

## Authenticity testing by the expert



You need to verify food authenticity or adulteration in your food or feed/natural products. Global industry leader Eurofins will help you through analytical testing.

Since the horse meat scandal broke in 2013, food authenticity and food adulteration have taken on a new level of importance with consumers and producers.

Eurofins is the world leader in food and feed authenticity testing. We pioneered DNA-based analytical technologies for food testing using innovative protocols to improve the safety and authenticity of our clients' food products. We have patented the SNIF-NMR® technology and related authenticity testing methods.

### Relevant products

- **Fruit juice and derived products:** detection of addition of sugar, water, colourings, aromas or other undeclared additives, determination of fruit content; geographic origin check
- **Wines, ciders:** detection of chaptalisation, sweetening, dilution or addition of glycerol, checking the process used in sparkling products, conformity to the isotopic profile; geographic origin check
- **Spirits, beers:** control of the botanical origin of the alcohol, detection of addition of water, sugars or flavours (according to current regulations and/or product specifications)
- **Honey, maple syrup, agave syrup:** detection of addition of sugar or other undeclared additives, mislabeling, geographic origin check
- **Flavours:** checking whether a flavour is natural from X (vanilla, aniseed, bitter almond, cinnamon, lavender, fruit, mint), natural, or synthetic
- **Coffee, tea, spices and herbal extracts:** differentiation Arabica vs Robusta, coffee vs chicory, etc.; checking for natural or synthetic sources of caffeine in tea, coffee or guarana-containing drinks; geographic origin check
- **Meat products:** confirmation of animal species, geographic origin check
- **Fish:** confirmation of species and of feeding regime (wild vs. farmed)
- **Dairy products:** confirmation of the main feed used (grass or maize silage), detection of adulteration, animal species check, flavourings check (e.g. fruit, vanilla); geographic origin check
- **Cereals:** confirmation of variety; geographic origin check
- **Basmati rice:** quantification of the amount of basmati present in rice



## Our specific analyses

Our authenticity analyses are “taylor-made” for each product and include basic methods and specific tests, selected to check for likely adulteration practices.

Eurofins’ earliest expertise lies in the use of **isotopic techniques** and in particular the **Site Specific Natural Isotope Fractionation Studied by Nuclear Magnetic Resonance (SNIF-NMR®)** method of authentication. This is one of the most powerful techniques for detecting the adulteration of natural products. Isotope Ratio Mass Spectrometry is also used (as a complementary technique).

Eurofins also carries out **molecular biology** techniques and a large number of classic **physical, chemical and biological methods**: liquid or gas chromatography, spectroscopy and has a very wide range of analytical tools to control product authenticity.

A recent breakthrough was introduced through **NMR-profiling**, a new holistic approach combining targeted and non-target analyses for a fast & complete authenticity screening of whole matrices.

Fraud is becoming more and more sophisticated and increasingly difficult to detect by basic analyses since it is often designed to get round the tests in use. It is therefore necessary to resort to advanced analytical techniques to detect the non-compliant products. A considerable investment in research and development enables Eurofins to apply the most suitable methods to each specific case when evaluating the authenticity of a product.

Eurofins also offers the possibility of setting up a targeted analytical approach and specific data banks to help **protect producers from fraudulent imitations** of their products or false declarations of geographic origin.

## Your reason for choosing Eurofins

- An international reference in the field of authenticity testing (25 years of experience ; Eurofins is a leader in the authenticity testing scientific community, through the involvement in Collaborative Research, Official Methods, Proficiency Testing, Reference Materials and as technology provider (software, materials, know-how)
- Large reference data banks of authentic products (tens of thousands of data on reference samples of various foodstuffs collected worldwide)
- Participation in many collaborative research projects
- Total independence

## Any questions?

Please contact **your local Eurofins laboratory** for more information about authenticity testing.

