

Hair Loss

DNA Health Report

REPORT CATEGORY —



Sample Client

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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

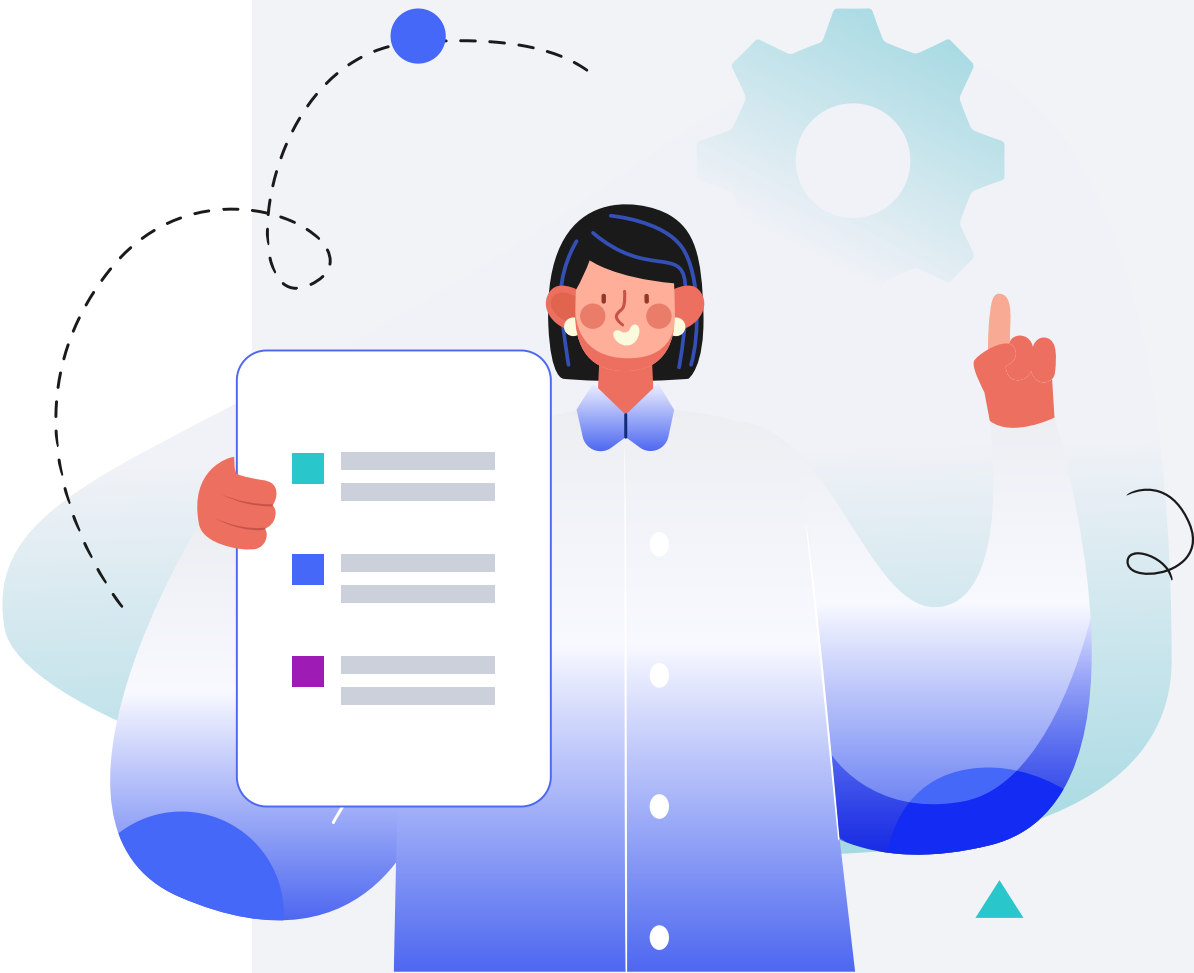
Male

HEIGHT

5ft 5" 165cm

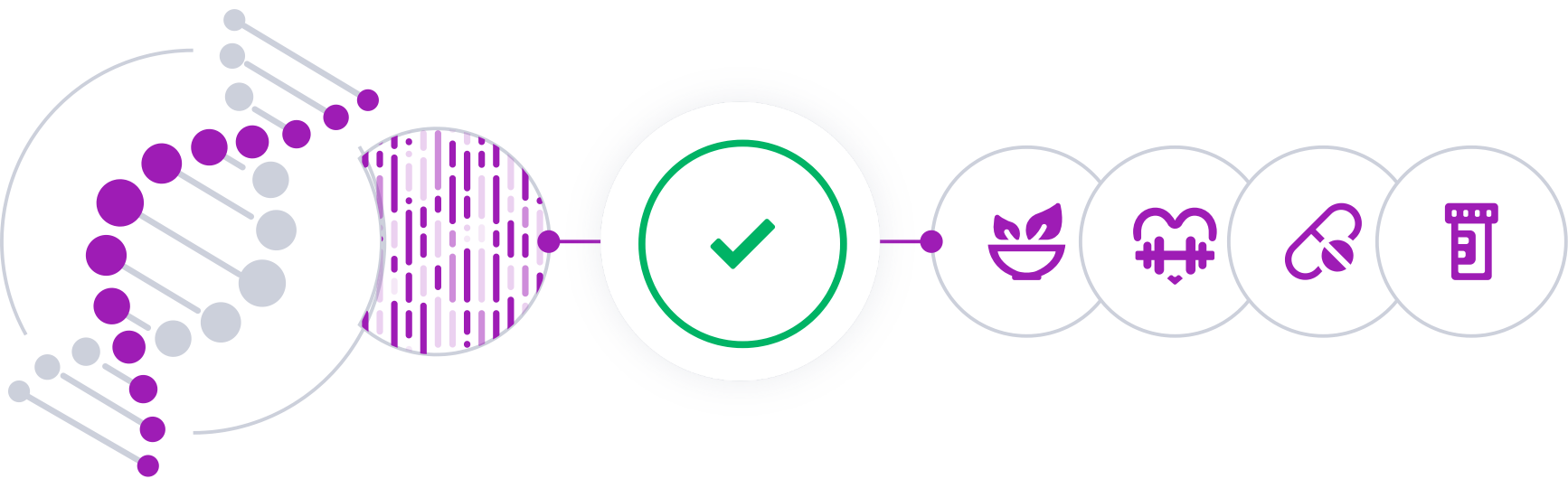
WEIGHT

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.

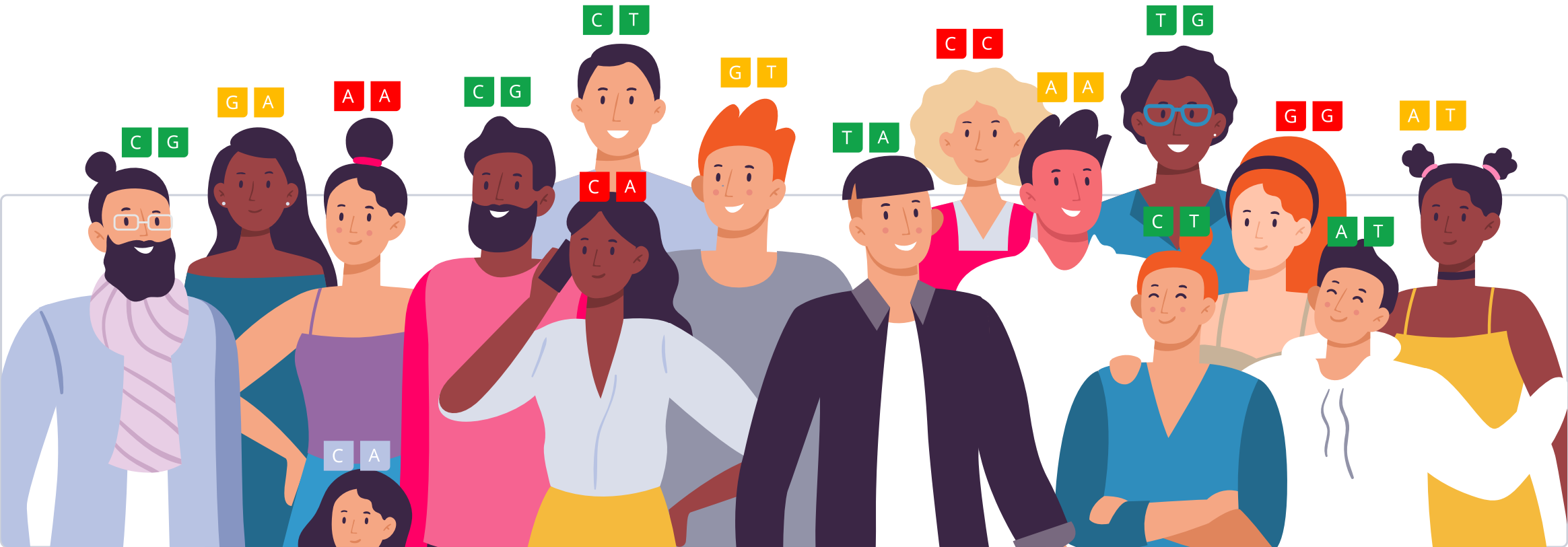


Similarly, our Trait Reports look at how your DNA influences your traits.



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.

In total, we analyze up to 83 million genetic variants.

When we give a risk score, the risk icon tells you if you are at a higher or lower risk compared to other people:



Genotype color info:

AA

You don't have any risk alleles

AA

You have 1 risk allele

AA

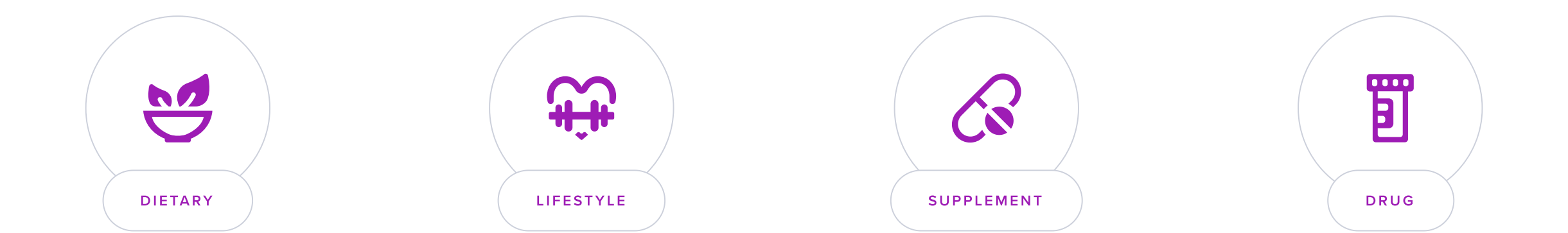
You have 2 risk alleles

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, a few 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

We tend to not talk about losing our hair. But it can have a big effect on our self-confidence.

Although it’s viewed as taboo, it’s also pretty common. Around 85% of men will experience hair loss by the time they hit 50. A lot of people think only men experience hair loss, but up to 50% of women will have noticeable hair loss in their lifetime [\[R\]](#), [\[R\]](#).

Around 50% of hair loss can be attributed to male sex hormones [\[R\]](#), [\[R\]](#).

The negative impact of hair loss on self-esteem leads a lot of people to seek out hair loss remedies, and these can come in different forms.

One remedy a lot of people turn to is biotin. Biotin is touted to be good for hair, nail, and skin health [\[R\]](#), [\[R\]](#). Biotin deficiency may also contribute to hair loss [\[R\]](#), [\[R\]](#).

A few things can cause biotin deficiency, like eating lots of raw eggs. So if you want locks as luscious as Sylvester Stallone’s, you might want to avoid emulating Rocky!

Although a lot of people take biotin supplements for hair loss, evidence to support their benefit is lacking.

Whichever remedy you choose to try thickening up your hair, you may need to have some patience. A lot of remedies for hair loss take time.

Another remedy often turned to for thicker hair is topical adenosine.

A lot of people apply this regularly in the hope of having thicker hair, and there is some evidence that this may support hair growth [\[R\]](#). But there’s no guarantee this will work for everyone.

Adenosine may be more likely to work for you if you carry a certain variant of the [FADS1](#) gene. Carrying this variant might reduce the production of fats that maintain proper hair growth and quality. Adenosine may be able to counteract this by increasing hair growth and quality [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Picking the right hair loss remedy is important if you’re feeling self-conscious, and you might be able to gain some insight from your DNA.

Read on to find out more about:

- **How your genetics play a role in hair loss**
- **Your genetic risk score based on over 13,000 genetic variants**
- **Personalized recommendations based on your genetics**

About Hair Loss

PERSONALIZED TO GENES

Your genetic predisposition for androgenetic alopecia (pattern hair loss) is average compared to the general population. Hair loss has a strong genetic component, accounting for about 80% of risk. However, early intervention can significantly slow progression and preserve hair density [1, 2].

Key Takeaways:

- About **60%** of differences in people's chances of having hair loss may be due to genetics.
- Risk factors include genetics, cancer treatments, excessive male hormone activity, and certain health conditions.
- Up to half of all men and women develop androgenetic alopecia. If you are experiencing hair loss, speak to your doctor.
- Click the **next steps** tab for relevant labs and lifestyle factors.

Androgenetic alopecia is a common type of hair loss. You may know it as **male- or female-pattern baldness** [R].

Up to half of all men and women develop androgenetic alopecia. Men typically experience a receding hairline and hair loss at the top of the head. Women typically experience hair thinning at the top and crown of the head [R, R].

Androgenetic alopecia is fairly common and harmless. However, it may impact confidence and self-image in some people [R, R].

Androgenetic alopecia is usually caused by high activity of male sex hormones, like [dihydrotestosterone](#) (DHT). However, hair loss may also be caused by a health condition or exposure to cancer treatments [R, R].

Some people are at greater risk than others of losing their hair. This may be partly due to **genetics** [R].



TYPICAL LIKELIHOOD

Typical based on 13,176 genetic variants we looked at

Your top variants that most likely impact your genetic predisposition:

GENE	SNP	GENOTYPE
TWIST2	rs9287638	AC
PAX1	rs2180439	TC
BCL2	rs7226979	TT
BCL2	rs12457893	CC
COPB2	rs10212419	GG
PTHLH	rs10843026	GG
KLF15	rs35892873	TT
AUTS2	rs4718886	AA
LRMDA	rs1907350	AA
L3MBTL3	rs1415701	AA
FADS2	rs1535	AA
SUPT3H	rs227808	CC
SLC14A2	rs10502861	CC
SLC14A2	rs34800162	TT
SLC14A2	rs8085664	CC
ALX4	rs2863081	AG
TWIST1	rs13245206	AG
TWIST1	rs10225279	TG
RORA	rs11071559	TC
ICE2	rs2028122	AG
TCF4	rs1452787	AG
TCF4	rs2958184	CA
AUTS2	rs6945541	CT
AUTS2	rs939963	GC
LRMDA	rs10762668	CT
TWIST2	rs11684254	GC
PAX1	rs1160312	AG
SETBP1	rs9967367	TC
/	rs382854	CT
COPB2	rs7642536	TT
FERD3L	rs2073963	TT
LRMDA	rs117246174	AA

Treatments for androgenetic alopecia include [R](#), [R](#):

- Topical medication
- Hair transplants
- Low-level laser therapy

Up to 60% of differences in people's chances of losing their hair may be attributed to genetics. Genes involved in hair loss may influence [R](#), [R](#), [R](#), [R](#), [R](#), [R](#), [R](#):

- Hair follicle activity ([LGR4](#), [TWIST1](#), [PRKD1](#), [RUNX3](#))
- Hair cell death ([BCL2](#), [TOP1](#), [IRF4](#), [MAPT](#))
- Male sex hormone activity ([AR](#), [MEF2C](#))

Genetically high free testosterone levels may be causally associated with a high risk of androgenetic alopecia [R](#).

GENE	SNP	GENOTYPE
TMEM50A	rs2064251	GG
KLF15	rs9850626	TT
ALX4	rs922017	TT
PTHLH	rs805512	AA
RUNX3	rs760805	TT
WNT10A	rs74333950	TT
WNT10A	rs7349332	CC
CLIC6	rs68088846	GG
RREB1	rs675209	CC
HDAC4	rs4075018	GG
FAM53B	rs3781458	TT
BCL11A	rs2540917	TT
/	rs2149150	CC
TWIST1	rs17140672	AA
MEF2C	rs1366594	CC
PRDM1	rs12214131	GG
IRF4	rs12203592	CC
ALX4	rs11037975	CC

The number of "risk" variants in this table doesn't necessarily reflect your overall result.

Your Recommendations

Your recommendations are prioritized according to the likelihood of it having an impact for you based on your genetics, along with the amount of scientific evidence supporting the recommendation.

You’ll likely find common healthy recommendations at the top of the list because they are often the most impactful and most researched.

DOSAGE		DOSAGE	
1	Topical Minoxidil	2	Low-Level Laser Therapy (LLLT)30 seconds
3	Topical Caffeine	4	Infrared Light Therapy
5	Topical Finasteride	6	Topical Saw Palmetto
7	Topical Procyanidin B2	8	Topical Adenosine
9	Topical Dutasteride	10	Topical Retinoids
11	Microneedling	12	Topical Ku Shen
13	Topical Rice Bran Oil	14	Topical Rosemary Oil
15	Pumpkin Seed Oil	16	Topical L-Carnitine
17	Scalp Massage5 minutes	18	Pumpkin Seeds
19	Saw Palmetto320 mg	20	Sleep for 7+ Hours
21	Topical L-Arginine	22	Topical 17-a-Estradiol
23	Oleamide100 mg	24	Red Clover40 mg
25	Topical Ginger	26	Ashwagandha120 mg
27	Soy	28	Ashwagandha KSM-66
29	Apple Polyphenols500 mg	30	PEMF30 minutes
31	Dietary Omega-3 Fatty Acids	32	Red Light Therapy20 minutes

33	Mediterranean Diet		34	Dietary B Vitamins	
35	Zinc	10 mg	36	Dietary Iron	
37	Biotin	30 mcg	38	Dietary Protein	
39	Raspberries		40	Maintain Optimal Vitamin D Levels	1000 iu

1



Topical Minoxidil

IMPACT

5 / 5

EVIDENCE

4 / 5

How to implement

Begin with a clean, dry scalp. Part your hair in sections and apply the solution (5% for men, 2% or 5% for women) directly to the scalp using the dropper or spray applicator. Gently massage it in with your fingertips for even distribution. Wait for it to dry completely before styling hair or lying down. Expect possible initial shedding in the first few weeks - this is normal and indicates the treatment is working. Consistency is key for success.

Description

Minoxidil is the most well-established topical treatment for hair loss, working by improving blood flow to hair follicles and extending their growth phase. Originally discovered as a blood pressure medication, it's now considered a first-line treatment for pattern hair loss.

How it helps

Minoxidil is one of the most well-studied hair growth treatments and has been around since the 80s. It works mainly by widening blood vessels in the scalp, which helps deliver more nutrients to hair follicles. It also seems to keep hair in its growth phase longer and increase the size of hair follicles [\[R\]](#), [\[R\]](#), [\[R\]](#).

While it's very effective for many people, it has some quirks to keep in mind. You might see increased shedding in the first few weeks - this is actually a good sign as old hairs are being pushed out by new growth [\[R\]](#).

It works best for maintaining existing hair and regrowing recent losses, rather than bringing back hair that's been gone for years. You need to keep using it to maintain results - if you stop, any regrown hair will eventually be lost [\[R\]](#).

2



Low-Level Laser Therapy (LLLT)

IMPACT

4 / 5

EVIDENCE

4 / 5

How to implement

Use a low-level laser therapy device, as directed by its manual or a healthcare professional, on the affected area. Generally, treatment involves applying the laser for a specified duration, often between 30 seconds to several minutes, per treatment area. Sessions can be conducted 2-3 times per week for a period of 4-12 weeks, depending on the condition being treated and the device used.

TYPICAL STARTING DOSE

30 seconds

Description

Low-level laser therapy (LLLT), also known as photobiomodulation, is a type of light therapy that uses low-intensity lasers to promote healing. It has been shown to be effective in treating a variety of conditions, including pain, inflammation, and wound healing.

How it helps

Low-Level Laser Therapy (LLLT) promotes hair growth by stimulating cellular activity in the hair follicles, improving blood flow and nutrient delivery to these areas. This treatment method can retard hair loss and restore growth, offering an effective, non-invasive solution to balding issues.

Low-level laser therapy is an approved treatment for hair loss. It is recommended by most experts. It may help alone or combined with topical medication [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Low-level laser therapy may help by stimulating hair growth [\[R\]](#).

Note that what we know at the moment is based on short-term studies. More studies are needed to understand the long-term effects of low-level laser therapy [\[R\]](#), [\[R\]](#).

A meta-analysis of 11 double-blinded RCTs with 667 participants found that LLLT (typically 630-660 nm wavelengths, sometimes dual wavelengths) significantly increased hair density over 16 weeks compared to sham treatment (SMD 1.316). Subgroup analysis showed effectiveness across genders, device types, and treatment durations. Lower frequency LLLT treatment had a stronger effect than high frequency. However, limitations included trial heterogeneity, small sample sizes, and variable subject demographics [\[R\]](#).



PERSONALIZED TO YOUR GENES

The [TWIST2](#) gene helps ensure proper development of hair follicles. This gene is a part of the *Wnt/beta-catenin pathway*, which has a crucial role in hair growth [\[R, R, R, R\]](#).

Your genotype for [rs9287638](#) ('AA'; *homozygous minor*) has been associated with relatively higher rates of male-pattern baldness. It may reduce TWIST2 activity and suppress the *Wnt/beta-catenin pathway* [\[R, R, R\]](#).

[Low-level laser therapy](#) (LLLT) may stimulate hair growth through the *Wnt/beta-catenin pathway*. In meta-analyses of 11 clinical trials, LLLT improved hair growth and density, both alone and in combination with conventional treatments. The FDA approved this therapy for male-pattern baldness in 2007 [\[R, R, R, R\]](#).

>>> *To learn more about the link between the TWIST2 gene and hair loss, check out the full SelfDecode blog post [here](#).*

The [SPATA8](#) gene suppresses the *Wnt/beta-catenin pathway*, which stimulates hair follicles and promotes hair growth. This pathway is usually less active in people with male-pattern baldness [\[R, R, R, R\]](#).

Your genotype for [rs227808](#) correlates with higher odds of male-pattern baldness. It likely increases *SPATA8* activity and suppresses the *Wnt/beta-catenin pathway* [\[R, R\]](#).

[Low-level laser therapy](#) (LLLT) may stimulate hair growth through the *Wnt/beta-catenin pathway*. In meta-analyses of 11 clinical trials, LLLT improved hair growth and density, both alone and in combination with conventional treatments. The FDA approved this therapy for male-pattern baldness in 2007 [\[R, R, R, R\]](#).

>>> *To learn more about the link between the SPATA8 gene and hair loss, check out the full SelfDecode blog post [here](#).*

YOUR GENETIC VARIANTS

GENE	SNP	GENOTYPE	EVIDENCE
TWIST2	rs9287638	AC	

GENE	SNP	GENOTYPE	EVIDENCE
SUPT3H	rs227808	CC	

3

Topical Caffeine

IMPACT

3 / 5

EVIDENCE

3 / 5

How to implement

Apply a caffeine-containing topical product to the area of concern once or twice daily. Typically, these products should be applied after cleansing the skin but before moisturizing. Regular application over several weeks is generally necessary to observe benefits.

Description

Caffeine, commonly found in skincare products, is used topically to reduce puffiness and improve the appearance of dark circles around the eyes. It can also temporarily tighten and firm the skin.

People drink coffee for an energy and mood boost. [Caffeine](#) is the main ingredient responsible for these effects [\[R\]](#) [\[R\]](#).

Caffeine may also help [\[R\]](#) [\[R\]](#) [\[R\]](#):

- Support heart health
- Improve mood
- Maintain healthy blood sugar

Caffeine is also found in some topical products for hair loss [\[R\]](#).

How it helps

Lotions and shampoos with caffeine may decrease hair loss and increase hair strength in both men and women. They may also support the effects of topical medication [\[R\]](#) [\[R\]](#) [\[R\]](#) [\[R\]](#) [\[R\]](#).

Caffeine may help by boosting blood flow in the scalp and stimulating hair follicles [\[R\]](#).

4

Infrared Light Therapy

IMPACT

3 / 5

EVIDENCE

3 / 5

Description

Infrared light therapy is a type of light therapy that uses infrared light to improve circulation, reduce pain, and promote healing. It has been shown to be effective in treating a variety of conditions, including arthritis, chronic pain, and wound healing.

How it helps

Infrared light therapy promotes hair growth by stimulating cellular activity in the hair follicles, improving blood flow and nutrient delivery to these areas.

A meta-analysis of 36 studies and 966 patients concluded that photobiomodulation therapy with infrared light improves both alopecia areata and male-pattern hair loss [\[R\]](#).

5

Topical Finasteride

IMPACT3 / 5

EVIDENCE2 / 5

How to implement

Apply to a clean, dry scalp using the provided applicator. Create several partings to expose treatment areas and apply the solution (typically 0.1%) thoroughly. Massage gently into your scalp, focusing on thinning areas. Avoid washing your hair for at least 4 hours after application. Take monthly progress photos, as improvements can be gradual.

Description

Topical finasteride is an innovative approach to treating pattern hair loss that targets DHT production directly in the scalp. This treatment inhibits the enzyme that converts testosterone to DHT, the primary hormone responsible for male pattern hair loss. The topical formulation aims to provide similar benefits to oral finasteride while potentially reducing systemic side effects.

How it helps

Topical finasteride is gaining interest because it may provide similar benefits to oral finasteride while potentially reducing systemic exposure and side effects. Studies have shown it can effectively lower scalp DHT levels. Common concentrations range from 0.005% to 0.25%, often compounded with minoxidil [\[R\]](#), [\[R\]](#).

Research suggests it may provide comparable results to oral finasteride, though more long-term studies are needed. Systemic absorption still occurs, but typically at lower levels than oral dosing [\[R\]](#), [\[R\]](#).

Please note: Finasteride is a prescription drug. You shouldn’t use it before consulting your doctor.

6

Topical Saw Palmetto

IMPACT

3 / 5

EVIDENCE

2 / 5

How to implement

To use topical saw palmetto, apply a small amount to the affected area twice daily. Be sure to wash your hands before and after applying the product. You may also want to wear gloves to protect your hands from the product.

Description

Topical saw palmetto is a natural supplement that is often used to treat hair loss and prostate enlargement. It is also being studied as a possible treatment for other conditions, such as acne and eczema.

How it helps

In people with hair loss, **applying products containing saw palmetto to the scalp may increase hair growth** [\[R, R\]](#).

Saw palmetto may help by decreasing DHT (androgen) in hair follicles [\[R, R, R\]](#).

PERSONALIZED TO YOUR GENES

The [COPB2](#) gene increases the production of [Bcl-2](#), a protein that regulates the hair growth cycle. At optimal levels, Bcl-2 maintains the balance between cell growth and cell death, ensuring normal hair growth [\[R, R, R, R\]](#).

Your genotype for [rs10212419](#) ('GG'; *homozygous major*) has been associated with relatively higher rates of male-pattern baldness. It likely reduces *COPB2* activity, leading to lower Bcl-2 levels [\[R, R\]](#).

[Saw palmetto](#) extract promoted hair regrowth by increasing Bcl-2 production in mice. Topical saw palmetto products applied for up to 2 years may reduce male-pattern baldness in men. In a small trial of men with male-pattern baldness, oral saw palmetto extract (200 mg) improved hair density in 60% of participants [\[R, R, R, R, R\]](#).

>>> To learn more about the link between the *COPB2* gene and hair loss, check out the full SelfDecode blog post [here](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
COPB2	rs10212419	GG	

7



Topical Procyanidin B2

IMPACT

2 / 5

EVIDENCE

2 / 5

How to implement

To use Topical Procyanidin B2, apply a small amount to the affected area twice daily. Be sure to wash your hands before and after applying the product. You may also want to wear gloves to protect your hands from the product.

Description

Topical Procyanidin B2, a type of antioxidant, has been shown to be effective in treating a variety of skin conditions, including acne, eczema, and psoriasis. It may also help to protect the skin from sun damage and premature aging, and is being studied as a possible treatment for hair loss.

How it helps

In three studies, an apple polyphenol procyanidin B2 increased hair density when applied topically for 4-12 months [\[R, R, R\]](#).

8

Topical Adenosine

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Apply a topical adenosine solution or cream to the affected area of the skin once or twice daily. Ensure the skin is clean and dry before application. Continue use as per the product's instructions or as advised by a healthcare professional.

Description

Adenosine is a natural compound found in the cells of the human body and is used topically in skincare products for its potential to reduce the appearance of fine lines and wrinkles. It can also support skin elasticity and promote a more youthful complexion.

[Adenosine](#) is a compound found in all cells of the body. It plays an important role in sleep, heart health, and metabolism [\[R, R, R\]](#).

Topical adenosine may help support hair growth [\[R\]](#).

How it helps

Applying adenosine to the scalp may help with hair loss. It may support hair growth and increase hair thickness [\[R, R, R\]](#).

PERSONALIZED TO YOUR GENES

The [SPATA8](#) gene suppresses the *Wnt/beta-catenin pathway*, which stimulates hair follicles and promotes hair growth. This pathway is usually less active in people with male-pattern baldness [\[R, R, R, R\]](#).

Your genotype for [rs227808](#) correlates with higher odds of male-pattern baldness. It likely increases *SPATA8* activity and suppresses the Wnt/beta-catenin pathway [\[R, R\]](#).

The activation of [adenosine](#) receptors triggers the Wnt/beta-catenin pathway in the skin. In three clinical trials, topical adenosine (0.75%, applied for 6 months) increased hair thickness in men with male-pattern baldness [\[R, R, R, R\]](#).

>>> To learn more about the link between the *SPATA8* gene and hair loss, check out the full SelfDecode blog post [here](#).

Your [FADS1](#) gene variant is linked to hair loss. It likely reduces the production of fats that maintain proper hair growth and quality. Adenosine may help by increasing hair growth and quality [\[R, R, R, R, R, R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
SUPT3H	rs227808	CC	
GENE	SNP	GENOTYPE	EVIDENCE
FADS2	rs1535	AA	

9



Topical Dutasteride

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Ensure your scalp is clean and dry. Use the dropper to apply the solution (typically 0.05%), creating partings every few centimeters for thorough coverage. Massage gently for 1-2 minutes to ensure even distribution. Avoid getting your scalp wet for at least 6 hours after application. Monitor for any adverse reactions and document progress with photos.

Description

Topical dutasteride is a potent dual 5α-reductase inhibitor that blocks both type 1 and 2 enzymes, providing more complete DHT suppression than finasteride. This makes it particularly effective for resistant cases of hair loss. While newer in its topical form, research suggests it can be more effective than finasteride in promoting hair growth.

How it helps

Like finasteride, dutasteride can be used topically. There's less research on topical dutasteride compared to topical finasteride, but early studies are promising. Dutasteride may boost hair growth and thickness by reducing DHT levels [\[R\]](#).

It's typically used in concentrations around 0.05%. The molecule is larger than finasteride, which might affect skin penetration [\[R\]](#).

Some studies suggest it may be effective when combined with minoxidil, though more research is needed to establish optimal formulations and long-term safety profiles [\[R\]](#).

Please note: Dutasteride is a prescription drug. You shouldn't use it before consulting your doctor.

10

Topical Retinoids

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

Apply a pea-sized amount of topical retinoid to clean, dry skin once every evening before moisturizing. Start with applications 2-3 times a week, gradually increasing to nightly use as your skin tolerates it.

Description

Retinoids are a class of vitamin A derivatives used topically for their ability to address various skin concerns, including acne, fine lines, and hyperpigmentation. They work by promoting cell turnover and collagen synthesis.

Retinoids are compounds related to [vitamin A](#). They include [\[R\]](#):

- Vitamin A (retinol)
- Natural vitamin A derivatives (retinoic acid, retinaldehyde, retinyl esters)
- Synthetic derivatives (tretinoin, isotretinoin, etretinate, tazarotene)

Retinoids control the growth of the skin and blood vessels. People apply topical retinoids to improve skin conditions such as [\[R\]](#):

- **Wrinkles**
- Acne
- Psoriasis
- Eczema
- Skin cancers

Please note: Topical synthetic retinoids are prescription drugs and should only be used if prescribed by a doctor. They can have significant side effects. Natural retinoids are much safer and available in different OTC cosmetic products.

How it helps

When it comes to hair loss, retinoids seem to work in several ways - helping skin cells turn over properly, reducing inflammation, and possibly making other treatments like minoxidil work better.

The most studied retinoid for hair loss is tretinoin, which has shown some promise, especially when combined with minoxidil. In a study, 43% of subjects who were initially non-responders to minoxidil became responders after using topical tretinoin for five days [\[R\]](#).

Topical tretinoin alone may stimulate hair regrowth in approximately 58% of subjects with androgenetic alopecia. When combined with minoxidil, the effectiveness increased, resulting in terminal hair regrowth in 66% of subjects over a year [\[R\]](#).

However, retinoids can be tricky to use - they can cause irritation if too strong, and they make your skin more sensitive to sun damage [\[R\]](#).

They also take time to show results, and your scalp might get worse before it gets better as it adjusts. The key is to start with a very low concentration and use it just a few times a week at first.

11



Microneedling

IMPACT2 / 5

EVIDENCE2 / 5

How to implement

To implement microneedling as a lifestyle recommendation for skin rejuvenation or scar treatment, use a dermaroller or microneedling device with needles of 0.2 to 1.0 mm in length, depending on the treatment area and sensitivity of your skin. Gently roll the device over the target area in a criss-cross pattern, ensuring to cover all desired areas, typically once every 2 to 4 weeks. Cleanse the skin and device before and after each use to prevent infection.

Description

Microneedling is a minimally invasive procedure that uses tiny needles to create tiny punctures in the skin. This can help to stimulate collagen production, improve skin texture, and reduce the appearance of scars.

How it helps

Combining microneedling with various treatments has shown promise in addressing hair loss. In a study of 40 female patients with female pattern hair loss, combining 2% minoxidil with microneedling significantly improved hair growth (85% effective rate) compared to minoxidil alone (45%) [\[R\]](#).

Another trial with 71 men suffering from androgenetic alopecia (AGA) found that electrodynamic microneedling, coupled with 5% minoxidil, showed superior clinical results, possibly by activating the Wnt/ β -catenin signaling pathway [\[R\]](#).

In a split-scalp trial with 19 Chinese men, a combination of 5% topical minoxidil and fractional radiofrequency microneedling (FRM) yielded better hair count and thickness compared to minoxidil alone [\[R\]](#).

Microneedling in conjunction with platelet-rich plasma (PRP) was studied in 62 AGA patients. Both dermapen-mediated microneedling and intradermal point-by-point injection of PRP improved hair metrics, but dermapen-mediated application proved superior in terms of certain parameters, such as anagen, telogen, and average hair length [\[R\]](#).

These findings suggest that microneedling, when combined with minoxidil or PRP, holds promise as a hair loss treatment, offering enhanced results compared to monotherapy in certain cases.

12

Topical Ku Shen

IMPACT2 / 5

EVIDENCE1 / 5

How to implement

Apply a cream or gel containing ku shen extract directly to the affected area of the skin 2-3 times daily. Continue this application daily for as long as symptoms persist or until improvement is seen.

Description

Ku Shen, or *Sophora flavescens*, is a plant-based topical application derived from the root of the *Sophora flavescens* plant. It contains alkaloids and is used in traditional Chinese medicine for its potential anti-inflammatory and antimicrobial properties, making it suitable for addressing skin conditions like acne and dermatitis.

Ku Shen is the root of the *Sophora flavescens* plant. This plant has been used for thousands of years in traditional Chinese medicine. Today, people use it to support healthy hair [\[R\]](#), [\[R\]](#).

How it helps

A lotion with 0.5% Ku Shen extract may improve hair loss. It may help by stimulating hair follicles [\[R\]](#).

13



Topical Rice Bran Oil

IMPACT2 / 5

EVIDENCE1 / 5

How to implement

Apply a few drops of rice bran oil directly to the skin area you wish to treat, gently massage it in until absorbed. Repeat this process twice daily, in the morning and before bed, for at least 4 weeks to observe benefits.

Description

Rice bran oil is extracted from the outer layer of rice grains and is rich in antioxidants and fatty acids. It is used in skincare for its moisturizing and soothing properties, helping to nourish and hydrate the skin.

Rice bran is the layer that surrounds a grain of rice. The oil from rice bran is used in cooking or supplements [\[R\]](#), [\[R\]](#).

Rice bran may help [\[R\]](#):

- Decrease cholesterol levels
- Reduce symptoms of menopause

Rice bran oil is also found in some topical products for hair and skin care [\[R\]](#), [\[R\]](#).

How it helps

Applying rice bran oil to the scalp may increase hair thickness in people with hair loss [\[R\]](#).

Rice bran may help by stimulating hair follicles [\[R\]](#).

14

Topical Rosemary Oil

IMPACT

2 / 5

EVIDENCE

1 / 5

How to implement

Apply 2-3 drops of rosemary oil mixed with a carrier oil, such as coconut or almond oil, to the affected area of the scalp. Massage gently for a couple of minutes to ensure absorption. Do this twice daily, in the morning and before bedtime, for at least six months to observe potential improvements in hair growth and scalp health.

Description

[Rosemary](#) is an herb native to the Mediterranean region. It is often used in food and fragrances [\[R\]](#).

It may also help support [\[R\]](#), [\[R\]](#):

- Pain relief
- Mental health
- Memory

Rosemary oil is found in some topical products for hair growth [\[R\]](#).

How it helps

Applying rosemary oil to the scalp may increase the amount of hair in people with hair loss [\[R\]](#).

Rosemary oil may help by reducing male sex hormones in hair follicles [\[R\]](#).

15



Pumpkin Seed Oil

IMPACT

2 / 5

EVIDENCE

1 / 5

How to implement

Take 1 to 2 tablespoons of pumpkin seed oil daily, either directly or by adding it to salad dressings, smoothies, or yogurt. It's best consumed with meals to increase absorption.

Description

Pumpkin seed oil is a plant extract obtained from the seeds of the pumpkin (Cucurbita pepo). Traditionally, it has been used for its potential health benefits, including supporting prostate and urinary health. Its beneficial compounds include phytosterols, antioxidants, and essential fatty acids. It also nutrients like vitamin E and K, zinc, and magnesium.

Pumpkin seed oil is a good source of healthy fats and antioxidants [\[R\]](#), [\[R\]](#).

It is used to support hair and prostate health [\[R\]](#), [\[R\]](#), [\[R\]](#).

How it helps

Supplementing with pumpkin seed oil (400 mg/day for 24 weeks) may help with hair loss. It may increase the amount of hair on the scalp [\[R\]](#).

Applying pumpkin seed oil to the scalp may also help improve hair thinning [\[R\]](#).

Pumpkin seed oil may help by reducing male sex hormones in hair follicles [\[R\]](#).

16

Topical L-Carnitine

IMPACT

2 / 5

EVIDENCE

1 / 5

How to implement

Apply a L-carnitine lotion or cream with a concentration of 2% to the affected area of skin once or twice daily, making sure the skin is clean and dry before application. Use consistently for at least 3-6 months to observe benefits.

Description

L-carnitine is an amino acid derivative that is often included in topical applications for its potential role in promoting skin tightening and reducing the appearance of cellulite. It is used in cosmetic products designed to enhance skin texture and firmness.

[Carnitine](#) is a protein building block (amino acid). It comes in many forms, such as [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#):

- **L-carnitine:** helps boost energy
- **L-carnitine L-tartrate:** supports tissue repair after exercise

Your body can usually make enough carnitine. You can also get it from **meat and dairy products** [\[R\]](#).

Carnitine is also found in some topical products for hair loss [\[R\]](#).

How it helps

In people with hair loss, applying **L-carnitine L-tartrate** (2%) to the scalp may increase the amount of hair [\[R\]](#).

L-carnitine may help by stimulating and protecting hair follicle cells [\[R\]](#), [\[R\]](#).

PERSONALIZED TO YOUR GENES

The [TWIST2](#) gene helps ensure proper development of hair follicles. This gene is a part of the *Wnt/beta-catenin pathway*, which has a crucial role in hair growth [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Your genotype for [rs9287638](#) ('AA'; *homozygous minor*) has been associated with relatively higher rates of male-pattern baldness. It may reduce TWIST2 activity and suppress the Wnt/beta-catenin pathway [\[R\]](#), [\[R\]](#), [\[R\]](#).

Exposure to [L-carnitine](#) enhanced Wnt/beta-catenin pathway in stem cells. A topical solution with 2% L-carnitine (applied for 6 months) increased hair density and stimulated hair growth in one study. Two similar solutions with L-carnitine, [GLA](#), and a compound from soybean (equol) may boost hair growth after 1-6 months of application [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

>>> To learn more about the link between the TWIST2 gene and hair loss, check out the full SelfDecode blog post [here](#).

YOUR GENETIC VARIANTS

GENE	SNP	GENOTYPE	EVIDENCE
TWIST2	rs9287638	AC	

17



Scalp Massage

IMPACT

2 / 5

EVIDENCE

1 / 5

How to implement

Use your fingertips to gently massage your scalp in a circular motion for at least 5 minutes daily. This can be done either with dry hair or while washing your hair with shampoo.

TYPICAL STARTING DOSE

5 minutes

Description

Scalp massage refers to the act of rubbing, kneading and applying pressure to the skin of the head with the fingers and hands. It helps not just to relax your mind, but can also improve blood flow to your head and neck area. This can potentially boost your hair growth, relieve headaches and even reduce stress levels.

How it helps

Scalp massage (for 4 minutes during 24 weeks) may improve self-perceived hair density and hair thickness. It may help by boosting scalp blood flow and increasing several proteins involved in hair growth [R, R].

18



Pumpkin Seeds

IMPACT

2 / 5

EVIDENCE

1 / 5

How to implement

Incorporate a handful of pumpkin seeds (about 28 grams) into your diet daily. You can add them to your breakfast cereal, sprinkle them over a salad, blend them into smoothie bowls, or simply eat them as a snack. This practice can be continued indefinitely as part of a healthy dietary pattern.

Description

Pumpkin seeds, also known as pepitas, are the edible seeds of the pumpkin.They are rich in protein, antioxidants, iron, zinc, magnesium, manganese, and phosphorus. The compounds in pumpkin seeds may benefit heart health and immune function.

Pumpkin seeds are rich in arginine, protein, antioxidants, iron, zinc, magnesium, manganese, and phosphorus. Pumpkin seeds contain 54.18 mg of arginine per gram.

How it helps

Pumpkin seeds are rich in antioxidants and several vitamins and minerals, including Vitamin E and zinc, which can help promote hair growth by promoting scalp health. They contain a unique amino acid, cucurbitin, that may promote hair growth and strength.

19



Saw Palmetto

IMPACT

2 / 5

EVIDENCE

1 / 5

How to implement

Take a saw palmetto supplement of 160 mg twice daily or 320 mg once a day. This dosage is typically taken in capsule form. Continue this regimen for at least two to six months to assess its effectiveness for conditions like benign prostatic hyperplasia.

TYPICAL STARTING DOSE

320 mg

Description

Saw palmetto is a plant extract derived from the berries of the saw palmetto palm (*Serenoa repens*). It has traditionally been used by Native Americans for various medicinal purposes. Today, it is primarily used as a dietary supplement for prostate health.

[Saw palmetto](#) (*Serenoa repens*) is a small palm plant native to the US [\[R\]](#), [\[R\]](#).

People use it to help with [\[R\]](#):

- Urinary problems
- Pain
- Hair loss

How it helps

Oral saw palmetto (320 mg/day) may help increase hair growth [\[R\]](#).

Saw palmetto may help by decreasing DHT (male sex hormone) in hair follicles [\[R\]](#), [\[R\]](#), [\[R\]](#).

 PERSONALIZED TO YOUR GENES

The [COPB2](#) gene increases the production of [Bcl-2](#), a protein that regulates the hair growth cycle. At optimal levels, Bcl-2 maintains the balance between cell growth and cell death, ensuring normal hair growth [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Your genotype for [rs10212419](#) ('GG'; *homozygous major*) has been associated with relatively higher rates of male-pattern baldness. It likely reduces *COPB2* activity, leading to lower Bcl-2 levels [\[R\]](#), [\[R\]](#).

[Saw palmetto](#) extract promoted hair regrowth by increasing Bcl-2 production in mice. Topical saw palmetto products applied for up to 2 years may reduce male-pattern baldness in men. In a small trial of men with male-pattern baldness, oral saw palmetto extract (200 mg) improved hair density in 60% of participants [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

>>> To learn more about the link between the *COPB2* gene and hair loss, check out the full SelfDecode blog post [here](#).

YOUR GENETIC VARIANTS

GENE	SNP	GENOTYPE	EVIDENCE
COPB2	rs10212419	GG	

20

Sleep for 7+ Hours

IMPACT

1 / 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

Research with 446 men, half with hair loss and half without, showed that not getting enough good sleep could be linked to male pattern hair loss. Those with hair loss were more likely to [\[R\]](#):

- Have poor sleep quality
- Sleep less than 6 hours
- Have sleep problems (e.g., sleep apnea)

In another study including 932 men aged 46-76, 24% of them had male-pattern baldness (MPB) and 53% had sleep apnea. Despite no direct link between sleep apnea and baldness was found, men with both sleep apnea and a family history of baldness were 7 times more likely to have MPB. Also, men with either sleep apnea or MPB had lower iron levels compared to those with neither condition. This suggests that sleep apnea could be a risk factor for baldness in men with a genetic predisposition to hair loss, and low iron levels might play a role in connecting the two conditions [\[R\]](#).

Interestingly, an analysis of adverse event reports revealed that people who use conventional therapy for hair loss or enlarged prostate and develop side effects from it report obstructive sleep apnea about 5.65 times more compared to other drugs [\[R\]](#).

How to implement

Description

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

How it helps

However, it's probably better as a supporting treatment rather than a primary solution for hair loss. The good news is that it's generally very safe to try.

22



Topical 17-a-Estradiol

IMPACT

1 / 5

EVIDENCE

2 / 5

How to implement

Apply to clean, dry scalp using the dropper. Create partings to ensure direct scalp contact and distribute evenly across affected areas. Massage gently but thoroughly. Allow complete drying before applying other products. If irritation occurs, reduce frequency and consult your provider.

Description

17-a-estradiol is a naturally occurring estrogen that works locally on the scalp to combat hair loss. It's designed to counteract androgenic effects at the follicle level without significant systemic absorption, making it an attractive option for those seeking a hormone-based treatment with minimal systemic impact.

How it helps

While it's related to estrogen, 17 α -estradiol doesn't have strong estrogen-like effects in the body. Instead, it mainly works by reducing DHT and competing for androgen receptors in hair follicles, essentially blocking DHT from binding there. It also seems to help by improving blood flow to hair follicles and reducing inflammation [\[R\]](#), [\[R\]](#).

When applied to the scalp, it appears to be safe since very little gets absorbed into the bloodstream. Early research shows promising results, particularly when combined with other treatments like minoxidil [\[R\]](#), [\[R\]](#).

The main challenge is that it's not as widely available as other treatments, and some people might have trouble finding a reliable source. While the evidence is growing, we still need more large-scale studies to fully understand its effectiveness compared to established treatments.

23



Oleamide

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 100-200 mg of oleamide supplement orally, 30 minutes before bedtime, daily. This regimen can be adjusted based on individual response but should not exceed 400 mg daily without consulting a healthcare provider.

TYPICAL STARTING DOSE

100 mg

Description

Oleamide is a naturally occurring compound found in the body that has been studied for its potential role in promoting relaxation and sleep.

How it helps

In a placebo-controlled trial of 58 with mild male-pattern hair loss, applying a lotion with 1% bis-oleamide isopropyl alcohol for 6 months decreased daily hair loss and increased hair density, thickness, and growth rate [\[R\]](#).

Oleamide may support hair health by enhancing sleep quality and reducing stress.

24



Red Clover

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take a red clover supplement in the form of capsules, typically ranging from 40 to 80 milligrams daily. This should be done under the guidance of a healthcare provider, especially if you're using it for menopausal symptoms or bone health, to ensure it's appropriate for your individual needs. Generally, it's used for periods ranging from 3 to 12 months.

TYPICAL STARTING DOSE

40 mg

Description

Red Clover is a plant that's often utilized for its health benefits. Not just pleasing to the eyes with its bright color, it's known to help with skin health and menopause symptoms. Additionally, it may improve heart health and bone density. It's like a power-plant, offering multiple health benefits in one package.

How it helps

In a small study of 30 men with receding hair, a topical product with [red clover](#) (applied daily for 4 months) increased the amount of hair in the active growth phase by 13% while reducing that in the resting stage by 29% [\[R\]](#).

Red clover may help by preventing hair follicle death [\[R\]](#).

25

Topical Ginger

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Apply a thin layer of ginger extract or gel directly to the affected area of skin. Use up to two times daily, massaging gently into the skin for absorption. Continue this routine for at least 3-4 weeks to evaluate effectiveness.

Description

Ginger topical applications, often in the form of gels or oils, utilize the anti-inflammatory and antioxidant properties of gingerol, the main compound in ginger root. They are used for soothing sore muscles, reducing joint pain, and supporting circulation. Extracts from pink and blue ginger are used topically for their potential antioxidant and anti-aging benefits. They may be included in skincare products to support skin health and combat signs of aging.

[Ginger root](#) is a cooking spice and a traditional remedy. People mostly use it to relieve [\[R\]](#):

- Nausea
- Menstrual cramps
- Joint pain

Applying topical ginger products on painful areas may also help.

How it helps

In a study of 87 men with male-pattern baldness, 5% pink and blue ginger extract supported hair regrowth, especially when combined with conventional therapy. Ginger may help by increasing the penetration of conventional therapy in the skin [\[R\]](#).

However, 6-gingerol, a primary compound in ginger may inhibit hair growth [\[R\]](#).

26



Ashwagandha

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 250-600 mg of ashwagandha supplement daily. It can be consumed with water or a meal, depending on your preference or as advised by a healthcare provider.

TYPICAL STARTING DOSE

120 mg

Description

[Ashwagandha](#) (*Withania somnifera*) is an herb used in traditional Indian medicine. This herb is known as an *adaptogen* because it helps people adapt to stress.

This herb is known as an *adaptogen* because it helps people adapt to stress [\[R\]](#), [\[R\]](#).

How it helps

In a placebo-controlled trial of 61 healthy volunteers, applying topical ashwagandha KSM-66 reduced hair shedding while increasing hair thickness density, and growth [\[R\]](#).

27



Soy

IMPACT

1 / 5

EVIDENCE

1 / 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

Drinking soy beverages (at least 1-3 days/week) is linked to a lower risk of hair loss [\[R\]](#).

Components in soy may help by protecting hair follicle cells [\[R\]](#).

28



Ashwagandha KSM-66

IMPACT

1 / 5

EVIDENCE

1 / 5

Description

[Ashwagandha](#) (*Withania somnifera*) is an herb used in traditional Indian medicine. This herb is known as an *adaptogen* because it helps people adapt to stress.

This herb is known as an *adaptogen* because it helps people adapt to stress [\[R\]](#), [\[R\]](#).

KSM-66 is extracted using a unique process that preserves the full spectrum of active compounds (*withanolides*). This extract has been studied for several health benefits, including reducing stress and anxiety, improving cognitive function, enhancing physical performance, and supporting immune health.

How it helps

In a placebo-controlled trial of 61 healthy volunteers, applying topical ashwagandha KSM-66 reduced hair shedding while increasing hair thickness density, and growth [\[R\]](#).

29



Apple Polyphenols

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Take 500 mg of an apple polyphenol supplement daily, preferably with meals to enhance absorption. It is recommended to continue this supplementation for at least 4 weeks to start observing potential health benefits.

TYPICAL STARTING DOSE

500 mg

Description

Polyphenols are antioxidants found in many plants. High amounts are found in fruits like grapes, cherries, and apples. Apple polyphenols may help reduce hair loss and oxidative stress.

Polyphenols are antioxidants found in many plants. High amounts are found in fruits like grapes, cherries, and apples [\[R\]](#).

Apple polyphenols may help reduce hair loss and oxidative stress [\[R, R\]](#).

How it helps

Applying apple polyphenols to the scalp or **supplementing with them** may help with hair loss. One example is **procyanidin B2**. It may increase hair thickness, hair strength, and the amount of hair on the scalp [\[R, R, R, R\]](#).

 PERSONALIZED TO YOUR GENES

Your ***FADS1*** gene variant is linked to hair loss. It likely reduces the production of fats that maintain proper hair growth and quality. Apple polyphenols may help by increasing hair growth and quality [\[R, R, R, R, R, R\]](#).

YOUR GENETIC VARIANTS			
GENE	SNP	GENOTYPE	EVIDENCE
FADS2	rs1535	AA	

30



PEMF

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Use a PEMF (Pulsed Electromagnetic Field) device for 30 minutes to 2 hours daily. Position the device as directed by the manufacturer, typically over the area of concern or discomfort. It can be part of your daily routine, such as during rest or activity, without a specific end date unless advised by a healthcare professional.

TYPICAL STARTING DOSE

30 minutes

Description

PEMF, or Pulsed Electromagnetic Field therapy, involves the use of electromagnetic fields to stimulate cellular activity within the body. This therapy is believed to help improve circulation, reduce pain and inflammation, and enhance cellular function.

How it helps

PEMF, or Pulsed Electromagnetic Field therapy, can boost blood circulation in the scalp, nourishing hair follicles that promote growth. While research is ongoing, some suggest that it could mitigate hair loss by reversing the effects of thinning associated with poor circulation and follicle malnutrition.

In a placebo-controlled trial of healthy male and female volunteers, receiving PEMF for 26 weeks decreased hair loss in 83% of the participants and increased hair count by 20% in 53%. The combination of PEMF and photobiomodulation therapy applied for 24 weeks increased the mean hair density in a placebo-controlled trial of 80 participants with androgenetic alopecia [\[R\]](#), [\[R\]](#).

31



Dietary Omega-3 Fatty Acids

IMPACT1 / 5

EVIDENCE1 / 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

A study involving 120 women found that those who took omega 3 and 6 and antioxidant supplements saw better hair growth, fewer hairs falling out, and thicker hair. Almost 90% felt their hair loss reduced, and their hair looked fuller and thicker [\[R\]](#).

32



Red Light Therapy

IMPACT1 / 5

EVIDENCE1 / 5

How to implement

Position yourself or the specific area of your body that needs treatment about 6 inches away from a red light therapy device. Use the device for 10 to 20 minutes daily. It is recommended to continue this daily regimen for at least several weeks to notice benefits.

TYPICAL STARTING DOSE

20 minutes

Description

Red light therapy involves exposure to low-level red or near-infrared light, which may promote skin rejuvenation, reduce inflammation, and improve circulation when used for therapeutic purposes in skin care and wellness treatments.

How it helps

In a placebo-controlled trial of women with androgenic alopecia, red light therapy every other day for 17 weeks **induced hair regrowth**. Similarly, red light treatment every other day for 16 weeks significantly increased hair follicles in a placebo-controlled trial of 41 men [\[R\]](#), [\[R\]](#).

Reviews on alopecia and hair loss concluded red light therapy was safe and effective for both men and women [\[R\]](#), [\[R\]](#).

33



Mediterranean Diet

IMPACT

1 / 5

EVIDENCE

1 / 5

How to implement

Incorporate a variety of primarily plant-based foods, such as fruits, vegetables, whole grains, nuts, and legumes, into every meal. Choose healthy fats, like olive oil, over saturated fats and consume fish and poultry at least twice a week. Limit red meat to a few times a month and include a moderate amount of dairy products. Opt for water and red wine in moderation as your beverages.

Description

The [Mediterranean diet](#) is based on the traditional cuisine from the Mediterranean regions. It moderates the intake of red meat and dairy, while being rich in fruits and vegetables, whole grains, and healthy fats ([olive oil](#)).

The [Mediterranean diet](#) focuses on traditional cuisine from the Mediterranean regions. It’s rich in [\[R\]](#):

- [Olive oil](#)
- Fruits and vegetables
- Whole grains
- Nuts and seeds
- Fish

This type of diet may **reduce inflammation and protect the brain and heart** [\[R, R, R, R\]](#).

Limited intake of animal products, saturated fat, and refined sugar likely contribute to the health benefits of the Mediterranean diet [\[R\]](#).

How it helps

A study on over 200 men found 50% less male-pattern baldness in those eating a Mediterranean diet rich in fresh vegetables (at least 3x/week) and herbs (3 or more, regularly) [\[R\]](#).

34



Dietary B Vitamins

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate foods rich in B vitamins like whole grains, meat, eggs, dairy products, leafy green vegetables, beans, peas, and nuts into your daily meals. For a balanced intake, aim to include at least one serving of a B vitamin-rich food in each meal throughout the day.

Description

B-vitamins are a group of water-soluble vitamins that play essential roles in metabolism, energy production, and overall health. They include B1 (thiamine), B2 (riboflavin), B3 (niacin), B5 (pantothenic acid), B6 (pyridoxine), B7 (biotin), B9 (folate), and B12 (cobalamin).

B vitamins help the body function properly. Three examples are [vitamin B9 \(folate\)](#), [vitamin B12](#), and [vitamin B6](#). They play essential roles in heart, brain, and kidney health [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

You can get these vitamins from [\[R\]](#), [\[R\]](#), [\[R\]](#):

- Animal products
- Green leafy vegetables
- Fortified foods
- Supplements

Every day, adults should be getting [\[R\]](#):

- **Folate:** 400 mcg
- **Vitamin B12:** 2.4 mcg
- **Vitamin B6:** 1.7 mg

Folic acid is a form of folate found in most supplements [\[R\]](#).

Folate deficiency is rare but can happen in people that don’t eat enough fruits and vegetables. Alcoholics and lactating mothers may also be at an increased risk [\[R\]](#).

Vitamin B12 deficiency often takes years to develop, as the body is able to store large amounts in the liver. Groups that may be at an increased risk include [\[R\]](#), [\[R\]](#):

- Vegans
- Pregnant women
- Older people
- People with gut issues

People with kidney problems or gut issues may be at increased risk of vitamin B6 deficiency [\[R\]](#).

How it helps

A study of 120 men found that those with male-pattern baldness had lower blood levels of vitamin B7 and zinc [\[R\]](#).

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Zinc

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Take a 15 mg zinc supplement daily, ideally with a meal to enhance absorption.

TYPICAL STARTING DOSE

10 mg

Description

Zinc is an essential mineral found in various foods, including meat, dairy, and nuts. It is crucial for immune function, wound healing, DNA synthesis, and maintaining healthy skin and nails. Zinc supplements are sometimes used to support immune health and manage zinc deficiencies.

[Zinc](#) is an essential mineral. Your body needs it to [\[R\]](#), [\[R\]](#):

- Defend against disease
- Protect DNA from damage
- Heal wounds
- Control blood sugar

Some of the best sources of zinc include **shellfish, pork, beef, and beans**. It is also available as a supplement [\[R\]](#).

Adults should get **8-11 mg of zinc** per day [\[R\]](#).

How it helps

A study of 120 men found that those with male-pattern baldness had lower levels of zinc and vitamin B7 [\[R\]](#).

In another small study of 48 men with this condition, normal blood zinc levels were associated with better success of conservative therapies and increased hair density [\[R\]](#).

 PERSONALIZED TO YOUR GENES

The [TWIST2](#) gene helps ensure proper development of hair follicles. This gene is a part of the *Wnt/beta-catenin pathway*, which has a crucial role in hair growth [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

Your genotype for [rs9287638](#) ('AA'; *homozygous minor*) has been associated with relatively higher rates of male-pattern baldness. It may reduce TWIST2 activity and suppress the Wnt/beta-catenin pathway [\[R\]](#), [\[R\]](#), [\[R\]](#).

[Zinc](#) may support the Wnt/beta-catenin pathway. In two studies, optimal zinc status was associated with lower rates of male-pattern baldness, better treatment success, and increased hair density. Good sources of zinc include red meat, seafood, beans, and pumpkin seeds. Consider taking a zinc supplement if deficient [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#), [\[R\]](#).

>>> To learn more about the link between the TWIST2 gene and hair loss, check out the full SelfDecode blog post [here](#).

YOUR GENETIC VARIANTS

GENE	SNP	GENOTYPE	EVIDENCE
TWIST2	rs9287638	AC	

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Dietary Iron

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate iron-rich foods into your daily meals, such as red meat, chicken, turkey, fish, beans, lentils, tofu, cooked spinach, and fortified cereals. Aim for at least 18 mg of iron per day for adult women and 8 mg per day for adult men. It's also beneficial to pair these foods with vitamin C-rich foods like oranges, strawberries, or bell peppers to enhance iron absorption.

Description

Iron (Fe) is an essential mineral. It helps make [hemoglobin](#), a protein that carries oxygen to cells. In this way, iron **increases energy** and supports **brain and immune system function** [\[R\]](#), [\[R\]](#), [\[R\]](#).

Foods rich in iron include [\[R\]](#):

- Oysters
- White beans
- Beef
- Chocolate
- Spinach
- Fortified cereals

Women should be getting **8-18 mg** of iron per day, while **men** should be getting **8 mg** [\[R\]](#).

Groups at risk of iron deficiency include [\[R\]](#):

- Menstruating women
- Children
- Vegetarians
- Routine blood donors

How it helps

Research suggests that iron deficiency may be related to hair loss due to multiple causes. For example, a study focusing on people with female and male pattern hair loss (FPHL and MPHL) found that women with FPHL, especially premenopausal women, had lower levels of ferritin (49.27 µg/L compared to healthy women (77.89 µg/L). Among men with MPHL, about 23% had ferritin levels below 70 µg/L, a contrast to healthy men who all had levels above this value [\[R\]](#).

However, not all studies found this association and it remains unclear whether iron supplementation or additional dietary iron help with hair loss [\[R\]](#), [\[R\]](#), [\[R\]](#).

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Biotin

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

For adults, take a biotin supplement of 30 to 100 micrograms daily. This can be consumed in a single dose with a meal to improve absorption. It is recommended to continue daily for optimal benefits on hair, skin, and nail health.

TYPICAL STARTING DOSE
30 mcg

Description

Biotin, also known as vitamin B7, is an essential nutrient that plays a key role in metabolizing carbohydrates, fats, and proteins. It is important for maintaining healthy hair, skin, and nails and supporting overall metabolic function.

A **biotin supplement** of up to 30 micrograms per day can be taken to meet needs not achieved through diet.

How it helps

A study of 60 men found suboptimal biotin levels in those with alopecia compared to healthy controls [\[R\]](#).

However, despite biotin’s massive popularity in hair growth supplements, the relevant research is limited to animal studies and case reports [\[R, R\]](#).

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Dietary Protein

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Include a variety of protein sources such as meat, fish, eggs, dairy, beans, and nuts in your diet every day, aiming for at least 0.8 grams of protein per kilogram of body weight. For more active individuals or those looking to build muscle, increase intake to 1.2 to 2.0 grams per kilogram of body weight daily, spread out over all meals to maximize absorption.

Description

Protein is essential for building and repairing tissues, supporting muscle growth, and maintaining overall bodily functions. Adequate protein intake is crucial for overall health and well-being.

Foods that are high in protein include:

- Eggs
- Nuts
- Beef
- Chicken
- Fish
- Yogurt
- Tofu
- Pork
- Cottage cheese

How it helps

In a study of 100 people with hair loss, most of the 34 people with male-pattern baldness had deficiencies of essential amino acids, such as histidine, leucine, and isoleucine [\[R\]](#).

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Raspberries

IMPACT

0 / 5

EVIDENCE

0 / 5

How to implement

Incorporate a half cup to one cup of fresh or frozen raspberries into your daily diet. You can add them to your breakfast cereal, blend them into a smoothie, or snack on them throughout the day.

Description

Raspberries are a type of berry native to Europe and Asia, known for their high vitamin C and dietary fiber content. They have astringent properties, can support immune health, and aid in digestion.

How it helps

A topical preparation with 0.01% raspberry ketone (applied for 5 months) promoted hair growth in 4 out of 6 men with male-pattern baldness. The preparation also helped women with patchy hair loss [\[R\]](#).

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Maintain Optimal Vitamin D Levels

IMPACT

0 / 5

EVIDENCE

0 / 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

Research of over 2,699 people found that vitamin D deficiency was more likely in those with alopecia than in healthy people [\[R, R\]](#).

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.

	TSH	2.76 mIU/mL		9 Nov 2025
	DHEA Sulfate	303 mcg/dL		9 Nov 2025
	Zinc	17.12 umol/L		9 Nov 2025
	Ferritin	102.2 ng/mL		9 Nov 2025
	Vitamin D, 25-Hydroxy, Total	58.59 ng/mL		9 Nov 2025
	Estradiol	101.46 pg/mL		9 Nov 2025
	Testosterone, Total	1500 ng/dL		9 Nov 2025
	Testosterone, Free (Direct / Labcorp)	150 pg/mL		9 Nov 2025
	Thyroid Peroxidase Antibodies (TPO)	3.03 IU/mL		9 Nov 2025



DHT

1200 pg/mL



9 Nov 2025



Iron

228 mcg/dL



9 Nov 2025

Your Lifestyle Assessments

Ever heard of the term Nature vs. Nurture?

The thing is, both DNA and environment play a role in determining your health risks. The following assessments shows how much of an impact your lifestyle, environment and medical history are having on your health risks.

✓

LIFESTYLE

You have a **slightly reduced risk** of hair loss (male) based on the answers you provided.

Your Lifestyle Risk

Low

Decreased

Average

Increased

High

Factors impacting your risk:

What is your age?	Increasing Risk	!
41		
Do you smoke tobacco?	Decreasing Risk	✓
No, never		
Your BMI:	Decreasing Risk	✓
22.77		
What is your height?	No impact	—
165 cm		
What is your current weight?	No impact	—
62.0 kg		