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Chitinase and cellulase genes sequencing for some Egyptian *Trichoderma species* isolated from rhizosphere and assay of their activity

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ABSTRACT

Hydrolytic enzyme producing *Trichoderma* species have long been recognized as an agent for controlling plant diseases caused by various phytopathogenic fungi. A study was intended to identify highly chitinase and cellulose isolated *Trichoderma* producer from the rhizosphere. Chitinase gene isolated from *Trichoderma* strains FUE3, FUE5, FUE6, FUE9, FUE15 and I18 had one fragment with length of 1039 bp, encoding 344 amino acids. Cellulase gene isolated from *Trichoderma* strais FUE15 had one fragment with length of 204 bp, encoding 68 amino acids. The results presented showed that *Trichoderma* strains I18, FUE9, FUE6, FUE3, FUE5 and FUE15 exhibited significant activities of chitinase compare to control. The high potent cellulase producer was detected by FUE5 being 0.075 mg/ml whereas, the lowest figure produced by FUE15 being 0.024 mg/ml.