



# NGS: NEXT GENERATION SEQUENCING

## IMPROVE FOOD AUTHENTICITY, TRACEABILITY AND SAFETY

NGS analysis is a new and fast solution to identify food fraud and verify authenticity, at the same time, improving traceability and food safety. Within just one day, NGS makes it possible to identify all the species contained in a food sample, against a database of 15,000 species (mammals, birds, seafood, fish, plants, microbes and allergenic species).

Food adulteration and contamination, accidental or intentional, have never been acceptable, but in 21st century food processing and production, it is now identifiable and preventable.

Next Generation Sequencing (NGS)

DNA analysis is the newest, and most powerful, tool in the food industry's armoury.

SGS, with our laboratory network, can deliver NGS to the global food supply chain.

Product supply chains employ a variety of quality and food safety schemes to ensure the policies and processes are in place to source and ensure incoming raw ingredients are of the desired product and quality. Food sample testing verifies the success of these schemes.

**SGS**



## WHAT'S IN A FOOD SAMPLE?

Our NGS DNA diagnostics can identify the biological content of a food sample, processed or unprocessed, for categories including:

- Meat and poultry
- Fish
- Seafood (bivalve molluscs, cephalopods, crustaceans)
- Plants and vegetables
- Tea
- Coffee
- Spices
- Bacteria
- Moulds/fungi
- Allergenic species

Currently, our meat category includes 4,000 species of mammals, birds, reptiles and amphibians. New species are being continually added to the database (algae, insects etc.).

For testing, a food sample may contain one or more ingredients, and can be analysed as raw, processed (including canned), or pre-prepared on a petri dish for microbiological testing. En route to our laboratory, food samples do not need to be temperature controlled.

For microbiology purposes, our NGS analysis can deliver fast identification of organisms (live or dead).

## BENEFITS

The food industry loses some \$10-15 Billion annually to fraud. At a time when food crises, allergens and fraud are increasing consumer awareness of the potential risks in the global food supply chain, NGS DNA testing can deliver:

- New powerful solution with virtually unlimited results
- Fast turnaround time (1-12 days)
- Competitive pricing
- Very sensitive analyses
- Full biological breakdown
- No false positive results

For example, if a hamburger claims to be "100% beef", SGS NGS analysis will quickly provide information on all the meat species which are present in the product. Related services on the market requires a sample to be tested against a list of other known meats.

Protect your operations, customers and consumers; employ NGS DNA analysis to test for and highlight meat and seafood substitution, as well as allergen contamination in a cost-effective and timely process.

## ACCREDITATION & CERTIFICATIONS

Complementing our extensive global network of ISO 17025 food testing laboratories, our NGS DNA testing laboratory is ISO 17025 accredited, and a national reference lab in molecular biology for the European Commission (EC).

## WHY SGS?

Recognised as the global benchmark for quality and integrity, SGS is the world's leading inspection, verification, testing and certification company. We are a leading independent third party service provider and offer efficient solutions to help safeguard quality, safety and sustainability throughout all stages of the food supply chain. We strive to deliver outstanding value at every step in your project by providing:

- Rapid turnaround time
- Value-based pricing
- Technical assistance
- Key account management

## GLOBAL REACH

With a presence in nearly every single region around the globe, our experts speak the local language, understand the culture of the local market and operate globally in a consistent, reliable and cost-effective manner. We have a harmonised approach to delivering services to our customers, leveraging the largest independent network of consumer product experts in the world.

For more about our solutions, Please visit [www.foodsafety.sgs.com](http://www.foodsafety.sgs.com) or email us at: [food@sgs.com](mailto:food@sgs.com).



**SGS IS THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY**

**WHEN YOU NEED TO BE SURE**

**SGS**