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Uji Aktivitas Antioksidan dan Penghambatan Aktivitas Enzim Elastase Fraksi Teraktif Ekstrak Kayu Bangkal (Nauclea subdita) (Korth.) Steud. Terstandar = Antioxidant Activity and Inhibition of Elastase Enzyme Activity of The Most Active Fraction of Bangkal Wood Extract (Nauclea subdita) (Korth) Steud. Standardized

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Abstrak

Kayu bangkal (Nauclea subdita) (Korth.) Steud. secara tradisional digunakan sebagai masker wajah, yang dapat melindungi kulit dari pengaruh buruk sinar matahari. Penelitian sebelumnya menyatakan bahwa, ekstrak kayu bangkal memiliki aktivitas antioksidan yang sangat kuat. Penelitian ini bertujuan untuk mengetahui aktivitas antioksidan 1,1-difenil-2-pikrilhidrazil (DPPH), Ferric Reducing Antioxidant Power (FRAP), 2,2-azinobis-(3-ethylbenzothiazoline-6-sulfonic acid) (ABTS), aktivitas anti-elastase, total polifenol dan flavonoid, ekstrak dan fraksi teraktif kayu bangkal, standardisasi, kandungan, kadar fraksi teraktif kayu bangkal. Rendemen metode ekstraksi UAE (Ultrasound Assisted Extraction) kayu bangkal menghasilkan rendemen tertinggi, dengan nilai 7,12% lebih tinggi dibandingkan metode MAE(Microwave Assisted Extraction) dan Soxhlet. Ekstrak teraktif (UAE) memiliki kandungan fenol sebesar 101.40±2.44 mg EAG/g ekstrak, dan flavonoid sebesar 12.86±0.08 mg EK/g ekstrak. Ekstrak teraktif (metode UAE) memiliki aktivitas antioksidan yang sangat kuat (DPPH, FRAP dan ABTS) sebesar 19,75±0,06 Î¼g/mL; 44.11±1.37 Î¼g/mL; dan 15,14±0,03 Î¼g/mL. Fraksi teraktif (fraksi air) kayu bangkal memiliki aktivitas antioksidan (DPPH, FRAP dan ABTS) yang sangat kuat sebesar 15,24±0,02 Î¼g/mL; 58.53±0.23 Î¼g/mL; 22.34±0.02 Î¼g/mL. Ekstrak teraktif kayu bangkal memiliki aktivitas penghambatan elastase sebesar 361,22±16,20 Î¼g/mL. Fraksi teraktif memiliki aktivitas penghambatan elastase sebesar 706,611±22.25 Î¼g/mL. Hasil penelitian ini menunjukkan bahwa ekstrak dan fraksi teraktif kayu bangkal memiliki aktivitas antioksidan yang sangat kuat, berpotensi sebagai anti-elastase. Fraksi teraktif kayu bangkal telah distandarisasi berdasarkan parameter spesifik dan non spesifik serta memiliki kandungan kuersetin dengan kadar 0,215±0,118 Î¼g/mL.

.....Bangkal wood (Nauclea subdita) (Korth.) Steud. is traditionally used as a face mask, which can protect the skin from the adverse effects of sunlight. Previous research stated that bangkal wood extract had potent antioxidant activity. This study was conducted to determine the antioxidant activity of 1,1-diphenyl-2-picrylhydrazyl (DPPH), Ferric Reducing Antioxidant Power (FRAP), 2,2-azinobis-(3-ethylbenzothiazoline-6-sulfonic acid) (ABTS), anti-elastase activity, total polyphenols and flavonoids content, of the most active extract and fraction of bangkal wood, standardization, content, levels of the most active fraction of bangkal wood. The Ultrasound-Assisted Extraction (UAE) method of bangkal wood produced the highest yield, with a value of 7.12% higher than the Microwave Assisted Extraction (MAE) and Soxhlet methods. The most active extract (UAE) had a phenol content of 101.40±2.44 mg EAG/g extract, and flavonoids of 12.86±0.08 mg EK/g extract. The most active extract (UAE method) had potent antioxidant activities of 19.75±0.06 Î¼g/mL; 44.11±1.37 Î¼g/mL; and 15.14±0.03 Î¼g/mL. The most active fraction (water fraction) of bangkal wood had potent antioxidant activity of 15.24±0.02 Î¼g/mL; 58.53±0.23 Î¼g/mL; 22.34±0.02 Î¼g/mL. The most active extract of bangkal wood had elastase inhibitory activity of 361.22±16.20 Î¼g/mL. The most

active fraction had an elastase inhibitory activity of 706.611±22.25 Î¼g/mL.The results of this study indicated that the extract and the most active fraction of bangkal wood had potent antioxidant activity, and potential as anti-elastase. The most active fraction of bangkal wood had been standardized based on specific and non-specific parameters and had quercetin content with a level of 0.215±0.118 Î¼g/mL.