SelfDecode™

Melatonin

DNA Health Report

REPORT CATEGORY

SLEEP

Sample Client

Report date: 15 January 2026

Powered by omicsedge

Table of Contents

Personal information

NAME

Sample Client

SEX AT BIRTH

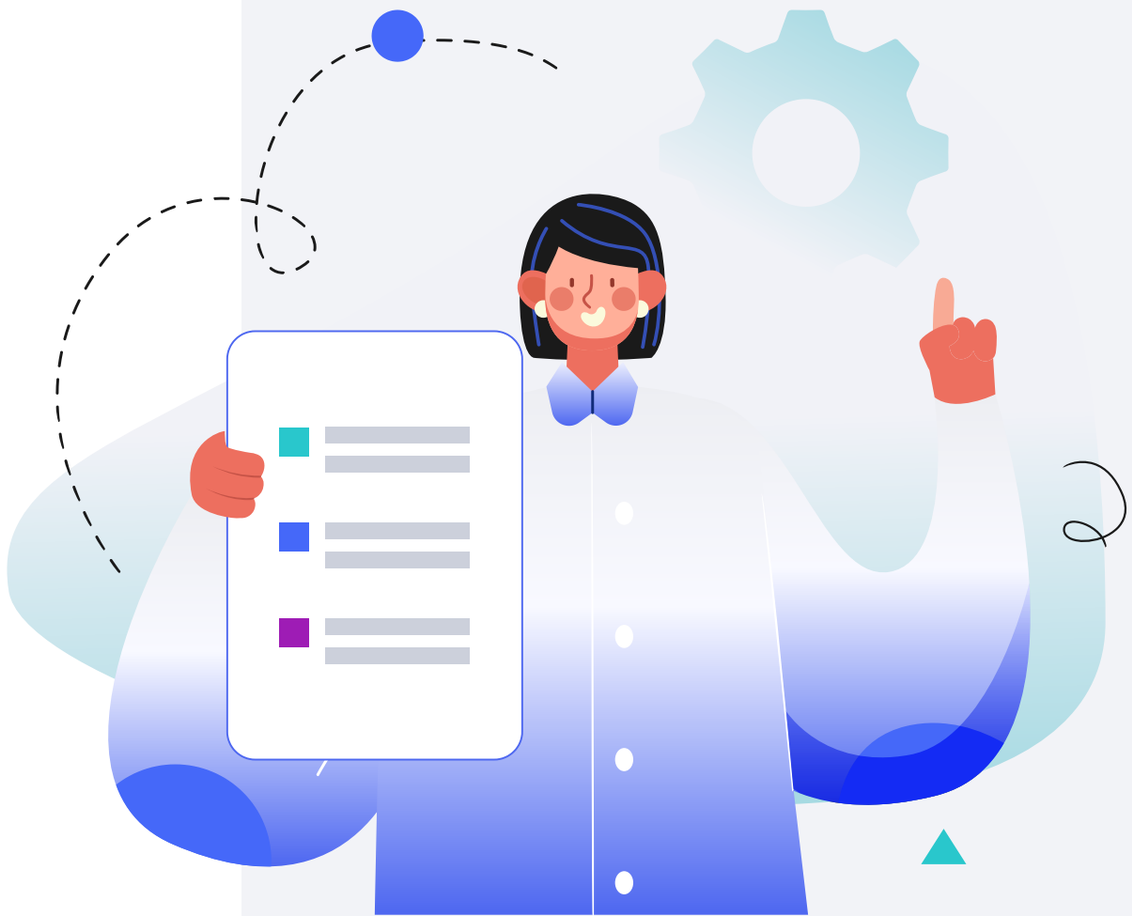
Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg

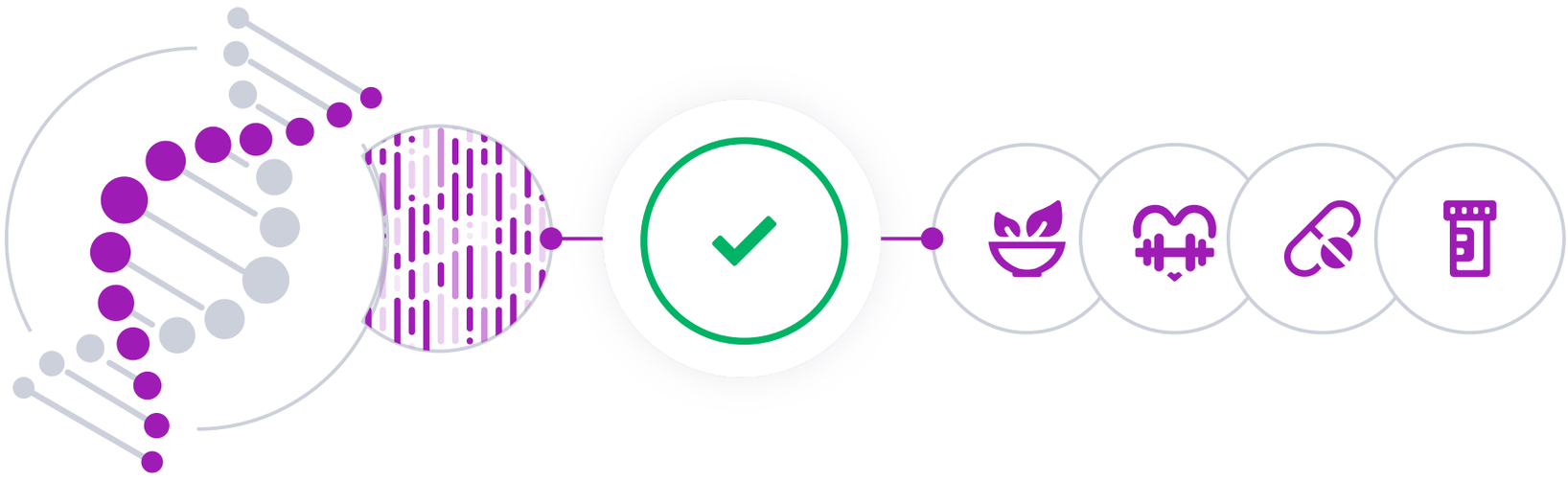


DISCLAIMER

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

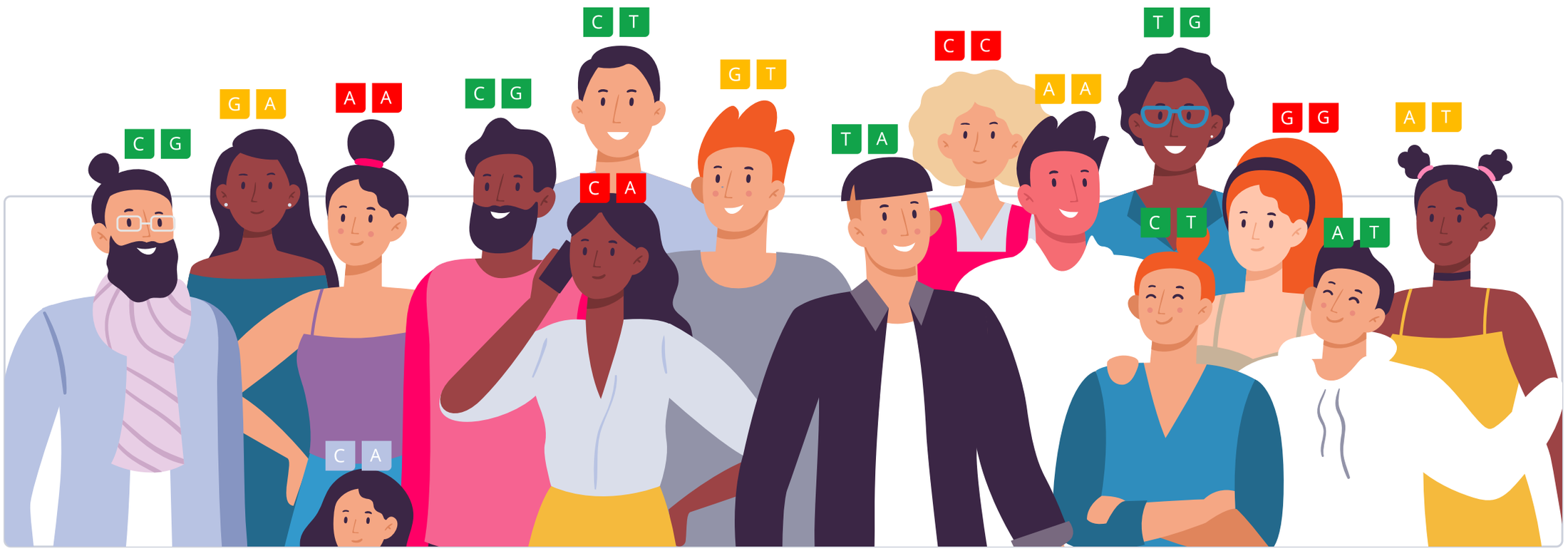
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



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.

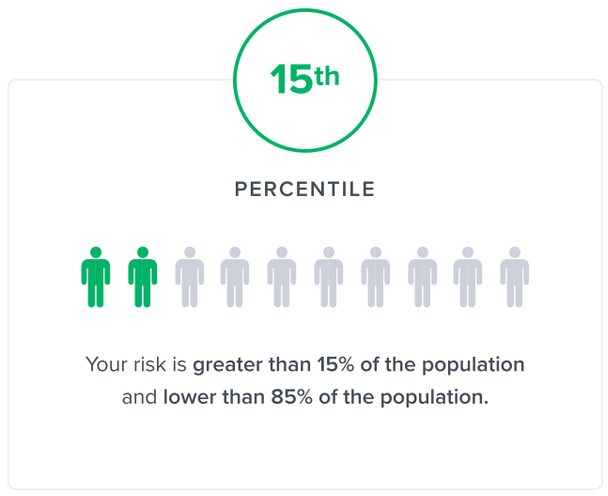
Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



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

Melatonin is a hormone responsible for your **sleep-wake cycle (circadian rhythm)**. It is made in the pineal gland in response to the absence of light.

After the sun sets, the pineal gland starts releasing melatonin into the bloodstream. As melatonin levels increase, you begin to feel sleepy. Levels remain high throughout the night, for about 12h, and decrease to barely detectable during the day [R].

In addition to the sleep-wake cycle, melatonin also works as an antioxidant and affects mood, immunity, and other hormone levels. Abnormal melatonin production can cause issues with sleep, mood, and energy [R].

Waking urine melatonin levels are an indicator of overall night-time melatonin production.

Low melatonin levels may cause issues with sleep and mood. Symptoms of low melatonin may include:

- Sleep disturbance
- Tiredness
- Mood swings
- Poor memory

High melatonin levels may cause tiredness throughout the day, but they are a less common issue.

Factors Influencing Melatonin Levels

Key takeaways:

- Up to **80%** of differences in people's melatonin levels may be due to genetics.
- Low melatonin is a common issue. It may disrupt sleep and cause tiredness.
- Artificial light, stress, caffeine, alcohol, and tobacco may reduce melatonin levels.
- Lack of sunlight, liver issues, and some supplements and drugs may increase melatonin levels too much.

TYPICAL LEVELS

Predisposed to typical melatonin levels based on 5 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
GALNT13	rs7571016	GG
GALNT15	rs142037747	GG
LDLRAD3	rs9645614	AA
ANXA2R	rs6451653	GG
ZFHX3	rs17681554	AA

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

Up to 80% of differences in people's melatonin levels may be due to genetics [R].

Genes involved in melatonin levels may influence [R, R]:

- Light sensitivity
- Sleep-wake cycle
- Brain development and health
- Mental health

Factors linked to **low melatonin levels** include [R, R, R]:

- Artificial light, including your phone and TV
- Long daylight in the summer
- Stress
- Caffeine, alcohol, tobacco
- Late-night physical activity
- Some drugs (e.g., beta-blockers)
- Aging

Excessive melatonin levels may result from [R, R]:

- Colder and darker winter months
- Liver issues
- Supplements (e.g., 5-HTP, tryptophan, vitamin B3 or B6)
- Some antidepressants

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	Reduce Artificial Light at Night	
2	Morning Bright Light Therapy	20 minutes
3	Morning Sunlight Exposure	30 minutes
4	Cherries	
5	Almonds	

1

Reduce Artificial Light at Night

IMPACT 3 / 5

EVIDENCE 3 / 5

How to implement

Starting at least two hours before your usual bedtime, avoid using electronic devices such as smartphones, tablets, and computers. Also, consider using dim red lights for night lights, as red light has the least power to shift circadian rhythm and suppress melatonin. Try to make your sleeping environment as dark as possible by using blackout curtains or a sleep mask.

Description

Reducing artificial light exposure at night involves minimizing exposure to artificial lighting sources, which can disrupt circadian rhythms and sleep patterns. Doing so supports better sleep quality and overall well-being.

Sunlight or bright light during the day can benefit your body and mind. It may improve your mood, performance, and sleep quality [R, R, R].

However, **exposure to artificial light at night**, for example through the use of phones, tablets, and computers may be harmful [R, R, R].

It may reduce melatonin production and throw off your circadian rhythm. People with high exposure to artificial light at night like night-shift workers may have an increased risk of [R, R, R]:

- Mood disorders (e.g., depression)
- Sleep problems
- Obesity
- Diabetes
- Cancer

How it helps

Exposing yourself to artificial light at night suppresses your body's production of melatonin, a hormone that promotes sleep. Lack of adequate melatonin can lead to sleep issues and other health problems.

2

Morning Bright Light Therapy

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Expose yourself to a light therapy box, which mimics natural sunlight, for about 20-30 minutes each morning within the first hour of waking up. It's important to do this daily, especially during months with less natural sunlight, to help manage symptoms of Seasonal Affective Disorder (SAD) or other conditions influenced by light exposure.

TYPICAL STARTING DOSE

20 minutes

Description

Bright light therapy, often used to treat conditions like seasonal affective disorder (SAD) and certain sleep disorders, involves exposure to specific wavelengths of light. It can help regulate sleep patterns, improve mood, and alleviate symptoms associated with mood disorders.

Bright light therapy involves exposing people to artificial indoor light via a “light box.” This box is often placed nearby for 30 minutes each morning. A light therapy box should [R, R, R]:

- Provide 10,000 lux of light
- Filter out UV light

Light therapy may improve mood and help with certain mental health conditions [R, R].

How it helps

Exposure to bright light during the day can help regulate the body's sleep-wake cycle and improve sleep.

3

Morning Sunlight Exposure

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Expose yourself to natural sunlight for at least 20 to 30 minutes immediately after waking up. Try to do this consistently every day to help regulate your body's internal clock.

TYPICAL STARTING DOSE

30 minutes

Description

Exposure to natural morning light can help regulate circadian rhythms, improve mood, and enhance wakefulness, as it signals the body to produce serotonin, a hormone associated with well-being and alertness.

How it helps

Exposure to morning light helps reset your body's internal clock, regulating sleep-wake cycle that determines your melatonin levels. Regular exposure can thus help improve sleep, fatigue, and mood issues tied to your melatonin levels.

4

Cherries

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Incorporate a serving of cherries, which is about 1 cup or 21 cherries, into your daily diet. You can eat them fresh, frozen, dried, or in juice form. If opting for juice, ensure it's 100% cherry juice without added sugars.

Description

Cherries are a stone fruit that comes in numerous varieties. They are a natural source of antioxidants and anti-inflammatory compounds. They may help reduce inflammation, promote better sleep, and support overall health.

A cherry is a stone fruit with numerous varieties. Cherries are native to parts of Europe and Asia [R, R].

People consume sweet cherries (*Prunus avium*) and tart cherries (*Prunus cerasus*) to help with [R]:

- Gout
- Exercise recovery
- Blood sugar control
- Blood pressure

How it helps

Cherries, especially tart cherries, naturally contain melatonin, which can aid in improving sleep quality.

5

Almonds

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Incorporate a handful of almonds (about 23 kernels) into your daily diet. You can eat them as a snack, add them to your breakfast cereals or yogurt, or include them in salads and other dishes. Do this consistently for ongoing health benefits.

Description

Almonds are a good source of omega-6s, protein and vitamins, making for a great snack food. A 1-ounce serving provides 3700 mg of omega-6.

Almonds are nutritious tree nuts that originate from the Prunus dulcis tree. They are packed with essential nutrients, including healthy fats, fiber, vitamin E, and magnesium, which collectively contribute to heart health, support weight management, and may help regulate blood sugar levels.

How it helps

Almonds are a dietary source of melatonin. Consuming almonds can improve the quality of sleep by increasing melatonin levels.

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.