

Plasma Jet Prepared Gold and Silver Nanoparticles to Induce Caspase-Independent Apoptosis in Digestive System Cancers

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Alot of medical and industrial applications used the metal nanoparticles (NPs) with increase interest to be used as cancer therapy. The current work aimed to prepare AuNPs and AgNPs through the use of plasma jet and test their antitumor mechanism of apoptosis induction. The results indicating the face-centered cubic structures and crystalline nature of AuNPs and AgNPs. Also, the image of FESEM showed that the well dispersions regarding AuNPs and AgNPs, while the NP's spherical shape with the particle size distributions which are considered to be close that estimated from the XRD. cytotoxicity have been assessed against the Normal embryonic cell line REF and the digestive system (HC , SK-GT-4) cell lines under a variety of the series dilute of the Ag and Au NPs (6.25, 12.5, 25, 50 and 100%), have been determined through a microtetrazolium (MTT) assay. The capacity of Ag and Au NPs to induce apoptosis to an infected cell has been studied by crystal violet stain to measure the percentage of induction of apoptosis. In cases where 100 µg/ml Au NP concentrations are 69.60 percent, the maximum cytotoxicity of the HC cell line was reported, while 100 µg/ml Au NP was 69.20% for the SKg cell line exposure. qRT-PCR in AuNPs and AgNPs treated of (HC and SKG) cell lines revealed a remarkable in the expression of BAX, BCL2 and AIF, Endo G (independent pathway