Purification and Characterization of the Protease from Vibrio fluvialis TKU005

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ABSTRACT

This thesis is a study of the utilization of shrimp and crab shell powder by microbes to produce protease . The isolated strain TKU005 was identified as Vibrio fluvialis . Maximum protease activity (0.1 U/mL) was obtained when the strain was grown aerobically in a medium consisting of 3g shrimp and crab shell powder、3%NaCl、0.1%K2HPO4 and 0.05%MgSO4 · 7H2O in 100 mL medium (pH 10.0) at 30°Cfor 2 days. Two proteases (F Ⅰ,F Ⅱ) were purified from the culture supernatant of Vibrio fluvialis TKU005 by ammonium sulfate precipitation and DEAE-Sepharose CL-6B column chromatography. The Molecular weight of purified proteases F Ⅰ and F Ⅱ were estimated to be 41kDa and 39kDa by SDS-PAGE,respectively. The optimum pH, optimum temperature, pH stability, and thermal stability of F Ⅰ and F Ⅱ were(9、60℃、7-9、<50℃)and(9、60℃、6-9、

Keywords : shrimp and crab shell powder, protease, characterization eneyme, Vibrio fluvialis TKU005

Table of Contents

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