UJI ANTIOKSIDAN EKSTRAK DAUN MATOA (*Pometia pinnata*) DENGAN METODE FRAP (*Feric Reducing Antioxidant Power*)

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ABSTRAK

Saat ini sebagian besar dari penyakit disebabkan karena produksi radikal bebas yang berlebihan di dalam tubuh. Radikal bebas di tubuh dapat dinetralkan dengan mekanisme pertahanan antioksidan. Salah satu tanaman yang memiliki potensi sebagai antioksidan adalah daun matoa (*Pometia pinnata*) karena mengandung senyawa flavonoid yang dapat menetralkan radikal bebas. Tujuan penelitian ini adalah mengetahui korelasi kadar fenol total dan kadar flavonoid total terhadap aktivitas antioksidan daun matoa *(Pometia pinnata).* Ekstraksi daun matoa dilakukan dengan menggunakan metode refluks dan UAE (*Ultrasonic-assisted extraction*). Penentuan kadar fenol total menggunakan metode Folin Ciocalteu dan penentuan kadar flavonoid menggunakan metode kolorimetri menggunakan pereaksi aluminium klorida. Pengujian aktivitas antioksidan menggunakan metode FRAP (*Feric Reducing Antioxidant Power*). Berdasarkan hasil yang diperoleh ekstrak NADES UAE memiliki kandungan fenol total tertinggi sebesar 72.774 ± 0.5217, diikuti ekstrak konvensional UAE sebesar 66.252 ± 0.0870, dan ekstrak konvensional refluks sebesar 58.561 ± 0.2752 mg EAG/g simplisia. Ekstrak NADES UAE memiliki kandungan flavonoid total tertinggi sebesar 4,441 ± 0,0872, diikuti ekstrak konvensional UAE sebesar 2,593 ± 0,0423, dan ekstrak konvensional refluks sebesar 1,818 ± 0,0407 mg EK/g simplisia. Ekstrak konvensional UAE aktivitas antioksidan tertinggi sebesar 9.577 ± 0.0902, diikuti ekstrak NADES UAE sebesar 9.118 ± 0.0792, dan ekstrak konvensional refluks sebesar 5.675 ± 0.0118 μmol EFeSO4/g simplisia. Tidak terdapat korelasi yang signifikan (> 0,05) antara kadar flavonoid dan fenol total terhadap aktivitas antioksidan daun matoa metode FRAP dengan nilai koefisien korelasi yaitu 0,417 dan 0,417

Kata Kunci : Antioksidan, Daun Matoa (*Pometia pinnata*), FRAP.

ANTIOXIDANT TEST OF MATOA LEAF EXTRACT (Pometia pinnata) USING THE FRAP METHOD (Feric Reducing Antioxidant Power)

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ABSTRACT

Currently, most diseases are caused by excessive production of free radicals in the body. Free radicals in the body can be neutralized by antioxidant defense mechanisms. One of the plants with potential as an antioxidant is the matoa leaf (Pometia pinnata) because it contains flavonoid compounds that can neutralize free radicals. The aim of this research is to determine the correlation between total phenol content and total flavonoid content with the antioxidant activity of matoa leaves. (Pometia pinnata). The extraction of matoa leaves was carried out using the reflux and UAE (*Ultrasonic-assisted extraction*) *methods. The determination of total phenol content was done using the Folin-Ciocalteu method, and the determination of flavonoid content was conducted using a colorimetric method with aluminum chloride as the reagent. Testing antioxidant activity using the FRAP method. (Feric Reducing Antioxidant Power). Based on the results obtained, the NADES UAE extract has the highest total phenol content of 72.774 ± 0.5217, followed by the conventional UAE extract at 66.252 ± 0.0870, and the reflux conventional extract at 58.561 ± 0.2752. The NADES UAE extract also has the highest total flavonoid content of 4.441 ± 0.0872, followed by the conventional UAE extract at 2.593 ± 0.0423, and the reflux conventional extract at 1.818 ± 0.0407. The conventional UAE extract exhibits the highest antioxidant activity at 9.577 ± 0.0902, followed by the NADES UAE extract at 9.118 ± 0.0792, and the reflux conventional extract at 5.675 ± 0.0118. There is no significant correlation (> 0.05) between the levels of flavonoids and total phenols and the antioxidant activity of matoa leaves using the FRAP method, with correlation coefficient values of 0.417 and 0.417.*

Keywords: Antioxidant, Matoa Leaves (Pometia pinnata), FRAP.

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