SelfDecode™

NPAS2 (Mood/ Sleep Schedule)

Gene Report

REPORT CATEGORIES

MENTAL HEALTH

SLEEP

Sample Client

Report date: 15 January 2026

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Personal information

NAME

Sample Client

SEX AT BIRTH

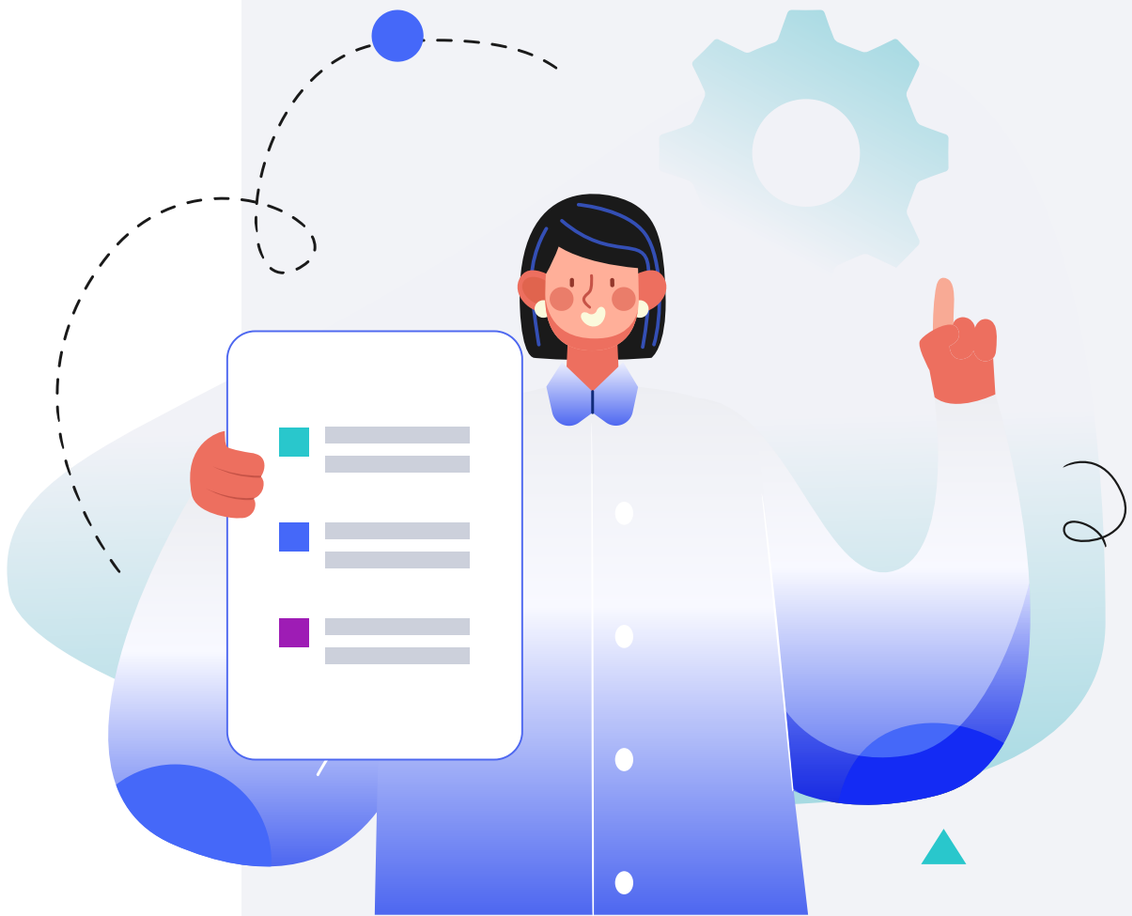
Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg

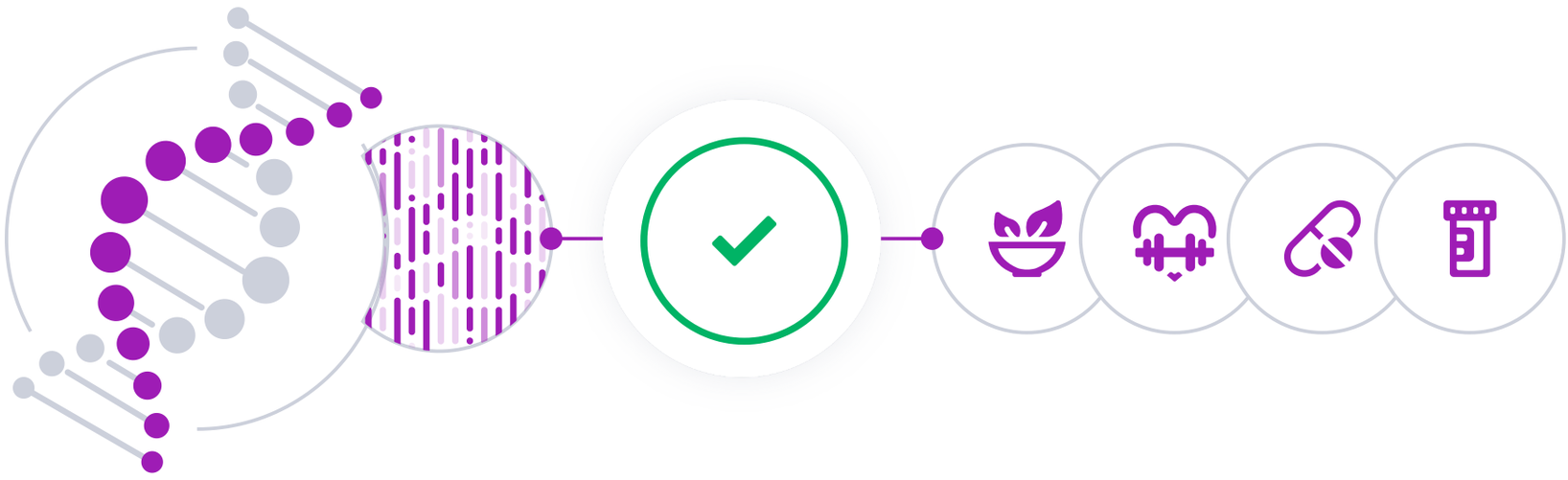


DISCLAIMER

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

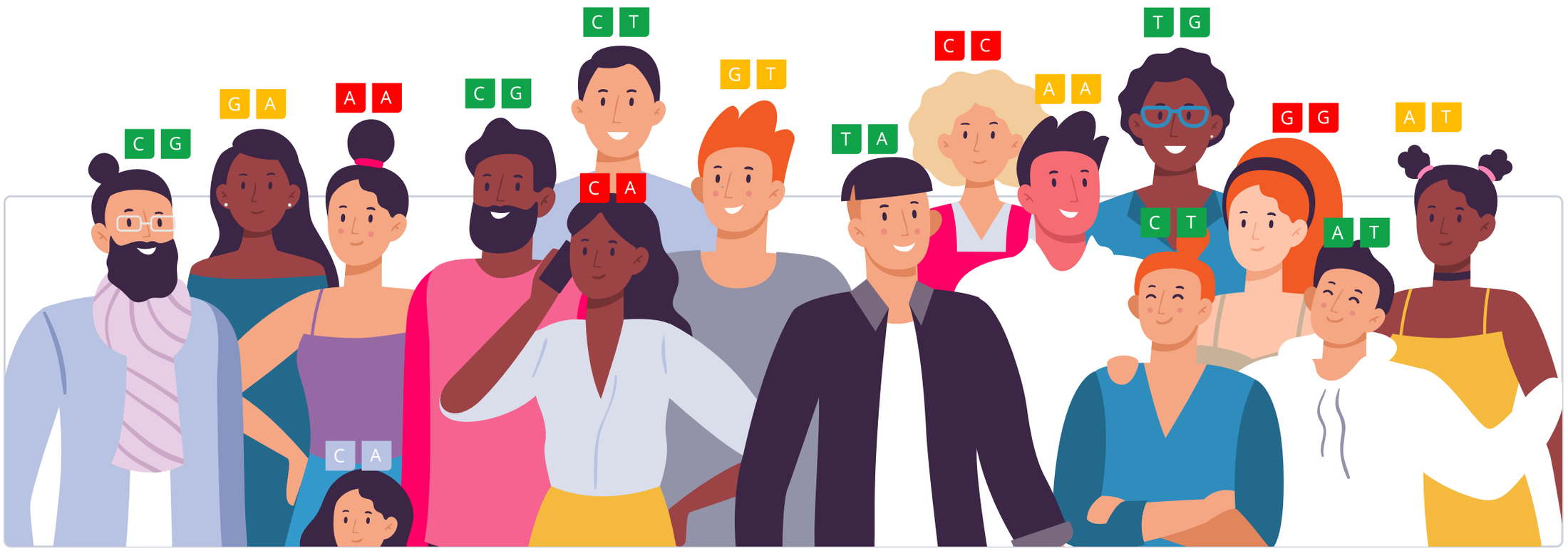
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



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.

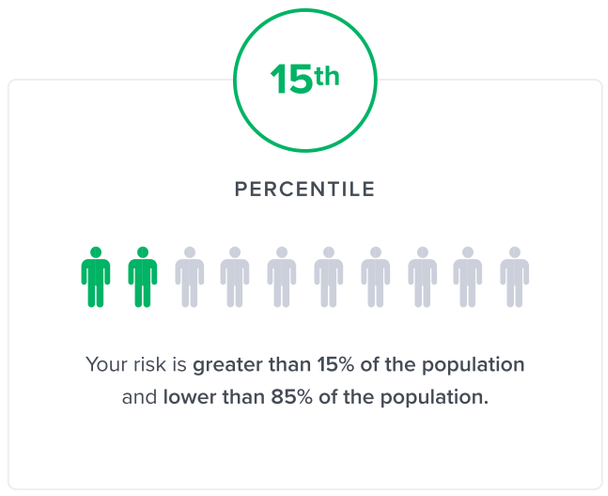
Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



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.



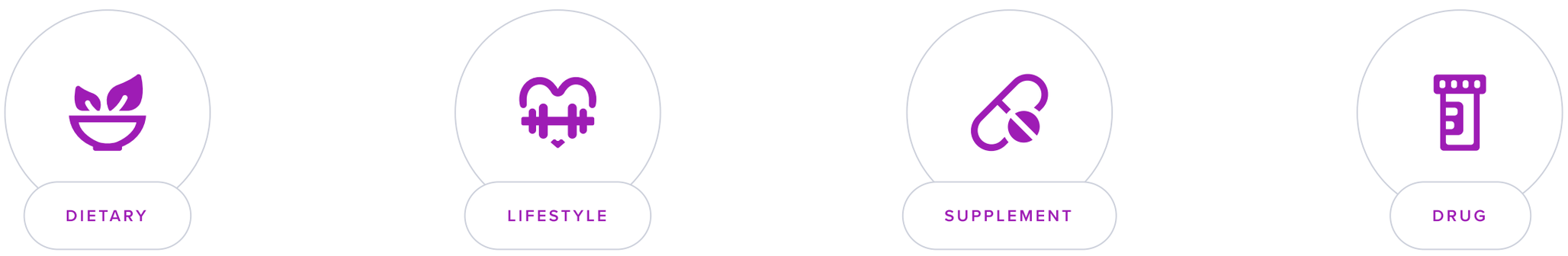
Genotype color info: AA You don't have any risk alleles | AA You have 1 risk allele | AA You have 2 risk alleles

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

NPAS2 (neuronal PAS domain protein 2) is one of the core genes responsible for coordinating our circadian rhythms: the times of day when we wake, sleep, eat, and experience daily changes in blood pressure, body temperature, metabolism, and other functions [R].

Like other circadian genes, *NPAS2* responds to the light and dark cycle to ensure our bodies perform certain functions at the right time of day [R].

NPAS2 specifically plays a role in determining when we sleep and when we eat. Disruptions in NPAS2 function can lead to altered circadian rhythms, affecting sleep patterns, mood regulation, and overall mental health.

NPAS2 Variant and Depression

The main *NPAS2* variant, **rs2305160**, is often studied in relation to cancer. A 2015 meta-analysis confirmed the link between the **A allele and lower odds of cancer, especially breast cancer** [R].

Another *NPAS2* variant, **rs11123857**, may also be linked to slightly higher odds of breast cancer. It may also correlate with **depression**, according to one study. People with the **G allele** had 1.5x higher odds of depression [R, R].

NPAS2 helps determine when we sleep and when we eat. The above associations are not surprising, given the key role of our internal clock in mood and cellular health.

More precisely, **eating late and having small fasting windows** may contribute to inflammatory changes linked to breast cancer. Disrupted circadian rhythm also has an established role in depression and other mood disorders [R, R].

WORSE GENETICS

Likely worse NPAS2 genetics based on the genetic variants we looked at

43%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **43% of our users.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
NPAS2	rs2305160	GG
NPAS2	rs11123857	AA

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 Regular Sleep Schedule

2 Maintain a Regular Meal Schedule

1

Regular Sleep Schedule

IMPACT 3 / 5

EVIDENCE 3 / 5

How to implement

Go to bed and wake up at the same time every day, even on weekends and holidays. This helps regulate your body's internal clock, leading to better sleep quality. Aim for 7-9 hours of sleep per night.

Description

Maintaining a regular sleep schedule involves going to bed and waking up at consistent times each day. This practice helps regulate the body's internal clock and promotes better sleep quality, mood, and cognitive function.

How it helps

People with irregular sleep schedules may be at increased risk of being overweight or obese. This may be because irregular sleep patterns are associated with greater calorie and fat intake [R, R, R, R, R].

Consistent sleep patterns can aid in regulating hormones that control hunger and satiety.

2

Maintain a Regular Meal Schedule

IMPACT 3 / 5

EVIDENCE 3 / 5

How to implement

Eat your meals at the same times each day, for instance, breakfast at 7 AM, lunch at 12 PM, and dinner at 6 PM. Stick to this schedule every day, including weekends, to help regulate your body's internal clock and improve digestion.

Description

Maintaining a regular meal schedule helps regulate blood sugar levels, supports digestion, and promotes a healthy metabolism. Consistency in meal timing can contribute to overall energy balance and long-term weight management.

Blood sugar (glucose) is the body’s main source of energy. It increases after a meal. Skipping meals may reduce this energy supply and lead to [R, R]:

- Poor cognitive performance
- Headaches

A regular meal schedule means eating the same number of meals at about the same times every day. Doing so may help [R, R]:

- Balance the internal clock
- Maintain a healthy body weight
- Support healthy cholesterol levels
- Prevent migraines

How it helps

A meta-analysis of 5 studies found that children who skip meals are more likely to be obese and suggested an eating pattern with frequent, regular meals [R].

In line with this, several trials found that regular meal patterns have beneficial effects on calorie burning, as well as lipid and glucose response, compared to irregular patterns [R, R, R, R].

Regular meal times can improve metabolism and reduce the likelihood of overeating.

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.