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Lantana aculeata L.-Mediated Zinc Oxide Nanoparticle-Induced DNA Damage in Sesamum indicum and Their Cytotoxic Activity Against SiHa Cell Line

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15.1 Introduction

In recent years, advanced science and technology researchers have attempted to synthesize nanoparticles (NPs) within the size range of 1–100 nm, and this extensive research and concern on NPs is enlarging because of their wide application in areas of science and technology. Zinc oxide NPs belong to the class of metal oxides, which is characterized by photocatalytic capacity against chemical and biological species (Srivastava 2007). The progress of technology and life quality of mankind has been closely with the progress in material science. Most techniques applied in material processing are based on breaking up large mass of a material into preferred sizes and shapes in the processed material (Roco et al. 1999). Late improvements depend on the impact of different quantum size nanoscale particles, uncovering that the greater part of the novel work will be founded on properties of nanomaterials. The traditional processing techniques that provoke lattice defects and further imperfections will no longer be thinned for synthesis of nanoparticle by absolute number of atoms (Isobe et al. 2006). Moreover, the purposes of traditional draw near impart difficulties for synthesis of such small particles in an enviable size range.

Alternative artificial technique for NPs involves proscribed precipitation of NPs from precursors and dissolved in a solution (Warheit 2008). A micro suspension can also be formed using surfactants between two immiscible liquids, with the intransigent isolated inside a colloid, through hydrophobic in opposition to hydrophilic

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M. Faisal et al. (eds.), *Phytotoxicity of Nanoparticles*, https://doi.org/10.1007/978-3-319-76708-6_15