

ANTIBACTERIAL ACTIVITY OF PYOCYANIN FROM *Pseudomonas aeruginosa*

ISOLATE TO *Aeromonas hydrophila*

WITH IN VITRO METHOD

Abstrak :

This research is looking for the natural alternative antibacterial to control bacterial disease Motile Aeromonad Septicaemia (MAS) in fishes caused by Aeromonas hydrophila. This research using pyocyanin blue-green pigmen from Pseudomonas aeruginosa isolate which is tested for antibacterial potency to Aeromonas hydrophila by in vitro of dilution and diffusion method.

Purpose of this research was to know Minimum Inhibitory Concentration (MIC) and Minimum Bactericidal Concentration (MBC) of pyocyanin, diameter of inhibitory zone Aeromonas hydrophila and correlation between pyocyanin concentration and diameter of inhibitory zone Aeromonas hydrophila.

The research use experimental method completely random design with twelve treatment and three times repetitions. Parameter observed are Optical Density (OD) value for MIC test, growth of Aeromonas hydrophila colonies for MBC test and diameter of inhibitory zone Aeromonas hydrophila for diffusion disk test. Other parameter are temperature incubation and pH medium. Data from diffusion method was analysed by Analysis of Variance (ANOVA) continued with Duncan's Multiple Range Test.

Result of research at dilution method shows that pyocyanin have bacteriostatic activity to Aeromonas hydrophila. There are real influence from pyocyanin concentration to diameter of inhibitory zone. The best treatment is concentration 100% which is not differ with 90% ($p > 0.05$). At diffusion method, concentration 20% with Optical Density (OD) 0.058 was able to inhibit the growth of Aeromonas hydrophila.

Furthermore research should be done to know Aeromonas hydrophila density that can be inhibited by pyocyanin which had been extracted and purificated to get active material $\hat{I}\pm$ -hydroxyphenazine and also require furthermore research to know direct influence or activity from pyocyanin for disease treatment caused by Aeromonas hydrophila infection and other of bacterial disease agents in fishes with in vivo method.

Keyword :

antibacterial activity, pyocyanin, Pseudomonas aeruginosa, in vitro, Aeromonas hydrophila.