

PARTIAL PURIFICATION AND SOME PROPERTIES OF PROTEASE FROM *MICROSPORUM CANIS*

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ABSTRACT

Clinical strain *Microsporium canis* was isolated from specimen of patient with Tinea corporis in arm and it has ability to produce extra cellular keratinolytic protease in a broth containing human hair. The enzyme was partial purified 35.8-fold from culture filtrate by sequential steps through salting out with ammonium sulfate precipitation (80% saturation), ion exchange Chromatography by batch wise ion exchange by CM- Cellulose cation resin and anion resin by DEAE-cellulose column.

The partially purified enzyme had an optimum activity at pH 9 and maximum activity at pH11. The activity was stable in the alkaline pH 9 for 30 min at 25°C. Enzyme activity toward casein increased when temperature raised more than 20°C and maximal activity attained at 55° C. The enzyme was stable at temperature under 25°C and approximately 80% of its activity abolished by incubation of the enzyme at 60 ° C for 30 min. Protease had activation energy equal 3.314 Kcal/Mole that to be able to transform casein to product. On the other hand, the activation energy for denaturation was equal to 49.675 Kcal/Mole. The result of this experiment demonstrated that the enzyme is heat labile.

Keywords: *Microsporium canis*, Protease, purification, properties