

ABSTRAK

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Program Studi : Farmasi
Judul Skripsi : Uji Aktivitas Antibakteri Ekstrak Etanol 70% Buah Kapulaga (*Wurfbainia compacta* Sol. ex Maton) Terhadap Bakteri *Escherichia coli* Dan *Enterococcus faecalis*

Kapulaga (*Wurfbainia compacta* Sol. ex Maton) merupakan salah satu tanaman rempah Indonesia yang berkhasiat sebagai obat tradisional dan mengandung senyawa sineol sebagai antibakteri. Tujuan dari penelitian ini adalah mengetahui golongan senyawa metabolit sekunder dan aktivitas antibakteri ekstrak etanol buah kapulaga (*Wurfbainia compacta* Sol. ex Maton) terhadap bakteri *Escherichia coli* dan *Enterococcus faecalis*. Ekstrak dibuat secara maserasi, dengan pelarut etanol 70%. Pengujian aktivitas antibakteri dilakukan dengan metode difusi cakram dan dilusi padat. Hasil penapisan fitokimia menunjukkan bahwa ekstrak etanol buah kapulaga mengandung senyawa metabolit sekunder seperti alkaloid, flavonoid, tanin, saponin dan steroid/triterpenoid. Hasil uji antibakteri ekstrak etanol 70% buah kapulaga konsentrasi 20%, 40%, 60% dan 80% memiliki aktivitas antibakteri terhadap *Enterococcus faecalis* dengan nilai Diameter Daya Hambat (DDH) berturut-turut $6,80 \pm 0,09$ mm; $7,81 \pm 0,26$ mm; $9,27 \pm 0,74$ mm; $10,11 \pm 0,55$ mm yang tergolong kategori daya hambat sedang hingga kuat sedangkan terhadap *Escherichia coli* pada konsentrasi ekstrak yang sama sebesar $6,77 \pm 0,08$ mm; $7,76 \pm 0,11$ mm; $9,24 \pm 0,04$ mm; $9,70 \pm 0,05$ mm yang tergolong kategori daya hambat sedang. Hasil uji KHM ekstrak etanol 70% buah kapulaga konsentrasi 20%, 15%, 10% dan 5% tidak memiliki Konsentrasi Hambat Minimum terhadap bakteri *Enterococcus faecalis* dan *Escherichia coli*.

Kata kunci:

Antibakteri, *E.coli*, *E.faecalis*, Etanol 70%, *Wurfbainia compacta* Sol. ex Maton

ABSTRACT

Name : Eka Ayu Agustin

Study Program : Pharmacy

Title : Antibacterial Activity Test of 70% Ethanol Extract of Cardamom Fruit (*Wurfbainia compacta* Sol. ex Maton) Against *Escherichia coli* and *Enterococcus faecalis* Bacteria

Cardamom (*Wurfbainia compacta* Sol. ex Maton) is one of the Indonesian spice plants which is efficacious as a traditional medicine and contains cineol compounds as an antibacterial. The purpose of this study was to determine the secondary metabolites and the antibacterial activity of the ethanol extract of cardamom (*Wurfbainia compacta* Sol. ex Maton) against *Escherichia coli* and *Enterococcus faecalis* bacteria. The extract was prepared by maceration, with 70% ethanol solvent. Antibacterial activity testing was carried out using disc diffusion and solid dilution methods. The results of the phytochemical screening showed that the ethanol extract of cardamom fruit contained secondary metabolites such as alkaloids, flavonoids, tannins, saponins and steroids/triterpenoids. Antibacterial test results of 70% ethanol extract of cardamom fruit concentrations of 20%, 40%, 60% and 80% had antibacterial activity against *Enterococcus faecalis* with a value of Diameter of Inhibitory Power (DDH) respectively 6.80 ± 0.09 mm; 7.81 ± 0.26 mm; 9.27 ± 0.74 mm; 10.11 ± 0.55 mm which belongs to the medium to strong inhibition category while for *Escherichia coli* at the same extract concentration of 6.77 ± 0.08 mm; 7.76 ± 0.11 mm; 9.24 ± 0.04 mm; 9.70 ± 0.05 mm which belongs to the medium inhibition category. The MIC test results of 70% ethanol extract of cardamom fruit at concentrations of 20%, 15%, 10% and 5% did not have a Minimum Inhibitory Concentration against *Enterococcus faecalis* and *Escherichia coli* bacteria.

Keywords:

Antibacterial, *E.coli*, *E.faecalis*, Ethanol 70%, *Wurfbainia compacta* Sol. ex Maton