SelfDecode™

TNF Gene (Inflammation)

Gene Report

REPORT CATEGORY

INFLAMMATION & AUTOIMMUNITY

Sample Client

Report date: 15 January 2026

Powered by omicsedge

Table of Contents

03 How this works

04 Impact

05 Evidence

06 Some things to keep in mind

07 Introduction

08 Your genetics

10 Your recommendations

52 Next Steps

52 Your Lab Results

Personal information

NAME

Sample Client

SEX AT BIRTH

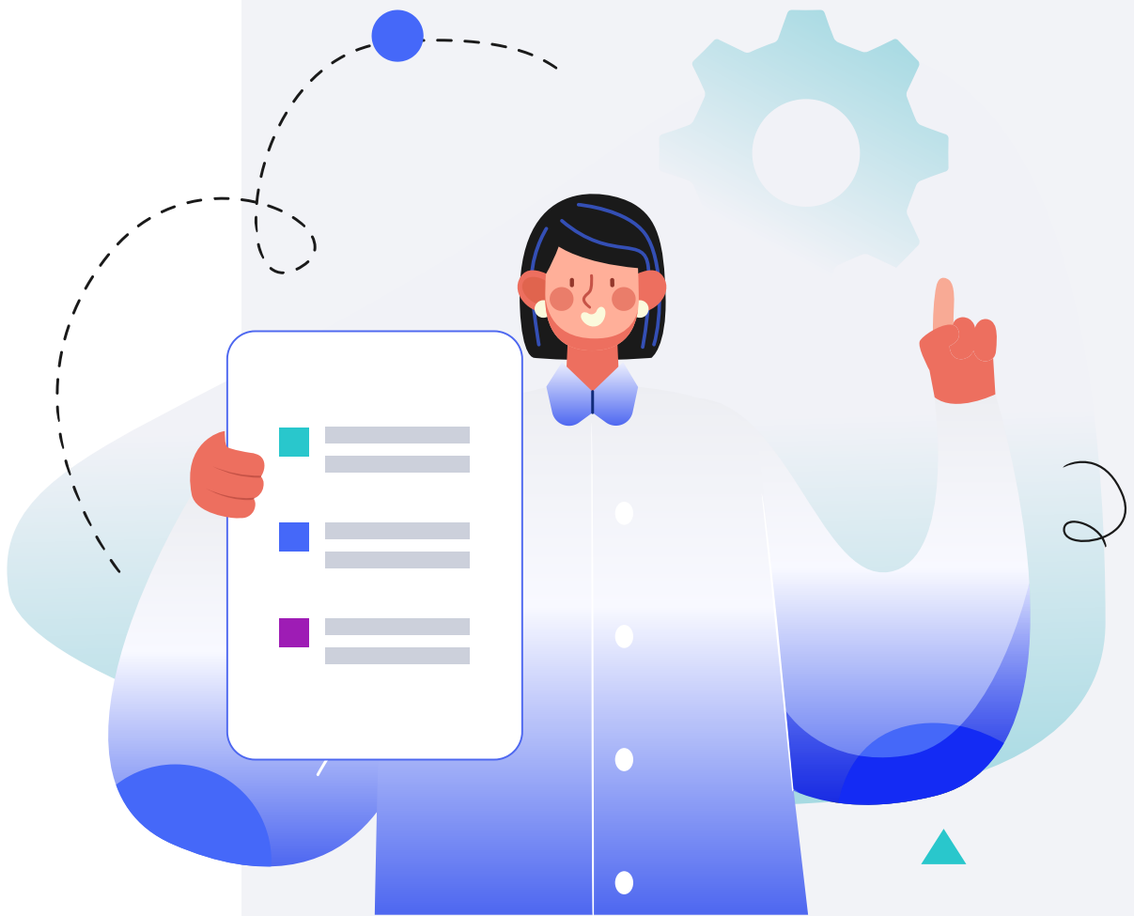
Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg

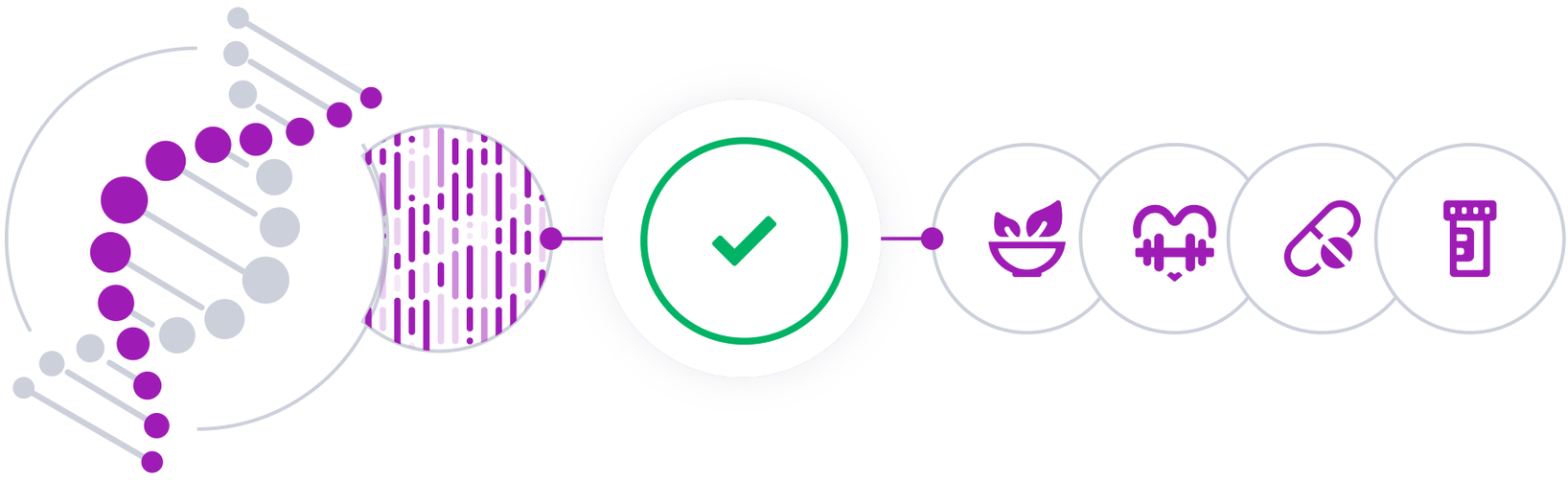


DISCLAIMER

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

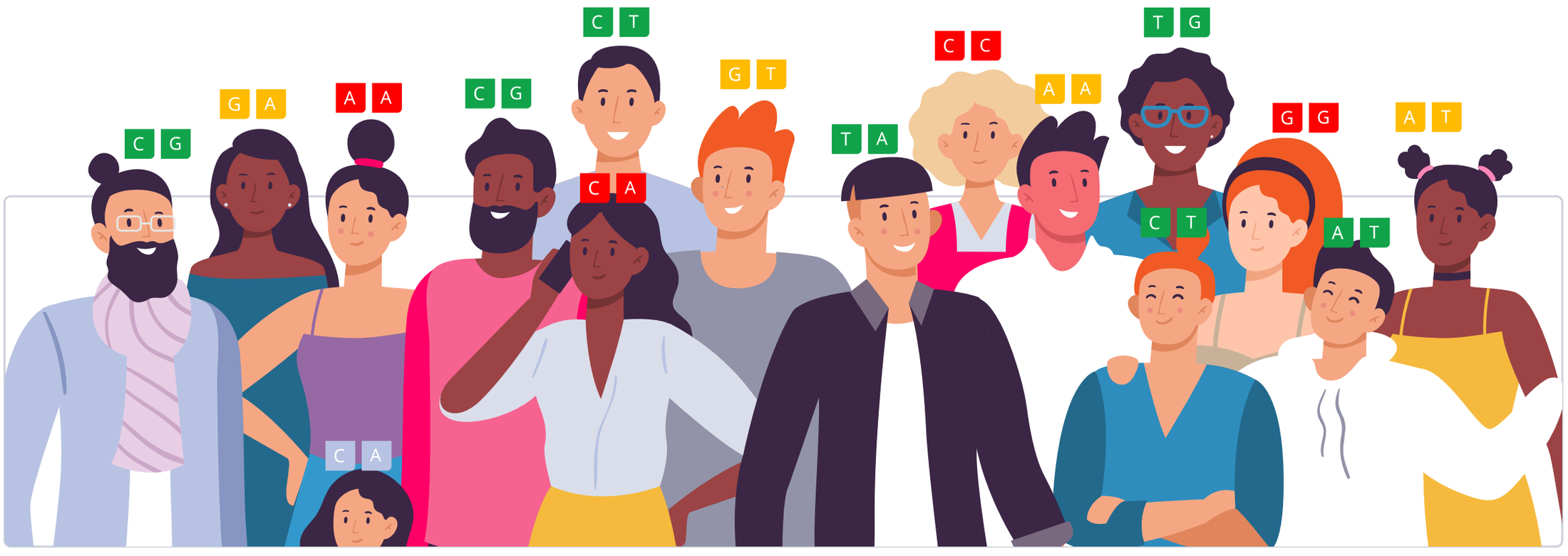
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



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.

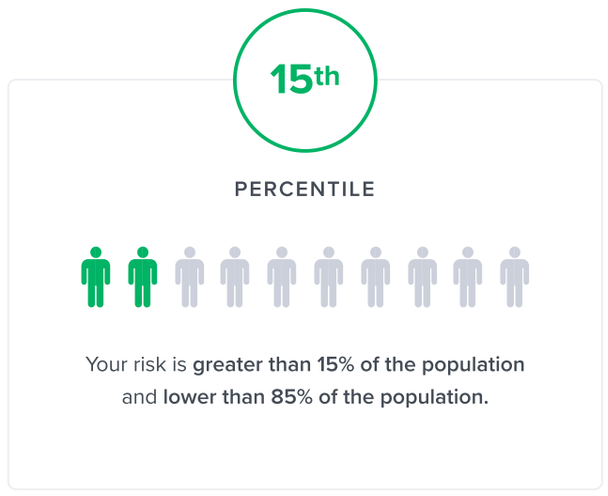
Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



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.



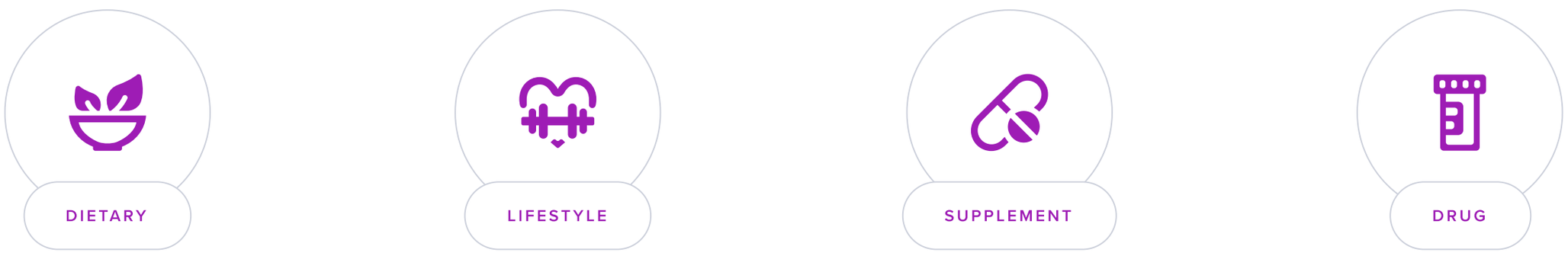
Genotype color info: AA You don't have any risk alleles | AA You have 1 risk allele | AA You have 2 risk alleles

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 *TNF* gene encodes a protein called tumor necrosis factor-alpha (TNF-alpha or cachexin). TNF-alpha plays a central role in the immune response and inflammation, and it has been implicated in a wide variety of inflammatory disorders [R].

TNF-alpha is a type of cell signaling protein known as a cytokine. It is produced by several different components of the immune system, including [R]:

- Macrophages
- Natural killer (NK) cells
- Neutrophils
- Mast cells

TNF-alpha is primarily responsible for regulating cells in the immune system. It has several functions throughout the body, many of which are in combination with IL-1 and IL-6 [R].

Some of the effects of TNF-alpha include [R]:

- Inflammation and fever
- Appetite suppression
- Muscle soreness
- Stimulating phagocytosis, which helps remove harmful substances like bacteria

TNF-alpha accomplishes many of these effects by activating various inflammatory pathways (including NF-κB) [R].

TNF Genetics and Inflammation

PERSONALIZED TO GENES

Based on the genetic variants we looked at, you may have typical TNF activity. This means you may have a typical predisposition for inflammation. However, keep in mind that other factors can also influence your TNF activity and inflammation levels.

The **rs1800629** polymorphism (also known as *TNF* -308) is one of the most researched SNPs in the *TNF* gene. **The 'A' allele is associated with 6-7 times higher levels of TNF-alpha** [R].

In line with this, this variant has been associated with:

- IBD risk and severity[R, R, R]
- ARDS and sepsis [R, R]
- Chronic pain [R, R, R, R]
- Obesity [R, R, R, R]
- Hashimoto's disease [R]
- Acne [R]
- Insulin resistance and poor blood sugar control [R]
- Asthma and COPD [R, R]
- Heart disease [R]
- Rheumatoid arthritis [R, R]
- Systemic lupus erythematosus [R]
- Liver and digestive system cancers [R, R]

Probably due to its association with lower inflammation and a reduced risk of these conditions, the 'G' allele has been associated with a longer lifespan. In contrast, it has been linked to higher PTSD severity [R, R, R].

Another variant, 'C' at **rs1799964** (commonly referred to as TNF -1031), may increase TNF levels and has been associated with an increased risk of [R]:

- Crohn's disease [R, R]
- Hashimoto's disease [R]

TYPICAL ACTIVITY

Likely typical TNF activity based on 3 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
TNF	rs1799724	TC
TNF	rs1800629	GG
TNF	rs1799964	TT

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Finally, the ‘C’ variant at **rs1799724** (commonly referred to as TNF -857C) may also increase TNF levels and has been associated with an increased risk of [R]:

- IBD [R, R, R]
- Acne [R]

People with variants linked to higher TNF-alpha levels may benefit more from interventions that counteract the negative effects of this cytokine, such as cold immersion for exercise recovery.

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	Aerobic Exercise (Cardio)	1 hour	2	Exercise At Least One Hour a Day	1 hour
3	Probiotics	30 billion CFU	4	Omega-3 (Fish Oil)	2000 mg
5	Black Seed (Black Cumin)	1000 mg	6	Ginger	500 mg
7	Relaxation Techniques	30 minutes	8	Garlic Supplement	200 mg
9	Zinc	15 mg	10	Mediterranean Diet	
11	Lactobacillus Plantarum	10 billion CFU	12	Curcumin	500 mg
13	Alpha-Lipoic Acid	600 mg	14	Black Seed Oil	2 tsp
15	Green Tea	400 mg	16	L-Carnitine	1 g
17	Sleep for 7+ Hours		18	Eat Fiber-Rich Foods	
19	N-acetylcysteine (NAC)	1200 mg	20	Tocotrienols	100 mg
21	Transcutaneous Electrical Nerve Stimulation (TENS)	30 minutes	22	Maintain Optimal Vitamin D Levels	1000 iu
23	Astragalus	500 mg	24	Brazil Nuts	
25	Olive Leaf Extract	500 mg	26	Lactoferrin	100 mg
27	Bifidobacterium Longum	10 billion CFU	28	Quercetin	250 mg
29	Methylsulfonylmethane (MSM)	1 g	30	Retinyl Palmitate	

31	Infrared Light Therapy		32	Kefir	
33	L-Citrulline	3 g	34	Salvia Miltiorrhiza	
35	Horsetail	300 mg	36	Jiaogulan (Gynostemma Pentaphyllum)	1350 mg
37	Resveratrol	150 mg	38	Oats	
39	Selenium Supplements	50 mcg	40	Papaya	500 mg
41	Bifidobacterium Breve	10 billion CFU	42	Laughter Therapy	30 minutes
43	Psyllium	5 g	44	Methylfolate	400 mcg
45	Vitamin E	200 iu	46	Reishi	

1

Aerobic Exercise (Cardio)

IMPACT 4 / 5

EVIDENCE 4 / 5

How to implement

Engage in at least 150 minutes of moderate-intensity aerobic exercise or 75 minutes of vigorous-intensity activity each week. Distribute this time over at least 3 days per week, avoiding consecutive days of vigorous exercise to allow for recovery.

TYPICAL STARTING DOSE

1 hour

Description

Engaging in regular aerobic exercise, such as running, swimming, or cycling, offers numerous health benefits, including improved cardiovascular fitness, weight management, and mood enhancement. It supports overall physical and mental well-being while reducing the risk of chronic diseases.

Cardio, short for cardiovascular exercise, is any type of physical activity that temporarily increases your heart rate. Examples include **running, cycling, swimming, and brisk walking**.

Regular cardio exercise has many benefits for your overall health. It can help lower your risk of heart disease and diabetes, support weight loss, and improve your mood and energy levels. To get the most out of cardio, try to do it for at **least 30 minutes, 3-5 times a week**.

Interval training is a type of cardio that combines periods of high-intensity training with brief rest periods.

How it helps

Regular aerobic exercise may lower TNF-alpha levels in multiple populations, including:

- Overweight and obese children and adolescents [R]
- Patients with type 2 diabetes or metabolic syndrome [R, R, R]
- Older subjects [R]
- People with mild cognitive impairment or dementia [R]
- Breast cancer survivors [R]

Aerobic exercise may be more effective than other types of exercise.

2

Exercise At Least One Hour a Day

IMPACT 4 / 5

EVIDENCE 4 / 5

How to implement

Dedicate a minimum of 60 minutes to moderate-intensity activities such as brisk walking, swimming, or cycling. Do this most days of the week, aiming for at least 5 days to optimize benefits.

TYPICAL STARTING DOSE

1 hour

Description

Exercise can do wonders for your health. It can help you lose weight, improve your heart health, boost your mood, and more [R].

There are many ways you can be active. You can walk, run, swim, dance, or play team sports. **Everything counts, and it's never too late to start!**

Try to get at least **60 minutes of moderate physical activity on most days**, including walking. **Getting a mix of cardio (min 150 min/day) and strength training (min 2 times a week) may be optimal**.

How it helps

While TNF-alpha levels increase shortly after exercise (especially after vigorous physical activity), regular moderate exercise can decrease TNF-alpha levels in the long run [R, R, R, R].

Regular, moderate exercise may reduce inflammation in people of all ages. Both strength training and cardio may help. You can also combine both training types [R, R, R, R, R, R].

Exercise may also reduce inflammation linked to chronic health conditions. These include [R, R, R, R]:

- High blood pressure
- Obesity
- Type 2 diabetes
- Heart disease

Note that inflammation may briefly increase after intense exercise, such as running or cycling [R, R, R].

3

Probiotics

IMPACT 4 / 5

EVIDENCE 4 / 5

How to implement

Take a probiotic supplement containing 10 billion or more live cultures once daily, preferably with a meal or as directed by the packaging or a healthcare provider.

TYPICAL STARTING DOSE

30 billion CFU

Description

Probiotics are live beneficial bacteria and yeasts that can support gut health and digestive function when consumed as supplements or found in fermented foods like yogurt and sauerkraut. They may be beneficial to gut health, immune function, blood sugar, and mood.

Probiotic bacteria are "good" bacteria found mainly in the large intestine. They support your body and mind by [R, R, R, R, R, R, R, R]:

- Maintaining gut health
- Supporting a healthy immune system
- Improving your mood
- Helping to maintain healthy blood sugar

Prebiotics are certain types of fiber and other complex carbs that serve as food for gut bacteria. **They support gut health by helping boost the activity and growth of "good" bacteria** [R, R].

Prebiotics are also added to foods and supplements. Common prebiotic ingredients are [R, R]:

- Oligo-fructose
- Oligo-galactose
- Inulin

Mixtures of probiotics and prebiotics are known as **synbiotics** [R].

How it helps

Clinical research proposes that many types of probiotics may significantly reduce proinflammatory cytokines like TNF-alpha [R, R].

Probiotics may reduce inflammation by supporting "good" gut bacteria**.** The types of probiotics studied include [R, R, R, R]:

- *Lactobacillus casei*
- *L. acidophilus*
- *L. rhamnosus*
- *L. salivarius*
- *Bifidobacterium animalis*
- *B. longum*

They may also help when used with prebiotics (food for probiotic bacteria) [R, R, R, R].

Probiotics may also reduce inflammation linked to chronic health conditions [R, R, R, R, R, R, R].

4

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

Omega-3 fatty acids (EPA and DHA) have potent anti-inflammatory effects. They can suppress a range of inflammatory cytokines, including TNF-alpha [R, 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].

5

Black Seed (Black Cumin)

IMPACT 3 / 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

Five meta-analyses (the largest one with 50 trials) concluded that supplementation with black seed lowers CRP (by 0.55-0.98 mg/L), TNF-alpha, and IL-6 (by 0.25 pg/mL) levels [R, R, R, R, R].

6

Ginger

IMPACT 3 / 5

EVIDENCE 3 / 5

How to implement

Take a 500 mg ginger supplement daily, preferably with a meal to enhance absorption and minimize potential stomach discomfort.

TYPICAL STARTING DOSE

500 mg

Description

Ginger is a versatile spice known for its potential anti-inflammatory and digestive benefits. It may help alleviate nausea, reduce muscle soreness, and support gastrointestinal comfort when consumed as part of a balanced diet.

Ginger root is a cooking spice and a traditional remedy. People mostly use it to relieve [R]:

- Nausea
- Menstrual cramps
- Joint pain

How it helps

A meta-analysis of 16 trials and 1010 participants found that ginger supplementation significantly lowers TNF-alpha but not IL-6 levels [R].

Another meta-analysis (5 trials) concluded that supplementation with ginger lowers TNF-alpha (by 2.13 pg/mL) and IL-6 (by 0.61 pg/mL) in type 2 diabetes patients [R].

7

Relaxation Techniques

IMPACT 3 / 5

EVIDENCE 3 / 5

How to implement

Incorporate relaxation techniques such as deep breathing exercises, meditation, or yoga into your daily routine. Spend at least 15-30 minutes each day practicing one of these techniques, preferably in a quiet, comfortable space without interruptions.

TYPICAL STARTING DOSE

30 minutes

Description

Relaxation techniques encompass various methods like deep breathing, yoga, meditation, and progressive muscle relaxation, aimed at reducing stress and promoting mental and physical relaxation. Practicing these techniques regularly can help manage stress, improve mental clarity, and enhance overall emotional well-being.

We all get stressed from time to time.

Stress can help you deal with a challenge or avoid danger. However, **it's not healthy to be stressed for a long time** [R, R].

Relaxation techniques such as yoga and meditation can relieve stress in different ways. Most of them focus on breathing and help you get rid of negative thoughts and emotions [R].

People use relaxation techniques to improve conditions like [R, R, R]:

- Anxiety
- Depression
- Chronic pain

Progressive muscle relaxation is another relaxation technique. In this technique, you focus on tensing and relaxing different parts of your body. It is common to start with the toes and slowly work your way up to the neck and head [R, R].

Autogenic training is a relaxation technique that a person may carry out on their own. It uses exercises that take the mind's attention to bodily sensations such as warmth and heaviness [R, R].

How it helps

Psychological stress is associated with higher TNF gene expression and TNF-alpha blood levels [R, R, R].

Causes of stress-related inflammation include [R, R, R, R, R, R]:

- Work-related problems
- Relationship problems
- PTSD

For some people, relaxation techniques may help. They include [R, R, R]:

- Positive engagement coping
- Mindfulness
- Yoga
- Tai chi
- Qi gong

8

Garlic Supplement

IMPACT 3 / 5

EVIDENCE 3 / 5

How to implement

Take a garlic supplement, such as a garlic extract or aged garlic supplement, in a dosage of 600-1,200 mg per day, divided into separate doses. This should be taken with meals to minimize digestive issues. Continue daily for at least 8-12 weeks to evaluate its effects on health markers like blood pressure or cholesterol.

TYPICAL STARTING DOSE

200 mg

Description

Garlic is a pungent herb known for its potential health benefits, including cardiovascular support and immune system enhancement. It contains bioactive compounds that may help reduce the risk of chronic diseases and support overall well-being.

Garlic is a delicious aromatic herb that adds flavor to your food. But did you know that garlic has been a part of traditional medicine for thousands of years? **From ancient Egypt and Rome to China, people have praised garlic for its many health benefits.** Today, we can trace many of those benefits to sulfur-rich compounds found in garlic. People take garlic to help control their blood pressure and cholesterol [R].

Please note: *Garlic can interact with blood thinners (like aspirin, Plavix, Coumadin). If you are on blood thinners, consult your doctor before supplementing with garlic [R].*

How it helps

A meta-analysis of 16 clinical trials found that garlic (taken as a supplement) reduced the blood levels of TNF-alpha and other cytokines. In a small trial on 22 healthy volunteers, eating a fried tomato sauce with onion and garlic lowered this and other inflammatory markers. The authors attributed the effects not only to tomato's lycopene, but also to the other ingredients of the sauce [R, R].

Garlic supplements may reduce inflammation [R, R, R].

Please note: *Garlic can interact with blood thinners (like aspirin, Plavix, Coumadin). If you are on blood thinners, consult your doctor before supplementing with garlic [R].*

9

Zinc

IMPACT 3 / 5

EVIDENCE 3 / 5

How to implement

Take a 15 mg zinc supplement daily, ideally with a meal to enhance absorption.

TYPICAL STARTING DOSE

15 mg

Description

Zinc is an essential mineral found in various foods, including meat, dairy, and nuts. It is crucial for immune function, wound healing, DNA synthesis, and maintaining healthy skin and nails. Zinc supplements are sometimes used to support immune health and manage zinc deficiencies.

Zinc is an essential mineral. Your body needs it to [R, R]:

- Defend against disease
- Protect DNA from damage
- Heal wounds
- Control blood sugar

Some of the best sources of zinc include **shellfish, pork, beef, and beans**. It is also available as a supplement [R].

Adults should get **8-11 mg of zinc** per day [R].

How it helps

Zinc has anti-inflammatory and anti-oxidative effects. Supplementing with **zinc (30-40 mg/day)** may help reduce inflammation, including TNF-alpha levels [R, R, R, R].

10

Mediterranean Diet

IMPACT 3 / 5

EVIDENCE 3 / 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

The Mediterranean diet has been shown to reduce many different inflammatory markers, including TNF-alpha [R, R].

This diet may help because it's rich in anti-inflammatory compounds like polyphenols and omega-3s [R, R, R, R].

Olive oil is a key component of many anti-inflammatory diets. Adding **1-50 mg** of olive oil to your meals every day may help reduce inflammation [R].

11

Lactobacillus Plantarum

IMPACT 2 / 5

EVIDENCE 3 / 5

How to implement

Take a probiotic supplement containing *Lactobacillus plantarum* 299V daily. The typical dosage is 10 billion colony-forming units (CFUs). Continue for at least 4 weeks to assess benefits on digestive health.

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus plantarum is a probiotic bacterium found in many fermented plant products such as sauerkraut, pickles, brined olives, and Korean kimchi [R].

People take *L. plantarum* supplements to improve [R, R, R, R]:

- Diarrhea
- Skin appearance
- IBD
- High cholesterol

How it helps

A meta-analysis of 18 trials concluded that supplementation with *L. plantarum* lowers IL-4 (by 0.48 pg/mL), TNF-alpha (by 2.34 pg/mL), and IFN-gamma (by 0.99 pg/mL) while increasing IL-10 (by 9.88 pg/mL) [R].

12

Curcumin

IMPACT 2 / 5

EVIDENCE 3 / 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 is a potent anti-inflammatory that may help suppress TNF-alpha [R, R].

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

13

Alpha-Lipoic Acid

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Take 600-1800 mg of alpha-lipoic acid daily, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

600 mg

Description

Alpha-lipoic acid is a natural antioxidant found in almost every cell in your body. People use alpha-lipoic acid to help with issues like skin aging, weight loss, and high blood sugar [R, R, R].

People use alpha-lipoic acid to help with [R, R, R, R]:

- Complications of high blood sugar
- Skin aging
- Weight loss
- Carpal tunnel syndrome

How it helps

Several meta-analyses showed that ALA supplementation significantly reduced CRP, IL-6, and TNF-α concentrations [R, R].

14

Black Seed Oil

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Take one to two teaspoons (5-10ml) of black seed oil twice daily, preferably before meals. For capsule forms, follow the manufacturer's instructions, commonly 500mg capsules twice daily. Continue this regimen for up to 8 weeks to evaluate its effects.

TYPICAL STARTING DOSE

2 tsp

Description

Both black seed extract and black seed oil have been traditionally used for their potential health benefits, including anti-inflammatory and antioxidant properties. They may support overall wellness and immune function when incorporated into a balanced diet.

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

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

- Allergies
- Joint pain

How it helps

Five meta-analyses (the largest one with 50 trials) concluded that supplementation with black seed lowers CRP (by 0.55-0.98 mg/L), TNF-alpha, and IL-6 (by 0.25 pg/mL) levels [R, R, R, R, R].

15

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

Green tea is well known for its ability to reduce inflammation. Multiple studies have observed significant reductions in levels of TNF after treatment with or consumption of EGCG [R, 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].

16

L-Carnitine

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Take 500 mg of L-carnitine supplement daily with a glass of water, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

1 g

Description

L-carnitine is an amino acid-like compound that plays a role in energy metabolism and helps prevent toxic substances from building up in cells. It is often used in dietary supplements for its potential to support muscle recovery, reduce fatigue, and enhance athletic performance.

L-carnitine is a compound that helps you burn fat. It also prevents toxic substances from building up in cells [R].

Your body can usually make enough carnitine to meet its needs. You can also get it from **meat and dairy products** [R].

People use L-carnitine for [R, R, R, R, R, R]:

- Heart problems
- Overactive thyroid
- Fertility problems
- Blood sugar control
- Weight control

How it helps

L-carnitine (1-2 g/day for at least 12 weeks) may reduce inflammatory markers such as TNF-alpha [R, R].

17

Sleep for 7+ Hours

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Ensure you allocate enough time in your schedule to achieve a minimum of 7 hours of sleep each night. This might involve going to bed earlier or adjusting your evening routine to promote relaxation and make it easier to fall asleep.

Description

Optimizing sleep involves adopting healthy sleep habits and creating a sleep-conducive environment to ensure restorative and sufficient sleep duration. It supports cognitive function, mood stability, and overall physical health. Most experts recommend getting **at least 7 hours of good-quality sleep each night**.

Sleep supports your body and mind [R, R]. More precisely, sleep helps:

- Support brain health [R, R]
- Maintain a healthy weight and appetite [R, R, R]
- Regulate blood pressure [R, R]
- Balance blood sugar [R, R]

Ways to sleep better include [R]:

- Reducing your bright light exposure (screen time) in the evenings
- Sticking to a regular sleep schedule
- Avoiding hunger or large meals before bed
- Avoiding nicotine, caffeine, and alcohol before bed
- Maintaining a sleep area that's cool, dark, and quiet

How it helps

Sleep-related problems may increase inflammation, including TNF-alpha levels. These include [R, R, R, R, R, R]:

- Disturbed sleep
- Sleep apnea (interrupted breathing during sleep)
- Getting too little or too much sleep

18

Eat Fiber-Rich Foods

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Incorporate foods high in fiber, such as fruits, vegetables, whole grains, and legumes, into your daily meals. Aim for a total dietary fiber intake of 25 to 30 grams per day, spread out over all meals.

Description

Fiber is a type of carb that your body can't digest which supports digestion, heart health, and blood sugar control. You can get fiber by eating things like whole grains, fruits, nuts, seeds, and leafy greens.

Fiber is a type of carb that your body can't digest. It supports digestion, heart health, blood sugar control, and more [R, R].

Adults should get 28 g of fiber every day. Most people in the US don't get enough fiber [R, R].

You can get more fiber by eating [R, R]:

- Whole grains
- Fruits
- Leafy greens
- Nuts and seeds
- Beans
- Broccoli

Fiber supplements, such as psyllium husk, are available for people who don't get enough fiber from their diets [R, R].

How it helps

Eating food high in fiber may help reduce inflammation, including TNF-alpha levels [R, R].

Whole grains are a good source of fiber. However, studies disagree on whether eating more whole grains is enough to lower inflammation [R, R, R, R].

19

N-acetylcysteine (NAC)

IMPACT 2 / 5

EVIDENCE 2 / 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

There is some clinical evidence that supplementation with NAC can help bring down TNF-alpha levels [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].

20

Tocotrienols

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Take tocotrienols as a dietary supplement in doses ranging from 100 to 200 mg, 1-2 times a day, ideally with meals to enhance absorption. This intake can be continuous, but it's recommended to review its effects with a healthcare provider periodically, typically every 6 to 12 months.

TYPICAL STARTING DOSE

100 mg

Description

Tocotrienols are a form of vitamin E that helps to protect your cells. They fight harmful substances in your body called free radicals, which can damage our cells and lead to illness. By helping your body in this way, tocotrienols contribute to overall health, boosting immunity, and slowing down aging processes.

How it helps

In a placebo-controlled trial of 110 patients with type 2 diabetes, supplementation with δ-tocotrienol (250 mg/day for 24 weeks) lowered TNF-alpha levels. A higher dose (300 mg, 2x/day for 24 weeks) also lowered TNF-alpha in a placebo-controlled trial of 71 patients with NAFLD. In a randomized controlled trial of 82 patients with metabolic syndrome, δ-tocotrienol in combination with resveratrol (400 mg capsule, δ-tocotrienol 250 mg; resveratrol 150 mg, 2x/day for 24 weeks) lowered TNF-alpha levels by 2.19 pg/mL [R, R, R].

21

Transcutaneous Electrical Nerve Stimulation (TENS)

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Apply TENS unit electrode pads around the area in pain; begin with the device set to a low setting and gradually increase intensity to a comfortable level. Use the device for 15-30 minutes per session for pain relief, and it can be used multiple times a day as needed.

TYPICAL STARTING DOSE

30 minutes

Description

TENS is a therapy that uses low-level electrical currents to relieve pain by stimulating the nerves. It's commonly used as a non-invasive method to manage various types of pain, such as musculoskeletal pain or chronic pain conditions.

How it helps

TENS may lower TNF-alpha levels after surgery [R].

22

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

Supplementation with vitamin D may lower TNF-alpha levels in both healthy people and those with poor glycemic control or cancer [R, R, R, R].

However, it may not affect TNF-alpha levels in overweight/obese participants or those with CKD [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].

23

Astragalus

IMPACT 1 / 5

EVIDENCE 2 / 5

How to implement

Take a 500 mg astragalus supplement once daily with a meal. Continue this regimen for at least 4 to 6 weeks to evaluate its effectiveness on your overall health.

TYPICAL STARTING DOSE

500 mg

Description

Astragalus is an herb used in traditional Chinese medicine. It is believed to have immune-boosting properties and may help reduce stress and support overall vitality.

Astragalus *(Astragalus membranaceus*) is an herb used in traditional Chinese medicine. It is commonly used for “tonifying Qi” or fatigue. It may help [R, R]:

- Reduce inflammation
- Fight oxidative stress

Astragalus root is a staple of traditional Chinese medicine, where it is also known as *Huang Qi*.

How it helps

In a systematic review and meta-analysis of 19 trials involving people with viral myocarditis patients, all of which were conducted in China, Astragalus injection decreased the levels of pro-inflammatory TNF-α, IL-6 , IL-17 , IL-8 , IL-1, CRP, and IFN-γ , and increased the total effective rate of treatment [R].

A randomized controlled trial of 30 people undergoing heart valve replacement found that astragalus may modulate cytokines to reduce inflammation in patients during the procedure by increasing IL-10 levels and reducing TNF-alpha and IL-8 levels [R].

24

Brazil Nuts

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Consume 1-2 Brazil nuts daily to meet your selenium needs and potentially improve heart health and thyroid function. Do not exceed this amount to avoid selenium toxicity.

Description

Brazil nuts are a nutritious snack rich in selenium, a mineral essential for various bodily functions, including thyroid health and immune support.

Brazil nuts have an enormous amount of selenium along with other minerals like magnesium, phosphorus, and copper, and vitamins E and B1. A 1-ounce (6–8 nuts) serving provides 544 mcg of selenium or 989%DV.

How it helps

In a non-placebo-controlled trial of 10 healthy volunteers, consuming a single dose of Brazil nuts (20-50 g) lowered IL-6, TNF-alpha, IL-1, and IFN-gamma levels while increasing IL-10 [R].

25

Olive Leaf Extract

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 500-1000 mg of olive leaf extract daily, ideally in divided doses with meals. This regimen should be followed for at least 8 weeks to assess its effects on your health.

TYPICAL STARTING DOSE

500 mg

Description

Olive leaf extract is derived from the leaves of the olive tree and contains bioactive compounds such as oleuropein. It is believed to have various health benefits, including antioxidant and anti-inflammatory properties that may contribute to improved immune function and overall well-being.

How it helps

In a placebo-controlled trial of 60 hypertensive patients, supplementation with olive leaf extract for 12 weeks lowered IL-6, IL-8, and TNF-alpha levels. Olive leaf extract also lowered TNF-alpha in a placebo-controlled trial of 25 patients undergoing intensive chemotherapy [R, R].

26

Lactoferrin

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 100-200 mg of lactoferrin supplement per day, preferably on an empty stomach to enhance its absorption. Continue this regimen daily for 8 to 12 weeks to observe beneficial effects.

TYPICAL STARTING DOSE

100 mg

Description

Lactoferrin is a protein found in milk and other bodily fluids that has been studied for its potential health benefits, including immune system support and antimicrobial properties. It plays a role in promoting gut health.

Lactoferrin is a protein found in milk. It can bind to iron and travel all around the body [R].

Lactoferrin may help support [R, R]:

- Immunity
- Iron status

How it helps

In a study with 38 postmenopausal women, ribonuclease-enriched lactoferrin and calcium supplements improved bone health and cytokine levels. They reduced pro-inflammatory cytokines IL-6 and TNF-α (-44% and -10%) and increased anti-inflammatory IL-10 (140%). While initially elevated, receptor activators for NF-κB ligand (RANKL) and CRP were modestly reduced (-50%) with supplementation [R].

In another trial of 46 patients undergoing thyroid surgery, lactoferrin supplementation (20 mg/day for 5 consecutive days before surgery) enhanced immune responsiveness. Lactoferrin-treated patients showed increased % neutrophil precursors, a higher lymphocyte proliferative response, and elevated LPS-induced TNF-alpha and IL-6 production compared to the control group, indicating improved immune function [R].

27

Bifidobacterium Longum

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a Bifidobacterium longum supplement daily, with a typical dosage around 10 billion colony-forming units (CFUs). It can be consumed any time of day, but taking it with a meal might improve its absorption and effectiveness. Continue this regimen for at least 4 weeks to assess its benefits on digestive health.

TYPICAL STARTING DOSE

10 billion CFU

Description

Bifidobacterium longum is a beneficial probiotic strain known for its potential to support digestive health and boost the immune system.

Bifidobacterium longum is a probiotic bacterium naturally present in the human gastrointestinal tract. Its subspecies *B. longum subsp. infantis* is one of the earliest bacteria to colonize the infant gut [R].

People take *B. longum* to enhance immunity against infections and support gut health [R, R, R].

How it helps

A total of 66 NASH patients were randomly and equally divided into two groups receiving *Bifidobacterium longum* with FOS and lifestyle modification (i.e., diet and exercise) versus lifestyle modification alone in a study. Including *Bifidobacterium longum* in the intervention significantly reduced TNF, CRP, and AST levels, insulin resistance, and fatty liver [R].

28

Quercetin

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 250-1000 mg of quercetin supplement daily with a glass of water, preferably with a meal to aid in its absorption.

TYPICAL STARTING DOSE

250 mg

Description

Quercetin is a natural plant flavonoid found in various foods, particularly in fruits and vegetables like apples, onions, and broccoli. It is used as a dietary supplement and is valued for its potential antioxidant and anti-inflammatory properties.

Quercetin is a plant-based antioxidant. It supports the immune system and helps lower inflammation [R, R].

Good sources of quercetin include [R]:

- Apples
- Onions
- Tea

People mainly use quercetin supplements to relieve allergies [R, R, R].

How it helps

A meta-analysis of 18 studies found that quercetin consumption lowered TNF-alpha levels [R].

Please note: *quercetin may inhibit the production of the thyroid hormone T4 (thyroxine). Individuals with thyroid disorders, particularly hypothyroidism or low T4 levels, should exercise caution when using quercetin and always consult with a healthcare provider before taking this supplement* [R].

Please note: *quercetin 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 quercetin supplements* [R].

29

Methylsulfonylmethane (MSM)

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 1 to 3 grams of Methylsulfonylmethane (MSM) per day, divided into three doses. This can be in the form of capsules or powder that is mixed with water. It is recommended to start with a lower dose to assess tolerance, then gradually increase to the desired dose over a period of 1 to 2 weeks.

TYPICAL STARTING DOSE

1 g

Description

MSM is a naturally occurring sulfur compound found in foods and used in dietary supplements. It has anti-inflammatory properties and may be used to support joint health and reduce exercise-related muscle soreness.

A molecule of MSM is broken down in the body into a sulfate (sulfur) group and two methyl groups.

The following may increase people's needs for sulfur and methyl groups: physical activity, recovery from injuries, inflammation, infections/sickness, toxins, etc.

People also need more sulfur when taking hormones (DHEA, pregnenolone, etc.), drugs (Aspirin, Tylenol, NSAIDs, birth control, etc.) or supplements (flavonoids & polyphenols - resveratrol, quercetin, curcumin, etc.) that undergo sulfation.

How it helps

MSM supplementation (3 g/day for 4 weeks) may increase the levels of TNF-α after exercise. This suggests its role in dampening inflammatory response to exercise [R].

30

Retinyl Palmitate

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take retinyl palmitate as a dietary supplement, usually found in capsule or liquid form. For general health and to support Vitamin A levels, adults can take 2500 to 5000 IU daily with a meal that contains fat (for better absorption). Do not exceed the recommended dose without medical advice, especially if pregnant or planning to become pregnant.

Description

Retinyl palmitate is a fat-soluble form of vitamin A that is essential for good vision, skin, and immune function. It has also been shown to have some anticancer properties.

How it helps

A systematic review and meta-analysis of 13 randomized clinical trials found that 44 weeks of supplementation with 50,000 IU/day retinyl palmitate lowered TNF-alpha in people with chronic hepatitis B [R].

31

Infrared Light Therapy

IMPACT 1 / 5

EVIDENCE 1 / 5

Description

Infrared light therapy is a type of light therapy that uses infrared light to improve circulation, reduce pain, and promote healing. It has been shown to be effective in treating a variety of conditions, including arthritis, chronic pain, and wound healing.

How it helps

In a small trial of 37 arthritis (ankylosing spondylitis) patients, infrared pulsed laser devices (low level laser therapy at 810 nm) reduced inflammatory cytokines (TNF, IL-1, and IL-2). The patients had improvement in function and pain after a few months [R].

32

Kefir

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate kefir into your daily diet by drinking approximately 1-2 cups (240-480 ml) per day. It can be consumed on its own, blended into smoothies, or used as a base for salad dressings or soups. Continuous consumption over several weeks is recommended to observe its health benefits.

Description

Kefir is a fermented dairy product packed with probiotics, which can promote gut health and support digestion. Regular consumption of kefir is associated with improved digestive function and may enhance the immune system.

How it helps

In a non-placebo-controlled trial of 62 participants with metabolic syndrome, consuming kefir (180 mL/day for 12 weeks) decreased TNF-alpha, IL-6, IL-10, IFN-gamma, and homocysteine levels [R].

33

L-Citrulline

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 1.5 to 5 grams of L-citrulline supplements per day, orally, with or without food. This dosage can be taken all at once or divided into two to three smaller doses throughout the day. It's generally recommended to start at the lower end of the dosage range and adjust based on your body's response.

TYPICAL STARTING DOSE

3 g

Description

L-citrulline is an amino acid that may help improve blood flow and reduce muscle soreness, making it a popular supplement for athletes and individuals with certain cardiovascular conditions. Its potential to enhance nitric oxide production supports vascular health and overall circulation.

Citrulline is an amino acid (protein building block). Citrulline can be found in foods like [R, R, R, R, R]:

- **Watermelon**
- Pumpkins
- Cucumber
- Bitter melon

The body uses L-citrulline to produce nitric oxide, a compound that helps widen blood vessels**.** It is important for heart and sexual health [R, R, R].

L-citrulline is commonly used as supplement to support [R]:

- Blood vessel health
- Muscle health
- Metabolic health
- Sexual health

How it helps

Supplementation with citrulline (2-3 g/day for 2-3 months) lowered TNF-alpha levels in 2 placebo-controlled trials of 54 patients with type 2 diabetes and 50 patients with NAFLD [R, R].

In a placebo-controlled trial of 50 patients with NAFLD, supplementation with citrulline (2 g/day) for 3 months lowered CRP, TNF-alpha, ALT, and liver steatosis [R].

34

Salvia Miltiorrhiza

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 200-600mg of Salvia miltiorrhiza extract in capsule or tablet form daily, divided into two or three doses. This should be taken with water, preferably 30 minutes before meals. Continue for a period of 8 to 24 weeks for noticeable effects.

Description

Salvia miltiorrhiza, also known as Danshen, is a traditional Chinese medicinal herb. It is primarily used for its potential cardiovascular benefits, including improving blood circulation and reducing the risk of heart-related conditions. It contains various compounds, including tanshinones and salvianolic acids.

How it helps

In a non-placebo-controlled trial of 36 patients with severe acute pancreatitis, supplementation with *Salvia miltiorrhiza* for 7 days reduced serum levels of IL-6, IL-8, and TNF-alpha. The combination of *Salvia miltiorrhiza* and somatostatin, both with and without ulinastatin, increased IL-10 levels while reducing the incidence of pancreatic sepsis, multiple organ dysfunction syndrome, and mortality in a non-placebo-controlled trial of 306 patients with severe acute pancreatitis [R, R].

35

Horsetail

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take horsetail as a supplement in capsule form, usually available in doses ranging from 300 to 500 mg. Consume it once or twice daily, with meals to minimize the risk of stomach upset. It's recommended to cycle the supplement, taking it for 4 weeks followed by a 1-week break to prevent possible side effects.

TYPICAL STARTING DOSE

300 mg

Description

Horsetail is an herb rich in silica, which is important for bone health and may contribute to improved hair, skin, and nail condition. It is sometimes used as a dietary supplement to support these aspects of overall well-being.

How it helps

In a placebo-controlled trial of 60 patients with rheumatoid arthritis, supplementation with a horsetail mixture lowered TNF-alpha while increasing IL-10 levels [R].

36

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

In a placebo-controlled trial of 117 overweight participants, supplementation with *Gynostemma pentaphyllum* (450 mg/day) for 16 weeks lowered TNF-alpha levels [R].

37

Resveratrol

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 150-500 mg of resveratrol as a supplement daily, preferably with meals to enhance absorption. This dosage range is based on studies for various health benefits, and it's advised to not exceed 500 mg per day without medical supervision.

TYPICAL STARTING DOSE

150 mg

Description

Resveratrol is a natural compound found in red grapes, red wine, and some berries. It is known for its potential antioxidant properties and its role in promoting heart health.

Resveratrol is an antioxidant found mainly in [R]:

- Berries
- Red grapes
- Red wine
- Peanuts

It’s purported to have anti-inflammatory and antioxidant effects [R, R, R].

How it helps

In 2 placebo-controlled trials of 106 patients with active mild to moderate ulcerative colitis, supplementation with resveratrol (500 mg/day) for 6 weeks decreased IBD and clinical colitis scores, TNF-alpha (by 19.70 pg/mL), CRP (by 4764.25 ng/mL), and MDA, while increasing SOD and quality of life [R, R].

38

Oats

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate oats into your diet daily by having them for breakfast as oatmeal, or adding them to smoothies, baking recipes, or overnight oats. Aim for at least a half-cup (40 grams) of dry oats to reap the health benefits.

Description

Oats are a whole grain known for their high fiber content and nutritional value, like zinc, iron, and manganese. Including oats in one's diet can promote heart health, stabilize blood sugar levels, and provide sustained energy.

Oats are a good source for manganese, zinc, iron, magnesium, and vitamins B1 and B5. A ½ cup serving provides 0.7 mg of manganese or 30%DV.

How it helps

In a non-placebo-controlled trial of 24 hypercholesterolemic adults, consuming oats porridge for 4 weeks decreased CRP (by 0.6 mg/L), IL-6 (by 26.9 pg/mL), IL-8 (by 56.3 pg/mL), and TNF-alpha (by 9.7 pg/mL) levels [R].

39

Selenium Supplements

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 50 mcg of selenium supplements once daily, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

50 mcg

Description

Selenium is a trace mineral found in Brazil nuts and many other foods as well as supplements. It is an essential nutrient that plays a crucial role in maintaining the body's antioxidant defenses and supporting thyroid function.

Selenium supports [R]:

- Reproduction
- Thyroid function
- DNA production
- Immune response

Adults should be getting **55 micrograms** of selenium per day. Selenium supplements are available for people who can't meet their needs with a balanced diet [R].

How it helps

Selenium supplementation reduced TNF-alpha levels in 2 clinical trials on 40 women with gestational diabetes and 82 elderly people vaccinated against the flu. Brazilian nut, a rich source of selenium, had similar effects in 40 hemodialysis patients [R, R, R].

40

Papaya

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 500 mg of papaya extract daily for at least one month to observe potential health benefits. If using powdered form, it can be mixed with water or juice for easier consumption.

TYPICAL STARTING DOSE

500 mg

Description

Papaya is a tropical fruit native to Central America and Mexico that is rich in vitamins A and C, folate, and dietary fiber. It has a long history in traditional medicines as a digestive aid and promoting skin health. Papaya's extract, papain, is used as a dietary supplement for digestive support.

Papaya is a tropical orange fruit. It originates from Central America, but today it’s most widely grown in India.

People enjoy the great taste of papaya. It’s also rich in healthy nutrients that may support the immune system.

How it helps

In 2 non-placebo-controlled trials of 82 patients with HCV-related liver cirrhosis, consuming a fermented papaya preparation (6-9 g/day) for 6 months reduced TNF-alpha production and 8-OHdG levels [R, R].

41

Bifidobacterium Breve

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a Bifidobacterium breve supplement according to the product's specific instructions, usually 1-2 capsules daily with water, ideally before meals for better absorption. This regimen should be followed for at least 2-4 weeks to start observing benefits.

TYPICAL STARTING DOSE

10 billion CFU

Description

Bifidobacterium breve is another probiotic strain that can contribute to digestive health and support a balanced gut microbiome. People use *B. breve* as a supplement to improve skin health and combat allergies and infection.

Bifidobacterium breve is a probiotic species found in human breast milk and the gastrointestinal tracts of infant and adult humans. As an individual ages, the total population of B. breve within their gut decreases [R].

People use *B. breve* as a supplement to improve skin health and combat allergies and infections [R, R, R].

How it helps

In a placebo-controlled trial of 49 children with celiac disease and 18 healthy controls, supplementation with *B. breve* BR03 and B632 (2 × 10^9 cfu/day) for 3 months decreased TNF-alpha production and restored a healthy microbiome [R, R].

42

Laughter Therapy

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Dedicate at least 15-30 minutes a day to watch, listen to, or participate in activities that make you laugh, such as watching a comedy show, attending a stand-up comedy event, or engaging in laughter yoga sessions. Consistently incorporate these laughter-inducing activities into your daily routine for an ongoing period to harness the health benefits of laughter.

TYPICAL STARTING DOSE

30 minutes

Description

Laughter therapy has been shown to improve cardiovascular health, reduce stress, and boost the immune system. It can also help to improve mood, relieve pain, and increase social bonding.

How it helps

In a non-placebo-controlled trial of 60 obese women, receiving 12 laughter therapy sessions over 6 weeks reduced perceived stress, psychological stress response, fasting blood sugar, IL-6, and TNF-alpha [R].

43

Psyllium

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 5 grams of psyllium husk powder with at least 8 ounces of water. Do this once daily, preferably in the morning before breakfast. Continue this regimen daily for ongoing digestive health benefits.

TYPICAL STARTING DOSE

5 g

Description

Psyllium is a plant-based dietary fiber derived from the seeds of the Plantago ovata plant. It is primarily used both traditionally and today, as a dietary supplement due to its high soluble fiber content, aiding in digestive health and regulating bowel movements. The main compounds in psyllium are soluble fiber and mucilage.

Psyllium husk might be beneficial for gut health and heart health. But what exactly is this supplement and how does it work?

Psyllium is an herb that grows around the world. Its “husk,” the outer coating of the psyllium seed, is full of fiber. The health benefits of psyllium husk are due to this fiber.

How it helps

Psyllium husk reduced TNF-a levels in a trial of 37 diabetic patients. Increased fiber intake is generally associated with lower levels of TNF-a and gut inflammation [R].

In 2 controlled trials of 134 ulcerative colitis patients in remission, taking psyllium seeds (10 g, 2x/day for 12 months) or husk (3.52 g, 2x/day for 4 months) maintained remission in 60-69% of patients [R, R].

44

Methylfolate

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take an L-methyl folate supplement (400-800 micrograms daily), ideally with a meal, to improve absorption. This dosage is recommended for adults, including pregnant women, to support overall health, especially to reduce the risk of neural tube defects in developing fetuses. Continue daily use as part of your regular supplement routine.

TYPICAL STARTING DOSE

400 mcg

Description

Folate, a B-vitamin, is crucial for DNA synthesis, cell growth, and the formation of red blood cells. Adequate folate intake supports overall health and reduces the risk of neural tube defects during pregnancy.

Vitamin B9 (*folate*) plays an essential role in [R, R, R]:

- Making DNA
- Metabolism
- Energy production

SelfDecode recommends L-methylfolate as the preferred folate supplement for those who need one. It is superior to folic acid because it doesn't require activation, but the research is still ongoing [R, R].

How it helps

Supplementation with folate may lower TNF-alpha levels more in people with certain *MTHFR* variants [R].

PERSONALIZED TO YOUR GENES

Supplementation with folate may lower TNF-alpha levels more in people with your *MTHFR* gene variant [R].

YOUR GENETIC VARIANTS

GENE	SNP	GENOTYPE	EVIDENCE
MTHFR	**rs1801133**	AA	

45

Vitamin E

IMPACT 0 / 5

EVIDENCE 0 / 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

Supplementation with vitamin E may lower TNF-alpha levels more in people with certain gene variants [R].

46

Reishi

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take a reishi mushroom supplement, ranging from 500mg to 1500mg once daily. It is best consumed with water and can be taken with or without food. Continue consistently for at least 2 to 3 months to observe potential benefits.

Description

Reishi (Ganoderma lucidum) is a type of medicinal mushroom consumed in various forms, including teas, extracts, and capsules. Native to Asia, reishi has been used for centuries in traditional Chinese medicine for its potential to boost the immune system, promote relaxation, and support overall well-being. Reishi contains various compounds, including triterpenes and polysaccharides.

How it helps

In an uncontrolled trial of 47 advanced colorectal cancer patients, supplementation with reishi mushroom (5.4 g/day) for 12 weeks increased the counts of CD3, CD4, CD8 and CD56 lymphocytes, plasma concentrations of IL-2, IL-6, and IFN-gamma, and NK activity, while decreasing plasma concentrations of TNF-alpha and IL-1 [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
hs-CRP	1.6 mg/L	0 0.5 3 100 500	9 Nov 2025