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IMMOBILIZATION OF *CONIDIOBOLUS CORONATUS* ALKALINE PROTEASE ON WASTE FUNGAL BIOMASS

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Abstract

Alkaline protease from *Conidiobolus coronatus* which is optimally active at pH 10 and 40°C finds application in leather and detergent industries as well as for recovery of silver from waste photographic films. The protease was immobilized in Ca-alginate, polyacrylamide gel and alkali treated waste fungal biomass (ATWFB). ATWFB was found to be most suitable among the matrices tested. Glutaraldehyde marginally increased the binding to ATWFB. Binding of protease to ATWFB seems to be through adsorption as confirmed by FTIR spectra. Though temperature optima of free and immobilized proteases were identical, optimum pH of the immobilized enzyme shifted to 11 from 10. Temperature stability of the protease increased after immobilization. Immobilized protease could be reused 3 times with marginal loss in activity.

Key words: alkaline protease, *Conidiobolus coronatus*, fungal biomass, immobilization

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