

**ANTIOXIDANT ACTIVITY OF ENDOPHYTIC FUNGI ISOLATED FROM
LEAVES OF *CITRUS AURANTIIFOLIA***

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Endophytic fungi are sources of natural products which can be utilized in medicine, agriculture and industry. The main objective of this study was to isolate endophytic fungi from the leaves of *Citrus aurantiifolia* and determine their bioactivities and molecular identification. Fresh and healthy leaves of *C. aurantiifolia* were collected from the Central Province of Sri Lanka. Segments (5 mm × 5 mm) of leaves were tripled sterilized and placed on the Potato Dextrose Agar and incubated in the dark for seven days at room temperature (27 °C) until the appearance of fungal mycelium. Three endophytic fungi emerged and were labelled as Fungus 10, Fungus V' and Fungus B, and sub-cultured to obtain pure cultures. Pure fungi were cultured on a large scale in Potato Dextrose Broth and kept for 21 days in shakers at room temperature. Subsequently, the medium was filtered, and the broth was extracted using EtOAc (1:1). Mycelium was crushed and extracted with EtOAc and MeOH sequentially. EtOAc extracts of the broth and mycelium and MeOH extract of the mycelium were subjected to antioxidant activity assay using the DPPH radical scavenging method. EtOAc extracts of broth and mycelium of Fungus 10 gave IC₅₀ of 52.1 ± 23.18 mg L⁻¹ and 52.61 ± 18.73 mg L⁻¹, respectively. EtOAc extracts of both broth and mycelium of Fungus V' were combined based on similar TLC patterns and IC₅₀ value of 23.8 ± 8.98 mg L⁻¹ was obtained. MeOH extract of the mycelium of Fungus V' gave IC₅₀ of 104.54 ± 63.26 mg L⁻¹. EtOAc extracts of broth and mycelium of the Fungus B gave 27.11 ± 0.44 mg L⁻¹ and 112.4 ± 14.65 mg L⁻¹ IC₅₀ values respectively. Fungus V' and Fungus B were identified as *Biscogniauxia capnodes* and *Curvularia dactyloctenicola* by amplifying ITS regions of the rDNA gene, suggesting the potential use of these endophytes as sources of antioxidants.

Keywords: Antioxidant activity, *Biscogniauxia capnodes*, *Curvularia dactyloctenicola*, Endophytic fungi