SelfDecode™

Caffeine Sensitivity

DNA Health Report

REPORT CATEGORY

NUTRITION

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

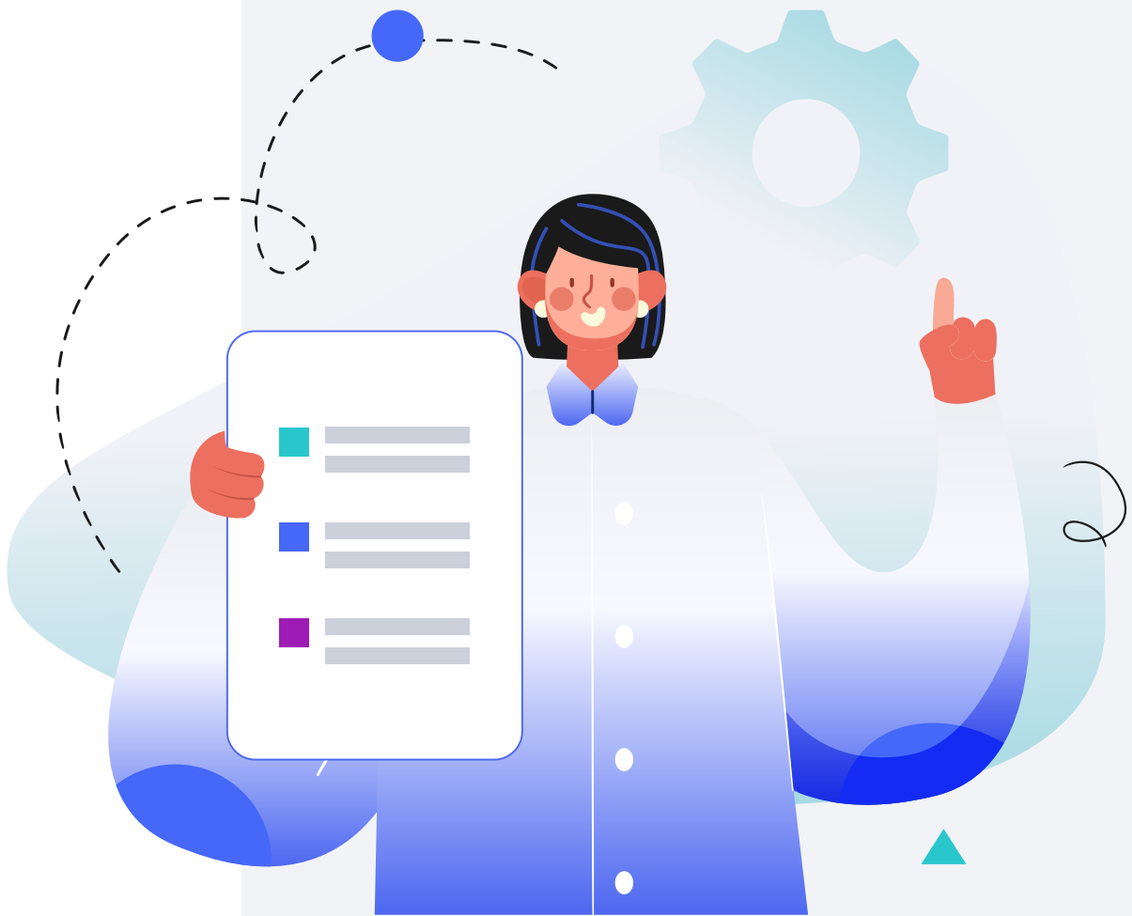
Male

HEIGHT

5ft 5" 165cm

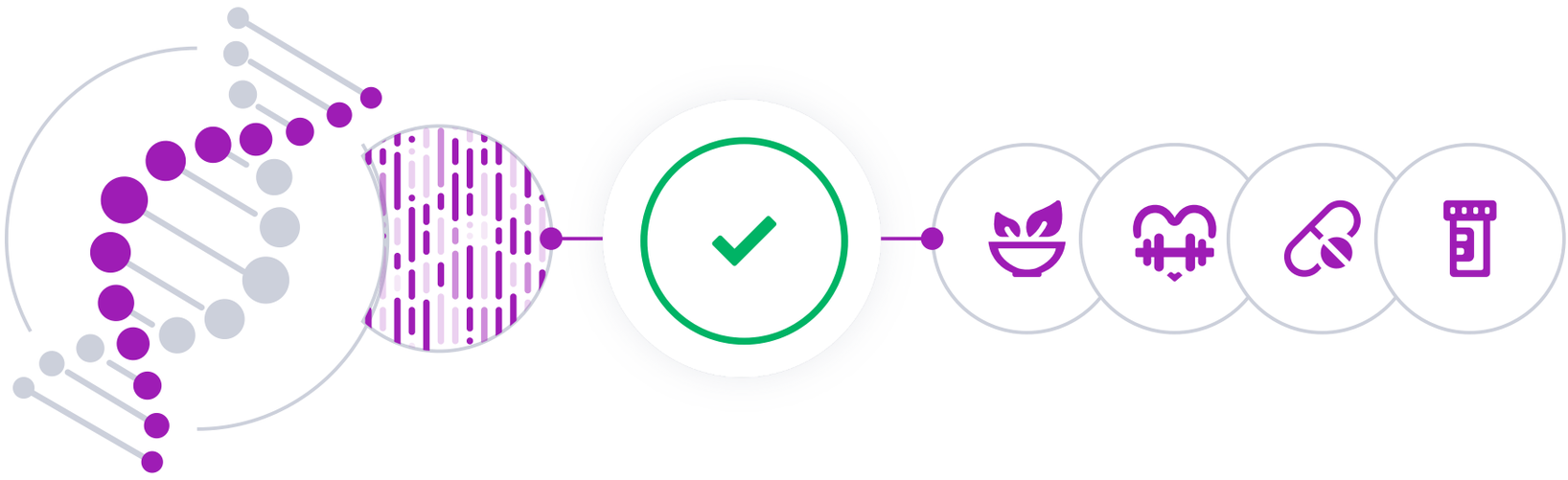
WEIGHT

137lb 62kg



How this works

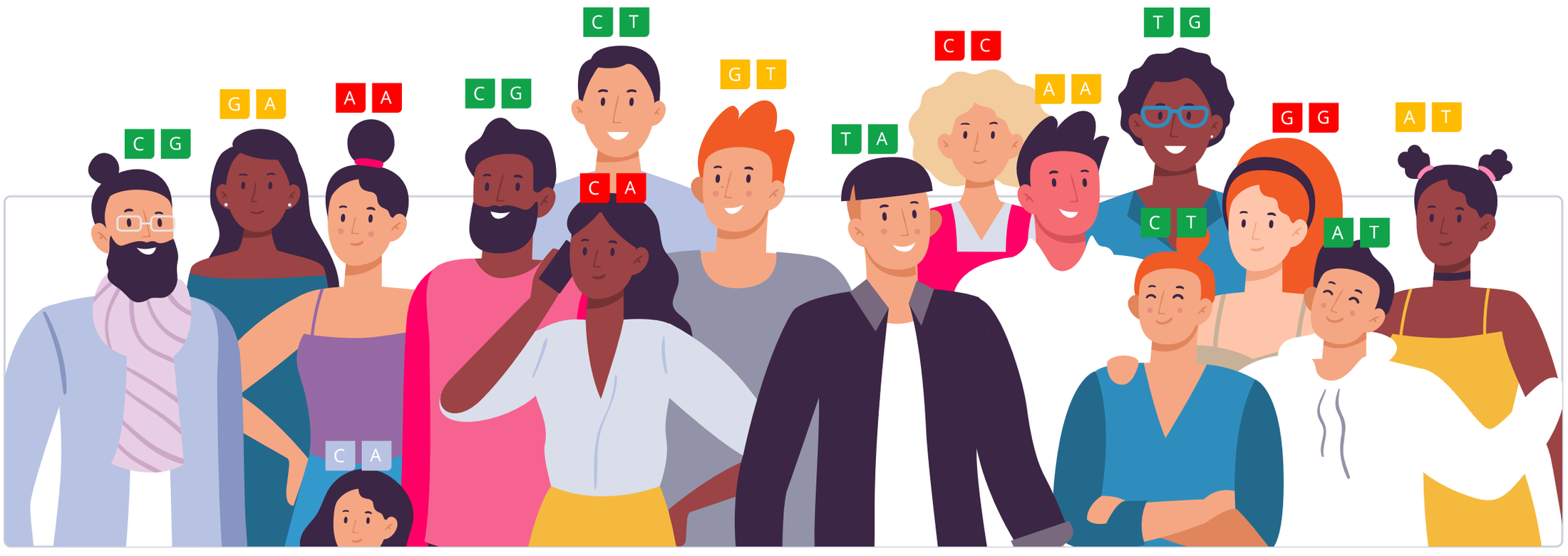
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



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.

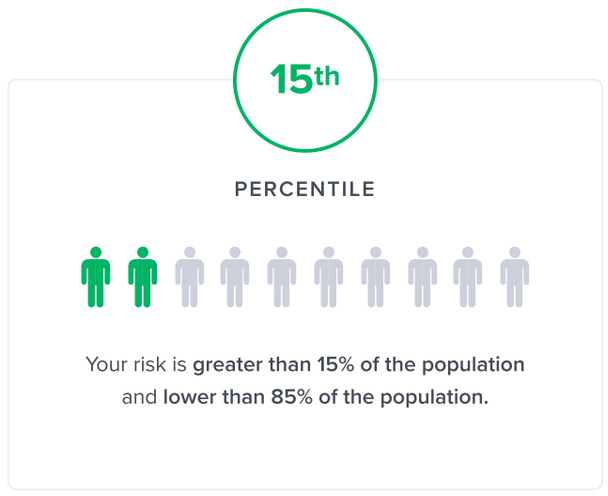
Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



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.

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

Caffeine is a widely consumed stimulant that affects each person differently, largely due to genetic factors. While a small dose can **boost energy, focus, and mood**, excessive caffeine can lead to symptoms like **jitters, insomnia, and anxiety** [R, R, R, R].

The body metabolizes caffeine at different rates, influenced by specific genes that control how quickly caffeine is broken down and cleared. For some, caffeine's effects wear off rapidly, allowing them to consume more without issues, while others experience prolonged stimulation and sensitivity even with moderate intake [R, R].

Knowing how your body processes caffeine can guide you in choosing the right amount to enjoy its benefits while avoiding unwanted side effects.

Genetics

PERSONALIZED TO GENES

Based on the variants we looked at, you are predisposed to lower caffeine sensitivity. You may tolerate caffeine well, but it may still be a good idea to keep your intake in moderation. However, regular caffeine consumption, body weight, medications, liver function, and tolerance development all influence how you respond to caffeine.

Genetic variants may explain about **70%** of the difference in caffeine sensitivity [R, R]. Genes associated with caffeine sensitivity impact how quickly caffeine is broken down and the strength of its effects in different parts of the body.

The **CYP1A2 gene** is a **key enzyme responsible for caffeine breakdown**. The **rs762551** variant (-163 A>C) determines whether someone is a “fast” or “slow” caffeine metabolizer. Carriers of the “C” allele are slow metabolisers. This means they caffeine stays in their body for a longer time, increasing their caffeine sensitivity [R, R, R, R].

Other notable genes and variants include:

- **AHR (rs4410790)**: The AHR gene regulates the expression of **CYP1A2**, mentioned above. Certain variants at AHR slow down caffeine metabolism, prolonging the effects caffeine has on the body [R].
- **ADORA2A (rs5751876)**: This ADORA2A gene encodes the adenosine A2A receptor, a primary target of caffeine in the brain. Caffeine may make those with the “T” variant more anxious, especially women. Interestingly, this variant seems to have the opposite effects on sleep problems (“C” carriers may be more affected) [R, R, R, R].
- **COMT (rs4680)**: The COMT gene is involved in the breakdown of the neurotransmitter dopamine. The rs4680 variant (Val158Met G>A) may increase sensitivity to both positive and negative effects of caffeine [R].
- **NAT2 (R/S, rs1495741)**: NAT2 helps break down various substances, including caffeine. Individuals with a “slow” acetylator status in the NAT2 gene may break

LOWER

Predisposed to lower caffeine sensitivity based on 5 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
AHR	rs4410790	TC
ADORA2A	rs5751876	CT
NAT2	rs1495741	GA
COMT	rs4680	AG
CYP1A2	rs762551	AA

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

down caffeine more slowly, leading to prolonged effects and increased sensitivity [R].

These genetic variations collectively influence individual sensitivity to caffeine, determining both the intensity and duration of the response to caffeine in the body. Understanding these genetic factors can help tailor caffeine intake to avoid adverse effects and optimize performance and well-being.

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
1	Limit Caffeine Intake	
2	Decaffeinated Coffee	
3	Green Tea Extract	250 mg

1

Limit Caffeine Intake

IMPACT 5 / 5

EVIDENCE 5 / 5

How to implement

Limit your caffeine consumption to less than 200 milligrams per day, equivalent to about two 6-ounce cups of coffee. Aim to avoid caffeine-containing foods and beverages such as tea, chocolate, and some soft drinks, especially in the late afternoon and evening to minimize sleep disturbances.

Description

Although caffeine is the world's most popular stimulant, some people choose to limit or avoid it due to potential adverse effects on their sleep, mood, or blood pressure.

How it helps

Reducing the intake of coffee can help manage caffeine sensitivity by decreasing the overall amount of caffeine consumed, hence minimizing the risk of experiencing symptoms like jitteriness or palpitations.

2

Decaffeinated Coffee

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Replace your regular coffee intake with decaffeinated coffee. Aim to consume it in the same quantities and at the same times you would normally drink caffeinated coffee. This adjustment can be made indefinitely to reduce caffeine intake without altering your routine significantly.

Description

Decaffeinated coffee allows individuals to enjoy the flavor and aroma of coffee without the stimulating effects of caffeine, making it a suitable choice for those who are sensitive to caffeine or want to reduce their intake. It can still provide antioxidants and potential benefits like improved alertness.

How it helps

Decaffeinated coffee helps individuals with caffeine sensitivity by providing the rich flavor of coffee without the adverse effects associated with caffeine, such as anxiety and disrupted sleep patterns. This allows for enjoyment of the beverage while promoting overall calmness and stability in energy levels.

3

Green Tea Extract

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a green tea extract supplement containing 250-500 mg of EGCG (the active compound in green tea) daily, preferably with a meal to enhance absorption. This dosage is typically split into two separate doses, taken in the morning and later in the day. Continue this regimen for at least three months to observe potential health benefits.

TYPICAL STARTING DOSE

250 mg

Description

Green tea extract is a concentrated form of the beneficial compounds found in green tea, such as catechins. It is used in dietary supplements for its potential to enhance metabolism, aid in weight management, and provide antioxidant protection.

Green tea is made from the same plant as black tea (*Camellia sinensis*). However, the leaves and buds are processed differently [R].

Green tea contains **catechins**. These are antioxidants that help prevent oxidative stress [R].

EGCG is the main catechin found in green tea. It may help reduce inflammation and support weight loss [R].

How it helps

Green tea extract offers a rich source of antioxidants, particularly catechins, while minimizing caffeine exposure, making it suitable for individuals with caffeine sensitivity. This helps to protect against oxidative stress and support overall health without triggering adverse caffeine reactions.