



In vitro investigation on effect of elicitors and precursors on the synthesis of anti-Parkinson's drug (L-DOPA) from *Mucuna imbricata*

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Abstract

The bioprocess methodology for the enhanced production of phytochemicals using plant cultures predominantly depends on the elicitors and precursors. The drug L-DOPA (anti-Parkinson's drug) (L-3,4-dihydroxyphenylalanine) has been isolated from *Mucuna* plant which is a major source of this drug. In the present study, effects of different elicitors and precursors on in vitro grown callus in the optimized medium were carried out to enhance the accumulation of L-DOPA and other secondary metabolites production. Results revealed that positive influence of Methyl Jasmonate and Salicylic Acid on the accumulation of L-DOPA and other secondary metabolites (Nutritional and anti-nutritional factors). Results also illustrated that a significant suppression callus biomass dry and moist weight as well as total phenolic, flavonoids and antioxidants content in the elicited callus from day 30 to day 45 of inoculation. Additionally, results clearly seem that improved accumulation of carbohydrates was positively correlated with an increase in L-DOPA content in the elicited callus. These methods boost the nutritional potency imparting additional health benefits. It is also

concluded that the use of these techniques helps to make pure source of L-DOPA implemented in the prevention of Parkinson's disease.

Biography

Suresh Suryawanshi is expertise in evaluation of phytochemical compounds, nutritional and anti-nutritional components of plants and its benefits in health and disease. He is also worked on different statistical extraction technique and optimization of different processes for phytochemical extraction, different biochemical technique and Plant Tissue culture techniques. He is also worked on different Waste management strategies and microbial degradation of pesticides.

Publication of speakers

- Suresh Suryawanshi et al ; Myocardial infarction in children: Two interesting cases, 2011 Jan 4
- Suresh Suryawanshi et al ; The Many Facets of Erythropoietin Physiologic and Metabolic Response, 2020 Jan 17
- Suresh Suryawanshi et al ; Rational use of intravenous polymyxin B and colistin: A review, 2018 Oct 5

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