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FOOD FORENSICS: ANALYSIS OF FOOD, RAW MATERIALS OR PROCESSED MATERIALS FOR FOOD PRODUCTS AND PHARMACEUTICAL PRODUCTS WITH MOLECULAR BIOLOGICAL METHODS

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Eurofins Medigenomix offers DNA analytical services for DNA sequencing and genotyping. Our genotyping service includes identity testing in humans and animals, population genetics, gene-mapping, pharmacogenetics and forensic DNA analysis. As everytime when a high-quality product could be blended with a low-quality product unintended or for commercial or deceptive reasons, controls are necessary. For our routine work for supplier, importer and trader of food, raw materials for food products and pharmaceutical products we optimized and developed new methods for animal, plant, bacteria and funghi species determination. These methods also can be used in forensic casework, e.g. when plant or animal traces found at a suspect have to be compared with traces found on scene of crime. For analysis of raw material or processed material methods for DNA extraction with commercially available kits has to be optimized. We present data which show advantages of different kits for different applications. We demonstrate examples for detection of blended food products from animals (e.g. caviar), plants (e.g. Basmati rice), as well as blended or wrongly declared raw material for pharmaceutical products from animals (e.g. heparin) or plants (e.g. ginseng). Qualitative and quantitative Analysis is performed both with genomic and mitochondrial DNA by microsatellite analysis, sequencing analysis and Real-Time PCR.