symptoms & Conditions:

Artery Hardening | Cognitive Decline | Hair Loss | Hashimoto's Disease | Underactive Thyroid

Helps with these Goals:

Cognitive Function | Creativity | Energy | Fat Loss | Focus | Libido | Longevity | Memory | Mood | Short Term Memory

22 Avoid Exposure to Heavy Metals

To avoid exposure to heavy metals, ensure you're not using cosmetic products with heavy metals, opt for organic foods to minimize pesticide exposure, and use filters for drinking water to remove possible contaminants. Check for lead-based paints in older homes and avoid cooking or storing food in uncoated metal containers. When possible, choose glass or BPA-free plastics instead.

Helps with these Symptoms & Conditions:

Artery Hardening

Helps with these Goals:

Fat Loss | Longevity | Memory | Strength

23 SAM-e

Take 400-1600 mg of SAM-e as a supplement daily, preferably on an empty stomach to enhance absorption. It is often recommended to start with low dosage and observe how your body responds over a few weeks, adjusting as necessary under the guidance of a healthcare provider.

TYPICAL STARTING DOSE

200 mg

Helps with these Goals:

Longevity | Mood

24 Limit Caffeine Intake

Limit your caffeine consumption to less than 200 milligrams per day, equivalent to about two 6-ounce cups of coffee. Aim to avoid caffeine-containing foods and beverages such as tea, chocolate, and some soft drinks, especially in the late afternoon and evening to minimize sleep disturbances.

25 L-Theanine

Take 100-400 mg of L-theanine supplement daily. It can be consumed at any time of the day, with or without food.

TYPICAL STARTING DOSE

100 mg

Helps with these Goals:

Cognitive Function | Focus | Memory | Mood

26 White Mulberry

Take a supplement containing 500mg of white mulberry extract three times daily with meals. Continue this regimen for at least three months to evaluate its effects on blood sugar levels.

Helps with these Goals:

Fat Loss

Helps with these DNA Risks:

MAOA (Dopamine/Serotonin)

How it helps

MAOA (Dopamine/Serotonin)

IMPACT 1 / 5

EVIDENCE 1 / 5

In a rat study, physical exercise greatly reduced MAOA activity. The oral administration of white mulberry extract restored this activity to normal values [R].

White mulberry extract (2,400 mg/day for 12 weeks) may reduce weight [R].

28 Hibiscus

Take 250 mg of hibiscus supplement daily, either in the form of a capsule or powder. It can be taken at any time of day, with or without food.

TYPICAL STARTING DOSE

250 mg

Helps with these Goals:

- Fat Loss

29 High-Intensity Interval Training (HIIT)

Engage in HIIT workouts for at least 30 minutes per session, 3 times a week. Each session should include short bursts of intense exercise, such as sprinting or fast cycling, for 30-60 seconds followed by a period of rest or lower-intensity exercise for 1-2 minutes. Adjust intensity and duration based on personal fitness level.

TYPICAL STARTING DOSE

30 minutes

Helps with these Symptoms & Conditions:

- Artery Hardening

Helps with these Goals:

- Fat Loss
- Longevity
- Mood
- Strength

30 Indole-3-Carbinol

Take an indole-3-carbinol supplement with a glass of water, preferably with meals to enhance absorption. Dosages typically range from 200 to 400 mg per day, divided into two doses. Continue daily for as long as recommended by your healthcare provider, which can vary based on the specific condition being addressed.

TYPICAL STARTING DOSE

200 mg

31 Keto Diet

Adopt a diet that consists of about 70-80% fat, 10-20% protein, and 5-10% carbohydrates. Eliminate or significantly reduce the intake of sugar and starches like bread, pasta, rice, and potatoes, focusing instead on high-fat foods like meats, fatty fish, eggs, butter, and healthy oils, as well as low-carb vegetables like leafy greens. This dietary pattern should be maintained consistently for a period of at least 3-4 weeks to achieve ketosis, after which it can be adjusted based on individual goals and responses.

Helps with these Goals:

- Fat Loss

32 Low-Carbohydrate Diet

Limit your daily intake of carbohydrates to less than 26% of your total daily calories. For a standard 2000-calorie diet, this means consuming no more than 130 grams of carbohydrates per day. Focus on including non-starchy vegetables, lean proteins, and healthy fats in your meals while minimizing the intake of sugars, bread, pasta, and other high-carb foods.

Helps with these Symptoms & Conditions:

- Underactive Thyroid

Helps with these Goals:

- Fat Loss

35 Resveratrol

Take 150-500 mg of resveratrol as a supplement daily, preferably with meals to enhance absorption. This dosage range is based on studies for various health benefits, and it's advised to not exceed 500 mg per day without medical supervision.

TYPICAL STARTING DOSE

150 mg

Helps with these Goals:

- Cognitive Function
- Fat Loss
- Focus
- Strength

43

Decaffeinated Coffee

Replace your regular coffee intake with decaffeinated coffee. Aim to consume it in the same quantities and at the same times you would normally drink caffeinated coffee. This adjustment can be made indefinitely to reduce caffeine intake without altering your routine significantly.

Helps with these Symptoms & Conditions:

Artery Hardening

Helps with these Goals:

Longevity