SelfDecode™

IGF1R (Longevity)

Gene Report

REPORT CATEGORY

LONGEVITY

Sample Client

Report date: 15 January 2026

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Personal information

NAME

Sample Client

SEX AT BIRTH

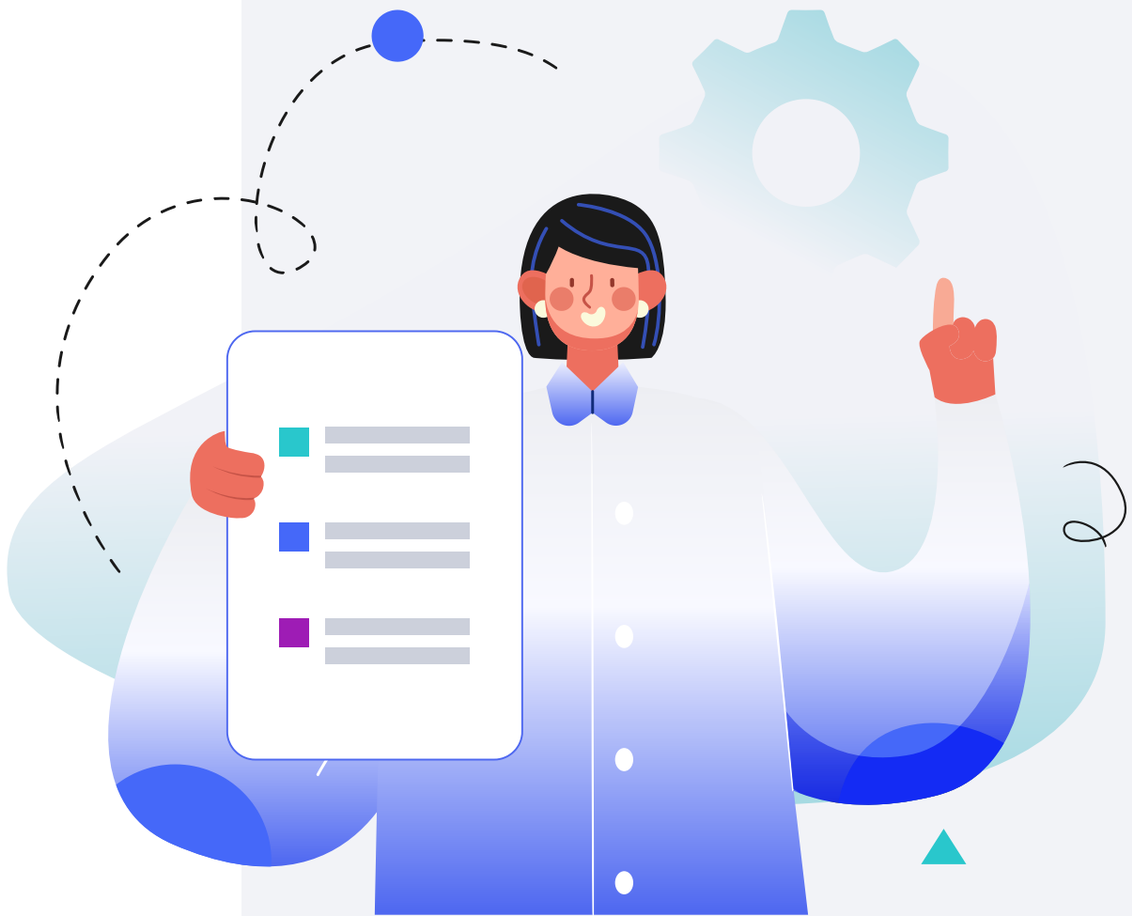
Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg

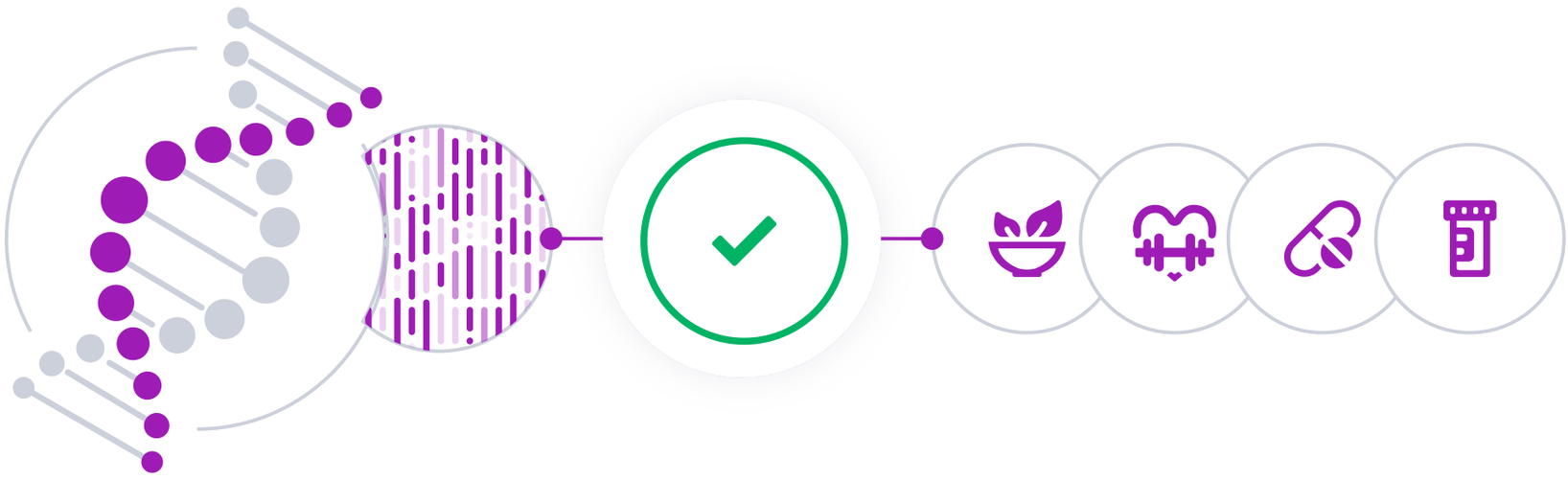


DISCLAIMER

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

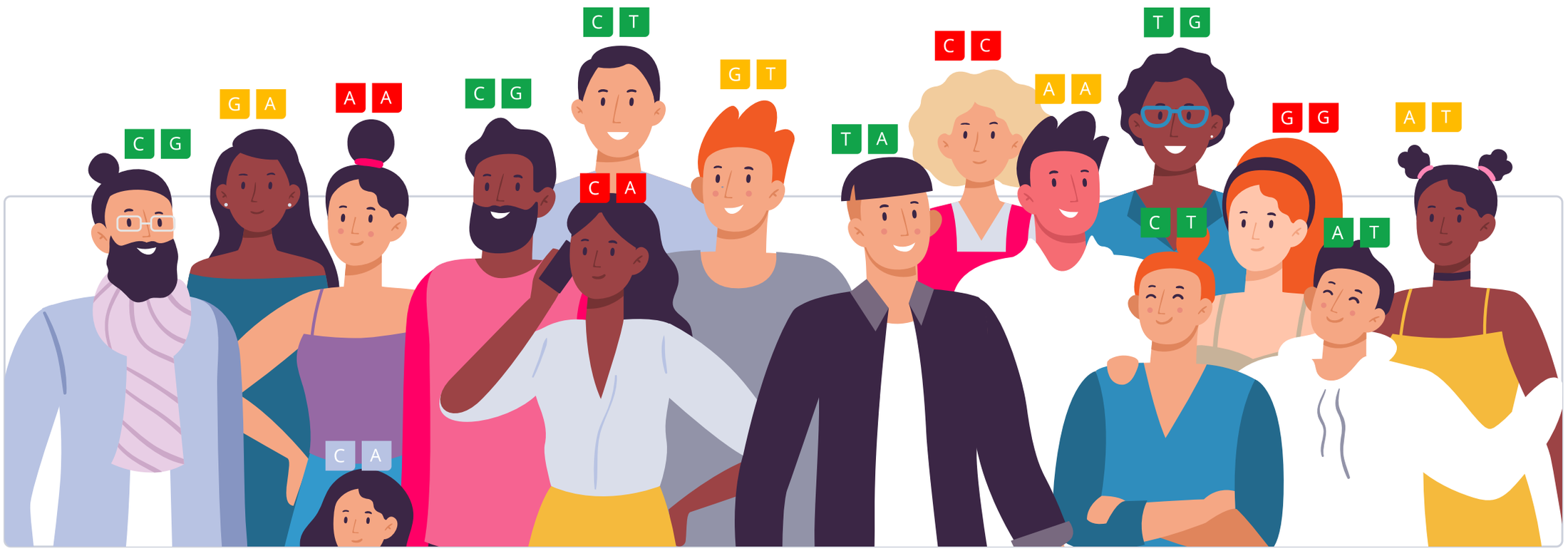
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



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

The *IGF-R* gene codes for a protein called the IGF1 receptor, which plays an important role in the body's growth and development. IGF1R acts as a receptor for a hormone called **IGF1** (insulin growth factor 1), which plays an important role in childhood development and muscle growth in adults [R].

There is some evidence that specific genetic variations in *IGF1R* are associated with longevity. Based on several studies, these gene variations are much more common in those who live exceptionally long lives, which may be due to lower activity of the IGF1 receptor [R].

IGF1 receptors are found on many of the cells that make up the body's various tissues. When the IGF1 hormone binds to the IGF1 receptor, it triggers the AKT signaling pathway, which stimulates cell growth. This interaction is crucial for growth, especially in childhood development. Conditions that lower IGF1 levels or impair the IGF1 receptor can lead to growth defects, such as dwarfism. However, research also suggests that reduced IGF1 levels may have anti-cancer effects [R, R].

On the other hand, elevated activity of IGF1 hormones or receptors is associated with conditions of excess growth, such as acromegaly or cancer [R, R].

There is some evidence that certain genetic variations in the *IGF1R* gene are associated with longer lifespans.

For example, one study examined the **rs2229765** SNP of 668 elderly people from Northeastern Italy. Researchers found that the 'A' allele in this SNP is much more common in those who live past 85 years of age. The 'A' allele in **rs2229765** was also associated with *lower* blood levels of IGF1 [R].

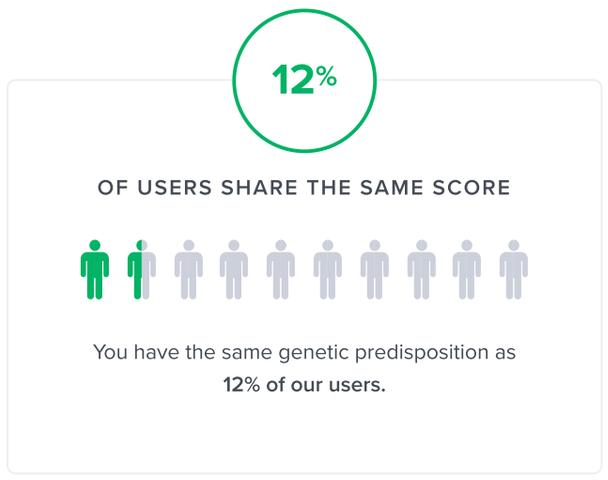
However, these associations were only found in males. The SNP **rs2229765** had no association with longevity or IGF1 levels in women [R].

Another study looked at the **rs34516635** SNP in 384 Ashkenazi Jews. According to this study, the rare 'A' allele in this SNP was more common in those who were 100 years or older [R].

However, this second study only found an association with longevity in females. Researchers also found that women with the 'A' allele had *higher* blood levels of IGF1. These results contradict what was found in the first study and it's not exactly clear why [R].

BETTER

Likely better IGF1R genetics based on the genetic variants we looked at



Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
IGF1R	rs34516635	GG
IGF1R	rs2229765	AA

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	Strength Training	1 hour	2	Sleep for 7+ Hours	
3	Soy		4	Dietary Calcium	
5	Dietary Omega-3 Fatty Acids		6	Dietary Zinc	
7	Mindfulness-Based Stress Reduction (MBSR)	2 hours	8	Maintain Optimal Vitamin D Levels	1000 iu
9	Dietary Lycopene		10	Yoga	30 minutes
11	Dietary Selenium		12	Dietary Beta-Carotene	
13	Meditation	30 minutes	14	Dietary Vitamin C	

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

Resistance training significantly increased IGF-1 levels in several meta-analyses. The effects are more pronounced in people **older than 60 years and in women** [R, R, R, R].

Interestingly, some studies observed the opposite effect in people under 60 years of age [R, R].

Exercise may also **reduce** IGF-1 in women with breast cancer [R].

Regular exercise is associated with a lower risk of heart attacks, strokes, heart failure, and death from any cause [R, R, R].

Many organizations, including the U.S. Department of Health, recommend getting at least 150 minutes of moderate aerobic activity each week. Don't be afraid to exercise even more than this — there is strong evidence that the more exercise you get, the more health benefits there are [R, R].

Any amount of physical activity can also help. Even if you cannot reach 150 minutes of exercise in a week, some amount of physical activity can still have health benefits. A sedentary lifestyle is strongly linked to a significantly increased risk of death [R, R].

2

Sleep for 7+ Hours

IMPACT 3 / 5

EVIDENCE 3 / 5

How to implement

Ensure you allocate enough time in your schedule to achieve a minimum of 7 hours of sleep each night. This might involve going to bed earlier or adjusting your evening routine to promote relaxation and make it easier to fall asleep.

Description

Optimizing sleep involves adopting healthy sleep habits and creating a sleep-conducive environment to ensure restorative and sufficient sleep duration. It supports cognitive function, mood stability, and overall physical health. Most experts recommend getting **at least 7 hours of good-quality sleep each night**.

Sleep supports your body and mind [R, R]. More precisely, sleep helps:

- Support brain health [R, R]
- Maintain a healthy weight and appetite [R, R, R]
- Regulate blood pressure [R, R]
- Balance blood sugar [R, R]

Ways to sleep better include [R]:

- Reducing your bright light exposure (screen time) in the evenings
- Sticking to a regular sleep schedule
- Avoiding hunger or large meals before bed
- Avoiding nicotine, caffeine, and alcohol before bed
- Maintaining a sleep area that's cool, dark, and quiet

How it helps

Higher IGF-1 levels are associated with increased delta sleep (deep sleep) in healthy older men, indicating that better sleep quality correlates with higher IGF-1 levels [R].

Sleep deprivation leads to a decrease in IGF-1 levels, which is linked to cognitive deficits and increased neuroinflammation. Sleep extension (longer sleep duration) increases IGF-1 concentrations before or after sleep deprivation in healthy young men [R, R, R].

Poor sleep is linked to a reduced lifespan. The following may affect longevity:

- **Short sleep duration** (less than 7 hours) [R, R, R, R, R]
- **Night shift work** [R]
- **Long sleep duration** (9 or more hours), including long daytime napping (more than 30-60 minutes a day) [R, R, R, R, R, R, R, R, R]

Having trouble falling or staying asleep (***insomnia***) is also associated with a higher risk. However, one review didn't find a link between insomnia and a reduced lifespan [R, R].

Short sleep duration may reduce lifespan by [R]:

- Increasing appetite and the risk of obesity
- Increasing inflammation
- Impairing blood sugar control

When it comes to long sleep duration, there are no clear mechanisms. Scientists are unsure if long sleep reduces lifespan directly, or if it's just a result of underlying health issues [R, R].

3

Soy

IMPACT 2 / 5

EVIDENCE 3 / 5

How to implement

Incorporate soy-based products such as tofu, soy milk, and edamame into your daily diet. Aim for at least one serving per day, equivalent to about a cup of soy milk, a half-cup of cooked soybeans, or a 3-ounce piece of tofu.

Description

Soy is a legume native to East Asia, and its health benefits include being a source of plant-based protein, fiber, and various vitamins and minerals. It is known for its potential to support heart health, reduce cholesterol levels, and provide essential nutrients in vegetarian and vegan diets.

Soy is a common food in many cuisines around the world, especially Asian cuisines [R].

It's a great source of [R, R]:

- Plant-based protein
- Fiber
- Omega-3 fats
- Antioxidants (isoflavones)

Soy-based foods include [R]:

- Soy beverages
- Tofu
- Tempeh
- Edamame
- Miso
- Natto

Soy protein and soy isoflavones are also available as supplements.

How it helps

Soy is a source of high-quality protein, which helps increase IGF-1 levels.

In two meta-analyses, soy intake significantly increased plasma IGF-1 levels [R, R].

Interestingly, combining it with seaweed may reduce this effect of soy by up to 40% [R].

Soy protein (40 g/day for 12 weeks) may help increase IGF-1 better than casein, according to one study [R].

However, some studies didn't find this effect of soy or its protein [R, R].

A comprehensive analysis of 23 studies involving over 330,000 people revealed that soy consumption is linked to a lower risk of death from cancers and heart disease. Specifically, diets high in soy isoflavones were associated with a 10% reduction in all-cause mortality risk. Moreover, each 10-mg/day increase in soy isoflavones intake correlated with a reduced risk of cancer mortality Soy protein intake lowered the risk of dying from breast cancer [R].

4

Dietary Calcium

IMPACT 2 / 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

Increases in dietary calcium and protein intake, especially from dairy, could increase IGF-1 levels [R, R].

Several studies have found a positive link between calcium levels and IGF-1 levels [R, R].

High blood calcium levels may be linked to an increased risk of death and conditions like [R]:

- Heart disease
- Stroke
- Artery hardening

Both too little and too much dietary calcium may increase the risk of dying from heart disease. An intake of around 600-1,250 mg/day, especially around 800 mg/day, may be linked to the lowest risk of death from heart disease. Around 900 mg/day may be linked to the lowest death risk from any cause [R, R, R, R].

5

Dietary Omega-3 Fatty Acids

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Incorporate foods high in omega-3 fatty acids into your diet daily. This includes eating fish such as salmon, mackerel, and sardines at least twice a week. Alternatively, include a tablespoon of flaxseed oil or chia seeds in your daily diet.

Description

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

There are three major types of omega-3s: ALA, EPA, and DHA. **EPA and DHA are vital for mental and heart health** [R, R, R].

Fatty fish are rich in EPA and DHA. They include [R]:

- Salmon
- Tuna
- Herring
- Sardines

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

How it helps

Omega-3 supplementation increased serum IGF-1 levels in men with cardiovascular disease [R].

A low-fat diet with high omega-3 fatty acids may increase IGF-1 concentrations without adversely affecting insulin sensitivity in healthy postmenopausal women. However, one study didn't find the same effect in men [R, R].

An analysis of 17 studies and over 40,000 people found a 15-18% lower risk of death from all causes in those with the highest blood levels of omega-3 fatty acids (EPA, DHA, and DPA). Other health conditions, such as cancer and heart disease, had similar associations [R].

In line with this, supplementation with omega-3 fatty acids (850 - 4,000 g/day for 1-3.5 years) may reduce the risk of death from all-cause death, heart disease, and sudden cardiac death [R, R].

Please note: *Omega-3s can interact with blood thinners (like aspirin, Plavix, Coumadin). Consult your doctor before taking omega-3s* [R].

6

Dietary Zinc

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Incorporate foods high in zinc, such as beef, poultry, seafood (especially oysters), beans, nuts, and whole grains, into your daily diet. Aim for the recommended dietary allowance of zinc, which is 11 mg per day for adult men and 8 mg per day for adult women.

Description

Dietary zinc is essential for the body. It helps our immune system fight off bacteria and viruses, plays a role in healing wounds, and is essential for our sense of taste and smell. Without enough zinc, these systems may not work as effectively as they should.

How it helps

In a meta-analysis, zinc supplementation significantly increased IGF-1 levels, especially at doses of ≤10 mg/day and durations of ≥8 weeks. However, most included studies involved children [R].

A study following over 143,000 adults aged 40 and older showed that lower dietary zinc intake was linked to a 13% higher risk of dying from any cause and a 42% higher risk of heart disease-related death (for those consuming ≤5.12 mg/day compared to >7.28 mg/day) [R].

7

Mindfulness-Based Stress Reduction (MBSR)

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Enroll in an 8-week MBSR course, which includes a weekly 2.5-hour class, one all-day class after the sixth week, and 45 minutes of daily home practice guided by assignments and instructional recordings.

TYPICAL STARTING DOSE

2 hours

Description

Mindfulness-Based Stress Reduction (MBSR) is a structured program that teaches mindfulness techniques to reduce stress and improve overall mental and emotional health. MBSR has been shown to help individuals cope with chronic pain, anxiety, and other stress-related conditions.

How it helps

Acute stress may reduce IGF-1 levels [R, R].

Sitting meditation and yoga, as part of mindfulness-based stress reduction, were positively associated with IGF-1 levels in older adults [R].

Having a mindful disposition has been linked to [R]:

- Lower mortality, disability
- Less negative feelings
- Better quality of life

A positive attitude towards one's own aging may offer similar benefits among those aged 80 and older [R].

Mindfulness-based interventions, both in-person and online, may also help cancer patients and survivors by reducing symptoms like [R, R]:

- Anxiety
- Depression
- Fatigue
- Stress

Studied mindfulness-based therapies included [R, R]:

- Mindfulness-based art therapy
- Mindfulness-based stress reduction

8

Maintain Optimal Vitamin D Levels

IMPACT 2 / 5

EVIDENCE 2 / 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

Vitamin D supplementation didn't significantly increase IGF-1 levels in two meta-analyses. However, it was effective at doses of ≥1000 IU/day and durations of ≥12 weeks in one of them [R, R].

In adults with growth hormone deficiency (GHD), vitamin D supplementation significantly increased IGF-1 levels, suggesting a potential benefit in this specific group [R].

On the other hand, it didn't show significant effects in women with PCOS and vitamin D deficiency [R].

Mendelian randomization studies suggest a bidirectional causal relationship between vitamin D and IGF-1 levels, indicating that each can influence the other [R].

Genetically predicted higher and lower vitamin D levels may be associated with reduced and increased mortality risk, respectively. Numerous studies have concluded that low vitamin D levels are associated with an increased mortality risk, while higher levels may reduce that risk [R, R, R, R, R, R, R].

Low blood levels of vitamin D are linked to a reduced lifespan. However, scientists are unsure of the strength of this connection. It may be that vitamin D plays a direct role in lifespan. However, it is also likely that those with shorter lifespans have an underlying health condition that also lowers vitamin D levels [R, R, R, R, R, R, R].

Some studies suggest **supplementing with vitamin D (200-800 IU/day)** may help increase lifespan. According to these studies, vitamin D may work best for older people and those who have low vitamin D levels. It may need to be taken for a prolonged period (more than 3 years) to provide benefits [R, R, R].

However, other studies didn't find a link between vitamin D supplementation and a longer life [R, R].

Vitamin D may help by [R, R, R]:

- Supporting immune function
- Reducing inflammation

- Slowing cell aging

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].

9

Dietary Lycopene

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Incorporate foods rich in lycopene into your daily diet. This includes consuming at least one serving per day of tomatoes, watermelon, grapefruit, or papaya. Considering lycopene is better absorbed when cooked and with a small amount of healthy fats, include dishes like cooked tomato sauce with olive oil in your meals several times a week.

Description

Lycopene is a powerful antioxidant found in tomatoes and other red or pink fruits and vegetables. Consuming lycopene-rich foods may help reduce the risk of chronic diseases and support heart and prostate health.

Lycopene is a bright red substance that gives color to a number of fruits such as [R, R]:

- Tomato
- Watermelon
- Papaya
- Apricot

Lycopene has antioxidant properties. It may help support [R, R, R]:

- Heart health
- Prostate health
- Cognition

How it helps

In a review of 17 articles, dietary lycopene intake or serum lycopene was inversely associated with all-cause mortality, prostate cancer, stroke, cardiovascular disease, metabolic syndrome, and male infertility [R].

Another meta-analysis of 5 studies found that high lycopene intake or serum levels were associated with reduced stroke, cardiovascular disease, and mortality risk, but not with myocardial infarction [R].

Circulating lycopene, but not dietary lycopene, was associated with a statistically significant decrease in stroke risk in another study [R].

Lycopene is a potent antioxidant that can help reduce cellular damage associated with aging. That translates to potential improvements in health and lifespan, contributing to better longevity.

10

Yoga

IMPACT 1 / 5

EVIDENCE 2 / 5

How to implement

Practice yoga for at least 20 to 30 minutes a day, most days of the week. Choose a style that matches your fitness level and goals, and consider attending a class or using online resources to guide your practice.

TYPICAL STARTING DOSE

30 minutes

Description

Yoga is a mind-body practice that combines physical postures, breathing exercises, and meditation. It enhances flexibility, strength, and mental well-being and is used for stress reduction, relaxation, and overall health improvement.

Yoga combines breathing, stretching, and relaxation techniques. Practicing yoga may help [R, R, R]:

- Reduce stress
- Improve fitness
- Lower blood pressure and heart rate
- Manage pain

How it helps

Acute stress may reduce IGF-1 levels [R, R].

Sitting meditation and yoga, as part of mindfulness-based stress reduction, were positively associated with IGF-1 levels in older adults [R].

Yoga's impact on mortality may require additional research. While one large study concluded that yoga does not affect overall mortality rates, another one focused on U.S. adults found that yoga practitioners experienced notably better survival outcomes. Specifically, when practiced for health-related reasons, yoga initially suggested a 43% decrease in death risk [R, R].

11

Dietary Selenium

IMPACT 1 / 5

EVIDENCE 2 / 5

How to implement

Incorporate selenium-rich foods into your daily diet, such as Brazil nuts, seafood, and organ meats. Eating 1-2 Brazil nuts a day can meet the daily selenium requirement for most adults.

Description

Selenium is a trace mineral found in various foods, including nuts, seeds, and seafood. It is an essential nutrient that plays a crucial role in maintaining the body's antioxidant defenses and supporting thyroid function.

Selenium supports [R]:

- Reproduction
- Thyroid function
- DNA production
- Immune response

Adults should be getting **55 micrograms** of selenium per day. Good sources of selenium include [R]:

- Brazil nuts
- Fish
- Meat
- Eggs
- Rice
- Oatmeal

How it helps

Supplementation with selenium and coenzyme Q10 significantly increased IGF-1 levels in elderly individuals over a four-year period [R].

Selenium levels may be positively associated with IGF-1 serum levels in older adults, even after adjusting for various factors. This suggests an independent and significant relationship between selenium and IGF-1, highlighting selenium's potential role in influencing IGF-1 levels in older individuals [R].

However, selenium supplementation did not show a significant reduction in systemic IGF metabolic status in one study [R].

Research of over 25,000 people associated low selenium levels with up to 36% higher risk of death from all-cause and heart disease [R].

In line with this, adding selenium (up to 50 mcg/day) to antioxidant supplements may reduce all-cause mortality by 11% and heart disease-related mortality by 30% [R].

Interestingly, a study of Swedish elderly with low selenium levels found that 42 months of selenium and coenzyme Q10 supplementation prevented telomere shortening [R].

12

Dietary Beta-Carotene

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate foods rich in beta-carotene into your diet daily. These include carrots, sweet potatoes, spinach, kale, and cantaloupe. Aim for at least one serving of these vegetables or fruits at each meal to ensure an adequate intake of beta-carotene.

Description

Beta-carotene is a type of dietary antioxidant and a precursor to vitamin A. It supports healthy vision, skin, and immune function, and may reduce the risk of certain diseases.

Beta-carotene is a plant-derived golden-yellow carotenoid pigment. In addition to its antioxidant activity, **beta-carotene is converted to vitamin A in the body**. Beta-carotene **contributes about 30-35% of the dietary intake of this vitamin** in western countries. In developing countries, it represents the most abundant, and sometimes the sole source of vitamin A [R, R, R]

Good sources of beta-carotene include [R, R, R]:

- Fruits (apricots, peaches, persimmons, melons, citrus, tomatoes, etc.)
- Green vegetables (spinach, broccoli, parsley, collard greens)
- Orange tuber vegetables (carrots, sweet potatoes)

How it helps

Supplementation with doses above 9.6 mg/day of beta-carotene may slightly increase mortality. In contrast, high doses of vitamin A supplements may not have this effect [R].

13

Meditation

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Set aside 10-20 minutes each day in a quiet space without distractions to practice meditation. Focus on your breath or perform guided meditation using an app or audio track.

TYPICAL STARTING DOSE

30 minutes

Description

Meditation is a mindfulness practice that can reduce stress, improve mental clarity, and promote relaxation. Regular meditation is associated with numerous mental and emotional health benefits, including reduced anxiety and enhanced emotional well-being.

Meditation is a relaxation technique that trains your mind to focus and redirect your thoughts. Some of the main types of meditation are [R]:

- Mindfulness
- Focused
- Transcendental
- Mantra
- Moving

People use meditation to improve [R, R]:

- Stress and anxiety
- Mood
- Sleep disturbances
- Pain

How it helps

Acute stress may reduce IGF-1 levels [R, R].

Sitting meditation and yoga, as part of mindfulness-based stress reduction, were positively associated with IGF-1 levels in older adults [R].

In a small study, elderly people practicing transcendental meditation survived over 3 years, compared to 87.5% of non-meditators. Simulations suggest that transcendental meditation may prevent nearly 200,000 stroke cases and 50,000 related deaths in 15 years [R, R].

Limited evidence suggests that meditation practices like loving-kindness are linked to longer telomeres, indicating potential benefits in cellular aging, especially in women [R, R].

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Dietary Vitamin C

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How to implement

Incorporate foods rich in Vitamin C into your daily diet, such as oranges, strawberries, red peppers, kale, and broccoli. Aim to consume 5 servings of fruits and vegetables per day to meet the recommended dietary allowance of Vitamin C, which is 90 mg for adult men and 75 mg for adult women.

Description

Vitamin C is an antioxidant that supports the immune system, collagen production, and wound healing. It also enhances iron absorption from plant-based foods and contributes to overall health.

Vitamin C is an essential nutrient. This means that our bodies can't produce it on their own, so we have to get it from food or supplements [R].

Vitamin C has antioxidant properties. It supports immunity, heart health, and wound healing [R, R].

Vitamin C deficiency is called *scurvy.* In the past, many sailors suffered from it [R].

How it helps

Higher intake of citrus fruit and dietary vitamin C was associated with higher plasma concentrations of IGF-1 [R].

An analysis of over 320,000 people revealed that high levels of vitamin C were linked to a 40% lower risk of heart disease-related death compared to low levels. In line with this, those with the highest intake of vitamin C from their diet had a 21% lower risk of heart disease-related death compared to those with the lowest intake [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.

Vitamin D, 25-Hydroxy, Total

58.59 ng/mL

9 Nov 2025