

Identification of pork derivatives in food products by species-specific polymerase chain reaction (PCR) for halal verification

ABSTRACT

Pork identification in four types of food products, which are sausages and the casings, bread and biscuits, using species-specific polymerase chain reaction (PCR) detection of a conserved region in the mitochondrial (mt) 12S ribosomal RNA (rRNA) gene was developed. Genomic DNA of the food products were successfully extracted except for the casing samples, where no genomic DNA was detected. The extracted genomic DNA was then subjected to PCR amplification targeting the specific regions of the 12S rRNA gene. The genomic DNA from the food products were found to be of good quality and produced clear PCR products on the amplification of 12S rRNA gene of 387 base pairs (bp) from pork species. The species-specific PCR identification yielded excellent results for identification of pork derivatives in food products and it is a potentially reliable and suitable technique in routine food analysis for halal certification.

Keyword: Pork identification, Food products, Species-specific PCR, 12S rRNA