

SLC30A8 (Zinc & Blood Sugar)

Gene Report

REPORT CATEGORY —



Sample Client

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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

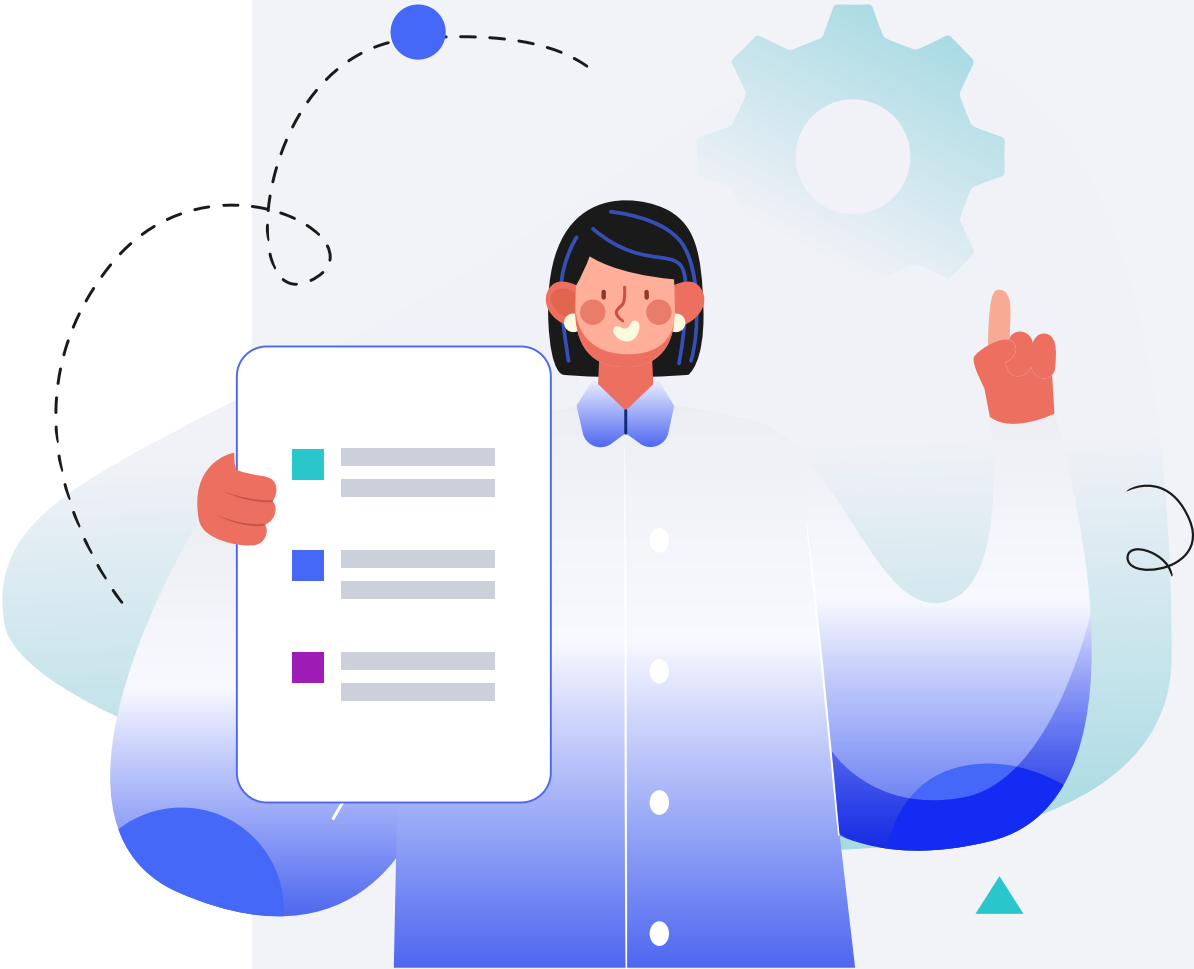
Male

HEIGHT

5ft 5" 165cm

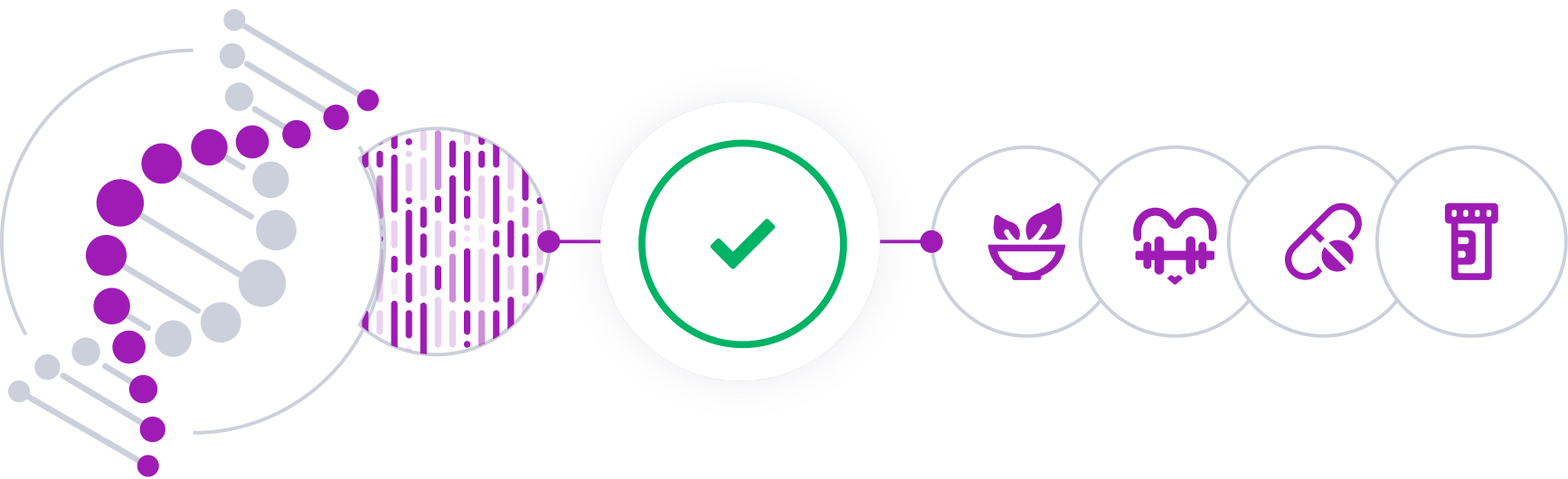
WEIGHT

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.

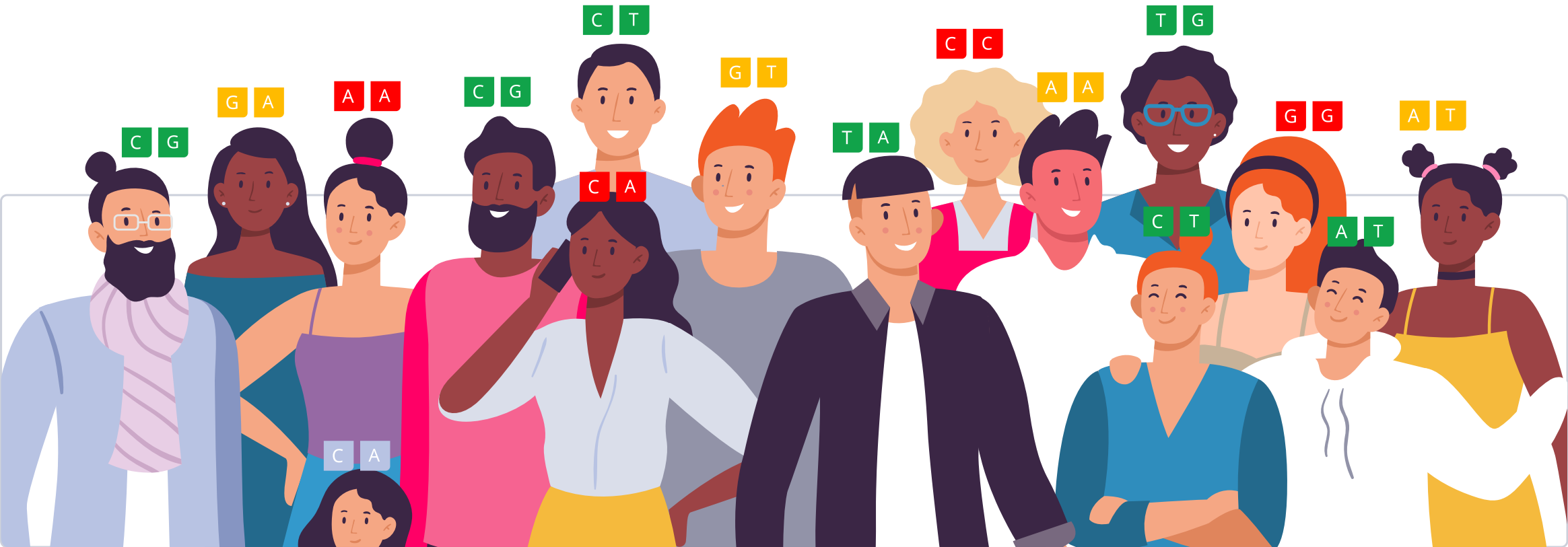


Similarly, our Trait Reports look at how your DNA influences your traits.



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

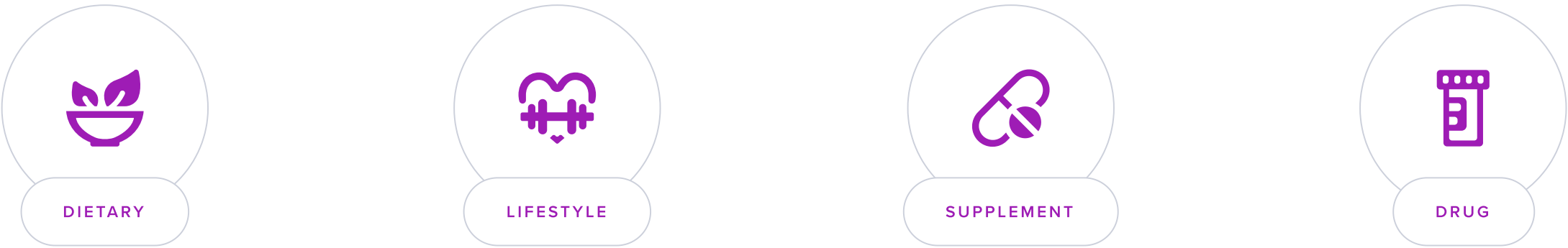
You have 2 risk alleles

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.

Introduction

[SLC30A8](#) encodes a protein called zinc transporter 8, or ZnT8, which transports zinc into cell structures responsible for making [insulin](#). ZnT8 is expressed almost exclusively in the pancreas, making it a very interesting potential target for diabetes research [\[R\]](#), [\[R\]](#).

Low blood zinc has been strongly associated with diabetes. Meta-analyses of available studies also suggest that zinc supplementation is broadly beneficial in both type 1 and type 2 diabetes. Furthermore, diabetes develops more frequently in people with low dietary zinc intake [\[R\]](#), [\[R\]](#).

Some people with type 1 diabetes develop antibodies against their own ZnT8 protein, leading to autoimmune inflammation. Autoantibodies against ZnT8 might be helpful in the diagnosis of type 1 diabetes [\[R\]](#).

One of the most studied *SLC30A8* variants is the SNP [rs13266634](#). Research suggests that the ‘C’ allele is strongly linked to impaired zinc transport and [type 2 diabetes](#) [\[R, R, R\]](#).

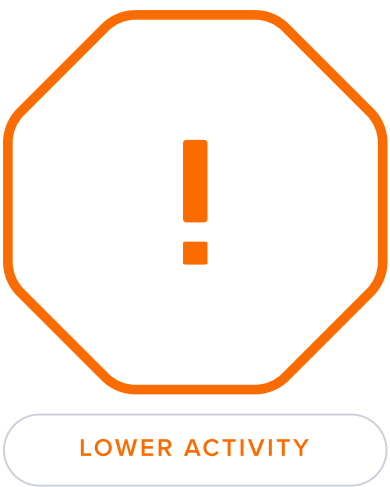
For instance, a systematic review of 39 studies including data from over 165,000 individuals found that the ‘C’ allele was associated with a higher risk of type 2 diabetes in Asian and European populations. Those carrying one ‘C’ allele had a 16.5% higher risk of this condition and those carrying two copies had a 33% higher risk compared to those without this allele [\[R\]](#).

The [rs11558471](#) polymorphism may also affect zinc transport activity and the risk of type 2 diabetes. Three studies on Chinese, Punjabi, and Malay participants concluded that the ‘A’ allele is strongly associated with a higher risk of type 2 diabetes. According to one of these studies, patients were almost twice as likely to have the ‘AA’ genotype compared to those without diabetes [\[R, R\]](#).

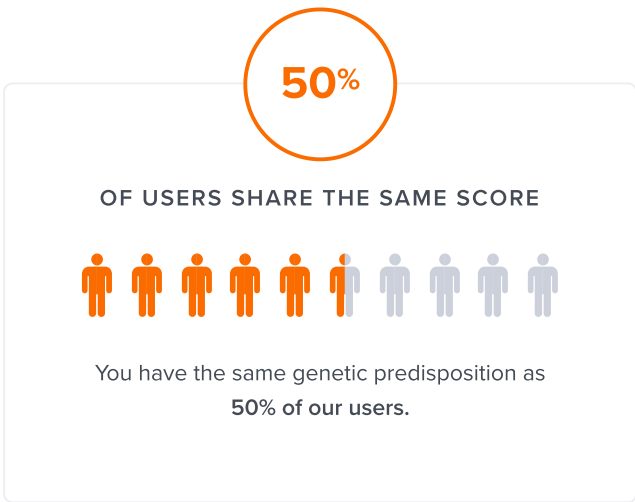
Based on a study of nearly 3,000 Chinese individuals, each copy of the ‘G’ allele of [rs3802177](#) is associated with a 17% higher risk of type 2 diabetes. The ‘G’ allele is also linked to impaired zinc transport and a higher risk of type 2 diabetes in Japanese and European groups, according to another study [\[R, R\]](#).

The three variants are usually inherited together, so you will typically carry all risk variants or none of them.

Some studies suggest that these variants reduce the effectiveness of the ZnT8 transporter. This would reduce the amount of zinc moving into insulin-producing structures. Genetic variants that decrease zinc transport activity may ultimately lead to lower insulin levels, higher [insulin resistance](#), and a higher risk of type 2 diabetes [\[R, R\]](#).



Predisposed to lower **SLC30A8** activity based on the genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
SLC30A8	rs11558471	AA
SLC30A8	rs3802177	GG

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	Exercise At Least One Hour a Day	1 hour	2	Dietary Zinc	
3	Zinc	15 mg			

1



Exercise At Least One Hour a Day

IMPACT

4 / 5

EVIDENCE

5 / 5

How to implement

Dedicate a minimum of 60 minutes to moderate-intensity activities such as brisk walking, swimming, or cycling. Do this most days of the week, aiming for at least 5 days to optimize benefits.

TYPICAL STARTING DOSE

1 hour

Description

[Exercise](#) can do wonders for your health. It can help you lose weight, improve your heart health, boost your mood, and more [\[R\]](#).

There are many ways you can be active. You can walk, run, swim, dance, or play team sports. **Everything counts, and it's never too late to start!**

Try to get at least **60 minutes of moderate physical activity on most days**, including walking. **Getting a mix of cardio (min 150 min/day) and strength training (min 2 times a week) may be optimal.**

How it helps

Exercise is a great way to control blood sugar levels. When you exercise, your muscles use up sugar for energy. Exercise also makes your cells more sensitive to insulin [\[R, R, R, R, R\]](#).

Try a mix of cardio and strength training for at least 150 min/week [\[R, R, R\]](#).

All health experts recommend exercise to reduce blood sugar levels. However, you may need to combine it with diet for optimal results [\[R, R, R, R, R\]](#).

Physical exercise increased zinc circulating in the bloodstream of diabetic rats, suggesting a potential benefit for people without the protective *SLC30A8* alleles [\[R\]](#).

2



Dietary Zinc

IMPACT

4 / 5

EVIDENCE

3 / 5

How to implement

Incorporate foods high in zinc, such as beef, poultry, seafood (especially oysters), beans, nuts, and whole grains, into your daily diet. Aim for the recommended dietary allowance of zinc, which is 11 mg per day for adult men and 8 mg per day for adult women.

Description

Dietary zinc is essential for the body. It helps our immune system fight off bacteria and viruses, plays a role in healing wounds, and is essential for our sense of taste and smell. Without enough zinc, these systems may not work as effectively as they should.

How it helps

[Zinc](#) is an essential mineral, meaning that the body gets the zinc it needs through diet or supplements [\[R\]](#).

Generally speaking, the recommended daily intake of zinc is 8 mg for women and 11 mg for men. However, there may be benefits to higher zinc levels [\[R\]](#).

One study including over 46,000 participants who had an average daily zinc intake of about 14 mg found that higher zinc intake is correlated with lower blood glucose levels [\[R\]](#).

Some foods that are rich in zinc include [\[R\]](#):

- Oysters
- Red meat
- Poultry
- Seafood

Just be aware that it is possible to consume too much zinc, which can have negative health effects. Zinc intake should not exceed 40 mg each day unless directed by a doctor [\[R\]](#).

3



Zinc

IMPACT

4 / 5

EVIDENCE

3 / 5

How to implement

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

TYPICAL STARTING DOSE

15 mg

Description

Zinc is an essential mineral found in various foods, including meat, dairy, and nuts. It is crucial for immune function, wound healing, DNA synthesis, and maintaining healthy skin and nails. Zinc supplements are sometimes used to support immune health and manage zinc deficiencies.

[Zinc](#) is an essential mineral. Your body needs it to [\[R\]](#), [\[R\]](#):

- Defend against disease
- Protect DNA from damage
- Heal wounds
- Control blood sugar

Some of the best sources of zinc include **shellfish, pork, beef, and beans**. It is also available as a supplement [\[R\]](#).

Adults should get **8-11 mg of zinc** per day [\[R\]](#).

How it helps

In some people, the pancreas produces too much insulin, which can lead to insulin resistance. **Zinc may be able to prevent this and protect the pancreas from damage** [\[R\]](#), [\[R\]](#).

Zinc-deficient people are more likely to have high blood sugar [\[R\]](#).

Supplementing with zinc (25-34 mg/day) may reduce blood sugar. It may also lower the odds of type 2 diabetes [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

 PERSONALIZED TO YOUR GENES

Your [SLC30A8](#) gene variant has been associated with increased blood glucose levels. Supplementation with zinc may be particularly effective at counteracting its detrimental effects [\[R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
SLC30A8	rs11558471	AA	

Next Steps

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

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

Your lab results

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

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

	HbA1c	30 mmol/mol		29 Dec 2025
	Glucose, Fasting	97 mg/dL		9 Nov 2025
	HbA1c (%)	4 %		29 Dec 2025