ABSTRACT

Recombinant β-1,4 Endoglucanase (Kindly provided by **Prof. Dr. Ikram-ul-Haq** IIB GC Univesity Lahore) from *Thermotoga petrophila* was immobilized in calcium-alginate beads and acrylamide gel slices. The method was found to improve the functional stability of the enzyme. The optimum temperature of the enzyme entrapped in calcium-alginate beads remained 100°C as that of the crude enzyme whereas it dropped to 90°C for the enzyme entrapped in acrylamide gel slices. pH shift from 6 to 5 was observed in calcium-alginate beads whereas no change in pH was observed in enzyme entrapped in acrylamide gel slices. The shelf-life of the immobilized enzyme in calcium-alginate beads was found to be 30 days and that of the enzyme in acrylamide gel slices was found to be 18 days. Reusability was also tested and was found that beads as well as gel slices could be reused for four successive cycles with a minor decrease in activity of the entrapped enzyme.