

Anti-Microbial Activity of *Senna garrettiana* Extract

Authors : Pun Jankrajangaeng

Abstract : *Senna garrettiana* is a climatic tropical plant in Southeast Asia. *Senna garrettiana* (Craib) is used as a medicinal plant in Thailand, in which the experiment reported that the plant contains triterpenoids, ligands, phenolics, and fungal metabolites. Thus, it is also reported that the plant possesses interesting biological activity such as antioxidant activity. Therefore, *Senna garrettiana* is selected to examine the antimicrobial activity. The purpose of this study is to examine the antimicrobial activity of *Senna garrettiana* (crab) extract against Gram-positive *Staphylococcus aureus* and Gram-negative *Salmonella typhi*, and the fungus *Candida albicans*. This study performed the agar disk-diffusion method and broth microdilution by using five concentrations of plant extract to determine the minimum inhibitory concentration (MIC) of *S. garrettiana* extract. The result showed that *S. garrettiana* extract gave the maximum zone inhibition of 11.7 mm, 13.7 mm, and 14.0 mm against *S. aureus*, *S. typhi*, and *C. albicans*, respectively. The MIC value of *S. garrettiana* against *S. aureus* was 125 µg/mL while the MIC in *S. typhi* and *C. albicans* greater than 2000 µg/mL. To conclude, *S. garrettiana* extract showed higher sensitivity of antibacterial activity against gram-positive bacteria than gram-negative bacteria. In addition, the plant extracts also possessed antifungal activity. Therefore, further investigation to confirm the mechanism of action of antimicrobial activity in *S. garrettiana* extract should be performed to identify the target of the antimicrobial action.

Keywords : antimicrobial activity, *Candida albicans*, *Salmonella typhi*, *Senna garrettiana*, *Staphylococcus aureus*

Conference Title : ICAMC 2021 : International Conference on Antibiotics and Medicinal Chemistry

Conference Location : Zurich, Switzerland

Conference Dates : September 16-17, 2021