

**UNIVERSITI TEKNOLOGI MARA**

**ANTIMICROBIAL PROPERTIES OF  
MANGOSTEEN (*GARCINIA MANGOSTANA*)  
EXTRACT ON MICROORGANISM OF SKIN**

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## ABSTRACT

Mangosteen, *Garcinia mangostana* is a tropical plant that has been used as traditional remedies for centuries. Previous studies have shown that *G. mangostana* contains xanthenes, bioactive compounds that possess antibacterial activities. This study will be focusing on determining the ability and effectiveness of mangosteen peels extract in inhibiting the growth of microorganisms that have been identified to be commonly found on human hands. This study is also done to determine the minimum inhibitory concentration of mangosteen peels extract to inhibit the microorganism. In this study, *G. mangostana* peels aqueous extract antibacterial activities against *E. coli*, *S. epidermidis* and *B. subtilis* was evaluated using broth dilution test. It was determined that the minimum inhibitory concentration (MIC<sub>100%</sub>) of *G. mangostana* aqueous extract towards *S. epidermidis* and *B. subtilis* was 5 mg/mL, whilst 10 mg/mL against *E. coli*. In conclusion, *S. epidermidis* and *B. subtilis* (gram positive) have been shown to be more sensitive to *G. mangostana* aqueous extract as compared to *E. coli* (gram negative). Phytochemical screening of *G. mangostana* aqueous extract is recommended to determine the bioactive compounds that exhibit antibacterial activities.