

Shrimp Allergy

DNA Health Report

REPORT CATEGORIES —



ALLERGIES



FOOD SENSITIVITIES

Sample Client

Report date: 15 January 2026

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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

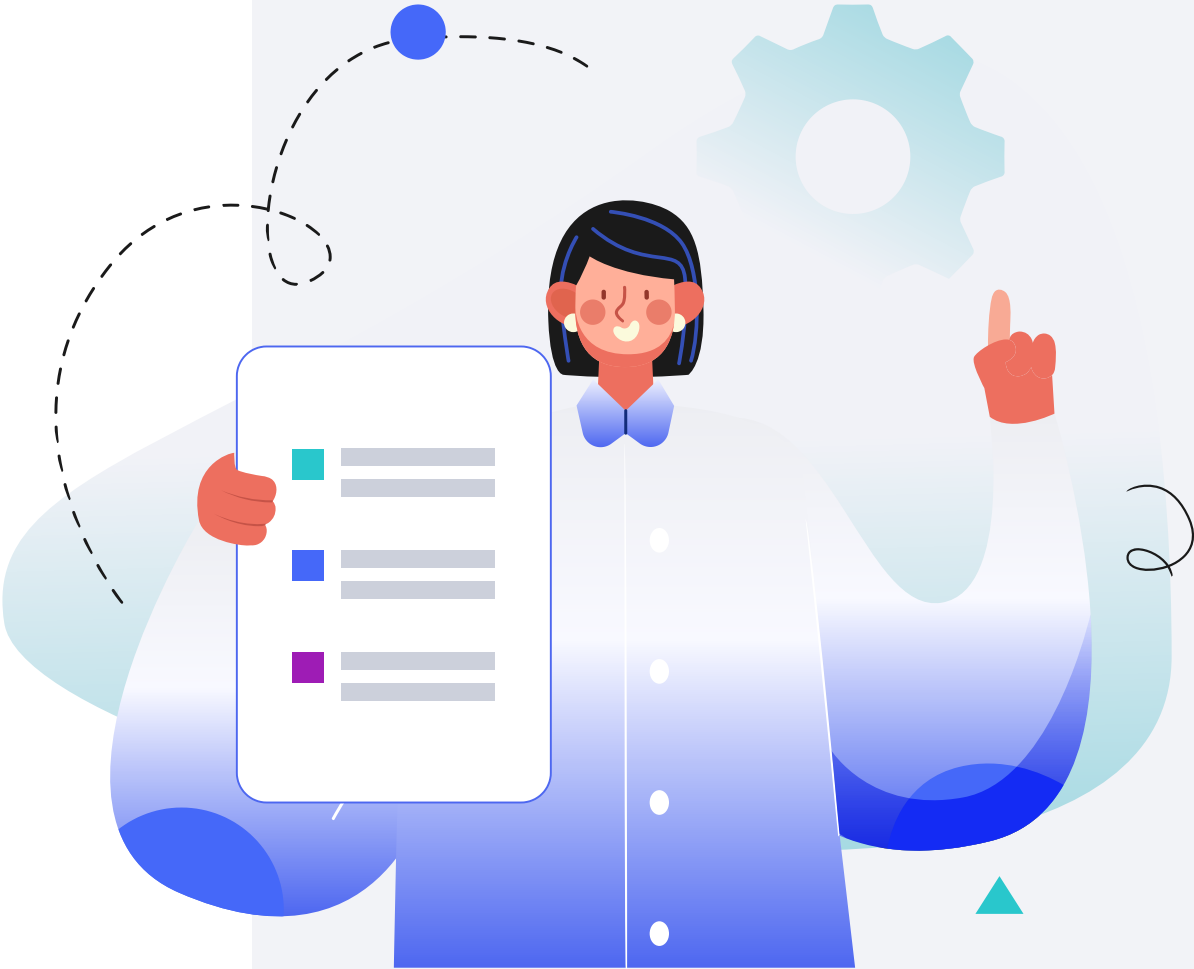
Male

HEIGHT

5ft 5" 165cm

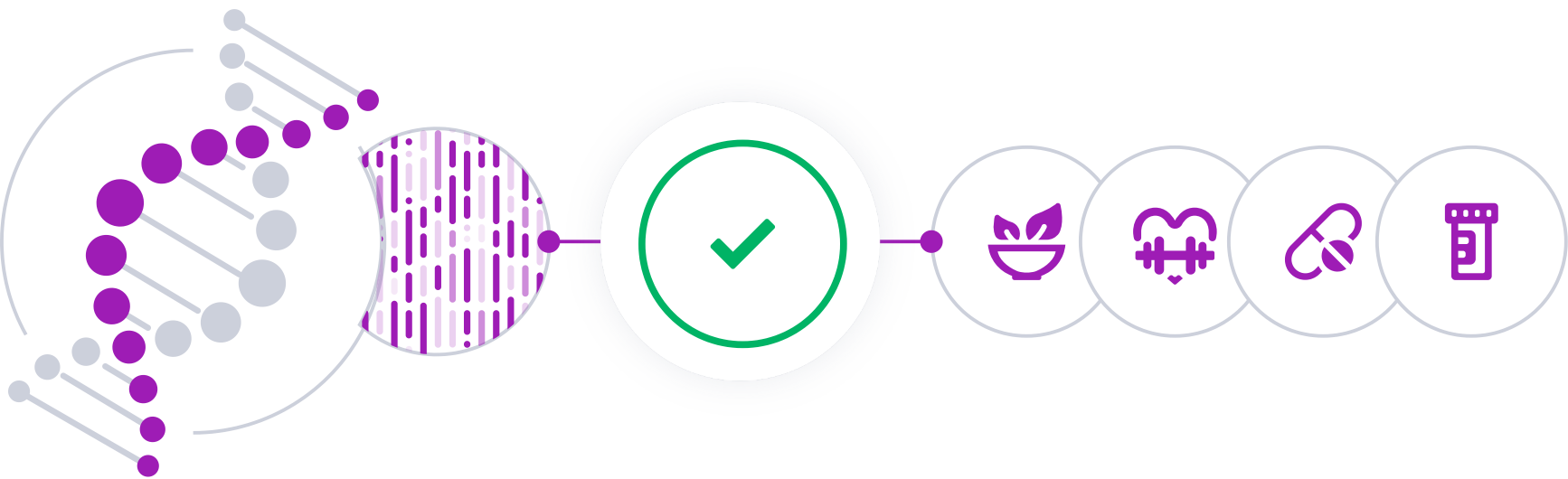
WEIGHT

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.

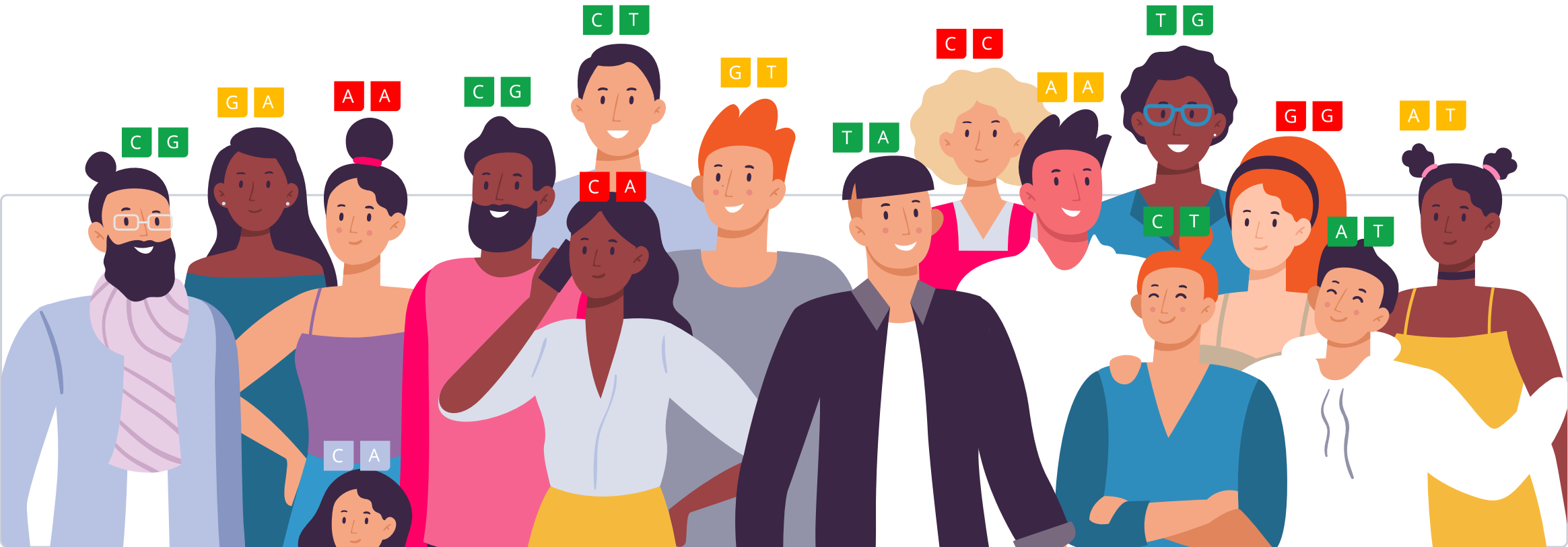


Similarly, our Trait Reports look at how your DNA influences your traits.



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

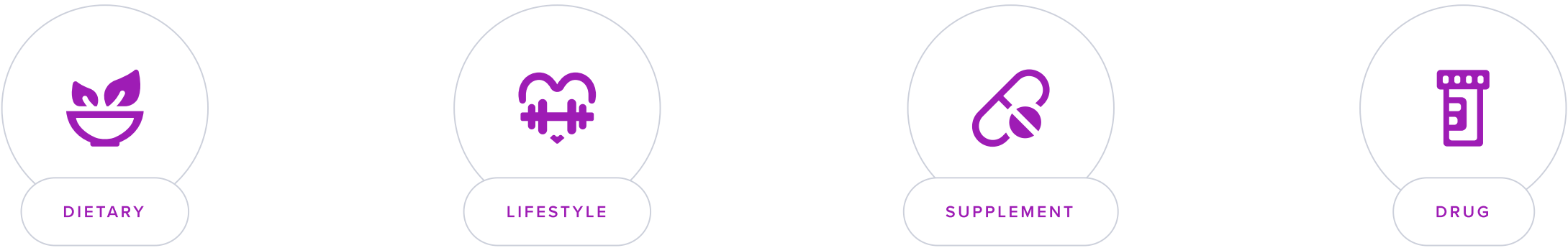
You have 2 risk alleles

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

Shrimp allergy is an immune response to proteins found in shrimp. When someone is allergic to shrimp, their immune system mistakenly identifies the shrimp proteins as harmful invaders and responds accordingly.

Symptoms of an allergic reaction to shrimp can include [\[R\]](#):

- Hives
- Itchy, irritated skin
- Nasal stuffiness (congestion)
- Swelling of the lips, face, tongue and throat, or other parts of the body
- Wheezing or trouble breathing
- Coughing and choking or a tight feeling in the throat
- Belly pain, diarrhea, nausea, or vomiting
- Dizziness, lightheadedness, or fainting
- Anaphylaxis (potentially life-threatening)

Shrimp allergy is pretty common, affecting about **6.6 million people** (children and adults) in the US. Some of them are also allergic to other types of **shellfish** (e.g., crabs, lobster) [\[R\]](#).

Genetics and Management

Key Takeaways:

- Shrimp allergy is pretty common, affecting about **6.6 million** people in the US.
- It's most common among **young adults**.
- About **55%** of the differences in people's shellfish allergy rates may be due to genetics.
- Click the **Recommendations** tab for potential dietary and lifestyle changes.

About 55% of the differences in people's shellfish allergy rates may be due to genetics. Involved genes impact the immune system [\[R\]](#).

While it's possible to develop a shrimp allergy at almost any age, it is most likely to occur in young adulthood. It is less common in children and older adults.

There is no cure for shrimp allergy, but some children can outgrow it. The best way to prevent a reaction is to avoid shrimp and shrimp-containing foods. Treatment for allergic reactions may involve medication to manage symptoms and prevent anaphylaxis [\[R\]](#).



TYPICAL LIKELIHOOD

Typical likelihood of having shrimp allergy based on 37 genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
HLA-DRB5	rs3021304	GG
TAF5A	rs133693	AA
HLA-DQA2	rs6415128	AG
MICA	rs34682804	TC
HLA-DQA2	rs9275511	AG
FGF1	rs34019	TC
HLA-DQB1	rs2856718	TC
/	rs59110815	CC
/	rs112512531	CC
/	rs112245362	GG
TSBP1	rs114365500	AA
TSBP1	rs117850564	GG
NOTCH4	rs74753673	CC
TNXB	rs117040717	TT
HLA-DRA	rs12175332	CC
HLA-DQB1	rs7754496	AA
HLA-DQB1	rs112032264	GG
HLA-DQB1	rs149005483	AA
TNXB	rs58478632	GG
C4B	rs561150837	GG
ATF6B	rs4959087	GG
TNXB	rs2075565	CC
/	rs17204659	CC
/	rs373001675	GG

GENE	SNP	GENOTYPE
HLA-DRB5	rs58103245	CC
HLA-DRB5	rs3817979	GG
/	rs142132506	AA
HLA-DRB5	rs118131405	GG
HLA-DRB5	rs117886263	AA
POU5F1	rs7766461	CC
/	rs80354461	TT
/	rs556317932	AA
HLA-DRB5	rs9380293	CC
TNXB	rs1559870	AA
TNXB	rs491870	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.

- 1

Check For Shrimp Allergy
- 2

Check For Shellfish Allergy
- 3

Avoid Glucosamine Supplements
- 4

Avoid Raw Seafood

How to implement

Description

How it helps

Shrimp allergens show very high cross-reactivity with those of other shellfish like crabs or lobsters. People who are allergic to shrimps typically need to avoid these other shellfish as well. Subjects allergic to shrimps may also react to inhalative allergens such as dust mites and cockroaches due to cross-reactivity [R].

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Avoid Glucosamine Supplements

IMPACT

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EVIDENCE

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How to implement

Do not purchase or consume any supplements that list glucosamine as an ingredient. This includes avoiding both oral supplements in the form of pills, powders, or liquids and any other products that may contain glucosamine.

Description

Avoiding excessive glucosamine supplementation can help prevent potential side effects and interactions with medications, promoting safe and effective joint health management.

How it helps

Glucosamine is often sourced from shellfish, including shrimp. If you are allergic to shrimp, you could have a serious reaction to supplements that contain glucosamine.

4



Avoid Raw Seafood

IMPACT

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EVIDENCE

2 / 5

How to implement

Do not consume seafood that is uncooked or undercooked, including sushi, sashimi, ceviche, and raw oysters. Always ensure that seafood is cooked to an internal temperature of 145 degrees Fahrenheit before eating. Practice this avoidance consistently to reduce the risk of foodborne illnesses.

Description

Avoiding the consumption of raw seafood is recommended to reduce the risk of foodborne illnesses, including bacterial and parasitic infections such as salmonella.

Seafood is a healthy source of protein and essential nutrients such as omega-3 fatty acids and vitamins. Fish and shellfish are also low in saturated fat and cholesterol, making them a good choice for a balanced diet.

However, eating raw seafood can be dangerous as it may contain toxins and harmful germs that can cause food poisoning. Eating raw fish or shellfish, such as sushi or oysters, can increase the risk of food-borne illnesses such as **anisakiasis and salmonella infection**.

Make sure to cook seafood properly to reduce the risk of food poisoning.

How it helps

Fish and shellfish contain powerful allergens, and exposure can occur through ingestion, inhalation, or skin contact, especially when raw [\[R\]](#).

A common allergen in shellfish, tropomyosin, is similar to proteins found in dust mites and cockroaches, complicating the allergic response [\[R\]](#).

Anisakis simplex, a fish parasite, represents a common hidden allergen, especially in raw and undercooked fish dishes. It may lead to anisakiasis, which mimics true seafood allergies [\[R\]](#).

Next Steps

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

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

Your lab results

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

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