

Evaluating the antibacterial activity and in vivo assay of methanolic extract of *Stichopus badionotus*

ABSTRACT

This study investigated the antibacterial activity of the methanolic extract of the animal to justify its use in traditional medicine. Antimicrobial activity was assayed by disc diffusion method and broth macro dilution method. From the result it appeared that the methanolic extract of *Stichopus badionotus* displayed antibacterial activities against *Staphylococcus aureus*, three non resistant strains and three multiple resistant strains. The Minimum Inhibitory Concentration (MIC) of the extract against non resistant strain values were 3.75 mg mL⁻¹ and for resistant strain values 7.50 mg mL⁻¹. Further more, this extract tested on rats in wound infection model justified faster healing rates compared to antibiotics. These results indicate that the traditional use of these holothurians for the treatment of *S. aureus* infection mainly on resistant strains should be elucidate to bring out the potential antibacterial agent.

Keyword: Antibacterial agent; Antibacterial screening; Marine natural product