

Rapid Multiplex Meat Speciation Kit

Technology Overview

Identifying the authenticity in meat products is an important issue in food regulatory control for the determination of fraudulent replacement of higher commercial valued meat species by inferior, cheaper or undesirable alternatives.

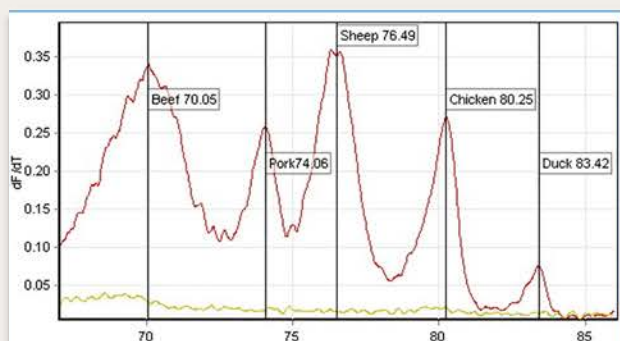
A rapid, cost-effective examination of adulteration is a very critical issue for ethical requirements, specific food allergies, religious affairs, fraud and malicious marketing practices in addition to safety, economic, religious (Halal testing) and legal concerns.

The Rapid Multiplex Meat Speciation kit developed employs PCR amplification in the presence of double-stranded DNA binding dye followed by high resolution melting technology. Detection of meat species namely beef, pork, lamb, duck or chicken is based on the pre-determined melting point of PCR products. It is rapid, sensitive, specific, cost-effective, and does not require a probe.

Features & Specifications

The Rapid Multiplex Meat Speciation kit comprises of the following technologies:

- Primer design
- Multiplex PCR optimisation
- Optimisation of melting point of PCR products so that they can be distinguished from each other
- Innovation method of detection based on the pre-determined melting point of PCR products



Customer Benefits

- **Advantages over traditional real-time PCR methods:** HRM-based methods provide greater flexibility as there is no requirement for fluorescently-labeled detection probes (such as TaqMan probes) – simplifying assay design.
- **Specific and accurate detection method:** PCR products can be discriminated according to sequence, length, GC-content, or strand complementarity, down to single base pair differences.
- **Closed tube method – minimal contamination:** Cross-contamination is minimised as HRM is a closed-tube technique. Unlike other genotyping methods such as denaturing gradient gel electrophoresis (DGGE), HRM does not require the use of hazardous reagents such as acrylamide, formamide, and ethidium bromide.
- **Cost-effective method:** HRM is cost-effective as there is no requirement for fluorescently-labeled detection probes.

Potential Applications

Identification/authentication of meat (species) in meat and meat products (processed meat such as sausage, meat-ball, etc.)