

PERBEDAAN KOMPOSISI PELARUT HEMWAT TERHADAP KADAR FLAVONOID TOTAL DAN AKTIVITAS ANTIOKSIDAN EKSTRAK DAUN SUJI (*Dracaena angustifolia*)

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ABSTRAK

Latar Belakang: Daun suji (*Dracaena angustifolia*) mengandung flavonoid yang diketahui memiliki aktivitas antioksidan. Kadar flavonoid dan aktivitas antioksidan ekstrak sangat dipengaruhi oleh jenis dan komposisi pelarut ekstraksi. Pelarut HEMWat memungkinkan ekstraksi senyawa dengan rentang polaritas yang luas.

Tujuan: Penelitian ini bertujuan untuk mengetahui pengaruh perbedaan komposisi pelarut HEMWat terhadap kadar flavonoid total dan aktivitas antioksidan pada ekstrak daun suji, serta menentukan komposisi pelarut HEMWat yang paling optimal.

Metode: Kadar flavonoid total diukur dengan metode kompleksasi $AlCl_3$, aktivitas antioksidan dianalisis dengan metode DPPH, secara kualitatif dengan kromatografi lapis tipis (KLT) dan secara kuantitatif menggunakan *microplate reader 96-well*.

Hasil: Kadar flavonoid total tertinggi (22,328%) terdapat pada fase atas HEMWat (3:7:3:6, v/v). Aktivitas antioksidan terbaik (IC_{50} 563,875 ppm) terdapat pada fase bawah HEMWat (3:7:3:6, v/v). Hubungan antara kadar flavonoid total dengan aktivitas antioksidan (nilai IC_{50}) daun suji dianggap lemah dan tidak signifikan secara statistik.

Kesimpulan: Komposisi pelarut HEMWAT (3:7:3:6, v/v) dinyatakan paling optimal untuk mengekstrak flavonoid dan senyawa antioksidan daun suji. Perbedaan komposisi pelarut memberikan perbedaan signifikan terhadap kadar flavonoid total dan aktivitas antioksidan ekstrak daun suji, dengan flavonoid lebih dominan di fase atas dan aktivitas antioksidan lebih kuat di fase bawah.

Kata kunci: Antioksidan, flavonoid, HEMWat, daun suji, komposisi pelarut

DIFFERENCES IN HEMWAT SOLVENT COMPOSITION ON TOTAL FLAVONOID CONTENT AND ANTIOXIDANT ACTIVITY OF SUJI LEAF EXTRACT (*Dracaena angustifolia*)

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ABSTRACT

Background: Suji leaves (*Dracaena angustifolia*) contain flavonoids known to have antioxidant activity. The flavonoid content and antioxidant activity of the extract are greatly influenced by the type and composition of the extraction solvent. The HEMWat solvent system allows extraction of compounds with a wide range of polarities.

Aim: This study aims to examine the effect of different HEMWat solvent compositions on total flavonoid content and antioxidant activity of suji leaf extracts, and to identify the most optimal HEMWat solvent composition.

Methods: Total flavonoid content was measured using the $AlCl_3$ complexation method. Antioxidant activity was analyzed by the DPPH method—qualitatively using thin-layer chromatography (TLC) and quantitatively using a 96-well microplate reader.

Results: The highest total flavonoid content (22.328%) was found in the upper phase of HEMWat (3:7:3:6, v/v). The best antioxidant activity (IC_{50} 563.875 ppm) was observed in the lower phase of HEMWat (3:7:3:6, v/v). The correlation between total flavonoid content and antioxidant activity (IC_{50} value) of suji leaves is considered weak and statistically insignificant.

Conclusion: The HEMWat solvent composition (3:7:3:6, v/v) is considered the most optimal for extracting flavonoids and antioxidant compounds from suji leaves. Differences in solvent composition significantly affect total flavonoid content and antioxidant activity of suji leaf extracts, with flavonoids being more dominant in the upper phase and antioxidant activity being stronger in the lower phase.

Keywords: Antioxidant, flavonoid, HEMWat, suji leaf, solvent composition