SelfDecode™

VEGFA

Biohacker Report

REPORT CATEGORY

HEART & BLOOD VESSELS

Sample Client

Report date: 15 January 2026

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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

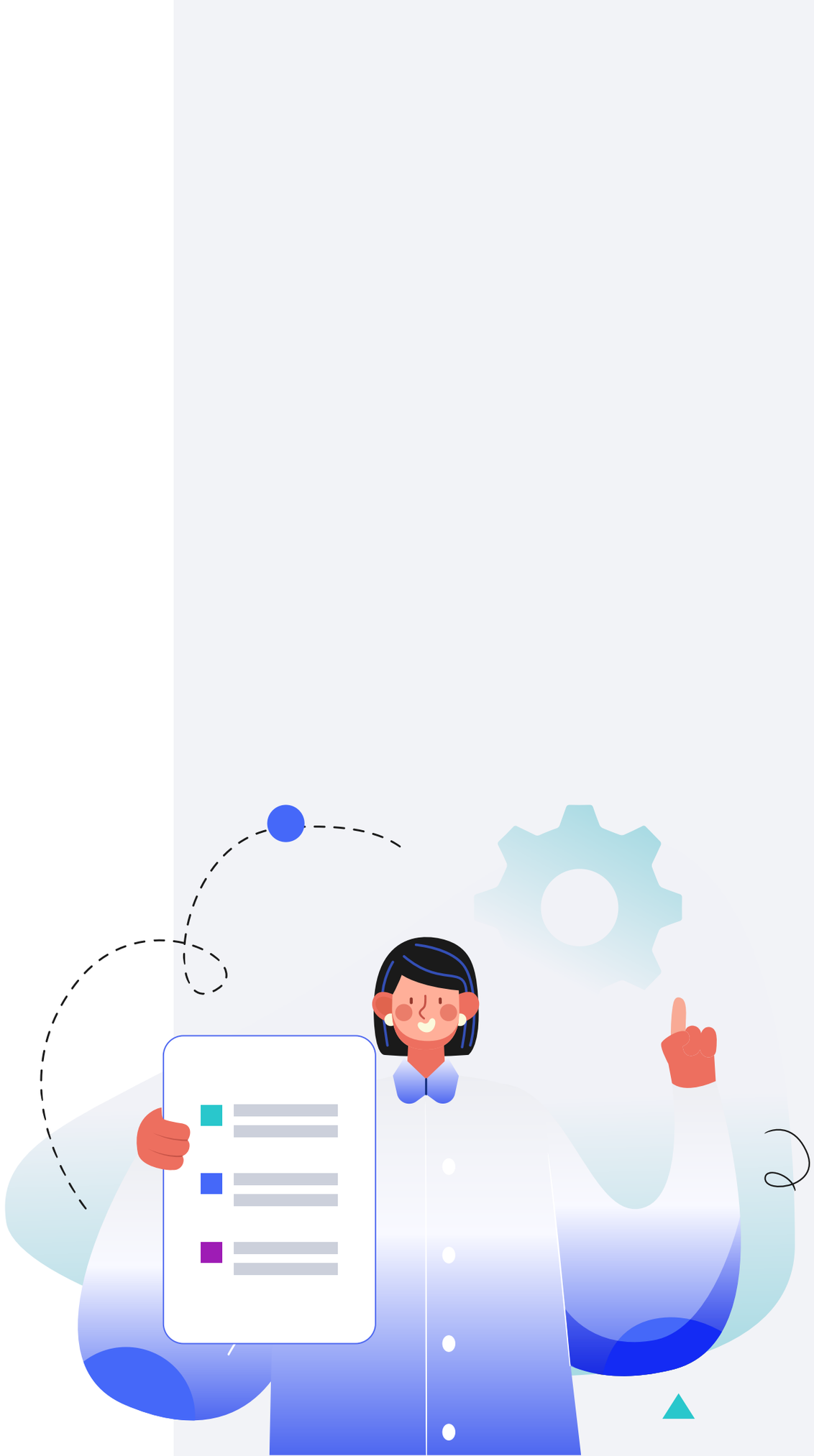
Male

HEIGHT

5ft 5" 165cm

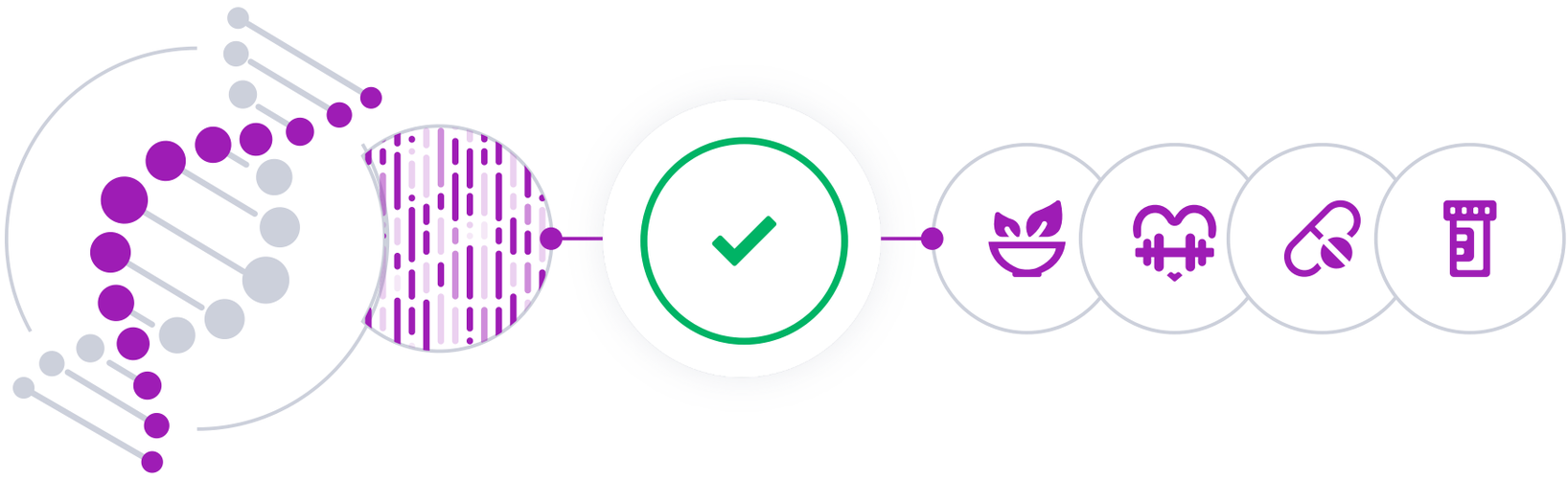
WEIGHT

137lb 62kg



How this works

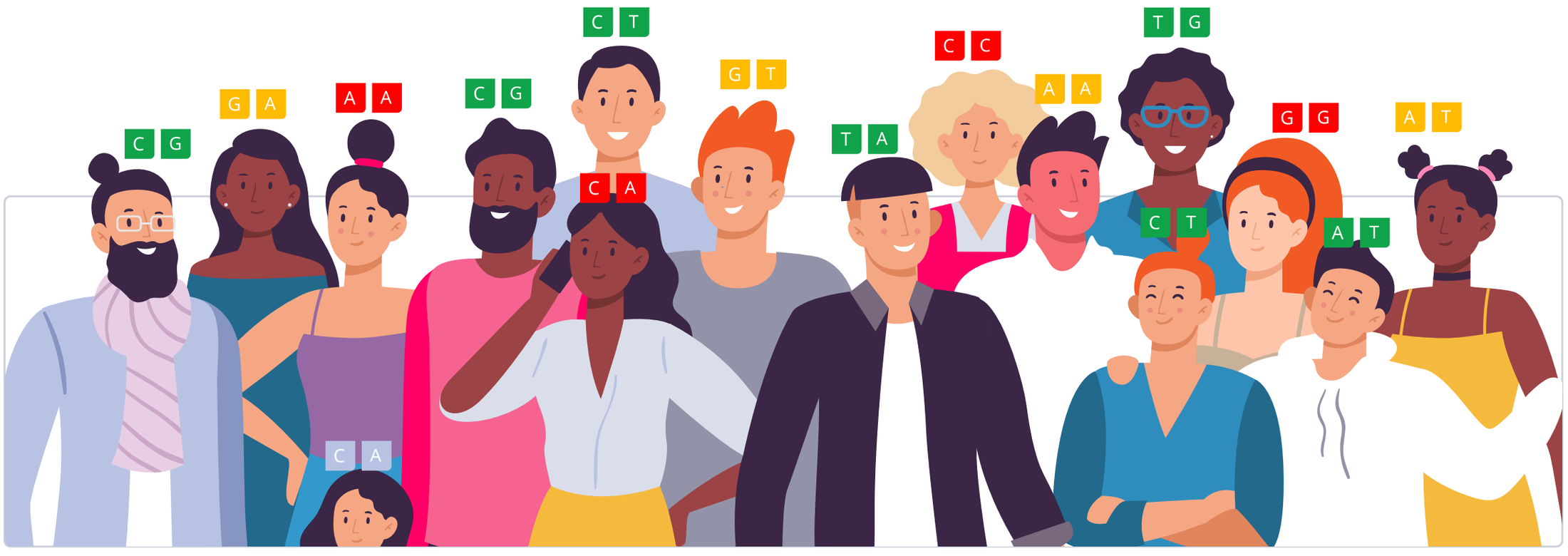
Our Wellness Reports analyze how your DNA influences your health.
We then use this analysis to give you personalized risk estimates and recommendations.



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.

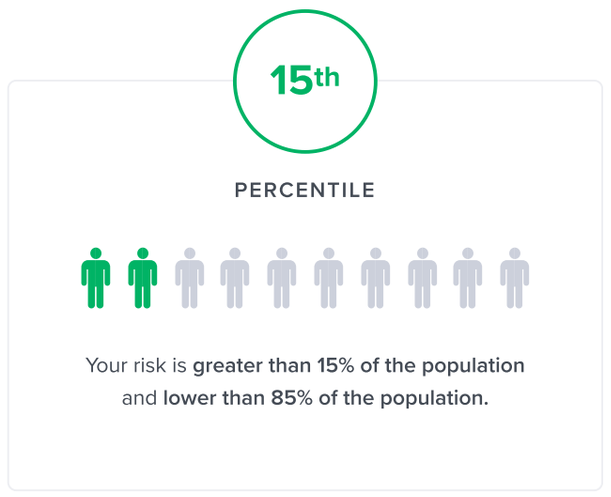
Genetic variants are parts of DNA that differ from person to person. Some can make you more vulnerable to certain health issues, while others may influence traits such as eye color.



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

VEGFA, or Vascular Endothelial Growth Factor A, is a protein that initiates blood vessel formation. It plays a critical role in both normal and abnormal blood vessel growth (*angiogenesis*). VEGFA stimulates the growth of new blood vessels during embryonic development and after injury [R, R].

VEGFA is crucial to physiological processes such as:

- **Wound Healing:** After an injury, VEGFA promotes the growth of new blood vessels, which aids in the healing process [R, R].
- **Embryonic Development:** VEGFA is vital for the formation of the circulatory system in embryos [R].
- **Immune Function:** VEGFA outside the blood vessels attracts immune cells. It also builds lymph vessels, which are required to transport immune cells to their target tissues [R, R].
- **Brain Function:** By increasing blood flow, VEGFA can help improve the function and viability of brain cells [R].

However, VEGFA is not always beneficial. It may also play a role in diseases such as:

- **Cancer:** Many cancers secrete abnormally high levels of VEGFA, which promotes the growth of blood vessels to supply the growing tumor with oxygen and nutrients [R].
- **Eye Diseases:** Overproduction of VEGFA is a primary cause of wet age-related macular degeneration (AMD), diabetic retinopathy, and other eye disorders. VEGFA causes the growth of abnormal blood vessels in the retina, which can burst and leak out blood [R, R].
- **Autoimmune Diseases:** Elevated VEGFA levels can contribute to the development and progression of autoimmune diseases such as rheumatoid arthritis, systemic lupus erythematosus, and multiple sclerosis [R].
- **Kidney Damage:** VEGFA builds blood vessels in the kidneys. The excess fluid from blood progressively damages kidney cells [R].

Given its pivotal role in both health and disease, VEGFA has become a significant target for therapies, especially in oncology and ophthalmology. Anti-VEGF medications such as bevacizumab and ranibizumab can inhibit the action of VEGFA, thus preventing the growth of blood vessels in tumors or in eye conditions like AMD. While inhibiting VEGFA might be therapeutic in certain contexts, it could have unintended consequences in others. **Always consult with a healthcare provider before making decisions regarding treatments.**

Factors Influencing VEGFA Levels

About 60% of the differences in people's VEGFA levels may be due to genetics [R].

Some people might naturally make more VEGFA because of their genes. This means that their family's history might make them more likely to have higher levels of this protein. These genes can also affect how some medicines work, especially those that target VEGFA.

Other factors influencing VEGFA levels include:

- **Low Oxygen Levels**: Hypoxia is one of the primary factors that increase VEGFA levels. When cells experience low oxygen levels, they produce more VEGFA to stimulate blood vessel growth and improve oxygen delivery.
- **Injuries and Inflammation:** Tissues that undergo damage or inflammation often see an increase in VEGFA levels as part of the body's healing response.
- **Exercise**: Physical activity, especially at higher intensities, can temporarily increase VEGFA levels. This promotes capillary growth in muscles and aids in exercise recovery and adaptation.
- **Diet**: Certain antioxidants found in fruits, vegetables, beans, and green tea can inhibit the production of VEGFA, leading to lower levels. In contrast, iron deficiency increases VEGFA production as the body attempts to enhance iron delivery through increased blood supply.
- **Sunlight Exposure:** Exposure to UV from sunlight stimulates the production of vitamin D. This vitamin activates VEGFA production and increases its levels.
- **Medical Conditions**: As previously described conditions such as cancer, age-related macular degeneration, and diabetic retinopathy are associated with increased VEGFA levels.
- **Certain Medications:** Some drugs, especially those used in chemotherapy, can indirectly increase VEGFA levels as a response to their action or as a side effect.

TYPICAL LEVELS

Predisposed to typical VEGFA levels based on 22 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
VEGFA	rs6921438	AG
VLDLR	rs2375981	GC
ZFPM2	rs6993770	AT
VEGFA	rs1740073	TC
VLDLR	rs34881325	CT
NRBF2	rs10822155	AC
TMEM97	rs241771	CC
CFHR3	rs1329421	TT
VEGFA	rs12205248	CT
ZFPM2	rs4734879	AG
ZFPM2	rs2343592	AG
REEP3	rs7896518	GA
TMEM63B	rs79238583	TT
MRPS18A	rs9381249	TT
NFKBIE	rs9462957	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	Dietary Vitamin E		2	Topical L-Arginine	
3	Reduce Arachidonic Acid Intake		4	Carrots	
5	Fenretidine	100 mg	6	Retinyl Palmitate	
7	Beta-Carotene	6 mg	8	Grape Seed Extract	100 mg
9	Vitamin A	700 mcg	10	Horse Chestnut	
11	Dietary Beta-Carotene		12	Red Vine Leaf Extract	360 mg
13	Dietary L-Arginine		14	Vitamin E	200 iu
15	Dietary Vitamin A				

1

Dietary Vitamin E

IMPACT 1 / 5

EVIDENCE 1 / 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

Dietary Vitamin E acts as a potent antioxidant, protecting vascular endothelial cells from oxidative stress, which is crucial for maintaining proper VEGFA levels and supporting overall endothelial function.

2

Topical L-Arginine

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Apply a pea-sized amount of l-arginine cream or gel to the affected area of the skin. Gently massage it in until fully absorbed, twice daily, in the morning and evening. Continue this routine for at least 4 weeks to observe potential benefits.

Description

L-arginine is an amino acid that can be found in topical formulations designed to promote wound healing and improve circulation. It may be used to support skin repair and reduce the appearance of scars.

L-arginine is a building block for the proteins in our bodies. This amino acid supports **healthy blood vessels** [R].

All major protein sources, including meat, fish, dairy, and beans, have L-arginine. People also take it as a supplement to [R, R, R, R, R, R, R]:

- Improve heart health
- Reduce blood sugar
- Support immunity
- Support sexual function

How it helps

Topical L-arginine enhances wound healing by promoting blood flow and nutrient delivery to damaged tissue, which aligns with the protective role of VEGFA in vascular health. This synergistic effect can facilitate skin repair and minimize scarring.

3

Reduce Arachidonic Acid Intake

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Limit consumption of arachidonic acid-rich foods such as egg yolks, red meats, and shellfish. Aim to eat these foods no more than once or twice a week. Preferably, incorporate more lean proteins, fruits, and vegetables into your diet to balance your intake.

Description

Arachidonic acid (AA or ARA), is an omega-6 fatty acid. Arachidonic acid is important for normal human functioning and has both inflammatory and anti-inflammatory effects. [R, R]

Metabolites made from arachidonic acid are important for [R, R]:

- Proper immune system function
- Muscle growth
- Brain function
- Mood
- Appetite

Too much arachidonic acid has been linked to vascular diseases like high blood pressure and heart disease [R, R].

Arachidonic acid is primarily consumed from animal products like poultry, dairy, beef, eggs and sausage [R].

How it helps

Reducing arachidonic acid intake may lower the production of pro-inflammatory eicosanoids, thereby decreasing inflammation and improving vascular function related to VEGFA. This approach can help manage conditions that exacerbate vascular issues.

4

Carrots

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate at least one medium-sized carrot (about 61 grams) into your daily diet by either eating it raw, steamed, or as part of salads, soups, and stews to support eye health and provide essential nutrients.

Description

Carrots are a nutritious vegetable known for their high vitamin A content and numerous health benefits. They support eye health, provide essential nutrients, and contribute to a well-rounded diet.

Carrots are an excellent source of vitamin A, as well as biotin, vitamins K1 and B6, potassium, and antioxidants. A ½ cup serving provides 459 mcg of vitamin A or 51%DV.

How it helps

Carrots, rich in vitamin A, enhance visual acuity and bolster immune function, both of which are vital in modulating VEGFA activities related to angiogenesis and retinal health. This nutritional support can help maintain eye function and overall vascular health.

5

Fenretidine

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Fenretinide should be taken according to the specific guidance of a healthcare provider, often starting at doses ranging from 100 to 200 mg per day, taken orally in capsule form. It's typically prescribed in cycles of treatment, which might last several weeks or months, depending on the medical condition being treated and the individual's response to therapy.

TYPICAL STARTING DOSE

100 mg

Description

Fenretinide is a synthetic retinoid derivative, designed to mimic some of the effects of Vitamin A. It's not typically found in dietary supplements aimed at general health; instead, it's been primarily researched for its potential in medical settings, particularly in cancer therapy. Studies have explored fenretinide's role in inducing apoptosis (programmed cell death) in cancer cells and its effects on various signaling pathways involved in cell proliferation and differentiation.

How it helps

Fenretidine helps by inhibiting Vascular Endothelial Growth Factor A (VEGFA), which plays a critical role in angiogenesis; thereby limiting tumor growth and proliferation in certain cancer therapies.

6

Retinyl Palmitate

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take retinyl palmitate as a dietary supplement, usually found in capsule or liquid form. For general health and to support Vitamin A levels, adults can take 2500 to 5000 IU daily with a meal that contains fat (for better absorption). Do not exceed the recommended dose without medical advice, especially if pregnant or planning to become pregnant.

Description

Retinyl palmitate is a fat-soluble form of vitamin A that is essential for good vision, skin, and immune function. It has also been shown to have some anticancer properties.

How it helps

Retinyl Palmitate, a derivative of vitamin A, supports retinol availability, which is crucial for proper visual function and may enhance the effects of VEGFA in promoting retinal health and regulating immune responses, thereby providing systemic benefits.

7

Beta-Carotene

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a beta-carotene supplement daily, with a dose ranging from 6 to 15 milligrams. It's best taken with a meal that includes fat to improve absorption.

TYPICAL STARTING DOSE

6 mg

Description

Beta-carotene is a pigment found in various fruits and veggies like carrots, which gives them their bright colors. When we eat these foods, our body can convert beta-carotene into vitamin A, which is essential for good vision, a strong immune system, and healthy skin. So eating plenty of beta-carotene-rich foods can help us maintain our overall well-being.

How it helps

Beta-carotene supplementation may enhance VEGFA-related benefits by supporting cellular functions and promoting healthy angiogenesis, essential processes in tissue repair and vascular health. However, it is crucial to maintain a balance to avoid excessive intake, which could pose health risks.

8

Grape Seed Extract

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 100-300 mg of grape seed extract daily, preferably with a meal to enhance absorption. This can be done either through a single dose or split into multiple doses throughout the day. Continue this regimen for at least 3 months to observe potential benefits.

TYPICAL STARTING DOSE

100 mg

Description

Grape seed extract is rich in antioxidants called polyphenols, which may help protect against oxidative stress and support cardiovascular health. It's also believed to have potential benefits for skin health and overall well-being.

Grape seed extract is made from the seeds of wine grapes. It contains antioxidant compounds that may help support [R, R]:

- Blood circulation
- Heart health
- Blood sugar control
- Healthy weight

How it helps

Grape seed extract, rich in polyphenols, aids in reducing oxidative stress and inflammation, positively influencing vascular health related to VEGFA. This may enhance angiogenesis, thereby supporting improved blood flow and nutrient delivery in tissues.

9

Vitamin A

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a vitamin A supplement daily with a fat-containing meal to enhance absorption. The recommended daily allowance (RDA) for most adults is 700-900 micrograms (mcg) for men and women, respectively. Ensure not to exceed the upper intake level (UL) of 3000 mcg per day to avoid toxicity.

TYPICAL STARTING DOSE

700 mcg

Description

Vitamin A is a fat-soluble vitamin essential for various bodily functions, including vision, immune system support, and skin health. It is found in foods like carrots, sweet potatoes, and spinach and is important for maintaining overall health.

Vitamin A is a nutrient important for [R, R]:

- Vision
- Immunity
- Gut health
- Skin health

Foods rich in vitamin A include [R]:

- Beef liver
- Sweet potato
- Spinach
- Carrots
- Cheese

Vitamin A is also available in supplement form.

Women should be getting 700 micrograms of vitamin A per day, while men should be getting 900 micrograms [R].

How it helps

Supplementing with vitamin A can enhance immune function and promote ocular health, specifically by supporting the signaling pathways influenced by VEGFA. This can help mitigate complications related to vision and immune responses.

10

Horse Chestnut

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate horse chestnut supplements into your lifestyle by taking one 300mg capsule of horse chestnut seed extract daily, ideally with meals to improve absorption. This regimen is recommended for managing symptoms of chronic venous insufficiency, such as varicose veins, for a period of up to 12 weeks.

Description

Horse chestnut extract is sometimes used as a natural remedy for improving venous circulation and reducing symptoms of conditions like varicose veins and chronic venous insufficiency. Its active compounds may help strengthen blood vessel walls and reduce swelling.

Horse chestnut extracts are made from the leaves or seeds of the horse chestnut tree (*Aesculus hippocastanum*). This tree is native to parts of southeastern Europe [R, R].

Escin is an anti-inflammatory compound found in horse chestnut extracts. These extracts may help with [R, R]:

- Circulation in the legs
- Irritable bowel syndrome (IBS)
- Male infertility

How it helps

Horse chestnut extract enhances venous circulation by strengthening blood vessel walls and reducing capillary permeability, making it beneficial for VEGFA-related vascular issues. Its anti-inflammatory properties help alleviate symptoms associated with venous insufficiency.

11

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

Dietary beta-carotene enhances the production of vitamin A, which is crucial for maintaining optimal ocular health and immune response. Its antioxidant properties may also mitigate oxidative stress, supporting overall cardiovascular function tied to VEGFA regulation.

12

Red Vine Leaf Extract

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take a red vine leaf extract supplement, usually available in capsule or tablet form, at a dose of 360-720 mg daily. This can be divided into two doses taken with meals to improve absorption. Continue this regimen for a period of 3-12 weeks to observe benefits, especially for chronic venous insufficiency symptoms.

TYPICAL STARTING DOSE

360 mg

Description

Red vine (Vitis vinifera) leaf extract is derived from the leaves of the red vine. It has been traditionally used in herbal medicine, particularly in Europe, for its potential benefits in improving circulation and reducing symptoms associated with chronic venous insufficiency (CVI), such as leg swelling and pain. Red vine leaf extract is rich in various bioactive compounds, including flavonoids and polyphenols.

Red vine leaf extract is made from the leaves of the red grape vine plant. It has anti-inflammatory and antioxidant properties [R].

People use it to potentially improve circulation and blood vessel health [R].

How it helps

Red vine leaf extract may enhance vascular health by improving endothelial function and increasing circulation, which is beneficial for conditions linked to VEGFA. Its bioactive compounds, such as flavonoids, support venous tone and may alleviate symptoms of chronic venous insufficiency.

13

Dietary L-Arginine

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Incorporate foods high in L-arginine into your daily diet. This includes nuts such as almonds and walnuts, seeds like pumpkin and sesame, meats, dairy products, poultry, and seafood. Aim to include these L-arginine-rich foods in at least two of your daily meals to help meet your body's needs.

Description

L-arginine is an amino acid that plays a role in nitric oxide production, which helps relax blood vessels and may support cardiovascular health. It's also used in supplements for potential benefits in improving blood flow and exercise performance.

How it helps

Dietary L-arginine is a precursor to nitric oxide, which promotes vasodilation and enhances blood flow, thereby supporting vascular health. This is particularly beneficial in conditions associated with VEGFA, as it can improve endothelial function and reduce vascular stiffness.

14

Vitamin E

IMPACT 1 / 5

EVIDENCE 1 / 5

How to implement

Take 200 IU of Vitamin E daily as a supplement, preferably with a meal that contains fat to enhance absorption.

TYPICAL STARTING DOSE

200 iu

Description

Vitamin E is a fat-soluble antioxidant found in various foods, such as nuts and seeds. It is known for its ability to protect cells from oxidative damage, support immune function, and may play a role in skin health. Vitamin E supplements are used to bolster antioxidant defenses and may be beneficial for conditions related to oxidative stress.

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 supplementation may enhance vascular health by offering antioxidant protection, potentially reducing oxidative stress that can lead to inflammation and vascular dysfunction, thereby supporting overall cardiovascular function.

15

Dietary Vitamin A

IMPACT 1 / 5

EVIDENCE 1 / 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

In the context of VEGFA, dietary vitamin A enhances retinal health and supports immune defense, crucial for maintaining vascular integrity and function. Adequate vitamin A levels may help mitigate vascular complications associated with this condition.

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.