

Enzymatic Degradation of Carrageenan by Halophilic Bacteria from South-West Coast of India

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Abstract: Carrageenase producing halophilic bacteria were isolated from seawater and sediment samples collected from the vicinity of seaweed meadow, all along the South West coast of India. Two isolates, YK-C-1 and YK-C-2, producing large amount of extracellular carrageenase were selected for purification of enzyme. Correlation study of enzyme production with growth curve of the aforesaid two bacterial isolates was also undertaken. Maximum enzyme production was observed during 24-32 hours of incubation. Storage stability of crude enzyme was

studied with respect to temperature at 350C, 200C and in frozen condition. It was observed that the enzyme was quite stable even at 350C for 7 days. After this period, a reduction in activity by 41% and 33% was observed from both the strains respectively. The purification of enzyme using 75% ammonium sulphate saturation yielded 1.1 and 1.6 fold purification respectively. Specificity of enzyme towards kappa, iota and lambda carrageenan was also studied.