

**PRODUCTION OF LOVASTATIN BY SOIL MICRO FUNGI *RHIZOPUS ORYZAE*****P Anusha and S Rajkumar Immanuel**

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Natural statins like lovastatin which is mainly produced by fungal strains act as an inhibitor of HMG-CoA reductase, an enzyme involved in the biosynthesis pathway of cholesterol. The statins decrease the level of cholesterol in blood. The aim of the study was to determine the lovastatin producing potential of soil micro fungi. In the present investigation 10 soil fungi were screened for lovastatin production using shake flask culture. The screening of potential lovastatin producing fungus was carried out using bio-assay method against *Saccharomyces cerevisiae* as an indicator microorganism in the YPDA medium by measuring the zone of inhibition. The diameter of zone of inhibition ranged from 3.7 to 4.8 mm in *Rhizopus oryzae* which produced a maximum zone of inhibition. Among the lovastatin producing strains *Rhizopus oryzae* was found to be utilized maximum substrates. Genomic identification of the strain was done using 18S rDNA technique. The DNA of *Rhizopus oryzae* was extracted and purified by agarose gel electrophoresis and sequenced using the ~1.5kb 18S rRNA fragment and was amplified using the primers. Phylogenetic analysis performed by the maximum parsimony (MP) method and molecular evolutionary relationship was inferred using neighbor-joining method and the identity was confirmed. The fungi *Rhizopus oryzae* was screened for lovastatin production using HPLC analysis after extraction of the compound from the fermentation broth with ethyl acetate. Lovastatin quantification was carried out on extracts from the culture broth and a production level of 20.39mg/l was recorded. 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 *Rhizopus oryzae* being recommended for further studies as a potent lovastatin producer.

BIOGRAPHY

P Anusha is a pursuing her PhD at The American College, India. She is examining her PhD under RajKumar Immanuel. S RajKumar Immanuel is as of now filling in as the Associate Professor and Head of the Post-graduate Department of Environmental Science and Dean for Curriculum Development and Research at The American College, Madurai, Tamil Nadu, India. His zone of research is Fungal Biotechnology.

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