

# FOOD SAFETY & REGULATORY MEASURES

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## Identification of toxigenic *S. aureus* in some foods of animal origin in Kayseri, Turkey

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**Statement of the Problem:** Coagulase-positive *S. aureus* strains are considered as the most pathogenic bacteria of all the staphylococci because of their ability to produce toxins. Foods of animal origin are the foods mostly incriminated for staphylococcal food poisonings which may be contaminated during slaughtering, processing or handling.

**Aim:** The aim of this study was to detect *Staphylococcus aureus* in some foods of animal origin and to determine staphylococcal enterotoxins (SEs), enterotoxin genes (*sea* to *see*) and the toxic shock syndrome toxin (*tst*) gene in the isolates.

**Methodology & Theoretical Orientation:** A total of 170 samples including soudjouk, salami, sausage, pastrami and raw chicken meat were randomly collected and examined. Positive samples were confirmed by PCR using the *femA* gene as an internal positive control for *S. aureus*. Multiplex PCR was used to detect *se* and *tst* genes and SEs were determined by ELISA.

**Findings:** Of the 66 (38.8%) isolates characterized as *S. aureus*, 27 (40.9%) were obtained from raw chicken meat, 17 (25.7%) from salami, nine (13.6%) from soudjouk, nine (13.6%) from pastrami and four (6.06%) from sausage. SEs were identified in 5 out of 66 (7.5%) isolates including three (4.5%) SEA, two (3.03%) SEC. However, the *sea* and *sec* genes were detected in 3 (4.5%) of 66 isolates. None of the isolates were positive for *tst* genes.

**Conclusion & Significance:** The results of this study indicate that the prevalence of *S. aureus* in foods of animal origin was high but low number of samples had a potential health risk with regard to staphylococcal enterotoxins. Carriers and origins of enterotoxigenic *S. aureus* contaminants should be followed up further studies to understand to and prevent sources of contamination.

### Biography

Fulden Karadal is a Lecturer and Researcher at Omer Halisdemir University, Turkey. She has done research on "Foods of animal origin and foodborne pathogens". In previous works, she studied on antimicrobial susceptibility and serotype distribution of *L. monocytogenes*, prevalence of *E. coli* O157 H7 and *Salmonella* spp. in different foods (processed poultry products, meat and milk products) and AFM1 content of milk products.

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