

Pro-Inflammatory Fat (Functional)

Biohacker Report

REPORT CATEGORIES —



INFLAMMATION &
AUTOIMMUNITY



WEIGHT & BODY FAT

Sample Client

Report date: 15 January 2026

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DISCLAIMER

This report does not diagnose this or any other health conditions. Please talk to a healthcare professional if this condition runs in your family, you think you might have this condition, or you have any concerns about your results.

Personal information

NAME

Sample Client

SEX AT BIRTH

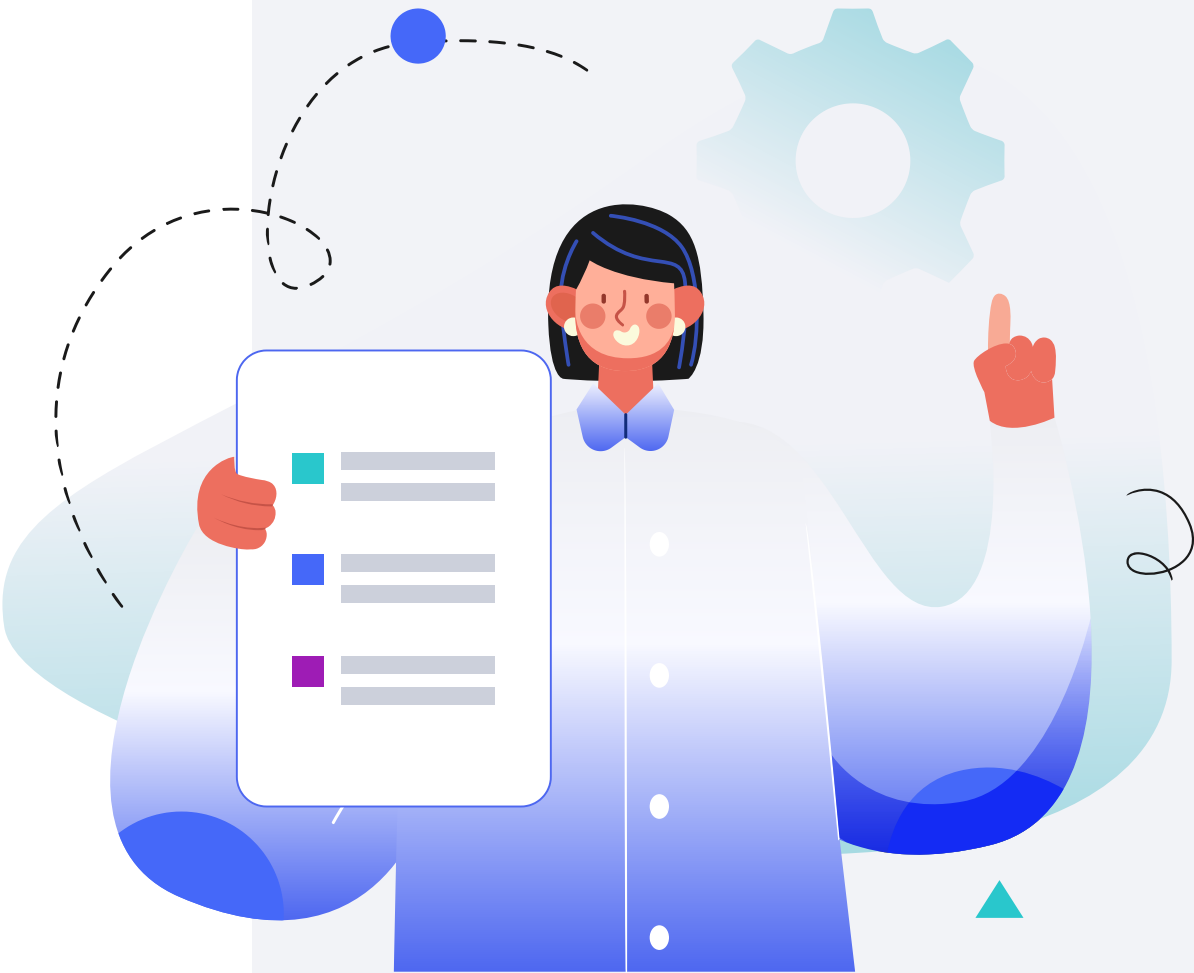
Male

HEIGHT

5ft 5" 165cm

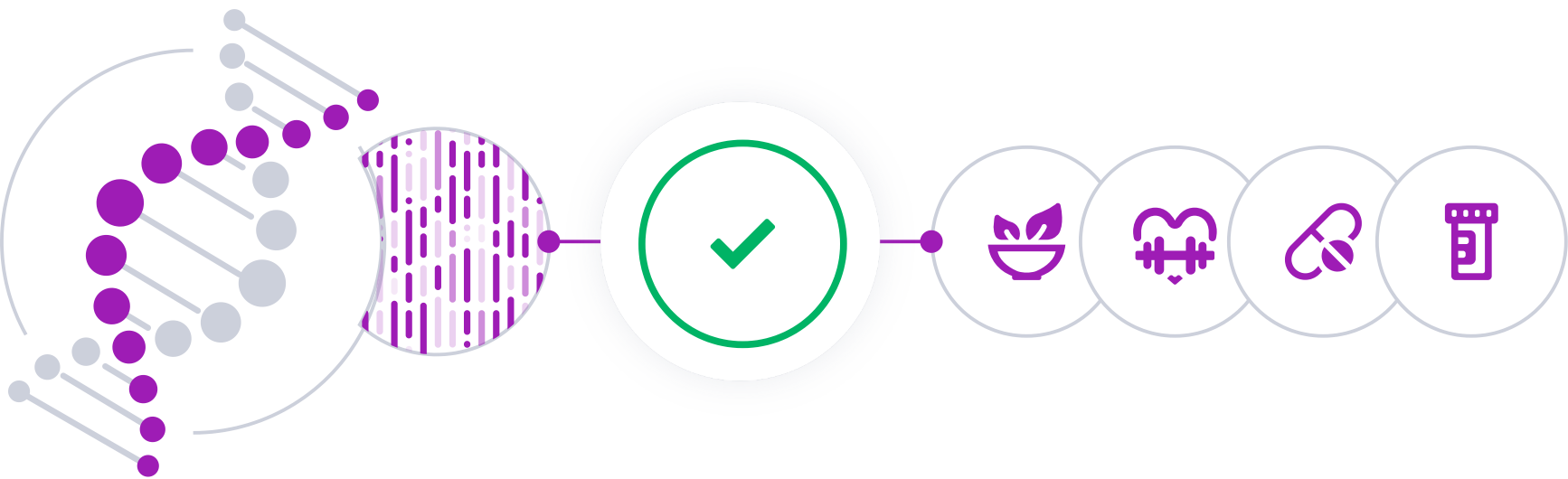
WEIGHT

137lb 62kg



How this works

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

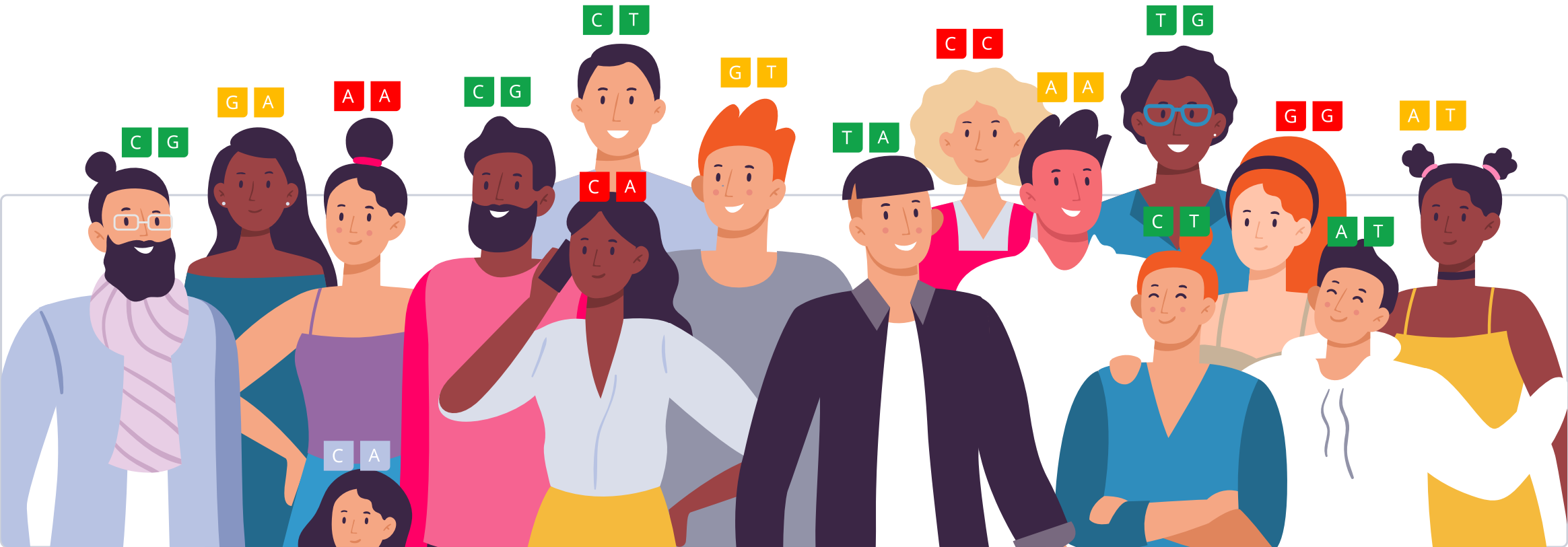


Similarly, our Trait Reports look at how your DNA influences your traits.



Your DNA is like an instruction manual — it contains a lot of information.
You can think of it as a blueprint for your body.

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



We use artificial intelligence and machine learning to analyze all this information.
We then summarize your results as a risk score or display it on a gauge.

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

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



Genotype color info:

AA

You don't have any risk alleles

AA

You have 1 risk allele

AA

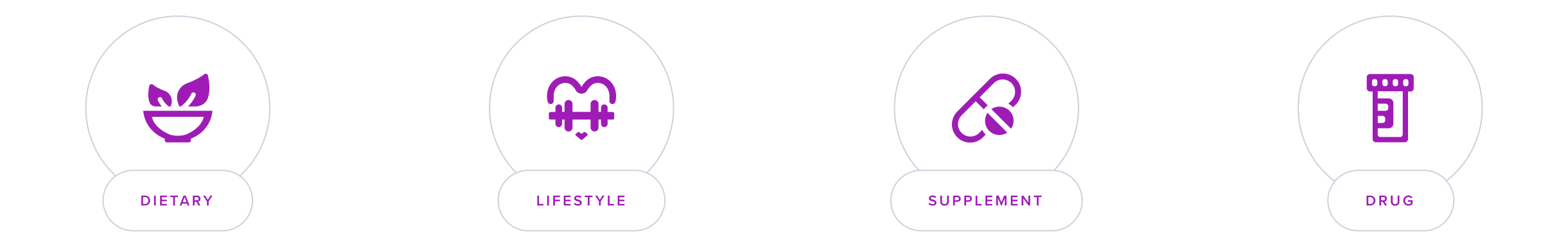
You have 2 risk alleles

Your risk is also displayed as a percentile. This will tell you how your risks compare to our sample population. The lower your percentile number, the lower your risk. The "50th percentile" would be an average risk.

Similarly, the gauge tells you your relative risk score compared to our sample population, or it indicates a specific trait or haplotype you are more likely to have based on your genetic variants.

When applicable, we also list top evidence-based recommendations that may help lower your risk. The focus is on recommendations that may be of benefit to you, based on your genetics.

Our recommendations come in four categories: lifestyle, diet, supplements and drugs.
The following icons tell you which category a recommendation falls into:



Our team of scientists also ranks each recommendation.
We rank based on impact and the strength of evidence in the medical literature.

Impact shows how strongly a recommendation will affect your health in a certain area.
Evidence is how much scientific support there is for the recommendation. Rankings are from 1 to 5 (low to high):



Impact

Impact scores range from 1-5. These scores reflect how much of an effect each recommendation can have. An impact score of 5 predicts the biggest effect.

When a recommendation affects something we can measure, we use those measurements to assign the impact score. For example, a recommendation that decreases cholesterol by 20% will have a higher impact score than one that decreases it by 5%.

Some recommendations affect things that we cannot directly measure, like stress or mood. For these, the impact score is based on how well they work relative to other recommendations and standard treatments. The best ones get the highest scores.

If there is a lot of research that shows a recommendation works especially well for your genotype, the impact score gets increased.

Recommendation Evidence

- 5 / 5
- Recommendations that are considered effective and generally recommended by experts and medical bodies.
-
- 4 / 5
- Recommendations that are considered likely effective and that have multiple independent meta-analyses and a great many studies supporting them.
-
- 3 / 5
- Recommendations that are considered possibly effective and have many studies supporting them
-
- 2 / 5
- Recommendations that have insufficient evidence, with two or several clinical trials supporting them, or many studies but with ambiguous results.
-
- 1 / 5
- Recommendations that have insufficient evidence, with a single clinical trial, or with many studies most of which didn't find support for the recommendation.
-
- 0 / 5
- No evidence in humans.

Genotype-specific Evidence

- High-quality
- Direct evidence that a recommendation helps more in people with your gene variant (many clinical trials, a few large clinical trials, or a meta-analysis).
-
- Medium-quality
- Direct evidence that a recommendation helps more in people with your gene variant (a few clinical trials or one large clinical trial).
-
- Low-quality
- Direct evidence that a recommendation helps more in people with your gene variant (a single clinical trial or more trials with inconsistent results).
-
- Indirect
- A recommendation may help more in people with your gene variant because it targets a specific gene or protein affected by your variant (e.g., MTHFR, dopamine).
-
- In theory
- A recommendation may help more in people with your gene variant because it targets a specific mechanism affected by your variant (e.g., inflammation, oxidative stress).

Some things to keep in mind:

- Genetics doesn’t play a considerable role in a condition or a trait.
- There is not enough research available to estimate a genetic predisposition.
- There are technical limitations to estimating or presenting a genetic predisposition.
- The topic is sensitive, and a genetic predisposition should only be estimated and presented by a healthcare professional.

Introduction

Fat cells, commonly perceived as mere storage compartments for excess weight, are far from inactive. They serve as metabolically active messengers, significantly influencing energy regulation and overall health.

Among these are messenger molecules known as **adipokines**, which are produced by fat tissue and play a vital role in managing inflammation within the body. These adipokines are classified as pro-inflammatory or anti-inflammatory, helping to balance the body’s response to various conditions.

When there is an excess of adipose (fat) tissue, the balance can shift, leading to an increase in pro-inflammatory molecules. This imbalance can disrupt the body’s natural inflammatory response, leading to chronic **low-grade inflammation associated with obesity**.

Managing weight and reducing excess fat can help mitigate this pro-inflammatory state by decreasing the presence of harmful adipokines, thus supporting overall health and reducing the risk of inflammation-related diseases.

Genetics

Several genetic variations are linked to the body’s inflammatory response and influence the production of pro-inflammatory adipokines. These variants can impact the likelihood and severity of inflammation, especially in individuals with high adipose tissue levels.

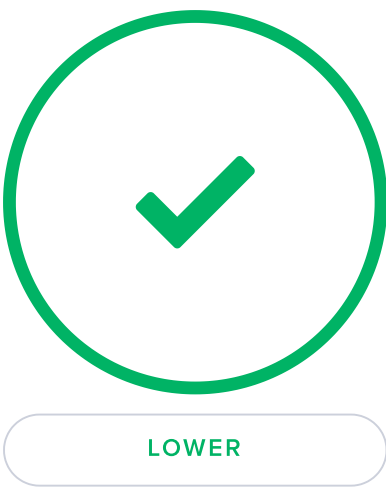
ADIPOQ (-11391 G>A, rs17300539): The ADIPOQ gene encodes adiponectin, a protein that modulates glucose levels and fatty acid breakdown. This particular variant (-11391 G>A, rs17300539) can lower adiponectin levels, leading to higher pro-inflammatory activity, especially in individuals with obesity.

CRP (2147 G>A, rs1205): C-reactive protein (CRP) is a marker of inflammation, and its levels rise in response to inflammatory conditions. The CRP variant rs1205 (2147 G>A) can influence CRP blood levels, potentially elevating baseline inflammation and increasing risks related to cardiovascular and metabolic health.

IL-6R (Asp358Ala A>C, rs2228145): This variant in the IL-6 receptor gene, rs2228145 (Asp358Ala A>C), affects how the body responds to the inflammatory cytokine IL-6, potentially leading to an increased inflammatory response and higher susceptibility to inflammation-related diseases.

TNFA (-308 G>A, rs1800629 and -238 G>A, rs361525): Tumor necrosis factor-alpha (TNFA) is a potent pro-inflammatory cytokine. Variants -308 G>A (rs1800629) and -238 G>A (rs361525) can increase TNFA production, elevating inflammation levels and increasing the risk of chronic inflammatory conditions, particularly with excess fat tissue.

These genetic factors, along with lifestyle and environmental influences, play a critical role in determining an individual’s inflammatory profile. For those carrying these variants, managing weight and maintaining a balanced diet can help counteract the effects of pro-inflammatory adipokines.



Predisposed to lower fat cell inflammation based on 7 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
MICB	rs361525	GG
ADIPOQ	rs17366743	TT
TNF	rs1800629	GG
IL6	rs1800795	GG
IL6R	rs2228145	CC
CRP	rs1205	CC
RFC4	rs17300539	GG

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

Your Recommendations

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

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

DOSAGE		DOSAGE			
1	Omega-3 (Fish Oil)	2000 mg	2	Limit Omega-6 Fatty Acids	
3	Anti-Inflammatory Diet		4	Choose Healthy Fats	
5	Avoid High-Fat Diets		6	Reduce Arachidonic Acid Intake	
7	Fish		8	Limit Saturated Fat	
9	Curcumin	500 mg	10	Dietary Polyphenols	
11	Limit Trans Fats		12	Avoid Food Triggers	
13	Dietary Omega-3 Fatty Acids				

1



Omega-3 (Fish Oil)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

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

TYPICAL STARTING DOSE

2000 mg

Description

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

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

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

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

- Salmon
- Tuna
- Herring
- Sardines

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

How it helps

Omega-3 fatty acids help mitigate pro-inflammatory conditions by reducing the production of inflammatory cytokines and eicosanoids, thereby alleviating inflammation and promoting a healthier inflammatory response.

2



Limit Omega-6 Fatty Acids

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Reduce your intake of foods high in omega-6 fatty acids, such as processed snacks, fast foods, cakes, fatty meats, and certain vegetable oils like corn, soybean, and sunflower oil. Aim to consume these foods less frequently, perhaps limiting them to once a week or less, and focus on increasing your intake of foods rich in omega-3 fatty acids like fish, walnuts, and flaxseeds to help balance your omega-6 to omega-3 ratio.

Description

Balancing omega-6 and omega-3 fatty acids in the diet by limiting excessive omega-6 intake can help reduce inflammation and lower the risk of chronic diseases. Achieving a healthier ratio of these fatty acids promotes overall cardiovascular and metabolic health.

Omega-6 fatty acids are polyunsaturated fatty acids (PUFAs). Food sources of omega-6s include [\[R\]](#), [\[R\]](#):

- Vegetable oils (e.g., corn, soybean, sunflower, safflower, and cottonseed oils)
- Nuts, especially walnuts
- Seeds (e.g., safflower, sunflower, and pumpkin seeds)

The most highly consumed omega-6 fatty acid is linoleic acid. Linoleic acid is essential, meaning we have to get it from our diets. Our bodies use it to produce other omega-6s such as gamma-linolenic acid (GLA) and arachidonic acid (AA) [\[R\]](#).

How it helps

Limiting omega-6 fatty acids helps to restore a healthier balance between omega-6 and omega-3 levels, which is crucial for mitigating chronic inflammation linked to pro-inflammatory fat. This dietary adjustment may reduce the risk of inflammatory diseases and improve overall metabolic health.

3



Anti-Inflammatory Diet

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate foods rich in omega-3 fatty acids, such as salmon and flaxseeds, fruits, vegetables, nuts, and whole grains into your daily meals. Avoid processed foods, red meats, and refined sugars. Aim for a balanced diet consisting mostly of plant-based foods and lean protein sources, adjusting portions sizes to meet your individual nutritional needs and health goals.

Description

An anti-inflammatory diet focuses on reducing inflammation in the body by emphasizing foods rich in anti-inflammatory compounds, such as fruits, vegetables, fatty fish, nuts, and seeds, while minimizing processed foods and those high in added sugars and trans fats.

Anti-inflammatory diets use healthy foods to reduce inflammation. These diets are generally high in [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Colorful fruits and vegetables
- Nuts and seeds
- Fish
- Olive oil
- Tea

They also tend to restrict [\[R\]](#), [\[R\]](#):

- Processed food
- Sugar and refined carbs
- Red meat

The [Mediterranean diet](#) and the DASH diet are good examples of anti-inflammatory diets [\[R\]](#), [\[R\]](#).

How it helps

An anti-inflammatory diet helps combat pro-inflammatory fat by providing essential nutrients that inhibit inflammatory pathways and promote cellular health, thus alleviating chronic inflammation and improving overall metabolic balance.

4



Choose Healthy Fats

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Incorporate sources of unsaturated fats such as olive oil, avocados, nuts, seeds, and fatty fish into your daily diet. Aim for at least two servings of fatty fish per week and use olive oil for cooking and salad dressings. Replace saturated fats found in red meat, butter, and processed foods with these healthier options whenever possible.

Description

Choosing healthy fats, such as those found in avocados, nuts, and fatty fish, can support cardiovascular health, reduce inflammation, and promote overall well-being. A diet balanced in healthy fats can help manage cholesterol levels and reduce the risk of heart disease.

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 and reproductive health. Processed foods and animal products like red meat and dairy are rich in these fats [\[R, R, R, R, R\]](#).

Some types of unsaturated fat can protect your heart and support fertility. **Experts say you should add more unsaturated fats to your diet.** Some good sources include [\[R, R, R\]](#):

- Nuts
- Seeds
- Fish

Unsaturated fats include polyunsaturated fats or PUFAs (omega-3 and omega-6) and monounsaturated fats or MUFAs [\[R, R\]](#).

How it helps

Choosing healthy fats can help mitigate the production of pro-inflammatory cytokines, thereby decreasing inflammation in the body. This dietary adjustment not only supports cardiovascular health but also promotes a balanced inflammatory response, essential for managing pro-inflammatory fat.

5



Avoid High-Fat Diets

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Choose foods low in saturated and trans fats, such as lean meats, fish, nuts, and low-fat dairy. Opt for cooking methods like grilling, steaming, or baking rather than frying. Incorporate this practice into every meal and snack, aiming to consistently maintain a diet low in high fat foods each day.

Description

Reducing the consumption of high-fat foods, especially those rich in unhealthy saturated and trans fats, can lower the risk of heart disease, obesity, and related health issues. Opting for a balanced and heart-healthy diet promotes better cardiovascular health and overall wellness.

How it helps

Avoiding high-fat diets helps reduce the intake of saturated and trans fats, which are known to exacerbate inflammation and contribute to the accumulation of pro-inflammatory fat. This dietary shift can improve metabolic health and lower the risk of associated chronic diseases.

6



Reduce Arachidonic Acid Intake

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Limit consumption of arachidonic acid-rich foods such as egg yolks, red meats, and shellfish. Aim to eat these foods no more than once or twice a week. Preferably, incorporate more lean proteins, fruits, and vegetables into your diet to balance your intake.

Description

Arachidonic acid (AA or ARA), is an omega-6 fatty acid. Arachidonic acid is important for normal human functioning and has both inflammatory and anti-inflammatory effects. [\[R\]](#), [\[R\]](#)

Metabolites made from arachidonic acid are important for [\[R\]](#), [\[R\]](#):

- Proper immune system function
- Muscle growth
- Brain function
- Mood
- Appetite

Too much arachidonic acid has been linked to vascular diseases like high blood pressure and heart disease [\[R\]](#), [\[R\]](#).

Arachidonic acid is primarily consumed from animal products like poultry, dairy, beef, eggs and sausage [\[R\]](#).

How it helps

Reducing arachidonic acid intake can lower the production of pro-inflammatory eicosanoids, thereby alleviating inflammation associated with pro-inflammatory fat. This dietary change may enhance overall metabolic health and support the resolution of inflammatory states.

7



Fish

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate two servings of fish into your diet each week, focusing on oily fish like salmon, mackerel, or sardines for their high omega-3 fatty acid content. Each serving should be about 3.5 ounces cooked, or about ¾ cup of flaked fish.

Description

Fish, particularly fatty fish like salmon and mackerel, is an excellent source of omega-3 fatty acids, which support cardiovascular health, brain function, and inflammation management. Regular consumption of fish can promote heart health and overall well-being.

Fish is a great source of [omega-3s](#), protein, and other essential nutrients. Omega-3s from fish (EPA and DHA) are some of the healthiest fats we can eat. They help reduce inflammation and **protect the heart, brain, and eyes** [\[R, R, R\]](#).

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

- Salmon
- Tuna
- Herring
- Sardines

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

How it helps

Regular consumption of fatty fish, rich in omega-3 fatty acids, helps modulate inflammatory processes by inhibiting pro-inflammatory cytokines and promoting anti-inflammatory mediators, effectively addressing pro-inflammatory fat conditions.

8



Limit Saturated Fat

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Reduce your intake of saturated fats by choosing lean cuts of meat, opting for low-fat or fat-free dairy products, and using cooking oils high in unsaturated fats (like olive or canola oil) instead of butter or lard. Aim to keep saturated fat to less than 10% of your total daily calories. For someone consuming 2000 calories a day, this means 20 grams or less of saturated fat per day.

Description

Limiting saturated fat intake is crucial for managing cholesterol levels and reducing the risk of heart disease. Choosing lean protein sources and incorporating unsaturated fats into the diet supports cardiovascular health and overall well-being.

How it helps

Limiting saturated fat intake reduces low-density lipoprotein (LDL) cholesterol levels, thereby alleviating pro-inflammatory responses and supporting the management of functional inflammatory fat. This assists in mitigating chronic inflammation and promoting cardiovascular health.

9



Curcumin

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

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

TYPICAL STARTING DOSE
500 mg

Description

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

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

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

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

How it helps

Curcumin helps to reduce pro-inflammatory fat by inhibiting inflammatory pathways and promoting a balanced immune response, thereby contributing to the overall management of chronic inflammation associated with this condition.

10



Dietary Polyphenols

IMPACT

1 / 5

EVIDENCE

1 / 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

Dietary polyphenols exert anti-inflammatory effects by modulating pro-inflammatory pathways and enhancing antioxidant defense mechanisms, thereby helping to mitigate pro-inflammatory fat and its associated health risks.

11



Limit Trans Fats

IMPACT

1 / 5

EVIDENCE

1 / 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

Limiting trans fats helps decrease pro-inflammatory processes by reducing levels of LDL cholesterol and systemic inflammation, which in turn lowers the risk of heart disease and supports overall cardiovascular health.

12



Avoid Food Triggers

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Identify foods that trigger negative reactions in your body, such as digestive issues, allergies, or headaches, and eliminate them from your diet entirely. This may require keeping a food diary for a few weeks to observe patterns and might involve cutting out common triggers like dairy, gluten, soy, or certain additives. Continuously monitor and adjust your diet to avoid these triggers as long as the symptoms persist.

Description

Food triggers are specific substances or ingredients in one's diet that can exacerbate or induce adverse reactions, such as allergies, sensitivities, or digestive issues, often leading to symptoms like inflammation, bloating, or discomfort.

A "trigger" is something that prompts or worsens the symptoms of a health condition.

Food triggers can lead to a wide range of symptoms in people who are sensitive to them. These may include [R](#), [R](#), [R](#), [R](#):

- Gut problems
- Skin problems
- Migraines

How it helps

Avoiding food triggers helps mitigate inflammatory responses by eliminating substances that can exacerbate symptoms associated with pro-inflammatory fat, thus promoting better overall health and reducing discomfort.

13



Dietary Omega-3 Fatty Acids

IMPACT

1 / 5

EVIDENCE

1 / 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

Dietary Omega-3 fatty acids help mitigate pro-inflammatory fat by reducing inflammatory markers and improving insulin sensitivity, thereby promoting better metabolic health and decreasing the risk of related complications.