PREFACE

Proteases or proteolytic enzymes are degradative enzymes which catalyze the hydrolysis of proteins and specifically act on the internal peptide bonds of proteins and peptides (Bayoudh et al. 2000). Proteases are of the most important industrial enzymes accounting for nearly 60% of total worldwide sale (Ward OP et al. 1985; Kalisz HM, 1988). Among the proteases alkaline proteases find wide industrial applications in the detergent, food, pharmaceutical and leather industries as they have a high level of activity over a broad range of pH. For this reason considerable attention has been paid to the isolation of alkaliphilic microorganisms and study of their proteases.

Actinomycetes are biotechnologically important as they are prolific producers of secondary metabolites like antibiotics. Recently they are being investigated for their potential to produce bioactive compounds have anti inflammatory, hypertensive, immunosuppressive and other bioactivities.

Actinomycetes are abundant in terrestrial soils and other natural habitats. Actinomycetes producing alkaline proteases have been isolated from alkaline soils and extreme environments such as soda lakes in Ethiopia (Amare Gessesse et al. 2003).

In the present investigation an attempt has been made to isolate protease producing actinomycetes from soil samples collected from milk processing units and other soils, optimize the bioprocess variables for submerged fermentation and finally to characterize and evaluate the potential of the isolated enzyme for industrial use.