



## Phytochemical and SDS-dissociated proteins of pathogenic and nonpathogenic *Fusarium oxysporum* isolates

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**Abstract:** The aim of this study to characterize and compare the phytochemical and protein pattern of pathogenic and non-pathogenic *Fusarium oxysporum* isolates.

*Fusarium oxysporum* is considered one of the most distributed species in soil-borne fungi communities, particularly in plant rhizospheres, where pathogenic and nonpathogenic strains may be found. Higher phenolic and flavonoid content was found in the extract of the nonpathogenic *F. oxysporum* (F.o.-T5) isolate, as the total phenol and total flavonoid were 56.0 and 27.0 mg /g respectively. Whereas, the total phenol and flavonoid content in culture filtrates of the pathogenic *F. oxysporum* (F.o.-T2) were lower by 12.5% and 29.63% respectively than the nonpathogenic isolate.

Results of SD-PAGE protein showed that the pathogenic *F. oxysporum* (F.o.-T2) detected only six bands at  $R_f$  values ranged from 5 to 35 KDa, while the nonpathogenic *F. oxysporum* (F.o.-T5) showed bands at  $R_f$  ranged from 5 to 245 KDa. The differences in protein patterns were sufficient to allow comparison of the fungal isolates.

Twenty two compounds were identified by GC/MS analysis of culture filtrate of the nonpathogenic *F. oxysporum* isolate and these compounds were varied in their chemical and molecular weight than that compounds detected in culture filtrate of the pathogenic isolate.

**Keywords:** *Fusarium oxysporum*, protein pattern, SDS-dissociated, GC/MS, nonpathogenic, phytochemical analysis.

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