



PRE-TEST INFORMATION

Nutrinext is a nutrigenetic test.

Nutrigenetics is a branch of genetics that studies the effects of genotype (variations in DNA sequences) on the response to nutritional changes and risks of diet-related diseases. Nutrigenetics supports correlating nutrient intake with a specific genetic arrangement in order to optimise metabolism and cell function.

The biological effects of nutrients depend on numerous physiological processes, including nutrient uptake, transport, catabolism and absorption. Each of these processes depends on and is regulated by several genes. The presence of one or more genetic variants (SNVs) in these genes can alter their functionality and consequently the physiological response to nutrients.

Since an individual's response to nutrient intake results from the interaction of several factors (genetic, metabolic and environmental), genome analysis can provide valuable support for individual dietary strategies and treatments.

Nutrinext is part of EUROFINS GENOMA's predictive testing portfolio Predictive medicine is a science that, based on information derived from an individual's genetic constitution, supports the specialist in indicating to the patient the most correct and healthy diet and lifestyle to lead.

A team of expert biologists, doctors, nutritionists and personal trainers has developed several panels that, through the study of specific genetic variants, make it possible to define the individual's predisposition to various biological processes (lactose degradation, calcium accumulation in the bones, free radical degradation,...) on the basis of data from the scientific literature.

In details:

Intolerance line

- The *Intolerance line* genetic tests analyse selected genetic variants that are related to a specific food intolerance or susceptibility in the literature. The variants investigated with the test involve:

- caffeine;
- alcohol;
- lactose;
- histamine;
- nickel;
- glutine

Sport & Wellness line

- The *Metabolic health* genetic test analyses variants that are found to influence metabolism, i.e. how and when nutrients are assimilated and processed.

The test is aimed at those who want to investigate their metabolic response to sugars and lipids, which according to their genetic profile is directly or indirectly involved in:

- predisposition to overweight and obesity;
- predisposition to Type 2 diabetes;
- predisposition to metabolic syndrome;
- predisposition to increased cardiovascular risk linked to hyperlipidaemia, high triglyceride levels and/or high cholesterol levels.

This test is intended for adults, as the literature publications consulted and on which the tests are based do not currently take paediatric subjects into account.

- The *Sport* genetic test analyses variants that have been correlated in the literature with the practice of sport: predisposing to a potential risk factor or a potential protective factor. The aim of this analysis is to provide sports people with useful information such as:

- their potential by knowing the genetic predisposition to the type of sport they practise (endurance, power, speed) so that they can optimise their personal aptitudes;
- their susceptibility to muscle damage as a result of intense training, so that they can plan their exercises while limiting the risk of injury;
- susceptibility to injury, caused by a greater or lesser predisposition to inflammation and tendon/ligament injuries and a tendency to tendinopathies and osteopathies;
- how to improve sports performance by exploiting their aptitude (susceptibility to caffeine);
- the psychological predisposition to overcome high-stress situations in a competitive environment.

Health line

- The *Homocysteine metabolism* genetic testing is based on the analysis of two genetic variants of the MTHFR gene associated with altered homocysteine metabolism mediated by the enzyme Methylenetetrahydrofolate reductase.

- The *Cardiovascular health* genetic test is based on the analysis of genetic variants associated with an increased risk of developing cardiovascular diseases, in order to determine individual risk profiles

aimed at personalised treatment and early prevention of these diseases. The variants analysed in the Cardiovascular Health test concern:

- predisposition to hypertension;
 - risk of thrombosis;
 - lipid profile.
- The *Inflammatory response* genetic tests are based on the analysis of genetic variants in genes encoding for cytokines, mediators involved in general inflammatory processes.
- The *Detox* genetic test is based on the analysis of genetic variants of genes encoding for enzymes with antioxidant activity.
- The *Bones health* genetic test is based on the analysis of genetic variants that may predispose to osteoporosis and osteoarthritis.
- The *Metabolic health* genetic test, as previous analyses variants that are found to influence metabolism, i.e. how and when nutrients are assimilated and processed.

HOW THE NUTRINEXT TEST IS PERFORMED

The test is performed through a blood sample or buccal mucosa cells (swab). The sample is processed following a complex laboratory procedure.

DNA is isolated from the nucleated cells and then amplified using either Real Time PCR technology or NGS analysis.

TEST LIMITS

The genetic data obtained from the **Nutrinext** analysis are only comprehensive for the specific variants analysed by the test. The presence of other variants is not detected.

Nutrinext is not a diagnostic test, but a predictive test. Therefore, the genetic information obtained is not sufficient and appropriate for the diagnosis of diseases.

NUTRINEXT TEST RESULTS

Nutrinext is the result of a joint collaboration between doctors/biologists and bioinformatics experts, who have developed a complex algorithm capable of translating genetic data into clear and easy-to-read results. The report highlights any predispositions found and contains appropriate suggestions for a healthy, balanced lifestyle.



If the sample is not collected as indicated in the procedure, it may not be suitable for analysis.



NUTRINEXT INFORMED CONSENT

Adults:

Minors and person with legal guardians:

(Mandatory compilation and subscription of consent by both parents)

The undersigned _____ Date of birth: _____ Place of birth: _____ Resident in: _____ Address: _____ TAX Code: _____ Telephone: _____ e-mail: _____	a) The undersigned _____ Date of birth: _____ Place of birth: _____ Resident in: _____ Address: _____ TAX Code: _____ Telephone: _____ e-mail: _____ AND b) The undersigned _____ Date of birth: _____ Place of birth: _____ Resident in: _____ Address: _____ TAX Code: _____ Telephone: _____ e-mail: _____ Parent/s or Guardian/s of: _____ _____ Date of birth: _____ Place of birth: _____
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I/WE DECLARE:

of having understood and considered all the aspects of the exam and of having understood the benefit and the purpose of the genetic test and its possible limits. In particular in the pre-test information:

- It has been explained to me the test purpose;
- It has been explained to me the test limits;
- I have understood the meaning of possible test results (even unexpected);
- I have been informed on the methods of digital storage of data in accordance with the law in the national territory;
- I have been informed on how to store the sample taken for scientific research purposes;
- to have the possibility to revoke the consent at any time, by signing the relevant revocation act.

Therefore,

I/WE AUTHORIZE:

the execution of/and/the following analysis: _____

on biological material taken from: Buccal Swab EDTA Other (specify) _____

INDICATION TO THE ANALYSIS (in case of minor prescription required):

FURTHERMORE, I/WE DECLARE:

- I agree I DO NOT agree To be informed about analysis results;
- I agree I DO NOT agree that the biological material can be used in the future, for further investigations for diagnostic purposes at the center that performs the test object of this informed consent, if it wishes to perform a further analysis without the need to repeat the sampling, in accordance with the regulations in force on the protection of personal data and conservation of biological material;
- I agree I DO NOT agree that the biological material can be used in the future, in compliance with current legislation on the protection of personal data, for further investigations for diagnostic purposes at other centres, even outside the European Union;
- I agree I DO NOT agree to be informed about results of further investigations for diagnostic purposes;
- I agree I DO NOT agree that biological material may be used in the future, in compliance with the current legislation on the protection of personal data, for research purposes and/or for studies aimed to the collectivity in medical, biomedical and the epidemiological field and for quality verification programs for the laboratory performance;
- I agree I DO NOT agree to be informed about the results of the research.

Date ____/____/____

Patient signature:

Parent/s or Guardian/s signatures:

a) _____

b) _____

The Specialist who has obtained the consent (name and surname): _____

Phone: _____ E-Mail: _____

Signature and stamp of the Specialist: _____