



INTISARI

KARAKTERISASI DAN PENGUJIAN AKTIVITAS PROTEOLITIK ISOLAT BAKTERI DARI HUTAN PAYAU KABUPATEN CILACAP

SHABRINA NURULITA HARIADI
13/351379/PN/13430

Ekosistem mangrove merupakan salah satu ekosistem yang terdapat di Indonesia. Kawasan mangrove memiliki potensi eksplorasi bakteri proteolitik karena biomassa sisa-sisa flora dan fauna yang terkumpul di tanahnya mengandung protein. Penelitian ini bertujuan mengetahui kemampuan proteolitik bakteri dari tanah Hutan Payau, Kabupaten Cilacap. Pengujian dilakukan dengan penumbuhan isolat bakteri di medium *Skim Milk Agar* 1%. Bakteri yang mampu mendegradasi protein akan menunjukkan terbentuknya zona bening. Pengamatan morfologi koloni dan sel bakteri dilakukan untuk karakterisasi ketiga isolat. Hasil penelitian menunjukkan bahwa isolat TPY1, TPY2, dan TPY3 mampu mendegradasi protein dengan indeks proteolitik berturut-turut sebesar $1,717 \pm 0,115$; $3,185 \pm 0,381$; dan $2,134 \pm 1,065$. Isolat TPY1 merupakan bakteri Gram-positif berbentuk basil, isolat TPY 2 adalah bakteri Gram-negatif berbentuk kokus, dan isolat TPY3 adalah bakteri Gram-positif berbentuk kokus.

Kata kunci: mangrove, protein, proteolitik, bakteri proteolitik



ABSTRACT

CHARACTERISATION AND PROTEOLYTIC ACTIVITY ASSAY OF BACTERIAL ISOLATE FROM HUTAN PAYAU CILACAP

SHABRINA NURULITA HARIADI
13/351379/PN/13430

Mangrove ecosystem is one of the natural ecosystem in Indonesia. Mangrove ecosystem has a potency to be explored as a source of proteolytic bacteria because its biomass content which comes from dead plants and animals on its soil contains protein. This study was conducted to find out bacterial proteolytic ability of the soil from Hutan Payau, Cilacap. The test was conducted by growing bacterial isolates on 1% Skim Milk Agar medium. The proteolytic bacteria would be able to degrade protein by showing clear zone. Colony and cell morphology observation was conducted to characterise the three isolates. Result shows that bacterial isolate TPY1, TPY2, and TPY3 all are able to degrade protein with capability shown by proteolytic index $1,717 \pm 0,115$; $3,185 \pm 0,381$; and $2,134 \pm 1,065$ respectively. TPY1 is a bacilli Gram-positive bacteria, TPY2 is a cocci Gram-negative bacteria, and TPY3 is a cocci Gram-positive bacteria.

Keywords: mangrove, protein, proteolytic, proteolytic bacteria