UJI AKTIVITAS ANTIBAKTERI FRAKSI ETIL ASETAT BIJI PETAI CINA *(Leucaena leucocephala)* TERHADAP BAKTERI *Staphylococcus Aureus*

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ABSTRAK

Petai cina *(Leucaena leucocephala)* mengandung flavonoid, saponin, tanin, alkaloid dan mimosin yang berpotensi sebagai antibakteri terhadap *Staphylococcus Aureus* penyebab infeksi kulit dengan resistensi antibiotik tinggi, namun penelitian fraksi etil asetat bijinya masih terbatas. Penelitian ini bertujuan menguji efektivitas fraksi etil asetat biji petai cina terhadap S. aureus dan menentukan Konsentrasi Hambat Minimum (KHM). Penelitian eksperimental laboratorium menggunakan 3 kg biji dari Bengkong Batam terdeterminasi di Herbarium Universitas Andalas sebagai *Leucaena leucocephala*. Sebanyak 500 g serbuk simplisia dengan rendemen 22,6% dimaserasi etanol 70% (1:10) selama 5 hari, dipekatkan rotary evaporator, difraksinasi etil asetat dengan rendemen 53%. Standarisasi memenuhi Farmakope dengan kadar air simplisia 7,19%, kadar air ekstrak 12,01% dan susut pengeringan 11,61%. Skrining fitokimia positif flavonoid, alkaloid, saponin, tanin. Uji aktivitas menggunakan metode difusi cakram *Kirby-Bauer* pada media MHA, BHI, NB dengan konsentrasi 10% (1000 µg/disk), 25%, 50%, 75% (7500 µg/disk), kontrol positif Amoxicillin 1% dan negatif DMSO 10% serta dilusi cair untuk KHM. Analisis menggunakan Shapiro-Wilk, Levene dan Two-Way ANOVA SPSS 23. Hasil zona hambat tertinggi pada MHA 75% sebesar 7,4 mm, NB 5,85 mm, BHI 5,21 mm, Amoxicillin 24,9 mm, DMSO 0 mm. Normalitas Sig. 0,681 dan homogenitas Sig. 0,088 terpenuhi. Two-Way ANOVA konsentrasi $F=24,703$ $p<0,001$ dan media $F=18,184$ $p<0,001$ signifikan, interaksi $F=0,603$ $p=0,725$ tidak signifikan. Post-hoc 50% vs 75% $p=0,096$ tidak beda sehingga 50% optimum. KHM diperoleh pada 10% dengan media jernih. Disimpulkan fraksi etil asetat efektif menghambat *S. aureus*.

Kata Kunci: *Leucaena leucocephala*, fraksi etil asetat, *Staphylococcus Aureus*, antibakteri, KHM, Two-Way ANOVA

ANTIBACTERIAL ACTIVITY TEST OF ETHYL ACETATE FRACTION OF CHINESE PETAI SEEDS (*Leucaena leucocephala*) AGAINST *Staphylococcus Aureus* BACTERIA

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ABSTRACT

Petai cina (Leucaena leucocephala) contains flavonoids, saponins, tannins, alkaloids and mimosine with potential as antibacterial against Staphylococcus Aureus causing skin infections with high antibiotic resistance, but research on its seed ethyl acetate fraction is still limited. This study aimed to evaluate the effectiveness of ethyl acetate fraction of petai cina seeds against S. aureus and determine its Minimum Inhibitory Concentration (MIC). This laboratory experimental study used 3 kg seeds from Bengkong Batam determined at Herbarium of Andalas University as Leucaena leucocephala. 500 g of simplicia powder with 22.6% yield was macerated with 70% ethanol (1:10) for 5 days, concentrated by rotary evaporator, fractionated with ethyl acetate with 53% yield. Standardization met pharmacopoeia with simplicia water content 7.19%, extract water content 12.01% and drying shrinkage 11.61%. Phytochemical screening was positive for flavonoids, alkaloids, saponins, tannins. Activity test used Kirby-Bauer disc diffusion on MHA, BHI, NB media with concentrations 10% (1000 µg/disc), 25%, 50%, 75% (7500 µg/disc), positive control Amoxicillin 1% and negative control 10% DMSO and liquid dilution for MIC. Data were analyzed using Shapiro-Wilk, Levene and Two-Way ANOVA SPSS 23. Highest inhibition zone on MHA 75% was 7.4 mm, NB 5.85 mm, BHI 5.21 mm, Amoxicillin 24.9 mm, DMSO 0 mm. Normality Sig. 0.681 and homogeneity Sig. 0.088 were fulfilled. Two-Way ANOVA concentration $F=24.703$ $p<0.001$ and media $F=18.184$ $p<0.001$ significant, interaction $F=0.603$ $p=0.725$ not significant. Post-hoc 50% vs 75% $p=0.096$ not different so 50% is optimum. MIC was obtained at 10% with clear media. It is concluded that ethyl acetate fraction effectively inhibits S. aureus.

Keyword: *Leucaena leucocephala, ethyl acetate fraction, Staphylococcus aureus, antibacterial, MIC, Two-Way ANOVA*