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Genetic assessment of dermatological and trichological predispositions

A personalised genetic profile for dermatology and trichology, supporting specialist assessment of:

- skin ageing and photodamage
- structural skin characteristics
- skin barrier integrity and hydration
- oxidative stress and glycation
- micronutrient metabolism relevant to skin and hair
- the biological profile of the skin and hair follicle



SKINPROFILE



SKIN AGEING AND INDIVIDUAL VARIABILITY

Skin quality, skin ageing and many aspects of dermatological and trichological physiology arise from a dynamic interaction among **genetic background, environmental exposures, lifestyle and nutritional status**.

Genetic factors may contribute to inter-individual differences in:

- **hydration** and **skin barrier integrity**
- **elasticity** and the **quality of the dermal matrix**
- response to **oxidative stress**
- susceptibility to **photodamage**
- **glycation** processes
- the metabolism of **vitamins, minerals** and **essential fatty acids**
- specific **dermatological** and **trichological traits**

Genetic analysis can identify **DNA variants** reported in the scientific literature to be associated with skin- and hair-related phenotypes or biological predispositions. These associations are probabilistic and must be interpreted alongside the patient's clinical, environmental and lifestyle context.



SKINPROFILE

THE VALUE OF GENETICS IN PERSONALISED DERMATOLOGY

SKINPROFILE is a targeted genetic test developed by **GENOMICA** to assess individual predispositions that may influence the physiology of the skin and hair.

The test assesses biological factors involved in **skin tissue maintenance, ageing processes, photoprotection, skin barrier homeostasis** and the **metabolism of vitamins, minerals and essential fatty acids**. It is intended to add a stable, personalised layer of information to preventive and specialist evaluation.

Scientific basis

SKINPROFILE identifies selected **genetic variants** that peer-reviewed studies have associated with differences in biological traits or functional pathways of dermatological and trichological interest. Genetic variation is one contributor to biological diversity; the strength and relevance of an association may vary by population, study design and environmental exposure.

The result describes relative susceptibility within the scope of the variants analysed. It does not establish a diagnosis, determine an outcome or replace specialist assessment.



SKINPROFILE

PURPOSE OF THE TEST

SKINPROFILE assesses **individual genetic predisposition** in relation to key parameters relevant to the health and physiological balance of the skin and its appendages, with particular reference to:

- 
- ✓ **skin hydration and barrier homeostasis**
 - ✓ **skin elasticity and structural support**
 - ✓ **antioxidant defence**
 - ✓ **fotophotoprotection and response to ultraviolet exposure**
 - ✓ **glycation-related processes**
 - ✓ **the metabolism of micronutrients relevant to skin and hair**

SCOPE: The test evaluates predisposition associated with the selected genetic markers. It does not directly measure hydration, collagen, oxidative stress, vitamin or mineral concentrations, or the clinical condition of the skin and hair.



SKINPROFILE

WHO IS IT FOR?

SKINPROFILE is designed for specialist use by physicians and qualified healthcare professionals who wish to integrate genetic information into the evaluation of:

- skin quality and physiology
- early signs of skin ageing
- photoageing and photodamage
- reduced resilience of the epidermal barrier
- skin traits of aesthetic and functional interest
- hair quality and trichological predispositions
- nutritional status and support relevant to the skin, hair and nails



PROFESSIONAL USE: results should be discussed with a qualified healthcare professional and integrated with medical history, examination and any clinically appropriate laboratory tests or other investigations.



PRACTICAL VALUE FOR THE SPECIALIST

SKINPROFILE is not a diagnostic test. It is a clinically informative adjunct designed to support a more comprehensive understanding of the patient's individual profile. It may help the specialist to:

- ➡ characterise the **biological profile** of the skin and its appendages
- ➡ identify genetic predispositions that may not be apparent on direct clinical assessment
- ➡ inform proportionate, risk-aware **dermatological prevention strategies**
- ➡ support personalised **dermocosmetic** and **nutritional** counselling, when clinically appropriate
- ➡ integrate genetic findings with **medical history**, **clinical evaluation** and **environmental context**
- ➡ facilitate more focused **counselling** and shared decision-making

In a healthcare setting increasingly focused on personalisation, **SKINPROFILE** offers an additional level of insight for a more individualised approach to patient management.

KEY PRINCIPLE: Genetic data should complement - never replace - clinical judgement.



SKINPROFILE

WHAT THE TEST ASSESSES

The test covers a broad range of functional areas of dermatological and trichological interest:

1

Skin ageing

Assessment of genetic predisposition associated with **earlier signs of ageing**, loss of tone and elasticity, reduced dermal matrix resilience, tissue laxity and other features of structural skin deterioration.

2

Photodamage and photoprotection

Assessment of individual susceptibility to **ultraviolet radiation-related damage**, including photoageing, pigmentary changes and other photo-induced effects.

3

Glycation

Assessment of predisposition to **glycation-related processes** that may affect **collagen** and **elastin** and contribute to the biological mechanisms of skin ageing.

4

Hydration and skin barrier integrity

Assessment of factors involved in maintaining hydration, softness, barrier function and skin comfort.

IMPORTANT: Results refer to the markers included in the test and do not constitute direct measurements of skin structure or function.



SKINPROFILE

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Skin elasticity

Assessment of factors involved in **dermal integrity**, **skin tone** and the **structural support of tissues**.

6

Antioxidant capacity

Assessment of biological susceptibility to **oxidative skin damage**, relevant to cellular defence and the maintenance of tissue integrity.

7

Skin characteristics

Analysis of biological traits associated with **skin type** and selected characteristics of dermatological or aesthetic interest.

8

Dermatological and trichological traits

Assessment of predisposition relating to selected characteristics of the **skin** and **hair follicles**.

9

Vitamins, minerals and nutrients

Assessment of genetic predisposition associated with inter-individual differences in the **metabolism or status of vitamins, minerals, essential fatty acids** and other nutrients involved in skin physiology.

NUTRITIONAL INTERPRETATION: a genetic finding does not demonstrate a nutrient deficiency or justify supplementation on its own. Laboratory testing and clinical assessment remain necessary when deficiency is suspected.



SKINPROFILE

TOWARDS MORE PERSONALISED DERMATOLOGY

Information from **SKINPROFILE** may help refine the patient's individual profile and support the development of personalised pathways focused on:



Prevention



***Dermatological
counselling***



**Dermocosmetic
support**



**Patient
education**



**Considered
nutritional
integration**

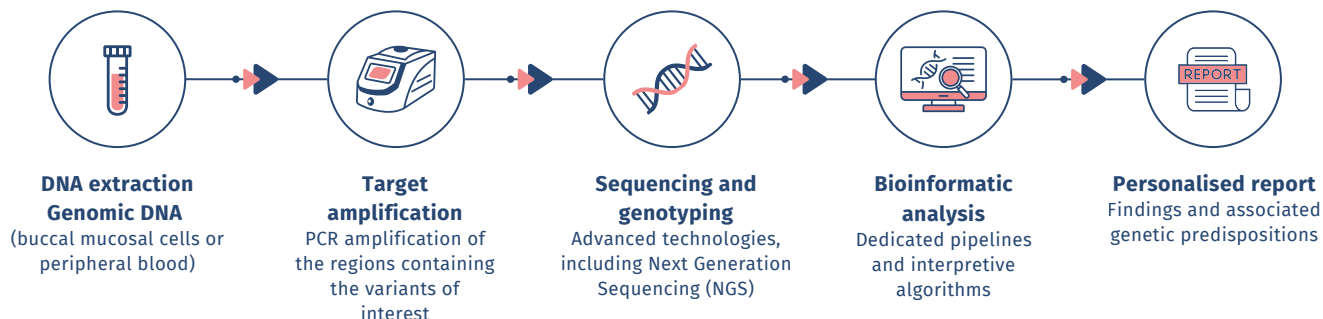


**Monitoring
over time**

A STABLE LAYER OF INFORMATION: genetic data do not replace clinical assessment; they can enrich it when interpreted in context. Not every result will require or justify a change in management.



ANALYTICAL WORKFLOW



INTERPRETIVE FRAMEWORK

GENOMICA's interpretive framework is based on the structured **selection**, **appraisal** and **integration** of evidence from peer-reviewed international scientific literature.

Depending on the trait, the assessment may draw on:

- **genome-wide association studies (GWAS);**
- **multivariable analyses of multiple genetic variants;**
- **univariable studies** of individual variants with reported phenotype associations.

Evidence quality, consistency and applicability are considered when interpreting the profile. The test estimates susceptibility within the limits of current knowledge; it does not predict an outcome with certainty.



SKINPROFILE

A SIMPLE FIVE-STEP PROCESS



**Request
the kit**



**Complete the
documentation**



**Collect the
sample**



**Send the sample
to the laboratory**



**Receive the
report**

Turnaround times



~10 working days

GENOMICA is a highly innovative company with extensive technical and scientific expertise, active in both clinical applications and research. Supported by a team with over 20 years of experience in molecular diagnostics, GENOMICA combines cutting-edge technology with a strong commitment to innovation, delivering increasingly accurate and accessible diagnostic services.



Over **100.000 genetic tests/year**



Laboratories with **groundbreaking technologies** and high quality standards



Dedicated **R&D Team**



International **Partnerships**



Personalized genetic counseling with genetic counselors experts in discussing genetic test results and familial risks



20+ years experience in prenatal molecular diagnostics

LABORATORIES

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