

ABSTRAK

UJI AKTIVITAS ANTIBAKTERI EKSTRAK BUAH SENGGANI (*Melastoma malabathricum* L) TERHADAP BAKTERI *Escherichia Coli*

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Latar belakang, tujuan penelitian *Escherichia coli* merupakan salah satu bakteri penyebab diare dan meningkatnya resistensi antibiotik mendorong pencarian antibakteri alami. Buah senggani (*Melastoma malabathricum* L) diketahui mengandung metabolit sekunder yang berpotensi sebagai antibakteri. Penelitian ini bertujuan mengetahui aktivitas antibakteri ekstrak etanol 96% buah senggani terhadap pertumbuhan *Escherichia coli*. **Metode penelitian** Penelitian menggunakan desain *Quasi Experimental* dengan *Post Test Control Group Design*. Buah senggani diekstraksi metode maserasi menggunakan etanol 96%. Aktivitas antibakteri diuji dengan metode difusi cakram pada media *Mueller Hinton Agar* menggunakan konsentrasi ekstrak 20%, 40%, 60%, dan 80%; *ciprofloxacin* sebagai kontrol positif dan DMSO sebagai kontrol negatif. Analisis statistik dilakukan dengan uji *Shapiro-Wilk*, *Levene*, *Kruskal-Wallis*, dan *Mann-Whitney*. **Hasil** Skrining fitokimia menunjukkan adanya flavonoid, alkaloid, tanin, saponin, dan steroid. Rata-rata diameter zona hambat berturut-turut pada konsentrasi 20%, 40%, 60%, dan 80% dengan rata-rata $3,73 \pm 0,30$ mm, $5,20 \pm 0,35$ mm; $6,45 \pm 0,31$ mm, dan $10,18 \pm 0,27$ mm. *Ciprofloxacin* menghasilkan zona hambat $29,68 \pm 0,69$ mm, sedangkan DMSO tidak menunjukkan hambatan. Uji *Kruskal-Wallis* menunjukkan perbedaan bermakna antar kelompok ($p=0,000$). **Kesimpulan** Ekstrak buah senggani (*Melastoma malabathricum* L) memiliki aktivitas antibakteri terhadap pertumbuhan *Escherichia coli*. Semakin tinggi konsentrasi ekstrak, semakin besar daya hambat yang dihasilkan, dengan konsentrasi 80% sebagai yang paling efektif.

Kata kunci: Aktivitas antibakteri, Buah senggani, *Escherichia coli*, Metode difusi cakram.

ABSTRACT

ANTIBACTERIAL ACTIVITY TEST OF SENGGANI FRUIT EXTRACT (*Melastoma malabathricum* L) AGAINST BACTERIA *Escherichia Coli*

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The back ground and the aim of research *Escherichia coli* is one of the bacteria that causes diarrhea, and increasing antibiotic resistance has prompted the search for natural antibacterials. Senggani fruit (*Melastoma malabathricum* L.) is known to contain secondary metabolites with antibacterial potential. This study aimed to determine the antibacterial activity of 96% ethanol extract of senggani fruit against the growth of *Escherichia coli*. **Method** The study used a Quasi-Experimental design with a Post-Test Control Group Design. Senggani fruit was extracted using the maceration method using 96% ethanol. Antibacterial activity was tested using the disc diffusion method on Mueller Hinton Agar media using extract concentrations of 20%, 40%, 60%, and 80%; ciprofloxacin as a positive control and DMSO as a negative control. Statistical analysis was performed using the Shapiro–Wilk, Levene, Kruskal–Wallis, and Mann–Whitney tests. **Result** Phytochemical screening showed the presence of flavonoids, alkaloids, tannins, saponins, and steroids. The average diameter of the inhibition zone at concentrations of 20%, 40%, 60%, and 80% was 3.73 ± 0.30 mm, 5.20 ± 0.35 mm, 6.45 ± 0.31 mm, and 10.18 ± 0.27 mm, respectively. Ciprofloxacin produced an inhibition zone of 29.68 ± 0.69 mm, while DMSO showed no inhibition. The Kruskal–Wallis test showed a significant difference between groups ($p=0.000$). **Conclusion** Senggani fruit extract (*Melastoma malabathricum* L) has antibacterial activity against the growth of *Escherichia coli*. The higher the concentration of the extract, the greater the inhibitory effect, with a concentration of 80% being the most effective.

Keyword: Antibacterial activity, disc diffusion method, *Escherichia coli*, Senggani fruit.