Abstract

An extracellular alkaline protease was isolated from a locally isolated strain of *Aspergillus oryzae* (16.3 ± 0.03 U/ml). Purification of alkaline protease was performed by using ammonium sulphate fractiotion and anion exchange chromatography. SDS- PAGE showed that the protease had a molecular weight of 62 KDa with a purification fold of ~2.13, 99.3 % recovery and specific activity of 33.75 U/mg. Protease showed enhance stability at highest temperature and pH, which mean that it was a thermostable enzyme and was alkaline in nature nature. Optimum temperature and pH for catalytic activity of enzyme was observed at 40 °C (19.5 ± 0.04 U/ml) and pH 10.0 (19.5 ± 0.04 U/ml). Protease catalytic activity was minimized by using heavy metal ions (Pb, Na, Ca and Co) but protease activity was completely inhibited by Hg^{2+}. Protease activity was also reduced by the addition of inhibitors EDTA and Tween 20. It was observed that alkaline protease maintained its stability at -20 °C for 30 days, after that its stability was starting to decrease.