

Abstrak

AKTIVITAS ANTIBAKTERI EKSTRAK ETIL ASETAT KULIT MANGGIS (*Garcinia mangostana* L.) TERHADAP *Staphylococcus epidermidis*

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Latar Belakang: Jerawat merupakan salah satu masalah kulit yang sering menyerang manusia. Pengobatan dengan antibiotik dalam jangka panjang dapat menimbulkan efek samping dan resistensi. Kulit manggis (KM) (*Garcinia mangostana* L.) diketahui memiliki kemampuan antibakteri karena mengandung xanton yang merupakan senyawa polifenol. Penelitian ini bertujuan untuk mengetahui adanya kandungan polifenol dan flavonoid dalam KM (*Garcinia mangostana* L.) dan mengetahui kemampuan antibakteri ekstrak etil asetat KM (EEAKM) (*Garcinia mangostana* L.)

Metodologi: Uji identifikasi polifenol dan flavonoid terhadap EEAKM (*Garcinia mangostana* L.) dilakukan dengan uji tabung. Uji antibakteri EEAKM terhadap *Staphylococcus epidermidis* dilakukan dengan metode difusi cakram Kirby Bauer. Ekstraksi KM dilakukan dengan metode maserasi selama 72 jam menggunakan pelarut etil asetat. Variasi konsentrasi ekstrak yang digunakan yaitu 4%, 6%, 8%, dan 10% dengan replikasi sebanyak tiga kali dengan kontrol positif klindamisin, kontrol negatif akuades. Data yang didapat setelah 24 jam dianalisis menggunakan *one way* ANOVA diikuti dengan uji LSD.

Hasil Penelitian: Hasil penelitian menunjukkan bahwa EEAKM (*G. mangostana* L.) terbukti mengandung polifenol dan flavonoid. Diameter zona hambat rata-rata untuk konsentrasi 4%, 6%, 8%, dan 10% secara berurutan yaitu 12 mm; 12 mm; 12,5 mm; 13,5 mm. Tidak ada perbedaan signifikan antara EEAKM 4% dan 6% ($p > 0,05$), namun berbeda signifikan antara 6% dan 8%; 8% dan 10% ($p < 0,05$).

Kesimpulan: EEAKM (*G. mangostana* L.) mengandung polifenol dan flavonoid. EEAKM (*G. mangostana* L.) memiliki aktivitas antibakteri terhadap *Staphylococcus epidermidis*.

Kata kunci: *Garcinia mangostana* L., antibakteri, etil asetat, *Staphylococcus epidermidis*

Abstract

ANTIBACTERIAL ACTIVITY OF MANGOSTEEN (*Garcinia mangostana* L.) PEEL ETHYL ACETATE EXTRACT AGAINST *Staphylococcus epidermidis*

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Background: Acne is a skin problem that often affecting humans. Long-term treatment with antibiotics can cause side effects and resistance. Mangosteen peel (MP) (*G. mangostana* L.) is known to have antibacterial ability because it contains xanton which is a polyphenol compound. This study aims to determine the content of polyphenols and flavonoids in MP (*G. mangostana* L.), determine the antibacterial ability of MP ethyl acetate extract (MPEAE) and knowing the effect of increasing the concentration of MPEAC on the diameter of the inhibitory zone (DOTIZ).

Methods: Identification test of polyphenols and flavonoids on MPEAE (*G. mangostana* L.) was carried out by tube test. The antibacterial test of MPEAE against *Staphylococcus epidermidis* was carried out by the disc-diffusion Kirby Bauer method. MP extraction was done by 72 hours maceration method using ethyl acetate solvents. Variations in extract concentrations used were 4%, 6%, 8%, and 10% with replication three times with positive control of clindamycin, negative control of distilled water. Data obtained after 24 hours were analyzed using one way ANOVA followed by LSD test.

Results: The results showed that MPEAE (*G. mangostana* L.) was shown to contain polyphenols and flavonoids. The diameter of the inhibition zone averages for concentrations of 4%, 6%, 8%, and 10% respectively 12 mm; 12 mm; 12.5 mm; 13.5 mm. There is no significant difference in 4% and 6% MPEAC concentration ($p > 0,05$), but there are significant differences between 6% and 8%; 8% and 10% MPEAC concentration ($p < 0,05$).

Conclusions: MPEAE (*G. mangostana* L.) contains polyphenols and flavonoids. MPEAE (*G. mangostana* L.) has antibacterial activity against *S. epidermidis*. The increasing concentration of MPEACE effect the antibacterial activity againts *S. epidermidis*.

Keywords: *Garcinia mangostana* L., antibactery, ethyl acetate, *Staphylococcus epidermidis*