



ChemTech

International Journal of ChemTech Research

CODEN(USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555

Vol.11 No.07, pp17-28,2018

Isolation of Chitinolytic Bacteria From Two Lizard Digestive Tract and Characterization of Their Crude Chitinase

Lukas Pardosi¹, Dwi Suryanto^{2*}, Ameilia Zuliyanti Siregar³

¹Graduate Student of Department of Biology, Faculty of Mathematics and Natural Sciences, Universitas Sumatera Utara, Medan, Indonesia 20155

²Department of Biology, Faculty of Mathematics and Natural Sciences, Universitas Sumatera Utara, Medan, Indonesia 20155

³Department of Agrotechnology, Faculty of Agriculture, Universitas Sumatera Utara, Medan Indonesia 20155

Abstract: A study on isolation of chitinolytic bacteria from two lizard digestive tract of tokay gecko (*Gekko gecko*) and golden skink (*Mabouya multifasciata*), and characterization of their crude chitinase has been done. Bacterial isolation was conducted on chitin medium incubated at 31°C. Chitinolytic index was measured as ratio of clear zone diameter divided by colony diameter. Crude enzyme activity of the isolates was spectrophotometrically assayed using Schales reagent at 420 nm. Bacterial identification was conducted by using its 16S rRNA gene sequences. Twelve bacterial isolates were isolated from digestive tract of tokay gecko and eight were isolated from digestive tract of golden skink. LK12 and KD5 showed to have relatively high chitinolytic index of 1,551 and 1,098 respectively. Optimum enzyme activity of LK12 and KD5 was observed in 6 days of incubation with activity of 0,205 U/mL and 0,225 U/mL, respectively. Bacterial identification showed that LK12 and KD5 were closed to *Stenothrophomonas maltophilia* strain ATCC 19861 and *Enterobacter tabaci* strain YIM Hb-3 with similarity of 91 and 88%, respectively.

Keywords: chitinase, *Gekko gecko*, *Mabouya multifasciata*.

Dwi Suryanto *et al*//International Journal of ChemTech Research, 2018,11(07): 17-28.

DOI= <http://dx.doi.org/10.20902/IJCTR.2018.110703>
