

Pork Adulteration in Meat Products – A Review Molecular Identification

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Structured Abstract

Background: The authentication of *Scrofa* (porcine) in meat product is important to avoid meat adulteration which can give negative impact towards consumer and producer. It will cause uproar and violation in religious communities like kosher and Muslim if there is anything consumed breach their religion's law. People with sensitive immunity or immunocompromised groups will also be harmed if the analysis of the meat product are not done accurately. Furthermore, this process will help to lower down fraudulence cases and mislabelling of meat product.

Methods: A comprehensive literature review was conducted to gather data on gene indicator, which in this case, are the conserve genes such as Cyt b, D-Loop and ND5 and using molecular techniques such as PCR, rtPCR and RAPD PCR. Databases such as PubMed, Science Direct, and Google Scholar were utilized to identify relevant studies.

Results: This review focused on the adulteration of meat product with porcine meat. Other alternatives also can be used for authentication process to confirm accuracy and for analysing of different physical properties of meat samples collected. Some of the alternative method can be done through chromatographic (High-Pressure Liquid Chromatography and Gas Chromatography), spectroscopic (Fourier transform infrared and Raman Spectroscopy) and molecular methods (Electric Nose and Enzyme-Linked Immunosorbent Assay).

Conclusion: These techniques are often paired with other different other techniques as it able to facilitates in the confirmation of porcine in meat product. Accuracy and efficiency of these techniques rely heavily on the specificity of designated primers which is created and chosen through referring to GenBank and comparison with species-specific primer of the targeted conserved genes while pairing it with the best techniques for the target species.

Keywords: Porcine, PCR, Meat Fraudulence, Porcine Adulteration

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