

Immobilization of *Penicillium notatum* NCIM 923 tannase and properties of immobilized tannase compared with the free enzyme

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Tannase was effectively immobilized on alginate by the method of cross linking entrapment with a high activity recovery of 75.59%. The properties of immobilized tannase were investigated. Bead size of 0.70x32mm and 1% glutaraldehyde for cross linking were found to be optimum. Its optimum temperature was determined to be 45°C, increasing 5°C compared with that of free enzyme, whereas the optimum pH of 5.0 did not change. The thermal and pH stabilities of immobilized tannase increased to some degree. Glutaraldehyde cross linked beads showed more operational as well as storage stability compared with non cross linked beads. The kinetic parameters, K_m , for immobilized tannase was estimated to be $0.66 \times 10^{-2} M$ and V_{max} was 16.9U/mg.

Key words: Alginate, fermentation, glutaraldehyde, immobilization, tannase
