POTENTIAL ANTI-PLASMODIAL ACTIVITY OF SYNTHESIZED SILVER NANOPARTICLE USING ANDROGRAPHIS PANICULATA NEES (ACANTHACEAE)

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Abstract

The synthesis of metal nanoparticles using biological systems is an expanding research area due to the potential applications in nanomedicines. Nanoparticles synthesized by chemical method are not eco-friendly. The biological synthesis of silver nanoparticles is convenient and extracellular method which is environmentally safe. In the present study the silver nanoparticles were successfully synthesized from AgNO3 through a simple green route using the leaves of Andrographis paniculata as reducing as well as capping agent. The obtained nanoparticles were characterized using UV-vis (UV-visible spectroscopy), XRD (X-ray diffraction analysis), and SEM (Scanning electron microscope). X-ray diffraction and SEM analysis showed the average particle size of 35-55 nm as well as revealed their cubic structure. The antiplasmodial activity of these nanoparticles was studies against Plasmodium falciparum. The parasitic property was analyzed by (IC50) values were 26±0.2% at 25 µg/ml, 83±0.5% at 100 µg/ml. The important outcome of the study will be the development of value added products from medicinal plants of India for biomedical and nanotechnology based industries.

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