ABSTRAK

MANINTEN, M., 2021, UJI AKTIVITAS ANTIBAKTERI FRAKSI *n*-HEKSANA, ETIL ASETAT DAN FRAKSI AIR DARI EKSTRAK ETANOL DAUN KERSEN (*Muntingia calabura* L.) TERHADAP BAKTERI *Escherichia coli*, SKRIPSI, PROGRAM STUDI S1 FARMASI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA. Dibimbing oleh Dr. apt. Titik Sunarni, M.Si. dan Destik Wulandari, S.Pd., M.Si.

Tanaman kersen (*Muntingia calabura* L.) mengandung berbagai senyawa bioaktif seperti flavonoid, tanin, saponin dan steroid yang berkhasiat sebagai antibakteri. Penelitian ini bertujuan untuk menguji aktivitas antibakteri ekstrak etanol daun kersen (*Muntigia calabura* L.), fraksi *n*-heksana, etil asetat, dan air terhadap *Escherichia coli* dan untuk mengetahui fraksi teraktif serta nilai Konsentrasi Hambat Minimum (KHM) dan Konsentrasi Bunuh Minimum (KBM) terhadap *Escherichia coli*.

Daun kersen diekstraksi dengan metode maserasi dengan menggunakan pelarut etanol 96% kemudian difraksinasi menggunakan pelarut *n*-heksana, etil asetat dan air. Pengujian aktivitas antibakteri menggunakan metode difusi dengan konsentrasi 20%, 10%, 5% dan metode dilusi dengan konsentrasi 20%; 10%; 5%; 2,5%; 1,25%; 0,625%; 0,312%; 0,156%; 0,078%; 0,039%. Data yang diperoleh dianalisa statistik dengan *one way* ANOVA.

Hasil penelitian menunjukkan bahwa ekstrak etanol, fraksi *n*-heksana, etil asetat, dan air dari daun kersen mempunyai aktivitas antibakteri terhadap bakteri *Escherichia coli*. Fraksi teraktif yang didapatkan adalah fraksi etil asetat dengan konsentrasi 20% dengan nilai rata-rata nilai daya hambat 19,0 mm. Konsentrasi Bunuh Minimum (KBM) fraksi etil asetat daun kersen terhadap bakteri *Escherichia coli* sebesar 5% dan Konsentrasi Hambat Minimum (KHM) fraksi etil asetat daun kersen tidak terlihat.

Kata kunci : Antibakteri, daun kersen, difusi, dilusi, *Escherichia coli*

ABSTRACT

MANINTEN, M., 2021, ANTIBACTERIAL ACTIVITY OF *n*-HEXANE, ETHYL ACETATE AND WATER FRACTIONS FROM ETHANOL EXTRACT OF KERSEN LEAF (*Muntingia calabura* L.) AGAINST *Escherichia coli*, THESIS, BACHELOR OF PHARMACY, FACULTY OF PHARMACY, SETIA BUDI UNIVERSITY, SURAKARTA. Supervised by Dr. apt. Titik Sunarni, M.Si. and Destik Wulandari, S.Pd., M.Si.

Cherry plant (*Muntingia calabura* L.) contains compounds such of flavonoids, tannins, saponins and steroids which have antibacterial properties. This study aimed to test the antibacterial activity and fractions of *n*-hexane, ethyl acetate, and water using ethanol extract of cherry leaf (*Muntigia calabura* L.) against *Escherichia coli* and to determine the most active fraction and the value of Minimum Inhibitory Concentration (MIC) and Minimum Kill Concentration (KBM) against *Escherichia coli*.

Cherry leaves were extracted by maceration method using 96% ethanol and then fractioned using *n*-hexane, ethyl acetate and water as solvents. Testing of antibacterial activity using the diffusion method with a concentration of 20%, 10%, 5% and dilution method with a concentration of 20%; 10%; 5%; 2,5%; 1,25%; 0,625%; 0,312%; 0,156%; 0,078%; 0,039%. The data obtained were statistically analyzed by one way ANOVA.

The results showed that the ethanol extract, n-hexane, ethyl acetate, and water fractions from cherry leaves had antibacterial activity against Escherichia coli. The most active fraction obtained was the ethyl acetate fraction with a concentration of 20% with an average value of inhibition 19,0 mm. The Minimum Kill Concentration (KBM) of the ethyl acetate fraction of cherry leaves against *Escherichia coli* is 5% and and the Minimum Inhibitory Concentration (MIC) of the ethyl acetate fraction of cherry leaves was not visible.

Keywords *: Antibacterial, Cherry leaf, diffusion, dilution, Escherichia coli*