ISOLATION OF ∝-GALACTOSIDASE PRODUCING MICROORGANISMS FROM SOIL

C. Deepal Mathew and Jeniffer Perera *
Dept. of Biochemistry and*Dept. of Microbiology
Faculty of Medicine, University of Colombo

∝-Galactosidase is used in industry to hydrolyse raffinose sugars. In medicine attempts have been made to use immobilized ∝-galactosidase for tretment of Fabry's disease. In this study we isolated two microbial species from soil by enrichment culture technique using raffinose as the carbon source. Further studies on raffinose utilization showed that only one species utilized raffinose. This species was identified as Klebsiella aerogens by morphological and biochemical tests. When cultivated in a culture medium containing raffinose 1%, KH_2Po_4 0.3%, NaCI 0.1%, yeast extract 0.2%,the optimum cell density was observed after 63h. The maximum ∝-galactosidase production of 129 milliunits/ml was observed after 90h. When the culture medium was supplemented with 0.4% $(NH_4)_2SO_4$ optimum cell density and enzyme activity was observed after 51h. However, enzyme activity was only 58 milliunits/ml. When 0.4% peptone was added instead of $(NH_4)_2SO_4$ optimum cell density was observed after 63h. Optimum enzyme activity of 96 milliunits/ml was observed after 51h.