

# Investigation of Biosynthetic Copper Oxide Nanoparticles in HepG2 Cell line

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Among inorganic nanoparticles copper oxide nanoparticles (CuO NPs) seek more attention in use of cancerous drugs due to their cost efficiency and greater stability. Green nanotechnology explicates extremely prioritized anticancer activity. Copper oxide nanoparticles were synthesized by green synthesis method using aqueous extract of *Azadirachta indica* (*A. indica*) leaf and confirmed their formation by UV-visible spectroscopy. For comparative study, in parallel experiment CuO NPs were synthesized chemically. Structural analysis of grown Nps was investigated by using XRD analysis. Morphology of synthesized particles was determined by scanning electron microscopy SEM. Elemental composition of synthesized material was determined by energy dispersive X-ray (EDX) analysis. Fourier Transform Infrared (FTIR) spectroscopy provides give molecular fingerprint/bonding type and arrangement of molecules. HepG2 cells interaction and absorbance of chemically synthesized and green synthesis CuO NPs towards mentioned cells were recorded and finally, loss in HepG2 cells viability was assessed by MTT assay/technique. Anticancer response of comparative study of CuO NPs towards liver cancer treatment contributes significantly after successful demonstration of essential steps of suggested experimental study.

**Keywords:** copper oxide nanoparticles (CuO NPs), *Azadirachta indica* (*A. indica*), Fourier Transform Infrared (FTIR), MTT assay/technique