

Potensi Bakteri Proteolitik *Aeromonas caviae* NU-4 dan *Aeromonas* sp. NU-8 sebagai Pengendali Pertumbuhan *Microcystis aeruginosa* BT-02 pada Ikan Mas (*Cyprinus carpio*)

Potency of Proteolytic Bacteria *Aeromonas caviae* NU-4 and *Aeromonas* sp. NU-8 as a Biocontrol of *Microcystis aeruginosa* BT-02 in Carp (*Cyprinus carpio*)

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Abstract

Cyanobacteria are a group of phytoplankton that are commonly found in bodies of fresh water in all over the world. Cyanobacteria produce toxins such as microcystin, which is produced by *Microcystis aeruginosa* which causes the death of fish. This study was conducted to know the potency of proteolytic bacteria, isolated from digestive tract of tilapia fish strain GIFT, which have an ability to inhibit the growth of *M. aeruginosa* BT-02. The isolates of proteolytic bacteria, which have the ability to inhibit the growth of *M. aeruginosa* BT-02, are i.e *Aeromonas caviae* NU-4 and *Aeromonas* sp. NU-8. The inhibition index that is produced by NU-4 (1.71) was higher than NU-8 (1.34). The inhibition mechanism is still unknown. Toxicity test revealed that there were not any carp fish which died during the experiment, but there were some histological changes observed in liver and intestinal of treated carp fish with *M. aeruginosa* cells.

Keywords: Proteolytic bacteria, *Aeromonas* sp., *Microcystis aeruginosa*, carp fish, toxicity test

Abstrak

Sianobakteri merupakan kelompok fitoplankton yang umum dijumpai di perairan tawar di seluruh dunia. Sianobakteri menghasilkan toksin mikrosistin yang dihasilkan oleh *Microcystis aeruginosa* yang menyebabkan kematian ikan. Penelitian ini bertujuan mengetahui potensi bakteri proteolitik yang berasal dari saluran pencernaan ikan nila GIFT dalam menghambat pertumbuhan *M. aeruginosa* BT-02. Isolat bakteri proteolitik asal saluran pencernaan ikan nila yang menghambat pertumbuhan *M. aeruginosa* BT-02, yaitu isolat i.e *Aeromonas caviae* NU-4 and *Aeromonas* sp. NU-8. Indeks penghambatan bakteri NU-4 (1,71) terhadap *M. aeruginosa* lebih besar daripada NU-8 (1,34). Mekanisme penghambatan belum diketahui. Aplikasi *Microcystis aeruginosa* BT-02 pada ikan mas tidak menyebabkan kematian ikan, tetapi menimbulkan beberapa perubahan histopatologi pada hati dan usus ikan mas.

Kata kunci: Bakteri proteolitik, *Aeromonas* sp., *Microcystis aeruginosa*, ikan mas, tes toksisitas