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**PENENTUAN FLAVONOID TOTAL DAN AKTIVITAS ANTIOKSIDAN
EKSTRAK JAHE EMPRIT (*Zingiber Officinale* Var. *Amarum*) DENGAN
VARIASI PELARUT EKSTRAKSI**

ABSTRAK

Latar Belakang : Jahe emprit merupakan jahe yang banyak digunakan diindustri obat. Senyawa terkandung pada jahe emprit yaitu senyawa flavonoid contohnya flavonol, senyawa fenolik yaitu gingerol dan shogaol. Ekstraksi refluks menggunakan tiga variasi pelarut yaitu etanol 96%, etil asetat, dan n-heksan karena tingkat kepolaran masing-masing pelarut berbeda dapat mempengaruhi proses ekstraksi sehingga senyawa yang tertarik mempengaruhi penentuan kadar flavonoid dan antioksidan. Tujuan penelitian untuk membandingkan pengaruh variasi pelarut terhadap flavonoid total dan aktivitas antioksidan ekstrak jahe emprit.

Metode : Penelitian menggunakan jahe emprit, metode ekstraksi refluks dengan tiga pelarut, etanol 96%, etil asetat, n-heksan. Penentuan kadar flavonoid total menggunakan metode kolorimetri. Aktivitas antioksidan menggunakan metode ABTS dan uji statistik menggunakan one way anova untuk melihat perbedaan signifikan flavonoid total dan aktivitas antioksidan.

Hasil : Hasil diperoleh dengan randemen ekstrak etanol 96% (8,183%), ekstrak etil asetat (6,425%), n-heksan (3,126%), kandungan senyawa flavonoid masing-masing ekstrak jahe emprit yaitu ekstrak etil asetat (81,5 QE/g), ekstrak n-heksan (97,316 QE/g), etanol 96% (103, 93 QE/g) dan hasil IC50 ekstrak etil asetat (20,223 ppm), ekstrak n-heksan (25,104 ppm), dan ekstrak etanol 96%, (28,67 ppm).

Kesimpulan : Kadar flavonoid total jahe emprit ekstrak etil asetat (81,5 QE/g), ekstrak n-heksan (97,316 QE/g), dan etanol 96% (103, 93 QE/g), sedangkan nilai IC50 ekstrak etil asetat (20,223 ppm), ekstrak n-heksan (25,104 ppm), dan ekstrak etanol 96% (28,67 ppm) dengan nilai sig ($p < 0,005$).

Kata Kunci : Jahe Emprit, Pelarut, Flavonoid, Antioksidan

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DETERMINATION OF TOTAL FLAVONOID AND ANTIOXIDANT ACTIVITY OF EMPRIT GINGER EXTRACT (*Zingiber Officinale* Var. *Amarum*) WITH VARIATIONS OF EXTRACTION SOLUTIONS

ABSTRACT

Background: Background: Ginger emprit is ginger that is widely used in the medicinal industry. Compounds contained in emprit ginger are flavonoid compounds such as flavonols, and phenolic compounds namely gingerol and shogaol. Reflux extraction uses a variety of solvents, namely 96% ethanol, ethyl acetate, and n-hexane because the polarity of each solvent is different, it can affect the extraction process so that the compounds that affect the levels of flavonoids and antioxidants. The study aimed to compare the effect of solvent variations on total flavonoids and the antioxidant activity of emprit ginger extract.

Methods: This study used emprit ginger, a reflux extraction method with three solvents, 96% ethanol, ethyl acetate, and n-hexane. Determination of total flavonoid content using colorimetric method. Antioxidant activity using ABTS method and statistical test using one way ANOVA to see the significant difference between total flavonoid and antioxidant activity.

Results: The results obtained with the yield of 96% ethanol extract (8.183%), ethyl acetate extract (6.425%), n-hexane (3.126%), the content of flavonoid compounds of each emprit ginger extract, namely ethyl acetate extract (81.5 QE/g), n-hexane extract (97,316 QE/g), 96% ethanol (103, 93 QE/g) and IC50 yield of ethyl acetate extract (20,223 ppm), n-hexane extract (25,104 ppm), and 96 ethanol extract %, (28.67 ppm).

Conclusion : Total flavonoid content of emprit ginger extract ethyl acetate (81.5 QE/g), n-hexane extract (97,316 QE/g), and ethanol 96% (103.93 QE/g), while the IC50 value of ethyl acetate extract (20.223 ppm), n-hexane extract (25.104 ppm), and 96% ethanol extract (28.67 ppm) with sig value ($p < 0.005$).

Keywords: Emprit Ginger, Solvent, Flavonoid, Antioxidant