

Recognition between *Macrophomina Phaseolina* and *Pseudomonas fouorescens* and its role in fungal-bacterial interaction

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Considerable research has been done to elucidate the biochemical and molecular recognition between plant pathogens and to their host. The biochemical and molecular recognition between biotrophic and necrotrophic fungus-fungus system has not been fully understood.

The recognition between fungal pathogens and bacterial antagonists, and its possible role in fungal-bacterial interaction process has not been investigated. The aim of this research is to study the biochemical mechanism of recognition between a fungal plant pathogen *Macrophomina phaseolina* and a potential biocontrol agent *Pseudomonas fluorescens* under different growth condition and to elucidate the mechanism involved in recognition process.

This strain also exhibited strong agglutination properties toward the crude agglutinin, hyphae and sclerotia of *M. phaseolina*. Agglutination response of cells were greatly influenced by the media constituents, pH and temperature. A positive correlation was obtained between agglutination of cells with agglutinin obtained from the media containing different concentration of glucose. Mineral salts also increased agglutination response. Sclerotia of *M. phaseolina* stressed under different conditions failed to cause any significant effect on cell agglutination. In contrast, stressed *P. fluorescens* cells showed less agglutination. The hemagglutination, sugar inhibitory test and agglutination titre test suggested the role of lectin in the recognition process. The role of cell surface properties such as hydrophobicity and cell surface charges also influenced the adherence of *P. fluorescens* to crude agglutinin.