

Mitochondrial Health (Functional)

Biohacker Report

REPORT CATEGORIES —



ENERGY & FATIGUE



DETOX

Sample Client

Report date: 15 January 2026

Table of Contents

03 How this works

- 04 Impact
- 05 Evidence
- 06 Some things to keep in mind

07 Introduction

08 Your genetics

09 Your recommendations

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

Mitochondria are often called the "powerhouses" of our cells, but their role extends far beyond just energy production. These remarkable cellular components influence nearly every aspect of our health, from daily energy levels to long-term aging processes. Think of mitochondria as tiny but sophisticated power plants that not only generate energy but also help regulate cell health, manage stress responses, and support vital biological processes.

Your mitochondrial function affects:

- Energy levels and fatigue resistance
- Mental clarity and cognitive performance
- Muscle strength and exercise recovery
- Aging processes and cellular repair
- Immune system function
- Overall metabolic health

We examine several critical components of mitochondrial function:

- Energy Production Efficiency (Electron Transport Chain)
- Antioxidant Defense Systems
- Mitochondrial Maintenance and Repair
- Cellular Energy Currency (ATP) Production

Understanding your genetic predispositions can help you make informed decisions about lifestyle modifications and targeted interventions to support optimal mitochondrial health.

Genetics

This report analyzes key genetic variations (SNPs) that influence how well your mitochondria function. These genetic markers can affect various aspects of mitochondrial performance, from energy production efficiency to antioxidant capacity. While genetics play an important role, it's crucial to remember that lifestyle factors such as diet, exercise, sleep, and stress management can significantly impact how these genes express themselves.

Energy Production Chain: NDUFS7 and NDUFS8 are involved in the initial stages of energy production, acting like ignition switches and wire components. If these aren't working well, the whole process can falter. UQCRC2, COX5A, and COX6C work in the middle and final stages, passing electrons along and using oxygen efficiently. ATP5F1C is the final piece, converting all this work into usable energy (ATP).

Mitochondrial Regulators: PPARGC1B acts as master switches for creating new mitochondria and controlling their efficiency. CoQ2 produces Coenzyme Q10, which keeps this machinery running smoothly, like oil in an engine.

Protection and Quality Control: SOD2 and CAT work as internal cleaning crews, neutralizing harmful byproducts of energy production. NFE2L2 coordinates overall cellular defense against oxidative stress. BCL2 serves as quality control, deciding whether to repair or remove damaged mitochondria. SIRT1 and SIRT6 help maintain mitochondrial health and stress response.

Energy Efficiency Controllers: UCP1 and UCP2 fine-tune how efficiently mitochondria convert food into energy versus heat, acting like pressure-release valves in different cell types.

Each of these genes plays a crucial role in mitochondrial function, and variations in them can affect how well our cellular power plants work.



Predisposed to worse mitochondrial health based on 22 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
NDUFS8	rs1051806	CC
COQ2	rs6535454	GG
SOD2	rs4880	GG
BCL2	rs12454712	TT
NFE2L2	rs35652124	TT
UQCRC2	rs4850	GG
COX5A	rs8042694	AA
NFE2L2	rs6726395	AA
UCP1	rs1800592	TC
SIRT1	rs3758391	CT
SIRT1	rs12778366	TC
NDUFS7	rs809359	AA
UCP2	rs659366	CT
PPARGC1B	rs7732671	GC
CAT	rs1001179	TC
PPARGC1A	rs8192678	TC
NDUFS3	rs4147730	GG
NFE2L2	rs6721961	GG
UQCRC2	rs11648723	GG
SIRT6	rs352493	TT
CAT	rs769217	CC
COX6C	rs4626565	TT
ATP5F1C	rs1244414	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		DOSAGE			
1	L-Carnitine	1 g	2	NADH	5 mg
3	Dietary Antioxidants		4	Vitamin B12	100 mcg
5	Magnesium	350 mg	6	Methionine	200 mg
7	Pyrroloquinoline Quinone (PQQ)	20 mg	8	Mitoquinone Mesylate (MitoQ)	
9	Antioxidant Supplements		10	NT Factor®	
11	B Vitamins		12	Nicotinamide Mononucleotide (NMN)	250 mg
13	Nicotinamide Riboside (NR)	250 mg	14	Coenzyme Q10 (CoQ10)	100 mg
15	Methylfolate	400 mcg			

1



L-Carnitine

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

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

TYPICAL STARTING DOSE

1 g

Description

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

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

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

People use L-carnitine for [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

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

How it helps

L-Carnitine supports mitochondrial health by facilitating the transport of fatty acids into mitochondria for ATP production, thereby enhancing energy metabolism. This can help mitigate fatigue and improve overall energy levels in individuals with mitochondrial dysfunction.

2



NADH

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 5 to 10 mg of NADH supplement daily, preferably on an empty stomach with water, for benefits related to energy and cognitive functions. The supplementation period typically ranges from 4 weeks to 12 weeks for assessing effectiveness.

TYPICAL STARTING DOSE
5 mg

Description

NADH is a coenzyme found in all living cells that plays a role in energy production. It is used in dietary supplements for its potential to boost energy levels and support cognitive function.

NADH, or reduced nicotinamide adenine dinucleotide (NAD+) is a crucial compound found in all living cells. It plays a vital role in **energy production** and metabolism. NADH also supports cellular health and the production of brain chemicals [\[R\]](#).

Some people take NADH as a supplement to improve energy levels and cognitive function. However, the research to back up these uses is still ongoing.

How it helps

NADH supports mitochondrial function by enhancing ATP production, which is crucial for energy metabolism. Increased energy levels and improved cognitive function may be achieved through supplementation, addressing the cellular energy deficits often seen in mitochondrial dysfunction.

3



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

Dietary antioxidants mitigate oxidative stress that can impair mitochondrial function by neutralizing free radicals, thereby potentially preserving mitochondrial integrity and improving energy production at a cellular level.

4



Vitamin B12

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a 50 mcg vitamin B12 supplement daily, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

100 mcg

Description

Vitamin B12 is a water-soluble vitamin primarily found in animal-based foods like meat, fish, and dairy products. It plays a crucial role in maintaining healthy nerve cells, DNA synthesis, and red blood cell formation. Vitamin B12 deficiency can lead to anemia, neurological issues, and fatigue.

[Vitamin B12](#) is important for [\[R\]](#), [\[R\]](#):

- Building DNA
- Nervous system function
- Energy production

You can get vitamin B12 from [\[R\]](#):

- Animal products (meat, fish, eggs, and dairy)
- Fortified foods
- Supplements

Adults should be getting **2.4 micrograms** of vitamin B12 every day [\[R\]](#).

How it helps

Supplementing with Vitamin B12 supports mitochondrial health by enhancing energy metabolism and promoting optimal cellular function, which is crucial for individuals experiencing fatigue and energy deficits associated with mitochondrial dysfunction.

5



Magnesium

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take up to 350 mg of magnesium daily as a supplement, preferably with a meal to enhance absorption.

TYPICAL STARTING DOSE

350 mg

Description

Magnesium is an essential mineral involved in various bodily functions, including muscle contractions, nerve signaling, and bone health. Maintaining adequate magnesium levels through diet or supplements can support overall well-being and reduce the risk of magnesium deficiency-related health issues.

[Magnesium](#) is an essential mineral. Your body needs it for [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Muscle, nerve, and bone function
- Blood sugar and blood pressure control
- DNA and protein production
- Strong immunity

Women need **310-320 mg** of magnesium per day, while men need **400-420 mg** [\[R\]](#).

Foods rich in magnesium include **nuts, seeds, and leafy greens**. Magnesium is also available as a supplement [\[R\]](#).

How it helps

Magnesium supplementation is critical for mitochondrial health as it plays a key role in ATP production, enhancing energy metabolism and supporting cellular function. Adequate magnesium levels can optimize mitochondrial performance, thereby contributing to improved energy levels and overall cellular vitality.

6



Methionine

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a methionine supplement in the form of SAME at 200-400mg daily, with water, preferably on an empty stomach to enhance absorption. It's recommended to start with a lower dose and gradually increase as needed. Consult with a healthcare provider for personalized advice, especially if you have other medical conditions or are taking medications.

TYPICAL STARTING DOSE

200 mg

Description

Methionine is an essential amino acid found in various protein-rich foods. It plays a crucial role in protein synthesis and liver function and is important for overall health.

1. A **methionine supplement** can vary depending on which source is utilized to boost methionine levels. One or more of the following options can be taken to boost methionine levels:
- a. SAME or S-Adenosyl-Methionine can be taken in doses starting at 200 mg/day. It is sometimes recommended to take with the other two supplements to promote absorption.

b. TMG (Betaine) or trimethylglycine supplements are made from the byproducts of sugar beet processing. Typically, it is offered in 500-1000 mg capsules.

c. Methylfolate is the biologically active form of folate (vitamin B9) and typically offered in dosages of 7.5-15 mg.

Note: excessive levels of methylfolate can cause adverse reactions like anxiety and sore joints and muscles. Speak with your doctor before using a methionine supplement.

How it helps

Methionine supports mitochondrial function by acting as a precursor for important molecules involved in energy metabolism and antioxidant defense. Its supplementation may enhance mitochondrial health by promoting the repair and regeneration of mitochondrial components.

7



Pyrroloquinoline Quinone (PQQ)

IMPACT1 / 5

EVIDENCE1 / 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

Pyrroloquinoline Quinone (PQQ) enhances mitochondrial function by acting as a cofactor for enzymes critical in energy metabolism, thereby promoting cellular energy production and overall vitality. This is particularly beneficial for maintaining optimal cellular health in individuals with compromised mitochondrial function.

8



Mitoquinone Mesylate (MitoQ)

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Take MitoQ supplement by swallowing one capsule each morning with water, preferably on an empty stomach to aid in its absorption. This should be done daily for an extended period, often several months, to notice a significant benefit in conditions related to mitochondrial dysfunction or to support overall mitochondrial health.

Description

Mitoquinone mesylate is a novel antioxidant compound that targets mitochondria, the energy-producing organelles in cells. It has the potential to support cellular health and may have applications in promoting overall well-being.

How it helps

MitoQ enhances mitochondrial health by delivering targeted antioxidant protection, thereby reducing oxidative stress within mitochondria. This support can improve energy production and overall cellular function, essential for individuals with mitochondrial dysfunction.

9



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 help mitigate oxidative stress by neutralizing free radicals, which may protect mitochondrial integrity and function. This support is crucial for maintaining energy production and overall mitochondrial health, potentially reducing the risk of related chronic diseases.

10



NT Factor®

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 2 tablets of NT Factor® with food, twice a day. This regimen should be followed daily for at least 8 weeks to observe benefits in fatigue reduction and improvement in cellular function.

Description

NT Factor is a dietary supplement containing a blend of phospholipids and glycolipids. It is promoted as a product that may help support cellular membrane function and overall health, including energy production and immune support.

How it helps

NT Factor® enhances mitochondrial function by providing essential phospholipids that improve cellular membrane integrity and promote efficient energy production, thereby potentially alleviating fatigue and supporting overall cellular health.

11



B Vitamins

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a B vitamin complex supplement once daily, preferably with your morning meal to enhance absorption. The supplement should include a range of B vitamins such as B1 (thiamine), B2 (riboflavin), B3 (niacin), B5 (pantothenic acid), B6 (pyridoxine), B7 (biotin), B9 (folate), and B12 (cobalamin). Ensure consistency by taking it at the same time each day.

Description

B vitamins help the body function properly. Two examples are [vitamin B9 \(folate\)](#) and [vitamin B12](#). They play essential roles in [\[R, R, R, R\]](#):

- DNA formation
- Metabolism
- Energy production

You can get these vitamins from [\[R, R, R, R, R\]](#):

- Animal products
- Green leafy vegetables
- Citrus fruits
- Fortified foods
- Supplements

Adults should be getting **400 micrograms (mcg) of folate** and **2.4 mcg of vitamin B12** every day [\[R, R\]](#).

Folate deficiency is rare but can happen in people that don’t eat enough fruits and vegetables. Alcoholics and lactating mothers may also be at an increased risk [\[R\]](#).

Vitamin B12 deficiency often takes years to develop, as the body is able to store large amounts in the liver. Groups that may be at an increased risk include [\[R, R\]](#):

- Vegans
- Pregnant women
- Older people
- People with gut issues

How it helps

B vitamins are crucial for the optimal function of mitochondria, as they facilitate key metabolic pathways involved in energy production. Supplementing with B vitamins can enhance mitochondrial function, improving cellular energy availability and overall health.

12



Nicotinamide Mononucleotide (NMN)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 250-500 mg of nicotinamide mononucleotide (NMN) orally once daily in the morning. It can be taken with or without food. Continue this regimen as part of your daily supplement routine to support cellular health and energy levels.

TYPICAL STARTING DOSE

250 mg

Description

Nicotinamide mononucleotide is a compound that is believed to support cellular energy production and may have potential benefits for aging-related processes.

How it helps

Nicotinamide mononucleotide (NMN) serves as a precursor to NAD⁺, a vital coenzyme involved in cellular energy metabolism. By enhancing NAD⁺ levels, NMN may improve mitochondrial function and overall energy production, potentially mitigating age-related declines in mitochondrial health.

13



Nicotinamide Riboside (NR)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 250-300 mg of Nicotinamide Riboside (NR) supplement daily, with or without food. It can be taken any time of the day, but maintaining a consistent routine, such as taking it every morning, is advised for best results. Continue this regimen daily for an ongoing basis to support cellular health and energy levels.

TYPICAL STARTING DOSE

250 mg

Description

Nicotinamide riboside is a form of vitamin B3 that is used in dietary supplements. It is believed to support cellular energy metabolism and may have potential benefits for overall health, including cognitive function and mitochondrial function.

How it helps

Nicotinamide riboside (NR) enhances the production of NAD⁺, a coenzyme crucial for mitochondrial function and energy metabolism. By increasing NAD⁺ levels, NR may improve cellular energy output and promote better mitochondrial health.

14



Coenzyme Q10 (CoQ10)

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a 100 mg Coenzyme Q10 (CoQ10) supplement once daily with a meal that contains fat for better absorption.

TYPICAL STARTING DOSE

100 mg

Description

Coenzyme Q10 (CoQ10) is a naturally occurring antioxidant that plays a crucial role in cellular energy production. It is often taken as a supplement to support heart health, improve energy levels, and provide antioxidant protection, especially for individuals with certain medical conditions or as they age.

[Coenzyme Q10](#) (CoQ10) is a compound that helps enzymes work better. By doing so, CoQ10 helps improve [R](#), [R](#), [R](#), [R](#):

- Energy levels
- Antioxidant protection
- Heart health
- Muscle strength
- Blood sugar control

The amount of CoQ10 made by your body decreases as you get older. Luckily, you can also get it from food or supplements. Good sources of CoQ10 include [R](#), [R](#):

- Organ meats
- Fatty fish
- Whole grains

How it helps

Coenzyme Q10 (CoQ10) enhances mitochondrial function by facilitating ATP production, essential for cellular energy. Its antioxidant properties also help mitigate oxidative stress in mitochondria, which is crucial for overall mitochondrial health.

15



Methylfolate

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

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

TYPICAL STARTING DOSE

400 mcg

Description

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

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

- Making DNA
- Metabolism
- Energy production

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

How it helps

Methylfolate supplementation aids mitochondrial health by providing essential nutrients for DNA synthesis and cellular growth, which are critical for maintaining optimal mitochondrial function and overall cellular vitality.