

PENGARUH VARIASI KONSENTRASI ETANOL PADA METODE ULTRASONIKASI TERHADAP AKTIVITAS PEREDAMAN RADIKAL BEBAS DPPH EKSTRAK DAUN ALPUKAT (*Persea americana* Mill.)

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INTISARI

Latar Belakang: Radikal bebas dapat diatasi menggunakan antioksidan dengan cara mendonorkan elektronnya kepada molekul radikal bebas yang tidak berpasangan. Salah satu tanaman yang memiliki aktivitas sebagai antioksidan adalah daun alpukat. Kandungan daun alpukat yang berperan sebagai antioksidan yaitu flavonoid.

Tujuan Penelitian: Mengetahui pengaruh variasi konsentrasi etanol ekstrak daun alpukat (*Persea americana* Mill.) terhadap aktivitas peredaman radikal bebas DPPH (*2,2-diphenyl-1-pikrihidrazil*).

Metode Penelitian: Sampel diekstraksi dengan metode UAE dengan variasi konsentrasi pelarut etanol 50%, 70%, dan 96%. Hasil ekstraksi kemudian dilakukan uji peredaman radikal bebas DPPH menggunakan spektrofotometri UV-Vis. Selanjutnya hasil analisis diolah secara statistik untuk melihat signifikansinya.

Hasil Penelitian: Ekstrak etanol 70% memiliki aktivitas peredaman radikal bebas tertinggi dengan nilai IC_{50} sebesar 4,489 $\mu\text{g/mL}$, diikuti etanol 96% sebesar 6,580 $\mu\text{g/mL}$, dan etanol 50% sebesar 10,534 $\mu\text{g/mL}$. Hasil analisis data secara statistik diperoleh nilai IC_{50} yang berbeda secara signifikan.

Kesimpulan: Variasi konsentrasi pelarut etanol berpengaruh terhadap aktivitas peredaman radikal bebas DPPH ekstrak daun alpukat.

Kata Kunci: Daun alpukat, Flavonoid, Antioksidan, Peredaman radikal bebas DPPH, Variasi konsentrasi pelarut, *Ultrasound-Assisted Extraction* (UAE), Ekstrak daun alpukat (EDA)

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**THE EFFECT OF VARIATION OF ETHANOL CONCENTRATION IN
ULTRASONICATION METHOD ON FREE RADICAL REDUCTION
DPPH AVOCADO LEAF EXTRACTS (*Persea americana* Mill.)**

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ABSTRACT

Background: Free radicals can be overcome using antioxidants by donating electrons to unpaired free radical molecules. One plant that has activity as an antioxidant is avocado leaves. The content of avocado leaves that act as antioxidants are flavonoids.

Objective: Knowing the effect of variations in the ethanol concentration of avocado leaf extract (*Persea americana* Mill.) on DPPH free radical scavenging activity (2,2-diphenyl-1-picrylhydrazyl).

Method: Samples were extracted by the UAE method with variations in 50%, 70%, and 96% ethanol solvent concentrations. The extraction results were then subjected to a DPPH free radical scavenging test using UV-Vis spectrophotometry. Furthermore, the results of the analysis were processed statistically to see their significance.

Result: 70% ethanol extract has the highest free radical scavenging activity with IC value₅₀ of 4.489 µg/mL, followed by 96% ethanol of 6.580 µg/mL, and 50% ethanol of 10.534 µg/mL. The results of statistical analysis of the data obtained IC values₅₀ significantly different.

Conclusion: Variation of ethanol solvent concentration affected the DPPH free radical scavenging activity of avocado leaf extract.

Keywords: Avocado leaves, Flavonoids, Antioxidants, DPPH free radical scavenging, Variation of solvent concentration, *Ultrasound-Assisted Extraction* (UAE), Avocado leaf extract (EDA)

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