SelfDecode™

Serine

Biohacker Report

REPORT CATEGORY

NUTRITION

Sample Client

Report date: 15 January 2026

Powered by omicsedge

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Personal information

NAME

Sample Client

SEX AT BIRTH

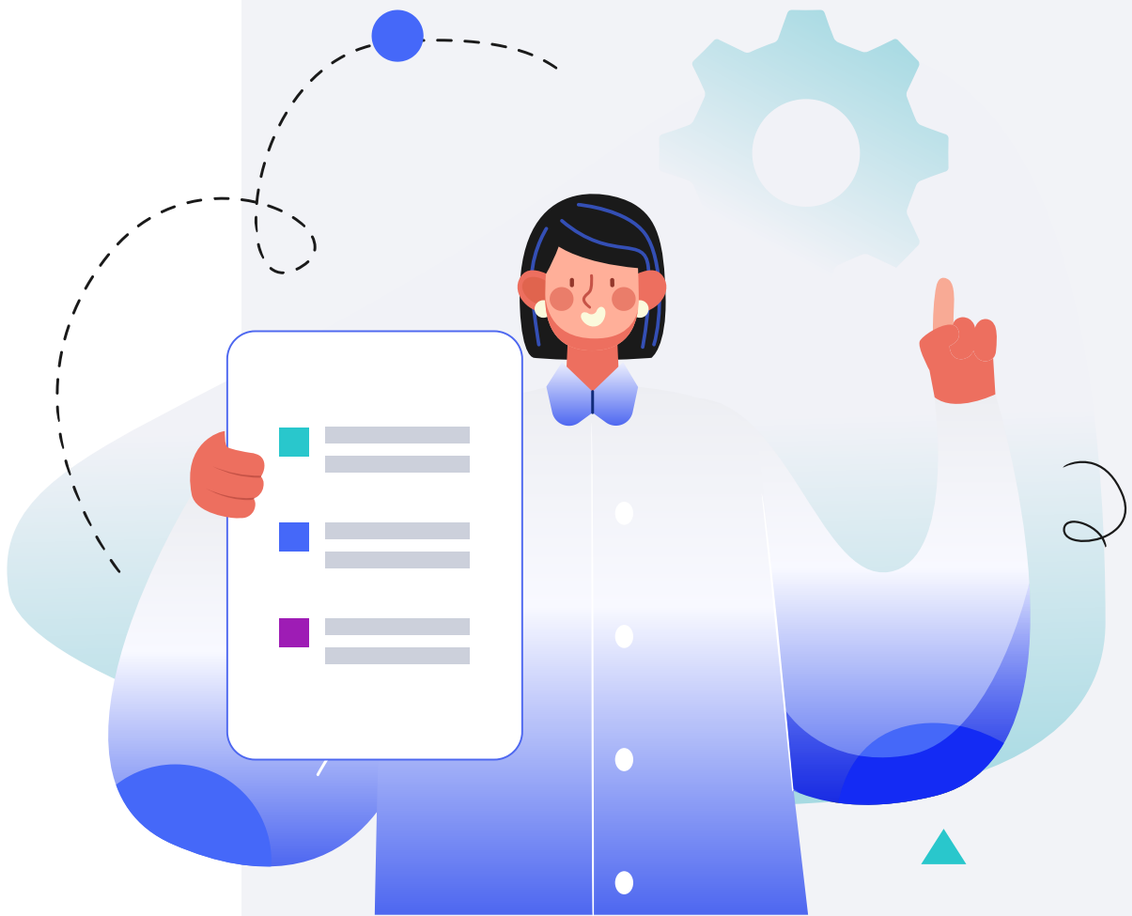
Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg

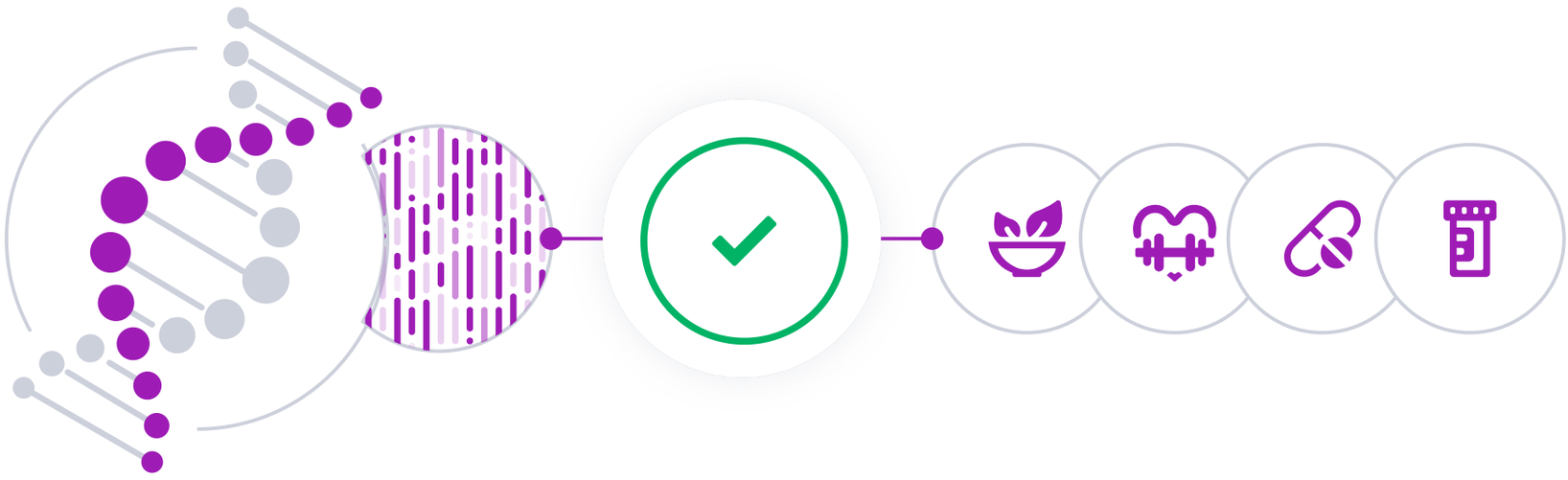


DISCLAIMER

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

How this works

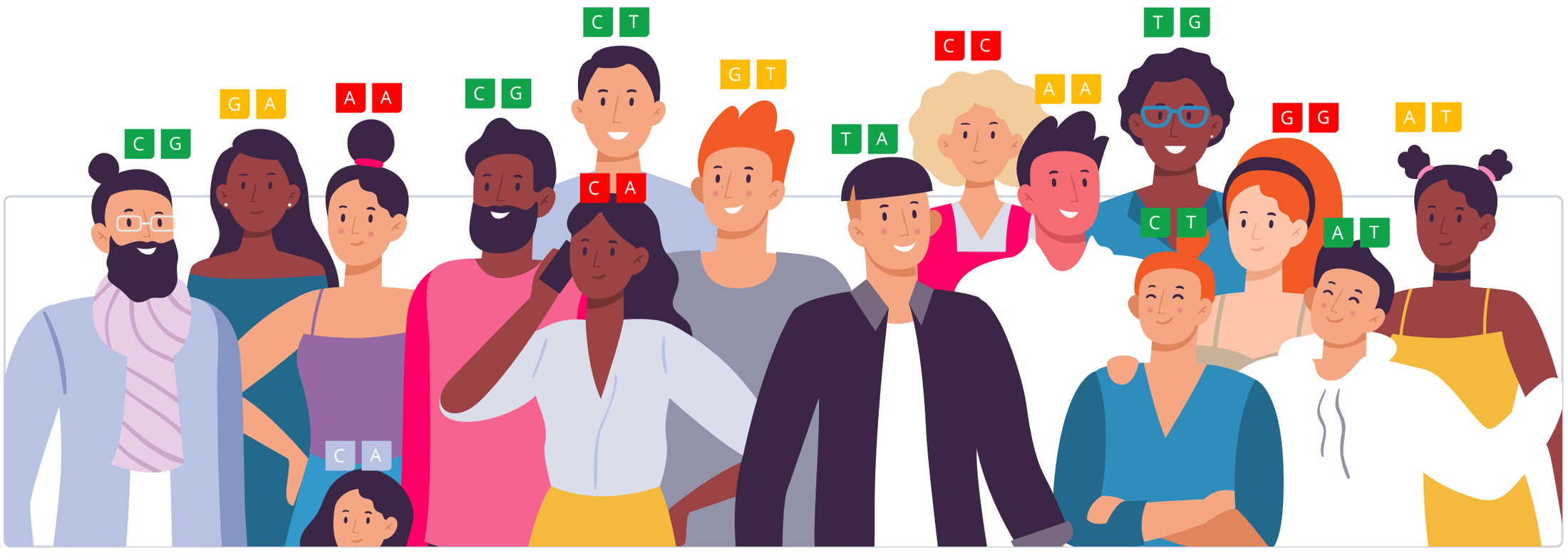
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



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

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

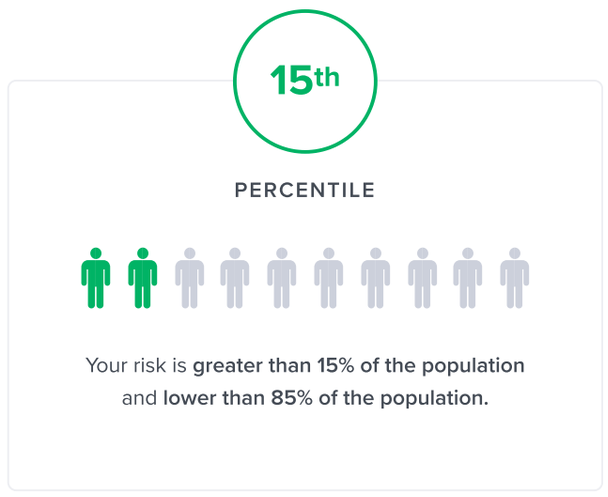
Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



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

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

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



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

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

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

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

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

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

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

Impact

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

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

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

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

Recommendation Evidence

5 / 5

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

4 / 5

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

3 / 5

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

2 / 5

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

1 / 5

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

0 / 5

No evidence in humans.

Genotype-specific Evidence

High-quality

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

Medium-quality

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

Low-quality

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

Indirect

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

In theory

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

Some things to keep in mind:

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

Introduction

Serine is a non-essential amino acid, meaning the body can synthesize it, but it's also obtained through the diet. It's abundant in protein-rich foods such as meat, eggs, soy, dairy products, nuts, and seeds, as well as in grains and legumes.

Serine is pivotal in various bodily functions, serving as a building block for proteins, phospholipids, and other amino acids. It's essential for creating phosphatidylserine, a component of cell membranes, especially in the brain.

Serine also contributes to the formation of glycine and cysteine, two amino acids involved in antioxidant defenses and detoxification processes, supporting cellular health.

Factors Affecting Serine Levels

Although there’s no specific recommended dietary allowance for serine, maintaining sufficient levels is crucial for metabolic and neurological health. Serine is not essential, meaning the body can produce it. However, it can become essential under some conditions, so it's considered **conditionally essential**.

Inadequate serine intake or synthesis may contribute to neurological disorders, fatigue, and even developmental issues in severe deficiencies.

Genetic variations in enzymes related to serine synthesis, such as PHGDH, PSAT1, and PSPH, can affect serine production in the body. Variants that reduce these enzymes’ effectiveness can lead to lower serine levels, potentially impairing cognitive function, mood, and cellular health.

People with specific genetic variants may benefit from higher dietary serine intake, especially if they experience signs of low serine levels like mood disturbances, memory issues, or fatigue.

TYPICAL LEVELS

Predisposed to typical serine levels based on 19 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CPS1	rs1047891	AC
PHGDH	rs10923893	CC
PHGDH	rs561931	GG
PHGDH	rs477992	GG
CCT6A	rs11238389	GA
TRIB1	rs28601761	CC
GCKR	rs1260326	TC
SLC41A3	rs62265227	CC
CPS1	rs4673546	CC
ZNF713	rs34016595	CT
CCT6A	rs6951810	CT
CHCHD2	rs4470984	GA
SLC38A4	rs2465219	GG
CPS1	rs715	CT
CCT6A	rs4947534	CT
PHGDH	rs478093	GG
PHGDH	rs839614	AA
CHCHD2	rs816411	TT
PHGDH	rs1163251	TT

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

Your Recommendations

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

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

		DOSAGE
1	L-Serine	500 mg
2	D-Serine	
3	Phosphatidylserine	300 mg

1

L-Serine

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take l-serine supplements orally, starting with a dose of 500 mg per day. If well tolerated and based on the desired effect, the dose can be gradually increased, but it should not exceed 2,000 mg per day without medical advice. It's best taken with meals to enhance absorption.

TYPICAL STARTING DOSE

500 mg

Description

L-serine is an amino acid essential for the production of proteins and other important molecules in the body. It plays a role in supporting brain health, immune function, and overall well-being.

How it helps

L-Serine supplementation enhances cognitive health by facilitating the synthesis of neurotransmitters and proteins, which are crucial for optimal brain function and overall well-being. This support may lead to improved mental clarity and cognitive performance.

2

D-Serine

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take d-serine as a dietary supplement in doses ranging from 30 to 120 milligrams per kilogram of body weight per day. It is typically consumed in capsule or powder form mixed with water or another beverage. Start with the lower end of the dosage range and adjust based on tolerance and effectiveness, not exceeding the recommended maximum unless directed by a healthcare provider.

Description

D-serine is an amino acid that plays a role in brain function and may be used in supplemental form to support cognitive health.

Serine is a non-essential amino acid that we generally get from our diet through protein sources. It is key to the production of proteins, enzymes and muscle tissue. Serine is needed for the proper metabolism of fats and fatty acids. It also helps in the production of antibodies [R].

Serine is used as a natural moisturizing agent in some cosmetics and skin care products, as well as for certain psychiatric and neurological disorders [R, R].

How it helps

D-serine acts as a co-agonist at NMDA receptors, which are vital for synaptic plasticity and cognitive function. By enhancing neurotransmission, D-serine may improve memory and overall brain health in individuals experiencing cognitive decline.

3

Phosphatidylserine

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 100 mg of phosphatidylserine three times daily with meals. Continue this regimen for up to 6 months to evaluate its effectiveness.

TYPICAL STARTING DOSE

300 mg

Description

Phosphatidylserine is a naturally occurring phospholipid found in cell membranes, primarily in animal-based sources such as meat and fish. It is commonly used as a dietary supplement to potentially support cognitive function and memory, as well as age-related cognitive decline and improving focus and mental clarity.

Phosphatidylserine is a major component of all cell membranes. It’s found in high amounts in the brain, and it helps support brain function.

People use phosphatidylserine as a supplement to improve mental focus, memory, and mood.

How it helps

Phosphatidylserine supports cognitive function by facilitating communication between brain cells, which is crucial for memory and learning. Its role in maintaining neuronal health directly contributes to mitigating age-related cognitive decline and enhancing mental clarity.