International Journal of PharmTech Research
CODEN (USA): IJPRIF, ISSN: 0974-4304
Vol.9, No.2, pp 40-47, 2016

Evaluation of enzyme activity inhibition of biogenic silver nanoparticles against microbial extracellular enzymes

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Abstract: In the present study, an attempt has been made to evaluate the enzyme activity inhibition of algal mediated silver nanoparticles against six major fungal mediated extracellular enzymes amylase,protease produced by *Aspergillus niger,* cellulose,lipase by *Tricoderma horzianum,* phytase by *Hypocrea lixii* and xylanase by *Fusarium oxysporum*. through submerged fermentation under optimum condition and the crude enzyme thus obtained was incubated with silver nanoparticles, the enzyme activity was determined after the post treatment with different concentration of nanoparticles .Silver nanoparticles were synthesized by dried biomass of *Spirulina platensis* with uniform spherical nanoparticles of 45-50 nm. Crude enzymes were obtained after the respective incubation period by the respective fungal organism followed by nanoparticles treatment and the enzyme activity was evaluated by suitable enzyme quantification assays. In general, enzyme activity of all the tested enzymes was not inhibited in all the tested concentration.

Keywords; silver nanoparticles, *Spirulina platensis*, enzymes, enzyme activity.

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