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COMPARISON OF ANTIMICROBIAL ACTIVITY OF *Momordica cochinchinesis* AND *Pinus kesiya* EXTRACTS

Pattaramon P*

Yothinburana School, Thailand

*ppearptrm@gmail.com

ABSTRACT

In recent years, infectious diseases have increased considerably, and they are amongst the most common leading causes of death all over the world. Since the rapid emergence of resistance bacteria has become a major global problem, medicinal plants are plausible candidates for therapeutic use. Medicinal plants have been used in traditional medicine for a long time since they are the major source of active constituents, for instance, lycopene and carotenoids. In addition, They have been reported in biological activities such as antioxidant activity and anticancer potential. This study aimed to examine the antimicrobial activities of *M. cochinchinensis* and *P. kesiya* extracts against Staphylococcus aureus. Antimicrobial activities of these plant extracts were monitored using the agar disk-diffusion method and broth microdilution method to determine the minimum inhibitory concentration (MIC) value. In this study, *M. cochinchinensis* and *P. kesiya* extracts are investigated for antibacterial activity against *Staphylococcus aureus*. On the one hand, the results showed that *S. aureus* were susceptible to *P. kesiya* extracts with MIC value of 62.5 µg/ml. On the other hand, *M. cochinchinensis* showed MIC against *S. aureus* was greater than 2000 µg/ml. It can be concluded that *P. kesiya* extract showed potent antibacterial activity against *S. aureus,* which could greatly value developing as adjuvant therapy for infectious diseases. Infectious diseases can be palliated by antibiotics in the past, yet a lot of evidence indicated that pathogens have developed antibiotic resistance to lessen the efficacy of antibiotics. Therefore, the result of *P. kesiya* and *M. cochinchinensis* in this study will be beneficial for the development of plant extract and public-health of human in the future. However, further investigation regarding purification of the active constituents as well as a determination of the mechanism of antimicrobial action of *P. kesiya* active compound should be performed to identify the molecular target of the active compounds.

Keywords: Antimicrobial activity, *Momordica cochinchinensis, Pinus kesiya, Staphylococcus aureu*

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