SelfDecode™

Alkaline Phosphatase

Biohacker Report

REPORT CATEGORIES

BONE HEALTH

LIVER HEALTH

Sample Client

Report date: 15 January 2026

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Table of Contents

Personal information

NAME

Sample Client

SEX AT BIRTH

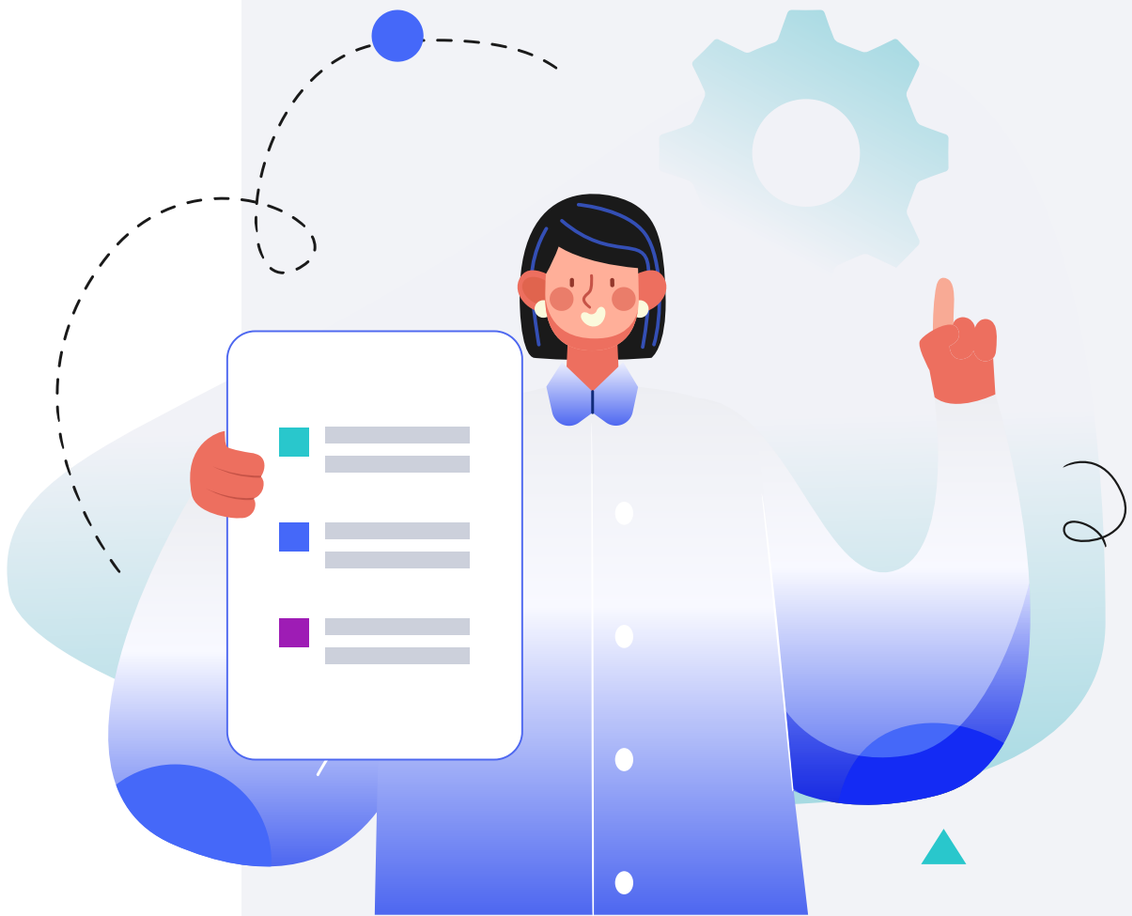
Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg

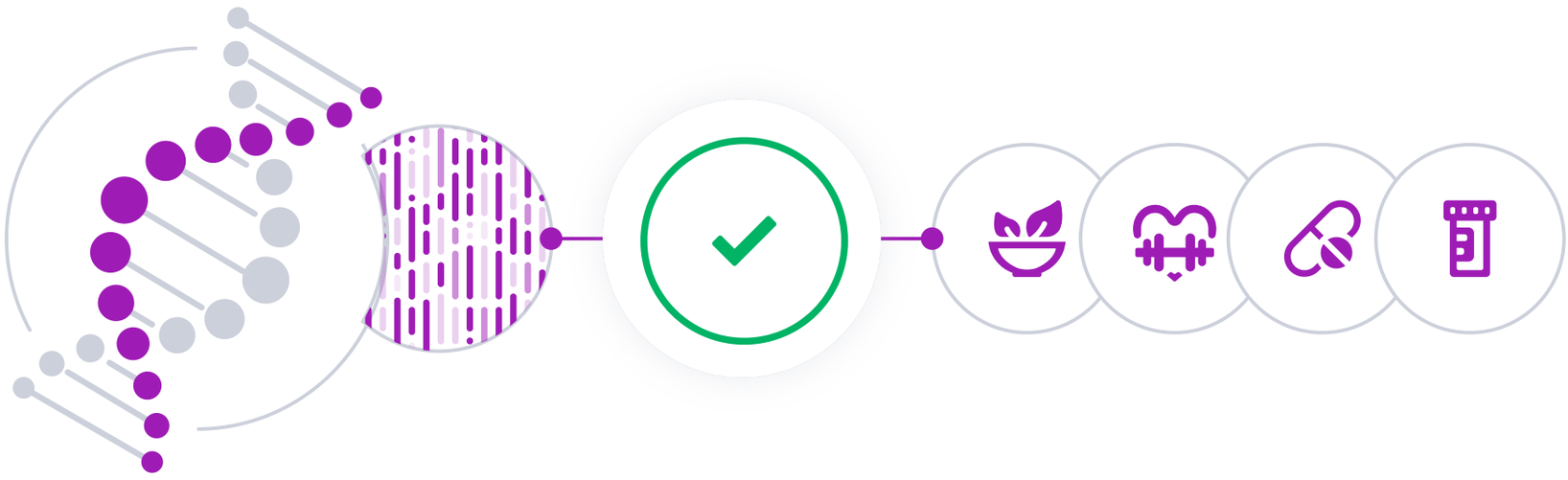


DISCLAIMER

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

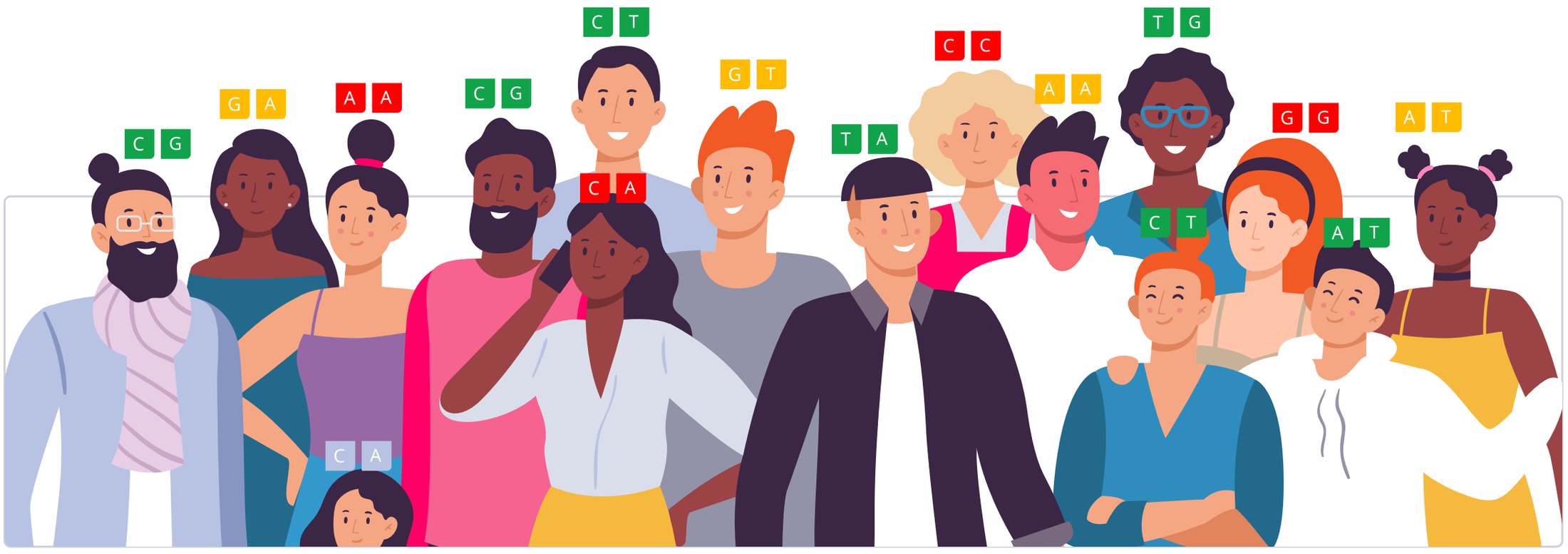
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



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.

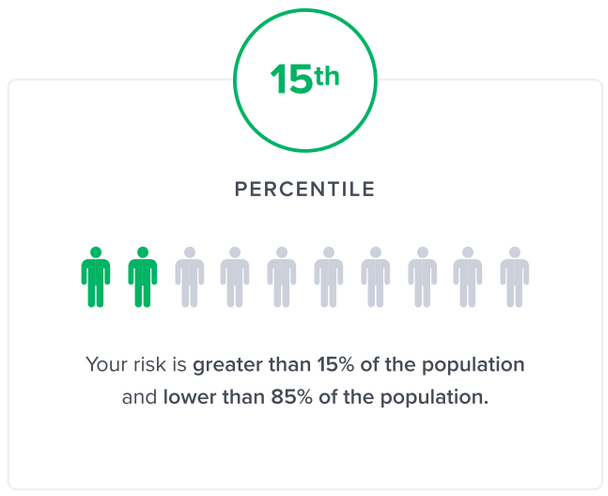
Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



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

Alkaline phosphatase is a zinc-containing enzyme. It is found in all tissues, but it's most abundant in the bones, liver, kidneys, gut, and placenta [R].

The major functions of alkaline phosphatase are to [R]:

- Protect your gut against bacteria
- Aid in digestion
- Process fats and vitamins
- Promote bone formation

Factors Influencing Alkaline Phosphatase Levels

Excess levels of this enzyme are linked to a broad range of conditions, mainly **liver and bone disorders** [R, R].

Children and pregnant women normally have higher alkaline phosphatase levels [R].

Alkaline phosphatase levels are also partly affected by **genetics** [R].

Genetically higher ALP levels may be causally associated with:

- Heart health [R]
- High cholesterol [R]
- Bone health [R]

TYPICAL LEVELS

Predisposed to typical alkaline phosphatase levels based on 1,027,109 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
GPLD1	rs7765441	AA
TRIB1	rs28601761	CC
C12ORF43	rs9738226	AA
ABHD12	rs6083799	TT
MAU2	rs58542926	CC
RAP1GAP	rs1256330	TC
TNFSF11	rs9533094	GG
FUT2	rs281392	GA
REEP3	rs10822186	GA
MTARC1	rs2642438	GG
IL6R	rs12730935	GG
CCDC77	rs7955258	GA
SH2B3	rs2073950	CC
KHNYN	rs11621792	CC
COLEC10	rs11573824	AT
GCKR	rs1260326	TC
MAF	rs4575545	AG
TMC4	rs8736	TC
BLK	rs6601527	AC
GPR180	rs6492720	CT
TREH	rs12225548	CG
MGAT5	rs2442046	CG
GPAM	rs10787429	CT
SERPINF2	rs11078597	CT
ABO	rs1633513	TT
ASGR2	rs72837690	TT
DCPS	rs7949566	GG
PPP1R3B	rs13274716	TT
IFITM3	rs12277152	GG
PGAP4	rs2183745	AA
APOE	rs484195	GG
FADS1	rs174566	AA

GENE	SNP	GENOTYPE
TRIM5	rs11601507	CC
DHRS9	rs2161037	AA
TNFRSF11A	rs884205	CC
ALDH1A2	rs261290	TT
ADH4	rs1800759	GG
RIC1	rs4471106	GG
PGAP3	rs2941505	GG
EGLN2	rs11878604	TT

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	Bile Salts	
2	Grape Seed Extract	100 mg
3	Vitamin E	200 iu
4	Black Seed (Black Cumin)	1000 mg
5	Calcium Supplements	1000 mg
6	SAM-e	400 mg
7	Avoid PAHs Exposure	
8	Intermittent Fasting	
9	Avoid PBDE	
10	Tomato	
11	Maintain Optimal Vitamin D Levels	1000 iu
12	Avoid Exposure to Heavy Metals	
13	Prunes	
14	Chicory	
15	Omega-3 (Fish Oil)	2000 mg
16	Jiaogulan (Gynostemma Pentaphyllum)	1350 mg
17	White Kwao Krua (Pueraria Mirifica)	10 mg
18	N-acetylcysteine (NAC)	1200 mg
19	Mediterranean Diet	
20	Beetroot Juice	
21	Curcumin	500 mg
22	Andrographis	300 mg
23	Milk Thistle (Silymarin)	300 mg

1

Bile Salts

IMPACT 4 / 5

EVIDENCE 4 / 5

How to implement

Take one bile salt supplement with each meal, not exceeding three times a day. Ensure to drink at least a full glass of water with each dose. For best results, continue taking bile salts with meals for at least a month to evaluate their effectiveness on digestive health.

Description

Bile salts are natural compounds produced by the liver and stored in the gallbladder. They play a crucial role in digestion by aiding in the breakdown and absorption of dietary fats.

Bile salts are important compounds found in bile. They help digest fats in the gut [R].

Bile salts are often used to counter bile salt deficiency and treat gallstones. Examples of bile salts include [R]:

- UDCA
- CDCA

How it helps

In people with biliary cholangitis or biliary cirrhosis, supplementation with bile salts (UDCA) may reduce ALP levels (by 93.80 U/L) to normal levels. However, not all studies found this effect [R, R, R, R].

2

Grape Seed Extract

IMPACT 3 / 5

EVIDENCE 3 / 5

How to implement

Take 100-300 mg of grape seed extract daily, preferably with a meal to enhance absorption. This can be done either through a single dose or split into multiple doses throughout the day. Continue this regimen for at least 3 months to observe potential benefits.

TYPICAL STARTING DOSE

100 mg

Description

Grape seed extract is rich in antioxidants called polyphenols, which may help protect against oxidative stress and support cardiovascular health. It's also believed to have potential benefits for skin health and overall well-being.

Grape seed extract is made from the seeds of wine grapes. It contains antioxidant compounds that may help support [R, R]:

- Blood circulation
- Heart health
- Blood sugar control
- Healthy weight

How it helps

Grape products, in particular grape seed extract, may lower ALP levels (by 5.49 IU/L). Treatments lasting at least 12 weeks may be most effective [R, R].

3

Vitamin E

IMPACT 3 / 5

EVIDENCE 3 / 5

How to implement

Take 200 IU of Vitamin E daily as a supplement, preferably with a meal that contains fat to enhance absorption.

TYPICAL STARTING DOSE

200 iu

Description

Vitamin E is a fat-soluble antioxidant found in various foods, such as nuts and seeds. It is known for its ability to protect cells from oxidative damage, support immune function, and may play a role in skin health. Vitamin E supplements are used to bolster antioxidant defenses and may be beneficial for conditions related to oxidative stress.

Vitamin E is an antioxidant important for the immune system and for heart health [R].

Plant-based foods have the most vitamin E. These include [R]:

- Wheat germ
- Sunflower seeds
- Almonds
- Plant oils

Adults need about **15 mg** of vitamin E per day [R].

How it helps

Four meta-analyses (the largest one with 9 trials) concluded that supplementation with vitamin E (typically, 400-1000 IU/day for 12-96 weeks) reduces alkaline phosphatase (by 10.39 U/L) and improves other markers of liver health in people with NAFLD. Combining vitamin E with lifestyle interventions improved its effects [R, R, R, R].

4

Black Seed (Black Cumin)

IMPACT 2 / 5

EVIDENCE 3 / 5

How to implement

Take 1000 mg of black seed (black cumin) supplement daily, preferably split into two doses of 500 mg each, one in the morning and one in the evening.

TYPICAL STARTING DOSE

1000 mg

Description

Black seed, also known as black cumin or Nigella sativa, has been used for its potential health benefits in traditional medicine. It is believed to have anti-inflammatory, antioxidant, and immune-boosting properties.

Black seed (black cumin) and its oil are used in cooking and traditional medicine [R].

People use black seed for [R, R, R, R, R]:

- Asthma
- Allergies
- High blood sugar
- High blood pressure
- Joint pain

How it helps

According to a meta-analysis, black cumin supplementation significantly reduces ALP levels, with a daily dose of 1100-1500 mg showing the best results [R].

In a study, black cumin and ascorbate combined with medication effectively reduced ALP, other liver markers, and viral load in hepatitis C patients [R].

5

Calcium Supplements

IMPACT 2 / 5

EVIDENCE 2 / 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

A review of 9 studies found that vitamin D (800-1000 IU) combined with calcium reduced ALP levels [R].

In one study, calcium supplementation (500 mg/day for 3 months) led to a significant fall in mean ALP concentrations in a rural black population [R].

In children with secondary hyperparathyroidism, calcium carbonate improved skeletal lesions and reduced ALP levels [R].

Please note: *calcium competes with iron for absorption in the intestines, potentially exacerbating anemia or making it harder to manage. If you have anemia, consult your healthcare provider before using calcium supplements.*

6

SAM-e

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Take 400-1600 mg of SAM-e as a supplement daily, preferably on an empty stomach to enhance absorption. It is often recommended to start with low dosage and observe how your body responds over a few weeks, adjusting as necessary under the guidance of a healthcare provider.

TYPICAL STARTING DOSE

400 mg

Description

SAM-e is a chemical that helps maintain liver and brain health. Your body makes SAM-e from the amino acid *methionine*, but it's also available as a supplement [R].

SAM-e supplementation may help with:

- Joint pain [R]
- Liver disease [R]
- Depression [R]

> **Please note:** *SAM-e may not be safe for people with a bipolar disorder. It may also interact with 5-HTP, St. John's wort, and different medications. Combining it with antidepressants can be dangerous and even life-threatening. Never take SAM-e supplements without consulting your doctor* [R, R, R].

How it helps

In people with bile flow problems, SAMe supplementation for 15-30 days resulted in a 24.1% reduction in alkaline phosphatase levels compared to 12.5% improvement with placebo [R].

A study observed the same effect of SAMe in people with other liver problems [R].

However, it failed to improve ALP levels in people with alcoholic liver disease [R, R].

7

Avoid PAHs Exposure

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Minimize your exposure to Polycyclic Aromatic Hydrocarbons (PAHs) by avoiding or reducing consumption of charred, grilled, or smoked foods, not smoking or avoiding secondhand smoke, and limiting time spent in areas with heavy traffic or industrial fumes. Use exhaust fans in kitchens and ensure proper ventilation when cooking at high temperatures to reduce indoor levels of PAHs.

Description

PAHs or Polycyclic Aromatic Hydrocarbons are harmful substances found in smoke and grilled foods. Try to limit exposure to them for better health. For example, avoid inhaling smoke from cigarettes or barbeques and choose alternative cooking techniques over grilling. Minimizing PAHs can reduce the risk of several health issues, particularly lung and skin diseases.

How it helps

Gas station workers may have higher ALP levels [R].

8

Intermittent Fasting

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Limit your daily eating to a specific window of time, typically within an 8-hour period such as from 12 pm to 8 pm, and fast for the remaining 16 hours of the day. Repeat this daily or for at least 3-4 days per week.

Description

Intermittent fasting is an eating pattern that involves cycling between periods of fasting and eating. It may help with weight management, improve metabolic health, and offer potential benefits for certain health conditions when done under proper guidance.

Intermittent fasting (IF) is a pattern of eating that alternates between periods of eating and fasting. The most popular IF method is called the 16/8 method, where you fast for 16 hours and eat during an 8-hour window.

People mainly practice IF to lose weight. Besides benefits related to weight reduction, IF may help lower the risk of [R]:

- Alzheimer's disease
- Joint pain
- Asthma
- Multiple sclerosis
- Stroke

Some types of intermittent fasting, such as Ramadan fasting, are also practiced for religious reasons.

How it helps

Ramadan fasting may cause small but significant reductions in ALP levels [R].

9

Avoid PBDE

IMPACT 2 / 5

EVIDENCE 1 / 5

How to implement

To avoid PBDEs, replace old furniture that might contain these chemicals, vacuum and dust your home regularly to reduce dust particles that might contain PBDEs, and use products labeled as PBDE-free. Ensure you check labels on electronics, furnishings, and textiles for mention of being PBDE-free.

Description

Polybrominated Diphenyl Ethers (PBDEs) are commonly found in flame retardants used in household items. These chemicals are linked to health issues like hormone disruption and neurodevelopmental problems. Opt for PBDE-free products, improve ventilation, and frequently clean to minimize dust, which can contain PBDE particles, promoting a healthier living environment.

How it helps

A study of 2,040 participants associated exposure to BDE-153 with 0.82% higher alkaline phosphatase levels and 0.53% higher neutrophil counts [R].

PBDEs can disrupt regular bodily functions and potentially increase alkaline phosphatase levels.

10

Tomato

IMPACT 2 / 5

EVIDENCE 1 / 5

How to implement

Incorporate fresh or cooked tomatoes into your daily diet. This can be achieved by adding them to salads, sandwiches, pastas, and sauces or simply eating them on their own. Aim for at least one serving (approximately 1 medium-sized tomato or 1/2 cup of chopped or cooked tomatoes) per day.

Description

Tomatoes are a fruit grown widely in numerous varieties, and are rich in vitamins C and K, as well as the antioxidant lycopene, which may contribute to heart health and protect against certain chronic diseases when incorporated into a balanced diet.

Tomato (*Solanum lycopersicum*) is a fruit originally from the Andes in South America. It is usually consumed as a vegetable in juices, sauces, or fresh. Tomate is an important source of [R]:

- Vitamin C
- Potassium
- Antioxidants (e.g., lycopene)
- Vitamin B9 (folate)

Tomato is traditionally used for [R, R]:

- High cholesterol
- High blood pressure

How it helps

In a non-placebo-controlled trial of 39 postmenopausal women, consuming a lycopene-rich tomato sauce (150 mL/day) for 3 months prevented bone loss and reduced bone alkaline phosphatase [R].

11

Maintain Optimal Vitamin D Levels

IMPACT 1 / 5

EVIDENCE 3 / 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

Lower levels of 25-hydroxyvitamin D (25OHD) are associated with higher ALP levels. In a study, patients with severe vitamin D deficiency (25OHD < 10 ng/mL) showed elevated ALP levels while those with higher vitamin D levels (25OHD > 15 ng/mL) had normal ALP levels [R].

A review of 9 studies found that vitamin D (800-1000 IU) combined with calcium reduced ALP levels [R].

Similarly, vitamin D supplementation reduces ALP levels (by 13.79 U/L) when the administered dose is above 3,000 IU/day according to a meta-analysis [R].

Vitamin D is essential for bone health and may help normalize ALP levels, especially if they are elevated due to bone disorders or vitamin D deficiency.

PERSONALIZED TO YOUR GENES

Supplementation with vitamin D may lower alkaline phosphatase levels more in people with your *VDR* gene variant [R].

YOUR GENETIC VARIANTS

GENE	SNP	GENOTYPE	EVIDENCE
VDR	**rs2228570**	GA	

12

Avoid Exposure to Heavy Metals

IMPACT 1 / 5

EVIDENCE 2 / 5

How to implement

To avoid exposure to heavy metals, ensure you're not using cosmetic products with heavy metals, opt for organic foods to minimize pesticide exposure, and use filters for drinking water to remove possible contaminants. Check for lead-based paints in older homes and avoid cooking or storing food in uncoated metal containers. When possible, choose glass or BPA-free plastics instead.

Description

Heavy metals are elements naturally found in the environment. They are also used for agricultural, industrial, and medicinal purposes. Some can even be found in small amounts in your body [R, R].

Long-term exposure to high amounts of heavy metals can be harmful to your health [R, R].

Heavy metals that are most often linked to health problems include [R, R]:

- Lead
- Cadmium
- Arsenic
- Chromium
- Mercury

How it helps

Studies have linked occupational heavy metal exposure to higher ALP levels [R, R].

Heavy metals can disrupt liver function and bone turnover, which in turn may influence alkaline phosphatase levels.

13

Prunes

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Eat 5-6 prunes daily, either as a snack or incorporated into meals, to help improve digestion and potentially bone health. Continue this habit consistently for at least a few weeks to observe benefits.

Description

Prunes are dried plums that are rich in dietary fiber, vitamins, and minerals, particularly potassium and vitamin K, as well as antioxidants. They are often consumed to support digestive health and may help regulate bowel movements.

Prunes are a good source of omega-6 fatty acids, vitamin A and B6, potassium, iron, magnesium, and copper. A ½ cup serving provides 635 mcg or 14%DV.

How it helps

In a study with 166 healthy volunteers, those who consumed either three or six prunes soaked in water daily for 8 weeks experienced a significant reduction in serum ALP levels compared to the control group [R].

14

Chicory

IMPACT 1 / 5

EVIDENCE 1 / 5

Description

Chicory is a nutrient-rich vegetable that has been shown to have a number of health benefits. It is a good source of fiber, vitamin K, and antioxidants. Chicory may also help to improve digestion, lower blood sugar levels, and boost the immune system.

How it helps

In a placebo-controlled trial of 46 patients with type 2 diabetes mellitus, enriched chicory inulin supplementation led to significant reductions in fasting serum glucose, HbA1C, AST, and ALP concentrations. It also improved systolic and diastolic blood pressures and increased serum calcium [R].

15

Omega-3 (Fish Oil)

IMPACT 1 / 5

EVIDENCE 1 / 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

A study demonstrated that long-term supplementation with fish oil, rich in omega-3 polyunsaturated fatty acids, led to improvements in liver fibrosis and a reduction in markers like ALP in people with fatty liver [R].

16

Jiaogulan (Gynostemma Pentaphyllum)

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a capsule of jiaogulan (gynostemma pentaphyllum) containing 450 mg to 500 mg, three times a day with meals. Continue this routine daily for best results.

TYPICAL STARTING DOSE

1350 mg

Description

Jiaogulan, often referred to as the "immortality herb," is an herb used in traditional Chinese medicine for its potential adaptogenic and antioxidant properties. Some research suggests it may support overall well-being and longevity, but more studies are needed to confirm these effects.

Gynostemma (*Gynostemma pentaphyllum*), also called jiaogulan, is a climbing vine native to Southeast Asia. It is used in traditional Chinese medicine for [R]:

- High cholesterol
- Diabetes

People call it the "poor man's ginseng" because it may have similar benefits but cost less than Panax (Asian) ginseng [R, R].

How it helps

According to a placebo-controlled trial of 56 patients with NAFLD, supplementation with *Gynostemma pentaphyllum* (80 mL for 4 months) as an add-on to a controlled diet may lower BMI, AST, ALP, insulin, and HOMA-IR better than the diet alone [R].

17

White Kwao Krua (Pueraria Mirifica)

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a Pueraria mirifica supplement, commonly known as white kwao krua, once daily, with dosages typically ranging from 10 to 100 mg. It is best to start with the lowest dose to assess your body's response before possibly increasing the amount under medical supervision. The duration of use should be as advised by a healthcare professional, considering the specific health goals or conditions being targeted.

TYPICAL STARTING DOSE

10 mg

Description

White Kwao Krua, also called Pueraria Mirifica, is a plant found in Thailand known for its health benefits. It’s usually used as a supplement that can help balance hormones, improve skin health, and may have benefits for bone health. By taking this supplement, it can positively enhance your overall health and well-being.

How it helps

In a placebo-controlled trial of 71 postmenopausal women, supplementation with pueraria (20-50 mg/day) for 24 weeks decreased bone-specific alkaline phosphatase levels (by 0.09 U/L) [R].

18

N-acetylcysteine (NAC)

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 600 mg of N-Acetylcysteine (NAC) supplement daily with water. It can be taken at any time of the day, but try to take it at the same time each day for best results.

TYPICAL STARTING DOSE

1200 mg

Description

NAC is a supplement that contains a form of the amino acid cysteine, a protein building block that your body uses to make the antioxidant glutathione. It is used for its potential antioxidant properties and its ability to support lung, gut, and mental health.

N-acetylcysteine (NAC) is converted to cysteine in the body. Cysteine is a protein building block (amino acid) that helps make the antioxidant glutathione [R].

People take NAC to potentially support [R, R]:

- Mental health
- Ovarian health and pregnancy outcomes
- Lung health
- Gut health

How it helps

NAC helps protect the liver and may reduce ALP levels if they are elevated due to liver dysfunction.

In a randomized placebo-controlled clinical trial involving end-stage renal disease (ESRD) patients under routine hemodialysis, NAC administration for one month (1200 mg/day) resulted in an increase in ALP levels [R].

19

Mediterranean Diet

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate a variety of primarily plant-based foods, such as fruits, vegetables, whole grains, nuts, and legumes, into every meal. Choose healthy fats, like olive oil, over saturated fats and consume fish and poultry at least twice a week. Limit red meat to a few times a month and include a moderate amount of dairy products. Opt for water and red wine in moderation as your beverages.

Description

The Mediterranean diet is based on the traditional cuisine from the Mediterranean regions. It moderates the intake of red meat and dairy, while being rich in fruits and vegetables, whole grains, and healthy fats (olive oil).

The Mediterranean diet focuses on traditional cuisine from the Mediterranean regions. It's rich in [R]:

- Olive oil
- Fruits and vegetables
- Whole grains
- Nuts and seeds
- Fish

This type of diet may **reduce inflammation and protect the brain and heart** [R, R, R, R].

Limited intake of animal products, saturated fat, and refined sugar likely contribute to the health benefits of the Mediterranean diet [R].

How it helps

In one study on people with fatty liver, the Mediterranean diet reduced ALP levels in 12 weeks [R].

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Beetroot Juice

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Consume 200-250ml of beetroot juice daily, at least 1-2 hours before engaging in physical activity or as part of your breakfast routine. This regimen should be maintained consistently for at least 2 weeks to start noticing benefits in terms of increased stamina and blood pressure regulation.

Description

Beetroot juice is a concentrated source of dietary nitrates, known for their potential to enhance athletic performance and improve blood pressure regulation. It is often consumed by athletes to enhance stamina and aid in recovery.

Beetroot (*Beta vulgaris*) contains iron, nitrates, sodium, potassium, and betalaine [R].

Beets are an inexpensive and mineral-rich vegetable that are widely used in Western cooking. Compared to other vegetables with high iron content, beets have a low price and are easy to store [R].

How it helps

In one study on people with fatty liver, beetroot juice (250 g beetroot) reduced ALP levels in 12 weeks [R].

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Curcumin

IMPACT 0 / 5

EVIDENCE 1 / 5

How to implement

Take a 500 mg curcumin supplement daily with food. To enhance absorption, take it with a meal that contains fats or oils since curcumin is fat-soluble.

TYPICAL STARTING DOSE

500 mg

Description

Curcumin is a compound found in turmeric known for its anti-inflammatory and antioxidant properties. It has been studied for its potential to reduce inflammation, support joint health, and contribute to overall well-being.

Turmeric is a yellow spice from India. It may reduce inflammation and oxidative stress [R].

The most important active compound in turmeric is **curcumin.** People use curcumin for [R, R, R, R, R, R]:

- Joint pain
- Hay fever
- Mood
- High blood sugar
- Gut health
- Liver health

How it helps

Curcumin may help protect the liver and reduce inflammation. Curcumin and photo-irradiated curcumin significantly decreased alkaline phosphatase levels in alcohol- and PUFA-induced hyperlipidemia [R].

However, it failed to reduce ALP in women with fatty liver, alone or in combination with strength training [R].

Please note: *curcumin may interfere with iron absorption due to its iron-chelating properties, potentially exacerbating anemia or making it harder to manage. If you have anemia, consult your healthcare provider before using curcumin or turmeric supplements* [R, R, R].

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Andrographis

IMPACT 0 / 5

EVIDENCE 1 / 5

How to implement

Take an Andrographis supplement following the dosages provided on the product label, usually ranging from 300 to 600 mg daily. This is typically divided into two to three doses throughout the day, with meals, and should be done for up to 8 weeks to support immune function or relieve cold symptoms.

TYPICAL STARTING DOSE

300 mg

Description

Andrographis is a medicinal herb native to South Asian countries like India and Sri Lanka. It is known for its potential health benefits, primarily due to its active compound, andrographolide, which has anti-inflammatory and immune-boosting properties. Andrographis is often used in traditional medicine to treat conditions such as upper respiratory tract infections, fever, and digestive issues.

Andrographis (*Andrographis paniculata*) is an Ayurvedic plant known as the “king of bitters” People traditionally use it to fight infections and the common cold [R].

How it helps

In an uncontrolled trial of 20 healthy participants, supplementation with andrographis (1.4 g, 12x/day) for 3 days lowered ALP levels [R].

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Milk Thistle (Silymarin)

IMPACT 0 / 5

EVIDENCE 1 / 5

How to implement

Take a 300 mg milk thistle (silymarin) supplement daily with water, preferably with a meal for better absorption.
Continue this regimen as advised by your healthcare provider.

TYPICAL STARTING DOSE

300 mg

Description

Silymarin is a natural plant extract derived from the milk thistle plant (Silybum marianum). It has been traditionally used for its potential anti-inflammatory and liver-protective properties. Silymarin consists of several flavonolignans, including silybin, silydianin, and silychristin.

Milk thistle (*Silybum marianum*) is a purple flowering plant in the daisy family. Traditionally, it has been used for liver problems. Some people also eat the leaves in salads [R, R].

The extract of milk thistle is called *silymarin* [R, R, R].

People use milk thistle to help with [R, R, R]:

- Liver problems
- Blood sugar control
- Indigestion
- Skin problems

How it helps

In a study on trauma patients with liver injury, silymarin supplementation led to a notable decrease in ALP levels [R].

In people taking isotretinoin, a medication known to elevate liver enzymes, silymarin effectively prevented an increase in ALP [R].

However, some studies didn't find this benefit [R].

According to one meta-analysis, medicinal plants and natural products, particularly silymarin and cinnamon, can reduce liver enzymes in non-alcoholic fatty liver patients, but their effect on ALP reduction is not statistically significant [R].

Another meta-analysis found no effect of silymarin on ALP in people with alcoholic liver disease [R].

Silymarin from milk thistle has well-known liver-protective properties.

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