SelfDecode™

TPO (Thyroid)

Gene Report

REPORT CATEGORY

THYROID

Sample Client

Report date: 15 January 2026

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Personal information

NAME

Sample Client

SEX AT BIRTH

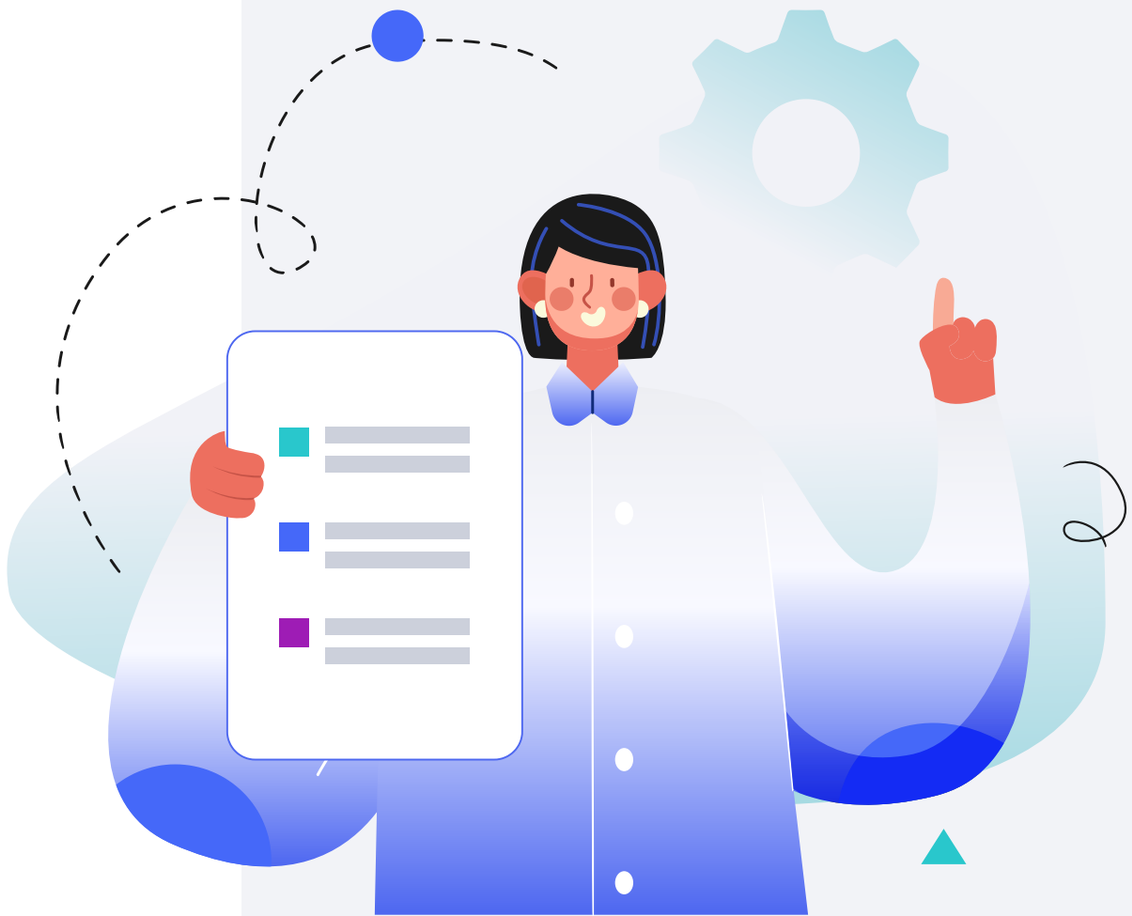
Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg

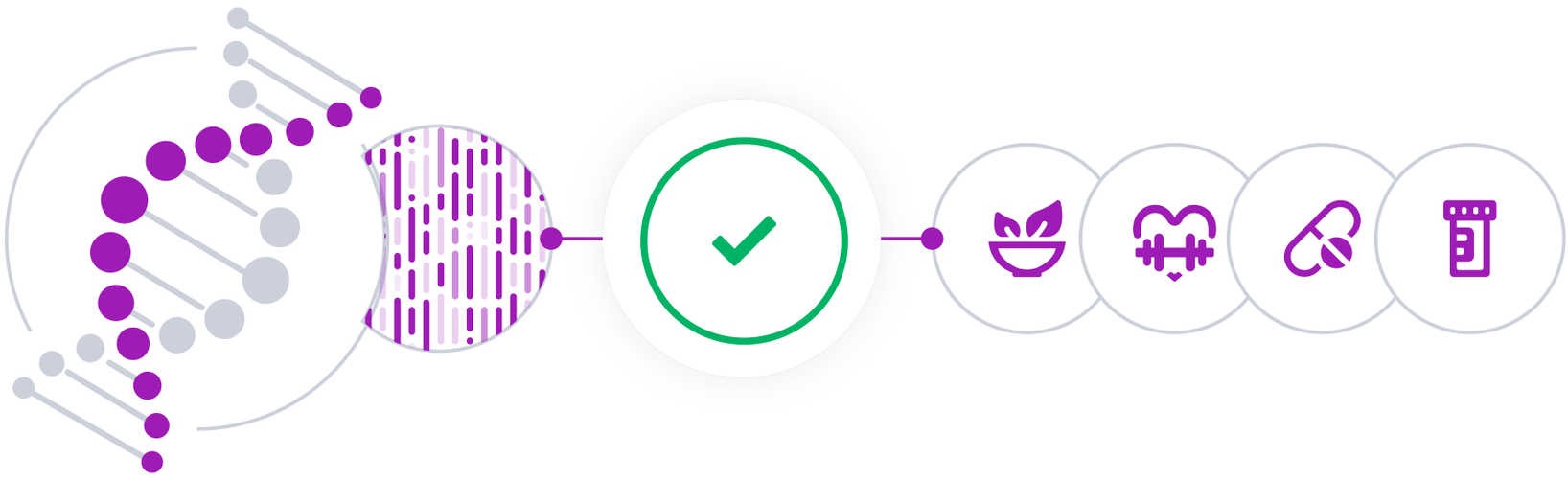


DISCLAIMER

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

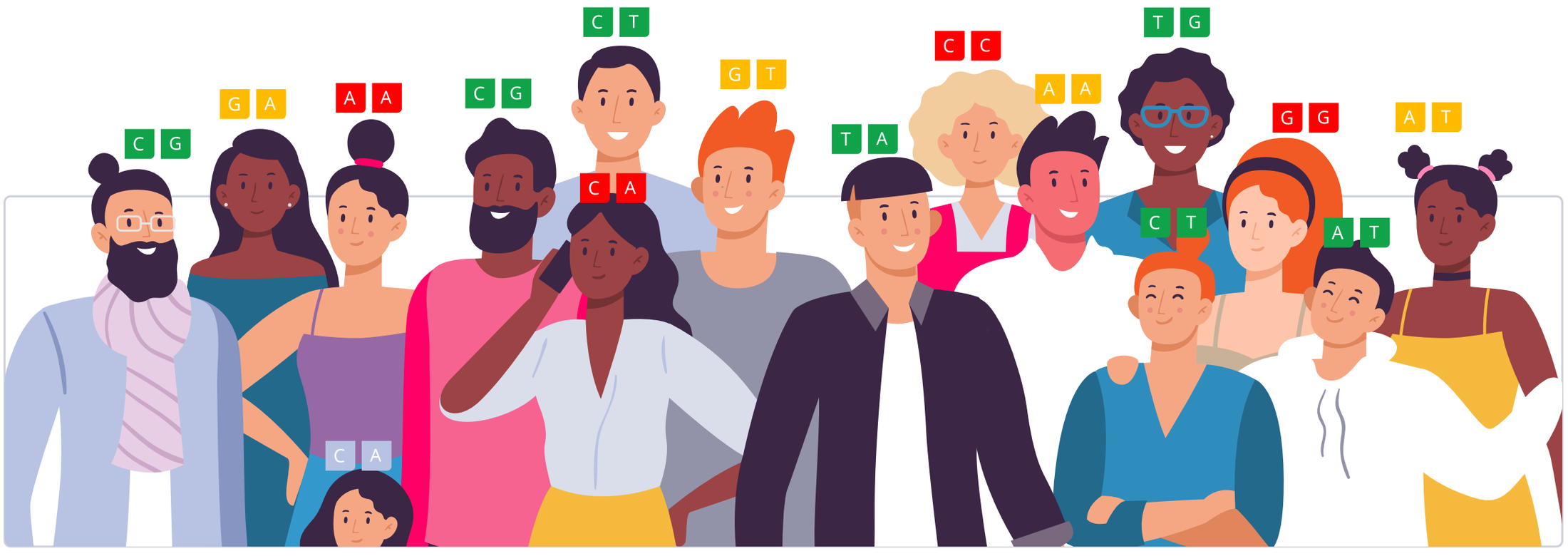
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



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.

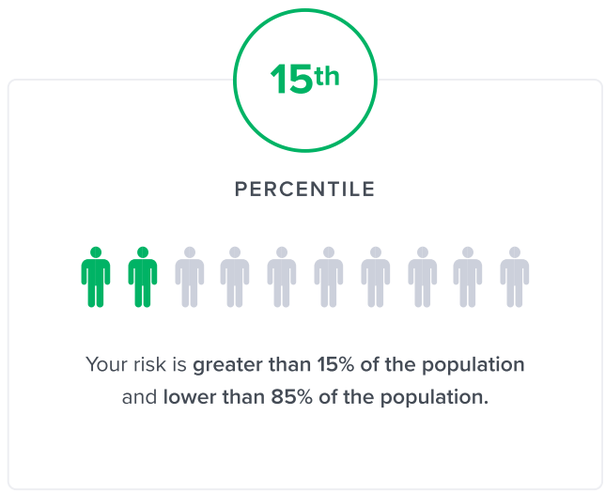
Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



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 thyroid is a gland found in the front of the neck. It produces thyroid hormones: **T3 (triiodothyronine)** and T4 (thyroxine). These hormones affect [R]:

- Heart function
- Energy production
- Breathing rate
- Bone growth
- Alertness
- Reproductive health

T3 is the active form. It contains 3 iodine atoms, and it's released by T4 breakdown [R, R, R].

The *TPO* gene codes for an enzyme called thyroid peroxidase. This enzyme adds iodine atoms to tyrosine on thyroglobulin — a critical step in the production of thyroid hormones [R].

TPO is highly expressed in the thyroid and plays a central role in its functions. Genetic mutations that disable this enzyme are the most cause of inborn hypothyroidism and goiter [R, R, R].

Such severe mutations occur rarely, but some *TPO* variants impact thyroid function in a more subtle way, as we will see in the next section.

TPO Genetics

In a trial of 500 European subjects, one SNP in the *TPO* gene showed a significant association with Hashimoto's disease (HD). This form of autoimmune hypothyroidism was 31% more common among people with the minor 'T' allele at rs11675434 [R].

In 1400 Polish subjects, the same variant correlated with 64% higher rates of eye complications in Graves' disease patients (Graves' ophthalmopathy). This group of authors conducted further research on over 2,300 and found the significant impact of rs11675434 only in older male patients [R, R].

Comprehensive studies have confirmed the link between this variant and anti-TPO antibody positivity. In over 18,000 European subjects, those with rs11675434-T were 21% more likely to be positive and also had higher antibody levels [R].

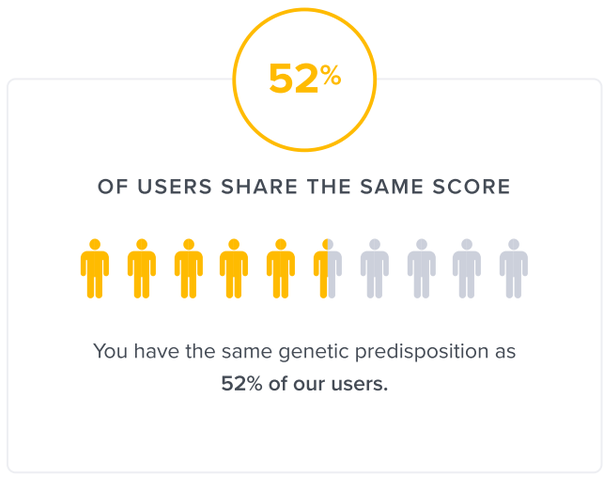
A clinical trial of 400 Indian subjects identified another *TPO* variant in connection with thyroid health. Carriers of the 'C' allele at rs732609 (Thr725Pro) had 45% higher rates of hypothyroidism [R].

Doctors from Iran came to a similar conclusion after conducting a small study of 150 participants. The 'C' allele correlated with subclinical or "hidden" hypothyroidism [R].

The 'C' allele of rs732609 changes one amino acid (threonine to proline) in the TPO enzyme, which may interrupt its secondary structure. The immune system can mistakenly flag such enzymes as foreign structures and produce antibodies to destroy them [R].

TYPICAL

Likely typical TPO genetics based on the genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
TPO	rs11675434	CT
TPO	rs732609	AC

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	Cupping Therapy	15 minutes

1

Cupping Therapy

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

To practice cupping therapy as part of your lifestyle, schedule sessions with a qualified therapist once or twice a month to address specific concerns or for general wellness. Each session usually lasts between 5 to 15 minutes. Consistent treatment over several months may yield the best results.

TYPICAL STARTING DOSE

15 minutes

Description

Cupping therapy is an alternative therapy that involves placing cups on the skin to create suction. Some believe it may help with pain relief and muscle tension.

How it helps

In a non-placebo-controlled trial of 26 patients with Hashimoto's, receiving 3 wet cupping sessions at 3-week intervals decreased anti-TPO and anti-TG levels. When combined with thyroxine supplementation, cupping decreased anti-TPO, anti-TG, TSH, prolactin, and ESR [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.

TSH	2.76 mcIU/mL	0.4 – 1.5 – 2.5 – 4.5	9 Nov 2025
Thyroid Peroxidase Antibodies (TPO)	3.03 IU/mL	0 – 9	9 Nov 2025