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Effect of Andrographis paniculata silver nanoparticles on cervical cancer cell line

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Cervical cancer is one of the most common cancers in humans. Infection by the sexually transmitted human papillomavirus increases the risk of developing invasive cervical cancer. In India, about 365 million women above 15 years of age are at risk of developing cervical cancer. Consequently, synthesizing nanoparticles for improving therapeutic index and drug delivery is coming up as an attractive strategy in the mainstream of therapeutic research. Synthesis of nanoparticles using the extract of the medicinal plants also gained an immense attention. Andrographis paniculata is an herbaceous plant belongs to the family Acanthaceae and is commonly known as 'king of bitters'. It is extensively used as home remedy for various diseases in Indian traditional system as well as in tribal system in India for multiple clinical applications. Andrographis paniculata is traditionally used as anti-inflammatory, antibacterial, antiparasitic, antidiabetic, and anti-carcinogenic agent. In the present investigation, Andrographis paniculata silver nanoparticles were synthesized. The nanoparticles were evaluated for their anti-cervical cancer activity against the cervix cancer cell line sME-180. The effect of synthesized nanoparticles on cervix cancer cell line ME-180 at different concentrations was demonstrated by SRB (Sulforhodamine B) colorimetric assay. The Andrographis paniculata silver nanoparticles showed significant anticancer activity against cervix cancer cell line ME-180. Furthermore the nanoparticles were evaluated for their antioxidant activity using 2,2-diphenyl-1-picryl hydrazine (DPPH), OH, and superoxide anion radicals. Nanoparticles demonstrated considerable reducing power.

Biography

Kapil K Patil has completed his M.Sc. from SRTM University in the subject of Biotechnology and currently working as a Research student at SRTM University. He qualified GATE 2013 conducted by IIT Mumbai. His main area of research is Cancer Angiogenesis, Phytochemicals and phototherapy.

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