عنوان مقاله:

Detection of Minced Red Meat Mixing Adulteration via Molecular and Histological Techniques in Mashhad, Iran

محل انتشار:

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خلاصه مقاله:

Background:Meat is an important source of protein and due to its high economic value, there is a possibility of using other animals' tissues and cross-species adulteration to reduce its price. The meat industry has the highest potential for adulteration among food groups, since the raw materials are not identifiable after mixing, making the detection of food adulteration a necessity. Methods:In this study, ۱۴ samples of minced red meat from ۱۴ butcher shops in Mashhad were randomly selected, collected, and analyzed using histological and molecular techniques. For histological analysis, the samples were prepared according to the usual methods and the prepared sections were stained using conventional and tissue-specific staining. Molecular analysis was performed using the Real-time PCR technique. The data were analyzed using Rotor-Gene Q software ۲.۳.۵. Results:The histological analysis confirmed the presence of gizzard and chicken skin in addition to skeletal muscle, smooth muscle, and adipose tissue in the minced red meat samples. Furthermore, the molecular analysis confirmed the use of chicken meat or chicken waste in a number of samples by confirming chicken DNA. Conclusion: Histological and molecular techniques confirmed the presence of chicken tissues in some minced red meat samples, which may have been used to reduce the price of minced red meat but is considered as food adulteration.

کلمات کلیدی:

Red meat, White meat, Food adulteration, histology, Molecular method