

CBS (Transsulfuration)

Gene Report

REPORT CATEGORIES —



NUTRITION



DETOX

Sample Client

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Table of Contents

03 How this works

- 04 Impact
- 05 Evidence
- 06 Some things to keep in mind

07 Introduction

08 Your genetics

09 Your recommendations

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.

Personal information

NAME

Sample Client

SEX AT BIRTH

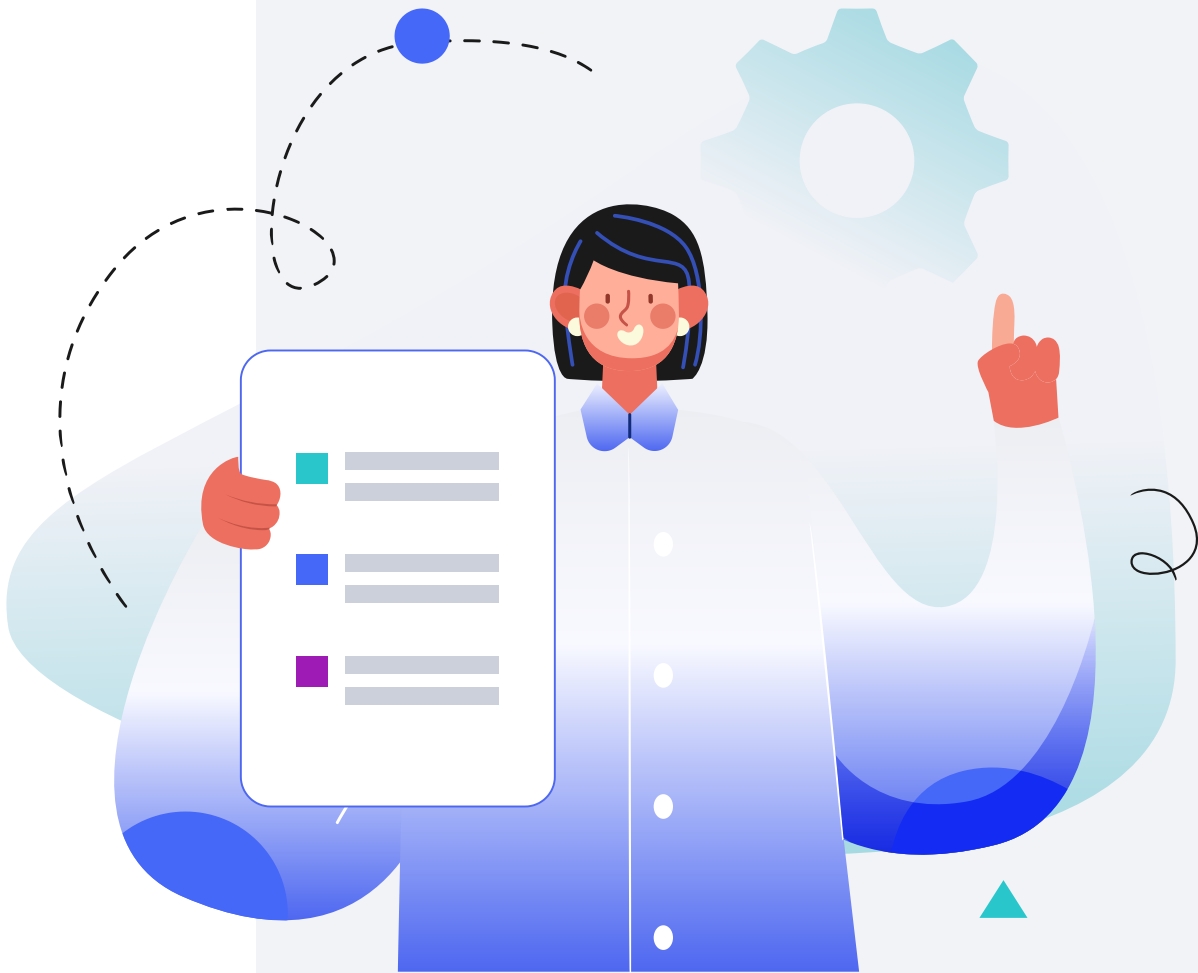
Male

HEIGHT

5ft 5" 165cm

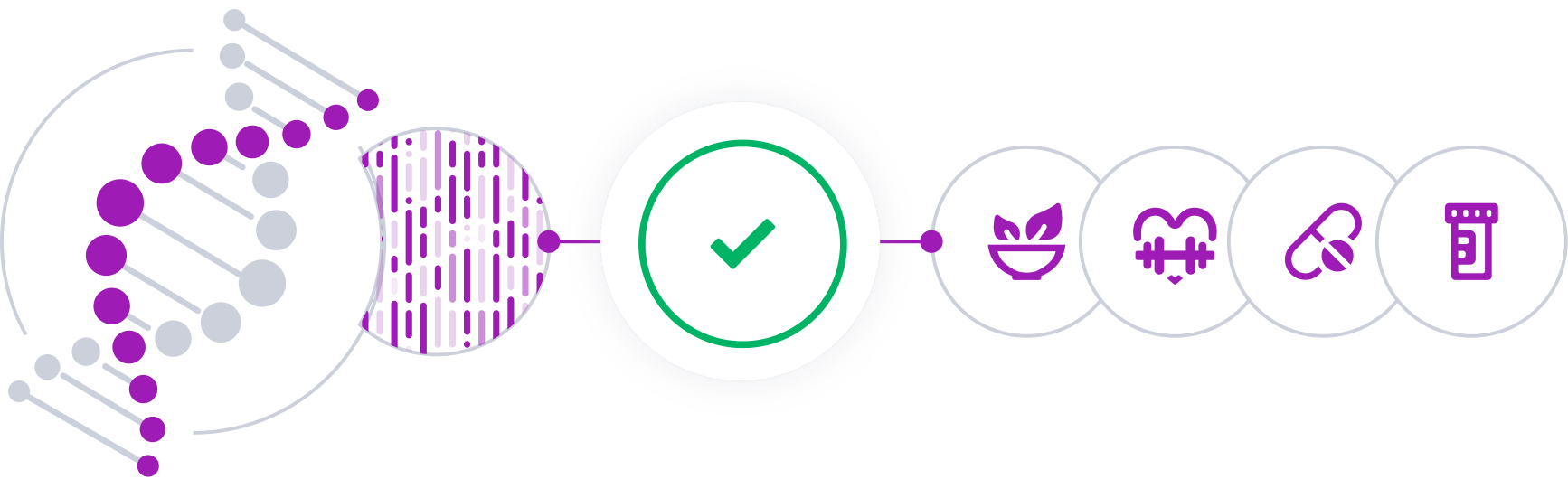
WEIGHT

137lb 62kg



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.

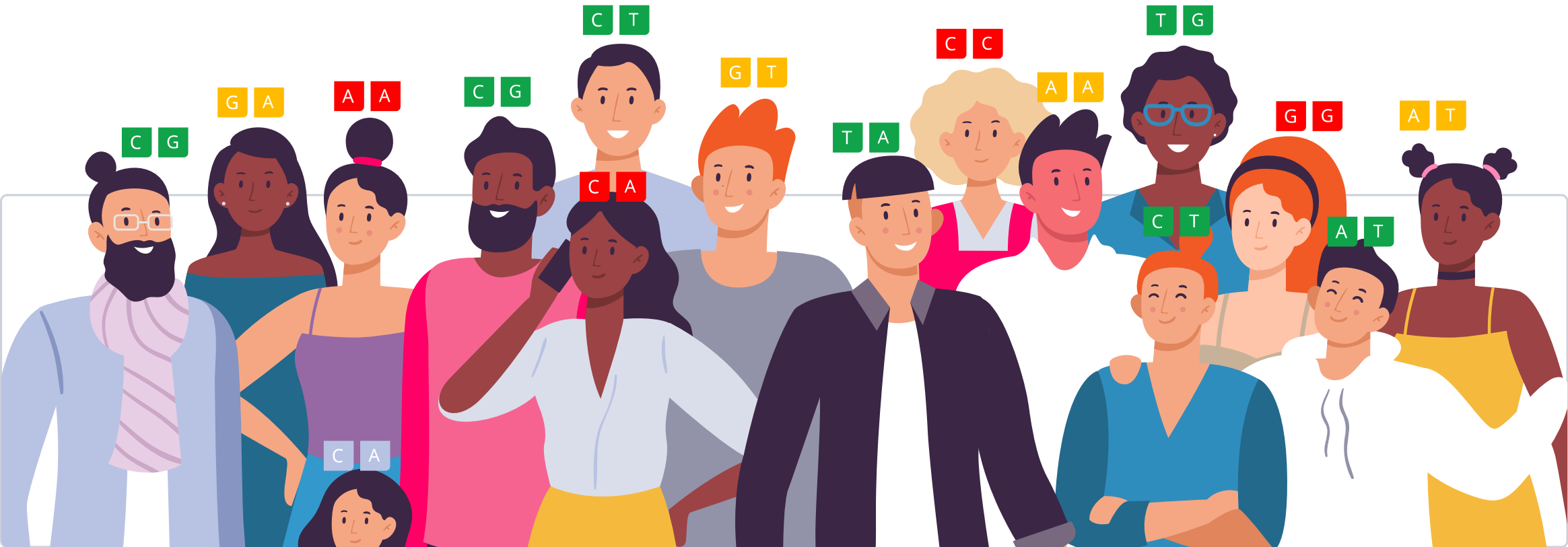


Similarly, our Trait Reports look at how your DNA influences your traits.



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.

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

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



Genotype color info:

AA

You don't have any risk alleles

AA

You have 1 risk allele

AA

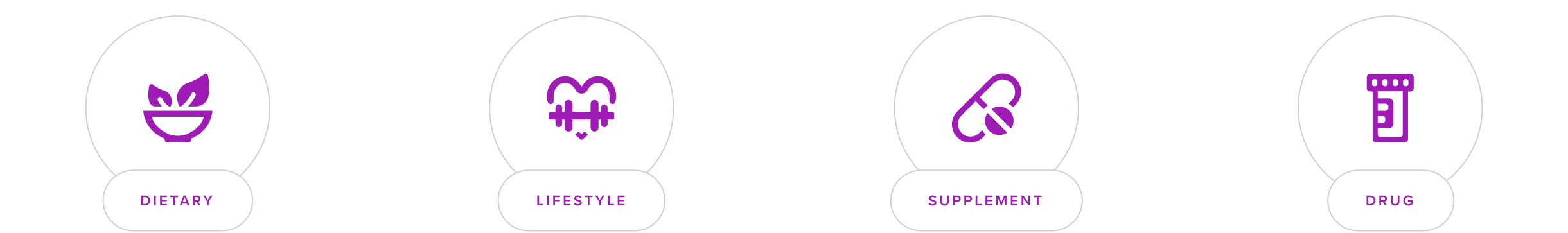
You have 2 risk alleles

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.

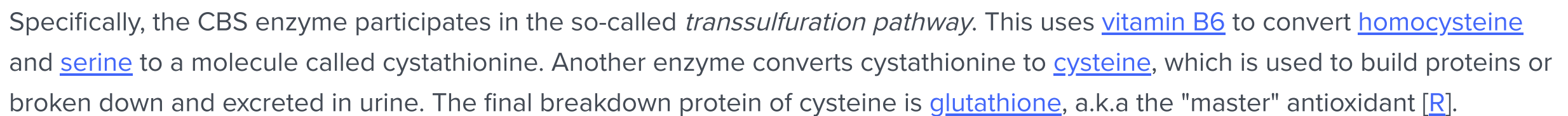
Genotype-specific Evidence

- High-quality
- Direct evidence that a recommendation helps more in people with your gene variant (many clinical trials, a few 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.

The [CBS](#) gene encodes an enzyme called cystathionine beta-synthase that is part of the [methylation](#) cycle. The methylation cycle involves several steps outlined in the image below:



If the methylation cycle is less efficient - like if the activity of CBS is reduced - **homocysteine can build up**. High homocysteine levels are a big risk factor for many diseases - from inflammation and heart disease to diabetes, autoimmune diseases (like psoriasis), neurological issues, cancer, and others.

CBS Genetics

The main *CBS* variant is [rs234706](#). Its minor ‘A’ allele has been associated with lower homocysteine. In pregnant women, this variant was also found to reduce the risk of preeclampsia [\[R, R\]](#).

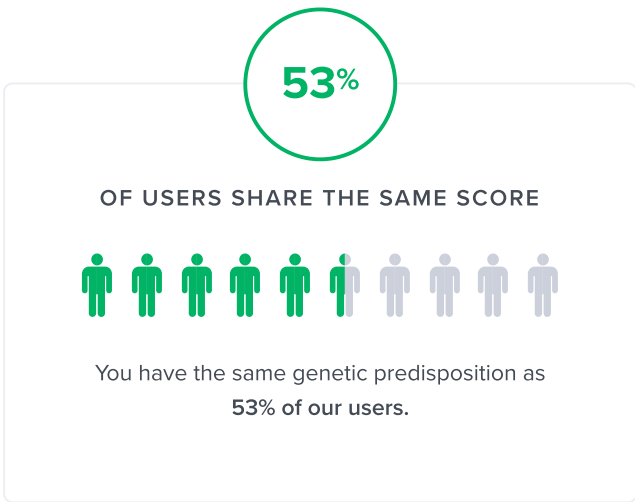
Other variants associated with lower homocysteine levels include:

- ‘T’ at [rs234709](#) [\[R\]](#)
- ‘A’ at [rs234713](#) [\[R, R\]](#)
- ‘C’ at [rs2851391](#) [\[R, R, R, R, R\]](#)



HIGHER ACTIVITY

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



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
CBS	rs234706	AG

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		DOSAGE	
1	Dietary Pyridoxine (Vitamin B6)	2	Pyridoxine (Vitamin B6) 50 mg

1



Dietary Pyridoxine (Vitamin B6)

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Increase your intake of vitamin B6 by eating more foods rich in this nutrient, such as bananas, chickpeas, tuna, salmon, chicken breast, and spinach. Aim for a balanced diet that includes these foods regularly, about 2-3 servings of B6-rich foods per day, to help meet the general daily requirement of 1.3mg for adults.

Description

Vitamin B6 is involved in over 100 enzyme reactions in the body and plays a role in brain development, immune function, and hormone regulation. It is found in foods like poultry, fish, potatoes, and bananas.

[Vitamin B6](#) (*pyridoxine*) is important for nervous and immune system health [\[R\]](#).

Good sources of vitamin B6 include [\[R\]](#):

- Poultry
- Fish
- Potatoes
- Chickpeas
- Bananas
- Fortified cereals

How it helps

The CBS enzyme participates in the so-called *transsulfuration pathway*, which uses [vitamin B6](#) to break down [homocysteine](#) [\[R\]](#).

People with methylation issues may have increased needs for B vitamins, especially folate, B12, and B6 [\[R\]](#).

Vitamin B6 helps support methylation. It’s crucial for the **transsulfuration pathway** that clears homocysteine and produces glutathione [\[R\]](#).

2



Pyridoxine (Vitamin B6)

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

Take a pyridoxine (vitamin B6) supplement daily. Requirements range from 1.3 to 1.7 milligrams per day for adults, but supplement doses usually start from 50 mg. Consult with a healthcare provider for higher doses or specific medical conditions that might benefit from increased supplementation.

TYPICAL STARTING DOSE

50 mg

Description

A **vitamin B6 supplement** of up to 1.3-1.7 mg per day can be taken to meet needs not achieved through diet. Long term supplementation of vitamin B6 can be problematic, so talk to your doctor before using.

How it helps

The CBS enzyme participates in the so-called *transsulfuration pathway*, which uses [vitamin B6](#) to break down [homocysteine](#) [R].

People with methylation issues may have increased needs for B vitamins, especially folate, B12, and B6 [R].

Vitamin B6 helps support methylation. It’s crucial for the **transsulfuration pathway** that clears homocysteine and produces glutathione [R].