

ABSTRACT

Imawati, Rohana. 2015. The Endophytic Bacteria Isolation and Identification from Curcuma rhizome (*Curcuma xanthorrhizza*) For Producing Antibacterial Compounds Against *Pseudomonas aeruginosa* and *Staphylococcus epidermidis*. Thesis. The Biology Department, Faculty of Science and Technology of the State Islamic University of Malang Maulana Malik Ibrahim.

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Indonesia is a country that has a high biodeversitas and has a broad area of tropical rain so it is an advantage in the search for sources of bioactive compounds. Endophytic bacteria can produce bioactive compounds that act as an antimicrobial. Wild Ginger (*Curcuma xanthorrhizza*), one of the medicinal plants that can be used as an antimicrobial. *Pseudomonas aeruginosa* is one reason burns, endocarditis and blue pus. *Staphylococcus epidermidis* is a parasitic cause a discharge of pus from the infection of the heart and cardiovascular, peripheral vascular membrane, intravenous vessels and urinary tract. The aim of this research. to know the endophytic bacteria found in ginger rhizome and the ability of bioactive compounds produced by endophytic microbes isolated as antimicrobial compounds.

Research conducted at the Laboratory of Microbiology, Faculty of Science and Technology of the State Islamic University Maulana Malik Ibrahim Malang, receipts exploration and experimental methods. Research Done by endophytic bacteria isolated from ginger rhizome obtained from Stone and Purwodadi which then made the identification of endophytic bacteria that grow on media NA. The production of secondary metabolites derived from the fermentation of bacteria and tested its activity against *Pseudomonas aeruginosa* and *Staphylococcus epidermidis* using the agar diffusion method (Kirby-Bauer). Bacteria tests used were obtained from the Laboratory of Microbiology, Medicine Faculty, Brawijaya University.

The results showed that as many as four isolates of endophytic bacteria were isolated from the rhizome of ginger, ie species of *Actinomyces viscosus* and *Pseudomonas stutzeri* of Stone, *Actinomces viscosus* and *Bacillus brevis* from Purwodadi. Zone of inhibition against the test bacteria *Pseudomonas aeruginosa* obtained 3.3 mm to *Actinomyces viscosus* of Stone, 5.6 mm for *Pseudomonas stutzeri*, 5 mm to *Actinomyces viscosus* of Purwodadi and 4 mm for *Bacillus brevis*. Inhibition zone against *Staphylococcus epidermidis* bacteria obtained 3.7 mm to *Actinomyces viscosus* of Stone, *Pseudomonas stutzeri* 3.3 mm to 1.7 mm for *Actinomyces viscosus* from Purwodadi and 4.7 mm for *Bacillus brevis*.