

Antioxidant and Toxicity Test Of Extracts and Fractions Of Suji Leaf Extract
(Dracaena angustifolia (Medik.) Roxb.)

ABSTRACT

Suji leaf (Dracaena angustifolia Roxb.) is a plant of the Asparagaceae family that has activity as a cholesterol-lowering, anaphylactic reaction-reducing, anti-inflammatory, antiproliferative, antibacterial, antifungal, and antioxidant. Natural antioxidants such as phenolic compounds, flavonoids, anthocyanins, and other phytochemicals that can function as free radical scavengers, reducing agents, prooxidant metal chelators, or as lone oxygen absorbers, thus delaying the lipid oxidation process in food products. The antibacterial activity of plant extracts can be attributed to the presence of bioactive compounds such as tannins, terpenoids, polyphenols, and flavonoids. This study aims to determine the antioxidant activity and toxicity of extracts and fractions of suji leaf extract. The extraction method used maceration and fractionation was done by liquid-liquid partition using solvents with graded polarity. Antioxidant activity test was conducted using 2,2-diphenyl-1-picrylhydrazyl (DPPH) reagent, and for toxicity test using Brine Shrimp Lethality Test (BSLT) method, as well as total phenol test and phytochemical screening of extracts. The resulting yield was 33% (82.5 g) ethanol extract, 9% (4.5 g) n-hexane fraction, 3% (1.5 g) ethyl acetate fraction, and 88% (44 g) water fraction. Phytochemical screening test results showed positive alkaloid, flavonoid, phenol, saponin, tannin, steroid, and essential oil compounds. The total phenolic content obtained from suji leaf extract was 22.791 mgEAG/g. Antioxidant activity test of ethanol extract, n-hexane fraction, ethyl acetate fraction, and water fraction of suji leaves obtained IC₅₀ values respectively of 105.85 µg/mL (medium), 168.39 µg/mL (weak), 246 µg/mL (very weak) and 131.86 µg/mL (medium). The results of the toxicity test of ethanol extract, n-hexane fraction, ethyl acetate fraction, and water fraction of suji leaves obtained LC₅₀ values successively amounting to 519.572 µg/mL, 598.677 µg/mL, 527.147 µg/mL, and 354.313 µg/mL. Toxicity tests showed that all test samples had low to moderate toxic effects on Artemia salina Leach shrimp larvae, so in this case the extract and fraction of suji leaf extract have potential as cytotoxic.

Keywords: Antioxidant, *Dracaena angustifolia* Roxb, DPPH, BSLT, Toxicity test.

(xiii+105 + Attachment)

Reference (1958-2023)