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**PERBANDINGAN AKTIVITAS ANTIOKSIDAN FORMULA TEH
KOMBUCHA DAN EKSTRAK ETANOL 96% DAUN PECUT KUDA
(*Stachytarpheta jamaicensis* L.) DENGAN METODE ABTS**

ABSTRAK

Latar belakang: Daun pecut kuda mengandung senyawa bioaktif seperti flavonoid dan fenolik yang berperan sebagai antioksidan. Fermentasi dengan SCOBY dalam pembuatan kombucha dapat meningkatkan bioavailabilitas senyawa aktif sehingga memperkuat aktivitas antioksidan. Metode ABTS digunakan untuk mengukur antioksidan karena memiliki sensitivitas tinggi dibanding metode lain. Penelitian ini bertujuan untuk membandingkan aktivitas antioksidan teh kombucha dan ekstrak etanol 96% daun pecut kuda menggunakan metode ABTS.

Metode: Jenis penelitian ini adalah penelitian eksperimental. Simplisia daun pecut kuda dibuat ekstrak dan teh kombucha. Skrining fitokimia dilakukan secara kualitatif dan kuantitatif dengan pengukuran kandungan flavonoid total dan fenolik total. Aktivitas antioksidan diuji menggunakan Spektrofotometer UV-Vis dengan metode ABTS dan nilai IC_{50} sebagai parameternya untuk dianalisis secara statistik.

Hasil: Teh kombucha dan ekstrak daun pecut kuda positif mengandung alkaloid, flavonoid, fenol, saponin, tanin dan triterpenoid. Nilai rata-rata kadar flavonoid total teh kombucha 10,48 mgQE/g, sedangkan ekstrak daun pecut kuda 8,06 mgQE/g. Nilai rata-rata kadar fenolik total teh kombucha 9,60 mgGAE/g, sedangkan ekstrak daun pecut kuda 3,08 mgGAE/g. Hasil uji aktivitas antioksidan teh kombucha daun pecut kuda memiliki nilai rata-rata IC_{50} 78,93 μ g/ mL. sedangkan ekstrak 477,84 μ g/ mL.

Kesimpulan: Teh kombucha dan ekstrak pecut kuda (*Stachytarpheta jamaicensis* L.) mengandung senyawa metabolit sekunder yaitu alkaloid, flavonoid, fenolik, tanin, saponin, dan steroid. Teh kombucha memiliki nilai rata-rata kadar flavonoid dan fenolik lebih tinggi dibanding ekstrak daun pecut kuda. Aktivitas antioksidan teh kombucha lebih tinggi daripada ekstrak daun pecut kuda.

Kata Kunci: Teh Kombucha, Daun Pecut Kuda, ABTS, Antioksidan

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**OF ANTIOXIDANT ACTIVITY OF KOMBUCHA TEA FORMULA AND
96% ETHANOL EXTRACT COMPARISON OF HORSEWHIP LEAVES
(*Stachytarpheta jamaicensis* L.) USING THE ABTS METHOD**

ABSTRACT

Background: Horsewhip leaves contain bioactive compounds such as flavonoids and phenolics that act as antioxidants. Fermentation with SCOBY in making kombucha can increase the bioavailability of active compounds, thereby strengthening antioxidant activity. The ABTS method is used to measure antioxidants because it has high sensitivity compared to other methods. This study aims to compare the antioxidant activity of kombucha tea and 96% ethanol extract of horsetail leaves using the ABTS method.

Method: This type of research is experimental research. Horsewhip leaf simplicia is made into extract and kombucha tea. Phytochemical screening was carried out qualitatively and quantitatively by measuring the total flavonoid and total phenolic content. Antioxidant activity was tested using a UV-Vis Spectrophotometer with the ABTS method and the IC₅₀ value as a parameter to be statistical analysis.

Results: Kombucha tea and horsewhip leaf extract positively contained alkaloids, flavonoids, phenols, saponins, tannins and triterpenoids. The average value of total flavonoid content of kombucha tea is 10.48 mgQE/g, while horsewhip leaf extract is 8.06 mgQE/g. The average value of total phenolic content of kombucha tea is 9.60 mgGAE/g, while horsewhip leaf extract is 3.08 mgGAE/g. The results of the antioxidant activity test of horsewhip leaf kombucha tea have an average IC₅₀ value of 78.93 µg/ mL. while the extract is 477.84 µg/ mL.

Conclusion: Kombucha tea and horsewhip extract (*Stachytarpheta jamaicensis* L.) contain secondary metabolite compounds, namely alkaloids, flavonoids, phenolics, tannins, saponins, and steroids. Kombucha tea has a higher average flavonoid and phenolic content than horsewhip leaf extract. The antioxidant activity of kombucha tea is higher than that of horsewhip leaf extract

Keywords: Kombucha Tea, Horsewhip Leaves, ABTS, Antioxidant