

ABSTRAK

Bahan alam dapat dijadikan sebagai bahan obat. Salah satu tanaman binahong. Daun binahong mengandung senyawa rutin yang bermanfaat bagi manusia. Penelitian ini bertujuan untuk mendapatkan metode yang valid dan dapat digunakan untuk menetapkan kadar rutin dalam ekstrak etanol daun binahong sebagai salah satu parameter standardisasi obat tradisional. Jenis penelitian yang digunakan yaitu eksperimental kuasi. Parameter validasi metode meliputi: selektivitas dan spesifisitas, linearitas, rentang linearitas, LOD, LOQ, akurasi, dan presisi. Hasil optimasi didapatkan kondisi yaitu KCKT dengan fase gerak asetonitril:air:metanol (10:60:30), panjang gelombang 272 nm, dan laju alir 0,7 mL/menit.

Validasi didapatkan bahwa metode yang digunakan selektif dan spesifik, $r = 0,99915$ pada perhitungan linearitas dan $0,9992$ pada perhitungan rentang. LOD didapatkan = 0,077 ppm dan LOQ = 0,258 ppm. Akurasi *intra-day* antara 90,98%-100,64% hari pertama; 95,46%-104,47 % hari kedua; dan 88,70%-99,43% hari ketiga. Akurasi *inter-day* konsentrasi 1 ppm = 95,53%; 1,6 ppm = 94,06%; dan 2,2 ppm = 94,66%. Presisi *intra-day* antara 2,03%-5,72% pada hari pertama; 0,86%-3,28% hari kedua; dan 1,26%-4,74% hari ketiga. Presisi *inter-day* konsentrasi 1 ppm = 3,13%; 1,6 ppm = 2,82%; dan 2,2 ppm = 3,77%.

Kata kunci: Bahan alam, ekstrak etanol daun binahong, senyawa rutin, validasi metode analisis.

ABSTRACT

Natural ingredients can be used as medicinal ingredients. One of the binahong plants. Binahong leaves contain rutin compounds that are beneficial for humans. This study aims to obtain a method that is valid and can be used to determine the level of rutin in the ethanolic extract of binahong leaves as one of the standardization parameters of traditional medicine. The type of research is quasi-experimental. Parameters of validation include: selectivity and spesificity, linearity, range, LOD, LOQ, accuracy, and precision. Results of optimization, HPLC with acetonitrile:water:methanol (10:60:30) mobile phase, 272 nm wavelength, and flow rate of 0.7 mL/minute.

Validation found that the method is selective and spesific has $r = 0.99915$ of the standard curve and $r = 0.9992$ of the range. LOD = 0.077 ppm and LOQ = 0.258 ppm. Intra-day accuracy between 90,98%-100,64% first day; 95,46%-104,47% second day; and 88,70%-99,43% third day. Inter-day accuracy of concentration 1 ppm = 95.53%; 1.6 ppm = 94.06%; and 2.2 ppm = 94.66%. Intra-day precision between 2.03%-5.72% on the first day; 0.86%-3.28% second day; and 1.26%-4.74% on the third day. Inter-day precision concentration of 1 ppm = 3.13%; 1.6 ppm = 2.82%; and 2.2 ppm = 3.77%.

Key words: Natural ingredients, extract ethanolic binahong leaf, rutin compounds, validation of analytical methods