SelfDecode™

TAS2R38 (Bitter Taste Perception)

Gene Report

REPORT CATEGORY

NUTRITION

Sample Client

Report date: 15 January 2026

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Personal information

NAME

Sample Client

SEX AT BIRTH

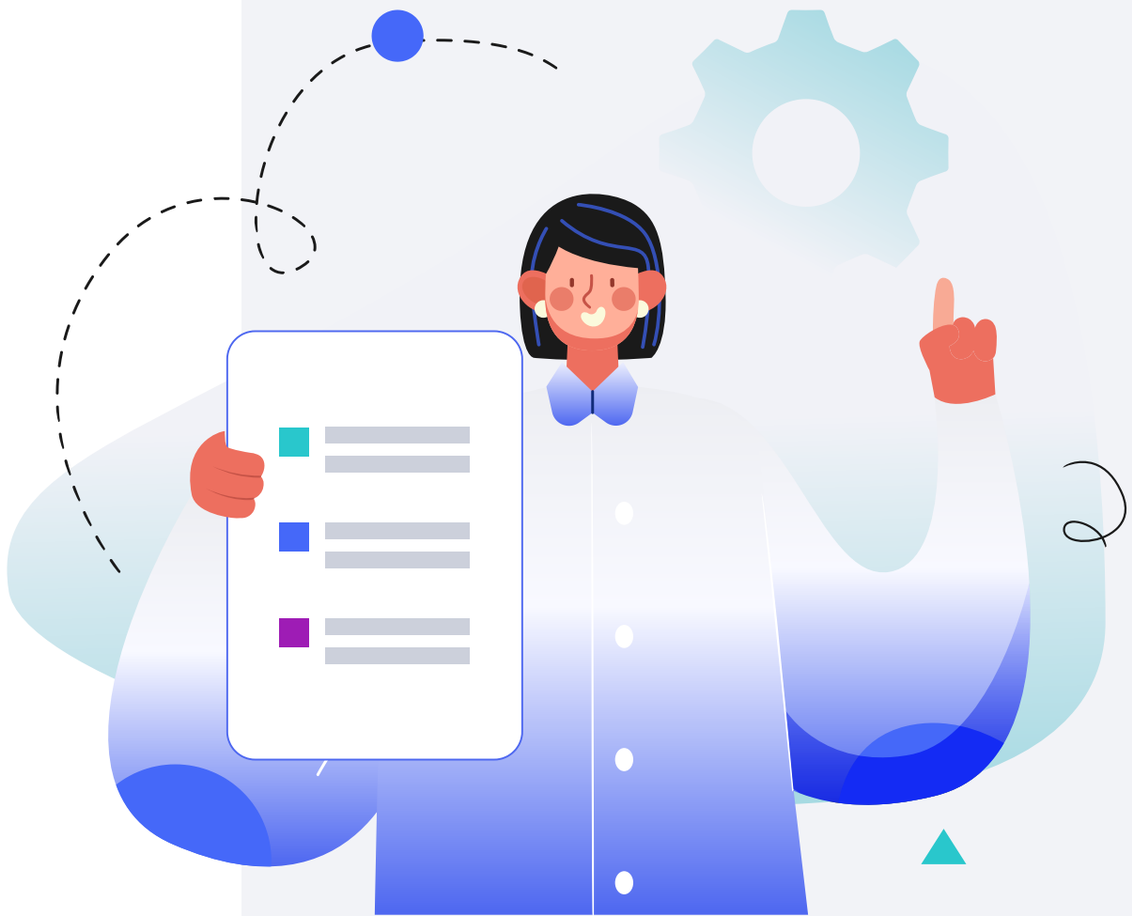
Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg

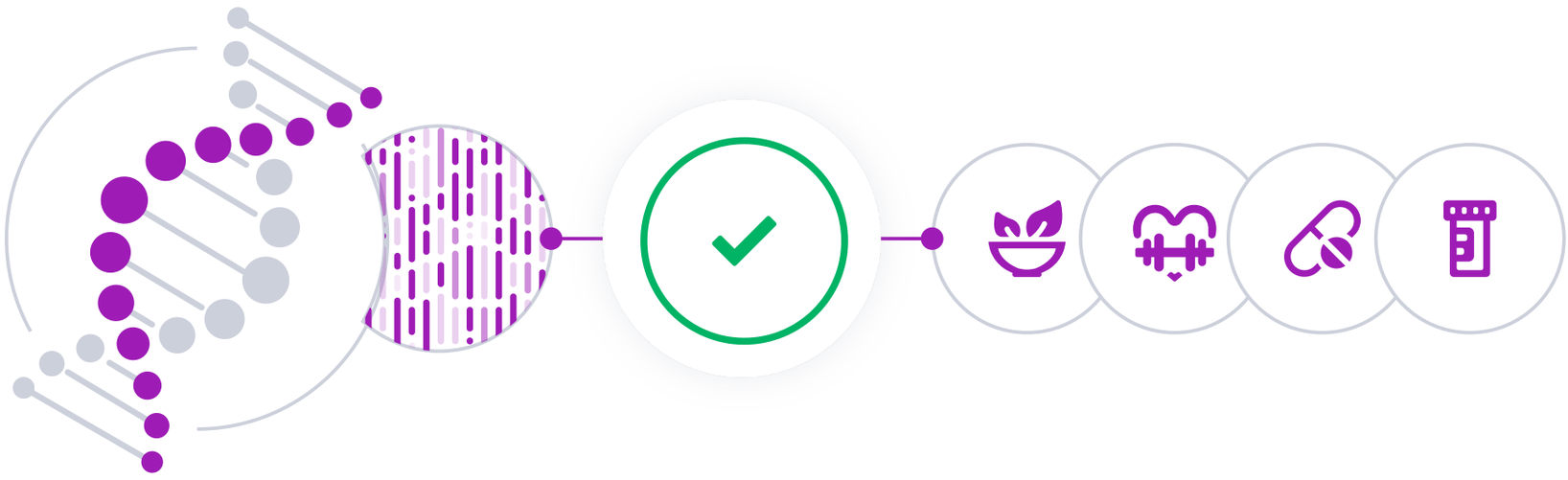


DISCLAIMER

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

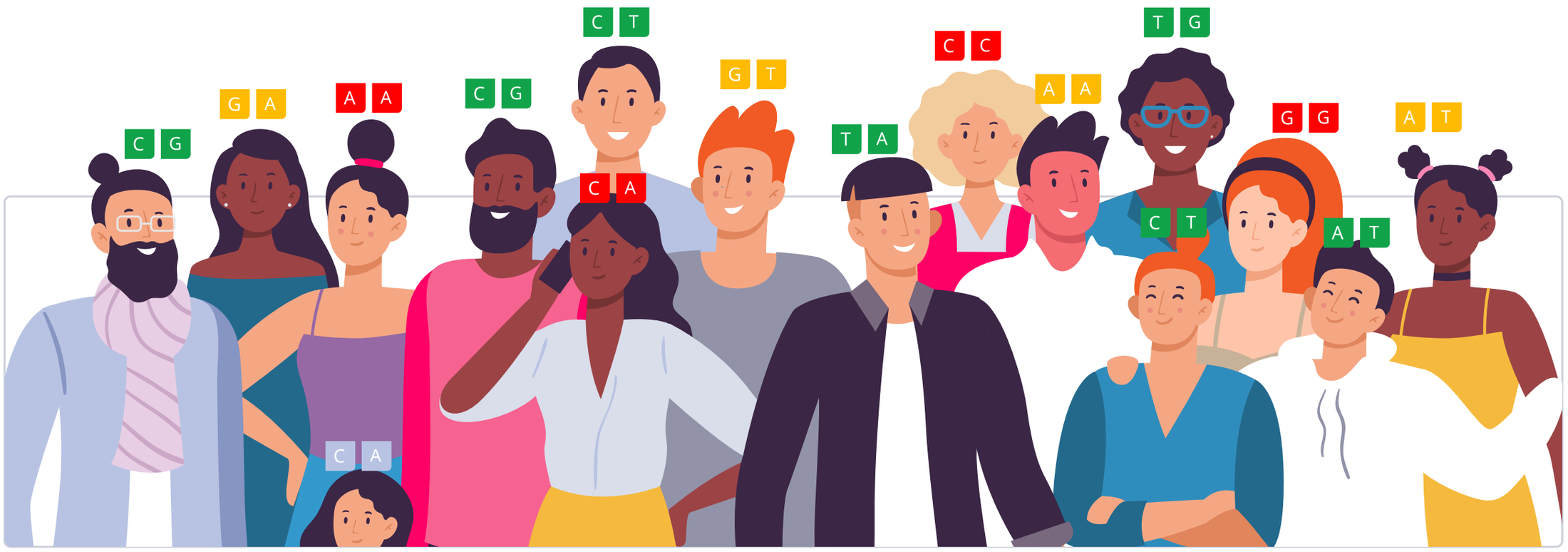
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



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.

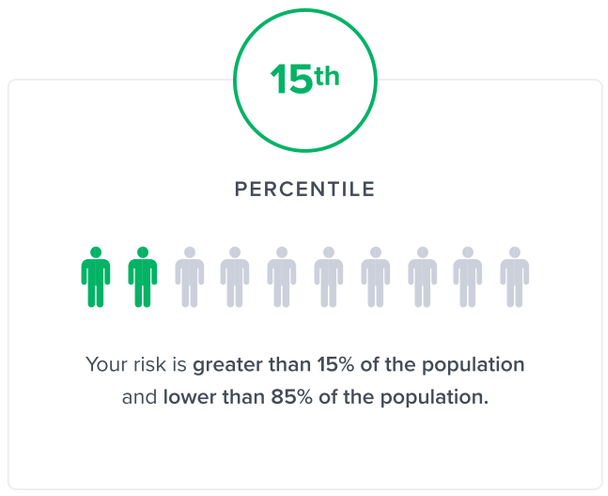
Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



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.



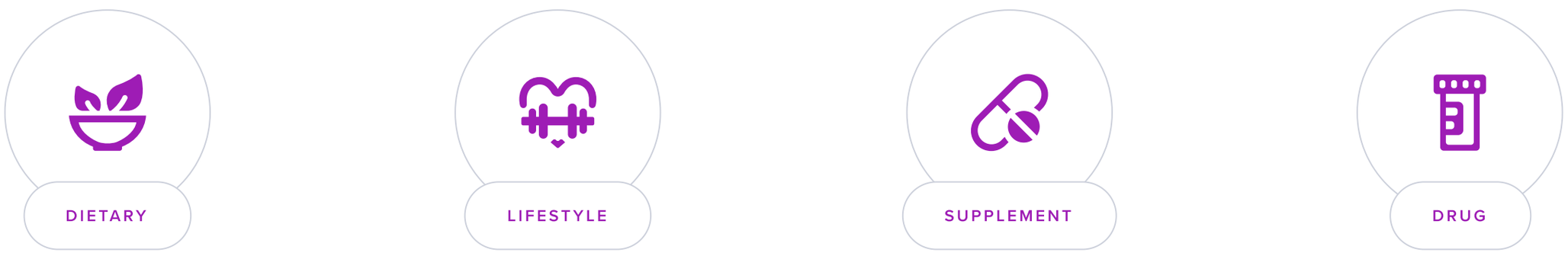
Genotype color info:	AA You don't have any risk alleles	AA You have 1 risk allele	AA You have 2 risk alleles

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

TAS2R38, short for taste receptor type 2 member 38, encodes one of the 25 taste receptors that detect bitterness. It is responsible for tasting the bitterness of foods like cabbage and raw broccoli, or drinks like coffee and dark beers [R, R].

Bitter taste is one of the major reasons for accepting or rejecting different foods. So it's not surprising that mutations in this gene have been linked to higher or lower intakes of cruciferous vegetables, coffee, beer, and wine. Some studies also suggest TAS2R38 may account for one's preference for sweet foods over bitter ones [R, R, R, R, R, R, R].

Interestingly, researchers found that these receptors are also found in the brain, lungs, gut, and thyroid, where they probably play roles unrelated to diet [R, R].

TAS2R38 Genetics and Taste Perception

There are three main variants in the *TAS2R38* gene that are "linked", which means they are often inherited together:

- rs713598: where 'G' is the "taster" and 'C' is the "non-taster"
- rs1726866: where 'G' is the "taster" and 'A' is the "non-taster"
- rs10246939: where 'C' is the "taster" and 'T' is the "non-taster"

These variants account for up to 85% of individual differences in the perception of bitterness [R]!

People who have two copies of the "taster" variant in each of these SNPs ('GG' for rs713598 + 'GG' for rs1726866 + 'CC' for rs10246939) are considered "super-tasters" [R, R, R].

On the other hand, people with two copies of the "non-taster" variant for each SNP ('CC' for rs713598 + 'AA' for rs1726866 + 'TT' for rs10246939) are considered "non-tasters" and are about 80% likely to not taste the bitterness of specific foods [R, R, R]. This doesn't mean they don't taste bitterness at all; it means they have a lower sensitivity to it.

You may fall somewhere in between, in which case you'd have intermediate sensitivity to bitterness [R].

In addition to lower sensitivity to bitterness, non-tasters may have:

- Higher tendency to overeat or eat calorie-dense foods [R, R, R]
- Increased body weight and risk of obesity [R, R, R]

INTERMEDIATE ACTIVITY

Likely intermediate TAS2R38 activity based on the genetic variants we looked at

45%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **45% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
TAS2R38	rs713598	GC
TAS2R38	rs1726866	GA
TAS2R38	rs10246939	CT

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 **Avoid Overeating**

1

Avoid Overeating

IMPACT 3 / 5

EVIDENCE 3 / 5

How to implement

Consume meals slowly, taking time to chew your food thoroughly and pausing between bites to allow your body to signal when it is full. Aim to stop eating when you feel about 80% full rather than waiting until you feel uncomfortably full. Implement this practice at every meal and snack, making it a consistent part of your daily eating habits.

Description

People who overeat take in more food than their body needs. Overeating may contribute to obesity and diabetes, as well as digestive and sleep problems.

People who overeat take in more food than their body needs.

Overeating may contribute to [R, R, R, R]:

- Obesity
- Diabetes
- Digestive problems
- Sleep problems

How it helps

To promote weight loss, experts recommend lowering your calorie intake by 30% of your daily requirement [R, R].

Eating fewer calories and intermittent fasting may support short-term weight loss equally. On the other hand, people who eat fewer calories may maintain their weight loss better in the long run [R, R, R, R, R, R].

Studies suggest that sensing bitterness may affect how much we eat. If you are a non-taster of bitter foods, pay attention to the size of your meals. Avoid overeating by being mindful of your meal portions [R].