Thesis Title Purification of Urease from *Bacillus pasteurii*

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ABSTRACT

Urease (urea amidohydrolase, EC 3.3.1.5), a nickle-containing enzyme that catalyzes the hydrolysis of urea to carbondioxide and ammonia. Urease has since been report to occur in over two hundred species of bacteria, in several species of yeasts, in fungi and in a large number of higher plants. The richest common soil bacteria known source of urease is *Bacillus pasteurii* which contains up to 1% its dry weight of urease. Urease can be applied in various aspect such as urea analysis, enzyme marker in ELISA, therapeutic enzyme in kidney repairment patient etc.

In this study, Urease from *B. pasteurii* NCIB 8841 was partially purified using 50% ammonium sulfate precipitation, QAE-Sepharose chromatography and Sephadex G-200 gel filtration chromatography. The product was purified 11.59 fold to yield a specific activity of 7.58 U/mg protein. The native enzyme was demonstrated to have a molecular mass of 230 Kda, as measured by G-200 gel filtration chromatography, and to consist of three ureases; 66, 59 and 56 Kda