SelfDecode™

UCP3 (Weight)

Gene Report

REPORT CATEGORY

WEIGHT & BODY FAT

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

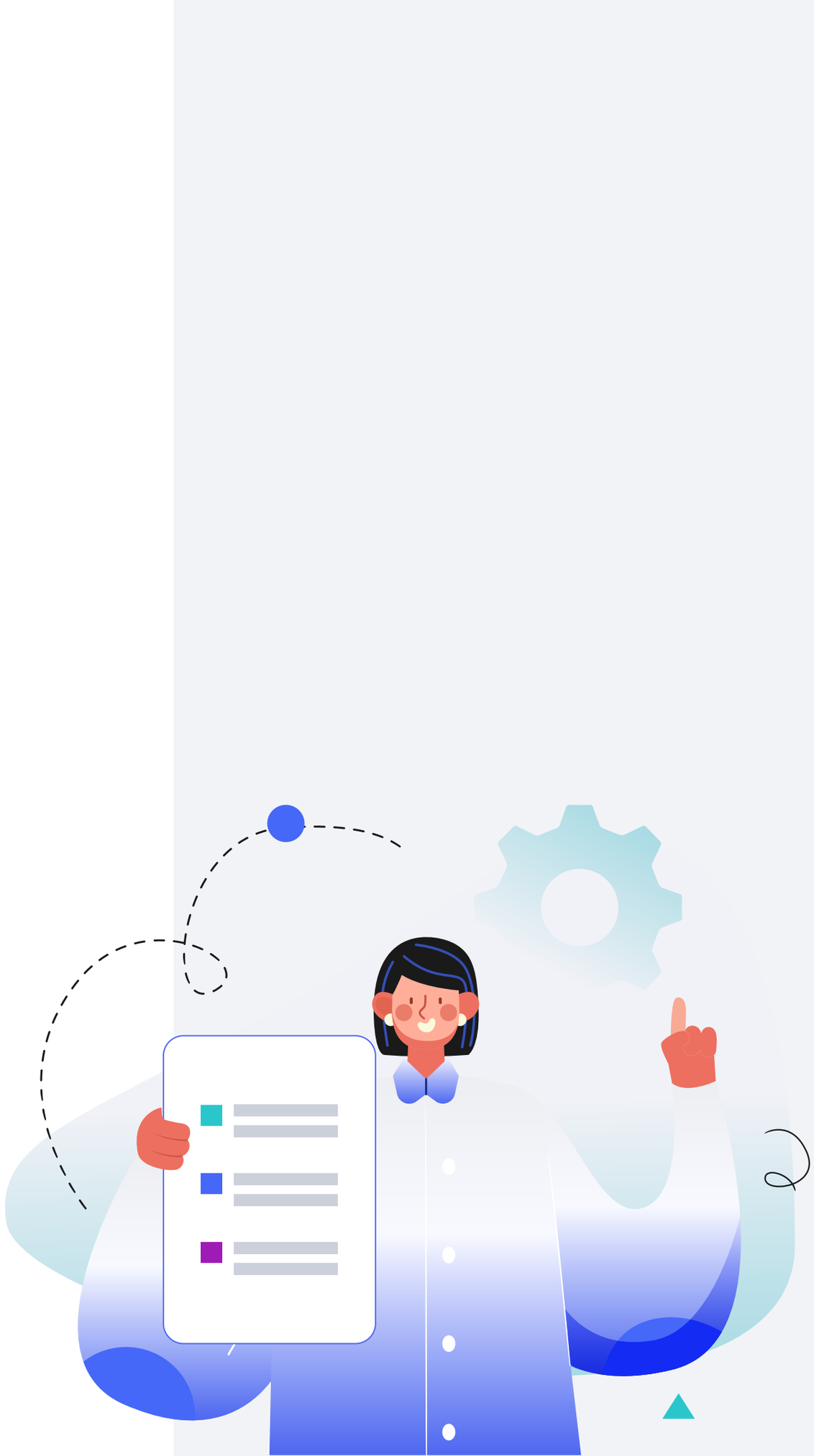
Male

HEIGHT

5ft 5" 165cm

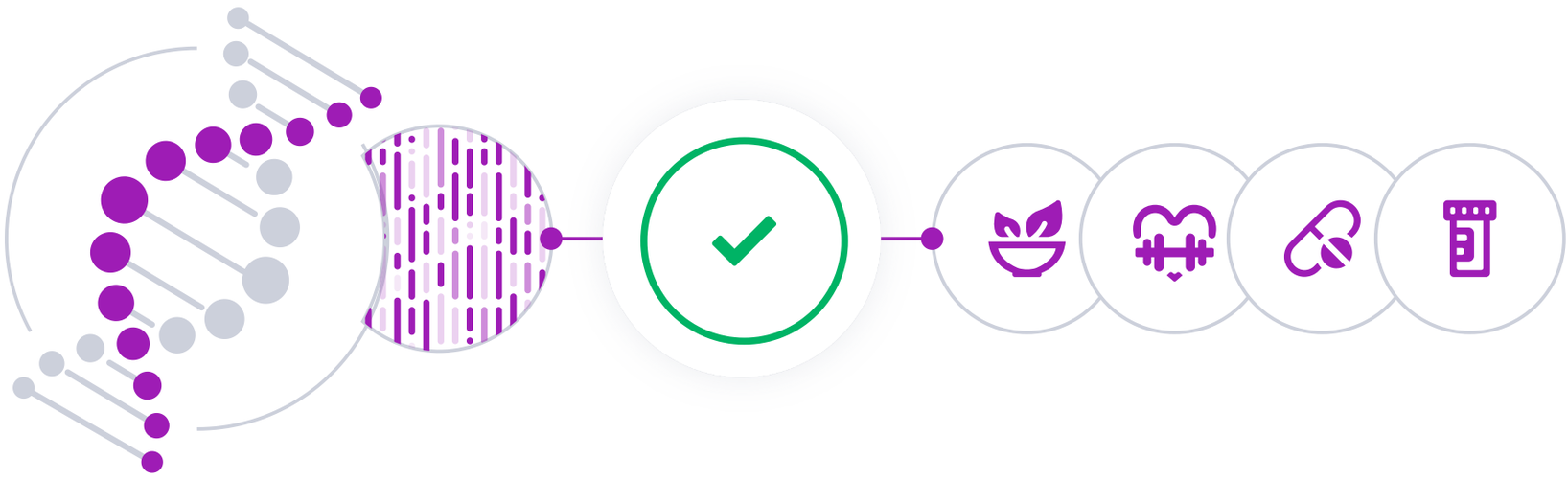
WEIGHT

137lb 62kg



How this works

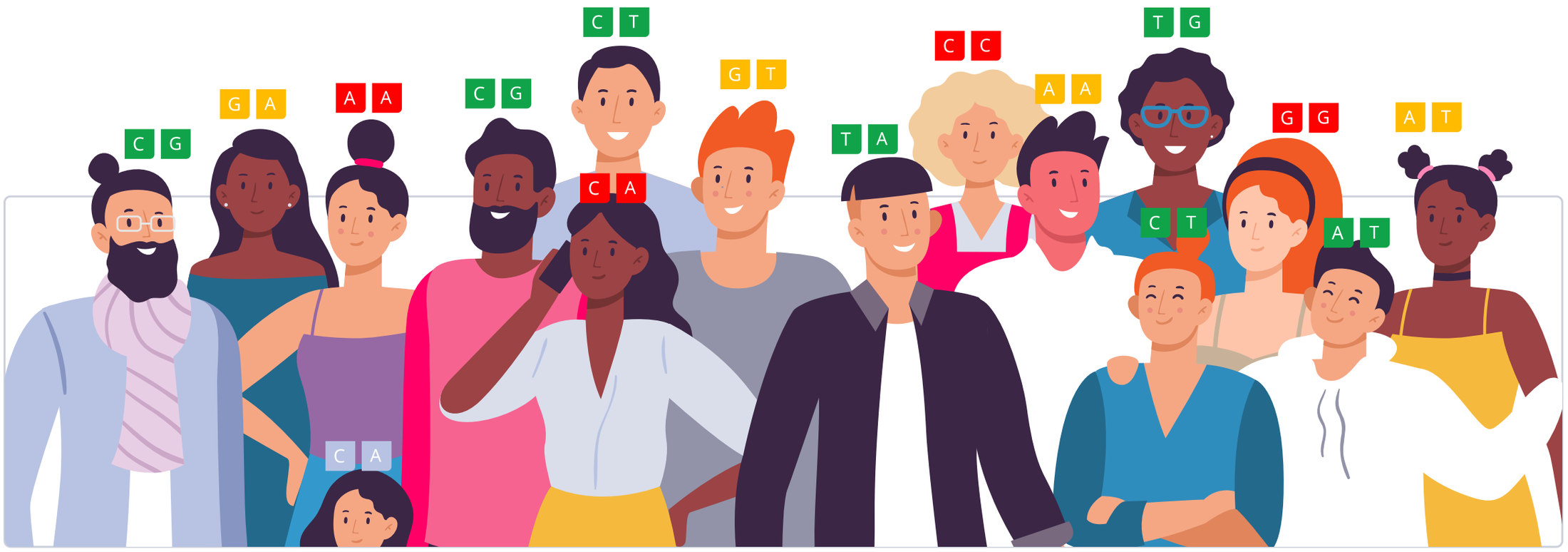
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



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.

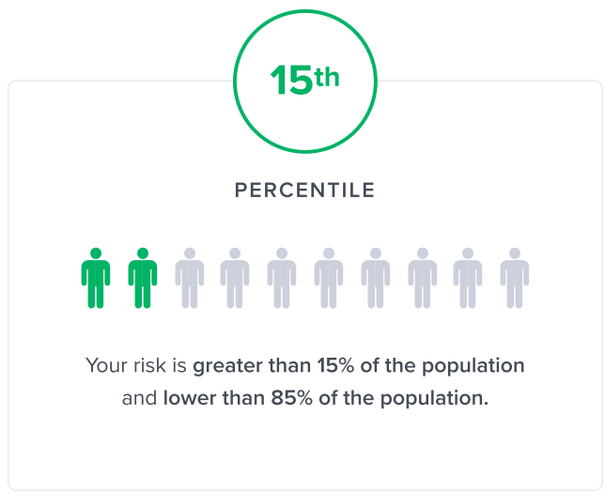
Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



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

The *UCP3* gene encodes a protein called '*uncoupling protein 3*'. In the mitochondria (the main powerhouse of cells), the breakdown of nutrient fuels is *coupled* to the production of the energy molecule ATP. Members of the uncoupling protein family prevent the production of this molecule and instead cause the energy to be dissipated as heat [R, R].

UCP3 is mainly found in muscles, but also present in smaller amounts in heart and brown fat tissues. Fasting and acute exercise increase the expression of the *UCP3* gene, while endurance training reduces or increases it depending on the study [R, R, R, R, R, R, R].

The biological function of UCP3 remains poorly understood. Although it can block ATP generation to produce heat, just as its sister protein UCP1, research suggests its main role is to break down fatty acids and remove them from the inner side of the mitochondria. This may reduce oxidative damage and preserve mitochondrial function [R, R, R, R].

UCP3 Genetics

The most widely-investigated *UCP3* polymorphism by far is rs1800849, also known as -55C/T. A study in Pima Indians found that the minor allele 'A' increases *UCP3* expression, and possibly the levels of the protein, in the muscles [R].

Some studies suggest that the minor variant at this polymorphism may protect from obesity, especially in Caucasians. The mixed results observed may be due to differences in the diet, physical activity, and genetic background of the different populations. Importantly, different *UPC2* and *UPC3* variants are inherited together and their combinations may influence their effects on weight [R, R, R, R].

This variant has been associated with a higher waist circumference, waist to hip ratio, and abdominal fat in multiple populations. However, a Spanish study found no relationship between this polymorphism and fat mass or distribution in obese. Another study on American women associated it with increased lean mass and calorie intake [R, R, R, R, R, R].

Two meta-analyses confirmed the association of the 'A' variant with increased susceptibility to type 2 diabetes in Asians but not in Europeans [R, R].

The minor variants at the rs647126 and rs2075577 polymorphisms, which are usually inherited together, were associated with increased BMI in Dutch men. Based on their effect, the authors of the study speculated that these variants may reduce UCP3 activity [R].

TYPICAL ACTIVITY

Likely typical UCP3 activity based on 3 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
UCP3	rs1800849	GG
UCP2	rs647126	AG
UCP2	rs2075577	GA

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	Exercise At Least One Hour a Day	1 hour
2	Limit Calorie Intake	
3	Eat More Protein and Less Carbs	
4	Intermittent Fasting	
5	Extra Virgin Olive Oil (EVOO) With Thyme	
6	Resveratrol	150 mg
7	Green Tea	400 mg
8	Cold Exposure	1 minutesute
9	Omega-3 (Fish Oil)	2000 mg
10	Dietary Calcium	
11	CLA (Conjugated Linoleic Acid)	3 g

1

Exercise At Least One Hour a Day

IMPACT 5 / 5

EVIDENCE 5 / 5

How to implement

Dedicate a minimum of 60 minutes to moderate-intensity activities such as brisk walking, swimming, or cycling. Do this most days of the week, aiming for at least 5 days to optimize benefits.

TYPICAL STARTING DOSE

1 hour

Description

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

There are many ways you can be active. You can walk, run, swim, dance, or play team sports. **Everything counts, and it's never too late to start!**

Try to get at least **60 minutes of moderate physical activity on most days**, including walking. **Getting a mix of cardio (min 150 min/day) and strength training (min 2 times a week) may be optimal**.

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 burning calories and boosting your metabolism. It may also lower your appetite [R, R].

However, it might take a while to see the results of your hard work. **The benefits of moderate or intense exercise may only show after 12 weeks** [R, R, R, R, R].

Note that exercise may be less effective at helping you lose weight than limiting your calorie intake. However, **it will likely help you maintain a lower weight in the long run** [R, R, R].

PERSONALIZED TO YOUR GENES

Your *UCP3* gene variant has been associated with obesity in people who don't exercise much [R, R].

YOUR GENETIC VARIANTS

GENE	SNP	GENOTYPE	EVIDENCE
UCP3	**rs1800849**	GG	

2

Limit Calorie Intake

IMPACT 5 / 5

EVIDENCE 5 / 5

How to implement

Consume fewer calories than your body needs for maintenance. Calculate your daily caloric needs using an online calculator based on your sex, age, weight, height, and activity level, then reduce that number by 500-1000 calories per day to safely lose 1-2 pounds per week. Adjust the caloric intake as needed based on your progress.

Description

People often limit their calorie intake to help them lose weight [R, R].
However, moderate calorie restriction may also help you stay healthier and age better [R, R, R, R, R].

There are different ways to take in fewer calories. You can:

- **Eat low-calorie foods**, such as those rich in proteins, fiber, and water. Avoid fatty and sugary foods, which tend to be high in calories [R].
- **Try intermittent fasting**, which involves changing how often you eat [R].

If you are restricting your calories, make sure your diet remains healthy and balanced. Experts also recommend being physically active, to prevent the loss of muscle and bone mass.

How it helps

In a small trial on 14 people, eating a very low-calorie diet for 5 days caused a ~2-fold increased expression of *UCP3* [R].

To promote weight loss, experts recommend lowering your calorie intake by 30% of your daily requirement [R, R].

Eating fewer calories and intermittent fasting may support short-term weight loss equally. On the other hand, people who eat fewer calories may maintain their weight loss better in the long run [R, R, R, R, R, R].

Types of intermittent fasting that may be especially helpful for weight loss include:

- **Alternate-day fasting**: fasting every other day [R]
- **Time-restricted eating**: eating within a certain time frame each day [R, R, R, R, R]

A good way to limit calorie intake is to eat more low-calorie foods. These include soups and foods rich in protein and fiber. You can also try eating a low-calorie snack before a meal [R, R, R].

These methods can help make you feel more full and thus eat less [R, R, R].

Please note: *Limiting calorie intake too much or fasting for too long can cause malnutrition, anemia, eating disorders, and other health problems. Children, pregnant women, and people with certain chronic conditions or substance abuse disorders shouldn't do intermittent fasting. Talk to your doctor before implementing any drastic calorie restriction* [R].

PERSONALIZED TO YOUR GENES

People with your *UCP3* gene variant may lose more weight on a low-calorie diet [R].

YOUR GENETIC VARIANTS

GENE	SNP	GENOTYPE	EVIDENCE
UCP3	**rs1800849**	GG	●●●○○

3

Eat More Protein and Less Carbs

IMPACT 5 / 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].

This is because protein [R, R]:

- Boosts your metabolism
- Makes you feel more full
- Helps control your appetite

In contrast, carbs and fats make you crave junk food by activating the reward areas of your brain [R, R].

Simple carbs can also spike your insulin, which is linked to a higher risk of obesity [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]

Sticking to a low-fat diet for 2-12 months may also support weight loss [R, R, R, R, R]. However, a **low-carb diet may be more effective** [R, R, R, R, 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].

PERSONALIZED TO YOUR GENES

People with your *UCP3* gene variant may lose more weight and improve their blood sugar and lipids more on a low-carb, high-protein diet [R].

YOUR GENETIC VARIANTS

GENE	SNP	GENOTYPE	EVIDENCE
UCP3	**rs1800849**	GG	●●●○○

4

Intermittent Fasting

IMPACT ●●●●○ 4 / 5

EVIDENCE ●●●●○ 4 / 5

How to implement

Limit your daily eating to a specific window of time, typically within an 8-hour period such as from 12 pm to 8 pm, and fast for the remaining 16 hours of the day. Repeat this daily or for at least 3-4 days per week.

Description

Intermittent fasting is an eating pattern that involves cycling between periods of fasting and eating. It may help with weight management, improve metabolic health, and offer potential benefits for certain health conditions when done under proper guidance.

Intermittent fasting (IF) is a pattern of eating that alternates between periods of eating and fasting. The most popular IF method is called the 16/8 method, where you fast for 16 hours and eat during an 8-hour window.

People mainly practice IF to lose weight. Besides benefits related to weight reduction, IF may help lower the risk of [R]:

- Alzheimer's disease
- Joint pain
- Asthma
- Multiple sclerosis
- Stroke

Some types of intermittent fasting, such as Ramadan fasting, are also practiced for religious reasons.

How it helps

In a small trial on 14 people, eating a very low-calorie diet for 5 days caused a ~2-fold increased expression of *UCP3* [R].

In mice and rats, repeated cycles of fasting and refeeding increased *UCP3* expression in the muscles and prevented high-fat-induced obesity [R, R].

Intermittent fasting may reduce weight, but not BMI, better than continuous calorie restriction. Short-term intermittent fasting may also reduce weight. Intermittent fasting may also improve fasting blood glucose and HOMA-IR. In four studies with 355 participants, intermittent fasting led to better weight loss (1.70 kg). In six studies, significant reductions in BMI (1.56 kg/m2), fat mass (1.35%), fat-free mass (0.63%), body weight (2.49 kg), and waist circumference (-3.06 cm) were observed. In seven studies, IF decreased body weight by -1.89 kg, with greater effects in heavier populations and shorter studies (≤ 4 months). However, intermittent fasting didn't significantly outperform other diets in a meta-analysis of 9 studies [R, R, R, R, R, R, R, R, R, R].

Eighty-five studies from 25 countries conducted between 1982 and 2019 found that Ramadan intermittent fasting led to a small but significant weight reduction (approximately 1.022 kg). Time-restricted feeding showed greater weight loss than control regimens, particularly in observational studies [R, R].

Intermittent fasting may help by reducing the amount of calories you consume and enhancing your body's fat-burning processes.

5

Extra Virgin Olive Oil (EVOO) With Thyme

IMPACT 3 / 5

EVIDENCE 3 / 5

How to implement

Incorporate 1-2 tablespoons of extra virgin olive oil (EVOO) mixed with 1 teaspoon of dried thyme into your daily diet. You can use this mixture as a salad dressing or drizzle it over cooked vegetables. It is recommended to consume this blend daily for ongoing health benefits.

Description

Olive oil infused with thyme is a flavorful and aromatic culinary ingredient. It can add both taste and potential health benefits, including antioxidant and anti-inflammatory properties, to dishes.

How it helps

A meta-analysis of 11 studies concluded that diets rich in olive oil, but not olive oil capsules, reduce weight (by 0.92 kg), waist circumference (by 0.6 cm), and BMI (by 0.90 kg/m2) [R].

In a non-placebo-controlled trial of 62 patients with depression, consuming EVOO (25 mL/day) for 52 days decreased waist circumference (by 2.15 cm) [R].

The same dose of EVOO consumed for 9 weeks reduced body fat by 80% more than the same amount of soybean oil in a placebo-controlled trial of 41 women with excess weight [R].

Eating a Mediterranean diet enriched in virgin olive oil for 3 years reduced body weight in a non-placebo-controlled trial of 187 participants at high cardiovascular risk [R].

PERSONALIZED TO YOUR GENES

Eating a low-calorie diet rich in MUFAs may lower BMI, weight, waist circumference, waist-to-hip ratio, fat mass, LDL-cholesterol, total cholesterol, and leptin more in people with your *UCP3* gene variant [R].

YOUR GENETIC VARIANTS

GENE	SNP	GENOTYPE	EVIDENCE
UCP3	**rs1800849**	GG	

6

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

Both resveratrol and a compound combining four molecules of this polyphenol (vaticanol C) increased UCP3 expression in the muscles of obese mice and rats [R, R].

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].

7

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

In a small trial on 11 obese women, supplementation with EGCG increased the expression of *UCP3* and other genes involved in energy and fat metabolism. However, it didn't promote weight loss [R].

In mice, EGCG had similar effects on *UCP3* expression and reduced dietary fat uptake, likely helping prevent weight gain [R].

Green tea and its catechins may support weight loss. 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].

8

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

In animal studies, acute cold exposure increased *UCP3* expression in the muscles and brown fat. However, prolonged exposure suppressed this effect [R, R, R, R, R, R, R, R].

In a study of 11 young lean men, researchers employed an individualized cooling protocol in a cold room, gradually decreasing the cooling vest's temperature until participants shivered. This resulted in a notable increase in energy expenditure and a substantial rise in fat oxidation. Another study with 28 participants found that cold exposure led to increased metabolic rate, particularly at room temperature. Additionally, a 10-day cold acclimation protocol increased brown adipose tissue activity and nonshivering thermogenesis. In a separate experiment with 6 men exposed to cold, the brown adipose tissue showed oxidative metabolism activation, leading to elevated energy expenditure [R, R, R, R, R].

Cold exposure may help by forcing the body to burn additional calories to stay warm. Plus, it can stimulate the growth of calorie-burning brown fat.

Please note: *Rapid cold exposure can cause life-threatening changes to your breathing and heart rate. This is called the cold-shock response. Be cautious of any form of sudden temperature change to your environment, especially if you have heart disease or other health conditions* [R].

9

Omega-3 (Fish Oil)

IMPACT 2 / 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

In mice and rats, dietary fish oil increased *UCP3* expression in the muscles and reduced obesity and insulin resistance [R, R, R, R, R].

Fish oil is hypothesized to reduce leptin; higher leptin is associated with obesity. In young, overweight men, the inclusion of either lean or fatty fish or fish oil as part of an energy-restricted diet resulted in approximately 1 kg more weight loss after 4 weeks compared to a similar diet without seafood or a supplement [R, R].

Fish oil's anti-inflammatory effects may indirectly aid in fat metabolism in people with high inflammation or metabolic syndrome. It can increase the secretion of adiponectin, which is responsible for breaking down fats [R, R].

In a large meta-analysis of 21 clinical trials, fish oil in combination with lifestyle changes significantly reduced the waist-to-hip ratio. However, it failed to improve weight loss [R].

10

Dietary Calcium

IMPACT 1 / 5

EVIDENCE 2 / 5

How to implement

Consume 1,000-1,200 mg of calcium daily through dietary sources such as dairy products (milk, yogurt, cheese), green leafy vegetables (kale, broccoli), and fortified foods (orange juice, plant-based milks). Adults under 50 need 1,000 mg per day, while those over 50 should aim for 1,200 mg per day.

Description

Dietary calcium is a mineral found in dairy products, leafy greens, and fortified foods. It is essential for bone health, muscle function, and nerve transmission.

Calcium is the most abundant mineral in the human body. It is vital for the bones, heart, muscles, and nervous system [R].

Your body gets calcium from food and needs vitamin D to help absorb it. Calcium can be found in a variety of foods, including [R]:

- Dairy products
- Green, leafy vegetables
- Fish with edible soft bones (e.g., sardines)
- Calcium-fortified foods and beverages

How it helps

In mice fed high-fat diets, calcium supplementation increased UCP3 levels and prevented weight gain [R, R, R].

A clinical trial of 53 people found that calcium (600 mg/day) and vitamin D (125 IU/day) enhanced weight loss when combined with a restricted diet [R].

In another study of 32 obese adults, increased dietary calcium promoted weight loss and fat loss, primarily in the abdomen. Participants who ate a low-calcium diet experienced about 19% of their fat loss from the abdominal region, while those who ate a high-calcium diet experienced about 50% [R].

However, a recent review of 41 studies concluded that calcium supplements don't increase total weight loss [R].

11

CLA (Conjugated Linoleic Acid)

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

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

TYPICAL STARTING DOSE

3 g

Description

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

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

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

How it helps

In mice and hamsters, dietary CLA increased UCP3 levels in the muscles [R, R, R].

CLA (at least 3.4 g/day for 3 months or more) may 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].

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

Glucose, Fasting	**97 mg/dL**	55 65 80 95 100 126	9 Nov 2025
Insulin, Fasting	**9.08 uU/mL**	1 6 19.6 25	9 Nov 2025