

## Antifungal Potential of Rhizospheric Pseudomonase against Pathogenic Fungi

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**Background & Objectives:** Soil is a major source of microorganism with various bioactive products. Some of the metabolites of these microorganisms have antibiotic properties and are effective in inhibiting the growth of fungus and other bacteria. Pseudomonas includes species that are able to use variety of organic and inorganic compounds and living in different environmental condition. Soil born Pseudomonas is one of the important parts of soil flora that have biocontrol potential against fungi. In this article different samples of rhizospheric soil from different areas of golestan province have been prepared and cultured and Native Pseudomonas is isolated.

**Methods:** Suspensions are prepared from sample and were made 10 serial dilutions of the sample. All dilutions of bacteria cultured on medium and colonies from the highest dilution were selected for isolation and identification. Fungal species used in this study included strains *A. flavus*, *A. niger* and *F. oxysporum*. King A and PDA agar medium respectively used for culturing and antifungal effect, survey of antifungal effect were performed with diffusion methods in agar and the inoculation of standard bacterial suspension on a uniform surface of fungal cultures.

**Results:** some of the important testes were done that including :gram strain , oxidase , catalase , indole , motility , MR , VP , citrate , nitrate reduction , gelatin liquefaction , starch hydrolysis , pyoverdin production, and growth at 42 °C . Isolates based on bergy's manual have been identified as Pseudomonas and based on biochemical testes they had many similarities with Pseudomonas fluorescence groups. The results show that isolates S5, S7, respectively, with zone diameter 23.3, 22.3 has the highest antifungal effect against *A. flavus*, *A. niger* and *F. oxysporum* and showed significant zone of inhibition growth.

**Conclusion:** According to the results and previous studies were clarified the role of soil born Pseudomonas in biocontrol of fungal plant pathogen and the metabolites of these bacteria can be used in the control and against fungi.

**Keywords:** Rhizospheric Pseudomonase; Fungi; Antifungal