Purifikasi Dan Karakterisasi Protease Dari Bakteri Patogen *Pseudomonas aeruginosa*

[Purification and Characterization of Protease from Pathogenic Bacteria *Pseudomonas aeruginosa*]

Ace Baehaki [1], Maggy T.Suhartono[2], Nurheni Sri Palupi[2] dan Tati Nurhayati[3]

[1] Program Studi Teknologi Hasil Perikanan, Fakultas Pertanian Universitas Sriwijaya; [2] Departemen Ilmu dan Teknologi Pangan, Institut Pertanian Bogor; [3] Departemen Teknologi Hasil Perairan, Institut Pertanian Bogor

Diterima 28 Juli 2007 / Disetujui 30 Juni 2008

Abstract

In *the last decade, concern on protease as medical target for overcoming bacterial diseases and viral diseases has been rapidly increased because of the obvious involvement of this enzyme in the molecular of the diseases. The purpose of this research was to purify and characterize protease from pathogenic bacteria Pseudomonas aeruginosa. The bacteria were grown in media containing triptone 1%, NaCl 1% and Yeast extract 0,5%. Protease of P.aeruginosa was purified using column chromatography with Sephadex G-100 gel. There were three peaks of enzyme protein, which were detected on fractions 14, 17 and 30. The optimum pH of the extracelluler protease from P. aeruginosa was 8. The optimum temperature of P.aeruginosa protease was* 30^0*C.* Fe^{3+} *(1dan 5 mM) was strong activator and* Co^{2+} *was strong inhibitor. Study on the effect of metals ion and spesific inhibitors indicated that protease from P. aeruginosa was serin metaloprotease. The apparent moleculer weights, as determined by SDS-PAGE and zymogram technique, 36 kD and 42 kD.*

Keywords *: Protease, characterization, purification, patogenic bacteria P.aeruginosa*