

## ABSTRAK

**DEWI MUSTIKA SARI.** *Uji Aktivitas Antiradikal Bebas Isolat Fungi Endofit Daun Kasumba Turate (*Carthamus tinctorius* (L.) Asal Galesong Takalar Dengan Metode DPPH (Dibimbing oleh **Rachmat Kosman** dan **Rusli**)*

Tanaman kasumba turate (*Carthamus tinctorius* (L.)) merupakan tanaman yang dapat digunakan sebagai obat tradisional herbal karena mengandung berbagai jenis metabolit sekunder. Kasumba turate mengandung senyawa fenolik flavonoid dan karotenoid yang memiliki aktivitas antioksidan. Penelitian ini bertujuan untuk memperoleh isolat fungi endofit pada daun kasumba turate (*Carthamus tinctorius* (L.)) yang dapat beraktivitas sebagai antiradikal dengan metode DPPH, dan KLT-autografi. Isolasi fungi endofit daun Kasumba Turate (*Carthamus tinctorius* (L.)) diperoleh 5 isolat IFDK 01, IFDK 02, IFDK 03, IFDK 04, dan IFDK 05. Hasil pemeriksaan secara makroskopik kelima isolat fungi endofit diperoleh karakteristik yang berbeda. Hasil uji aktivitas antioksidan isolat fungi endofit diperoleh 2 isolat yang memberikan aktivitas antioksidan yaitu isolat IFDK 03 dan IFDK 04. Hasil fermentasi isolat fungi endofit dimasukkan ke dalam tabung vial sebanyak 5 mL untuk menguji aktivitas antioksidan, hasil fermentasi dalam tabung vial ditambahkan DPPH 0,004 % sebanyak 100  $\mu$ L, 200  $\mu$ L, 300  $\mu$ L, 400  $\mu$ L, 500  $\mu$ L. Hasil pengujian KLT-Autografi dengan penyemprotan DPPH isolat IFDK 03 dan IFDK 04 berpotensi sebagai antiradikal bebas menunjukkan bercak kuning berlatar belakang ungu memiliki nilai Rf1, pada isolat IFDK 03 0,94 dan Rf2 0,55 dan nilai Rf1, isolat IFDK 04 0,76 dan Rf2 0,43.

**Kata Kunci:** Antiradikal Bebas, fungi endofit, Daun kasumba turate (*Carthamus tinctorius* L.), DPPH.

## ABSTRACT

**DEWI MUSTIKA SARI.** *Free Antiradical Assay of Endophytic Fungi Isolates of Safflower Leaves (*Carthamus tinctorius* (L) from Galesong Takalar Using the DPPH Method (Supervised by Rachmat Kosman and Rusli)*

Kasumba Turate Safflower (*Carthamus tinctorius* (L.) is a plant used as herbal medicinal product due to the presence of various types of secondary metabolites. This plant contains flavonoid and carotenoid phenolic compounds, both of which are antioxidants. This research aimed to obtain isolates of endophytic fungi in safflower leaves which can act as an antiradical, through the application of DPPH method and TLC-autography. The results of isolation of the endophytic fungi of safflower leaves yielded 5 isolates: IFDK 01, IFDK 02, IFDK 03, IFDK 04, and IFDK 05. The macroscopic analysis of the five endophytic fungi isolates revealed discrepancies in terms of properties. The antioxidant activity test was conducted on two of the endophytic fungi isolates, and the results indicated that two of the isolates, IFDK03 and IFDK04, demonstrated antioxidant activity. The fermentation results of the endophytic fungi isolate were put into vials of up to 5 ml to evaluate antioxidant activity added with a DPPH concentration of 0.004%. The vials were supplemented with 100  $\mu$ l, 200  $\mu$ l, 300  $\mu$ l, 400  $\mu$ l, and 500  $\mu$ l of DPPH. The TLC-Autography test, which included the spraying of DPPH isolate samples of IFDK03 and IFDK04 as potential free antiradical, revealed that the yellow spot with a purple background had Rf1 and Rf2 values of 0.94 and 0.55 for IFDK03. Besides, the Rf1 and Rf2 values for IFDK04 were 0.76 and 0.43 respectively.

**Keywords:** Anti-free radicals, endophytic fungi, *safflower leaves* (*Carthamus tinctorius* L.), DPPH.