

# Mt-GENOME WIDE G-QUADRUPLEX PREDICTION OF FOUR DIFFERENT PHYTOPATHOGENIC FUNGI

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Four stranded non-canonical structures called G-quadruplexes have been correlated with various biological processes including transcription, DNA replication, DNA repair, recombination and telomer maintenance. It has been shown that the localization of the G-quadruplexes (G4) are not random; G4s co-localize with functional regions and highly conserved between different species. Knowledge on the G4s in phytopathogenic fungi and in mitochondrial genome is scant and studies on G4 may help us understand the biological processes better. In this study G4s on the mt-genome of four economically significant phytopathogenic fungi *Monilinia fruticola* (MK163638), *Sclerotinia sclerotiorum* (NC\_035155.1), *Zymoseptoria tritici* (NC\_010222.1) and *Fusarium oxysporum* (NC\_017930.1) have been mapped and investigated. Overall the results have shown that the locations and abundance of the G4s are highly variable between different species of phytopathogenic fungi. Number of G4s were higher in *M. fruticola* and the lowest number of G4 was found in *Z. tritici*. Importance and roles of G4s will be discussed in view of their structural and functional importance.