ABSTRACT

In present study Catalase enzyme was produced by *Bacillus subtilis* and concentrations of carbon and nitrogen sources were optimized by using submerged fermentation. It was evaluated that 12g/L starch and 12g/L ammonium chloride in fermentation media with neutral pH, give maximum yield (13.4U/ml) of catalase at 37 °C at 200 rpm.In this study 6% inoculumn size (v/v) was used and optimum incubation time period was 20 hours. Catalase production was enhanced up to 2.9 fold after optimization of parameters. Using customary protein purification strategy, 13.75 fold purification of catalase was obtained with specific activity of 275U/mg protein. SDS PAGE analysis revealed that *Bacillus subtilis* produced small sub unit catalase (59KD) which was stable up to 45 °C at pH 7.0. Activity of purified catalase was inhibited up to 70% with 1.5mM Cu^{2+} while other metal ions (Mn^{+2} and Fe^{+2}) did not show any prominent catalase inhibition.