SelfDecode™

# VDR (Vitamin D)

## Gene Report

REPORT CATEGORIES

IMMUNITY & INFECTIONS

BONE HEALTH

## Sample Client

Report date: 15 January 2026

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# Table of Contents



## Personal information

NAME

**Sample Client**

SEX AT BIRTH

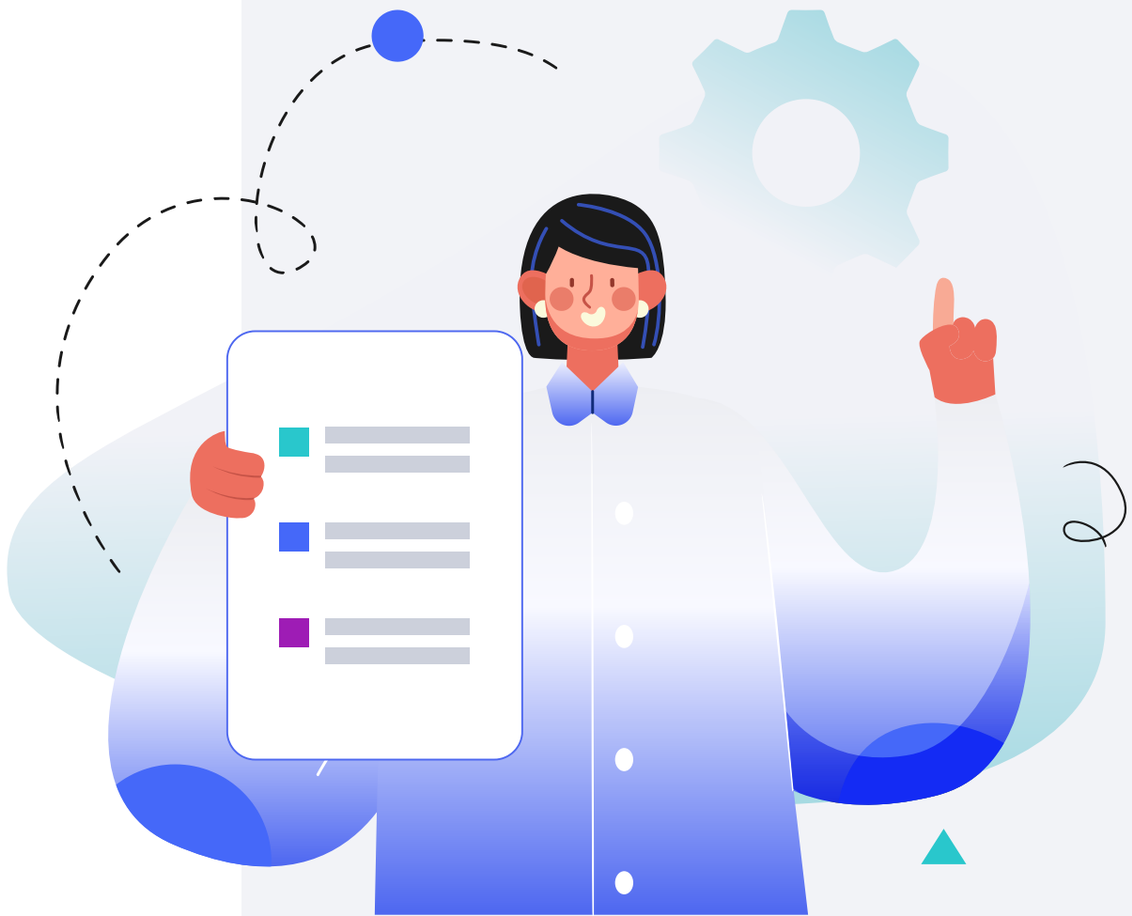
**Male**

HEIGHT

**5ft 5"** 165cm

WEIGHT

**137lb** 62kg

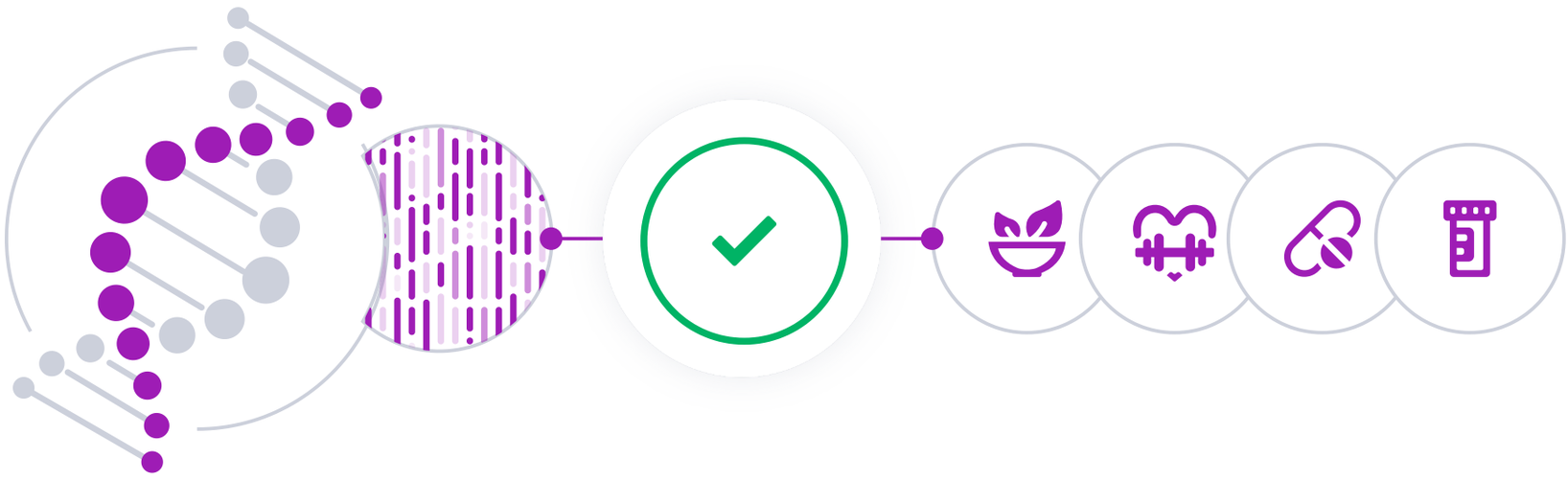


DISCLAIMER

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

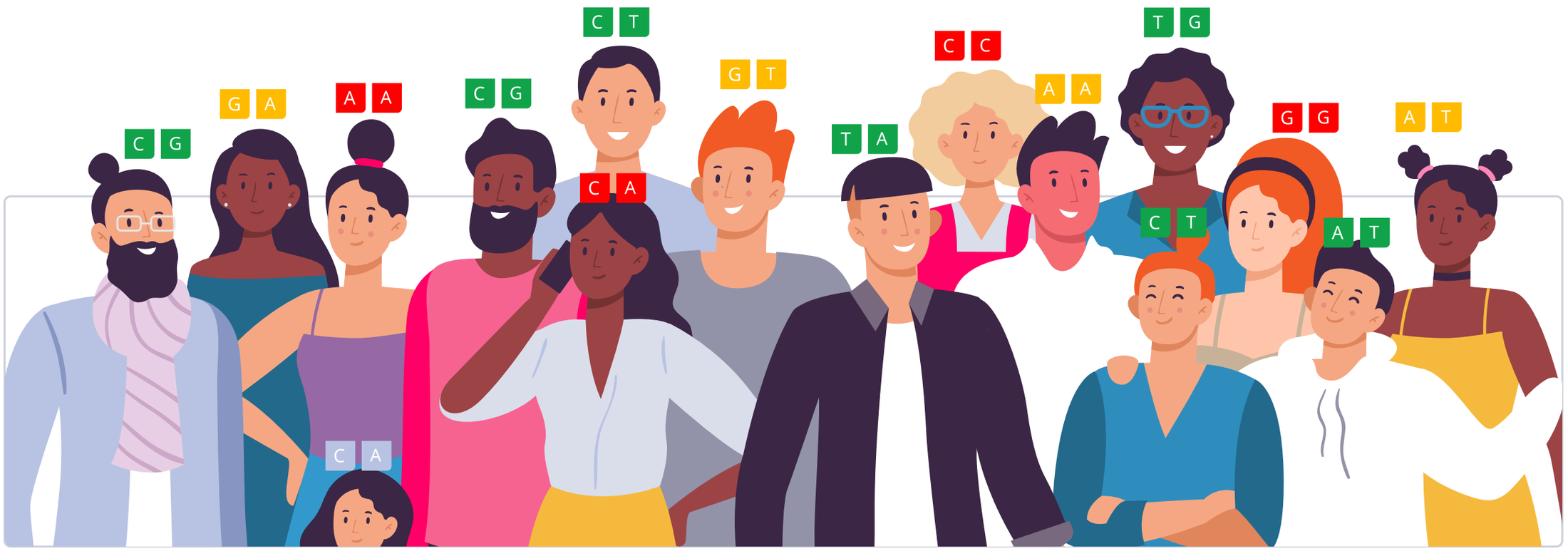
**Our Wellness Reports analyze how your DNA influences your health.**
**We then use this analysis to give you personalized risk estimates and recommendations.**



**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.

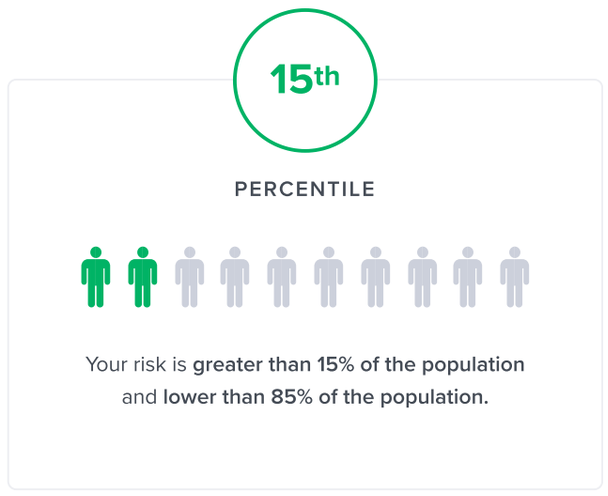
Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



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

The *VDR* gene is responsible for producing a protein called the **vitamin D receptor** (**also known as VDR or the calcitriol receptor**) [R].

VDR works by binding to the activated form of vitamin D, which is called *calcitriol*. Once bound together they form a special complex, which has various biological effects. Some of the functions of the VDR and vitamin D complex include [R, R, R]:

- Promoting the expression of other genes
- Maintaining calcium and phosphorus levels in the blood
- Regulating metabolic pathways involved in immune response and cancer
- Regulating bone formation
- Controlling cell growth and development
- Regulating hair loss

Because this complex is important for so many systems in the body, genetic variations in the *VDR* gene have been associated with longevity and several disorders, such as obesity, infection, cancer, and osteoporosis [R, R, R].

# VDR Genetics

Among the different *VDR* polymorphisms, rs2228570, also known as FokI, has been most widely researched. Its minor 'A' variant encodes a slightly longer version of the protein associated with decreased VDR levels and activity. In line with this, the major 'G' variant has been associated with [R, R]:

- Better response to vitamin D supplementation
- Better calcium absorption
- Higher bone mineral density
- Reduced risk of fractures

The major variant has also been associated with:

- Increased fat mass [R, R]
- Increased longevity (with mixed results) and better cognition in the elderly [R, R, R]

Another important VDR polymorphism is rs1544410, also known as BsmI. Its minor 'T' allele may have decreased VDR activity and has been associated with:

- Lower BMD and increased risk of osteoporosis [R, R, R]
- Increased risk of scoliosis [R]
- Decreased risk of breast cancer [R]
- Decreased risk of metabolic syndrome [R]

Other *VDR* variants include rs7975232 (ApaI) and rs731236 (TaqI).

Potential effects of VDR variants on dopamine:

- Reduced VDR activity can lead to lower dopamine production because vitamin D helps activate genes that make dopamine
- This may affect dopamine-related functions like mood, focus, and motivation
- The body might have trouble maintaining stable dopamine levels

Potential effects of VDR variants on methylation:

- When VDR activity is reduced, it can affect methylation cycles
- This might impact how well your body processes certain chemicals and nutrients
- The methylation of genes involved in dopamine production and function may be affected

TYPICAL ACTIVITY

**Likely typical VDR activity based on the genetic variants we looked at**

82%

OF USERS SHARE THE SAME SCORE

You have the same genetic predisposition as **82% of our users.**

**Your top variants that most likely impact your genetic predisposition:**

| GENE | SNP | GENOTYPE |
|---|---|---|
| VDR | rs2228570 | GA |
| VDR | rs1544410 | CT |
| VDR | rs7975232 | AA |
| VDR | rs731236 | AG |

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 | Maintain Optimal Vitamin D Levels | 1000 iu |

1

# Maintain Optimal Vitamin D Levels

IMPACT 5 / 5

EVIDENCE 5 / 5

## How to implement

Check your vitamin D levels, they should ideally be in the 30-66 ng/mL range. If your levels are lower than that, take a vitamin D supplement, 1000-4000 IU daily, to reach an optimal range.

TYPICAL STARTING DOSE

**1000 iu**

## Description

Vitamin D, often referred to as the "sunshine vitamin," can be synthesized by the skin when exposed to sunlight, as well as being found in fish, eggs, and fortified milk. It helps regulate calcium absorption, promoting strong bones and a healthy immune system. Vitamin D deficiency can lead to conditions like rickets in children and osteoporosis in adults.

**Your body needs vitamin D for strong bones**. Vitamin D also plays a role in [R]:

- Mood
- Immunity
- Heart health
- Blood sugar control

**Sunlight is our main source of vitamin D.** Experts recommend getting at least **5-15 minutes of midday sun, 2-3 times per week**. People with darker skin and those living at high latitudes may need longer periods of sun exposure [R, R].

Foods like fish, eggs, and fortified milk provide small amounts of vitamin D. **People lacking vitamin D should consider taking a supplement** [R].

## How it helps

People who don't get enough vitamin D through sunlight or dietary sources might need vitamin D supplements. Supplementation may be more effective in people with low baseline intake or levels [R, R].

Vitamin D3 is approximately 87% more effective in raising and maintaining the vitamin D levels in the body than vitamin D2 [R, R].

The recommended vitamin D dose for children up to 1 year old is 400 IU, for ages 1-70 years 600 IU, and for people over 70 years old 800 IU [R, R].

**Please note:** *Experts recommend getting 600-800 IU of vitamin D per day. Medical bodies recommend against taking more than 4,000 IU per day* [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.

| | | | |
|---|---|---|---|
| ALP | 68 IU/L | 30 – 60 – 130 | 9 Nov 2025 |
| Phosphorus | 2 mg/dL | 1 – 2.5 – 3.5 – 4.5 | 9 Nov 2025 |
| Calcium, Ionized | 1.1 mmol/L | 1.2 – 1.4 | 9 Nov 2025 |
| Magnesium | 2.17 mg/dL | 1.2 – 1.5 – 2 – 2.6 – 4.9 | 9 Nov 2025 |
| Vitamin D, 25-Hydroxy, Total | 58.59 ng/mL | 10 – 20 – 30 – 75 – 150 | 9 Nov 2025 |
| Calcium | 9.2 mg/dL | 6.5 – 8.5 – 8.8 – 9.8 – 10.5 – 13 | 9 Nov 2025 |