ABSTRAK

ALWAZIRUL MAHDI, 2021, UJI AKTIVITAS ANTIBAKTERI EKSTRAK DAN FRAKSI RIMPANG ALANG-ALANG (*Imperata cylindrica* L) SERTA BIOAUTOGRAFI FRAKSI TERAKTIF TERHADAP BAKTERI *Escherichia coli* ATCC 25922, SKRIPSI, PROGRAM STUDI S1 FARMASI, FAKULTAS FARMASI, UNIVERSITAS SETIA BUDI, SURAKARTA. Dibimbing oleh Dr. Apt. Opstaria Saptarini, M.Si. dan Apt. Ghani Nurfiana Fadma Sari, M.Farm.

Escherichia coli merupakan bakteri yang paling umum menyebabkan diare terutama pada anak-anak. Alang-alang sudah digunakan sebagai penggunaan obat tradisional untuk panas dalam, dan pelancar air seni. Penelitian ini bertujuan untuk mengetahui aktivitas antibakteri ekstrak dan fraksi rimpang alang-alang, aktivitas teraktif dari ekstrak dan fraksi, serta golongan senyawa yang terkandung didalam fraksi teraktif dari rimpang alang-alang.

Metode ekstraksi yang digunakan dalam penelitian ini adalah metode maserasi etanol 70%, fraksi, dan difusi sumuran. Konsentrasi uji yang digunakan adalah 10%, 15%, 20%, kontrol positif antibiotik ciprofloxacin, dan kontrol negatif DMSO 1%. Metode difusi dilakukan dengan mengukur diameter zona hambat disekitar sumuran.

Hasil penelitian menunjukkan konsentrasi 20% pada ekstrak, fraksi n-heksan, etil asetat, dan air. Masing-masing memberikan diameter zona hambat sebesar 15,166 mm, 7,833 mm, 12,2 mm, 11,2 mm pada bakteri *Escherichia coli* ATCC 25922. Ekstrak dan fraksi etil asetat adalah yang paling efektif selanjutnya dilakukan bioautografi pada bakteri *Escherichia coli*, hasil menunjukkan fraksi etil asetat mengandung senyawa flavonoid.

Kata kunci: *Escherichia coli*, diare, akar alang-alang, ekstrak, fraksi, bioautografi.

ABSTRACT

ALWAZIRUL MAHDI, 2021, ANTIBACTERIAL ACTIVITY TESTING OF ALANG-ALANG (*Imperata cylindrica* L) Rhizome AND FRACTION AND BIOAUTOGRAPHY OF THE ACTIVE FRACTION OF THE BACTERIA *Escherichia coli* ATCC 25922, Thesis, S1 PHARMACEUTICAL STUDY PROGRAM, FACULTY OF PHARMACEUTICAL, SETIA BUDI UNIVERSITY, SURAKARTA. Supervised by Dr. apt. Opstaria Saptarini, M.Sc. and Apt. Ghani Nurfiana Fadma Sari, M. Farm.

Escherichia coli is the most common bacterium that causes diarrhea, especially in children. Alang-alang has been used as a traditional medicine for internal heat, and as a urine stream. This study aims to determine the antibacterial activity of the extract and fraction of alang-alang rhizome, the most active activity of the extract and fraction, and the class of compounds contained in the most active fraction of the rhizome of alang-alang.

The extraction method used in this research is 70% ethanol maceration method, fraction, and well diffusion. The test concentrations used were 10%, 15%, 20%, positive control of ciprofloxacin antibiotic, and 1% negative control of DMSO. The diffusion method was carried out by measuring the diameter of the inhibition zone around the well.

The results showed a concentration of 20% in the extract, n-hexane, ethyl acetate, and water fractions. Each gave an inhibition zone diameter of 15.166 mm, 7.833 mm, 12.2 mm, 11.2 mm on *Escherichia coli* ATCC 25922. The extract and the ethyl acetate fraction were the most effective, then bioautography was performed on *Escherichia coli* bacteria, the results showed the fraction Ethyl acetate contains flavonoid compounds.

Key words: *Escherichia coli*, diarrhea, Imperata root, extract, fraction, bioautography.