SelfDecode™

Phase II Detox

Biohacker Report

REPORT CATEGORY

DETOX

Sample Client

Report date: 15 January 2026

Powered by omicsedge

Table of Contents

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

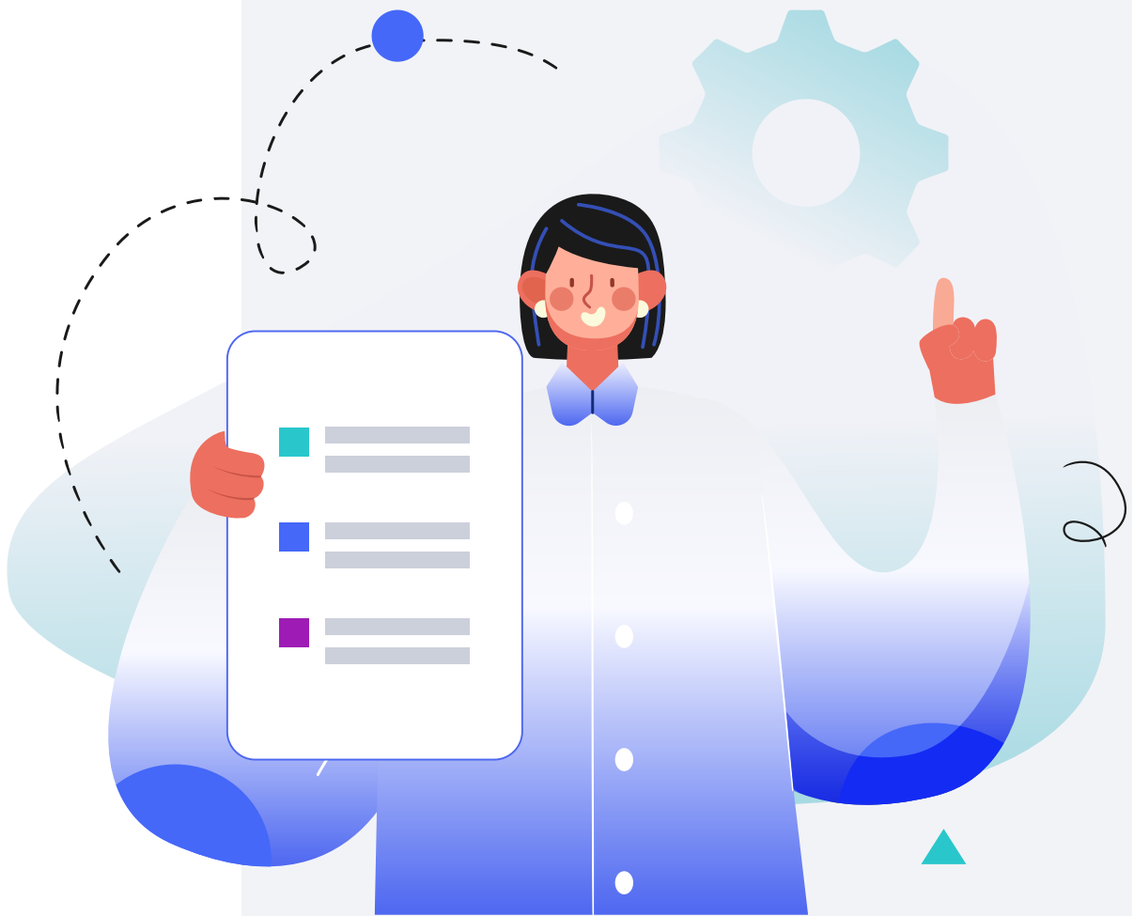
Male

HEIGHT

5ft 5" 165cm

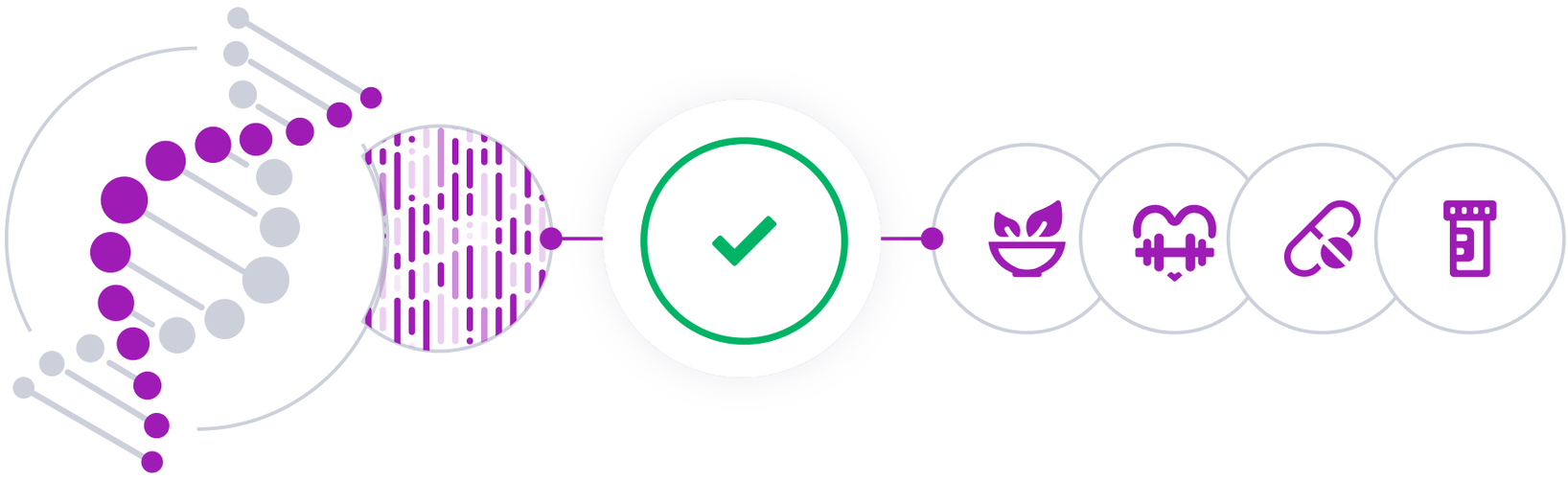
WEIGHT

137lb 62kg



How this works

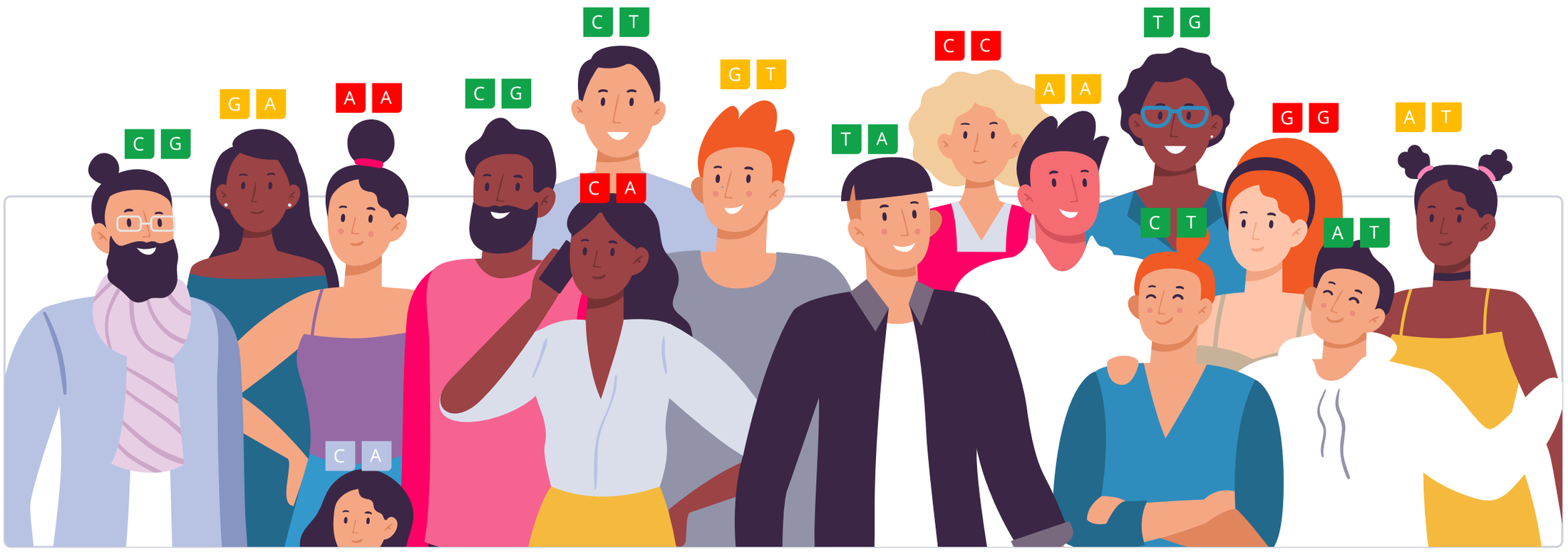
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



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.

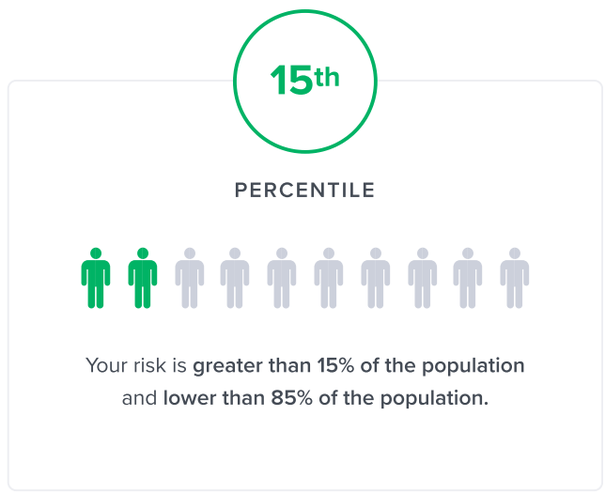
Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



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.

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

Detoxification is like the body's cleaning service, working to get rid of toxins or harmful substances that come from our environment, the foods we eat, or even from normal processes in our own bodies. Think of it as a multi-step cleaning process that mostly happens in our liver, split into three main parts or phases. Each of these phases has a special role in breaking down these unwanted substances so that our body can safely get rid of them.

Phase II is where the body takes the slightly transformed substances from **Phase I** and further changes them to make them harmless. In this phase, UGTs (UDP glycosyltransferases) support essential **glucuronidation** reactions.

Other enzyme families belonging to this detoxification step include [R]:

- Glutathione S-transferases (GST)
- Sulfotransferases (SULT)
- N-acetyltransferases (NAT), and
- Methyltransferases (MT).

One of the key players in phase II is the “master antioxidant” **glutathione**. It’s like a super cleaner that attaches to the toxins, neutralizing them and making them water-soluble, which means they can be easily removed from the body.

Genetics of Phase II Detoxification

Some people might have genetics that make crucial detox components work differently. Recognizing that each of us might detoxify differently because of our unique genetic makeup is an important step towards personalized healthcare and keeping ourselves healthy.

The UGT enzymes encoded by genes like *UGT1A1* and *UGT2A1* are vital for phase II detox. They help produce glutathione and remove toxins found in **plastics, cigarette smoke**, and more [R, R].

The *GSTP1* gene codes for a phase II detox enzyme that helps eliminate toxins using the "master antioxidant" glutathione. Studies have linked its variants to harmful effects of **air pollution, cigarette smoke, mercury**, and more [R, R, R, R, R].

Other genes that help make glutathione and support its detox function include *GCLC*, *GSTA1* and *GPX1*. Variants in these genes may influence the detox of **mercury, mold**, and more [R, R, R, R].

The *NAT2* codes for another major enzyme in phase II detox. Due to the variants in this gene, people can be **"slow acetylators"**, which means they may have a harder time detoxing **cigarette smoke and some chemicals and drugs** [R, R, R, R].

The *NFE2L2* gene helps make **NRF2**, a "master" protein that activates a range of antioxidant and detox genes. Its variants may affect the toxicity of alcohol, heavy metals, drugs, and more [R, R, R, R].

The *COMT* gene plays a key role in detoxing certain **endocrine disruptors** by methylation [R].

MTHFR also supports methylation and influences **air pollution** sensitivity [R].

TYPICAL ABILITY

Predisposed to typical phase II detox ability based on 26 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
GSTP1	rs1695	AA
GSTP1	rs1138272	CC
XPC	rs2228001	TG
NFE2L2	rs6721961	GG
NQO1	rs1800566	GG
NQO1	rs1131341	GG
GPX1	rs1050450	GG
NAT2	rs1495741	GA
PON1	rs854560	AT
UGT1A6	rs6742078	GG
UGT1A1	rs4148323	GG
CYP1B1	rs1800440	CT
GSTO2	rs156697	GA
COMT	rs4680	AG
NAT2	rs1041983	CT
NAT2	rs1799930	GA
ASAH1	rs4271002	CG
/	rs366631	AG
ERCC5	rs17655	GG
THSD7A	rs116864947	TT
UGT2B7	rs7439366	TC
GSTM1	rs1056806	TC
COX15	rs717620	CC
NAT1	rs4986782	GG
NFE2L2	rs35652124	TT
MTHFR	rs1801133	AA
GSTA1	rs3957357	AA
NAT2	rs1801280	TT
NAT2	rs1801279	GG
NAT2	rs1799931	GG
NAT2	rs1799929	CC
NAT2	rs1208	AA

SULT1A1 processes toxins found in **cigarette smoke and well-done meat** [R, R, R].

Finally, XPC, XRCC1, and XRCC4 are involved in repairing DNA damage caused by **pesticides, air pollution, and mold** [R, R, R, R].

GENE	SNP	GENOTYPE
GSTM3	rs7483	CC
MTG1	rs2031920	CC
SULT1A1	rs1042028	CC

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	N-acetylcysteine (NAC)	1200 mg
2	Glutathione supplements	
3	DAO Enzyme	
4	Antioxidant Supplements	
5	Elimination Diet	
6	Chlorophyll	100 mg
7	TUDCA (Tauroursodeoxycholic Acid)	250 mg
8	Betaine (TMG)	500 mg
9	Dietary Antioxidants	
10	Superoxide Dismutase	100 mg

1

N-acetylcysteine (NAC)

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

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

TYPICAL STARTING DOSE

1200 mg

Description

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

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

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

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

How it helps

N-acetylcysteine (NAC) aids Phase II detoxification by serving as a precursor to glutathione, enhancing the liver's ability to eliminate toxins. Its antioxidant properties further diminish oxidative stress, facilitating better detox processes.

2

Glutathione supplements

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take glutathione supplements orally, usually in pill or powder form, with a recommended dose ranging from 500mg to 1000mg daily, divided into two doses. It's best taken on an empty stomach or as directed by a healthcare professional. Continuous use is advised for sustained benefits, but consulting with a healthcare provider for personalized advice and duration is important.

Description

Glutathione (GSH) is your body's strongest antioxidant. It has an enormous capacity to combat oxidative stress and neutralize harmful free radicals. Chemically speaking, glutathione is a tripeptide made up of 3 amino acids [R]:

- Glutamate
- **Cysteine**
- Glycine

Low glutathione levels have been linked to cognitive decline, age-related disease, and general mortality among the elderly [R, R].

People take glutathione supplements to help with:

- Oxidative stress and detox
- Immune system support
- Skin aging and damage
- Exercise recovery
- Chronic diseases such as type 2 diabetes, Alzheimer's disease, Parkinson's disease, or COPD

How it helps

Glutathione supplements enhance the Phase II detoxification process by providing essential antioxidant support, which assists in the conjugation and elimination of toxins, thus promoting overall liver health and detoxification efficiency.

3

DAO Enzyme

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a DAO enzyme supplement before each meal, typically starting with one capsule. If symptoms of histamine intolerance persist, you may increase the dose as directed by the product label or your healthcare provider. Continuous daily use is recommended for those with chronic symptoms.

Description

Diamine oxidase (DAO) enzyme supplements are used by some individuals to potentially reduce symptoms of histamine intolerance by aiding in the breakdown of histamine in the body. These supplements may help manage symptoms like headaches, digestive problems, and skin issues for those with histamine sensitivity.

DAO (diamine oxidase) is the main enzyme that breaks down histamine in the gut. Scientists currently think that DAO deficiency plays a crucial role in histamine intolerance.

DAO enzyme is available as a supplement, and people take it to relieve symptoms related to high histamine levels, such as nausea, headaches, and hives [R, R].

How it helps

DAO enzyme supplements aid in the breakdown of excess histamine, thereby alleviating symptoms related to histamine intolerance such as headaches, digestive issues, and skin reactions. This enzymatic support indirectly enhances detoxification processes that may be compromised in individuals with histamine sensitivity.

4

Antioxidant Supplements

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take an antioxidant supplement daily with a meal to enhance absorption. The specific dose may vary depending on the type of antioxidant (e.g., vitamin C, vitamin E, selenium), but a common multivitamin or antioxidant blend can be used as directed on the product label. Consult with a healthcare provider for personalized advice and dosage.

Description

Antioxidant supplements are dietary supplements that provide concentrated doses of antioxidants, such as vitamins C and E or coenzyme Q10, to help combat oxidative stress and reduce the risk of chronic diseases.

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].

Some common antioxidants include vitamin C and vitamin E. You can get most antioxidants from fresh fruits and vegetables. **Antioxidants are also available as supplements** [R, R].

How it helps

Antioxidant supplements aid the Phase II detoxification process by neutralizing free radicals, thereby reducing oxidative stress and enhancing cellular repair mechanisms. This promotes efficient elimination of toxins and supports overall liver health.

5

Elimination Diet

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Begin by removing foods you suspect might be causing adverse reactions for 2-3 weeks. These often include dairy, gluten, soy, nuts, eggs, corn, and processed sugars. After this period, reintroduce each food group one at a time every 3 days, while noting any symptoms that may reappear. This process helps identify food intolerances or sensitivities.

Description

An elimination diet involves removing specific foods or food groups from the diet to identify and address potential food sensitivities or allergies. It can help alleviate symptoms such as digestive issues, skin problems, and allergic reactions by pinpointing trigger foods.

An elimination diet omits foods that can cause your body to have a reaction. Foods are removed for a period of time and then added back in. This helps figure out what foods are causing symptoms or making them worse [R].

Salicylates are compounds naturally found in many foods and drinks. These include wine, tea, beans, and tomatoes [R, R].

One form (*salicylic acid*) is found in aspirin. People who are sensitive to salicylates may have a reaction to aspirin and other NSAIDs [R, R].

How it helps

By systematically removing potential irritants, an elimination diet helps to reduce inflammation and digestive strain, thereby enhancing the body's natural detoxification processes. This can lead to improved overall well-being and more effective clearance of toxins during Phase II detoxification.

6

Chlorophyll

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take chlorophyll supplements once daily, with a dose ranging from 100 to 300 milligrams. Consume it with a glass of water, preferably in the morning to coincide with your digestive cycle. It's advisable to continue this regimen daily for at least 3 to 4 weeks to assess its benefits.

TYPICAL STARTING DOSE

100 mg

Description

Chlorophyll is a pigment found in plants that may have antioxidant and anti-inflammatory properties. Some proponents suggest that consuming chlorophyll supplements or chlorophyll-rich foods may support detoxification and overall health

How it helps

Chlorophyll supplements may enhance detoxification during Phase II by supporting antioxidant activity and reducing oxidative stress in the liver, which is crucial for the metabolism and elimination of toxins. Its anti-inflammatory properties further contribute to overall metabolic health.

7 TUDCA (Tauroursodeoxycholic Acid)

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 250 to 1500 mg of TUDCA (tauroursodeoxycholic acid) per day, divided into two or three doses with meals. This recommendation is based on general guidelines from clinical studies; for specific conditions or as directed by a healthcare professional, dosages may vary.

TYPICAL STARTING DOSE

250 mg

Description

TUDCA is a bile acid derivative naturally produced in small quantities in the human body and also found in the bile of bears. It is often used as a supplement due to its potential to support liver health, reduce inflammation, and protect against bile acid buildup, making it valuable in managing liver conditions like cholestasis and certain liver diseases.

TUDCA, short for tauroursodeoxycholic acid, is a bile acid that naturally occurs in the body. It consists of ursodeoxycholic acid (UDCA) and taurine [R].

TUDCA is known for its liver-protective effects. People often use it as a dietary supplement to support liver health and promote overall well-being [R].

How it helps

TUDCA supports liver detoxification by promoting bile flow and reducing bile acid toxicity, which is critical during Phase II Detox. Its anti-inflammatory properties further enhance liver function, aiding in the elimination of harmful substances from the body.

8 Betaine (TMG)

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

To take Betaine (TMG) as a supplement, consume 500-2000 mg daily, preferably with a meal to enhance absorption. It is recommended to start at the lower end of the dosage range and adjust based on personal tolerance and effectiveness. This supplement can be taken indefinitely for ongoing support of heart health and liver function.

TYPICAL STARTING DOSE

500 mg

Description

Betaine is a compound found in various foods and used in dietary supplements for its potential to support liver health and contribute to healthy homocysteine levels.

How it helps

Betaine (TMG) enhances liver function by promoting methylation processes, which are critical for effective detoxification during Phase II detox. This support can facilitate the body's clearance of toxins, improving overall metabolic health.

9

Dietary Antioxidants

IMPACT 1 / 5

EVIDENCE 1 / 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

In Phase II detox, dietary antioxidants play a crucial role by neutralizing free radicals, which helps mitigate oxidative stress and supports efficient detoxification pathways. This enhances the body's ability to eliminate toxins and promotes overall cellular health.

10

Superoxide Dismutase

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take superoxide dismutase supplements in the form of capsules or tablets, typically ranging between 100 to 500 mg per day. It's best taken on an empty stomach for optimal absorption, and users should consult with a healthcare provider for personalized dosage instructions based on their specific health conditions. This supplement is usually taken for periods ranging from a few weeks to several months, depending on the intended health benefit and individual response.

TYPICAL STARTING DOSE

100 mg

Description

Superoxide dismutase (SOD) is an enzyme that helps to protect cells from damage caused by free radicals. SOD helps to neutralize free radicals by converting them into harmless molecules.

How it helps

Superoxide dismutase (SOD) enhances the body's detoxification efforts by neutralizing free radicals, thereby mitigating oxidative stress, which can impair cellular functions during Phase II detoxification. This antioxidant support helps facilitate better overall detox processes.