SelfDecode™

TRPV1 (Pain)

Gene Report

REPORT CATEGORIES

PAIN

NERVE HEALTH

Sample Client

Report date: 15 January 2026

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Personal information

NAME

Sample Client

SEX AT BIRTH

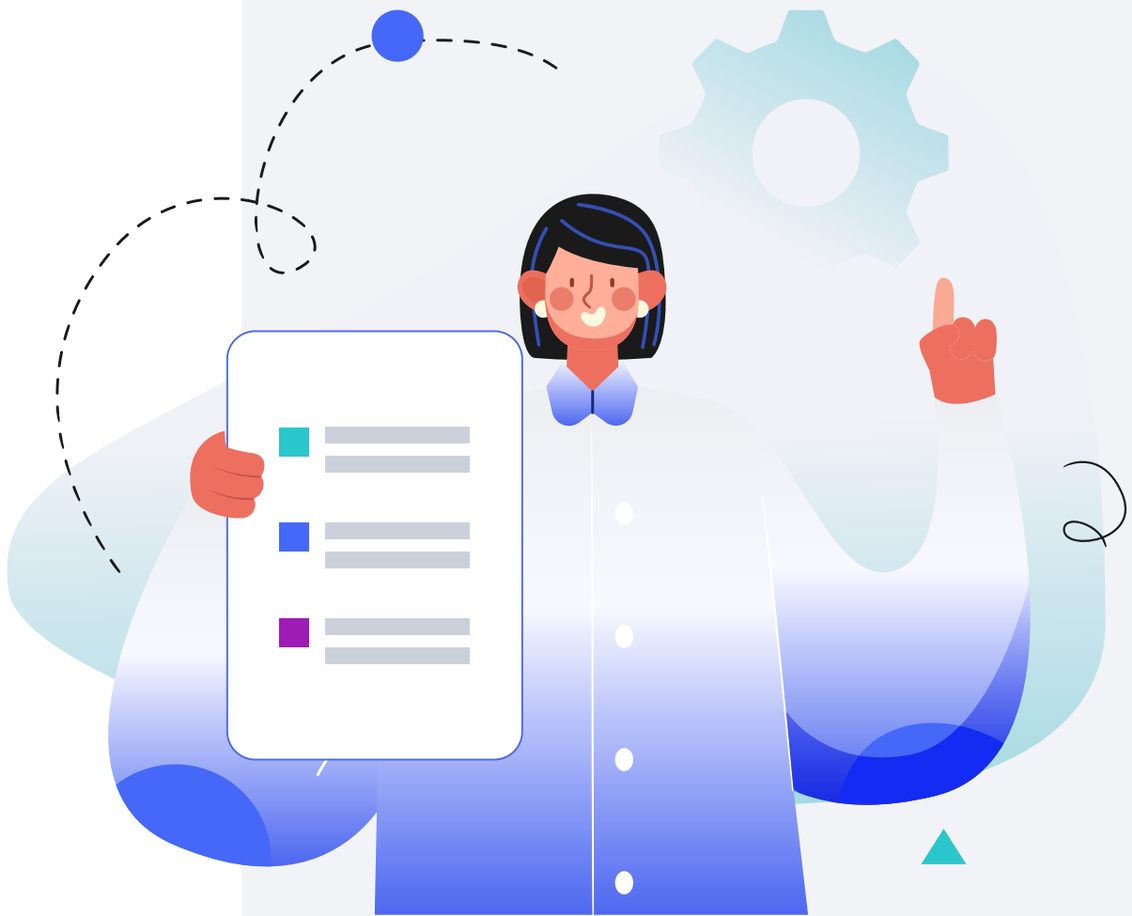
Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg

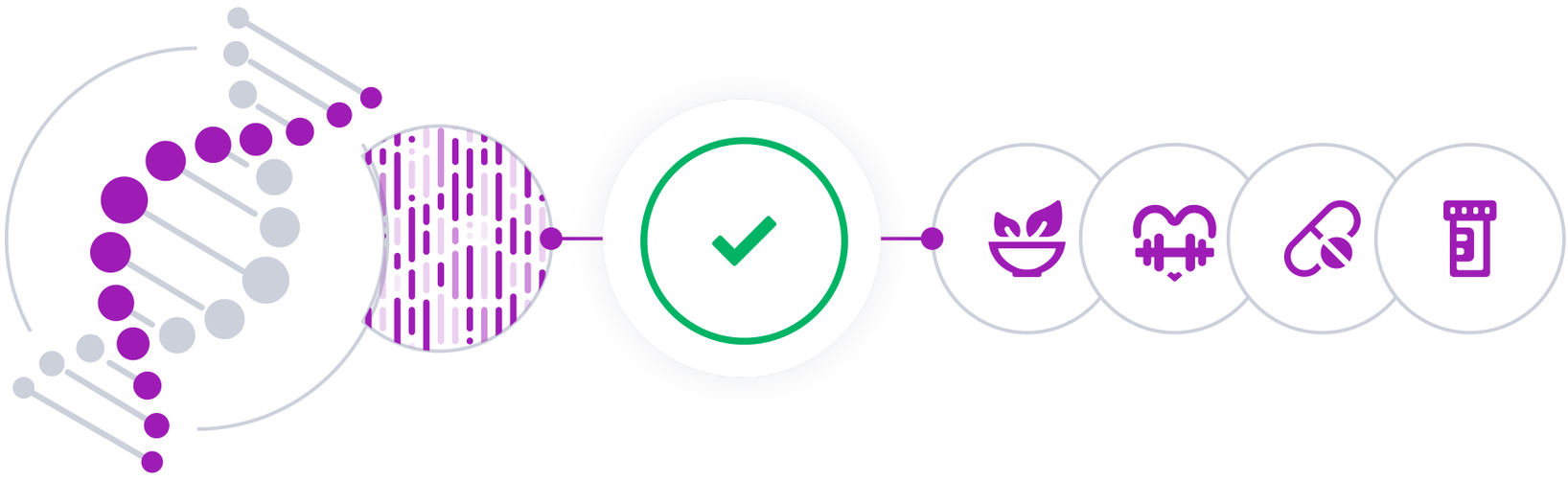


DISCLAIMER

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

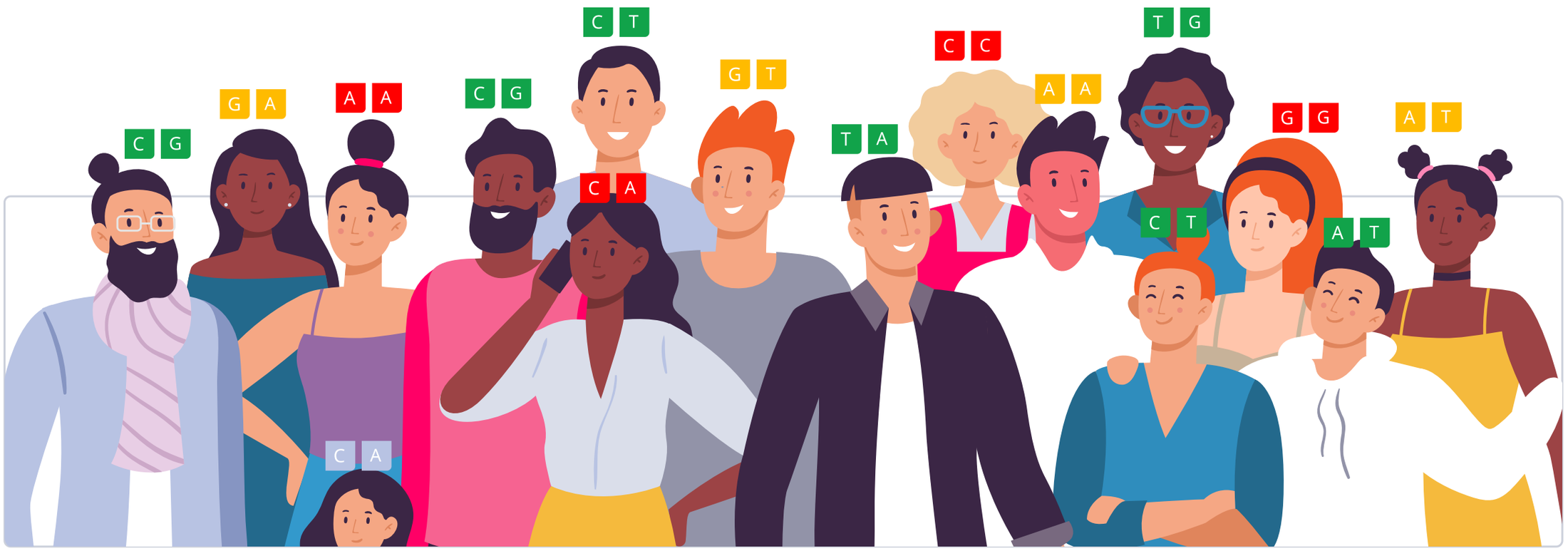
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



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.

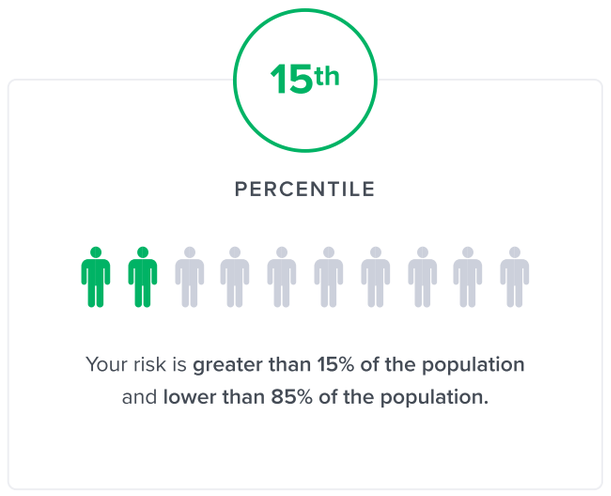
Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



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 *TRPV1* gene encodes a receptor which, in response to certain stimuli, produces the sense of scalding heat and pain [R].

TRPV1 developed to help us sense temperatures above 43 °C (109 °F) as well as acidic conditions. However, it is also activated by capsaicin (the spicy compound in hot peppers) and by allyl isothiocyanate (found in mustard and wasabi) [R, R, R].

Heat and pain are closely related in terms of how our bodies sense danger. In fact, heat is recognized as one of the core types of pain stimuli, along with mechanical pain and chemical pain. Because of this, TRPV1 plays a central role in pain perception [R].

Where TRPV1 is a heat pain sensor, another receptor called TRPM8 is a cold pain sensor. Each one acts against the other: when TRPV1 is activated, it reduces the sensitivity of TRPM8 and vice versa [R, R].

Interestingly, repeated stimulation of TRPV1 lowers the sensitivity of nerves that transmit pain signals. This leads to pain relief [R, R].

TRPV1 Genetics

One SNP, rs8065080, has been associated with altered sensitivity to heat, cold, and capsaicin. At this variant, the 'C' allele is associated with increased sensitivity to heat and capsaicin, but reduced sensitivity to cold. Someone with one or more 'C' alleles here would, for example, be more likely to be able to hold a snowball in their bare hands for a longer period of time; they may feel less pain from the snow against their skin. However, they may feel more pain from touching something hot [R, R].

Other SNPs with links to specific types of pain perception include rs222747-C (vaginal pain), rs222741-A (migraine), and rs7217270-A (migraine) [R, R].

Even more SNPs have been linked to pain and capsaicin sensitivity more broadly. These include rs79821076-A, rs56095209-T, rs222749-A, rs222748-A, rs224534-G, and rs4790522-A [R].

LOWER ACTIVITY

Likely lower TRPV1 activity based on 10 genetic variants we looked at

15th

PERCENTILE

Your risk is **greater than 15% of the population** and **lower than 85% of the population.**

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
TRPV1	rs8065080	CT
SHPK	rs222748	AG
TRPV1	rs222747	GC
SHPK	rs222741	GA
TRPV1	rs79821076	GG
ASPA	rs7217270	GG
TRPV1	rs56095209	CC
TRPV3	rs4790522	CC
TRPV1	rs224534	AA
TRPV1	rs222749	GG

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 Topical Capsaicin

1

Topical Capsaicin

IMPACT 3 / 5

EVIDENCE 3 / 5

How to implement

Apply a capsaicin cream or gel to the affected area 3 to 4 times daily. Make sure the skin is clean and intact before application. Avoid contact with eyes, mouth, and other sensitive areas. Use consistently for several weeks to see improvement.

Description

Capsaicin is a compound found in chili peppers and is used topically in creams and patches for its potential to alleviate pain related to conditions like arthritis, neuropathy, and muscle soreness.

Capsaicin is the compound that makes chili peppers spicy [R].

People use topical capsaicin to relieve pain and oral capsaicin to aid weight loss [R, R].

In the short term, capsaicin causes pain. However, **if you're exposed to a lot of capsaicin over a long period of time, it can reduce your pain sensitivity** [R, R].

***Please note**: Capsaicin may irritate the skin. Consult your doctor if the irritation is severe or lasts longer than 4 weeks. If capsaicin gets in your eyes, flush them with water immediately and consult your doctor* [R, R, R].

How it helps

Capsaicin activates the TRPV1 receptor. Although this activity typically triggers inflammatory pain, repeated stimulation makes brain cells less sensitive to pain perception. High doses of capsaicin also seem to reduce the levels of substance P, which is involved in pain transmission, in the spinal cord [R, R].

Topical capsaicin (0.025-0.075% cream, applied 3-4 times/day for 4-8 weeks) may help relieve pain in some people [R].

High-concentration topical capsaicin (8% patch, applied for 30-90 minutes) may help with chronic nerve pain. This patch is only available by prescription and given to people under medical supervision. A doctor may recommend it for pain from conditions like herpes and diabetes [R].

Long-term use may reduce your pain sensitivity [R, R].

Please note: *Capsaicin may irritate the skin. Consult your doctor if the irritation is severe or lasts longer than 4 weeks. If capsaicin gets in your eyes, flush them with water right away, and consult your doctor* [R, R, 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.