

Antibacterial Activities Investigation of *Leucas calostachys* Root Extracts

Abstract.

Background and Objective: Traditional healers have long used plants to treat bacterial infections caused by resistant bacteria. Hence, there is an increased interest in the ethnopharmacological approach to identify new novel compounds from plants to treat these infections. The objective of this study, therefore, was to test successive extracts and their fractions. **Materials and Methods:** The roots of *Leucas calostachys* were obtained, dried and ground. The total methanol extract was obtained and screen for antibacterial activities. Successive extracts were extracted using four different solvents hexane, dichloromethane, ethyl acetate and methanol. The bioactive solvent extracts were fractionated. Successive extracts and fractions were then screened for antibacterial activities against ten **pathogenic bacteria *in vitro*** using the disk diffusion method. **Results:** The results indicated the solvent extracts and fractions were active against both gram-negative and gram-positive bacteria with the lowest MIC value of 3.15 mg mL⁻¹ obtained from total methanol extract against methicillin-resistant ***Staphylococcus aureus***. **Conclusion:** This demonstrated that hexane extracts and fractions could be helpful in the management of resistant bacterial infections. This work is the first attempt to fractionate and test fractions of *L. calostachys*, which can be used for the development of phytomedicine.

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