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Selection the Most Suitable Method for DNA Extraction from Muscle of Iran's Canned Tuna by Comparison of Different DNA Extraction Methods

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Abstract : High quality and purity of DNA isolated from canned tuna is essential for species identification. In this study, the efficiency of five different methods for DNA extraction was compared. Method of national standard in Iran, the CTAB precipitation method, Wizard DNA Clean Up system, Nucleospin and GenomicPrep were employed. DNA was extracted from two different canned tuna in brine and oil of the same tuna species. Three samples of each type of product were analyzed with the different methods. The quantity and quality of DNA extracted was evaluated using the 260 nm absorbance and ratio A260/A280 by spectrophotometer picodrop. Results showed that the DNA extraction from canned tuna preserved in different liquid media could be optimized by employing a specific DNA extraction method in each case. Best results were obtained with CTAB method for canned tuna in oil and with Wizard method for canned tuna in brine.

Keywords : canned tuna PCR, DNA, DNA extraction methods, species identification
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