

Salt Sensitivity

DNA Health Report

REPORT CATEGORIES —



NUTRITION



HEART & BLOOD
VESSELS

Sample Client

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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.

Personal information

NAME

Sample Client

SEX AT BIRTH

Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg



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.

In total, we analyze up to 83 million genetic variants.

When we give a risk score, the risk icon tells you if you are at a higher or lower risk compared to other people:



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, a few 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

Two people eat the same amount of salty foods (crackers, pizza, instant noodles, tortilla chips etc.), but while one of them is unaffected, the other experiences an increase in blood pressure. It doesn't sound fair, but that is what happens when one person is salt-resistant and the other is salt-sensitive [R, R, R].

People who are salt sensitive will experience a bump in blood pressure when they eat salty foods. They may also experience [R, R, R]:

- swelling (buildup of fluids),
- excessive thirst
- more frequent urination

This happens because their kidneys function a bit differently. It is partially due to genetics, but can also be linked to other factors, such as age, diet, and chronic health conditions [R, R, R].

Foods higher in salt include [R, R]:

- Prepared soups, broths, gravies, and sauces
- Fermented or pickled foods (such as pickles, soy sauce, olives, and capers)
- Cured meats and sausages (such as bacon, salt pork, and salami)
- Cheese (such as Roquefort and Parmesan)

Exactly how much salt people need varies between individuals. Regardless of sensitivity, **experts recommend limiting your daily intake to 1 teaspoon of salt (2,400 mg of sodium)** [R, R].

Genetics of Salt Sensitivity

PERSONALIZED TO GENES

Based on the genetic variants we looked at, you likely have a typical sensitivity to salt. Salty foods may have a moderate effect on your blood pressure.

Continue to enjoy salt in moderation if you don’t have high blood pressure. You should still try to limit your salt intake to one teaspoon per day.

People who are salt sensitive will experience a bump in blood pressure when they eat salty foods. This happens because their kidneys function a bit differently [R, R, R].

Salt sensitivity is partly determined by the genes we carry. Genes involved in salt sensitivity may influence [R, R, R, R, R, R]:

- Sodium levels in the blood and kidney
- Blood vessel function
- Blood pressure

However, other genes and environmental factors may also influence your salt needs. It is important to get the right amount of salt for you.



TYPICAL

Likely typical sensitivity to salt based on 68 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
BCAT1	rs7961152	AA
SGK1	rs9389154	GG
POC1B	rs2681472	AG
NR2F2	rs2398162	AG
ACE2	rs184874220	T
PRKG1	rs7905063	CT
PRKG1	rs7897633	CA
SLC4A5	rs7571842	AG
SCNN1A	rs4764586	AA
SCNN1G	rs4299163	GG
GC	rs4254735	TT
CLGN	rs2567241	CC
RAD52	rs2301880	TC
FGF5	rs16998073	TA
WNK1	rs12828016	TG
CSTF2T	rs12414562	AG
HYAL1	rs10510755	TC
ADRB2	rs1042714	GC
SCNN1G	rs7404408	TC
SCNN1G	rs5735	CT
SCNN1G	rs4073930	CT
SCNN1G	rs4073291	CA
RENBP	rs78377269	G
ACE2	rs714205	C
AGT	rs699	GG
ACE	rs4343	AA
SLC24A3	rs3790261	AA
ACE2	rs2285666	C
GSKIP	rs11847625	GG
SGK1	rs9376026	CC
RAD52	rs880054	CT
CPA3	rs75367686	AA

GENE	SNP	GENOTYPE
SLC8A1	rs434082	CC
SLC8A1	rs11893826	GG
CSTF2T	rs10997916	GG
SLC4A5	rs10177833	AA
SLC4A4	rs10022637	TT
KL	rs9536314	TT
SCNN1G	rs4499238	CC
SCNN1A	rs3741914	CC
TNFRSF1A	rs11614164	AA

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		DOSAGE	
1	Limit Salt Intake	2	Omega-3 (Fish Oil)2000 mg
3	Magnesium350 mg	4	Calcium Supplements1000 mg
5	DASH Diet	6	Practice Exercise Snacks1 minutesute

5 / 5

2



Omega-3 (Fish Oil)

IMPACT2 / 5

EVIDENCE3 / 5

How to implement

Take 1-2 g of omega-3 (fish oil) supplement daily, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

2000 mg

Description

Omega-3 fatty acids are essential fats found in fatty fish like salmon, flaxseeds, and walnuts. They are known for their potential cardiovascular and brain health benefits, including reducing the risk of heart disease and supporting cognitive function.

[Omega-3 fatty acids](#) are some of the healthiest fats we can eat. They help lower inflammation and protect the heart, brain, and eyes. Our bodies produce less omega-3s than we need for optimal health, so it's important to get enough through food or supplements [\[R\]](#), [\[R\]](#), [\[R\]](#).

There are three major types of omega-3s: ALA, EPA, and DHA [\[R\]](#), [\[R\]](#).

Fatty fish are rich in EPA and DHA. They include [\[R\]](#):

- Salmon
- Tuna
- Herring
- Sardines

For optimal protection, try to get at least **two servings of fatty fish per week**. Fish oil supplements are available for those who don't eat fish regularly [\[R\]](#).

How it helps

Omega-3s are important for the tightening and relaxation of your blood vessels [\[R\]](#), [\[R\]](#).

High blood levels of omega-3 fatty acids, especially DHA, may lead to lower blood pressure [\[R\]](#), [\[R\]](#).

Studies have also shown that [fish oil](#) (> 2 g/day), which is rich in omega-3s, can help decrease blood pressure [\[R\]](#), [\[R\]](#).

Combining omega-3 supplementation with dietary sodium restriction may further lower blood pressure in the elderly [\[R\]](#).

Two-sample univariable and multivariable Mendelian randomization analyses investigated the causal impact of fatty acids on pregnancy-induced hypertension. PUFA, omega-3, and DHA were found to potentially reduce pregnancy-induced hypertension risk, while higher omega-6/omega-3 ratios could increase it [\[R\]](#).

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Magnesium

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take up to 350 mg of magnesium daily as a supplement, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

350 mg

Description

Magnesium is an essential mineral involved in various bodily functions, including muscle contractions, nerve signaling, and bone health. Maintaining adequate magnesium levels through diet or supplements can support overall well-being and reduce the risk of magnesium deficiency-related health issues.

[Magnesium](#) is an essential mineral. Your body needs it for [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Muscle, nerve, and bone function
- Blood sugar and blood pressure control
- DNA and protein production
- Strong immunity

Women need **310-320 mg** of magnesium per day, while men need **400-420 mg** [\[R\]](#).

Foods rich in magnesium include **nuts, seeds, and leafy greens**. Magnesium is also available as a supplement [\[R\]](#).

How it helps

Magnesium supplementation can help manage blood pressure, which is beneficial for individuals with salt sensitivity. Adequate magnesium levels are associated with vasodilation and improved endothelial function, which may help to prevent hypertension in those sensitive to salt intake.

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Calcium Supplements

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take 500-600 mg of calcium supplement twice daily with food. For best absorption, do not exceed 600 mg at one time and ensure a total daily intake of 1000-1200 mg from all sources, including diet. Continue indefinitely for ongoing support of bone health.

TYPICAL STARTING DOSE

1000 mg

Description

Calcium supplements are commonly used to support bone health and prevent conditions like osteoporosis. Adequate calcium intake is essential for maintaining strong bones and teeth.

[Calcium](#) is the most abundant mineral in the human body. It is vital for the bones, heart, muscles, and nervous system [\[R\]](#).

Your body gets calcium from food and needs vitamin D to help absorb it. Calcium can be found in a variety of foods, including [\[R\]](#):

- Dairy products
- Green, leafy vegetables
- Fish with edible soft bones (e.g., sardines)
- Calcium-fortified foods and beverages

How it helps

Calcium can play a role in the regulation of blood pressure levels, which may be particularly advantageous for people with salt sensitivity. It helps in the smooth muscle function of blood vessels and may counteract the effects of high salt intake on blood pressure.

5



DASH Diet

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Adopt a dietary pattern that emphasizes fruits, vegetables, whole grains, lean proteins, and low-fat dairy, while reducing sodium, red meat, sweets, and sugary beverages. Aim for 4-5 servings of both fruits and vegetables per day, 6-8 servings of grains (with at least half being whole grains), and 2-3 servings of low-fat dairy. This diet should be followed daily to manage blood pressure effectively.

Description

The DASH (Dietary Approaches to Stop Hypertension) diet is a dietary plan designed to reduce high blood pressure. It emphasizes fruits, vegetables, lean proteins, and whole grains while limiting sodium intake.

Health experts developed the DASH diet to reduce blood pressure. This diet also helps support weight control while reducing inflammation and cholesterol [\[R\]](#).

It **limits salt, sweets, and saturated fat**, while promoting the intake of [\[R\]](#):

- Fruits (4-5 servings/day)
- Vegetables (4-5 servings/day)
- Whole grains (6-8 servings/day)
- Low-fat dairy (2-3 servings/day)
- Nuts, seeds, and legumes (4-5 servings/week)
- Fish and poultry (up to 6 ounces/day)

The DASH diet focuses on fresh, minimally processed food rich in nutrients. Magnesium, calcium, and potassium-rich foods are particularly important due to their beneficial effects on the heart and blood vessels [\[R\]](#).

Although similar to the [Mediterranean diet](#), DASH is lower in sodium (<2,300 mg a day) and omega-3 fatty acids. On the other hand, it’s higher in red meat and dairy [\[R\]](#).

How it helps

The Dietary Approaches to Stop Hypertension (DASH) diet is rich in fruits, vegetables, and low-fat dairy products, and is known to lower blood pressure.

6



Practice Exercise Snacks

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Integrate short bursts of physical activity, each lasting about 1 to 2 minutes, into your daily routine at least two to three times a day. These 'exercise snacks' can include activities like doing a set of stairs, rapid bodyweight exercises, pull-ups, push-ups, sit-ups, or brisk walking.

TYPICAL STARTING DOSE

1 minutesute

Description

Staying physically active is essential for maintaining overall health and well-being. **Exercise snacks** are brief, frequent bursts of physical activity integrated into daily routines, helping combat the health risks associated with prolonged sitting and sedentary behavior, such as obesity and cardiovascular issues. Examples include taking the stairs or doing quick exercises during work breaks.

Staying active can do wonders for your health. It can help you lose weight, improve your heart health, boost your mood, and more [\[R\]](#).

Exercise snacks are short, quick bursts of physical activity performed throughout the day, designed to break up prolonged periods of sitting or inactivity. These brief bouts of exercise can be as short as a few minutes and are incorporated into daily routines to boost overall physical activity levels.

Exercise snacks are crucial for health because they combat the negative effects of sedentary behavior, such as prolonged sitting, which is associated with an increased risk of obesity, cardiovascular diseases, diabetes, and musculoskeletal issues. They help improve blood circulation, regulate blood sugar levels, and enhance mood and cognitive function.

Examples of exercise snacks include taking the stairs instead of the elevator, doing a few minutes of bodyweight exercises (e.g., squats or push-ups) during work breaks, or walking briskly for a few minutes after meals. These short, frequent bursts of activity contribute to a more active lifestyle and can significantly benefit overall health by reducing the risks associated with excessive sitting.

How it helps

Staying active by engaging in regular physical activity can improve cardiovascular health and help regulate blood pressure, mitigating the impact of salt sensitivity.

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 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.

