SelfDecode™

Cataracts

Disease Report

REPORT CATEGORY

EYE HEALTH

Sample Client

Report date: 15 January 2026

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Table of Contents

Personal information

NAME

Sample Client

SEX AT BIRTH

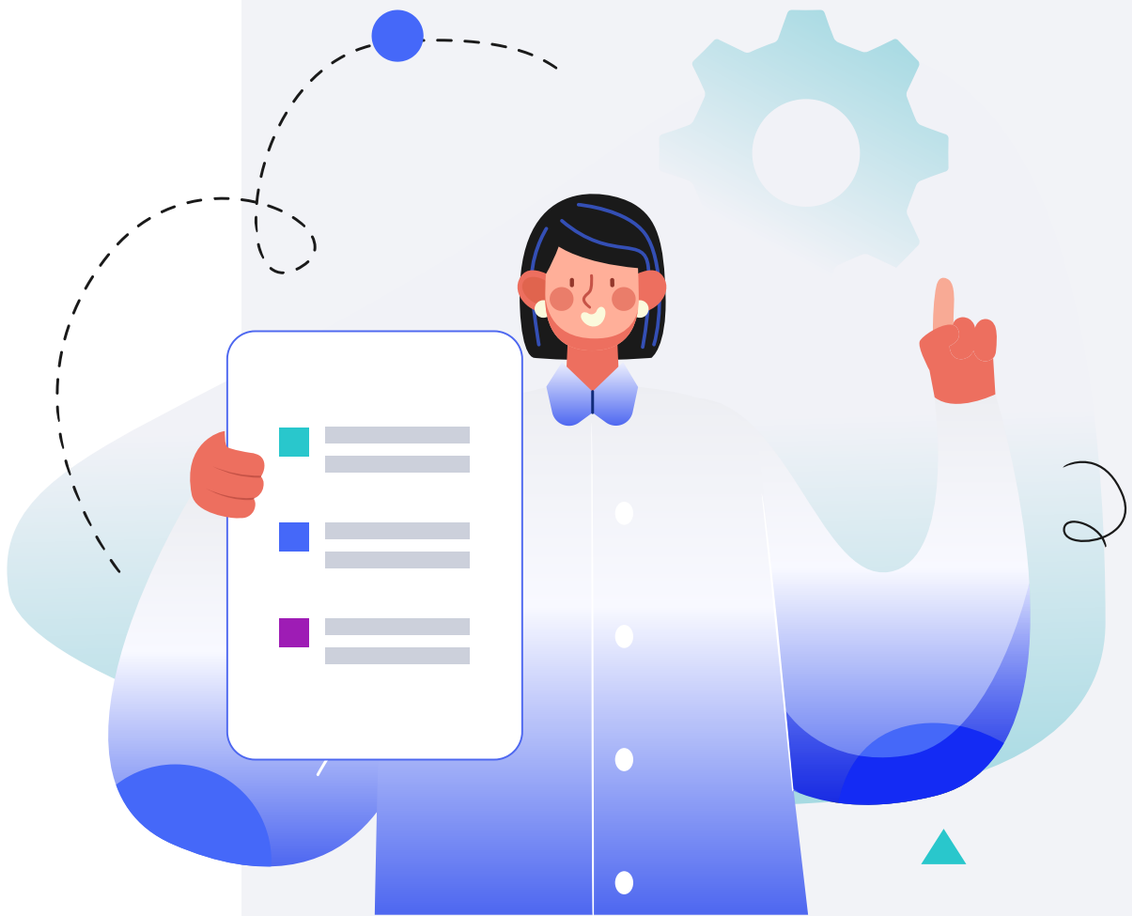
Male

HEIGHT

5ft 5" 165cm

WEIGHT

137lb 62kg

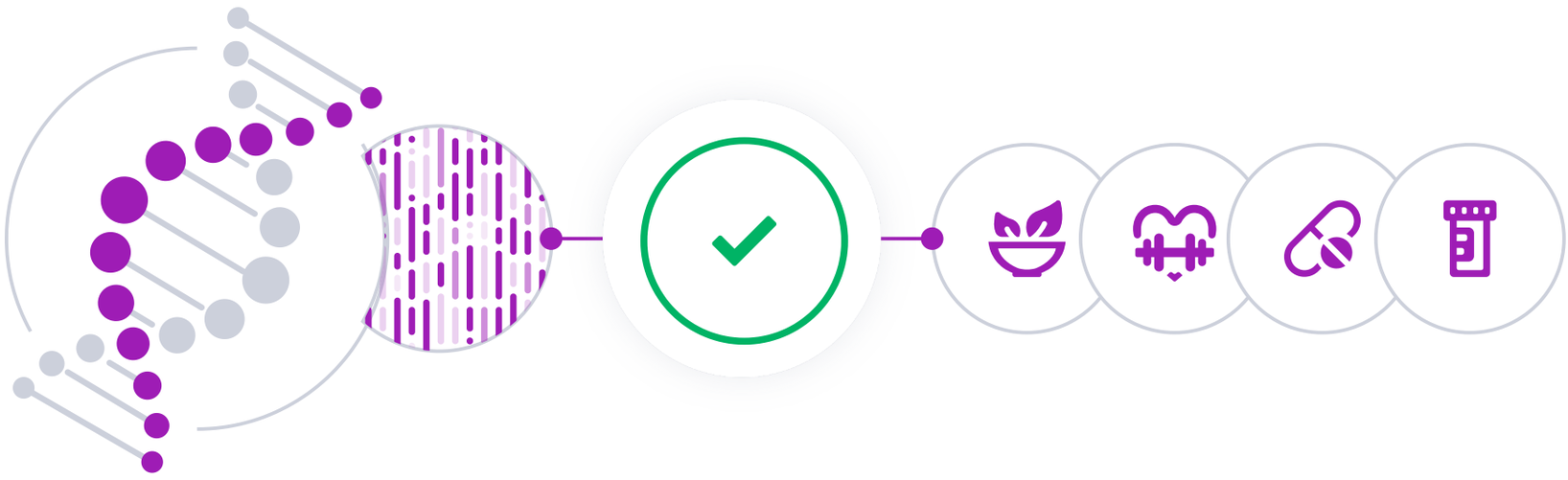


DISCLAIMER

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

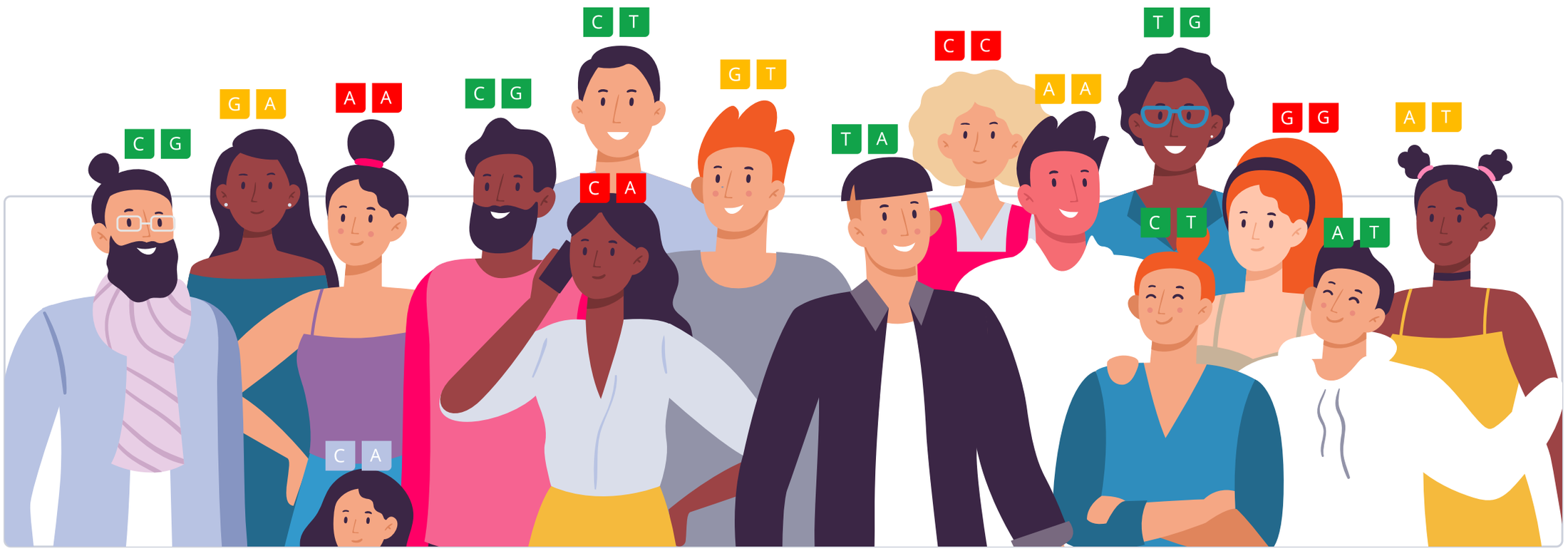
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



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.

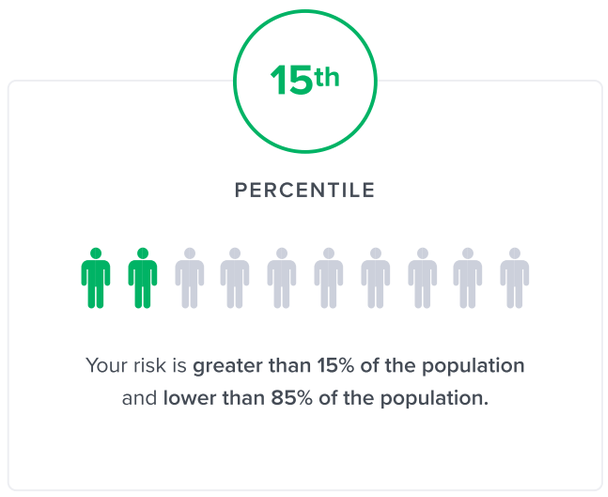
Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



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

A cataract is a clouding of the clear lens in the eye that affects vision. When the lens becomes cloudy, it can cause vision to become blurry, hazy, or less vibrant. Cataracts are a common cause of **vision loss**, especially in older adults, but they can also occur in younger people due to a variety of factors.

Symptoms of a cataract may include [R]:

- Blurry vision
- Double vision in one eye
- Difficulty seeing at night
- Glare or halos around lights
- Fading or yellowing of colors
- Frequent changes in eyeglass or contact lens prescription
- Sensitivity to light and glare
- Need for brighter light for reading and other activities

Cataracts can be treated with surgery. **If you think you may have a cataract or are experiencing any vision changes, it's important to see an eye doctor for an evaluation**.

Risk Factors

Key Takeaways:

- About **25-60%** of differences in people's chances of having cataracts may be due to genetics.
- Risk factors: age, diabetes, smoking, obesity, high blood pressure, excessive sunlight exposure, and eye injury.
- About 96 million people in the world are blind, and just over half of those are due to cataracts. A majority of people over the age of 80 will develop them.
- Symptoms include blurry/double vision, halos, and light sensitivity. See your eye doctor if you experience symptoms.

Risk factors for cataracts include [R]:

- Increasing age
- Excessive exposure to sunlight
- Smoking
- Alcohol abuse
- Prolonged use of corticosteroid medications

Conditions that may contribute to cataracts include [R]:

- Diabetes
- Obesity
- High blood pressure
- Previous eye injury or inflammation
- Previous eye surgery

About **25-60%** of differences in people's chances of having cataracts may be due to genetics [R].

MORE LIKELY

More likely to have a cataract based on 870,950 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
SLC24A3	rs4814857	GG
CAPRIN2	rs17739338	CC
RUFY4	rs140625707	CC
SEPTIN9	rs9038	TT
METRNL	rs75954926	GG
MTMR3	rs35089120	CC
QKI	rs73015318	AC
OCA2	rs72714121	GT
BAMBI	rs1014607	AG
ARL4D	rs7207025	GG
RORA	rs12901945	AA
PPP1CB	rs10210444	AG
BMP4	rs2855530	CG
CREB5	rs10258092	CT
RHOT1	rs8074331	AT
FAF1	rs3176459	GA
KCNQ5	rs7744813	CA
BIN3	rs12114462	CT
ZNF800	rs62621812	GG
CPAMD8	rs61744414	AA
BMP3	rs72868578	CC
IGFBP3	rs17172647	AA
BET1L	rs73386631	CC
KCTD10	rs17608087	AA
TBX6	rs73530148	CC
ADGRL2	rs71646944	CC
COQ8A	rs12593	CC
RBFOX1	rs10500355	TT
KYNU	rs7604689	CC
STXBP6	rs7154613	CC
NOC3L	rs2274224	GG
DMRTA1	rs1679013	CC

GENE	SNP	GENOTYPE
NQO1	rs73568154	TT
RARB	rs62237590	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
1	Vitamin C	500 mg
2	Dietary Vitamin E	
3	Dietary Vitamin K1	
4	Dietary Vitamin A	
5	Dietary Beta-Carotene	
6	Lutein And Zeaxanthin	
7	Lutein	
8	Magnesium	250 mg

1

Vitamin C

IMPACT 3 / 5

EVIDENCE 3 / 5

How to implement

Take 500-2000 mg of vitamin C supplement daily. It can be taken at any time of the day, with or without food, according to personal preference or tolerance.

TYPICAL STARTING DOSE

500 mg

Description

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].

Foods rich in Vitamin C include: [R]

- Citrus Fruits
- Peppers
- Brussel sprouts
- Kiwi
- Broccoli
- Tomato
- Cantaloupe
- Cauliflower
- Spinach

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

Vitamin C, as an antioxidant, helps to fight off damage caused by harmful molecules called free radicals in the eye. Regular intake can help slow the progression of cataracts by protecting the proteins in the lens of your eyes from this oxidative damage.

Two meta-analyses (the largest one with 30 studies) associated high vitamin C intake with **~25% lower risk of cataracts. For every 500-mg/day increase in vitamin C intake, the risk decreases by 26%** [R, R].

Please note: *Supplementing with vitamin C is linked to a slightly higher risk of kidney stones in men. Talk to your doctor before taking vitamin C* [R, R].

2

Dietary Vitamin E

IMPACT 2 / 5

EVIDENCE 2 / 5

How to implement

Incorporate foods high in Vitamin E into your daily diet. This includes almonds, hazelnuts, sunflower seeds, and green leafy vegetables such as spinach and broccoli. Aim for a daily intake of 15mg of Vitamin E from your diet, which is roughly a handful of almonds (about 23 almonds) or 2 tablespoons of sunflower seeds.

Description

Dietary vitamin E is a fat-soluble antioxidant vitamin found in nuts, seeds, and vegetable oils. It helps protect cells from oxidative damage and supports immune function.

Vitamin E is an antioxidant important for the immune system and for heart health [R].

Plant-based foods have the most vitamin E. These include [R]:

- Wheat germ
- Sunflower seeds
- Almonds
- Plant oils

Adults need about **15 mg** of vitamin E per day [R].

How it helps

Vitamin E, an antioxidant, can help in minimizing the advancement of cataracts by thwarting damaging chemical reactions in your eye lenses. By reducing oxidative stress in the eye, dietary Vitamin E helps maintain lens clarity which slows down the progression of cataracts.

Dietary vitamin E intake, dietary and supplemental vitamin E intake, and high serum tocopherol levels were significantly associated with decreased risk of ARC (age-related cataract). **Supplemental vitamin E intake was non-significantly associated with ARC risk**. The risk of ARC decreased with dietary vitamin E intake from 7 mg/d [R].

3

Dietary Vitamin K1

IMPACT 2 / 5

EVIDENCE 1 / 5

How to implement

Incorporate foods rich in Vitamin K1 into your daily diet. Include green leafy vegetables like kale, spinach, and broccoli, as well as other sources like soybeans and carrots. Aim for at least one serving of these foods per day to meet the recommended dietary allowance for Vitamin K1.

Description

Vitamin K1, primarily found in leafy green vegetables, is essential for blood clotting and supports overall cardiovascular health. It plays a crucial role in maintaining healthy blood vessels.

How it helps

Vitamin K1, also known as phylloquinone, is not directly linked to improving cataracts. Diet rich in antioxidants such as vitamins C and E, and foods like green leafy vegetables, fruits, and fish, are more beneficial for cataracts.

A study of 5860 participants associated high dietary vitamin K1 intake with **~40% lower risk of cataracts** [R].

Please note: *Vitamin K can interact with blood thinners (e.g., Coumadin). Make sure to consult your doctor before supplementing with vitamin K or drastically changing your dietary intake.*

4

Dietary Vitamin A

IMPACT 1 / 5

EVIDENCE 2 / 5

How to implement

Include foods high in vitamin A in your daily diet, such as sweet potatoes, carrots, spinach, and fortified foods like milk. Aim for 700-900 micrograms (mcg) of vitamin A per day for adults, depending on your age and sex, with a slightly higher intake recommended for women who are pregnant or breastfeeding.

Description

Vitamin A is essential for maintaining healthy vision, immune function, and skin integrity. It also plays a role in cell differentiation and growth, supporting various bodily functions.

How it helps

Dietary Vitamin A helps maintain the health of your eyes. Consuming enough Vitamin A could help slow the progression of cataracts, a condition that clouds the lens of the eye and affects vision.

In a meta-analysis of 22 articles, higher serum β-carotene levels were associated with a lower cataract risk (RR 0.827). β-carotene intake also showed a significant association with reduced cataract risk (RR 0.937). Additionally, vitamin A intake was linked to lower cataract risk (RR 0.831) [R].

5

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

In a meta-analysis of 22 articles, higher serum β-carotene levels were associated with a 20% lower cataract risk. β-carotene intake also showed a significant association with reduced cataract risk (by 7%). Additionally, vitamin A intake was linked to lower cataract risk (by 20%) [R].

However, another analysis of 5 trials found there was **no evidence of an effect of beta-carotene supplementation** in reducing the risk of cataracts or in reducing the risk of cataract extraction [R].

Beta-carotene may help by protecting the eye's lens from oxidative damage.

Please note: *While dietary beta-carotene is generally considered safe, beta-carotene supplements have been linked to heart disease and cancer, especially lung cancer. These links may be stronger in smokers. Make sure to consult your doctor before taking beta-carotene supplements* [R, R, R, R, R, R].

6

Lutein And Zeaxanthin

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a supplement containing 10mg of lutein and 2mg of zeaxanthin daily, preferably with a meal that contains fat for better absorption.

Description

Lutein and zeaxanthin are carotenoids found in green leafy vegetables and certain supplements. They are known for their role in promoting eye health and reducing the risk of age-related macular degeneration and cataracts when consumed regularly as part of a balanced diet.

Lutein and zeaxanthin are two antioxidant pigments found in the eye [R, R].

Many plants contain lutein and zeaxanthin, including [R, R]:

- Leafy greens (kale, spinach, leeks, lettuce)
- Cantaloupe
- Corn
- Peas
- Peppers
- Herbs (basil, parsley)

Egg yolks are the main animal source of these carotenoids [R].

Lutein and zeaxanthin may help support eye health [R, R].

How it helps

Lutein and Zeaxanthin are antioxidants that naturally exist in the eyes and help protect them by absorbing damaging light like ultraviolet rays, thereby reducing the risk or slowing the progression of cataracts. Regular supplementation increases the density of these antioxidants in the eye.

Higher dietary intake of lutein and zeaxanthin is linked to a lower risk of nuclear cataracts, with every 300 µg/d increase reducing the risk by 3%. No significant associations were found for cortical and posterior subcapsular cataracts [R].

This meta-analysis explored blood lutein and zeaxanthin levels' link to age-related cataracts. It found that higher levels were associated with reduced risk, especially for nuclear cataracts [R].

7

Lutein

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Increase your intake of lutein by eating more dark, leafy greens such as spinach and kale, as well as other foods like corn, peas, and egg yolks. Aim to include these in your daily diet, consuming at least one serving of lutein-rich foods per meal. It can also be taken as a supplement.

Description

Lutein is an antioxidant pigment found in the eye, and may support eye health. It is commonly found in leafy green vegetables.

Lutein is an antioxidant pigment found in the eye. Many plants contain lutein, including [R, R]:

- Leafy greens (kale, spinach, leeks, lettuce)
- Cantaloupe
- Corn
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Lutein may help support eye health [R, R].

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8

Magnesium

IMPACT 0 / 5

EVIDENCE 0 / 5

How to implement

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

TYPICAL STARTING DOSE

250 mg

Description

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

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

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

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

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

How it helps

Genetically higher magnesium levels may be associated with a reduced risk of cataracts [R].

Magnesium may help by protecting the eye lens from oxidative stress.

Please note: *There is no evidence from controlled clinical trials to support this recommendation. It is included based on uncontrolled clinical trials, animal or cell studies, or non-scientific criteria. Please take this recommendation with a grain of salt until more research is available.*

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.

Magnesium — **2.17 mg/dL** — 9 Nov 2025