Please note that this is a sample report and not a complete report of the test.

# Mike, this is your skin report

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# 1. Introduction

In this report, after a deep analysis of your DNA, you will get detailed information about the relationship between your genes and your skin.

Thanks to your DNA sequencing, you will know the response of your skin to different factors, as oxidation response, premature aging, redness, freckles, varicose veins and even cellulite, and more. The report you have in your hands will help you, for example, to use the most suitable creams according to your skin type, optimizing the results of your dermatologic treatments.

As usual in our reports, in the first pages you will find an iconographic summary of each of the analyzed values, which we develop more broadly in later pages.

We remind you that any changes you want to make in your health or your skin treatments should be guided by health professionals. Any doubts you have about any genetic test should be contrasted with medical personnel who are experts in Genetic Diagnosis or Dermatologists.

#### 1.1. Frequently Asqued Questions

#### Should I make drastic changes in my health management with the data of this test?

No, any changes you want to make in your health and skin care should be guided by health professionals such as geneticists or doctors. Any question you have about any genetic test should be checked with an experts in Genetic Diagnosis or Dermatologist.

#### Does it all depend on my genes?

No, our body responds to a lot of conditions. Our genes are certainly an important parameter. Lifestyle, sport, food, and many other circumstances influence our body. Knowing yourself well clearly help us to treat our body in the most appropriate way. And this is what this tests are about: more knowledge.

#### Are all the analyzed genes listed in the sections?

We include only a sample of the genes we analyze, some of the sections are defined by the analysis of some more genes that we did not show in the report. Our algorithms combine all your genotypes from the analyzed markers.

#### What is this report based on?

This test is based on different genetic studies internationally consolidated and accepted by the scientific community. There are some databases where studies are published only there is a certain level of consensus. Our genetic tests is done by applying these studies to our clients genotype. In each section you will see some of the studies on which it is based. There are

sections where more studies are used than those listed.

The information provided in this report is valid only for research, information and educational uses. It is not valid for clinical or diagnostic use.

# 2. Summary

#### Skin care



#### Caption:

Your analyzed genotype is favorable. ————— Your analyzed genotype is a little favorable. Your analyzed genotype doesn't particularly affect you. Your analyzed genotype is a little unfavorable. Your analyzed genotype is unfavorable.

## The sun and your skin

Sensitivity to the sun

Sunspots

#### Caption:

Your analyzed genotype is favorable. ——— Your analyzed genotype is a little favorable.

- Your analyzed genotype doesn't particularly affect you. Your analyzed genotype is a little unfavorable.
- Your analyzed genotype is unfavorable.

#### Feed your skin

 Vitamin B9 deficiency Vitamin C deficiency

Vitamin E deficiency

Caption:

— Your analyzed genotype is favorable.

- Your analyzed genotype doesn't particularly affect you.
  - Your analyzed genotype is a little unfavorable.
  - Your analyzed genotype is unfavorable.

Acne **Freckles** 

Protection against pollution

Protection against glycation

Ease tanning

Photo-aging

Vitamin B12 deficiency

Vitamin D deficiency

Omega 3 and omega 6 deficiency

# 3. Genetic Results

## 3.1. What information is included in the results?



3.2. Your genetic results

# Skin care

## **Antioxidant capacity**

A balance between free radicals and antioxidants is necessary for a proper physiological function, as well as for a healthy and youthful looking skin. In the skin, the increase of free radicals (called oxidative stress) causes a breakdown of collagen - a structural support of the skin - and alters the cycle of cell regeneration, causing premature aging (dull complexion with spots and non-uniform texture) proteins and lipids. Free radicals can affect all layers of the skin (hypodermis, dermis and epidermis, particularly vulnerable).

The antioxidant machinery present in the skin is started when there is oxidative stress, turning the harmful free radicals into less harmful products. Antioxidants are the natural defense of our body to minimize the damage caused by free radicals and can drastically reduce some signs of aging: reduce wrinkles and preserve the natural shine of the skin. Genetic variations encoding antioxidant enzymes (SOD2, EPHX1, CAT and NQO1) have been associated with an increased risk of oxidative stress or a reduction in antioxidant activity, which increases the aging of the skin.



#### What does your genetic say?

The overall antioxidant capacity of your skin is average, some genetic variants are beneficial while others decrease the antioxidant power of your skin.

#### More information:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4085290/

## Skin care

#### Acne

Acne is the most common skin disease, very common among adolescents and young people, although it can also occur in adults. It affects the sebaceous glands, connected to the pores of the skin through a channel called follicle. These glands produce a fatty substance called sebum, which transports dead cells and sebum to the surface of the skin through the follicle. When a follicle is clogged, a pimple or pimple is created and the bacteria inside the follicle cause swelling.

The treatment focuses on healing the grains, preventing new ones from forming and preventing scarring. There are antiacne medications that are applied directly to the skin and also to pills.

In addition to hormonal changes, stress, certain medications or the use of greasy makeup, there are hereditary factors that contribute to the onset of acne. Variations in different genes contribute to this skin disorder.



What does your genetic say?

Your genetic results predispose you to having acne.

## More information:

https://www.ncbi.nlm.nih.gov/pubmed/25061327

## The sun and your skin

#### Sensitivity to the sun

The skin can be sensitive to the sun for a variety of reasons: underdeveloped (childhood), inflamed (atopic dermatitis or acne), photosensitivity induced by drugs or dermatological treatments, or just plain skin. In these cases it is vital to use protection with a sun protection factor (SPF) suitable for each type of skin.

Sensitivity to the harmful effects of ultraviolet radiation is an inheritable aspect. Numerous large-scale studies have identified genetic variations that enhance sensitivity to the sun and the tendency we have to suffer from sunburn (erythema).

The genes related to skin pigmentation (ASIP, TYR, MC1R, and OCA2) and a low tanning ability are the ones that most influence the sensitivity of our skin to the sun. In addition, there is a strong association between DNA repair genes and the tendency to suffer from sunburn. These genes have no relation to the ease of tanning, so there is an underlying mechanism to burns that is independent of pigmentation.



What does your genetic say?

Your susceptibility to sun-sensitive skin is intermediate.

## More information:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3690971/

## The sun and your skin

#### **Ease tanning**

Tan is the physiological response stimulated by ultraviolet (UV) radiation from the sun's rays. Exposure to UV rays increases the production of eumelanin, a type of melanin pigment that darkens the skin to protect it from damage. The ease of tanning varies between individuals and can have positive and negative effects on the health of the skin.

People with greater difficulty are more prone to burns and sun spots, wrinkles, folate loss and melanoma, while people who tan easily have a risk of vitamin D deficiency because they can produce less vitamin D in response to solar exposition.

The tanning ability of the skin is variable and is genetically determined. People with certain variants in genes related to pigmentation usually have clear eye color, clear skin and less tanning ability. Variations in the MC1R gene (melanin receptor) are the most determinant and are associated with red hair, freckles, increased sensitivity to the sun and less tan.

Your genetic map		
Gene	Genotype	
LOC10537406	ТС	
LOC10537487	CC	
HERC2	АА	
ASIP	ТС	
ASIP	TG	
IRF4	СС	
MC1R	СС	
MC1R	СС	
TYR	AC	
TYR	GG	
TYR	GG	
MC1R	CC	
ASIP	ТС	
EXOC2	СС	

What does your genetic say?

With a high probability your skin tans easily.

## More information:

https://www.ncbi.nlm.nih.gov/pubmed/23223146

# Feed your skin

## Vitamin C deficiency

Vitamin C (ascorbic acid) must ingest it in the diet because humans can not synthesize it. The dermal affections associated with vitamin C deficiency are: abnormal thickening of the outer layer of the skin, bruising easily, inflammation, deficiency in wound healing, dry and rough skin, hair loss and teeth.

The recommended daily amount of this vitamin for adults is 75-90 mg. The topical application of vitamin C is widely used to improve the signs of photoaging, including wrinkles and sagging skin. Vitamin C also promotes skin hydration and collagen production.

Many studies have reported that a genetic variant in the SLC23A1 gene is associated with reduced levels of vitamin C in the blood.



What does your genetic say?

You present the genotype associated with normal levels of vitamin C.

## More information:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3605792/

## Feed your skin

#### **Vitamin D deficiency**

Vitamin D is produced on the skin following exposure to ultraviolet light B (UVB rays). Excessive exposure to UV radiation accelerates skin aging, while vitamin D deficiency is associated with several skin diseases such as psoriasis, atopic dermatitis, vitiligo and ichthyosis. Enough vitamin D in the skin helps to minimize acne, increases skin elasticity and immunity, stimulates collagen production, improves brightness and decreases expression lines and dark spots.

The recommended daily allowance for adults is 15  $\mu$ g (600 IU); however, the American Academy of Dermatology recommends 25  $\mu$ g (1000 IU) for people who are at increased risk for deficiency.

People with dark skin, limited sun exposure, and those who use photoprotectors that block sunlight are at increased risk. Numerous studies have identified genetic variations in various genes that contribute to vitamin D deficiency.

#### What does your genetic say?

You are predisposed to have low levels of vitamin D but the binding and transport of this vitamin are normal, so we recommend that you increase the consumption of foods rich in vitamin D (blue fish and fish liver oil) to reach some levels optimal.

#### More information:

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3086761/

