

Enhanced Enzyme Activity and Stability in Enzyme Coated Magnetic Micro-beads

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For multi-cycle reusing of enzyme, immobilized enzyme on magnetic bead can provides simple and easy recovery from reaction mixture. Since enzyme dilution effect in macro-size carrier, and aggregates of nanoparticles in nano-size carrier have been found, microbead is expected to have compromising advantages as a meso-size carrier. In this study, *Candida antarctica* lipase B (CALB) was immobilized on micro-size magnetic bead by chemical adsorption. The Influence of bead characteristics such as size and functional group and immobilization conditions including incubation time, pH, temperature on hydrolytic activity and esterification activity were investigated. Thermal stability and operational stability were also evaluated.