

## **Preliminary investigation of culture filtrates of *Mucuna pruriens* endophytic fungi for the presence of L-dopa**

Yalini S.<sup>1\*</sup>, Liyanaarachchie L. C. P. T.<sup>1</sup>

<sup>1</sup>*Department of Pharmacy, Faculty of Allied Health Sciences, University of Peradeniya, Peradeniya, Sri Lanka*

*Mucuna pruriens* (Fabaceae), is a major source of the natural drug L-3,4-dihydroxyphenylalanine (L-Dopa). This plant has become scarce due to urbanization and overexploitation thus seeking alternative sources for natural L-Dopa is important. Therefore, this study was aimed to investigate the production of L-Dopa by the endophytic fungi present in this plant. The plant samples were collected from a home garden in Gampola, Central Province, Sri Lanka. Endophytic fungi present in leaves, seeds, and pods of *M. pruriens* plant were isolated in potato dextrose agar. Solvent evaporated methanolic extracts of dried leaves, seeds, and pods of *M. pruriens* plant and extracts of endophytic fungal culture filtrates were evaluated for the presence of L-Dopa using thin-layer chromatography (TLC). Ninhydrin was used as the revelator reagent. Methanolic extract of dried plant samples, as well as aqueous and ethyl acetate fractions of endophytic fungal culture filtrates were compared separately on the TLC plate with respect to the standard L-Dopa. A total of nine morphologically distinct endophytic fungal cultures were isolated from the leaves, seeds, and pods of *M. pruriens* plant. The solvent evaporated methanolic extracts of dried seeds and pods as well as culture filtrates of four of the endophytic fungi isolated from seeds and pods were most likely to L-Dopa as they were similar R<sub>f</sub> to standard L-Dopa. These findings suggest that the endophytic fungi isolated from *M. pruriens* plant could be excellent source for natural L-Dopa. Further investigations are necessary to validate the conclusions that can be drawn from this study.

**Key words:** *Mucuna pruriens*, L-Dopa, Endophytic fungi, Parkinson's disease

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\*Corresponding author: yaallinisivaladchanam94@gmail.com