

INTISARI

KANDUNGAN TOTAL FENOLIK, FLAVONOID, DAN TANIN SERTA AKTIVITAS ANTIOKSIDAN EKSTRAK ETANOL DAUN, BATANG DAN BUNGA *Cosmos caudatus* Kunth.

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Radikal bebas merupakan hasil dari metabolisme sel, namun apabila jumlahnya terlalu tinggi dapat mengakibatkan gangguan sistem tubuh dan menimbulkan penyakit. Antioksidan merupakan senyawa yang dapat menghambat radikal bebas. Antioksidan sintesis memiliki efek samping yang merugikan, sehingga eksplorasi antioksidan dari bahan alam makin diperluas. *C. caudatus* Kunth. (Kenikir) merupakan tumbuhan yang kaya akan fenolik, flavonoid, tanin yang berpotensi sebagai antioksidan, anti inflamasi, anti bakteri, serta anti jamur. Selama ini hanya bagian daun tumbuhan ini yang digunakan, sedangkan batang dan bunga kurang mendapatkan perhatian. Maka, pada penelitian ini dilakukan analisis total fenolik flavonoid, tanin dan aktivitas antioksidan dari daun, batang, dan bunga *C. caudatus* Kunth. serta korelasi antara metabolit sekunder tersebut terhadap aktivitas antioksidannya. Profil histokimia sampel dibuat terlebih dahulu untuk mengetahui sebaran metabolit sekunder tersebut. Ekstraksi senyawa metabolit sekunder dilakukan dengan maserasi dalam etanol 96%. Total fenolik, flavonoid, tanin dan aktivitas antioksidan ditentukan dengan menggunakan spektrofotometer UV-VIS pada panjang gelombang 765, 510, 700, dan 517 nm secara berurutan. Data yang didapatkan dianalisis dengan uji ANOVA dan DMRT. Korelasi total fenolik, flavonoid, dan tanin dengan aktivitas antioksidan ditunjukkan dengan nilai korelasi Pearson. Hasil penelitian menunjukkan bahwa kandungan total fenolik, flavonoid, tanin serta aktivitas antioksidan tertinggi terdapat pada organ daun. Analisis korelasi Pearson diketahui terdapat korelasi positif antara konsentrasi fenolik, flavonoid, dan tanin dengan aktivitas antioksidan.

Kata kunci: antioksidan, *C. caudatus*, fenolik, flavonoid, tanin

ABSTRACT

ANTIOXIDANT ACTIVITY, TOTAL PHENOLICS, FLAVONOIDS, AND TANNINS CONTENT OF *Cosmos caudatus* Kunth. LEAVES, STEMS, AND FLOWERS ETHANOLIC EXTRACT

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Free radicals are the result of cell metabolism, but if the amount is too high it can cause disruption to the body's systems and cause disease. Antioxidants are compounds that can inhibit free radicals. Synthetic antioxidants have detrimental side effects, so exploration of antioxidants from natural ingredients is increasingly being expanded. *C. caudatus* Kunth. (Kenikir) is a plant that is rich in phenolics, flavonoids, tannins which have the potential to act as antioxidants, anti-inflammatory, anti-bacterial and anti-fungal. So far, only the leaves of this plant have been used, while the stems and flowers have received less attention. Therefore, in this study, an analysis of the total phenolic, flavonoids, tannins and antioxidant activity of the leaves, stems and flowers of *C. caudatus* as well as the correlation between the total secondary metabolites mentioned with its antioxidant activity was carried out. A histochemical profile of the sample is made first to determine the distribution of secondary metabolites. Extraction of secondary metabolite compounds was carried out by maceration in 96% ethanol. Total phenolics, flavonoids, tannins and antioxidant activity were measured using a UV-VIS spectrophotometer at wavelengths of 765, 510, 700 and 517 nm respectively. The data obtained were analyzed using ANOVA and DMRT tests. Correlation of the total phenolics, flavonoids, and tannins with antioxidant activity is shown by the Pearson correlation value. The results showed that the total content of phenolics, flavonoids, tannins and antioxidant activity was highest in the leaves. Based on Pearson correlation analysis, it is known that there is a positive correlation between the concentration of phenolics, flavonoids and tannins with antioxidant activity.

Keywords: antioxidant , *C. caudatus*, flavonoids, phenolics, tannins