



## **Screening of Proteolytic Bacteria Isolated from Tilapia (*Oreochromis niloticus*) in Inhibiting the Growth of *Microcystis aeruginosa* BT-02**

Andri Taruna Rachmadi<sup>1</sup>, Nisa Rachmania Mubarik<sup>2\*</sup>, Taruni Sri Prawasti<sup>2</sup>

<sup>1</sup>Institute For Research and Standardization of Industry Banjarbaru Ministry of Industry Jl Panglima Batur Barat No. 2, Banjarbaru 7071; <sup>2</sup>Department of Biology, Faculty of Mathematics and Natural Sciences, Bogor Agricultural University, Jalan Agatis, IPB Darmaga, Bogor 16680 INDONESIA

*Received January 27, 2012; Accepted March 27, 2012*

**Abstract:** *Microcystis* is a phototrophic cyanobacteria which causes blooming and could cause death in fish. The objective of this research is to screen 31 proteolytic bacteria isolated from digestive tract of tilapia GIFT (*Oreochromis niloticus*) which had the ability to inhibit the growth of *Microcystis aeruginosa* BT-02. Four isolates with high protease index have been chosen, *i.e.* NU-2, NU-3, NU-4, and NU-8. The cultures of *M. aeruginosa* were cultivated in two kinds of liquid medium, *i.e.* modified BG-11 and MLA. The block agar method using double layer agar was used for the *M. aeruginosa* screening process. The inhibition index produced by NU-8 (1.6) was higher than for NU-4 (1.3). The other isolates did not show an inhibition zone. Crude extracts of protease which were produced by NU-8 and NU-4 could not inhibit the growth of *M. aeruginosa*. Both of bacteria were Gram negative and NU-8 had been identified as *Aeromonas* sp.

**Key words:** *proteolytic bacteria, tilapia, Microcystis aeruginosa, Aeromonas sp.*

---

\*Corresponding: E-mail: [nrachmania@ipb.ac.id](mailto:nrachmania@ipb.ac.id); Phone/Fax : +62 251 8622833