SelfDecode™

IL1B (Inflammation/ Fatigue)

Gene Report

REPORT CATEGORIES

INFLAMMATION & AUTOIMMUNITY

ENERGY & FATIGUE

Sample Client

Report date: 15 January 2026

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Personal information

NAME

Sample Client

SEX AT BIRTH

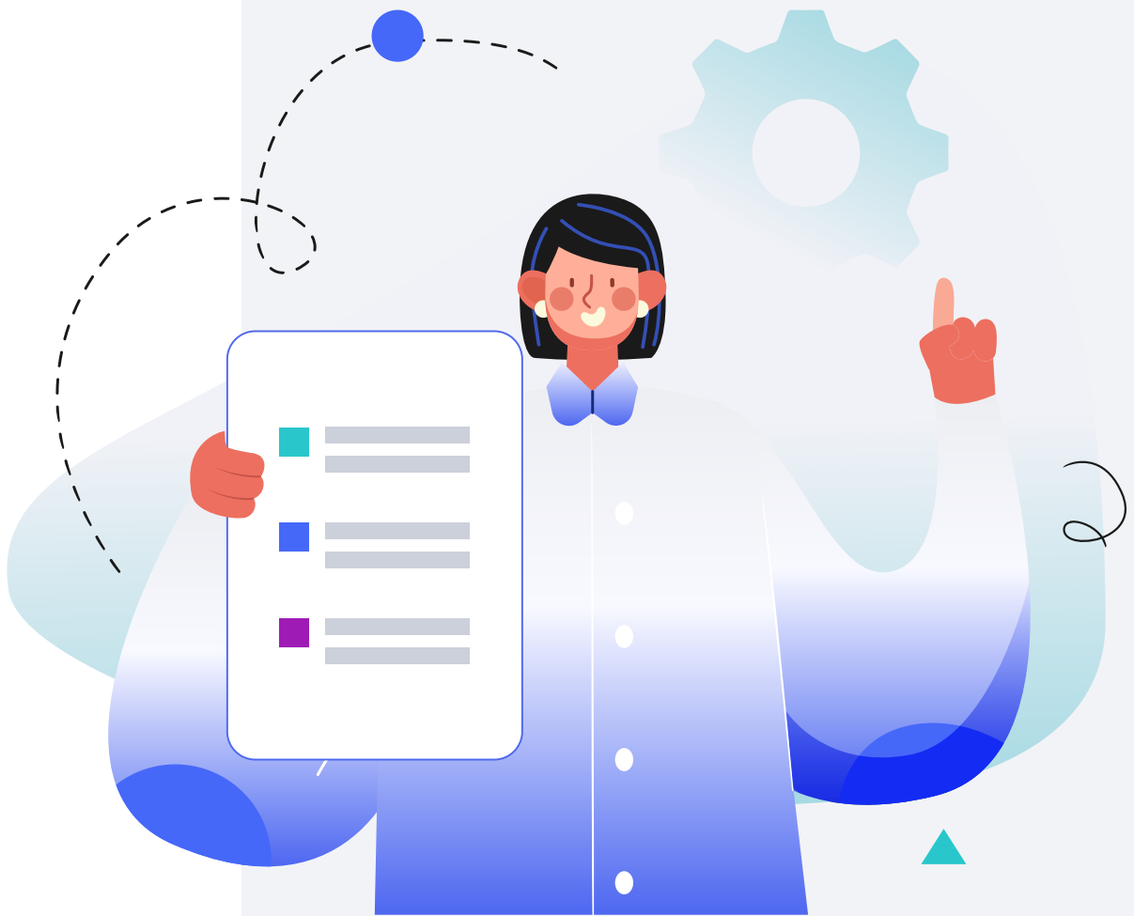
Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg

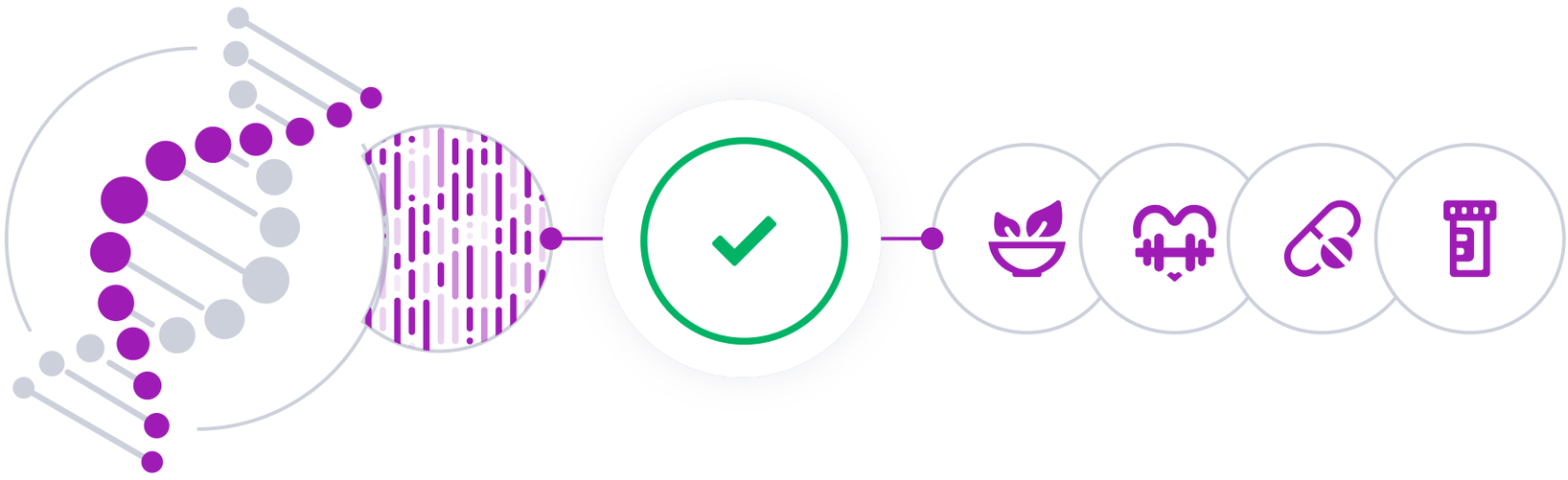


DISCLAIMER

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

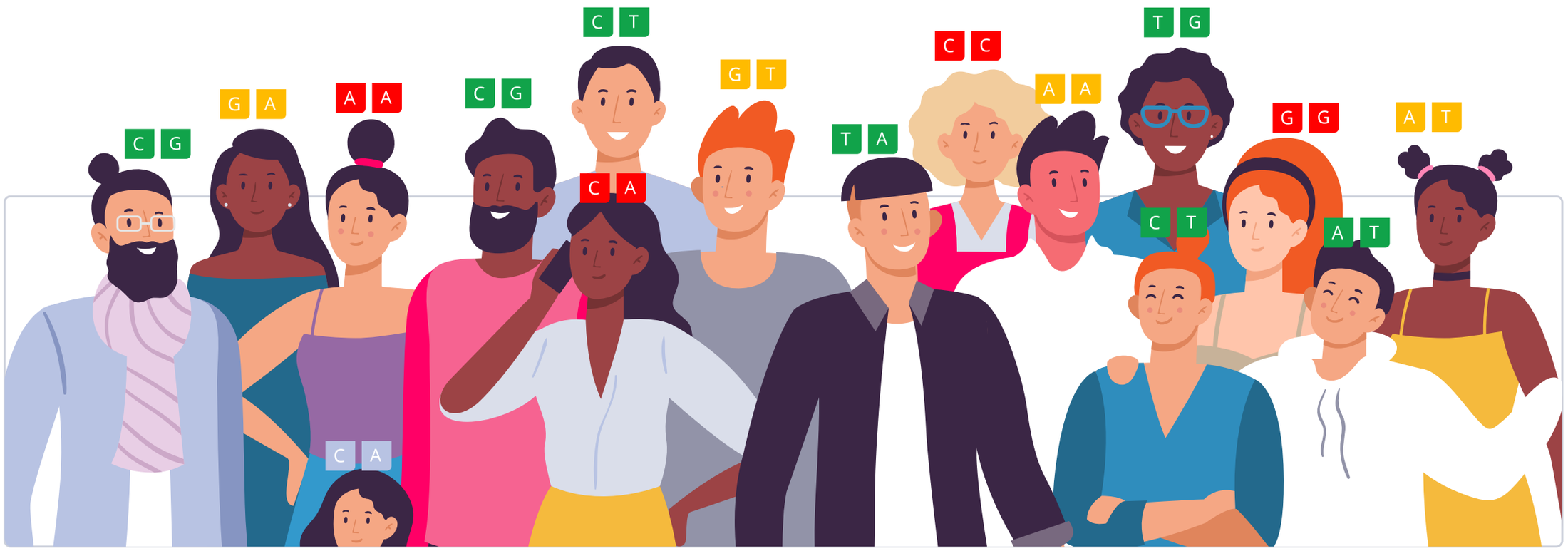
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



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.

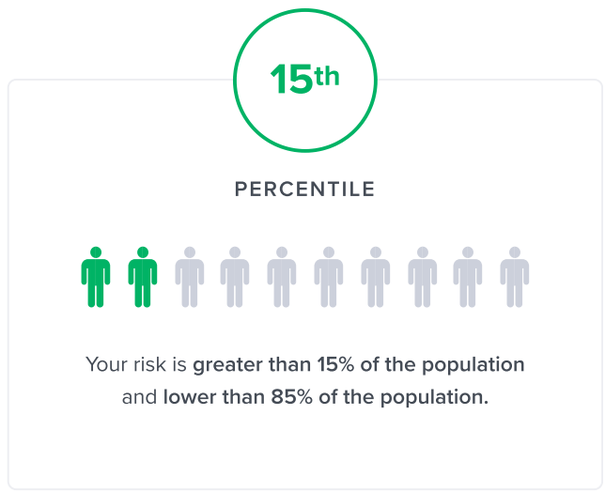
Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



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.



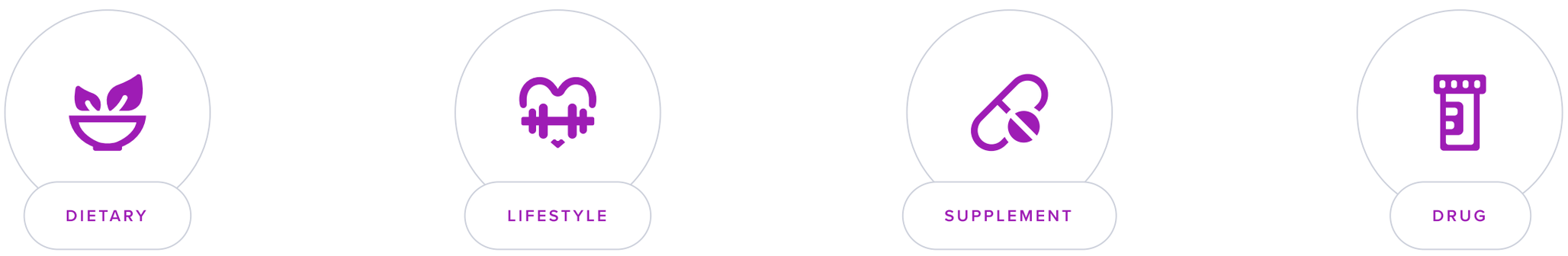
Genotype color info: AA You don't have any risk alleles | AA You have 1 risk allele | AA You have 2 risk alleles

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 *IL1B* gene encodes interleukin 1-beta (IL-1β), one of the chief inflammatory cytokines. IL-1β is released from white blood cells (macrophages, monocytes, and neutrophils) in response to cell stress or damage and acts as an "alarm signal" for the release of many other pro-inflammatory compounds, including [R, R, R, R]:

- Reactive oxygen species
- Nitric oxide
- NF-kB
- CREB
- STAT3

IL-1β further contributes to the inflammatory response by activating Th9 and Th17 cells, as well as stimulating the production of IL-6, another major pro-inflammatory cytokine [R].

Although the release of IL-1β normally increases in response to infection, it can also increase after exposure to psychological stressors. For example, researchers studying the effects of childhood trauma on healthy adults found a significant link between childhood trauma and increased blood levels of IL-1β [R, R, R, R].

IL1B Genetics

One of the most highly-studied SNPs in the *IL1B* gene is rs16944, also known as the '*C-511/T*' polymorphism. Its 'A' allele is associated with higher IL-1β levels. In line with this, the variant is associated with multiple inflammatory conditions such as [R, R, R, R]:

- Rheumatoid arthritis [R]
- Acute pancreatitis [R]
- Severe reactions to common infectious illnesses, such as the flu [R]

In addition, the variant has been linked to:

- Depressive and anxiety symptoms of PTSD [R, R]
- Chronic fatigue syndrome [R]
- Various types of cancer (including cervical, prostate, gastric, bone marrow, and breast cancers) [R, R, R, R, R, R, R]
- Mortality from systemic infections, such as septic shock [R]
- Reduced longevity (in males only) [R]

Other variants that may increase *IL1B* activity include:

- 'C' at rs1143633 [R]
- 'T' at rs1143643 [R]
- 'A' at rs1143627 [R]
- 'A' at rs1143634 [R, R]
- 'C' at rs1143623 [R]

These variants have been associated with

- Asthma [R]
- Allergies [R]
- Rheumatoid arthritis [R, R]
- Cavities and gum disease [R, R, R, R]
- Metabolic syndrome and higher waist circumference [R]
- Acute pancreatitis [R]
- Preeclampsia [R]

On the bright side, they may be linked to a lower risk of:

- Obesity and high body fat [R, R, R, R, R, R]
- PTSD and depressive symptoms in this condition [R, R]

LOWER ACTIVITY

Likely lower IL1B activity based on 6 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
IL1A	rs1143633	CC
IL1B	rs16944	AG
IL1A	rs1143627	GA
IL1A	rs1143623	GC
IL1B	rs1143643	CC
IL1B	rs1143634	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.

		DOSAGE
1	Omega-3 (Fish Oil)	2000 mg
2	N-acetylcysteine (NAC)	1200 mg
3	Green Tea	400 mg
4	Dietary Iron	
5	Curcumin	500 mg
6	Pyrroloquinoline Quinone (PQQ)	20 mg

1

Omega-3 (Fish Oil)

IMPACT 3 / 5

EVIDENCE 4 / 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

In a randomized controlled trial of patients with non-healing and inflamed leg wounds, omega-3 supplements significantly lowered blood levels of IL-1b. Similar results were found after omega-3 supplementation, in a clinical trial of rheumatoid arthritis patients [R, R].

Supplementation with **omega-3s from fish (1.7-4.2 g/day for 6-24 weeks)** may help reduce low-grade inflammation [R, R, R, R].

Omega-3s may also reduce inflammation linked to chronic health conditions [R, R, R, R, R, R].

Please note: *Fish oil can interact with blood thinners (like aspirin, Plavix, and Coumadin). Consult your doctor before taking fish oil* [R].

2

N-acetylcysteine (NAC)

IMPACT 2 / 5

EVIDENCE 3 / 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

N-acetylcysteine (NAC) may help promote IL-1b release from cells during periods of stress. While this may increase appropriate inflammation in the short term (in response to infection, for example), it may also help restore normal IL-1b in people with chronic fatigue [R].

A meta-analysis of 28 studies concluded that supplementation with NAC lowers homocysteine (by 1.45 pg/mL), IL-8 (by 2.56 pg/mL), and MDA (by 1.44 µmol/L), and TNF-α and IL-6 after sensitivity analysis [R].

In a placebo-controlled trial of 24 hemodialysis patients, supplementation with NAC (600 mg, 2x/day) for 3 months lowered CRP and IL-6 levels [R].

NAC (1,200-4,800 mg/day for 12 weeks) may reduce post-exercise muscle fatigue, oxidative stress, and inflammation. It may also help people with fatigue related to lupus [R, R, R, R, R, R, R, R, R, R].

Please note: *NAC may interact with blood thinners (like aspirin, Plavix, Coumadin). If you are taking blood thinners or planning a surgery, consult your doctor before consuming NAC* [R].

3

Green Tea

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Consume 400 mg of green tea extract daily. This can be taken in the form of capsules or tablets available that specify the amount of green tea extract. Ensure the supplement is taken according to the product's specific instructions, usually once a day with water.

TYPICAL STARTING DOSE

400 mg

Description

Tea is a beverage made by steeping the leaves of the Camellia sinensis plant in hot water. It comes in various types, including black, green, white, and herbal teas, and is known for its diverse flavors and potential health benefits due to antioxidants and other bioactive compounds.

Green and black tea are made from the same plant (*Camellia sinensis*). This plant is processed in different ways to make each type of tea [R, R].

Tea contains antioxidants called **flavonoids**, which may help prevent [R, R, R, R]:

- Heart disease
- Cancer
- Diabetes

How it helps

High green tea intake is associated with reduced levels of inflammatory cytokines, including IL-1beta [R, R, R, R, R, R, R, R].

However, not all studies found these same benefits for drinking green tea or supplementing with green tea extract [R, R].

Please note: *polyphenols from green tea may bind to iron and form insoluble complexes, which reduces iron absorption in the gut. If you have anemia, consult your healthcare provider before using green tea* [R].

4

Dietary Iron

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Incorporate iron-rich foods into your daily meals, such as red meat, chicken, turkey, fish, beans, lentils, tofu, cooked spinach, and fortified cereals. Aim for at least 18 mg of iron per day for adult women and 8 mg per day for adult men. It's also beneficial to pair these foods with vitamin C-rich foods like oranges, strawberries, or bell peppers to enhance iron absorption.

Description

Iron (Fe) is an essential mineral. It helps make hemoglobin, a protein that carries oxygen to cells. In this way, iron **increases energy** and supports **brain and immune system function** [R, R, R].

Foods rich in iron include [R]:

- Oysters
- White beans
- Beef
- Chocolate
- Spinach
- Fortified cereals

Women should be getting **8-18 mg** of iron per day, while **men** should be getting **8 mg** [R].

Groups at risk of iron deficiency include [R]:

- Menstruating women
- Children
- Vegetarians
- Routine blood donors

How it helps

The relationship between IL-1b and iron appears to be complex: IL-1b immediately increases available iron, which over a longer term may increase iron-binding proteins that decrease available iron [R, R].

Iron helps transport oxygen to cells. This is essential for energy production. Thus, **fatigue is common in people with iron deficiency** [R, R].

In deficient people, supplementing with iron may help reduce fatigue. It may also boost physical performance [R].

Please note: *A high dose of iron can be toxic. If you are not deficient, it is best to get iron from food. Talk to your doctor before taking iron supplements* [R].

5

Curcumin

IMPACT 2 / 5

EVIDENCE 2 / 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 (1-2.4 g/day for 4-8 weeks) may reduce inflammation. The effects may be stronger in people with a higher degree of inflammation. However, some studies found no benefits [R, R, R].

Curcumin may help by lowering IL-1beta and other inflammatory cytokines [R, R, R].

Note that curcumin is hard to absorb. Look for supplements with *bioavailable* curcumin, which is easier to absorb. Combining it with piperine (a compound in black pepper) may also help [R, 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].

6

Pyrroloquinoline Quinone (PQQ)

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 20 to 40 mg of Pyrroloquinoline Quinone (PQQ) daily as an oral supplement, ideally with meals to enhance absorption. This dosage can be maintained indefinitely as part of your daily supplement routine.

TYPICAL STARTING DOSE

20 mg

Description

PQQ is a micronutrient found in foods like spinach, green tea, and kiwifruit. It acts as a cofactor for enzymes involved in energy metabolism and may support mitochondrial health, which is essential for overall cellular function and vitality.

Pyrroloquinoline quinone (PQQ), also known as methoxatin, is a compound that helps enzymes work better. PQQ is also involved in the production of new mitochondrias. By doing so, PQQ helps improve [R, R]:

- Energy levels
- Antioxidant protection
- Growth
- Reproduction

How it helps

A study investigated the effects of pyrroloquinoline quinone (PQQ) supplementation in humans. In the first experiment, a single dose of PQQ was given, which resulted in apparent changes in antioxidant potential. In the second experiment, daily PQQ supplementation led to decreases in plasma C-reactive protein, interleukin-6, and urinary metabolites associated with enhanced mitochondria-related functions [R].

PQQ may help by lowering inflammatory cytokines, including IL-1beta [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.

ESR	1 mm/hr	0 6 15 100	9 Nov 2025
WBC	6.92 x10^3/mm3	2 4 6.5 11 40	9 Nov 2025
hs-CRP	1.6 mg/L	0 0.5 3 100 500	9 Nov 2025