

Detection of Mixing Up of Processed Chicken Products with Rat Contaminants, Found in Sri Lankan Markets by Species Specific Primer PCR Method

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Abstract

The aim of this study is to detect the rat adulteration in chicken sausages in order to protect consumers. Presence of rat meat in chicken sausages is a crucial issue and also is illegal, and raises many health concerns, religious, cultural and economic issues. Based on these issues, it is necessary to do molecular biology detection whether the chicken sausages are contaminated with rat's meat or not. The widespread expansion of nucleic acid based technologies especially polymerase chain reaction (PCR) over the past decade reflects their significance in chicken meat verification.

Five different brands of chicken sausages from local markets in Colombo were randomly selected as well as the rat blood (Positive control) was collected from the faculty of Science Colombo University. Fresh Chicken meat (Positive control) was obtained from the farm. Isolated DNA from specimens was followed by PCR method. Specific primers for Chicken and rat were selected from sequences reachable Gene bank database. PCR amplification was followed. PCR products were analyzed lastly by using UV transilluminator and the results were taken as a gel images. The results obtained from the gel electrophoresis compared with a 50bp ladder. Chicken DNA 266bp band which was obtained from Chicken sausages was given 266bp and No Rat DNA 96bp band was obtained. As well as the bands were obtained in Negative control. The processed chicken products (sausages) which were analyzed through above studies were not contaminated by rat. This was proved by PCR technique.

Keywords - Polymerase chain reaction (PCR), Chicken sausages, Deoxyribonucleic acid (DNA)