

## INVESTIGATION OF THE ENZYME ACTIVITIES OF *FUSARIUM SOLANI* ISOLATES FROM PLANT AND HUMAN INFECTIONS

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The members of *Fusarium solani* species complex are common plant pathogenic fungi and also one of the main causal agents of keratomycosis in South India. Fungal pathogens secrete several extracellular enzymes, which could be relevant in virulence. Investigation of the differences in the extracellular enzyme activities between isolates derived from plant and human hosts could help us to understand the mechanisms of pathogenicity. In this study we investigated the lipase, elastase and keratinase activities of 9-9 *F. solani* isolates from plant infection and human keratitis. For the lyplitic activity analysis tributyrin agar plates, while for the elastase activity tests, a modified Czapek agar medium supplemented with elastin was used. Keratinase activity was investigated in modified yeast extract-glucose broth supplemented with keratin-azure. In cases of agar plate tests, enzyme activity was calculated from the rate of the clear zone and the diameter of the colony after 7-days incubation at 37°C, while keratinase activity was calculated based on the absorbances of the supernatants after incubation at 37°C for 7 days. There were no significant differences between the two investigated groups in elastase and keratinase activities. However, compared to the clinical isolates we observed an almost two times higher lipase activity in the case of plant derived *F. solani*. Our results suggest that the lipase secretion could be an important virulence factor in case of the plant pathogenic *F. solani* isolates, but not in the clinical isolates. This hypothesis is confirmed by an observation, where it was demonstrated that the secreted lipases are crucial for virulence of the phytopathogenic fungus *Fusarium graminearum*.

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