
Production of Lovastatin by soil microfungi *Mycocladius corymbifer* (Cohn) Vuill.

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ABSTRACT

Fungi are important sources for the production of several pharmaceutical compounds. Statins, among these classes of fungal metabolites have become the focus of great attention due to their ability to influence the de novo synthesis of endogenous cholesterol. This compound decrease the level of cholesterol concentration in blood, particularly bad cholesterol (low density lipoprotein, LDL). The aim of the present study is to determine lovastatin-producing potential of microfungi isolated from soil samples of different regions of Madurai, Tamil Nadu. They were isolated, purified, and characterized based on colony morphology and microscopic features. All identified representatives of soil fungi were tested for their ability to produce lovastatin. A total of 20 strains were isolated from soil samples and examined for lovastatin production. Five of these strains were confirmed to produce lovastatin. The screening of potential lovastatin producing fungus was carried out using bioassay method against *saccharomyces cerevisiae* as an indicator microorganism in the YPDA medium by measuring the zone of inhibition around the well, where the extracted lovastatin sample was loaded. The diameter of zone of inhibition ranged from 2.5–3.0 cm in *Mycocladius corymbifer* which produced a maximum zone of inhibition. The difference in clear zones may be due to the variation of physiology and genetic characteristics of the specimen and the mechanism of sensitivity towards lovastatin is that cholesterol lowering agents in ethyl acetate extract is in the form of -hydroxy acid, which is an antifungal agent. Hence, from this investigation it was concluded that rapid method of determination of lovastatin can also be employed to screen lovastatin producing fungal isolates from soil and the isolate *Mycocladius corymbifer* being recommended for further studies as a potent lovastatin producer.

Keywords: Cholesterol, Lovastatin, Bioassay, LDL