SelfDecode™

IL-6

Biohacker Report

REPORT CATEGORY

INFLAMMATION & AUTOIMMUNITY

Sample Client

Report date: 15 January 2026

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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

83 Next Steps

83 Your Lab Results

Personal information

NAME

Sample Client

SEX AT BIRTH

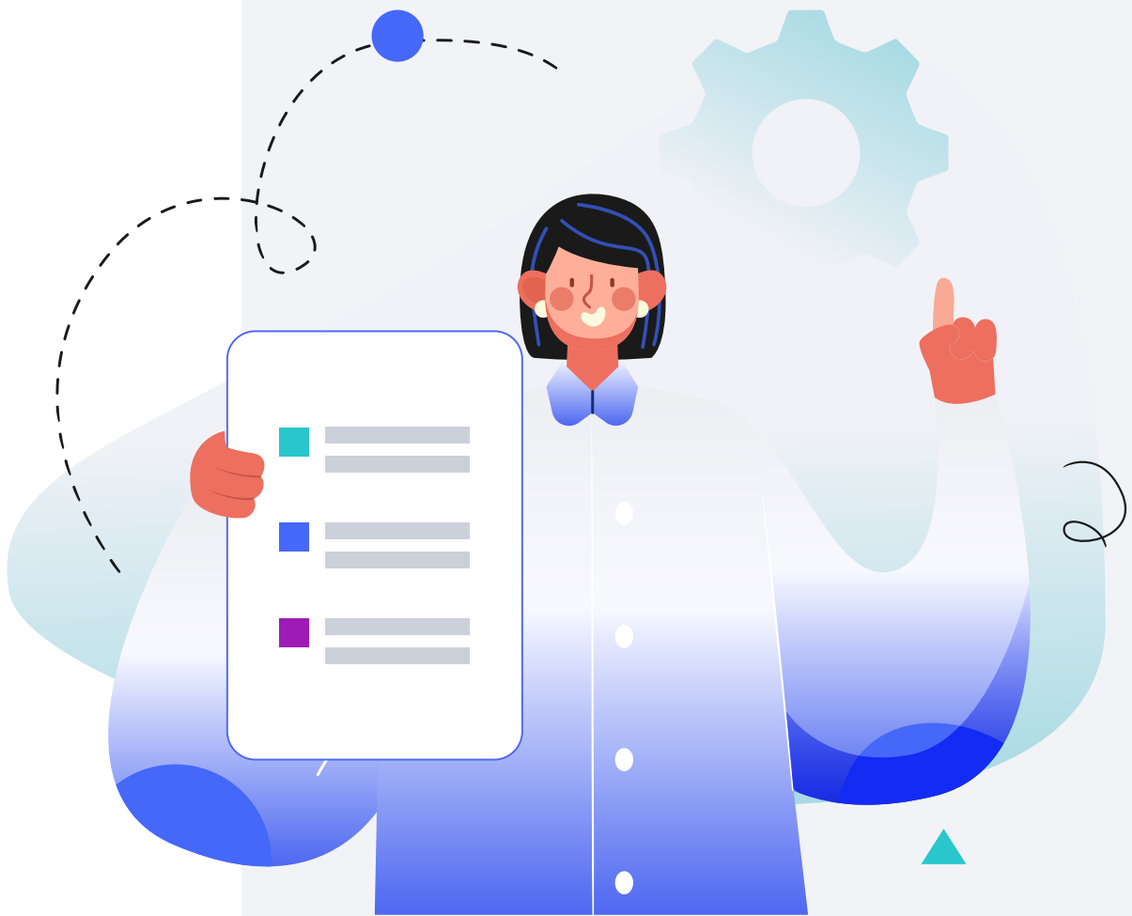
Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg

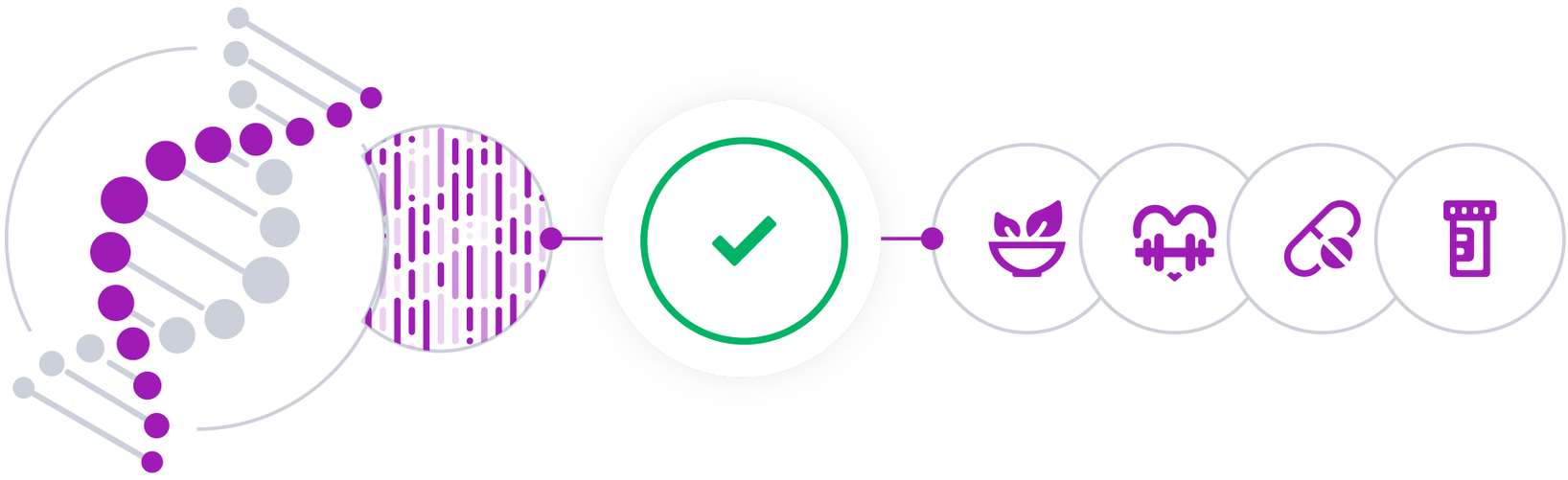


DISCLAIMER

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

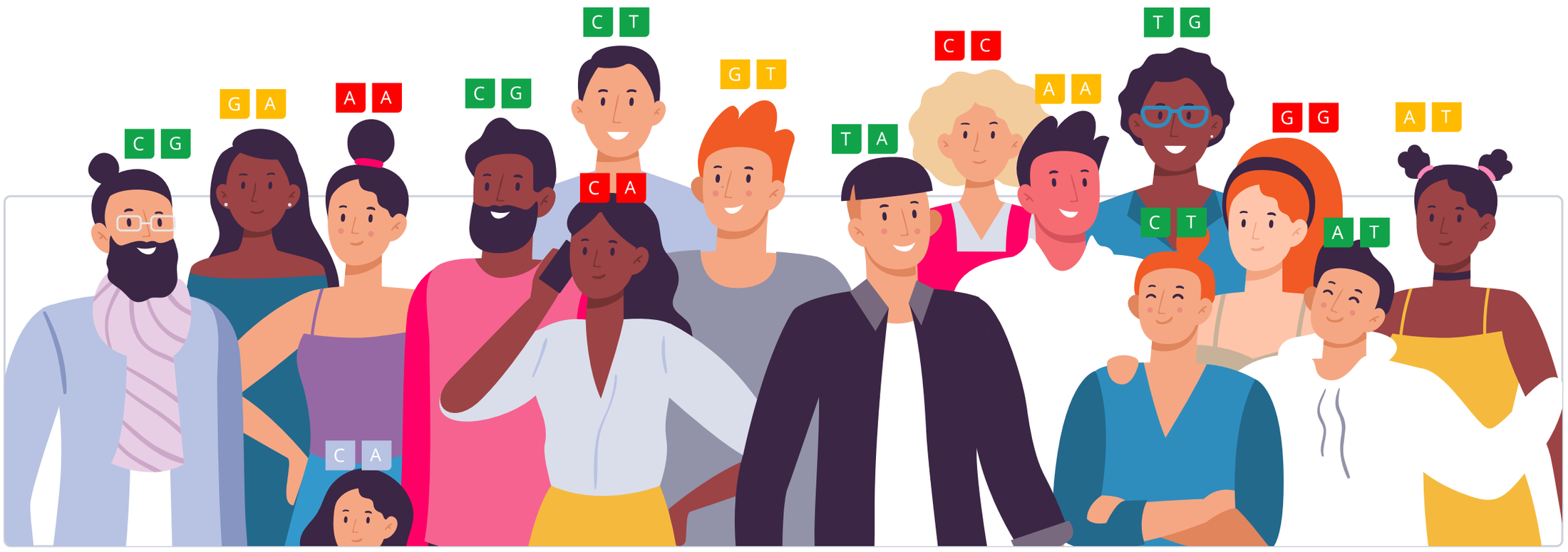
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



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.

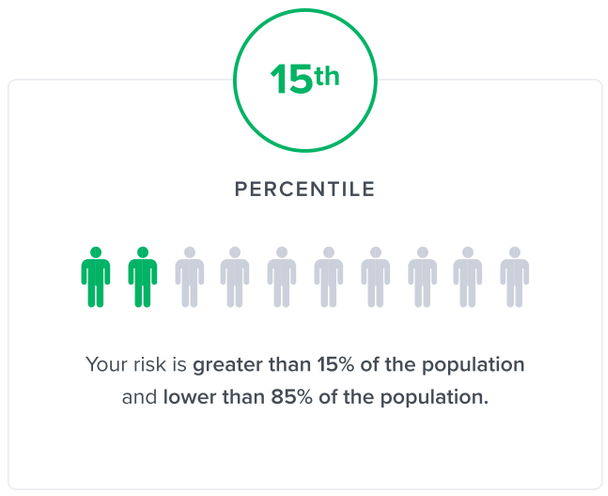
Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



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

Interleukin-6 (IL-6) is a cytokine — a small protein involved in the communication between cells. IL-6 has both pro- and anti-inflammatory properties and is crucial in the defense against infections [R, R, R, R].

Many types of cells produce IL-6. **It is crucial in the immune system**, where it helps keep the balance between T helper cells. For example, IL-6 reduces Th1 and Th17 production but increases Th2 production [R, R].

IL-6 is an “alarm signal” in response to infection, inflammation, and cancer [R, R].

Genetically higher IL-6 levels may play a role in:

- Heart disease [R, R, R, R, R, R, R, R, R, R, R]
- Depression [R, R, R, R]
- Liver cancer [R]
- Breast cancer [R]

On the other hand, they may be protective against rheumatoid arthritis, especially in Asians [R].

Factors Affecting IL-6 Levels

Interleukin-6 (IL-6) is a cytokine with both pro- and anti-inflammatory properties. It's crucial in the defense against infections [R, R, R, R].

Up to 60% of differences in people's IL-6 levels may be due to genetics. Involved genes may influence our bodies' response to IL-6. For example, the *IL6R* gene helps make IL-6 receptors or proteins that bind IL-6 [R, R].

Normally, IL-6 is present in low levels. **An increase in its blood level has been linked to inflammatory conditions**, such as [R]:

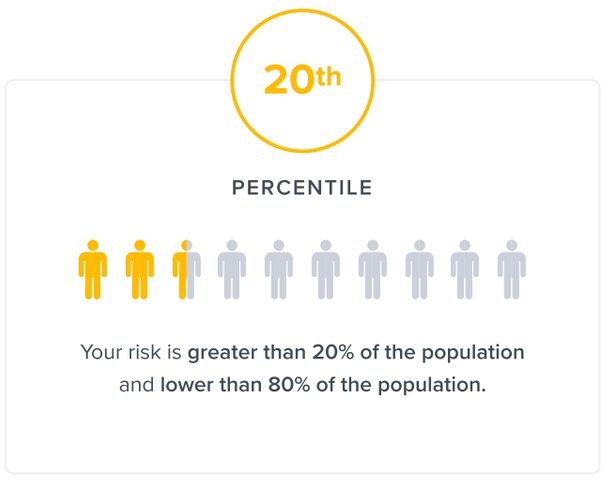
- Autoimmune disorders (e.g., IBS, psoriasis, lupus, systemic sclerosis, rheumatoid arthritis) [R, R, R, R, R, R, R]
- Obesity [R]
- Diabetes [R]
- Migraines [R]
- Infections [R, R, R]

Other factors linked to higher IL-6 levels include:

- Chronic stress [R, R, R]
- Coffee (>2 cups of coffee/day) [R, R]
- Smoking [R, R]
- Drinking alcohol [R, R]
- Intense, prolonged exercise like marathon (temporarily) [R, R, R]
- Older age [R, R, R, R]

TYPICAL LEVELS

Predisposed to typical IL-6 levels based on 616 genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
IL6	rs1800795	GG
BTBD7	rs182261775	GG
NOS1	rs146828618	CC
P2RY1	rs114373846	CC
FBLN5	rs113207090	CC
ATP9A	rs73273528	CC
SOX4	rs185628618	GG
TBKBP1	rs72831623	GG
TBKBP1	rs113600793	CC
IL6R	rs4537545	TT
/	rs11110094	GG
AKNA	rs10982213	GG
SERPINE2	rs13412535	GA
/	rs148614378	TC
CASS4	rs1884910	GC
MTAP	rs2004627	CT
ATP2B2	rs4684700	TC
LRAT	rs2404476	GA
C17ORF64	rs3760332	TC
HLA-DQA2	rs660895	GA
GPC6	rs696931	TC
ZNF703	rs183298717	AA
RAP2B	rs75101555	CC
CDYL2	rs76856708	TT

GENE	SNP	GENOTYPE
KMT2E	rs62486616	CC
CAMSAP1	rs117146485	TT
RASEF	rs188644522	AA
KCNK2	rs12079357	AA
ARHGAP28	rs8089344	CC
CDKN2B	rs1333040	TT
IL6R	rs11265618	CC
IL6R	rs10796927	TT
/	rs7824087	AA
AQP10	rs1386821	TT
IL1RN	rs6734238	AA

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

Your Recommendations

Your recommendations are prioritized according to the likelihood of it having an impact for you based on your genetics, along with the amount of scientific evidence supporting the recommendation.

You'll likely find common healthy recommendations at the top of the list because they are often the most impactful and most researched.

		DOSAGE
1	Mediterranean Diet	
2	Aerobic Exercise (Cardio)	1 hour
3	Astaxanthin	12 mg
4	Turmeric	
5	Extra Virgin Olive Oil (EVOO)	
6	Ginger	500 mg
7	Kefir	
8	Tomato	
9	Almonds	
10	Air Purifier	
11	Cinnamon	500 mg
12	N-acetylcysteine (NAC)	600 mg
13	Propolis	
14	Alpha-Lipoic Acid	100 mg
15	Cardamom	500 mg
16	Transcutaneous Electrical Nerve Stimulation (TENS)	30 minutes
17	Lactoferrin	100 mg
18	Tocotrienols	100 mg
19	Vitamin K1	90 mcg
20	Mindfulness	30 minutes
21	Orange Juice	
22	Garlic Supplement	200 mg
23	Black Raspberries	
24	Avoid Arsenic Exposure	
25	Melatonin	500 mcg
26	L-Carnitine	500 mg
27	Astragalus	500 mg
28	Raspberries	
29	Brazil Nuts	
30	Gotu Kola and Pomegranate	

31	Bifidobacterium Animalis Subsp. Lactis	10 billion CFU	32	Boron	3 mg
33	Quercetin	250 mg	34	Bilberry	
35	Probiotics	30 billion CFU	36	Ursolic Acid	150 mg
37	Oats		38	Lactobacillus Casei	10 billion CFU
39	Fucoxanthin	3 mg	40	Olive Leaf Extract	500 mg
41	Pyrroloquinoline Quinone (PQQ)	20 mg	42	Fucoidan	300 mg
43	Clove	500 mg	44	Salvia Miltiorrhiza	
45	Mango		46	Methylsulfonylmethane (MSM)	1 g
47	Strawberries		48	Kiwifruit	
49	Bladderwrack	300 mg	50	Sulforaphane	30 mg
51	Lactobacillus Salivarius	10 billion CFU	52	Lactobacillus Reuteri	10 billion CFU
53	Bifidobacterium Lactis HN019	10 billion CFU	54	Glutamine	5 g
55	Lychee Extract	100 mg	56	Tyrosol	10 mg
57	CLA (Conjugated Linoleic Acid)	3 g	58	Bacillus Clausii	
59	Deep Breathing	5 minutes	60	Choline Supplements	425 mg
61	Bifidobacterium Infantis 35624		62	Lutein	
63	Prunes		64	Black Chokeberry	
65	Taurine	500 mg	66	Flaxseed	2 tbsp
67	Black Seed (Black Cumin)	1000 mg	68	Walking Meditation	30 minutes
69	Flaxseed Oil	15 g	70	Yerba Mate	1 g

71	Gotu Kola		72	Pomegranate	
73	Dietary Omega-3 Fatty Acids		74	Low-Carbohydrate Diet	
75	Limit Trans Fats		76	Dietary Polyphenols	
77	Tai Chi	1 hour	78	Green Tea Extract	250 mg
79	Meditation	30 minutes	80	Dietary Antioxidants	
81	Reishi		82	Selenium Supplements	50 mcg
83	Zinc	15 mg	84	Mindfulness-Based Stress Reduction (MBSR)	2 hours

1

Mediterranean Diet

IMPACT 4 / 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

Following a Mediterranean diet may help reduce inflammation. It may lower IL-6 levels by ~0.5 pg/mL. This diet may help because it's rich in anti-inflammatory compounds like polyphenols and omega-3s [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 IL-6 levels (by 0.29 pg/mL) [R].

2

Aerobic Exercise (Cardio)

IMPACT 3 / 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

Aerobic exercise helps lower levels of Interleukin-6 (IL-6), a protein involved in inflammation, which is present in high levels in several chronic conditions. Thus, regular cardio can reduce inflammation, potentially controlling these conditions or alleviating their symptoms.

A meta-analysis of 13 studies concluded that chronic, high-intensity endurance training **lowers CRP and IL-6 levels** in healthy adults. However, 2 meta-analyses (the largest one with 15 studies and 1160 participants) found the effects of aerobic exercise on these markers **non-significant** [R, R, R].

In **obese adolescents**, aerobic exercise, both alone and combined with resistance training, **reduces CRP and IL-6 levels** according to a meta-analysis of 14 studies and 682 participants [R].

Two meta-analyses (the largest one with 49 trials and 1898 participants) concluded that aerobic exercise, resistance training, and their combination **reduce CRP, IL-6, and TNF-alpha levels in older adults** [R, R].

Exercise also **reduces CRP (by 0.66 mg/L) and IL-6 (by 0.88 pg/mL) in patients with type 2 diabetes** according to a meta-analysis of 14 trials and 824 patients [R].

3

Astaxanthin

IMPACT 3 / 5

EVIDENCE 3 / 5

How to implement

Take an astaxanthin supplement daily, with a typical dosage ranging from 4 to 12 mg. It is best taken with a fat-containing meal to enhance absorption.

TYPICAL STARTING DOSE

12 mg

Description

Astaxanthin is a powerful antioxidant found in certain microalgae and seafood. It is known for its potential benefits in reducing oxidative stress, supporting skin health, and promoting eye health.

Astaxanthin is a naturally-occurring orange-red pigment carotenoid found in algae, shrimp, lobster, crab, and salmon [R].
As an antioxidant, astaxanthin is **10 times stronger than zeaxanthin, lutein and beta-carotene, and 100 times stronger than vitamin E** [R].
People take astaxanthin to:

- Support skin health [R, R]
- Reduce exercise fatigue [R, R]
- Prevent heart disease [R, R, R]

How it helps

Astaxanthin is suggested to decrease the level of IL-6, a molecule that sparks inflammation in your body. By lessening this inflammation, Astaxanthin could potentially ease symptoms associated with conditions characterized by high IL-6 levels.

Two meta-analyses (the largest one with 26 trials) concluded that supplementation with astaxanthin **lowers CRP levels by 0.35-0.528 mg/L**. Astaxanthin was **most effective when used for long periods (over 12 weeks) and at large doses (over 12 mg/day)** [R, R].

Astaxanthin also **lowers IL6 levels in type 2 diabetes patients (by 0.70 pg/mL)** according to a meta-analysis of 12 trials [R].

4

Turmeric

IMPACT 3 / 5

EVIDENCE 3 / 5

How to implement

Incorporate 500-1000 mg of turmeric into your daily diet, either by adding ground turmeric spice to your food, such as in curries, soups, and smoothies, or by taking a dietary turmeric supplement. This should be done daily for at least 8 weeks to observe potential health benefits.

Description

Turmeric is a bright yellow spice derived from the root of the Curcuma longa plant. It contains curcumin, a potent antioxidant and anti-inflammatory compound. Turmeric is used for various health conditions, including reducing inflammation, alleviating joint pain, and supporting digestive health.

How it helps

Turmeric contains an active compound called curcumin which has anti-inflammatory effects, and it helps reduce the levels of IL-6, a pro-inflammatory cytokine, thereby helping manage inflammation in the body. Additionally, turmeric's antioxidant properties can protect cells from damage, potentially reducing disease severity.

A meta-analysis of 9 trials concluded that supplementation with curcuminoids **lowers IL-6 levels (by 0.60pg/mL)** [R].

Another meta-analysis (9 studies and 472 CKD patients) found that turmeric **lowers CRP (by 3.3 mg/L) and IL-6 in hemodialysis patients** [R].

5

Extra Virgin Olive Oil (EVOO)

IMPACT 3 / 5

EVIDENCE 3 / 5

How to implement

Incorporate 1-2 tablespoons of extra virgin olive oil into your daily diet. Use it as a dressing for salads, vegetables, or incorporate it into cooking, but avoid using it at high temperatures to preserve its health benefits.

Description

Extra virgin olive oil is a high-quality olive oil obtained from the first pressing of olives. It is rich in monounsaturated fats and antioxidants, like polyphenols, and is associated with various health benefits, including heart health and anti-inflammatory properties.

Olive oil is fat from the olive, a traditional tree of the Mediterranean Basin [R].

Olive oil has anti-inflammatory and antioxidant properties. It may also reduce the risk of [R, R]:

- Heart disease
- Diabetes
- Cancer

Olive oil is also the primary fat source in the Mediterranean diet, which may improve brain and heart health [R].

How it helps

Extra Virgin Olive Oil (EVOO) contains antioxidants that can lower levels of inflammation in your body including IL-6, a molecule which can cause inflammation when in excess. Therefore, consuming EVOO can provide anti-inflammatory benefits, potentially easing conditions linked with high IL-6.

A meta-analysis of 30 studies and 3106 participants concluded that olive oil interventions (1-50 mg/day) **decrease CRP (by 0.64 mg/L) and IL-6 (by 0.29 mg/L)** [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

Ginger contains anti-inflammatory properties that can help reduce levels of IL-6, a substance that under normal circumstances helps regulate immune responses, but when overproduced can lead to inflammatory diseases. Lowering IL-6 levels using ginger can therefore reduce symptoms in conditions where inflammation is a key problem.

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

Kefir

IMPACT 3 / 5

EVIDENCE 2 / 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

Kefir, a fermented milk product, promotes the growth of beneficial gut bacteria which can reduce the levels of inflammatory cytokines, including IL-6. Over time, this can help lower inflammation in the body and improve overall health.

Consuming kefir (2x/week) attenuated the increase in CRP observed over the course of a 15-week endurance training in a trial of 67 adults. 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. Consuming kefir (400 mL/day for 4 weeks) also lowered CRP in a non-placebo-controlled trial of 45 IBD patients [R, R, R].

8

Tomato

IMPACT 3 / 5

EVIDENCE 2 / 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 line with this, a meta-analysis of 21 studies found that interventions supplementing with tomato **reduce LDL-C (by 0.22 mmol/L) and IL-6** [R].

However, a meta-analysis of 7 trials and 465 participants found that tomatoes **lower TNF-alpha but not IL-6 or CRP levels** [R].

A meta-analysis of 34 studies found **no significant effects of tomato or lycopene on cardiovascular risk factors such as LDL-C, triglycerides, IL-6, TNF-alpha, or CRP** [R].

9

Almonds

IMPACT 2 / 5

EVIDENCE 3 / 5

How to implement

Incorporate a handful of almonds (about 23 kernels) into your daily diet. You can eat them as a snack, add them to your breakfast cereals or yogurt, or include them in salads and other dishes. Do this consistently for ongoing health benefits.

Description

Almonds are a good source of omega-6s, protein and vitamins, making for a great snack food. A 1-ounce serving provides 3700 mg of omega-6.

Almonds are nutritious tree nuts that originate from the Prunus dulcis tree. They are packed with essential nutrients, including healthy fats, fiber, vitamin E, and magnesium, which collectively contribute to heart health, support weight management, and may help regulate blood sugar levels.

How it helps

Almonds are rich in healthy fats and antioxidants that can reduce levels of inflammatory biomarkers like interleukin 6 (IL-6). By incorporating almonds into your diet, you may lower inflammation and boost your overall health.

In eleven studies, almond consumption had no significant impact on serum CRP levels (WMD = -0.28 mg/l, 95% CI: -0.81, 0.25; p = 0.29), but it did lead to a significant decrease in serum IL-6 levels (WMD = -0.1 pg/ml, 95% CI: -0.15, -0.05; p < 0.001) [R].

Nine randomized studies were included in the systematic review and eight were used for the meta-analysis. it was also found that the effects of almonds were **not significant (p > 0.05) in relation to** inflammatory markers (C-reactive protein and Tumour necrosis factor α, TNF-α) [R].

Almond consumption, based on 16 studies, significantly lowered serum CRP levels (WMD: -0.25 mg/L; 95% CI: -0.43, -0.06 mg/L), mainly at doses below 60 g/d. In 11 studies, almonds also reduced IL-6 levels (WMD: -0.11 pg/mL; 95% CI: -0.21, -0.01 pg/mL), with no significant effects in unhealthy or obese participants [R].

10

Air Purifier

IMPACT 2 / 5

EVIDENCE 3 / 5

How to implement

Install an air purifier in your home, ideally in the rooms you spend the most time in, such as your bedroom and living room. Keep the air purifier on for at least 12 hours each day, or continuously if possible, to effectively reduce airborne contaminants. Regularly clean or replace the filters according to the manufacturer's instructions to maintain its efficiency.

Description

Air purification is the process of cleaning the air around us. Using a high-quality air purifier with a HEPA filter helps remove harmful particles like dust, smoke, and bacteria. Having clean air to breathe can help boost your health by reducing allergies, asthma problems, and even certain infections.

How it helps

Air purification can remove allergens, pollutants, and other substances that irritate the respiratory system, possibly reducing inflammation-associated Interleukin-6 (IL-6) levels. Cleaner air minimizes triggers for inflammation, potentially improving the condition associated with high IL-6.

A meta-analysis of 90 studies and 39,760 participants concluded that using air purifiers lowers lung inflammation (decrease in IL-6 by 0.247 µg/mL) and fractional exhaled nitric oxide (by 0.208 ppb) [R].

11

Cinnamon

IMPACT 2 / 5

EVIDENCE 3 / 5

How to implement

Take a 1 g cinnamon supplement once daily, ideally with a meal to aid absorption. This can be in the form of a capsule or tablet. Continue this regimen as long as it aligns with your health goals and under the guidance of a healthcare provider.

TYPICAL STARTING DOSE

500 mg

Description

Cinnamon is a popular spice that may have various health benefits, including improving blood sugar control, reducing inflammation, and providing antioxidants. It's commonly used in both culinary and herbal applications.

Cinnamon is a spice made from the bark of *Cinnamomum* trees. Cinnamon can [R]:

- Decrease inflammation
- Fight oxidative stress
- Kill microbes

Cinnamon is mainly used in cooking and fragrances. **As a natural remedy, people use cinnamon to reduce blood sugar** [R].

There are two main types of cinnamon [R]:

- Ceylon or ‘true’ cinnamon (*Cinnamomum verum*)
- Chinese or Cassia cinnamon (*Cinnamomum cassia*)

How it helps

Cinnamon supplement can help reduce levels of IL-6, an inflammatory protein in your body, thereby alleviating the condition associated with it. To be specific, cinnamon has anti-inflammatory effects, leading to reduced inflammation in your system.

A meta-analysis and systematic review of 6 studies with 285 participants found that cinnamon supplementation **improved C-reactive protein levels, particularly in chronic conditions**, where basal CRP levels are raised, meaning baseline CRP levels greater than 3 mg/dL. Cinnamon may offer **greater benefits in trials of >12 weeks duration and with ≥1500 mg/day** [R].

Another meta-analysis and systematic review of 12 studies also found that cinnamon supplementation (1.5 to 4 g/day) improved biomarkers of inflammation and oxidative stress. For example, it **reduced CRP, malondialdehyde, and slightly IL-6**. Moreover, it increased **total antioxidant capacity (TAC)** without changing intercellular adhesion molecule-1 (ICAM-1) [R].

12

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

600 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) is an antioxidant that can reduce inflammation, and IL-6 is a protein that promotes inflammation in your body. Therefore, taking NAC potentially decreases the levels of IL-6, thereby reducing inflammation related to certain diseases.

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].

13

Propolis

IMPACT 2 / 5

EVIDENCE 3 / 5

How to implement

Take a propolis supplement in capsule or tablet form, typically ranging from 500mg to 1000mg per day. It's best to follow the dosage instructions on the product label or a healthcare provider's advice. Propolis can be taken continuously, but consult a healthcare provider for specific durations especially if it exceeds three months.

Description

Propolis is a resinous substance collected by bees from tree buds and used to seal their hives. It has been traditionally used in natural medicine for its potential antimicrobial properties and as a source of antioxidants that may support oral and immune health.

Propolis is a waxy compound, also known as “bee glue.” Honeybees make it from plants and use it to build, repair, and protect their hives [R].

People use propolis to potentially help [R]:

- Reduce the appearance of acne
- Maintain oral health
- Support the immune system

How it helps

Propolis is popular for its potential anti-inflammatory effects. Two meta-analyses have confirmed the ability of propolis to reduce CRP, TNF, and IL-6 levels [R, R].

14

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

100 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

Alpha-lipoic acid may reduce IL-6 levels as it is known for its anti-inflammatory properties. Lowered IL-6 can manage inflammation and potentially alleviate symptoms associated with high IL-6 levels.

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

15

Cardamom

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Take 500 mg of cardamom powder or extract supplement daily with water, preferably after meals. Continue this regimen daily for at least 8-12 weeks to potentially observe benefits.

TYPICAL STARTING DOSE

500 mg

Description

Cardamom is a fragrant spice known for its potential to aid digestion, reduce inflammation, and provide antioxidant benefits. Incorporating cardamom into your diet or as a herbal remedy can promote overall digestive comfort and well-being.

Cardamom (*Elettaria cardamomum*) is a plant in the ginger family used to flavor food. It's also known as green cardamom or the "Queen of Spices," due to its price tag [R, R].

The plant produces pods or capsules that contain 15-20 seeds each. The seeds can be used whole or can be ground to a fine powder before use [R, R].

Some people use cardamom powder to help lower triglycerides [R, R].

How it helps

A meta-analysis of 8 studies and 595 patients with metabolic syndrome and related disorders concluded that supplementation with cardamom lowers IL-6 levels(by 2.41 ng/L) [R].

In a placebo-controlled trial of 194 women with PCOS, supplementation with cardamom (3 g/day) for 4 months lowered IL-6 levels [R].

16

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 reduce the production of the pro-inflammatory cytokine IL-6 in people with chronic conditions or undergoing surgical procedures. Similarly, TENS may lower TNF-alpha levels after surgery [R].

17

Lactoferrin

IMPACT 2 / 5

EVIDENCE 2 / 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

Lactoferrin can potentially reduce the levels of IL-6, which is a protein that promotes inflammation. By curbing inflammation, lactoferrin may help alleviate symptoms associated with high IL-6 levels.

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 a clinical trial with 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].

Similarly, in a double-blind placebo-controlled nutritional intervention study in 30 elderly women, bovine lactoferrin (for 3 weeks), followed by bLF + Galacto-oligosacharides (GOS) (for 3 weeks), and subsequently bLF + GOS + vitamin D (for 3 more weeks) contributed to **better antiviral responses mediated by pDC**. The treatment **increased TLR7/8 and TLR1/2 responses in pDCs and TLR1/2 mediated responses in mDCs**. It also reduced sVCAM and improved physical function [R].

18

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

Tocotrienols, a form of Vitamin E, can help reduce IL-6 levels because they have potent anti-inflammatory properties. Therefore, they can help manage conditions where IL-6 plays a critical role, like certain inflammatory and autoimmune diseases.

19

Vitamin K1

IMPACT 2 / 5

EVIDENCE 1 / 5

How to implement

Take a vitamin K1 supplement once daily with a meal that includes fat, as fat increases its absorption. The dosage can vary depending on individual needs, but a common dose is between 90-300 micrograms. Continue this regimen daily for ongoing health benefits, particularly for bone and cardiovascular health.

TYPICAL STARTING DOSE

90 mcg

Description

Vitamin K encompasses two main forms: vitamin K1 (phylloquinone) and vitamin K2 (menaquinone). Vitamin K1 is primarily found in leafy green vegetables and plays a crucial role in blood clotting. Vitamin K2, sourced from animal products and fermented foods, is known for its potential to promote bone health and cardiovascular wellness.

How it helps

Vitamin K1 potentially reduces the levels of the protein IL-6, a pro-inflammatory biomarker often elevated in chronic illnesses. This may reduce inflammation and contribute to improved health outcomes.

In a study with 510 elderly participants, those with the highest increase in dietary phylloquinone intake over a year experienced significant reductions in various plasma markers, including ghrelin, glucose-dependent insulinotropic peptide, glucagon-like peptide-1, IL-6, leptin, TNF, and visfatin (all $p<0.05$) [R].

Please note: *Vitamin K can interact with blood thinners (e.g., Coumadin). Make sure to consult your doctor before supplementing with vitamin K or drastically changing your dietary intake.*

20

Mindfulness

IMPACT 1 / 5

EVIDENCE 3 / 5

How to implement

Set aside 5-10 minutes each day to practice mindfulness meditation. Find a quiet place, assume a comfortable seated position, close your eyes, focus on your breathing, and observe your thoughts and sensations without judgment.

TYPICAL STARTING DOSE

30 minutes

Description

Mindfulness involves paying focused and non-judgmental attention to the present moment. It can reduce stress, improve emotional regulation, and enhance overall mental clarity and well-being.

Mindfulness is the practice of being aware of the present moment. When practicing mindfulness, a person acknowledges their thoughts, feelings, and sensations without any judgment [R].

Mindfulness and other types of meditation may improve [R]:

- Weight and anxiety
- Low mood
- Sleep disturbances
- Pain
- High blood pressure

How it helps

Practicing mindfulness can decrease stress levels, leading to lower levels of IL-6, a protein that promotes inflammation. Reduced inflammation can help manage conditions tied to high levels of IL-6 like heart disease, type 2 diabetes, and certain cancers.

In a comprehensive meta-analysis of randomized controlled trials, mindfulness-based interventions (MBIs) were found to affect six immune-related biomarkers. This study observed a post-intervention reduction in C-reactive protein and interleukin-6, with an increase in CD4+ cells, telomere length, and telomerase activity. Follow-up results showed continued reductions in interleukin-6 and C-reactive protein, with an increase in CD4+ cells. The study highlights MBIs' potential in enhancing immune function, thereby impacting somatic disorders [R].

21

Orange Juice

IMPACT 1 / 5

EVIDENCE 3 / 5

How to implement

Consume 8-ounces (about 240 milliliters) of orange juice daily, preferably in the morning with breakfast. This routine can be followed every day as part of a balanced diet for an indefinite period.

Description

Orange juice is a citrus beverage made from the juice of oranges. It is a rich source of vitamin C and other essential nutrients, contributing to immune support, skin health, and overall well-being.

How it helps

Drinking orange juice provides vitamin C, which can reduce the levels of Interleukin 6 (IL-6), an inflammatory protein in your body. Thus, it may help in treating conditions associated with high IL-6 levels such as rheumatoid arthritis, lung infections, and some cancers.

Twenty-one studies involving 634 participants found that consuming 100% orange juice led to significantly lower IL-6 levels (-1.51 pg/mL) in both healthy and at-risk individuals, with slight decreases in hs-CRP and MDA [R].

In a study with 19 at-risk individuals and 12 healthy controls, consuming 500 mL of red orange juice daily led to significant reductions in high-sensitivity C-reactive protein, IL-6, and TNF-α levels ($P < 0.001$) [R].

22

Garlic Supplement

IMPACT 1 / 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 trials concluded that garlic supplementation (12-3600 mg/day for 2-52 weeks) reduces IL-6 (by 0.73 ng/L). However, a meta-analysis of 17 trials found garlic lowers TNF-alpha but not IL-6 [R, R].

Please note: *Garlic can interact with blood thinners (such as aspirin, Plavix, and Coumadin). In addition, garlic can irritate the stomach in some people. Talk to your doctor before taking garlic* [R, R].

23

Black Raspberries

IMPACT 1 / 5

EVIDENCE 2 / 5

How to implement

Incorporate 1 cup of fresh or frozen black raspberries into your daily diet. You can add them to smoothies, yogurt, cereal or enjoy them as a snack on their own.

Description

Black raspberries are a good source of antioxidants, which can help protect your cells from damage. They also contain anthocyanins, which have been shown to have anti-inflammatory and anti-cancer properties.

How it helps

In a 12-week study on patients with metabolic syndrome, those taking 750 mg/day of black raspberry extract exhibited significant improvements compared to the placebo group. These improvements included greater reductions in total cholesterol levels and total cholesterol/HDL ratio, increased brachial artery flow-mediated dilatation (baFMD), and greater reductions in inflammatory markers such as IL-6 and TNF [R].

However, in an 8-week study on individuals with prehypertension, high-dose black raspberry extract supplementation (2500 mg/d) didn't improve IL-6 and other inflammatory markers [R].

In a study involving obese adults with type 2 diabetes, raspberry supplementation led to lower serum glucose levels at 2 and 4 hours postprandial during both acute and 4-week daily supplementation phases. Additionally, levels of inflammatory markers IL-6 and TNF were significantly reduced with raspberry supplementation [R].

Ten study participants consumed 45 g/d of lyophilized BRBs for 4 days, followed by a HFHC breakfast plus BRBs on day 6 (then washout, then a round without black raspberries).

In a 14-day crossover trial involving overweight or obese older males, consuming lyophilized black raspberries (BRBs) reduced postprandial inflammation, specifically interleukin-6 (IL-6), following a high-fat high-calorie meal. No significant changes were observed for CRP orTNF [R].

24

Avoid Arsenic Exposure

IMPACT 1 / 5

EVIDENCE 2 / 5

How to implement

Use a water filter certified to remove arsenic if you rely on well water, opt for arsenic-tested rice or rice products, and avoid using contaminated pesticides or herbicides in gardening or farming. Test your home for arsenic if you live in an area known for high levels of arsenic in soil or water. Limit consumption of foods known to accumulate arsenic such as rice and rice-based products, especially if you are pregnant, nursing, or preparing meals for young children.

Description

Avoiding arsenic exposure is essential for preventing potential health risks associated with arsenic contamination in drinking water and foods. Chronic exposure to arsenic has been linked to various health issues, including cancer and cardiovascular problems.

Arsenic is a heavy metal naturally found in the environment. It is used for mining, fracking, and industrial applications, such as the production of pesticides and wood preservatives, and the use of fossil fuels [R].

The main sources of exposure to arsenic are contaminated [R, R, R]:

- **Drinking water**
- **Rice** and fish
- Air

Long-term exposure to high amounts of arsenic may be linked to health problems, including [R, R, R, R, R]:

- Skin disorders
- Heart disease
- High blood pressure
- Stroke
- Diabetes
- Cancer

Please note: *Soaking, washing until clear, and cooking rice with a high (1:6) water-to-rice ratio may help reduce rice's arsenic content* [R, R, R].

How it helps

Avoiding arsenic exposure can help reduce IL-6 levels in your body. High levels of IL-6 are linked to inflammation and immune responses, potentially leading to diseases like arthritis, diabetes, and cancer.

Thirteen observational studies with 1,665 arsenic-exposed and 1,091 unexposed individuals revealed elevated IL-6, IL-8, and IL-12 levels in arsenic-exposed individuals. IL-2 was lower, while TNF-α, IFN-γ, CRP, and IL-10 levels remained unchanged [R].

25

Melatonin

IMPACT 1 / 5

EVIDENCE 2 / 5

How to implement

Take 500 mcg of melatonin orally, about 30 minutes before bedtime, to help with sleep. It can be taken daily as needed.

TYPICAL STARTING DOSE

500 mcg

Description

Melatonin is a natural hormone produced by the pineal gland in the brain that helps regulate the sleep-wake cycle. It plays a crucial role in promoting sleep onset and maintaining a consistent sleep pattern, making it a commonly used supplement for managing sleep disorders and jet lag.

Melatonin is an important sleep hormone. Bright light at night may prevent your body from making enough melatonin [R, R, R].

Your body makes melatonin on its own. However, some people take melatonin supplements to help them sleep. It may help with jet lag in particular [R, R, R].

How it helps

A meta-analysis of 6 studies found that supplementation with melatonin (6-10 mg/day for 14 months) reduces CRP and IL-6 levels [R].

26

L-Carnitine

IMPACT 1 / 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

500 mg

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 acts as an anti-inflammatory agent that may help to reduce the levels of IL-6, a protein that promotes inflammation.

A meta-analysis of 13 articles found that L-carnitine supplementation was associated with significantly lower levels of **CRP**, as well as slight but statistically significant decreases in **IL-6 and TNF levels** [R].

27

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

Astragalus may help suppress IL-6 because it supports healthy immune responses and reduces inflammation. Therefore, it could potentially alleviate symptoms associated with elevated IL-6 levels.

In a systematic review and meta-analysis of 19 RCTs, 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 (RR=1.225, 95% CI=1.17 to 1.29) in people with viral myocarditis [R].

A randomized controlled trial with 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].

28

Raspberries

IMPACT 1 / 5

EVIDENCE 2 / 5

How to implement

Incorporate a half cup to one cup of fresh or frozen raspberries into your daily diet. You can add them to your breakfast cereal, blend them into a smoothie, or snack on them throughout the day.

Description

Raspberries are a type of berry native to Europe and Asia, known for their high vitamin C and dietary fiber content. They have astringent properties, can support immune health, and aid in digestion.

How it helps

Raspberries have high levels of antioxidants and anti-inflammatory compounds which can lower the levels of IL-6, a protein that promotes inflammation. Thus, they may help to manage symptoms, prevent damage to body tissues, and improve overall health.

In a 12-week study on patients with metabolic syndrome, those taking 750 mg/day of black raspberry extract exhibited significant improvements compared to the placebo group. These improvements included greater reductions in total cholesterol levels and total cholesterol/HDL ratio, increased brachial artery flow-mediated dilatation (baFMD), and greater reductions in inflammatory markers such as IL-6 and TNF [R].

However, in an 8-week study on individuals with prehypertension, high-dose black raspberry extract supplementation (2500 mg/d) didn't improve IL-6 and other inflammatory markers [R].

In a study involving obese adults with type 2 diabetes, raspberry supplementation led to lower serum glucose levels at 2 and 4 hours postprandial during both acute and 4-week daily supplementation phases. Additionally, levels of inflammatory markers IL-6 and TNF were significantly reduced with raspberry supplementation [R].

Ten study participants consumed 45 g/d of lyophilized BRBs for 4 days, followed by a HFHC breakfast plus BRBs on day 6 (then washout, then a round without black raspberries).

In a 14-day crossover trial involving overweight or obese older males, consuming lyophilized black raspberries (BRBs) reduced postprandial inflammation, specifically interleukin-6 (IL-6), following a high-fat high-calorie meal. No significant changes were observed for CRP orTNF [R].

29

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

Brazil nuts are rich in selenium, a mineral known for its anti-inflammatory properties. Consuming them can help lower levels of IL-6, a substance that increases inflammation in your body.

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].

30

Gotu Kola and Pomegranate

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a supplement containing gotu kola and pomegranate extract once daily, typically in the morning with a glass of water. It is recommended to follow the specific dosage instructions provided on the product's packaging, as concentrations can vary between brands.

Description

Gotu kola is an herb used in traditional medicine for its potential to improve cognitive function, reduce inflammation, and support skin health. Pomegranate is a nutritious fruit rich in antioxidants and vitamins. Consuming pomegranate may support heart health, reduce inflammation, and offer various health benefits due to its high nutritional content.

How it helps

Gotu Kola and Pomegranate can lower IL-6 levels, which is a protein that promotes inflammation in your body. By reducing IL-6, these supplements can help decrease inflammation and promote better health.

A mouthrinse with gotu kola and pomegranate extract used as an add-on to scaling and root planing for 6 months improved pocket depth, attachment level, and gingival index, and reduced IL-1beta and IL-6 levels in 2 placebo-controlled trials of 35 patients with periodontal disease [R, R].

31

Bifidobacterium Animalis Subsp. Lactis

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a supplement containing Bifidobacterium animalis subsp. lactis at a dose of 10 billion colony-forming units (CFU) daily, with or without food. Joe's preferred strain is *B lactis* HN019 (10B CFU). Continue this regimen daily for at least 2 weeks to 4 weeks to observe potential benefits.

TYPICAL STARTING DOSE

10 billion CFU

Description

Bifidobacterium animalis lactis is a specific strain of probiotic bacteria known for its potential to support digestive health and immune function.

Bifidobacterium animalis is a probiotic bacterium that can be found in the healthy gut of most mammals, including humans. *B. lactis* was previously considered to be a separate species but was shown to be a subspecies of *B. animalis* [R, R].

People mainly take *B. animalis* to support gut health [R, R, R, R, R, R].

How it helps

Bifidobacterium Animalis Subsp. Lactis boosts your gut health, which can help suppress inflammation. Since IL-6 is an inflammatory marker, this supplementation may lower its levels, reducing inflammation in your body.

In a 6-month randomized trial, CAD patients were divided into a probiotic group (received Bifidobacterium lactis Probio-M8, atorvastatin, and metoprolol) and a placebo group (received placebo, atorvastatin, and metoprolol). The probiotic group showed significant improvements in Seattle Angina Questionnaire (SAQ) scores, reduced depression and anxiety, and lower levels of interleukin-6 and LDL cholesterol compared to the placebo group [R].

32

Boron

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a boron supplement of 3 to 6 mg daily, with food to enhance absorption. This dosage range is commonly recommended for general health benefits, based on nutritional studies. It's advisable to continue this regimen daily for an extended period, as long-term benefits depend on consistent supplementation.

TYPICAL STARTING DOSE

3 mg

Description

Boron is a trace mineral that plays a role in bone health, cognitive function, and hormone regulation.

Boron is a mineral in many foods, including:

- Fruits and fruit juices
- Avocados
- Potatoes
- Legumes
- Drinks (coffee, milk, cider, wine, and beer)

Scientists aren’t sure if boron has any roles in the body, so they don’t consider it an essential nutrient.

Some people take boron supplements to balance hormone levels, increase athletic performance, and more. However, the evidence to support these uses is weak.

How it helps

In one study, calcium fructoborate supplementation significantly reduced IL-6 levels in both dosage groups (56 and 112 mg/day) [R].

33

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

12 young men ingested quercetin (1 g/day) or placebo for 14 days in a study and then underwent an eccentric-induced muscle damaging protocol. After quercetin supplementation, there was a more marked increase in IGF-I levels. Quercetin significantly reduced plasma markers of cell damage (CK, LDH, and Mb) and IL6 levels during recovery [R].

Two studies by the same authors came to similar conclusions [R, 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].

34

Bilberry

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate bilberry fruits into your diet by eating a small handful, approximately 1/4 to 1/2 cup, daily. You can also consume bilberry in the form of tea, by steeping 1-2 teaspoons of dried bilberries in hot water for about 10 minutes, up to three times a day.

Description

Bilberry is a fruit rich in antioxidants and flavonoids, which may contribute to eye health and circulatory function. It's often used in supplements for its potential to support vision and overall well-being.

How it helps

In a randomized controlled trial with 31 participants with increased risk of cardiovascular disease (CVD), bilberry juice (for 4 weeks) **decreased in CRP, IL-6, IL-15, and monokine induced by INF-gamma (MIG)**. It also increased tumor nuclear factor-alpha (TNF-alpha). Oxidative stress or antioxidant status wasn´t changed [R].

In a study with 21 runners completing a half-marathon, bilberry juice intake (before, during, and after the race) led to small to moderate increases in exercise-induced muscle soreness and CRP. It had a possibly harmful effect on DOMS immediately post-race and a likely harmful effect on CRP at 24 and 48 hours post-race [R].

35

Probiotics

IMPACT 1 / 5

EVIDENCE 1 / 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

In a placebo-controlled trial of 10 patients with seasonal allergic rhinitis, consuming a milk drink with *L. casei* Shirota for 5 months decreased antigen-induced IL-6 [R].

36

Ursolic Acid

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 150-300 mg of ursolic acid supplement daily, preferably with food to enhance absorption. It can be continued for several weeks to months, but always consult with a healthcare provider before starting any new supplement regimen.

TYPICAL STARTING DOSE

150 mg

Description

Ursolic acid is a naturally occurring compound found in various fruits and herbs, including apple peels and holy basil. It is used for its potential to support muscle growth, reduce inflammation, and promote overall health through its antioxidant and anti-inflammatory properties.

How it helps

In a placebo-controlled trial of 22 healthy men, supplementation with ursolic acid (3 capsules/day for 8 weeks) as an add-on to HIRT lowered IL-6 and other inflammatory markers. Ursolic acid also lowered IL-6 in a placebo-controlled trial of 25 older obese women undergoing resistance training. However, ursolic acid (400 mg/day for 8 weeks) failed to reduce this and other cytokines in a placebo-controlled trial of 27 healthy men undergoing resistance training [R, R, R].

Ursolic acid may help by suppressing your body's inflammatory response.

37

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

Eating oats can help reduce levels of IL-6, a pro-inflammatory protein, because of its soluble fiber called beta-glucan. This fiber helps suppress IL-6 production, hence reducing inflammation in your body.

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].

38

Lactobacillus Casei

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a supplement containing Lactobacillus casei daily, with a dosage recommended by the product's manufacturer or a healthcare professional. The specific amount can vary, but it is commonly found in doses around 10 billion colony-forming units (CFUs). Continue this regimen for at least 4 weeks to observe potential health benefits.

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus casei is a probiotic bacterium known for its potential to support gut health and immune function. It contributes to a balanced gut microbiome and may help alleviate digestive issues like diarrhea.

Lactobacillus casei is a probiotic bacterium found in fermented foods (e.g., cheese), as well as in the reproductive and gastrointestinal tracts of humans and other animals [R, R].

People mainly take *L. casei* to support a healthy gut microbiota [R].

How it helps

In a placebo-controlled trial of 10 patients with seasonal allergic rhinitis, consuming a milk drink with *L. casei* Shirota for 5 months decreased antigen-induced IL-6 [R].

39

Fucoxanthin

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take fucoxanthin as a dietary supplement in a dosage of 2.4 to 8 mg per day, with a meal that contains fat for better absorption. It can be taken in a single dose or divided into two doses throughout the day. Continue for at least 5 to 16 weeks to observe benefits.

TYPICAL STARTING DOSE

3 mg

Description

Fucoxanthin is a natural pigment found in certain types of seaweed and algae. It is believed to have potential health benefits, including supporting weight management and promoting antioxidant activity.

How it helps

Fucoxanthin is a type of carotenoid found in brown seaweed that has anti-inflammatory properties. By reducing inflammation, it could potentially decrease levels of IL-6, a pro-inflammatory cytokine, thus helping to control conditions with elevated IL-6.

In a non-placebo-controlled trial of 19 healthy elderly participants, supplementation with Phaeodactylum tricornutum extract for 2 weeks **lowered IL-6 levels and improved mobility and gait speed** [R].

40

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 IL-8 in a placebo-controlled trial of 18 healthy volunteers [R, R].

41

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 study, a single dose of PQQ was given, which resulted in apparent changes in antioxidant potential. In the second study, daily PQQ supplementation led to decreases in plasma C-reactive protein, interleukin-6, and urinary metabolites associated with enhanced mitochondria-related functions. These findings provide insights into the systemic effects of PQQ in humans, linking them to its known effects in animals [R].

42

Fucoidan

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 300 mg of fucoidan supplement once daily, preferably with a meal to aid absorption. Continue this regimen for a minimum of four weeks to evaluate its effects on your health.

TYPICAL STARTING DOSE

300 mg

Description

Fucoidan is a compound found in certain brown seaweeds and marine plants, and it is consumed for its immune system support and anti-inflammatory effects.

How it helps

In a placebo-controlled trial of 42 patients with NAFLD, supplementation with low-molecular-weight fucoidan and high-stability fucoxanthin (275 mg LMF and 275 mg HSFx, 3x/day) for 24 weeks reduced liver fibrosis and steatosis, AST, ALT, total cholesterol, triglycerides, fasting glucose, HbA1c, IL-6, and IFN-gamma [R].

43

Clove

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a clove supplement in capsule form, following the manufacturer's recommended dosage, usually ranging from 500 mg to 1000 mg daily with meals. Continue as long as needed or as directed by a healthcare provider.

TYPICAL STARTING DOSE

500 mg

Description

Clove is a spice known for its strong flavor and potential health benefits. It contains compounds like eugenol that have antioxidant and anti-inflammatory properties, making it a valuable addition to herbal remedies and culinary dishes.

How it helps

In a randomized, double-blinded crossover study with 16 male social drinkers, the clove bud polyphenol Clovinol (hard shell gelatin capsule, 250 mg/day) alleviated alcohol-related side effects. It caused faster elimination of blood acetaldehyde, reduced oxidative stress, lipid peroxidation, C-reactive protein, and interleukin-6 while increasing glutathione and superoxide dismutase. It also reduced hangover severity [R].

Clove has anti-inflammatory properties that can help reduce the levels of IL-6, a proinflammatory cytokine that is often raised in inflammatory and autoimmune diseases. This can lead to lessened inflammation and symptoms related to such conditions.

44

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].

45

Mango

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate fresh mango into your diet 2-3 times a week, either as a snack or part of a meal. Opt for ripe mangoes for the best taste and nutritional value. If fresh mangoes are not available, frozen or dried mango can be a good alternative, but be mindful of any added sugars in dried mangoes.

Description

Mangoes are a delicious tropical fruit packed with vitamins, minerals, and antioxidants, promoting immune health, eye health, and skin vitality. They also provide dietary fiber and may support digestive regularity when included in a balanced diet.

Mangos are good for a host of nutrients, including vitamins E, C, A, and K, potassium, copper, and folate. A ½ cup serving provides 0.7 mg of vitamin E or 5%DV.

How it helps

Mangoes are rich in lupeol, a compound known to suppress the IL-6 protein that can cause inflammation in the body. Therefore, a diet with mangoes could potentially help reduce inflammation and prevent related conditions.

In a study, healthy individuals with chronic constipation were randomly assigned to either a group consuming 300g of mango fruit or an equivalent amount of fiber for four weeks. Mango consumption led to significant improvements in constipation symptoms (stool frequency, consistency, shape), increased gastrin levels, and raised fecal valeric acid levels. It also lowered endotoxin and interleukin 6 concentrations in plasma [R].

46

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 IL-6 after exercise. This suggests its role in dampening inflammatory response to exercise [R].

47

Strawberries

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate a serving of strawberries, which is approximately eight medium-sized strawberries (about 1 cup or 150 grams), into your daily diet. You can enjoy them as a snack, add them to your breakfast cereal or oatmeal, blend them into smoothies, or use them as a topping for salads and desserts.

Description

Strawberries are a delicious fruit rich in vitamin C, antioxidants, and dietary fiber. They provide essential nutrients and are associated with various health benefits, including improved immune function and heart health.

Strawberries (*Fragaria ananassa*) are one of the most consumed berries, both fresh and processed in juices, jams, yogurts, and desserts [R].

Strawberries have a high content of antioxidants and vitamins, such as [R, R]:

- Vitamin C
- Folate
- Flavonoids

How it helps

Strawberries are rich in antioxidants and have anti-inflammatory effects that can help reduce the levels of IL-6 in the body. This can help to reduce inflammation and support a healthier immune system.

In a randomized controlled study with 24 overweight adults, strawberry beverages attenuated the postprandial inflammatory response as measured by **hs-CRP and IL-6** induced by the a high-carbohydrate, moderate-fat meal (HCFM). It is also **associated with a reduction in postprandial insulin response** [R].

In a parallel, double-blind, controlled, and randomized clinical trial in 41 free-living insulin-resistant non-diabetic overweight or obese human subjects, a beverage with strawberry and cranberry polyphenols (333 mg/day for 6 weeks) **increased insulin sensitivity and lowered first-phase insulin secretion response as measured by C-peptide levels**. However, it did not change lipids and markers of inflammation and oxidative stress [R].

48

Kiwifruit

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Eat one to two kiwifruits daily, either as a snack or incorporated into your meals. You can consume them for breakfast, add them to a salad for lunch, or blend them into a smoothie. Continue this practice as a regular part of your diet to gain its nutritional benefits.

Description

Kiwifruit is a vitamin C-rich fruit that supports immune health, digestion, and skin vitality. It's also a good source of dietary fiber, making it a nutritious addition to a balanced diet.

Kiwifruit are technically berries, full of vitamin E, fiber, other minerals and vitamins, particularly vitamin K and C. One kiwifruit provides 1.1 mg of vitamin E or 7%DV.

How it helps

Kiwifruits are rich in vitamin C and other antioxidants which can help decrease inflammation in the body, including the reduction of IL-6, a cytokine that contributes to inflammation and immune response. Regular consumption of kiwifruits could therefore potentially aid in managing conditions linked to elevated IL-6 levels.

In a controlled cross-over study with 85 hypercholesterolaemic men following a healthy diet (for 4 weeks), kiwifruit (2 units/day) plus healthy diet (for 8 weeks) **improved plasma HDL cholesterol (MD 0.08 mmol/L), total cholesterol /HDL-C ratio (-0.29 mmol/L), plasma hs-CRP (-22.1%) and IL-6 (-43.7%)** compared to control treatment **in people with hs-CRP <1 mg/L** but did not change these parameters in people with hs-CRP <1 mg/L [R].

49

Bladderwrack

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 300-500 mg of bladderwrack supplement daily, preferably with meals to enhance absorption. It's recommended to start with the lower dose and gradually increase if needed. Consult with a healthcare provider before beginning, especially if you are pregnant, nursing, or have a medical condition like hyperthyroidism.

TYPICAL STARTING DOSE

300 mg

Description

Bladderwrack is a type of seaweed that has been used for its potential health benefits, including iodine content that supports thyroid function.

How it helps

In a placebo-controlled trial of 56 overweight or obese men, supplementation with bladderwrack extract (500 mg/day) for 12 weeks lowered the increment in IL-6 levels (by 2 pg/L) [R].

Bladderwrack is loaded with anti-inflammatory and antioxidant properties that can lower inflammatory markers like IL-6.

50

Sulforaphane

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a sulforaphane supplement, typically available in capsule form, with a dosage ranging from 30 to 60 milligrams per day. It is generally taken once daily, with or without food, according to the product's label instructions or a healthcare provider's advice. Continue this regimen daily for as long as you seek its benefits, but consult a healthcare provider for long-term use guidance.

TYPICAL STARTING DOSE

30 mg

Description

Sulforaphane is a natural compound found in cruciferous vegetables like broccoli and cauliflower. It is known for its potent antioxidant and anti-inflammatory properties, potentially offering protective effects against chronic diseases and promoting overall health.

How it helps

In a placebo-controlled trial of 10 healthy young men, supplementation with sulforaphane (30 mg/day) for 4 weeks **decreased creatine kinase and IL-6 levels caused by heavy resistance exercise** [R].

51

Lactobacillus Salivarius

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a probiotic supplement containing Lactobacillus salivarius daily, preferably with a meal to enhance absorption. The exact dosage can vary, but a common amount is around 10 billion CFUs (colony forming units). It is generally recommended to continue taking the probiotic for at least four weeks to observe benefits.

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus saliverius is a beneficial probiotic strain that can support digestive health and contribute to a balanced gut microbiome. It may help improve gut function, enhance nutrient absorption, and bolster the immune system, promoting overall well-being.

How it helps

In a placebo-controlled trial of 45 healthy volunteers, supplementation with *L. salivarius* UBL S22 for 6 weeks lowered IL-6 levels, especially in combination with prebiotic fructo-oligosaccharide [R].

L. salivarius may help balance your gut flora, which can improve your immune response and reduce inflammation.

52

Lactobacillus Reuteri

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a supplement containing Lactobacillus reuteri daily, ideally choosing a product that specifies CFU (colony-forming units) to ensure you receive an effective dose. Dosage can vary depending on the specific product, but it's typically around 10 billion CFUs. Continue taking the supplement for at least 4 to 8 weeks to evaluate its benefits for your gut health.

TYPICAL STARTING DOSE

10 billion CFU

Description

Lactobacillus reuteri is a beneficial probiotic strain that can support digestive health and contribute to a balanced gut microbiome. It may help improve gut function, enhance nutrient absorption, and bolster the immune system, promoting overall well-being.

Lactobacillus reuteri is a probiotic bacterium that is part of the normal microbiome of the gut, skin, urinary tract, and, occasionally, the stomach [R].

L. reuteri is also used as a probiotic. People take it to help with [R, R, R, R]:

- High cholesterol
- Gut diseases
- Constipation
- Helicobacter pylori infections

In the 1960s, **30-40 percent** of people had *Lactobacillus reuteri* as a part of their microbiome. Today, estimates suggest it is found in only **10-20 percent** [R, R].

How it helps

Lactobacillus Reuteri is known to have anti-inflammatory effects, which could aid in lowering the levels of IL-6, a marker of inflammation, in your body. Therefore, it may support in reducing the inflammation associated with your condition.

In a randomized, crossover, placebo-controlled trial with 53 newly diagnosed MetS patients, participants were assigned to receive either L. reuteri V3401 probiotic or a placebo daily for 12 weeks based on their BMI and sex. While there were no initial differences in MetS characteristics between the groups, the treatment with L. reuteri V3401 led to reductions in interleukin-6 (IL-6) and soluble vascular cell adhesion molecule 1 (sVCAM-1) R.

53

Bifidobacterium Lactis HN019

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

TYPICAL STARTING DOSE

10 billion CFU

Description

Bifidobacterium animalis is a probiotic bacterium that can be found in the healthy gut of most mammals, including humans. *B. lactis* was previously considered to be a separate species but was shown to be a subspecies of *B. animalis* [R, R].

People mainly take *B. animalis* to support gut health [R, R, R, R, R, R].

B. lactis HN019 is a strain known for its resilience to stomach acid and bile, which allows it to survive the harsh conditions of the gastrointestinal tract and colonize the gut effectively. It may help improve gastrointestinal function, alleviate symptoms of irritable bowel syndrome, enhance immune response, and reduce the risk of certain infections.

How it helps

In a placebo-controlled trial of 51 patients with metabolic syndrome, consuming 80 mL/day milk fermented with *Bifidobacterium lactis* HN019 (2.72 x 10^10 cfu/day) for 45 days reduced BMI, total cholesterol, LDL cholesterol, TNF-alpha, and IL-6 [R].

54

Glutamine

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 5 to 10 grams of glutamine powder, mixed with water or another beverage, daily. It can be divided into two servings, one in the morning and the other in the evening. This supplementation is generally considered safe for long-term use, but it's best to consult with a healthcare provider for personalized advice.

TYPICAL STARTING DOSE

5 g

Description

Glutamine is an amino acid that plays a role in various bodily functions, including immune support and gut health. It may help with muscle recovery and overall well-being, particularly for individuals engaging in strenuous exercise.

L-glutamine is an amino acid produced by the body. Its levels may decrease during periods of stress or illness. It is important for protein and energy production, and helps control kidney pH balance [R].

Some people take L-glutamine as a supplement to help with [R]:

- Gut health
- Immunity
- Exercise recovery and muscle performance
- Brain health

How it helps

Glutamine supplementation can reduce the levels of Interleukin-6 (IL-6), a pro-inflammatory cytokine that can cause inflammation and autoimmune diseases. By lowering IL-6 levels, glutamine can help control inflammation and autoimmune response, improving your condition.

In a placebo-controlled trial of 30 healthy men, supplementation with glutamine (0.3 g/kg body weight) for 14 days lowered IL-6, leptin, total cholesterol, oxidized LDL cholesterol, and oxidized LDL to HDL ratio [R].

55

Lychee Extract

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take lychee extract in supplement form, usually available as capsules or powder. For adults, the typical dosage can be around 100 to 200 mg daily, taken with meals. This supplement should be taken consistently for at least one month to begin observing potential health benefits.

TYPICAL STARTING DOSE

100 mg

Description

Lychee extract is derived from lychee fruit and is often used for its potential antioxidant and anti-inflammatory effects. It may offer benefits for skin health, immune function, and overall well-being when used as part of a balanced diet.

How it helps

Lychee extract can help with the condition IL-6 by reducing inflammation. It contains antioxidants like flavonoids that block IL-6, a pro-inflammatory substance the body overproduces in certain conditions.

In a double-blind randomized trial with 20 healthy male long-distance runners enrolled in high-intensity exercise training, a flavanol-rich lychee fruit extract (FRLFE) **lowered white blood cell count, reduced serum interleukin-6 level changes, and increased transforming growth factor-β level** between pre- and post-training, meaning that it may suppress inflammation or tissue damage [R].

56

Tyrosol

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a tyrosol supplement of approximately 10 to 50 milligrams per day, ideally with a meal to enhance absorption. Continuous daily intake is recommended for at least 8 to 12 weeks to evaluate benefits.

TYPICAL STARTING DOSE

10 mg

Description

Tyrosol is a phenolic compound found in olive oil and is known for its antioxidant properties. It is used for its potential to protect cells from oxidative damage and support cardiovascular health.

How it helps

In a placebo-controlled trial of 10 healthy volunteers and 10 patients with chronic kidney disease, consuming white wine and extra virgin olive oil (both of which are rich in tyrosol) for 2 weeks lowered IL-6, especially in those with chronic kidney disease [R].

57

CLA (Conjugated Linoleic Acid)

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 3 to 4 grams of CLA (conjugated linoleic acid) supplements daily, divided into two doses, preferably with meals to enhance absorption. Continue this regimen daily for at least 6 months to potentially see beneficial results.

TYPICAL STARTING DOSE

3 g

Description

CLA is a fatty acid found in meat and dairy products and is often used as a dietary supplement. Some studies suggest that CLA may have potential benefits for weight management and body composition by promoting fat loss and muscle preservation.

Conjugated linoleic acids (CLA) are **polyunsaturated fats** (PUFAs). They're mainly found in meat and dairy. People also take them as supplements [R, R].

CLA supplements are often marketed as weight loss aids [R].

How it helps

Results from 42 studies (58 arms) revealed that CLA supplementation significantly reduced IL-6 and TNF-α levels while slightly increasing CRP levels. However, adiponectin and leptin levels remained unchanged overall, though a subgroup analysis indicated reductions in adiponectin and leptin in women [R].

In an analysis of 11 RCTs involving 420 subjects, CLA supplementation increased blood CRP levels by 0.89 mg/l and TNF-α levels by 0.39 pg/ml, but had a marginal effect on blood IL-6 levels, decreasing them by 0.32 pg/ml [R].

A meta-analysis of 14 studies indicated a significant increase in serum CRP concentrations following supplementation with CLAs [R].

Please note: *CLA supplementation may increase CRP, a marker of inflammation* [R, R, R].

58

Bacillus Clausii

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take Bacillus clausii as an oral probiotic supplement, usually found in liquid or capsule form. For adults and children, the typical dosage is one or two capsules (or one or two vials of liquid, if using that form) daily. The duration of use can vary; some may take it for a few weeks during or after antibiotic treatment, while others might use it for longer periods to support digestive health.

Description

Bacillus causii is a type of beneficial bacteria that can be found in probiotic supplements, potentially contributing to digestive health and a balanced gut microbiome.

How it helps

Bacillus clausii probiotic supplements may help in maintaining the balance of gut bacteria and strengthen your immune system.

In a placebo-controlled trial of patients with IBD, supplementation with *B. clausii* UBBC-07 for 4 weeks increased *Firmicutes*, *Lactobacillus*, *Bifidobacterium*, and *Faecalibacterium* bacteria while decreasing *Bacteroidetes*. The treatment also increased IL-10 while decreasing IL-1β, TNF-α, IL-6, IL-17 and IL-23 [R].

59

Deep Breathing

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Practice deep breathing exercises for 5-10 minutes at least twice a day, ideally in the morning and before bed. Sit or lie down in a comfortable position, slowly inhale through your nose, allowing your chest and lower belly to rise, hold the breath for a moment, and then exhale slowly through your mouth or nose.

TYPICAL STARTING DOSE

5 minutes

Description

Deep breathing techniques, such as diaphragmatic or abdominal breathing, can promote relaxation, reduce stress, and improve lung capacity. Regular deep breathing exercises can contribute to overall mental and physical well-being by reducing tension and increasing oxygen supply to the body.

How it helps

A trial with 30 COPD patients found that slow deep breathing improved respiratory muscle strength, quality of life, and reduced inflammatory markers (including IL-6), while fast deep breathing was more effective for some measures [R].

60

Choline Supplements

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take choline supplements at a dosage of 425 mg to 550 mg daily, depending on age and gender, with a glass of water. It is best to consume choline supplements with a meal for optimal absorption. Continue this regimen daily as part of your dietary supplement routine.

TYPICAL STARTING DOSE

425 mg

Description

Choline is an essential nutrient that plays a crucial role in various bodily functions, including brain health, liver function, and metabolism. Incorporating choline-rich foods into your diet supports cognitive function and overall nutritional well-being.

Choline is a nutrient required for optimal health. Although the body makes some, we need to get choline from our diets to avoid deficiency [R].

It plays key roles in supporting [R, R]:

- DNA production
- Cell structure and function
- Brain, nerve, and heart health

Eggs and beef liver are the best sources of choline. If you can't meet your daily requirements with food, consider taking a choline supplement such as [R]:

- Phosphatidylcholine (PC)
- Citicoline (CDP-choline)
- Alpha-GPC
- Lecithin

They all supply choline, but each one has unique health perks you may prefer. Check out our posts on different choline-containing supplements to find out which one suits you best.

How it helps

A randomized double-blind placebo-controlled parallel clinical trial was carried out among 96 diabetic patients and found that choline + magnesium (for 2 months) reduced **interleukin (IL)-6** levels. Choline alone and with magnesium also **reduced vascular cell adhesion molecule-1 (VCAM-1)** levels. When adjusted for potential confounders, **inflammation and endothelial factors (IL-6 and VCAM-1) decreased significantly** in the choline-magnesium group as compared to other groups [R].

61

Bifidobacterium Infantis 35624

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Bifidobacterium infantis 35624 is available in several forms, including capsules, tablets, powder, and liquid. The recommended dosage may vary depending on the specific product and individual health needs, but a common dosage range is between 1 to 10 billion CFU/day. Probiotic supplements should generally be taken with or after meals to improve stability and absorption. If taking the powder form, it can be mixed with water or food. For specific health concerns, such as gut issues or IBS, dosage recommendations may differ, so professional guidance is recommended.

Description

Bifidobacterium infantis 35624 is a specific strain of beneficial bacteria that is naturally found in the human gut, particularly in infants.

This strain is known for its ability to support digestive health and immune function. Research suggests that *B. infantis* 35624 can help maintain a healthy balance of gut microbiota, alleviate symptoms of irritable bowel syndrome, reduce inflammation, and improve overall gut function. It has also been studied for its potential to promote the development of the gut microbiome in infants, particularly in those born via C-section or who are not breastfed.

As a probiotic supplement, *B. infantis* 35624 is commonly used to support digestive health and improve symptoms of gut-related disorders.

How it helps

In 3 small placebo-controlled trials of 96 patients with ulcerative colitis, chronic fatigue syndrome, or psoriasis, supplementation with *B. infantis* 35624 for 6–8 weeks lowered CRP levels in all three inflammatory conditions, TNF-alpha in people with chronic fatigue syndrome and psoriasis, and IL-6 in those with chronic fatigue syndrome and ulcerative colitis [R].

62

Lutein

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Increase your intake of lutein by eating more dark, leafy greens such as spinach and kale, as well as other foods like corn, peas, and egg yolks. Aim to include these in your daily diet, consuming at least one serving of lutein-rich foods per meal. It can also be taken as a supplement.

Description

Lutein is an antioxidant pigment found in the eye, and may support eye health. It is commonly found in leafy green vegetables.

Lutein is an antioxidant pigment found in the eye. Many plants contain lutein, including [R, R]:

- Leafy greens (kale, spinach, leeks, lettuce)
- Cantaloupe
- Corn
- Peas
- Peppers
- Herbs (basil, parsley)

Lutein may help support eye health [R, R].

How it helps

According to a study with people with early atherosclerosis, lutein supplementation (20 mg/day for 3 months) may reduce inflammatory markers, such as IL-6 and MCP-1 [R].

63

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

Prunes have high amounts of antioxidants and fiber, which can curb inflammation caused by IL-6 (Interleukin 6) and enhance digestive health. This helps your body function more effectively while managing this condition.

In a 6-month clinical trial with 48 postmenopausal women, they were assigned to consume 0, 50, or 100 g of dried plum daily. After 6 months, the 50 g/day dried plum group showed significant reductions in inflammatory biomarkers interleukin-6 (P = .044) and tumor necrosis factor-α (P = .040) compared to baseline [R].

64

Black Chokeberry

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate black chokeberry (Aronia melanocarpa) in your diet by consuming 100-200 grams of fresh berries daily. If using a concentrated form like juice or extracts, follow the manufacturer's instructions, usually around 100 ml of juice or 500 mg of extract per day, for at least 8-10 weeks to observe potential health benefits.

Description

Black chokeberry is a fruit known for its high content of antioxidants and potential health benefits. It may support cardiovascular health and provide immune system support when incorporated into a balanced diet.

How it helps

Black Chokeberry is rich in antioxidants, which help combat inflammation by reducing levels of IL-6, a protein that triggers inflammation in your body. By diminishing this inflammation, it may help manage conditions associated with high IL-6 levels, such as rheumatoid arthritis or cardiovascular disease.

In a placebo-controlled trial of 22 male football players, supplementation with lyophilized black chokeberry extract (6 g/day) for 90 days **improved performance at a 20-m shuttle run, reduced IL-6, and increased IL-10** [R].

65

Taurine

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 1-4 g of taurine supplement daily, divided into two or three doses with meals for optimal absorption. It can be taken continuously, with periodic evaluations of its effects and benefits.

TYPICAL STARTING DOSE

500 mg

Description

Taurine is an amino acid found in various foods and often used in energy drinks and supplements. It plays a role in neurological and cardiovascular health and can help support energy metabolism.

Taurine is the most abundant free amino acid in humans. It's not essential, which means we can produce it. We can also get it from protein-rich foods, such as [R]:

- Seafood
- Meat
- Dairy

Taurine is a popular additive in energy drinks and can also be taken as a supplement [R].

Taurine plays an important role in [R, R]:

- Bile production
- Calcium metabolism

It is also well-known for its antioxidant and anti-inflammatory properties [R].

How it helps

Taurine supplementation has been observed to influence IL-6 levels in various contexts, showing potential anti-inflammatory benefits.

A study on patients with traumatic brain injury found that taurine significantly decreased serum levels of IL-6, suggesting its effectiveness in reducing inflammation in such patients [R].

A study explored taurine's effects on muscle and inflammatory markers in 10 volunteers during a 5 km run. Taurine reduced the creatine kinase isoenzyme and AST post-exercise, and decreased IL-6 levels, suggesting its potential to improve running performance by modulating inflammation [R].

Conversely, a study on triathletes reported that taurine supplementation **did not significantly change the concentrations of IL-6 and TNF**, indicating no benefits on performance and muscle damage in this specific athletic population [R].

66

Flaxseed

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Consume 2 tablespoons of ground flaxseed daily. You can add it to your breakfast cereal, smoothies, or salads.

TYPICAL STARTING DOSE

2 tbsp

Description

Flaxseed is a nutrient-dense food that's high in fiber and omega-3 fatty acids. It may contribute to heart health, promote digestive regularity, and help manage cholesterol levels when included in a balanced diet.

Flaxseed is a common ingredient in bakery products. Some people also use it as a health food to support digestion [R].

Flaxseed is rich in many compounds, including [R]:

- Vitamins and minerals
- Protein
- Fiber
- Omega-3 fatty acids (ALA)

How it helps

In a placebo-controlled trial of 75 patients with ulcerative colitis, supplementation with flaxseed oil (10 g/day) or ground flaxseed (30 g/day) for 12 weeks **decreased inflammatory markers (IFN-gamma and IL-6), disease severity, blood pressure, and waist circumference** [R].

67

Black Seed (Black Cumin)

IMPACT 1 / 5

EVIDENCE 1 / 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].

68

Walking Meditation

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Dedicate 10-20 minutes daily to practice walking meditation, ideally in a quiet space where you can walk back and forth. Focus on the sensation of each step, maintaining a slow pace that allows you to be fully aware of the movement and feeling in your feet and body. It can be done indoors or outdoors.

TYPICAL STARTING DOSE

30 minutes

Description

Walking meditation is a mindfulness practice that combines the physical activity of walking with focused awareness and deep breathing. It is used to reduce stress, enhance mental clarity, and cultivate mindfulness.

How it helps

In a non-placebo-controlled trial of 45 elderly participants with mild-to-moderate depressive symptoms, practicing walking meditation 3x/week for 12 weeks reduced IL-6 levels [R].

Walking meditation may help by reducing stress, thus indirectly lessening the stimulation of IL-6 production.

69

Flaxseed Oil

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 1 to 2 tablespoons (15-30 g) of flaxseed oil daily. It can be taken with or without food. For best results, use consistently for at least 2 months.

TYPICAL STARTING DOSE

15 g

Description

Flaxseed oil is a source of healthy fats, particularly alpha-linolenic acid (ALA), an omega-3 fatty acid. It can help support cardiovascular health and may have anti-inflammatory properties when used as part of a well-rounded diet.

Flaxseed is a common ingredient in bakery products. Some people also use it as a health food to support digestion [R].

Flaxseed is rich in many compounds, including [R]:

- Vitamins and minerals
- Protein
- Fiber
- Omega-3 fatty acids (ALA)

How it helps

In a placebo-controlled trial of 75 patients with ulcerative colitis, supplementation with flaxseed oil (10 g/day) or ground flaxseed (30 g/day) for 12 weeks **decreased inflammatory markers (IFN-gamma and IL-6), disease severity, blood pressure, and waist circumference** [R].

70

Yerba Mate

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take yerba mate as a supplement by consuming 1 to 3 grams of the dried leaves in capsule form daily, or by drinking 1 to 3 cups of yerba mate tea. Do this consistently for at least 4 to 8 weeks to observe potential benefits.

TYPICAL STARTING DOSE

1 g

Description

Yerba mate is a South American herbal tea known for its caffeine content and antioxidant properties. It provides a boost in alertness and mental clarity and is used for its potential to enhance focus and energy.

Yerba mate is a traditional South American beverage made from the dried leaves of the yerba mate plant (*Ilex paraguariensis*). It is commonly consumed in countries like Argentina, Uruguay, Paraguay, and Brazil, and has a long history of cultural significance and social bonding.

Yerba mate is traditionally sipped through a *bombilla*, a special metal straw, from a gourd-shaped container. This results in a flavorful and stimulating drink often shared among friends and family.

How it helps

In a placebo-controlled trial of 34 men with at least one criterion for metabolic syndrome, consuming dry mate extract (580 mg/day) for 4 weeks lowered IL-6 levels. Drinking mate tea for 8 days also lowered IL-6 levels in a non-placebo-controlled trial of 8 men [R, R].

Yerba mate contains polyphenols that may lower IL-6 levels, helping reduce inflammation in the body.

71

Gotu Kola

IMPACT 0 / 5

EVIDENCE 1 / 5

How to implement

Take a Gotu Kola supplement, available in capsule or powder form, daily. Dosages typically range from 500mg to 2000mg daily, divided into two or three doses. It's recommended to start with the lower dose to assess tolerance and then increase if necessary. Continue for 4 to 6 weeks to evaluate the benefits.

Description

Gotu kola is an herb used in traditional medicine for its potential to improve cognitive function, reduce inflammation, and support skin health.

Gotu kola or Pennywort (*Centella asiatica*) is an herb used in Tai-Chi tradition and Ayurvedic and Chinese Traditional Medicine.

Gotu kola is used as an antioxidant and anti-inflammatory. Traditional uses include:

- Wound healing [R].
- Improving leg circulation [R]

How it helps

A mouthrinse with gotu kola and pomegranate used as an add-on to scaling and root planing for 6 months improved pocket depth, attachment level, and gingival index, and reduced IL-1beta and IL-6 levels in 2 placebo-controlled trials of 35 patients with periodontal disease [R, R].

72

Pomegranate

IMPACT 0 / 5

EVIDENCE 1 / 5

How to implement

Incorporate pomegranate into your diet by consuming fresh pomegranate seeds, drinking pure pomegranate juice, or adding pomegranate extract to smoothies or yogurts. Aim for at least one serving per day, which could be about half a cup of seeds or a glass (8 ounces) of juice, to gain its health benefits.

Description

Pomegranate is a fruit native to regions of the Middle East and Mediterranean. It is rich in antioxidants and nutrients such as vitamin C, vitamin K, and dietary fiber. It contains punicalagins, anthocyanins, and ellagic acid, which give it anti-inflammatory effects and potential heart health benefits.

Pomegranates are red fruits that contain seeds covered by edible sweet coats. They are rich in antioxidants [R, R].

Pomegranate may reduce inflammation and support heart health. People use pomegranate seed oil and peel in cosmetics and traditional medicine [R, R].

How it helps

A mouthrinse with gotu kola and pomegranate used as an add-on to scaling and root planing for 6 months improved pocket depth, attachment level, and gingival index, and reduced IL-1beta and IL-6 levels in 2 placebo-controlled trials of 35 patients with periodontal disease [R, R].

73

Dietary Omega-3 Fatty Acids

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Incorporate foods high in omega-3 fatty acids into your diet daily. This includes eating fish such as salmon, mackerel, and sardines at least twice a week. Alternatively, include a tablespoon of flaxseed oil or chia seeds in your daily diet.

Description

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. **EPA and DHA are vital for mental and heart health** [R, R, R].

Fatty fish are rich in EPA and DHA. They include [R]:

- Salmon
- Tuna
- Herring
- Sardines

For optimal health, 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 are known to have anti-inflammatory properties that may help regulate inflammatory processes and IL-6 levels.

74

Low-Carbohydrate Diet

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Limit your daily intake of carbohydrates to less than 26% of your total daily calories. For a standard 2000-calorie diet, this means consuming no more than 130 grams of carbohydrates per day. Focus on including non-starchy vegetables, lean proteins, and healthy fats in your meals while minimizing the intake of sugars, bread, pasta, and other high-carb foods.

Description

Low-carbohydrate diets can promote weight loss, improve blood sugar control, and support heart health. They may also be beneficial for individuals with certain medical conditions, such as epilepsy or metabolic syndrome.

How it helps

Eating a low-carbohydrate, low-calorie diet may lower IL-6 levels only in people with certain gene variants [R].

75

Limit Trans Fats

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

To limit trans fats, read food labels and choose products with 0 grams of trans fat. Avoid fried foods, packaged snacks, baked goods, and fast foods, which are common sources of trans fats. Aim to eliminate trans fats from your diet completely.

Description

Limiting trans fat intake is vital for heart health and reducing the risk of cardiovascular diseases. Avoiding foods high in trans fats and opting for healthier alternatives promotes better cardiovascular well-being.

Based on their structure, the fats in our diet can be broadly divided into *saturated* and *unsaturated* fat. Trans fat is a type of unsaturated fat [R, R, R].

In large amounts, trans fat and saturated fat may have a negative impact on your heart. Processed foods and animal products like red meat and dairy are rich in these fats [R, R, R].

How it helps

Trans fats can promote inflammation; reducing their intake might have a positive effect on IL-6 levels.

76

Dietary Polyphenols

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Incorporate foods rich in dietary polyphenols into your daily diet. This can include consuming a variety of fruits like berries, apples, and grapes; vegetables such as onions and broccoli; nuts and seeds; as well as beverages like green tea and coffee. Aim for at least five servings of fruits and vegetables per day to achieve a beneficial intake of polyphenols.

Description

Polyphenols are antioxidants found in foods like fruits, vegetables, and tea, which may offer various health benefits, including reduced inflammation and improved heart health.

Polyphenols are plant components with antioxidant properties. They help reduce oxidative stress [R].

High levels of oxidative stress can damage our cells. Oxidative stress plays a role in many health conditions, including [R]:

- High blood sugar
- Type 2 diabetes
- Heart disease

You can get most polyphenols and other antioxidants from fresh fruits and vegetables [R, R].

How it helps

Polyphenols have antioxidant properties that may help reduce inflammation and subsequently affect IL-6 levels.

77

Tai Chi

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Practice Tai Chi for 30 to 60 minutes at least twice a week. Choose a quiet, spacious area and follow along with a qualified instructor, either in person at a class or through an online video tutorial, to ensure proper technique and maximum benefit.

TYPICAL STARTING DOSE

1 hour

Description

Tai Chi is a traditional Chinese mind-body practice involving slow, flowing movements and deep breathing. It is known for its potential to reduce stress, improve balance, and enhance overall physical and mental well-being.

Tai chi involves gentle movements and breathing to strengthen and relax the mind and body. Practicing tai chi may help [R, R, R]:

- Manage pain
- Improve fitness
- Increase well-being
- Improve sleep and mood

How it helps

Tai Chi combines gentle physical activity and stress reduction, which can help reduce levels of IL-6 by influencing the immune system and reducing inflammation.

78

Green Tea Extract

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Take a green tea extract supplement containing 250-500 mg of EGCG (the active compound in green tea) daily, preferably with a meal to enhance absorption. This dosage is typically split into two separate doses, taken in the morning and later in the day. Continue this regimen for at least three months to observe potential health benefits.

TYPICAL STARTING DOSE

250 mg

Description

Green tea extract is a concentrated form of the beneficial compounds found in green tea, such as catechins. It is used in dietary supplements for its potential to enhance metabolism, aid in weight management, and provide antioxidant protection.

Green tea is made from the same plant as black tea (*Camellia sinensis*). However, the leaves and buds are processed differently [R].

Green tea contains **catechins**. These are antioxidants that help prevent oxidative stress [R].

EGCG is the main catechin found in green tea. It may help reduce inflammation and support weight loss [R].

How it helps

Green tea contains epigallocatechin gallate (EGCG), a compound that has been shown to help reduce inflammation.

79

Meditation

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Set aside 10-20 minutes each day in a quiet space without distractions to practice meditation. Focus on your breath or perform guided meditation using an app or audio track.

TYPICAL STARTING DOSE

30 minutes

Description

Meditation is a mindfulness practice that can reduce stress, improve mental clarity, and promote relaxation. Regular meditation is associated with numerous mental and emotional health benefits, including reduced anxiety and enhanced emotional well-being.

Meditation is a relaxation technique that trains your mind to focus and redirect your thoughts. Some of the main types of meditation are [R]:

- Mindfulness
- Focused
- Transcendental
- Mantra
- Moving

People use meditation to improve [R, R]:

- Stress and anxiety
- Mood
- Sleep disturbances
- Pain

How it helps

Meditation can lower stress responses, which in turn may decrease the production of inflammatory cytokines like IL-6.

80

Dietary Antioxidants

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Incorporate foods rich in antioxidants, such as fruits (berries, oranges, plums), vegetables (spinach, kale, bell peppers), nuts (walnuts, almonds), and seeds (flaxseeds, chia seeds) into your daily meals. Aim for at least 5 servings of fruits and vegetables per day, ensuring a variety of colors to cover different antioxidants.

Description

Dietary antioxidants are compounds found in foods that help neutralize harmful molecules called free radicals, potentially reducing the risk of oxidative stress-related diseases and supporting overall health. Examples include vitamins C and E, beta-carotene, and polyphenols.

Our cells sometimes produce molecules called **reactive oxygen species (ROS)** [R].

High levels of ROS can cause oxidative stress and damage our cells. Oxidative stress plays a role in many health conditions, including [R]:

- High blood sugar
- Type 2 diabetes
- Heart disease

Antioxidants are substances that help combat ROS [R].

Antioxidants are found in many plants. Good sources include [R, R, R]:

- Fruits like tomatoes, berries, and pomegranates
- Vegetables like onions, spinach, and celery
- Chocolate
- Olive oil
- Wine

How it helps

Antioxidants help to neutralize free radicals, reducing oxidative stress and possibly lowering inflammation-related IL-6 levels.

81

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].

82

Selenium Supplements

IMPACT 0 / 5

EVIDENCE 0 / 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 is an antioxidant that helps protect against oxidative damage and can help reduce inflammation.

83

Zinc

IMPACT 0 / 5

EVIDENCE 0 / 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 plays a role in modulating the immune system and inflammatory response. Adequate levels help maintain immune health.

84

Mindfulness-Based Stress Reduction (MBSR)

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

Enroll in an 8-week MBSR course, which includes a weekly 2.5-hour class, one all-day class after the sixth week, and 45 minutes of daily home practice guided by assignments and instructional recordings.

TYPICAL STARTING DOSE

2 hours

Description

Mindfulness-Based Stress Reduction (MBSR) is a structured program that teaches mindfulness techniques to reduce stress and improve overall mental and emotional health. MBSR has been shown to help individuals cope with chronic pain, anxiety, and other stress-related conditions.

How it helps

MBSR can reduce psychological stress, which is known to reduce pro-inflammatory markers, including IL-6.

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.