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**UJI AKTIVITAS ANTIBAKTERI EKSTRAK DAUN SIRIH (*Piper betle L*)
DENGAN VARIASI KONSENTRASI ETANOL TERHADAP BAKTERI
*Staphylococcus aureus***

ABSTRAK

Latar belakang : Daun sirih (*Piper betle L*) salah satu tanaman herbal yang dapat dimanfaatkan untuk pengobatan. Daun sirih mengandung senyawa metabolit sekunder yang memiliki aktivitas antibakteri. Tujuan penelitian ini mengetahui pengaruh varian pelarut terhadap aktivitas antibakteri ekstrak daun sirih terhadap bakteri *Staphylococcus aureu*.

Metode : Jenis penelitian ini adalah eksperimental diawali dengan ekstraksi metode maserasi dengan varian konsentrasi pelarut etanol 40%, etanol 70%, dan etanol 96%, dibuat konsentrasi 5%, 10%, 15%, 20%, dan 25%. Kontrol positif menggunakan disk kloramfenikol dan kontrol negatif DMSO. Uji aktivitas antibakteri menggunakan metode difusi cakram. Data diuji menggunakan SPSS dengan uji *kruskal wallis*.

Hasil : Rata-rata diameter zona hambat daun sirih konsentrasi 5%, 10%, 15%, 20%, dan 25% ekstrak etanol 40% secara berturut-turut 2,69 mm, 3,40 mm, 3,38 mm, 3,93 mm, dan 4,32 mm. ekstrak etanol 70% berturut-turut 4,53 mm, 5,01 mm, 5,45 mm, 6,34 mm, dan 6,8 mm. etanol 96% secara berturut-turut 3,73 mm, 4,01 mm, 5,32 mm, 5,75 mm, dan 6,29 mm. Hasil uji SPSS menunjukkan terdapat perbedaan signifikan pada aktivitas antibakteri ekstrak daun sirih (*Piper betle L*) menggunakan variasi konsentrasi etanol.

Kesimpulan: Terdapat perbedaan signifikan pada aktivitas antibakteri ekstrak daun sirih (*Piper betle L*) menggunakan variasi konsentrasi etanol dengan nilai signifikan P value 0,016 ($P < 0,05$). Pelarut yang memiliki aktivitas antibakteri yang paling baik pada ekstrak daun sirih yaitu etanol 70% dengan konsentrasi 10% yang memiliki rata-rata zona hambat sebesar 5,01 mm sehingga termasuk kategori sedang.

Kata kunci : *Piper betle L*, pelarut, antibakteri, *Staphylococcus aureus*

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ANTIBACTERIAL ACTIVITY TEST OF BETEL LEAF EXTRACT (*Piper betle* L) WITH VARIATIONS IN ETHANOL CONCENTRATION AGAINST *Staphylococcus aureus* BACTERIA

ABSTRACT

Background: Betel leaf (*Piper betle* L) is one of the herbal plants that can be used for medicine. Betel leaves contain secondary metabolite compounds that have antibacterial activity. The purpose of this study is to determine the effect of solvent variants on the antibacterial activity of betel leaf extract on *Staphylococcus aureu* bacteria.

Method: this type of research is experimental starting with the maceration method with solvent concentration variants of 40% ethanol, 70% ethanol, and 96% ethanol, made concentrations of 5%, 10%, 15%, 20%, and 25%. Positive control uses chloramphenicol discs and DMSO negative controls. The antibacterial activity test uses the disc diffusion method. The data were tested using SPSS with *the crucial wallis* test.

Results : The average diameter of the inhibition zone of betel leaf concentrations of 5%, 10%, 15%, 20%, and 25% ethanol extract was 2.69 mm, 3.40 mm, 3.38 mm, 3.93 mm, and 4.32 mm, respectively. 70% ethanol extract was 4.53 mm, 5.01 mm, 5.45 mm, 6.34 mm, and 6.8 mm, respectively. 96% ethanol was 3.73 mm, 4.01 mm, 5.32 mm, 5.75 mm, and 6.29 mm. The results of the SPSS test showed that there was a significant difference in the antibacterial activity of betel leaf extract (*Piperis betle* L) using variations in ethanol concentration.

Conclusion: There was a significant difference in the antibacterial activity of betel leaf extract (*Piperis betle* L) using a variation in ethanol concentration with a significant P value of 0.016 ($P < 0.05$). The solvent that has the best antibacterial activity in betel leaf extract is 70% ethanol with a concentration of 10% which has an average inhibition zone of 5.01 mm so it belongs to the medium category.

Keywords : *Piper betle* L, solvent, antibacterial, *Staphylococcus aureu*