

CHARACTERIZATION OF *STAPHYLOCOCCUS* SPP FROM MEAT AND READY-TO-EAT FOOD, HAT YAI CITY, SONGKHLA, THAILAND

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Abstract. *Staphylococcus aureus* contamination in food is considered important for food safety as its virulence factors are able to cause illnesses in humans. Screening of 100 meat and 30 ready-to-eat (RTE) food samples from open markets, Hat Yai city, Songkhla Province, Thailand during June 2015 to January 2017 revealed 11 samples contaminated with 27 methicillin-susceptible *S. aureus* (MSSA) isolates, of which 52% and 67% carried *spa* and *femB*, respectively, with only a minority (3 and 4 strains) carrying *sec* and *vWbp*, respectively. Staphyloxanthin production on tryptic soy agar was observed in 7 strains but not auto-aggregation. All but two strains were resistant to tetracycline, the exception being strains resistant to both tetracycline and gentamicin and another sensitive to all 8 antimicrobial agents tested. Biofilm formation using crystal violet binding assay showed an average biofilm formation for all strains ranging from A_{570} nm 0.35 (strain PSN-27) to 3.08 (strain PSN-4) ($p < 0.05$). Virulence as determined by a whole-blood phagocytosis assay demonstrated that bacterial number after incubated in whole blood varied from -0.5 fold to 82 folds comparing to their controls. In addition, one strain each of *mecA*⁺ *S. epidermidis* and *S. haemolyticus*, is capable of producing yellow pigment, high biofilm formation, and of auto-aggregation, were isolated from RTE foods. These staphylococci have the potential to cause illness in humans and should be included in any survey of bacterial contamination in foods.

Keywords: *Staphylococcus aureus*, *Staphylococcus epidermidis*, *Staphylococcus haemolyticus*, *mecA*, food, Thailand

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