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IDENTIFIKASI DAN PENENTUAN AKTIVITAS ANTIOKSIDAN EKSTRAK METANOL RIMPANG BENGLE (*Zingiber cassumunar* Roxb.) MENGGUNAKAN METODE DPPH

ABSTRAK

Telah dilakukan penelitian tentang identifikasi dan penentuan aktivitas antioksidan ekstrak metanol rimpang bengle (*Zingiber cassumunar* Roxb.) menggunakan metode DPPH. Penelitian ini dilakukan dengan maserasi serbuk rimpang bengle menggunakan pelarut n-heksana dan metanol secara berturut-turut. Penapisan fitokimia yang dilakukan meliputi uji alkaloid, uji flavonoid, uji saponin, uji senyawa fenolik, uji senyawa terpenoid dan steroid. Aktivitas antioksidan dari rimpang bengle (*Zingiber cassumunar* Roxb.) ditentukan secara kualitatif dan kuantitatif dengan metode DPPH (*1,1-Difenil-2-pikrilhidrazil*). Penelitian ini menghasilkan ekstrak metanol rimpang bengle (*Zingiber cassumunar* Roxb.) berbentuk gel berwarna coklat sebanyak 26,7246 gram dengan rendemen 7,6356% dan ekstrak n-heksana yang berupa cairan pekat berwarna kuning sebanyak 4,2149 gram dengan rendemen 1,2043%. Hasil penapisan fitokimia yang diperoleh menunjukkan ekstrak metanol rimpang bengle mengandung senyawa flavonoid, senyawa fenolik dan senyawa steroid. Uji aktivitas antioksidan secara kualitatif menunjukkan bahwa ekstrak metanol rimpang bengle mampu meredam aktivitas radikal bebas melalui perubahan warna, sedangkan uji aktivitas antioksidan secara kuantitatif menunjukkan bahwa ekstrak metanol rimpang bengle memiliki nilai IC_{50} sebesar 80,6379 ppm dan nilai IC_{50} quersetin sebesar 4,2896 ppm. Ekstrak metanol rimpang bengle memiliki aktivitas antioksidan walaupun aktivitasnya lebih rendah dibandingkan dengan senyawa quersetin.

Kata kunci : Antioksidan, rimpang Zingiber cassumunar Roxb., Metode DPPH

IDENTIFICATION AND ANTIOXIDANT ACTIVITY DETERMINATION OF METHANOL EXTRACT OF BENGLER (*Zingiber cassumunar* Roxb.) RHIZOME BY DPPH METHOD

ABSTRACT

It has been done research about identification and antioxidant activity determination of methanol extract of bengler (*Zingiber cassumunar* Roxb.) rhizome by DPPH method. This research was done by macerating bengler rhizome powder used n-hexane and methanol solvent successively. The phytochemical screening covered alkaloid, flavonoid, saponin, terpenoid and steroid compounds and phenolic assay. Antioxidant activity from bengler rhizome (*Zingiber cassumunar* Roxb.) was determined qualitatively and quantitatively with DPPH (1,1-Diphenyl-2-picrylhydrazyl) method. The result of this research were 26.7246 grams with rendement of 7.6356% with brown gel of bengler rhizome (*Zingiber cassumunar* Roxb.) methanol extract and 4.2149 grams with rendement of 1.2043% n-hexane extract which was in the form of rust colored condensed dilution. The phytochemical screening of methanol extract of bengler rhizome (*Zingiber cassumunar* Roxb.) showed that it contained flavonoid, phenolic and steroid compounds. Qualitatively, the antioxidant activity assay showed that the methanol extract of bengler rhizome could reduce free radical activity through discoloration, while antioxidant activity assay quantitatively indicated that methanol extract of bengler rhizome having IC₅₀ value was 80.6379 ppm while the IC₅₀ value of quersetin compound was only 4.2896 ppm. After all methanol extract of bengler rhizome had activity as antioxidant although its activity was lower than with quersetin compound.

Key words : Antioxidant, Zingiber cassumunar Roxb. *rhizome, DPPH Method*