

Ghrelin

Biohacker Report

REPORT CATEGORY —



WEIGHT & BODY FAT

Sample Client

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Personal information

NAME

Sample Client

SEX AT BIRTH

Male

HEIGHT

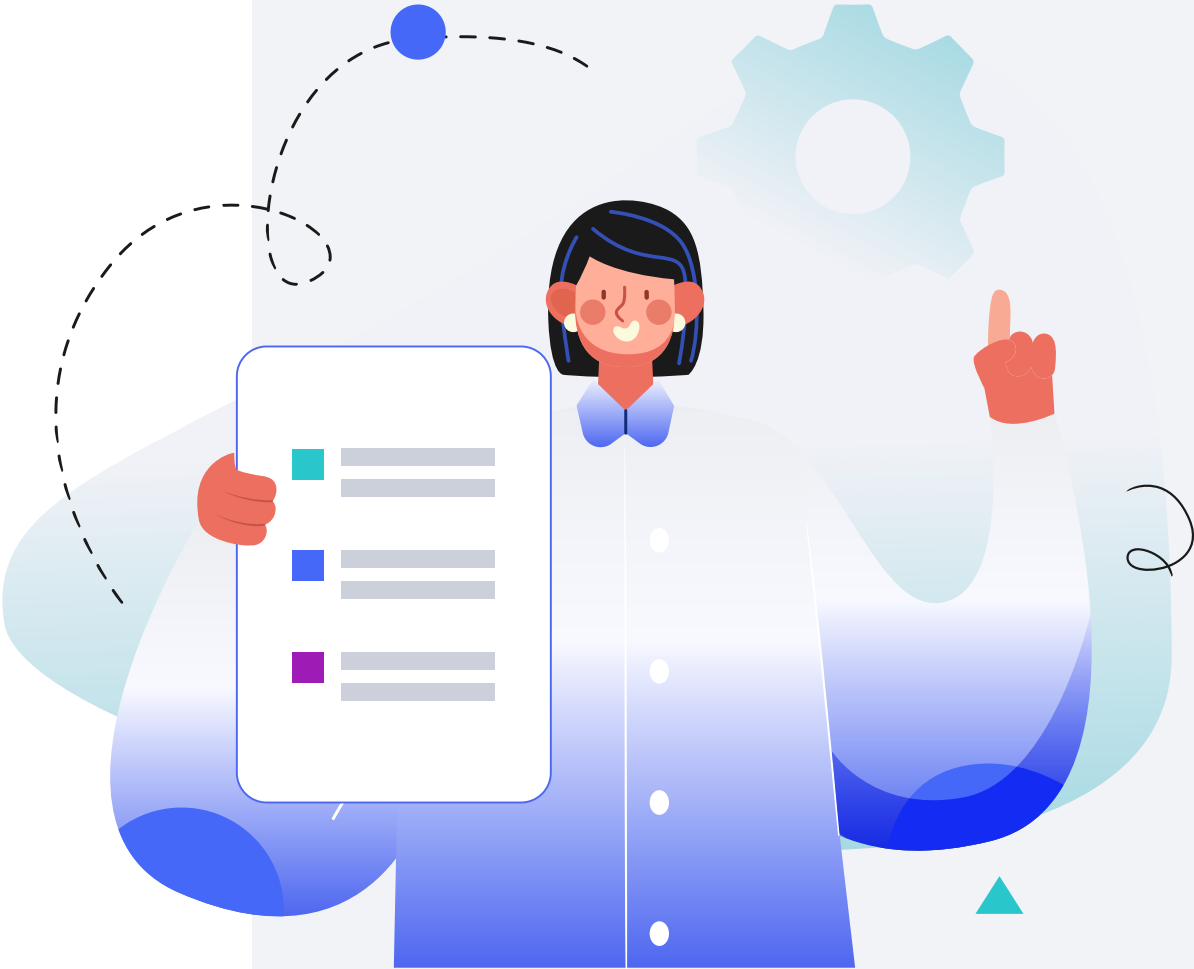
5ft 5" 165cm

WEIGHT

137lb 62kg

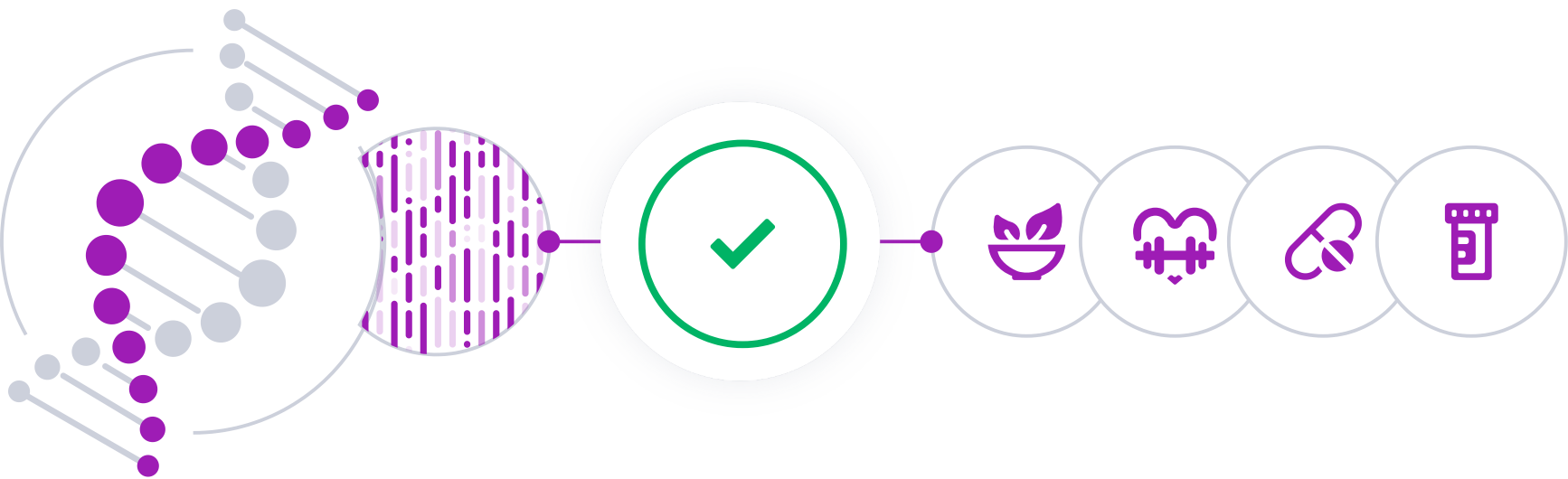
DISCLAIMER

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.

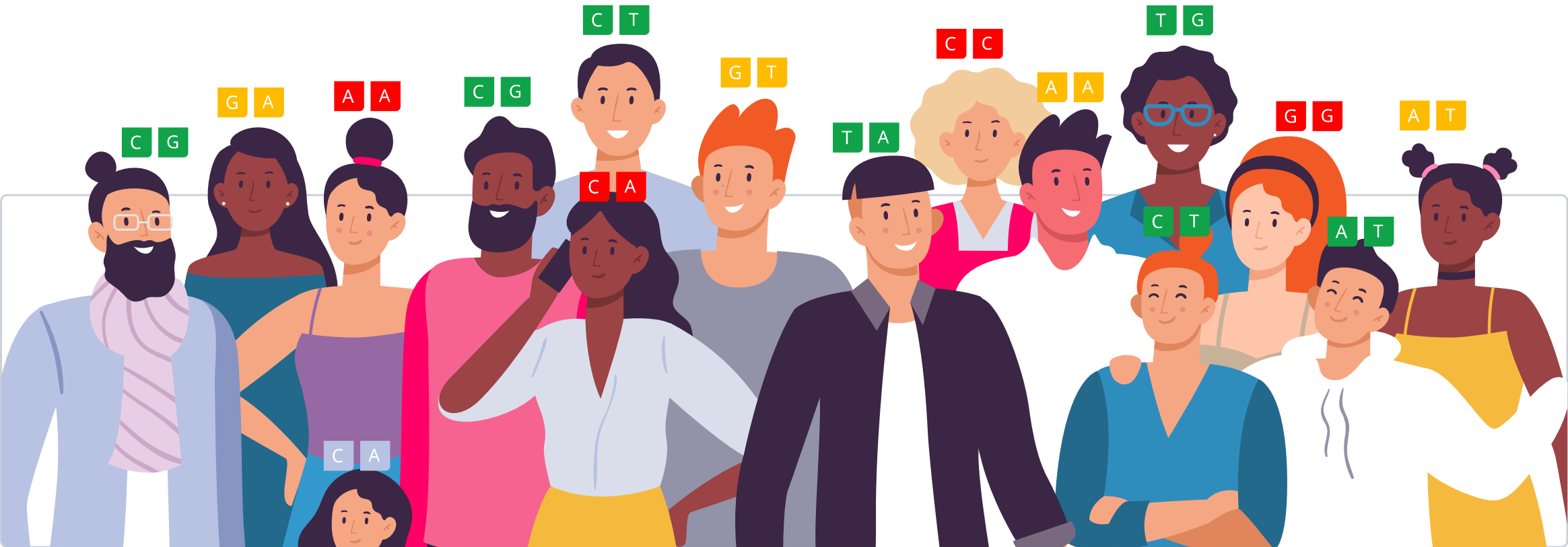


Similarly, our Trait Reports look at how your DNA influences your traits.



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.

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

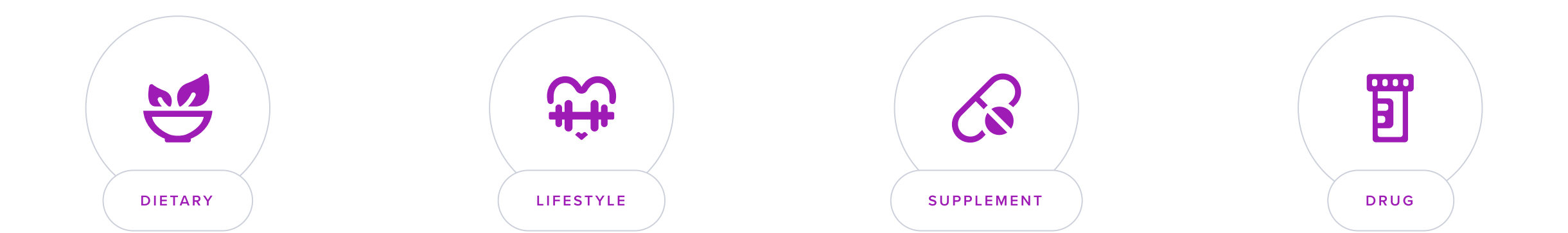
You have 2 risk alleles

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

[Ghrelin](#) is a hormone mainly produced by the stomach. Smaller amounts are also produced by other organs [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Ghrelin is considered the “hunger hormone” because it stimulates appetite, promotes eating, and increases fat storage [\[R\]](#), [\[R\]](#).

Ghrelin also plays important roles in [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Immunity
- Muscle growth
- Brain health

Factors Influencing Ghrelin Levels

Ghrelin is a hormone mainly produced by the stomach. Ghrelin is considered the “hunger hormone” because it stimulates appetite, promotes eating, and increases fat storage. It also plays important roles in immunity, muscle growth, and brain health [R, R, R, R].

Genetics may influence ghrelin levels. For example, variants of the **GHRL** gene, which helps produce ghrelin, are linked to lower ghrelin levels [R].

Several other factors may change ghrelin levels, including [R, R, R, R]:

- **Time of the day:** Ghrelin levels are higher at night and lower during the day
- **Food intake:** Ghrelin is highest when the stomach is empty and lowest after a meal
- **Type of meals:** Carbohydrate-rich meals lower ghrelin levels the most, followed by fat-rich meals and high-protein meals

Although counterintuitive, **obese people may have lower levels of hunger hormone** than lean people. However, after a meal, ghrelin levels in obese people seem to drop less, which may keep them hungry. Research on this matter is still ongoing [R, R, R, R].

Other health conditions linked to **low ghrelin levels** include:

- Type 2 diabetes [R]
- Hyperthyroidism (overactive thyroid) [R]
- Gastritis due to *Helicobacter pylori* infection [R]
- Stomach surgery [R, R]

High ghrelin levels may result from sleep deprivation and chronic stress. People with **anorexia may also have high levels of hunger hormone** but be less sensitive to it than healthy people. Other health conditions linked to high ghrelin levels include [R, R, R, R, R]:

- Lung disease [R]



Predisposed to typical ghrelin levels based on 28 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
GHRL	rs34911341	CC
BRK1	rs143729751	GG
ATP2B2	rs150429746	CC
ATP2B2	rs56284847	CC
ATP2B2	rs34892	AA
ATP2B2	rs34884	CC
SEC13	rs4684040	AA
BRK1	rs111796905	AG
TATDN2	rs173359	GA
TATDN2	rs168529	AG
GHRL	rs35680	CT
GHRL		

- Rare genetic disorders [\[R\]](#)

Keep in mind that this report is not about the rare genetic disorders mentioned above. They are very rare and usually diagnosed in infancy.

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	Glucomannan	3 g	2	White Kidney Bean Extract	500 mg

1



Glucomannan

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take 1 gram of glucomannan powder with 8 ounces of water, 15 minutes to 1 hour before each meal, three times daily. It's essential to drink plenty of water when taking glucomannan to ensure it reaches the stomach and expands, helping to promote a feeling of fullness.

TYPICAL STARTING DOSE

3 g

Description

Glucomannan is a dietary fiber derived from the root of the konjac plant and is often used as a weight loss supplement. It may promote feelings of fullness and support weight management when used in conjunction with a balanced diet.

How it helps

In a non-placebo-controlled trial of 80 patients with type 2 diabetes, a single (1 g) dose of glucomannan before an oral glucose tolerance test prevented the rise in ghrelin levels. Supplementation for 4 weeks before meals attenuated rises in fasting ghrelin levels [\[R\]](#).

2



White Kidney Bean Extract

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take a supplement containing 500 to 1500 mg of white kidney bean extract before meals containing carbohydrates, once to twice daily. It's advisable to start with the lower dose to assess tolerance and gradually increase to the desired dose as directed on the product label or by a healthcare provider.

TYPICAL STARTING DOSE

500 mg

Description

White kidney bean extract contains compounds that inhibit the digestion of carbohydrates, potentially supporting weight management by reducing the absorption of calories from starchy foods.

[White kidney bean](#) is a variety of the common bean (*Phaseolus vulgaris*), which is native to South America. People use the extract of white kidney bean to [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Decrease appetite
- Support weight loss

How it helps

The white kidney bean extract Bean

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.