SelfDecode™

ADA (Cognition/Longevity

Gene Report

REPORT CATEGORIES

COGNITION

LONGEVITY

Sample Client

Report date: 15 January 2026

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Personal information

NAME

Sample Client

SEX AT BIRTH

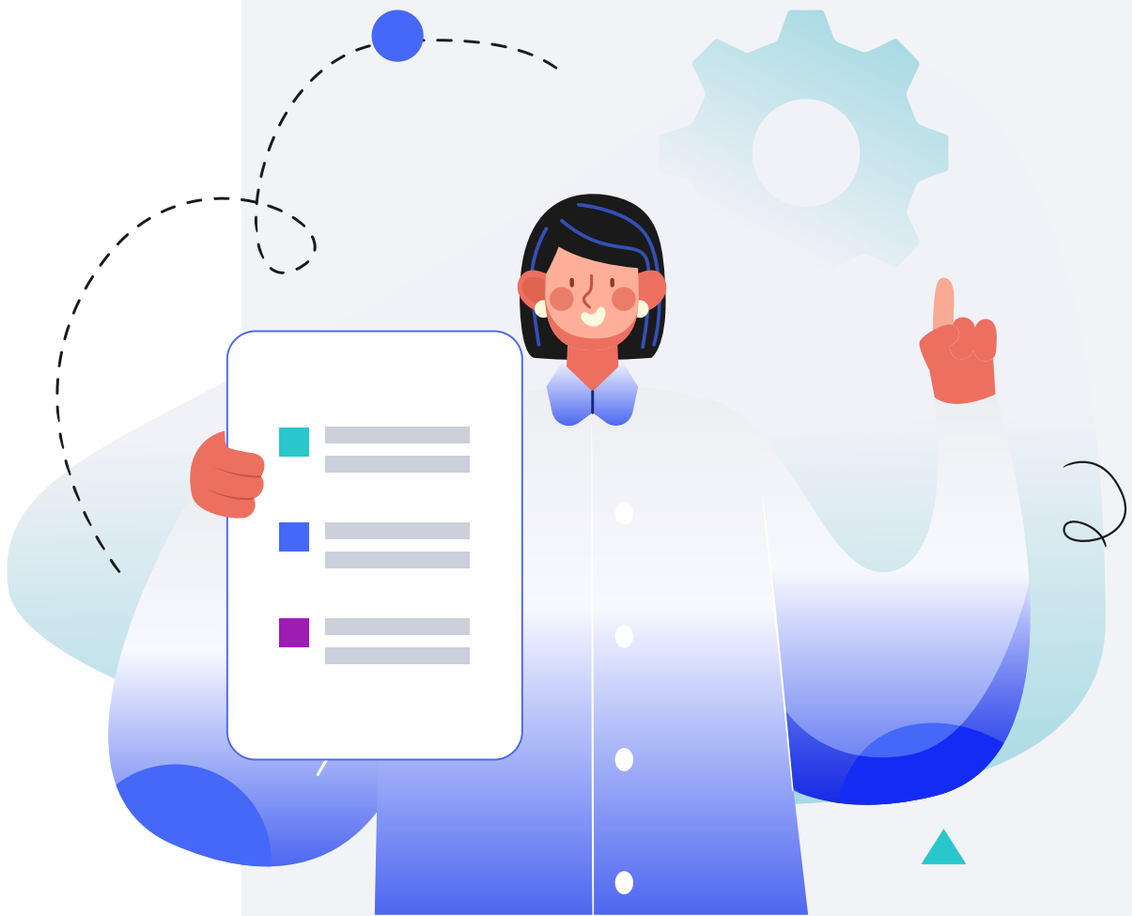
Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg

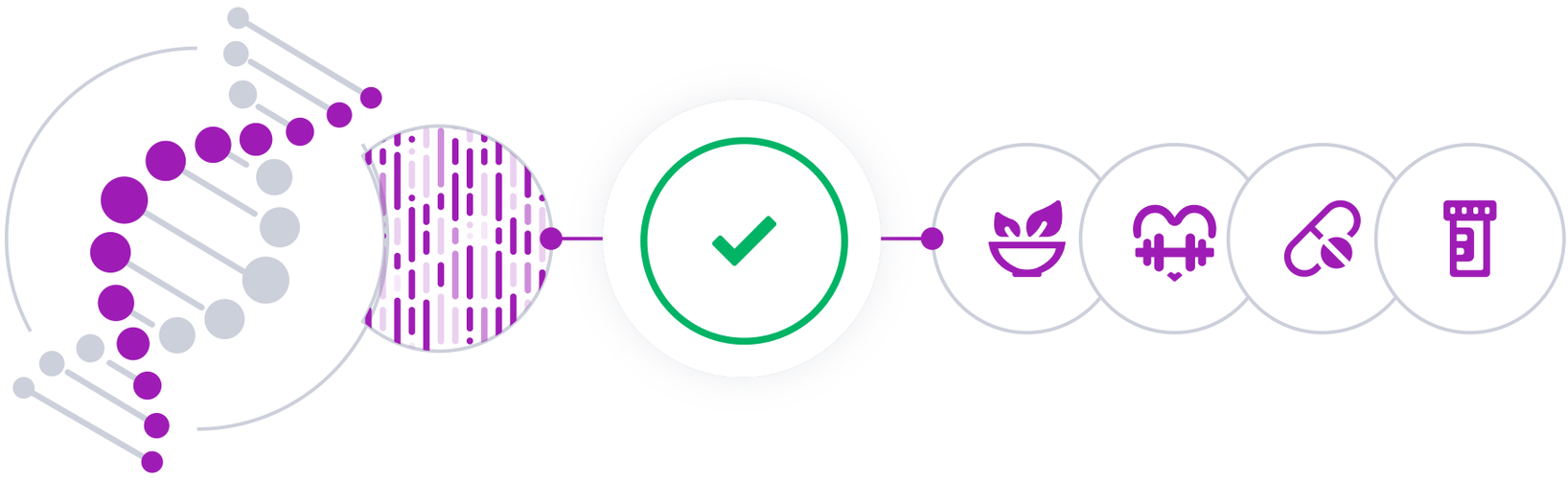


DISCLAIMER

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

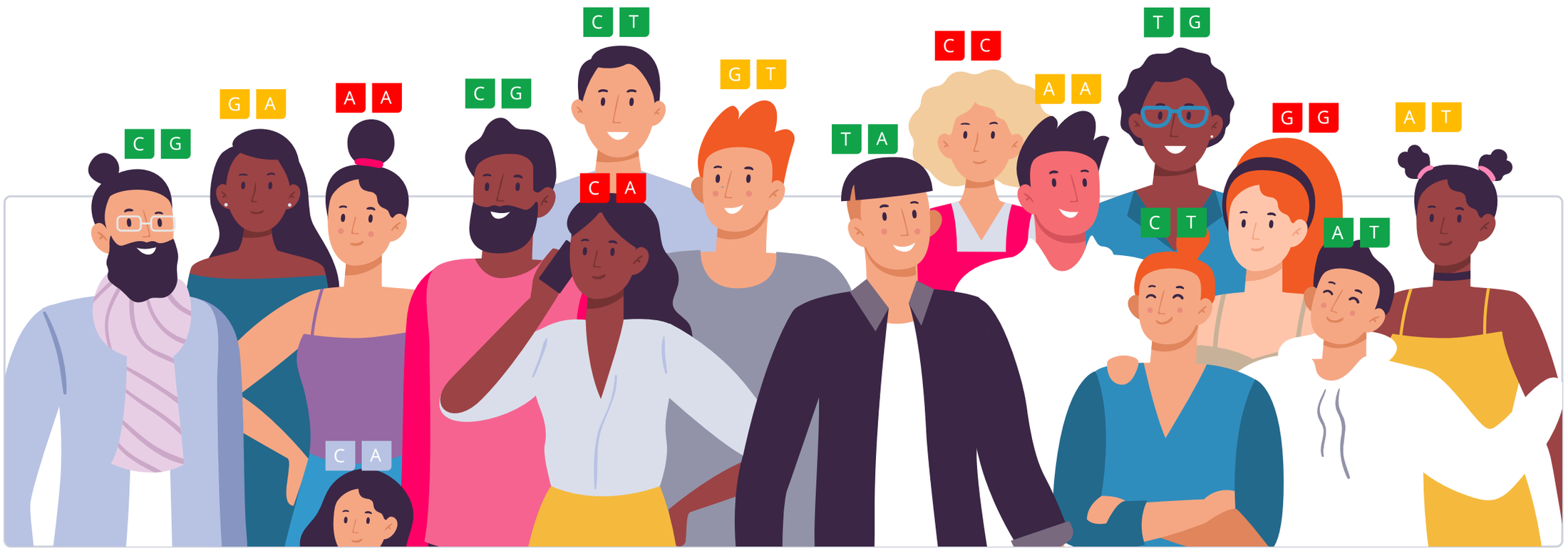
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



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.

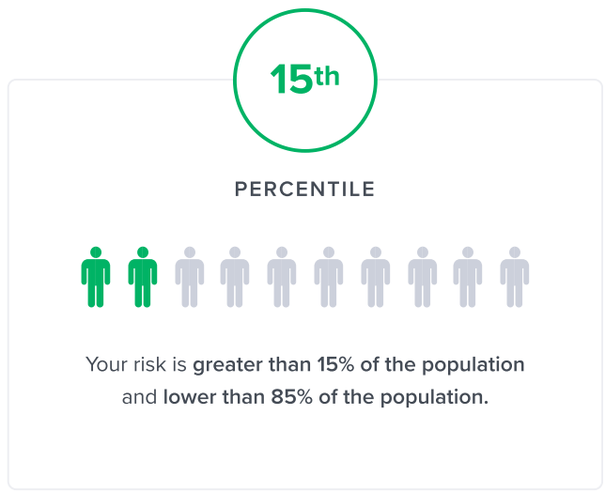
Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



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

The *ADA* gene encodes the adenosine deaminase enzyme, one of the two enzymes that break down adenosine. Under normal conditions, adenosine is primarily broken down by adenosine kinase (ADK), which maintains the relatively low levels of adenosine required by the body on a daily basis. Meanwhile, **ADA is activated when adenosine levels become excessive**. It converts adenosine to inosine, which signals the body to stop producing adenosine [R, R].

Adenosine is an endogenous nucleoside found in every cell of the body. One of its key roles is to control the sleep-wake cycle by promoting sleepiness. It has a number of other physiological functions, including improving blood flow, protecting the heart, nerves, and other body parts from damage and disease, and balancing immune function [R, R, R, R, R, R, R, R].

ADA is mainly found in red blood cells and blood vessel walls. There are 2 forms of ADA: ADA1 and ADA2. ADA2 is the predominant form present in blood and is increased in many diseases, particularly those associated with the immune system [R, R].

ADA Genetics, Attention, and Longevity

The ‘T’ allele of rs73598374 encodes a protein with an amino acid substitution resulting in a 35% reduced ADA activity. As a result, carriers have higher adenosine levels and less inosine [R].

This variant has been associated with worse attention performance, probably because the increased tiredness and fatigue caused by adenosine buildup may worsen attention span [R].

Regarding longevity, this variant has been linked to reduced odds of living past 88 years old but increased odds of living between 68 and 88 years in men. Two mechanisms may explain the dual effects of this variant. On the one hand, it has been associated with shorter telomeres, which would reduce the odds of reaching a very advanced age. On the other hand, adenosine reduces coronary artery disease risk and ischemic attack mortality, potentially reducing the risk of premature death [R, R].

LOWER ACTIVITY

Likely lower ADA activity based on the genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
ADA	rs73598374	TC

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.

		DOSAGE
1	Zinc	15 mg

1

Zinc

IMPACT 3 / 5

EVIDENCE 3 / 5

How to implement

Take a 15 mg zinc supplement daily, ideally with a meal to enhance absorption.

TYPICAL STARTING DOSE

15 mg

Description

Zinc is an essential mineral found in various foods, including meat, dairy, and nuts. It is crucial for immune function, wound healing, DNA synthesis, and maintaining healthy skin and nails. Zinc supplements are sometimes used to support immune health and manage zinc deficiencies.

Zinc is an essential mineral. Your body needs it to [R, R]:

- Defend against disease
- Protect DNA from damage
- Heal wounds
- Control blood sugar

Some of the best sources of zinc include **shellfish, pork, beef, and beans**. It is also available as a supplement [R].

Adults should get **8-11 mg of zinc** per day [R].

How it helps

Zinc is the only cofactor necessary for ADA activity, so adequate levels are needed for the enzyme to work well [R].

A study of 93 children found that those with ADHD had lower blood zinc levels (60.6 µg/dL versus 105.8 in healthy controls) [R].

In a placebo-controlled trial of 400 children with ADHD, supplementation with zinc sulfate (150 mg/day) for 12 weeks reduced hyperactive, impulsive, and impaired socialization symptoms, but not attention deficiency [R].

Zinc (15-22 mg/day) enhanced the effectiveness of Ritalin in 4 placebo-controlled trials of 306 children with ADHD. However, omega-3 fatty acids were more effective in one of them [R, R, R, R].

Zinc acts as a cofactor of several enzymes. It may help with ADHD by controlling:

- Brain development [R]
- Conversion of tryptophan to serotonin (by converting pyridoxine to pyridoxal phosphate) [R]
- Melatonin function [R]
- Essential fatty acid metabolism [R]

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.

✓	**Vitamin B12**	**687 pg/mL**	9 Nov 2025
		200 400 1000 1100	
✓	**Vitamin D, 25-Hydroxy, Total**	**58.59 ng/mL**	9 Nov 2025
		10 20 30 75 150	
!	**Homocysteine**	**12.84 umol/L**	9 Nov 2025
		5 9 15 100	
!	**hs-CRP**	**1.6 mg/L**	9 Nov 2025
		0 0.5 3 100 500	