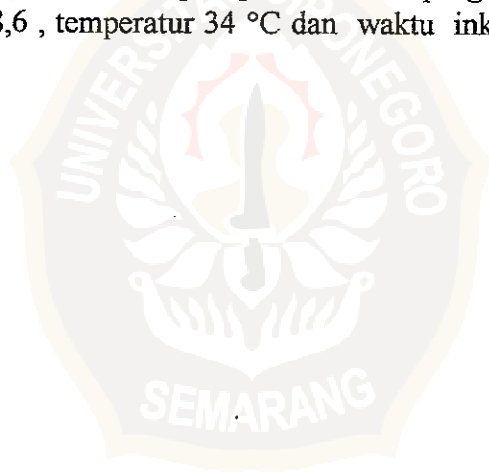


RINGKASAN

Isolasi dan Karakterisasi Enzim Asparaginase dari *Aspergillus niger*

Enzim asparaginase adalah enzim yang dapat menghidrolisis asparagin menjadi asam aspartat dan amonia. Untuk mendapatkan enzim asparaginase telah dilakukan isolasi dan karakterisasi enzim asparaginase dari *Aspergillus niger*. Jamur *Aspergillus niger* ditumbuhkan pada media TEA (Taoge Ekstrak Agar) kemudian difermentasikan pada media Czapek cair. Isolasi dilakukan melalui beberapa tahap, yaitu ekstraksi, presipitasi, dialisis, penentuan aktivitas dan aktivitas spesifik yaitu unit aktivitas per miligram protein. Penentuan aktivitas dilakukan dengan metode Nessler sedangkan kadar protein ditentukan dengan metode Lowry. Karakterisasi yang dilakukan meliputi penentuan pH, temperatur dan waktu inkubasi optimum.

Hasil penelitian menunjukkan fermentasi optimum pada 46 jam dan fraksi 2 (F₂ dengan tingkat kejenuhan 20–40 %) memiliki tingkat kemurnian yang tertinggi dengan aktivitas spesifik 123,287 unit/mg protein. Berdasarkan penentuan sifat karakteristiknya, enzim asparaginase dari *Aspergillus niger* ini bekerja optimum pada pH 8,6 , temperatur 34 °C dan waktu inkubasi selama 30 menit.



SUMMARY

Isolation and Characterization Asparaginase Enzyme from *Aspergillus niger*

Asparaginase enzyme is an enzyme which able to hydrolize asparagine into aspartic acid and amonia. Isolation and characterization of asparaginase enzyme have been done from *Aspergillus niger*. *Aspergillus niger* was planted in TEA (Taoge Ekstrak Agar) medium, and fermented in liquid Czapek media. Isolation has been carried out by several rank that are extraction, presipitation, dialisis, determined activity unit and spesific activity, activity unit per milligram of protein. Activity unit was determined by Nessler method and protein degree by Lowry method. Characterization had done are determination of optimum pH, temperature and incubation time.

The research result showed that optimum fermentation is at 46 hours and fraction two (F₂ by unsaturated degree 20-40 %) have highest pure degree with spesific activity 123.287 unit/mg protein. Based on characterization determination, this enzyme active optimally in pH 8.6 , temperature 34 °C and incubation time 30 minutes.

