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In vitro scolical activity of synthesised silver nanoparticles from aqueous plant extract against *Echinococcus granulosus*

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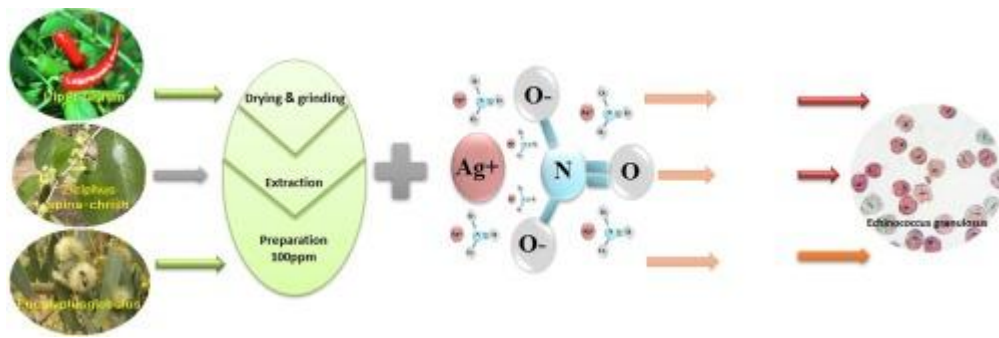
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Abstract

At present, biosynthesis of AgNPs is a very effective method to produce less toxic nanoparticles. The vision of this research is to use three different plant extracts derived from leaves of *Piper nigrum*, *Ziziphus Spina-Christi* and *Eucalyptus globulus* for rapid biosynthesis of AgNPs. This is in addition to investigating the scolical activity against *Echinococcus granulosus*. The methods of UV–vis spectroscopy, X-ray diffraction (XRD), scanning electron microscopy (SEM), and energy-dispersive X-ray analysis (EDX) were employed to characterise the nanoparticles. UV spectra disclosed a maximum absorption at 437 nm for the biosynthesised AgNPs using EUCGLO extract. The XRD patterns revealed the (fcc) structure of the AgNPs with slightly shifted characteristic peaks at 2 θ degree of 37.3° and 43.4°, respectively. The scolical activity against *E. granulosus* revealed that the AgNPs, which were synthesised using *Eucalyptus globulus*, have powered scolical of 47.8 % after 45 min. which is comparable to the treatment by Albendazole.

Graphical abstract



Keywords

Biosynthesis ,Plant extracts ,Silver nanoparticles (AgNPs)

Scolicidal activity , *E. granulosus*