

UPL PROBES FOR PLANT SPECIES TRACEABILITY: AN EXAMPLE OF APPLICATION FOR IDENTIFICATION AND QUANTIFICATION OF RICE

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The cereal composition of a specific food is always a key factor in determining the quality and the safety of the final product. The reliable identification of species and cultivars is therefore essential for the handling, marketing and processing of grain and derived products (Terzi et al, 2008). In particular, it is relevant to add new methods for control of some special food, like those for coeliac consumers, in which the contamination in different cereal species must be accurately determined.

In this work, a set of UPL probes has been evaluated for their application in identification and quantification of plant species. The principle behind UPL probes is that they include a locked nucleic acid that increases binding specificity and melting temperature, making it possible to use shorter probes of 8 or 9 nucleotides. The probe sequences are common in several genomes, allowing each probe to work for many sequences. When a UPL probe is used with gene-specific primers, the probe only binds to the amplicon of interest, offering the specificity of a standard hydrolysis probe.

An example related to the possibility of detection and quantification of *Oryza sativa* and its application to processed rice product is reported.

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