

DETECTION OF INGREDIENTS IN SALAMI AND SAUSAGES FROM DIFFERENT BRANDS SOLD IN KOSOVO MARKET BY PCR

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Abstract

Food adulteration is a major problem throughout the world and its detection is of economic, health and ethical interest. Declaration of ingredients in animal-based food products is of particular importance to consumers' safety and is a legally guaranteed right. In Kosovo so far there has been no study that analyzes domestic products in this regard. Therefore, this study has the purpose of identifying the ingredients in salami and sausages declared as "chicken" and sausages declared as "beef" sold in Kosovo market.

Samples were collected at random from different brands in the Prishtina region. A total of 22 samples are included in this study. 200 mg from each sample were used as the initial material to extract the genomic DNA. Using the Qiagen food authentication portfolio (DNeasy mericon Food Kit and mericon PCR assays) we successfully extracted the genomic DNA and then amplified the target in a Roter-Gene Q. Mericon assays for target detection use a real-time PCR-based protocol by implying two different dyes (FAM dye for target detection and MAX dye for internal control to control the inhibition). Samples declared as "chicken" have been tested for the swine and ruminants specific DNA, while those declared as "beef" were tested for the presence of swine and sheep sequences.

The first results show a discrepancy between the declaration and the actual ingredients in few products. Overall the undeclared swine meat in all products we tested is surprisingly low, whereas the undeclared ruminant meat seems to be more highly present.

Although the mericon PCR assays are designed for the target-specific detection a confirmation with other methods is necessary to ensure a transparent and fair labeling of the ingredients.

Key words: *Ingredients authentication, Sausages, Salami, Food safety, PCR.*