The Anticancer Activity of Greenly Synthesized Silver Nanoparticles Using Ephedra aphylla Ethanolic Extract

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The aim of this research is to investigate the anti cancer activity of the AgEphe (Silver nanoparticles green synthesis with EtOH extract of the Ephedra aphylla plant) against breast cancer and leukemic cancer cell line in vitro as well as the cytotoxicity against normal cells to ensure there is no has a toxic effect against normal cells. Three human cell lines that used in this study; breast cancer cells (MCF-7) and leukemia cancer cells (K562) as well as normal cell line Fibroblast. Doxorubicin was used as a positive chemotherapeutic anticancer drug The results of silver sulfate solution demonstrated that both samples displayed moderate activities against MCF-7 cell lines and K562 cell lines. The solution of silver sulfate revealed relatively weak cytotoxicity against MCF-7and K562 tumor cell lines. Subsequently, the extract of Ephedra aphylla and its metal nanoparticles were applicable for the inhibition of cancer cell growth against MCF-7 and K562 cell lines . The results of this study indicated that the prepared nano-solutions expressed potent anticancer activity against K562 versus MCF7 cell line, The nano-silver solution of the extracted Ephedra aphylla stems could be widely applied in the future in various biological implementations in medicine and fighting diseases, and much work should be done in different cancer cells to investigate the selectivity of AgEphe.

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