

ABSTRAK

ANISA DARNIATY KADER. Uji Aktivitas Antiradikal Bebas Ekstrak Fermentat Fungi Endofit Pada Daun Sawo (*Manilkara zapota L.*) dengan Metode KLT-Autografi. Dibimbing oleh bapak **Rachmat Kosman** dan bapak **Herwin**.

Daun sawo (*Manilkara zapota L.*) merupakan tanaman yang mudah didapat dan daun Sawo juga dapat menjadi alternatif obat karena bersifat alami dan aman dikonsumsi. Dengan kandungan kimia daun sawo (*Manilkara zapota L.*) alkaloid, flavanoid, tanin dan saponin. Penelitian ini bertujuan untuk memperoleh ekstrak fermentat fungi endofit daun sawo (*Manilkara zapota L.*) yang berpotensi sebagai antiradikal bebas. Hasil isolasi fungi endofit daun sawo (*Manilkara zapota L.*) diperoleh 8 isolat IFDS 01, IFDS 02, IFDS 03, IFDS 04, IFDS 05, IFDS 06, IFDS 07, IFDS 08. Hasil pemeriksaan secara makroskopik kedelapan isolat fungi endofit diperoleh karakteristik yang berbeda. Hasil uji aktivitas antioksidan isolat fungi endofit diperoleh 2 isolat yang memberikan aktivitas antioksidan yaitu isolat IFDS 04 dan IFDS 05. Hasil fermentasi isolat fungi endofit dimasukkan ke dalam tabung vial sebanyak 5 mL untuk menguji aktivitas antioksidan, hasil fermentasi dalam tabung vial ditambahkan DPPH 0,04 % sebanyak 10 μ L, 20 μ L, 30 μ L, 40 μ L, 50 μ L, 100 μ L, 150 μ L, 200 μ L, 250 μ L, 300 μ L, 350 μ L, 400 μ L, 450 μ L, 500 μ L, 600 μ L. Hasil produksi senyawa metabolit sekunder secara fermentasi pada isolat IFDS 03 dan IFDS 05. Identifikasi KLT ekstrak isolat aktif campuran eluen n-heksan:etil asetat 4:1. Hasil pengujian KLT-Autografi dengan penyemprotan DPPH isolat IFDS 03 dan IFDS 05 berpotensi sebagai antiradikal bebas menunjukkan bercak kuning berlatar belakang ungu memiliki nilai R_f , pada isolat IFDS 03 0,78 dan R_f 0,23 dan nilai R_f , isolat IFDS 05 0,89 dan R_f 0,12.

Kata Kunci: Antiradikal Bebas, DaunSawo (*Manilkara zapota L.*),KLT-Autografi

ABSTRACT

ANISA DARNIATY KADER. Evaluation of Free Antiradical Activity in Endophytic Fungal Fermentates Extracted from Sapodilla Leaves (*Manilkara zapota* L.) through the TLC-Autography Technique. (Supervised by **Rachmat Kosman and Herwin**).

The Sapodilla leaf (*Manilkara zapota* L.) is not only easily accessible but also stands as a promising alternative medicinal source due to its natural composition and safety for consumption. The chemical constituents of this leaf include alkaloids, flavonoids, tannins, and saponins. This research was embarked upon to identify and extract fermentates from the endophytic fungi residing in the sapodilla leaf, with a focus on their potential antiradical properties.

From the isolation process, eight distinct endophytic fungal isolates were identified, namely IFDS 01 through IFDS 08. Macroscopic examinations revealed varying characteristics among these isolates. Notably, out of these, only isolates IFDS 04 and IFDS 05 demonstrated antioxidant activity. For the purpose of antioxidant activity assessment, fermentates from these endophytic fungi were placed in vials (5 mL each). To these vials, varying concentrations of DPPH (0.04%) were added, ranging from 10 μ L to 600 μ L.

Secondary metabolite production was particularly observed in isolates IFDS 03 and IFDS 05 during fermentation. The active isolates were then subjected to TLC identification using a mixed eluent of n-hexane and ethyl acetate in a 4:1 ratio. The subsequent TLC-Autography test, which involved spraying with DPPH, revealed that both IFDS 03 and IFDS 05 isolates possess antiradical properties. This was evident from the appearance of yellow spots against a purple backdrop. The R_f values for IFDS 03 were recorded as 0.78 and 0.23, while for IFDS 05, they were 0.89 and 0.12, respectively.

Keywords: Free Antiradicals, Sapodilla Leaf (*Manilkara zapota* L.), TLC Autography.