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Synthesis of silver nanoparticles using tamarind kernel powder and *Acacia nilotica* via a green route and its cytotoxicity study

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This paper introduces green synthesis of shape controlled silver nanoparticles (AgNPs) through mutual actions of *Acacia nilotica* and tamarind kernel powder (TKP). The AgNPs have been characterized using several techniques. Resultant particles were further studied for exertion of cytotoxic effect on different cancer cell lines. Morphological study shows that the nanoparticles are mostly spherical in shape with a range of particle size of 10-42 nm. Results showed that the IC₅₀ dose of Ag NPs is capable of significantly elevating intracellular reactive oxygen species and diminishing mitochondrial membrane potential, indicating the effective involvement of apoptosis in cell death. These results clearly show that the nanoparticles have excellent biomedical application.

Biography

Sabina Yeasmin has completed her MSc in Biochemistry from West Bengal State University and currently pursuing PhD from Polymer Science & Technology department of University of Calcutta. She was the topper in MSc and got the DST-INSPIRE fellowship. She has two publications in reputed journals and one book chapter.

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