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Rapid identification of Salmonella Enteriditis in chicken skin Using invA molecular marker

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Background: *Salmonella* is a gram-negative bacteria that can cause diarrheal illness in humans. Raw meat, especially pork, undercooked products of poultry meat, eggs and products containing raw eggs as well as unpasteurized milk are foods posing the greatest hazard to public health. If present in food, it does not usually affect the taste, smell, or appearance of the food. The bacteria live in the intestinal tracts of infected animals and humans. In the present study, we employed RCR method for screening and identification of *Salmonella* serovar Enteritidis in poultry skins from commercial samples in Iran.
Methods*: Salmonella* enterica serovars Enteritidis was grown on buffered peptone water. Artificial inoculation of chicken skin samples was done and a control sample was included to ensure that the skin was not naturally contaminated with *Salmonella* after DNA was extracted from inoculated chicken skin samples, amplification of invA gene was performed using PCR.
Results: Using PCR on genomic DNA from chicken skin indicated, artificially contamination with *S*. Enteritidis as a band of 796 bp in size (belonged to invA gene) was observed after electrophoresis. PCR on these skin samples resulted in 38 (71%) positive bands of 796 bp. Detected bands corresponding to 790 bp, represent contamination of samples with bacteria, with different rate depending on intensity of the bands.
Conclusion: current findings indicated that PCR could be used as a reliable screening test to obtain results in a shorter period of time in comparison with the cultural method.

Keywords: Salmonella enteritidis, PCR poultry skin, invA gene