



GENOMICA
Next Generation Genetics

Immunogenetic profiling to assess predisposition to adverse reactions to dermal fillers



The value of genetics in aesthetic medicine

Advanced genetic testing to support specialist assessment of:

- predisposition to immune-mediated adverse reactions to dermal fillers
- susceptibility to delayed inflammatory reactions
- pre-treatment biological risk stratification

www.genomicalab.it



FILLEREACT



DERMAL FILLERS: CLINICAL BENEFITS AND BIOLOGICAL COMPLEXITY

Dermal fillers are among the most widely used treatments in aesthetic medicine, owing to their versatility in softening **wrinkles and fine lines**, restoring volume to the **lips and cheeks**, and enhancing overall facial harmony.

Although these treatments generally have a favourable safety profile, some individuals may experience **local adverse reactions** or, less commonly, **systemic manifestations**.

Among these events, **delayed inflammatory reactions** are of growing clinical interest. They may present with inflammatory nodules, oedema, pain, and persistent or recurrent swelling, and can arise long after treatment. The timing reported in the literature varies widely, from **1 to 60 months**, with a reported mean of approximately **14 months**.

The biological mechanisms underlying these events are not yet fully understood. Available evidence suggests that multiple factors may contribute:

- individual patient susceptibility;
- genetic and immunological factors;
- the chemical and structural characteristics of the filler;
- the purity of the preparation;
- additives, excipients or other product components;
- procedural variables associated with the injection technique.

Within this multifactorial context, **individual genetic susceptibility** may contribute to overall clinical risk but should not be considered in isolation.



FILLE^{REACT}

THE GENETIC TEST FOR ASSESSING PREDISPOSITION TO ADVERSE REACTIONS TO DERMAL FILLERS

FILLE^{REACT} is a genetic test designed to identify specific **immunogenetic profiles** that, according to the available scientific evidence, are associated with increased individual **susceptibility to immune-mediated adverse reactions to dermal fillers**, particularly delayed-onset reactions.

It is an advanced specialist-support tool that helps integrate immunogenetic findings into treatment planning and overall clinical risk assessment.

Scientific basis

The test is based on the central role of the **HLA** (Human Leukocyte Antigen) system in immune recognition, antigen presentation and modulation of the immune response. Published studies have associated specific **HLA subtypes** with an increased relative risk of **immune-mediated adverse events** following dermal filler treatment, particularly with **hyaluronic acid-based fillers**.

Certain allelic profiles may influence how the body responds to antigenic or antigen-like stimuli, potentially contributing to **greater susceptibility** to atypical, persistent or prolonged inflammatory responses.



FILLE^{REACT}

CLINICAL VALUE FOR SPECIALIST ASSESSMENT

FILLE^{REACT} is not a diagnostic test. It provides **clinically relevant information** to complement a more comprehensive and personalised assessment of the individual's biological susceptibility. It does not replace medical history, clinical evaluation or specialist judgement.

The test may be particularly useful to:

- ➡ integrate immunogenetic information into the pre-treatment assessment;
- ➡ support more informed and considered risk stratification;
- ➡ support the assessment of patients with a history of allergies, immune disorders or heightened individual sensitivity;
- ➡ contextualise previous filler-related adverse reactions;
- ➡ promote a more personalised and biologically informed approach to aesthetic medicine.



INDICATIONS FOR TESTING

The test may be considered in:



individuals with a personal history of **allergies, immune disorders** or heightened individual sensitivity;



individuals who have experienced **adverse reactions to dermal fillers**;

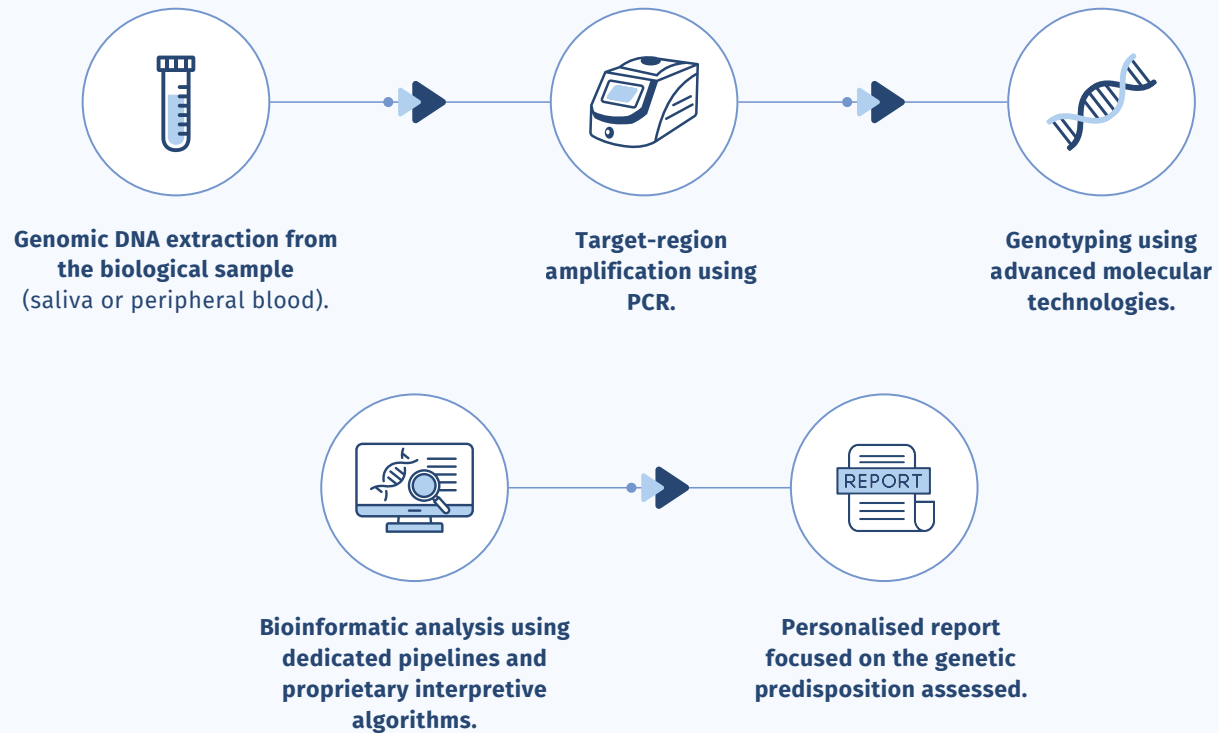


individuals who wish to assess their susceptibility before a **first filler treatment**.

Any indication for testing should be considered in the context of the **individual's medical history, general clinical status** and any **coexisting conditions of immunological or inflammatory relevance**.



ANALYTICAL WORKFLOW





FILLE^{REACT}

INTERPRETING THE RESULT



POSITIVE RESULT: risk-associated HLA profile detected

Detection of the **risk-associated HLA profile** is consistent with **increased susceptibility to medium- or long-term immune-mediated adverse reactions** following dermal filler injection.

The result is not a contraindication to treatment and does not predict that an adverse event will occur. It identifies a higher-susceptibility biological profile that should be considered alongside the clinical picture during pre-treatment discussion, informed consent, selection of the product and injection technique, and follow-up planning.



NEGATIVE RESULT: risk-associated HLA profile not detected

The result indicates that the **risk-associated HLA profile was not detected**. The test therefore provides no evidence of the increased susceptibility associated with the markers analysed.

A negative result may be reassuring with respect to the specific markers tested, but it does not exclude adverse events. Other contributing factors may include product composition and purity, excipients or additives, injection technique, treatment site and administration method, the individual clinical context, and biological determinants not investigated by the test.



A SIMPLE FIVE-STEP PROCESS



**Request
the kit**



**Complete the
documentation**



**Collect the
sample**



**Send the sample
to the laboratory**



**Receive the
report**

Turnaround time



~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

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