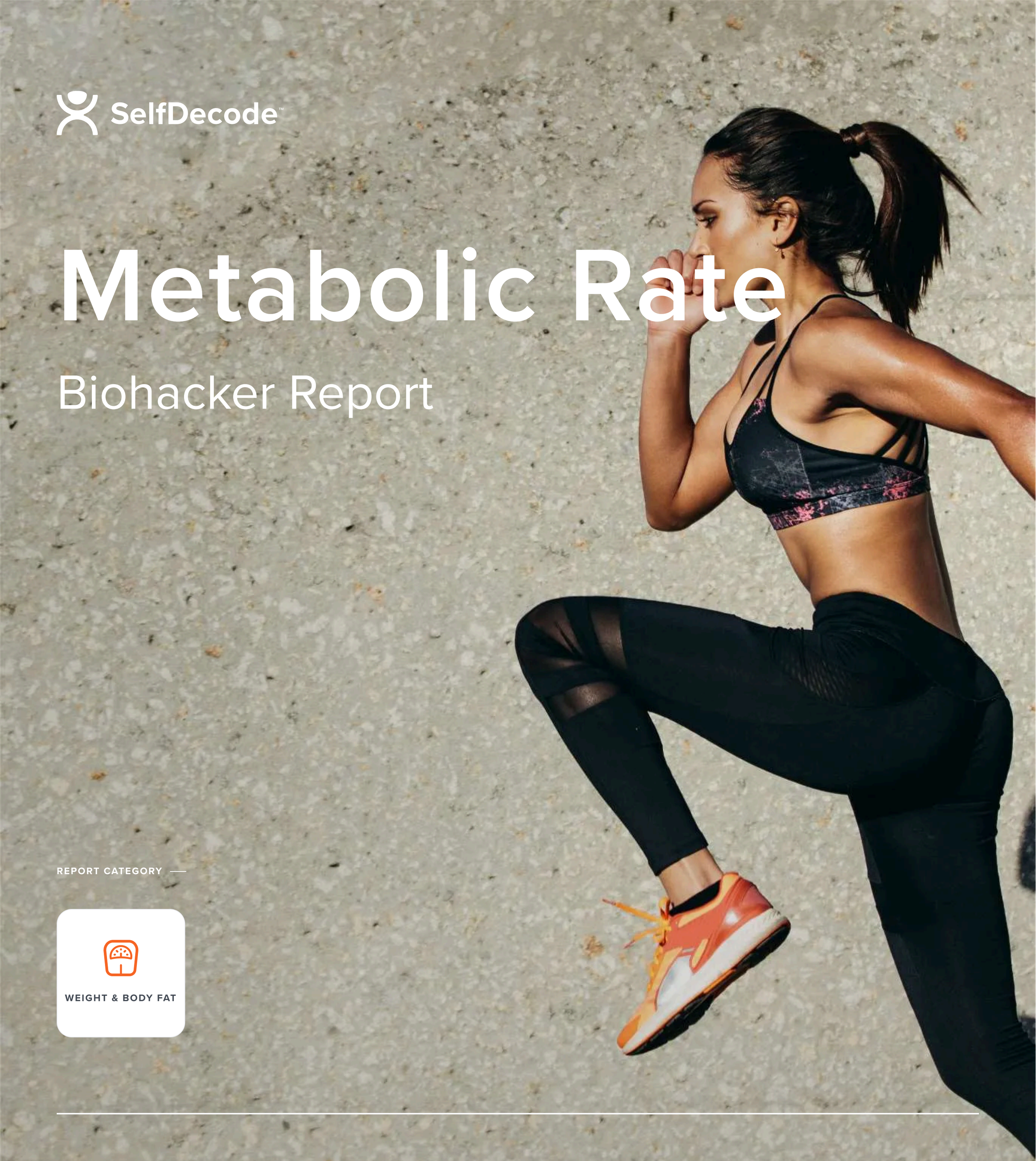
SelfDecode™

Metabolic Rate

Biohacker Report



REPORT CATEGORY

WEIGHT & BODY FAT

Sample Client

Report date: 15 January 2026

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Personal information

NAME

Sample Client

SEX AT BIRTH

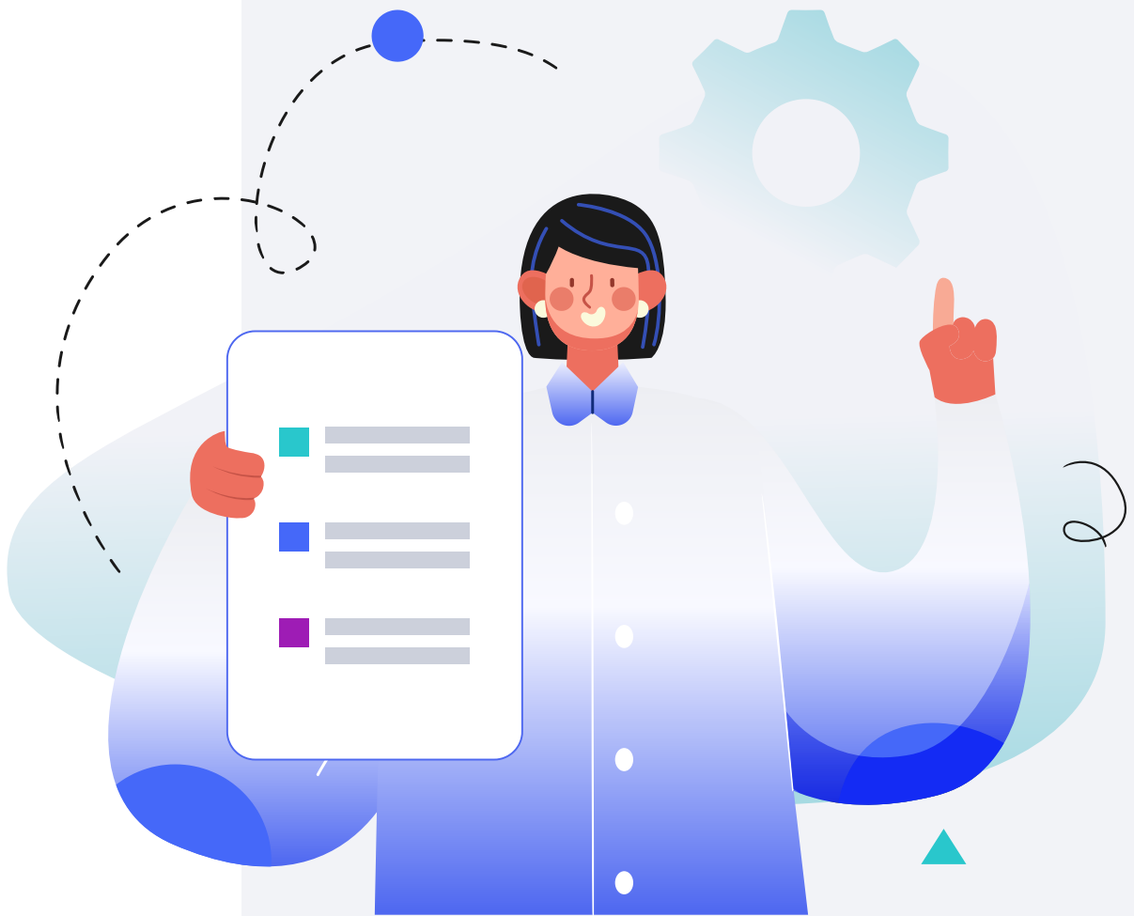
Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg

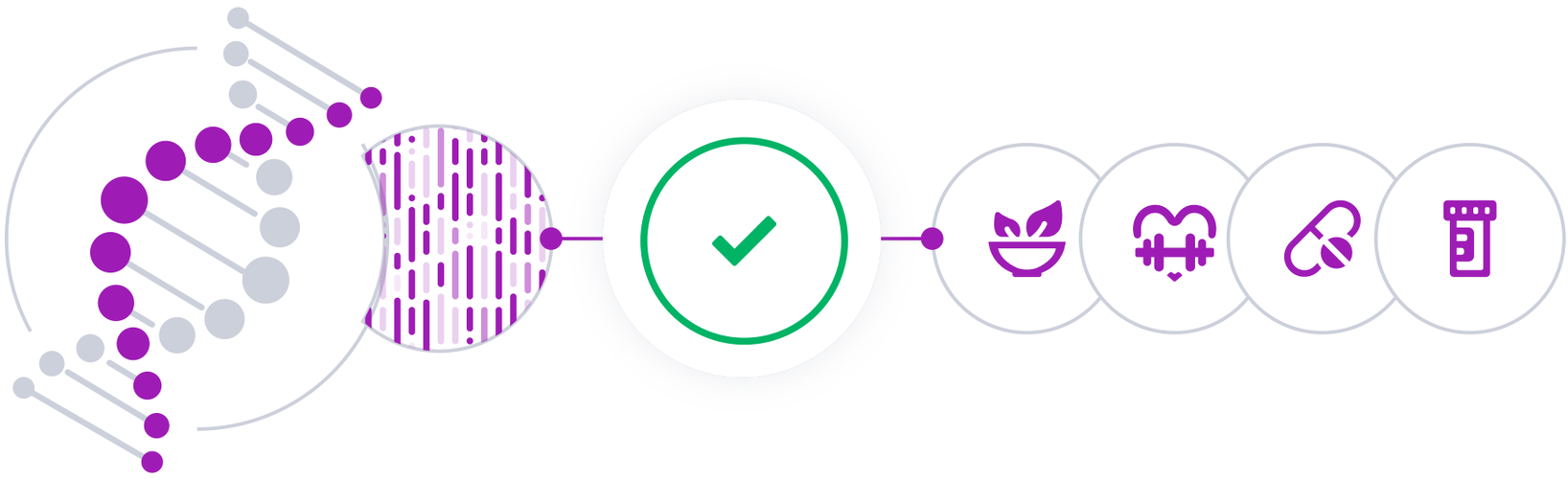


DISCLAIMER

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

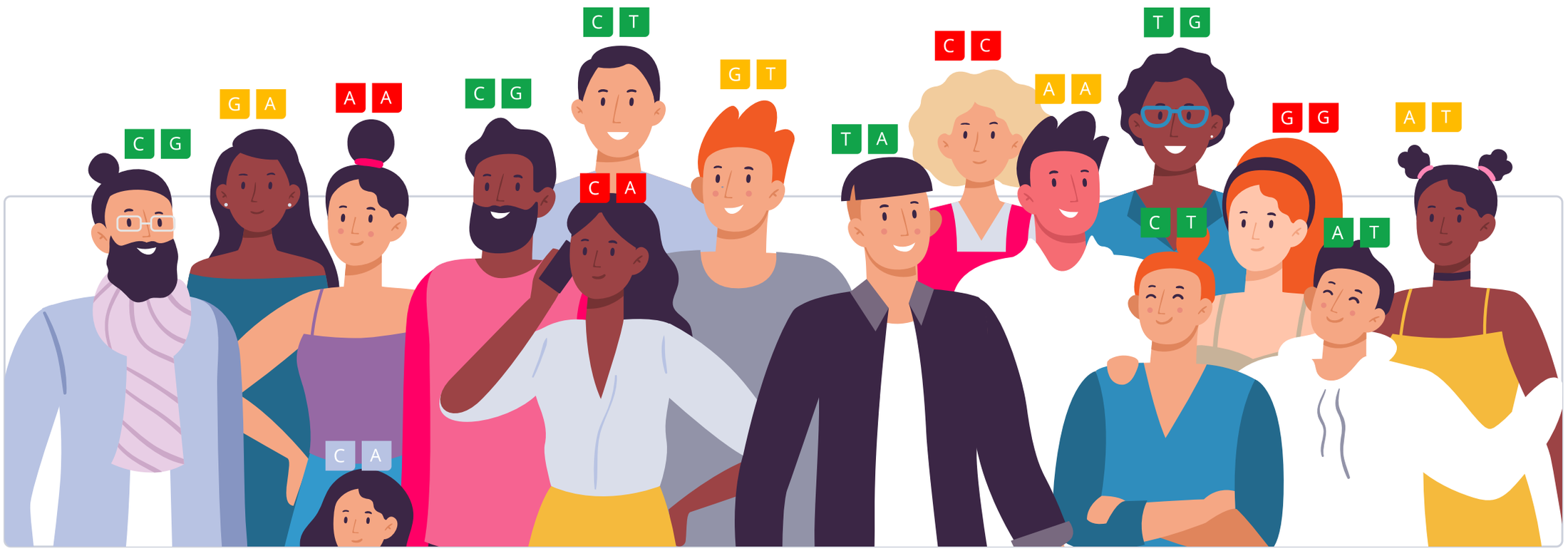
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



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.

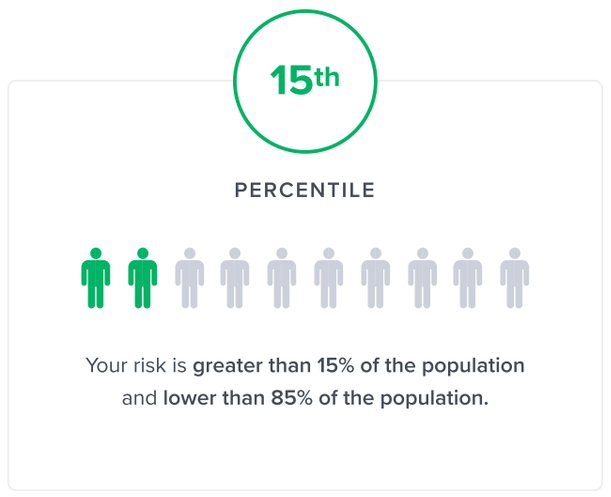
Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



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

Metabolism is the sum of all the reactions in your body that turn food into energy. We need energy to help us [R]:

- Move
- Think
- Breathe
- Pump blood
- Maintain body temperature
- Heal

Your metabolic rate is the number of calories you burn in a day to maintain these functions [R].

A lower metabolic rate or a “slower metabolism” means your body needs fewer calories to do basic functions. Others may need to burn more calories to support these functions. These people have a higher metabolic rate or a “faster metabolism” [R].

What Determines Metabolic Rate

PERSONALIZED TO GENES

Based on the genes we looked at, you likely have a lower metabolic rate. This means your body likely needs fewer calories to do basic functions. However, a number of other lifestyle and environmental factors may also impact your metabolism.

Key Takeaways:

- Being high or low metabolism is not inherently problematic. Knowing what yours is allows you to adjust various diet, exercise, and lifestyle choices to properly manage it.
- Your metabolic rate influences movement, thinking, breathing, body temperature, and healing rate.
- High metabolic rate may be affected by being younger, being bigger, as well as more active. Low metabolic rate tends to be affected by the opposite of these. Your genetics may impact the influence of these factors.

Your metabolic rate is the number of calories you burn in a day to maintain bodily functions. A lower metabolic rate or a "slower metabolism" means your body needs fewer calories to do basic functions. Others may need to burn more calories to support these functions. These people have a higher metabolic rate or a "faster metabolism" [R,R,R].

Is metabolism related to body weight? If so, is it possible to burn more calories by boosting your metabolic rate?

Differences in metabolic rate may be due to both genetic and environmental factors. Factors that can contribute to a slower metabolism include [R, R, R, R, R]:

- Being smaller

LOWER

Predisposed to lower metabolic rate based on 137,802 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
LEPR	rs1805096	GG
PPARGC1A	rs8192678	TC
LEPR	rs1137101	AG
ADRB2	rs1042713	GA
ADRB2	rs1042714	GC
CLOCK	rs1801260	AG
LEPR	rs1137100	AG
UCP1	rs1800592	TC
UCP2	rs659366	CT
CCND2	rs76895963	TT
TP53	rs78378222	TT
PARD3B	rs1470545	CC
SH3YL1	rs62106258	CT
L3MBTL3	rs7740107	AA
HMGA2	rs1351394	CC
DLG5	rs117543413	TC
ZNF628	rs147110934	GT
DCAF16	rs1472852	AC
TEFM	rs6505216	TG
FTO	rs9939609	TT
ADRB3	rs4994	AA
MC4R	rs17782313	TT
UCP3	rs1800849	GG
CCND3	rs33966734	CC
MGA	rs117183161	AA
MC4R	rs76227980	CC
ZBTB26	rs369508364	CC
CDKN1C	rs143840904	CC
FANCC	rs370727606	GG
ACAN	rs28584580	AA
PAM	rs78408340	CC
ADAMTS10	rs62621197	CC

- Having less muscle mass
- Being older
- Being less active
- Not getting enough sleep

People with slower metabolism need fewer calories to get them through the day. They also tend to gain weight more easily.

Factors that can contribute to a faster metabolism include [R, R, R, R]:

- Being larger
- Having more muscle mass
- Being younger
- Being more active

People with faster metabolism need more calories to get them through the day. They also find it harder to gain weight.

Metabolic rate may not change much from age 20 to 60. While you may not change how many calories your body needs to perform automatic functions, **you can burn more calories by being more active**. Regular exercise can help maintain a healthy weight and support overall health [R, R, R, R, R, R, R].

If you're concerned about your weight or you think your metabolism is too slow or too fast, talk with your doctor.

GENE	SNP	GENOTYPE
COQ5	rs76929617	AA
PPA2	rs143847362	AA
ASPRV1	rs35986233	AA
RPS20	rs72656010	TT
IL11	rs4252548	CC
RAD9A	rs7952436	CC
ADAL	rs148076268	AA
DLEU7	rs3118914	GG
HCAR1	rs147730268	GG
MROH8	rs73094911	TT
LTBP1	rs116072427	GG
COPZ2	rs62064921	CC
WDR35	rs113386058	AA
ZNF469	rs76520574	CC
GALR1	rs74540285	AA
UVSSA	rs111391498	AA
DRAM1	rs17032220	TT
ZFHX4	rs61729527	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	Strength Training	1 hour
2	Aerobic Exercise (Cardio)	1 hour
3	Practice Exercise Snacks	1 minutesute
4	Capsaicin and Capsinoids	450 mg
5	Capsaicin	
6	Eat More Protein and Less Carbs	
7	L-Carnitine	1 g
8	Green Tea Extract	250 mg
9	Resveratrol	150 mg
10	Green Tea	400 mg
11	Garcinia Cambogia	500 mg
12	Chewing	
13	Yerba Mate	1 g
14	Fasting Mimicking Diet	
15	Grains of Paradise	
16	MCT Oil	
17	Cold Exposure	1 minutesute
18	CLA (Conjugated Linoleic Acid)	3 g
19	Synephrine	
20	Omega-3 (Fish Oil)	2000 mg
21	Goji Berries	
22	Maintain a Regular Meal Schedule	
23	Green Tea and Guarana Extracts	
24	Eccentric Exercise	
25	Maintain Optimal Vitamin D Levels	1000 iu
26	Pecans	
27	Salmon	
28	Nicotinamide Riboside (NR)	250 mg

1

Strength Training

IMPACT 4 / 5

EVIDENCE 4 / 5

How to implement

Engage in strength training exercises, such as weight lifting or bodyweight exercises, for 60 minutes per session, 2 to 3 times per week. Ensure you work all major muscle groups and rest each muscle group for at least 48 hours before exercising it again.

TYPICAL STARTING DOSE

1 hour

Description

Strength training, also called resistance or *anaerobic* training, contracts the muscles against an external resistance for short periods of time. This helps gain muscle strength, tone, and mass. This can include activities like weight lifting, pushups, and crunches.

Strength training, also known as resistance training, is a type of physical exercise that uses resistance to build strength, anaerobic endurance, and size [R]. Some of the most common strength training methods include [R]:

- Weight lifting
- Bodyweight exercises like push-ups, pull-ups, squats, and lunges.
- Resistance bands
- Plyometrics or explosive force exercises

The benefits of strength training are numerous, and include [R]:

- Increased muscle strength
- Improved bone health
- Reduced risk of injury
- Improved balance and coordination
- Enhanced mood
- Boost metabolism

Consult with a doctor before starting any new exercise program, especially if you have any health conditions.

How it helps

Most experts agree that getting 150-300 minutes of exercise per week can help you control your weight. For best results, try to push yourself a bit with **moderate or intense exercise** [R, R].

Strength training may be more effective than aerobic exercise for increasing resting metabolic rate [R].

Strength training helps build muscle, which burns more calories at rest than fat tissue [R, R].

2

Aerobic Exercise (Cardio)

IMPACT 4 / 5

EVIDENCE 4 / 5

How to implement

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

TYPICAL STARTING DOSE

1 hour

Description

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

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

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

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

How it helps

Most experts agree that getting 150-300 minutes of exercise per week can help you control your weight. For best results, try to push yourself a bit with **moderate or intense exercise** [R, R].

A single bout of aerobic exercise may increase metabolic rate in the short term, especially in men. Adding aerobic exercise to a low-calorie diet may prevent the decrease in metabolic rate due to the diet [R, R].

Exercise helps by increasing the amount of calories burnt during and a few hours after the workout [R, R].

3

Practice Exercise Snacks

IMPACT 4 / 5

EVIDENCE 4 / 5

How to implement

Integrate short bursts of physical activity, each lasting about 1 to 2 minutes, into your daily routine at least two to three times a day. These 'exercise snacks' can include activities like doing a set of stairs, rapid bodyweight exercises, pull-ups, push-ups, sit-ups, or brisk walking.

TYPICAL STARTING DOSE

1 minutesute

Description

Staying physically active is essential for maintaining overall health and well-being. **Exercise snacks** are brief, frequent bursts of physical activity integrated into daily routines, helping combat the health risks associated with prolonged sitting and sedentary behavior, such as obesity and cardiovascular issues. Examples include taking the stairs or doing quick exercises during work breaks.

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

Exercise snacks are short, quick bursts of physical activity performed throughout the day, designed to break up prolonged periods of sitting or inactivity. These brief bouts of exercise can be as short as a few minutes and are incorporated into daily routines to boost overall physical activity levels.

Exercise snacks are crucial for health because they combat the negative effects of sedentary behavior, such as prolonged sitting, which is associated with an increased risk of obesity, cardiovascular diseases, diabetes, and musculoskeletal issues. They help improve blood circulation, regulate blood sugar levels, and enhance mood and cognitive function.

Examples of exercise snacks include taking the stairs instead of the elevator, doing a few minutes of bodyweight exercises (e.g., squats or push-ups) during work breaks, or walking briskly for a few minutes after meals. These short, frequent bursts of activity contribute to a more active lifestyle and can significantly benefit overall health by reducing the risks associated with excessive sitting.

How it helps

Most experts agree that getting 150-300 minutes of exercise per week can help you control your weight. For best results, try to push yourself a bit with **moderate or intense exercise** [R, R].

Exercise helps by increasing the amount of calories burnt during and a few hours after the workout [R, R].

4

Capsaicin and Capsinoids

IMPACT 3 / 5

EVIDENCE 3 / 5

How to implement

Take a supplement containing 450 mg of capsaicin or capsinoids, once daily with a meal. Continue this routine daily as part of your supplement regimen.

TYPICAL STARTING DOSE

450 mg

Description

Capsaicin, found in chili peppers, is known for its potential to boost metabolism and promote weight loss. It can also provide pain relief when used topically in certain creams and ointments. Capsinoids are compounds similar to capsaicin, found in chili peppers, and may have similar metabolic and weight management benefits without the intense heat.

Capsaicin is the compound that makes chili peppers spicy [R].

People use **topical capsaicin** to relieve pain and **oral capsaicin** to aid weight loss [R, R].

Capsinoids are compounds similar to capsaicin. Unlike capsaicin, they are present in both sweet and chili peppers [R].

How it helps

Capsaicin (1-3 mg) may help speed up metabolism. This amount of capsaicin is available in [R, R, R, R, R]:

- **50-150 mg** of a cayenne pepper extract
- **200-600 mg** of ground cayenne pepper

Combining capsaicin with ingredients like green tea and ginger may have similar effects [R, R, R].

Supplementing with **capsinoids (6-10 mg for 1-3 months)** may also increase the metabolic rate [R, R].

5

Capsaicin

IMPACT 3 / 5

EVIDENCE 3 / 5

How to implement

Apply a capsaicin cream or gel to the affected area up to 4 times daily. Make sure the skin is intact and not broken. Start with a lower concentration (0.025%) and gradually increase to 0.075% if needed for pain relief. Use continuously for at least 4 weeks to evaluate its effectiveness.

Description

Capsaicin, found in chili peppers, is known for its potential to boost metabolism and promote weight loss. It can also provide pain relief when used topically in certain creams and ointments.

How it helps

Two meta-analyses (the most recent one with 13 studies) concluded that capsaicin increases resting metabolic rate (by 33.99 kcal/day), energy expenditure, and fat oxidation while reducing appetite and the respiratory quotient [R, R].

6

Eat More Protein and Less Carbs

IMPACT 2 / 5

EVIDENCE 4 / 5

How to implement

Include a source of lean protein such as chicken, fish, beans, or tofu in each meal, aiming for 20-30 grams per serving, while reducing carbohydrate-rich foods like bread, pasta, and sweets, aiming to make proteins about 30-40% of your daily caloric intake. Replace at least one carbohydrate-heavy meal or snack with a high-protein option daily.

Description

A diet that includes more protein and fewer carbohydrates can promote weight management and satiety, potentially aiding in weight loss efforts. Protein-rich foods can help control hunger and support muscle maintenance.

Proteins, fats, and carbs are macronutrients. You need these nutrients in large (‘macro’) amounts. They provide your body with the energy it needs to function properly [R].

For a healthier diet, experts recommend eating foods that are higher in protein but lower in fat and carbs [R, R].

This is because simple carbs can spike your blood sugar levels. Likewise, too much saturated fat can increase “bad” (LDL) cholesterol [R, R, R, R, R, R].

Eating a lot of high-carb or high-fat foods may lead to conditions like diabetes, obesity, and heart disease [R, R, R, R].

Meanwhile, protein boosts muscle mass and helps control your weight [R].

How it helps

Most weight loss experts recommend following a diet that’s high in protein but lower in carbs or fat [R, R].

Research suggests that getting more calories from protein (as opposed to either carbohydrates or fat) may support weight loss, metabolism, and satiety. High-protein diets appeared to increase fat burning and weight loss and reduce appetite in a handful of human studies [R, R, R, R].

Some low-carb diets that may help you lose weight include:

- **Keto diet**: low-carb and high-fat diet [R, R, R]
- **Atkins diet**: low-carb diet [R, R, R, R, R]
- **Paleo diet**: hunter-gatherer diet (limited carbs, dairy products, and legumes) [R, R, R]
- **Zone diet**: meals consist of 40% complex carbs, 30% protein, and 30% fat [R]

Note: *In the long run, high-protein diets may contribute to heart disease, calcium loss, constipation, and other health problems. If you have problems with kidneys or bones, consult your doctor or dietitian before adopting a high-protein diet* [R, R].

7

L-Carnitine

IMPACT 2 / 5

EVIDENCE 3 / 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 (up to 2 g/day for 2-12 months) may support weight loss by boosting fat burning [R, R, R, R].

8

Green Tea Extract

IMPACT 2 / 5

EVIDENCE 3 / 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

Supplementation with green tea extract may increase resting metabolic rate and energy expenditure. Try to get **300-600 mg of catechins per day**, which can be found in about **3-6 cups of green tea** [R].

Green tea catechins may help by burning fat. However, they may only work when combined with caffeine, which is naturally found in green tea [R, R].

Please note: *polyphenols from green tea may bind to iron and form insoluble complexes, which reduces iron absorption in the gut. If you have anemia, consult your healthcare provider before using green tea* [R].

9

Resveratrol

IMPACT 2 / 5

EVIDENCE 3 / 5

How to implement

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

TYPICAL STARTING DOSE

150 mg

Description

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

Resveratrol is an antioxidant found mainly in [R]:

- Berries
- Red grapes
- Red wine
- Peanuts

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

How it helps

Resveratrol (150-500 mg/day for 4-12 weeks) may help lose body weight and fat. Resveratrol may help by [R, R, R]:

- Increasing the body's energy use
- Lowering fat production

Please note: *Resveratrol may interact with blood thinners (like Coumadin). Consult your doctor before taking resveratrol* [R, R].

10

Green Tea

IMPACT 2 / 5

EVIDENCE 3 / 5

How to implement

Consume 400 mg of green tea extract daily. This can be taken in the form of capsules or tablets available that specify the amount of green tea extract. Ensure the supplement is taken according to the product's specific instructions, usually once a day with water.

TYPICAL STARTING DOSE

400 mg

Description

Tea is a beverage made by steeping the leaves of the Camellia sinensis plant in hot water. It comes in various types, including black, green, white, and herbal teas, and is known for its diverse flavors and potential health benefits due to antioxidants and other bioactive compounds.

Green and black tea are made from the same plant (*Camellia sinensis*). This plant is processed in different ways to make each type of tea [R, R].

Tea contains antioxidants called **flavonoids**, which may help prevent [R, R, R, R]:

- Heart disease
- Cancer
- Diabetes

How it helps

Green tea and its catechins may support weight loss and increase the metabolic rate. Try to get **300-600 mg of catechins per day**, which can be found in about **3-6 cups of green tea** [R, R, R].

Green tea catechins may help by burning fat. However, they may only work when combined with caffeine, which is naturally found in green tea [R, R, R].

Please note: *polyphenols from green tea may bind to iron and form insoluble complexes, which reduces iron absorption in the gut. If you have anemia, consult your healthcare provider before using green tea* [R].

11

Garcinia Cambogia

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Take 500 mg of Garcinia Cambogia as a supplement 30 to 60 minutes before each meal. It is typically recommended to do this three times a day for effective results.

TYPICAL STARTING DOSE

500 mg

Description

Garcinia cambogia is a tropical fruit extract commonly used in weight management supplements. It contains hydroxycitric acid (HCA), which is believed to help curb appetite and support weight loss goals, although scientific evidence is mixed.

Garcinia cambogia is a plant native to Asia [R].

Different parts of *G. cambogia* are used to [R]:

- Preserve and flavor food
- Make artwork and polish metals

In traditional medicine, people mainly use *G. cambogia* and its active compounds to manage weight [R, R].

How it helps

Supplementing with ***Garcinia cambogia*** **(up to 4.7 g/day for 8-12 weeks)** may speed up metabolism and support weight loss. Combining *G. cambogia* with other herbs may have similar benefits [R, R, R].

Its active component **HCA (1-2.8 g/day for 2-12 weeks)** may also help [R].

Note that the evidence is mixed. *G. cambogia* extract didn't help in some of the studies [R, R, R].

Please note: *G. cambogia may cause liver damage. Consult your doctor before taking it* [R, R, R].

12

Chewing

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Incorporate chewing thoroughly into your daily eating habits by ensuring each bite is chewed 20-30 times before swallowing. Practice this technique at every meal and with snacks to improve digestion and satiety.

Description

Chewing can help to reduce the tendency to overeat by keeping your mouth busy and providing a sense of fullness. It can also help to improve your metabolic rate and increase your energy levels. Additionally, chewing can help to improve your attention span and reduce stress levels.

How it helps

In a non-placebo-controlled trial of 30 participants, chewing sugar-free gum for a total of 1 h (3 sessions of 20 min) increased fasting and postprandial energy expenditure. Chewing gum was as effective as eating slowly at increasing post-meal diet-induced thermogenesis in a non-placebo-controlled trial of 12 healthy men. Similarly, chewing while tasting food increased diet-induced thermogenesis in a non-placebo-controlled trial of 11 men [R, R, R].

Chewing more before swallowing can help increase your metabolic rate, as it takes more energy to break down food. This process, called diet-induced thermogenesis, boosts your metabolism by 10-15%.

13

Yerba Mate

IMPACT 2 / 5

EVIDENCE 2 / 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

Yerba mate supplementation (1,000-2,000 mg) before exercise increased fat burning in 2 placebo-controlled trials of 26 healthy participants. A multi-ingredient supplement with yerba mate, green tea extract, guarana seed extract, caffeine, saw palmetto, Fo-Ti, eleuthero root, cayenne pepper, and yohimbine had similar effects in another placebo-controlled trial of 12 volunteers [R, R, R].

14

Fasting Mimicking Diet

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Adopt a fasting mimicking diet for 5 consecutive days per month, consuming between 750 and 1,100 calories per day consisting mostly of plant-based soups, vegetables, nuts, seeds, and herbal teas. Ensure adequate hydration. Resume a normal, healthy diet for the remaining days of the month.

Description

The fasting mimicking diet is a dietary approach that involves cycles of fasting and calorie restriction to potentially promote longevity and metabolic health. It is currently an area of research interest for its possible health benefits.

How it helps

In various non-placebo-controlled trials, fasting-mimicking diets showed promising effects on weight. They led to reductions in body weight, and total body and trunk fat, especially in those at risk of disease. In obese women, this diet was as effective as continuous energy restriction for weight loss but had additional benefits like improved body composition, increased ghrelin and NPY levels, and reduced basal metabolic rate. In physically active men, it reduced body mass without affecting neuromuscular parameters. Combining a fasting-mimicking diet with psychotherapy lowered BMI in patients with depression, and it also lowered BMI and waist circumference in patients with type 2 diabetes [R, R, R, R, R].

This diet may help by putting your body into a state of fasting, which in turn triggers a process called ketosis. Ketosis can increase the body's metabolism rate and lead to weight loss.

15

Grains of Paradise

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Take a supplement containing 30-50mg of grains of paradise extract once daily with water, preferably with a meal to aid in absorption. Continue this routine daily for at least 4-8 weeks to assess its effects on metabolism and energy expenditure.

Description

Grains of Paradise, a spice related to ginger, may offer potential benefits for digestion and metabolism due to its bioactive compounds. It is used in traditional medicine and culinary applications to support digestive comfort and overall well-being.

How it helps

Grains of Paradise can enhance your metabolic rate by promoting a process known as thermogenesis, where your body burns fat to produce heat. This could help in weight management, leading to better overall health.

In a placebo-controlled trial of 19 obese women, ingesting grains of paradise extract (30 mg/day) for 4 weeks increased whole-body energy expenditure and reduced the visceral (but not subcutaneous) fat area at the umbilicus level. Supplementation with grains of paradise extract for 4 weeks also increased whole-body energy expenditure in a placebo-controlled trial of 19 healthy men. In a placebo-controlled trial of 70 overweight participants, supplementation with grains of paradise extract (250 mg, 2x/day) for 12 weeks increased whole-body energy expenditure while decreasing visceral fat, visceral-to-subcutaneous fat ratio, weight, and BMI [R, R, R].

16

MCT Oil

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Incorporate 1 to 2 tablespoons of MCT oil into your daily diet by adding it to coffee, smoothies, or salad dressings. Start with a lower dose to assess tolerance before gradually increasing to the full dosage. Use daily for ongoing benefits.

Description

MCT oil is a type of dietary fat known for its rapid absorption and potential to provide quick energy. It is often used in ketogenic diets and may support weight management and cognitive function.

How it helps

Three non-placebo-controlled trials of 31 overweight people found that MCT oil promotes fat burning better than olive oil. Moreover, dietary MCT increased energy expenditure while reducing energy intake in 2 trials of 26 healthy men [R, R, R, R, R].

Consuming 15-30g/day of MCT alongside a habitual diet significantly increases 24-hour energy expenditure (EE) by approximately 5%, possibly mediated by sympathetic nervous system activation, without affecting respiratory quotient or urinary nitrogen losses [R].

17

Cold Exposure

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Gradually expose yourself to cold temperatures for short periods, starting with 1-2 minutes and increasing up to 5-10 minutes. This can be achieved through cold showers, outdoor exposure in cold weather, or ice baths. Aim to do this 2-3 times per week.

TYPICAL STARTING DOSE

1 minutesute

Description

Cold exposure, when done safely and gradually, can have potential health benefits like increased calorie burn, improved circulation, and enhanced resilience to cold temperatures. Cold exposure techniques, such as cold showers or outdoor winter activities, may help boost metabolism and promote overall well-being when practiced mindfully.

Please note: rapid instead of gradual cold exposure causes dangerous, and even fatal, changes in the breath and heart rates, known as the cold shock response. Be cautious with any form of sudden temperature change in your environment, especially if you have heart disease or other chronic conditions [R].

How it helps

Short-term cold exposure may increase the metabolic rate by up to 80% [R, R, R].

Cold exposure may help by increasing brown fat activity and adiponectin levels, both of which promote fat burning [R, R, R].

18 CLA (Conjugated Linoleic Acid)

IMPACT 1 / 5

EVIDENCE 3 / 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

CLA (at least 3.4 g/day for 3 months or more) may speed up metabolism and support weight loss. It may be most effective in people older than 44. However, some studies didn't show significant benefits of CLA [R, R, R].

CLA may help by boosting fat breakdown and lowering fat production [R, R].

Note that CLA supplements are derived from vegetable oils. They contain different fats than those found in meat and dairy. **In some cases, CLA supplements may even impair sugar and fat metabolism** [R, R].

19 Synephrine

IMPACT 1 / 5

EVIDENCE 2 / 5

Description

Synephrine is a compound from bitter oranges that shares similar mechanisms with ephedrine, but is less potent. It is hypothesized to reduce appetite and increase fat burning [R].

How it helps

In 5 placebo-controlled trials of 90 healthy volunteers, supplementation with synephrine (50-100 mg or 1-3 mg/kg) before physical exercise, both alone and in combination with caffeine or other bioflavonoids, increased fat burning and energy expenditure [R, R, R, R, R].

However, small doses of caffeine may be needed for synephrine to burn fat while the body is at rest. A placebo-controlled trial of 18 people found that synephrine without caffeine did not burn more fat at rest, but did burn more during exercise [R].

20

Omega-3 (Fish Oil)

IMPACT 1 / 5

EVIDENCE 2 / 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

Supplementation with fish oil may increase energy expenditure during exercise, resting metabolic rate, and fat burning, especially if combined with exercise. However, the evidence is mixed [R, R, R, R, R, R].

21

Goji Berries

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate goji berries into your daily diet by adding a handful (about 1 ounce or 28 grams) to your morning cereal, yogurt, or smoothie. You can also snack on dried goji berries throughout the day. Aim to include them in your diet consistently for at least a month to observe potential health benefits.

Description

Goji berries are a nutritious fruit known for their high antioxidant content. They may support immune health, provide essential nutrients, and be incorporated into a healthy diet as a snack or ingredient.

How it helps

Goji berries are enriched with antioxidants which help in boosting your metabolism rate by reducing oxidative stress. A higher metabolic rate accelerates the burning of calories and thus can aid in weight management.

In 2 small placebo-controlled trials of 43 overweight participants, consuming a single dose of goji berry juice (120 mL) increased postprandial calorie expenditure by 10%, while consuming this dose for 14 days reduced waist circumference by 5.5 cm [R].

22

Maintain a Regular Meal Schedule

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Eat your meals at the same times each day, for instance, breakfast at 7 AM, lunch at 12 PM, and dinner at 6 PM. Stick to this schedule every day, including weekends, to help regulate your body's internal clock and improve digestion.

Description

Maintaining a regular meal schedule helps regulate blood sugar levels, supports digestion, and promotes a healthy metabolism. Consistency in meal timing can contribute to overall energy balance and long-term weight management.

Blood sugar (glucose) is the body’s main source of energy. It increases after a meal. Skipping meals may reduce this energy supply and lead to [R, R]:

- Poor cognitive performance
- Headaches

A regular meal schedule means eating the same number of meals at about the same times every day. Doing so may help [R, R]:

- Balance the internal clock
- Maintain a healthy body weight
- Support healthy cholesterol levels
- Prevent migraines

How it helps

Regular meal schedules may increase energy expenditure after meals [R].

Eating at regular intervals can help maintain a consistent metabolic rate by sustaining energy levels and preventing metabolism dips.

23

Green Tea and Guarana Extracts

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a supplement containing green tea and guarana extracts once daily, preferably in the morning to avoid potentially disturbing your sleep due to the caffeine content. The exact dosage can vary, but typically ranges from 250mg to 500mg for green tea extract and 50mg to 100mg for guarana extract. Continue this daily consumption for at least 8 weeks to observe potential benefits.

Description

Green tea and Guarana extracts are packed with natural compounds that can greatly benefit your health. Green tea is known to boost metabolism and improve heart health, while Guarana, due to its caffeine content, can increase energy and alertness. Regular intake of these two might promote weight loss, improve focus, and reduce risk of heart diseases. It's a simple way to energize your body and keep it healthy.

How it helps

In a placebo-controlled trial of 14 healthy volunteers, supplementation with a mixture of green tea and guarana extracts increased 24-h energy expenditure [R].

Please note: *polyphenols from green tea may bind to iron and form insoluble complexes, which reduces iron absorption in the gut. If you have anemia, consult your healthcare provider before using green tea* [R].

24

Eccentric Exercise

IMPACT 1 / 5

EVIDENCE 1 / 5

Description

Eccentric exercise is a type of exercise where the muscle lengthens as it contracts. It has been shown to have a number of health benefits, including increased muscle strength, improved bone density, and reduced risk of injury.

How it helps

Practicing eccentric exercise (30 min/day) for 8 weeks improved blood lipid profile, insulin resistance, and energy expenditure in a non-placebo-controlled trial of 20 women [R].

25

Maintain Optimal Vitamin D Levels

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Check your vitamin D levels, they should ideally be in the 30-66 ng/mL range. If your levels are lower than that, take a vitamin D supplement, 1000-4000 IU daily, to reach an optimal range.

TYPICAL STARTING DOSE

1000 iu

Description

Vitamin D, often referred to as the "sunshine vitamin," can be synthesized by the skin when exposed to sunlight, as well as being found in fish, eggs, and fortified milk. It helps regulate calcium absorption, promoting strong bones and a healthy immune system. Vitamin D deficiency can lead to conditions like rickets in children and osteoporosis in adults.

Your body needs vitamin D for strong bones. Vitamin D also plays a role in [R]:

- Mood
- Immunity
- Heart health
- Blood sugar control

Sunlight is our main source of vitamin D. Experts recommend getting at least **5-15 minutes of midday sun, 2-3 times per week**. People with darker skin and those living at high latitudes may need longer periods of sun exposure [R, R].

Foods like fish, eggs, and fortified milk provide small amounts of vitamin D. **People lacking vitamin D should consider taking a supplement** [R].

How it helps

In a study of 75 adults with type 2 diabetes, yogurt fortified with both vitamin D and calcium increased resting metabolic rate [R].

Vitamin D may help by aiding in the absorption of calcium, which in turn helps in the breakdown and burn of fats.

Please note: *Experts recommend getting 600-800 IU of vitamin D per day. Medical bodies recommend against taking more than 4,000 IU per day* [R].

26

Pecans

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate about a handful of pecans (roughly 1 ounce or 28 grams) into your daily diet. You can eat them as a snack, sprinkle chopped pecans over salads, or blend them into smoothies. Aim to do this regularly as part of your daily dietary habits to enjoy their health benefits.

Description

Pecans are a type of nut derived from the hickory tree, primarily native to North America. They are rich in nutrients like healthy fats, protein, dietary fiber, and various vitamins and minerals, including vitamin E, manganese, and zinc.

Pecans are a good source of fiber, along with manganese, molybdenum, copper, thiamine, and zinc. A 1-ounce serving provides 1.1 mg of manganese or 48%DV.

How it helps

In a non-placebo-controlled trial of 56 sedentary adults, consuming pecan nuts for 8 weeks increased postprandial diet-induced thermogenesis [R].

Pecans are rich in monounsaturated fats and fiber, both of which enhance metabolism.

27

Salmon

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate at least two servings of salmon into your weekly diet, aiming for each serving to be about 3.5 ounces (100 grams), cooked. Choose wild-caught salmon when possible for higher omega-3 content.

Description

Salmon is a nutrient-rich fish known for its high content of omega-3 fatty acids, which can support heart health and reduce inflammation. It's also an excellent source of protein, vitamin D, and various minerals.

How it helps

In a study with 25 overweight participants, meals combining salmon with high-glycemic-index (GI) carbohydrates increased diet-induced thermogenesis compared to low-GI carbohydrates, while no such difference was observed with veal. Appetite sensations and energy intake were similar for all meals [R].

28

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

In a placebo-controlled trial of 13 overweight or obese participants, supplementation with NR (1000 mg/day) for 6 weeks increased skeletal muscle NAD+ metabolites, and induced minor changes in body composition and sleeping metabolic rate [R].

Next Steps

Remember, your genes only tell one important part of your health story!

Now that you've seen your DNA-based results for this health topic, let's take a look at other contributing factors.

Your lab results

Your lab results are impacted by the combined effect of your genes, environment and lifestyle.

Lab tests will give you the best picture of your current health status, while your genes provide insight into your health predispositions and which recommendations are best for you.

T4 Free (FT4)	1.26 ng/dL	0.8 – 1.6	9 Nov 2025
TSH	2.76 mcIU/mL	0.4 – 1.5 – 2.5 – 4.5	9 Nov 2025
T3, Free (FT3)	3.34 pg/mL	2.3 – 3 – 4.7	9 Nov 2025