

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

Suresh Suryawanshi¹, Parthraj Kshirsagar², Prajakta Kamble³, Vishwas Bapat⁴, Jyoti Jadhav^{1,4*}

¹Department of Biochemistry, Shivaji University, Vidyanagar, Kolhapur, Maharashtra, India

²Department of Biotechnology, Amity University, Mumbai, Maharashtra, India.

³Department of Microbiology, Shivaji University, Vidyanagar, Kolhapur, Maharashtra, India.

⁴Department of Biotechnology, Shivaji University, Vidyanagar, Kolhapur, Maharashtra, India.

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

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