

ABSTRAK

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Program Studi : Farmasi
Judul : Uji Antioksidan Dan Total Fenol Ekstrak Metanol Kapang Endofit Isolat RLC5, PLC4 dan CLC2 Asal Tanaman Kayu Jawa (*Lannea Coromandelica* (Houtt.) Merr.)

Kapang endofit dari tanaman Kayu Jawa (*Lannea coromandelica* (Houtt.) Merr.) mengandung senyawa metabolit sekunder seperti alkaloid, steroid, fenolik, flavonoid yang berpotensi menghasilkan senyawa bioaktif antioksidan. Penelitian ini bertujuan untuk mengevaluasi penggunaan ekstrak ubi kayu (*Manihot esculenta* Crantz.) sebagai media alternatif pertumbuhan kapang endofit isolat RLC5, PLC4 dan CLC2, serta menentukan aktivitas antioksidan dan kadar total fenol ekstrak metanol hasil fermentasi. Fermentasi isolat dilakukan selama 14 hari, dilanjutkan ekstraksi menggunakan pelarut metanol. Aktivitas antioksidan diuji dengan metode DPPH, sedangkan kadar total fenol ditentukan menggunakan metode Folin–Ciocalteu secara spektrofotometri UV-Vis. Hasil penelitian menunjukkan nilai IC_{50} berturut-turut sebesar 56,62 $\mu\text{g/mL}$ RLC5 (kuat), 603,84 $\mu\text{g/mL}$ PLC4 (sangat lemah) dan 371,16 $\mu\text{g/mL}$ CLC2 (lemah), yang mengindikasikan aktivitas antioksidan kuat hingga lemah. Penentuan kadar total fenol pada isolat RLC5 menunjukkan nilai 81,67–84,96 mg GAE/g ekstrak. Dengan demikian, ekstrak ubi kayu (*Manihot esculenta* Crantz) dapat digunakan sebagai media alternatif pertumbuhan kapang endofit dan menunjukkan potensi aktivitas antioksidan.

Kata kunci: IC_{50} , Kapang endofit, Kayu Jawa, Total Fenol, Ubi kayu.

ABSTRACT

Name : Refzeqica Fourista Darma
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Title : Antioxidant Activity and Total Phenolic Content of Methanolic Extracts of Endophytic Fungi Isolates RLC5, PLC4, and CLC2 from Kayu Jawa (*Lannea coromandelica* (Houtt.) Merr.)

Endophytic fungi from Kayu Jawa (*Lannea coromandelica* (Houtt.) Merr.) contain secondary metabolites such as alkaloids, steroids, phenolics, and flavonoids that have the potential to produce bioactive antioxidant compounds. This study aimed to evaluate the use of cassava (*Manihot esculenta* Crantz.) extract as an alternative growth medium for endophytic fungal isolates RLC5, PLC4, and CLC2, as well as to determine the antioxidant activity and total phenolic content of methanolic extracts obtained from fermentation. Fermentation isolate was carried out for 14 days, followed by extraction using methanol as the solvent. Antioxidant activity was evaluated using the DPPH method, while total phenolic content was determined by the Folin–Ciocalteu method using *spectrophotometry UV–Vis*. The results showed IC_{50} values of 56.62 $\mu\text{g/mL}$ for RLC5 (strong), 603.84 $\mu\text{g/mL}$ for PLC4 (very weak), and 371.16 $\mu\text{g/mL}$ for CLC2 (weak), indicating strong to weak antioxidant activity. The total phenolic content of the RLC5 isolate ranged from 81.67 to 84.96 mg GAE/g extract. Therefore, cassava (*Manihot esculenta* Crantz.) extract can be used as an alternative growth medium for endophytic fungi and demonstrates potential antioxidant activity.

Keywords: *cassava, endophytic fungi, IC_{50} , Kayu Jawa, total phenolic content.*