



Research article

Some properties of protease extract derived from *Pseudomonas fluorescens* and its antifungal activity against *Fusarium* spp.

Yati Sudaryati Soeka¹, Joko Sulisty^{2*}

¹Research Center For Biology-Indonesian Institute of Sciences Cibinong Science Center, Jl. Raya Jakarta- Bogor, Km 46 Cibinong 16911, Indonesia.

²Faculty of Food Science and Nutrition, University Malaysia Sabah, Jalan UMS 88400, Kota Kinabalu, Sabah, Malaysia.

Key words: *Pseudomonas fluorescens*, *Fusarium oxysporum*, *Fusarium solani*, protease extract, antifungal.

***Corresponding Author: Joko Sulisty**, Faculty of Food Science and Nutrition, University Malaysia Sabah, Jalan UMS 88400, Kota Kinabalu, Sabah, Malaysia.

Abstract

Soil-borne plant pathogenic fungi are of major concern problem in agriculture which affects yield and quality of agricultural products. As *Pseudomonas fluorescens* possess a variety of promising properties which make it a better biocontrol agent. In this current study, antagonistic effects of bacterial biocontrol agent, *Pseudomonas fluorescens* obtained from Microbiology Collection of Indonesian Institute of Sciences, was evaluated against plant pathogenic fungi *Fusarium solani* and *Fusarium oxysporum* causing wilt disease of plants. The ability of *Pseudomonas fluorescens* in antagonizing or inhibiting the growth of phytopathogenic fungi was tested by measuring the inhibition zone for the growth of the tested fungi using dual culture method. The protease extract derived from *P. fluorescens* showed to inhibit growth of *Fusarium solani* InaCC F76 and *Fusarium oxysporum* InaCC F78 as pathogens cause wilt disease on plants.