

عنوان مقاله:

Biosynthesis of copper nanoparticles and their hybrid with albumin nanoparticles as a nanocarrier for Chrysin transfer and evaluation of its anti-cancer effects in breast MDA-MB-۲۳۱ cancer cell line

محل انتشار:

پنجمین کنگره بین المللی سرطان (سال: 1400)

تعداد صفحات اصل مقاله: 1

نویسندگان:

Mahmud Gharbavi - *Zanjan Pharmaceutical Biotechnology Research Center, Zanjan University of Medical Sciences, Zanjan, Iran*

Ali Sharafi - *Zanjan Pharmaceutical Biotechnology Research Center, Zanjan University of Medical Sciences, Zanjan, Iran*

Roghayeh Ghorbani - *Department of Medical Biotechnology, School of Medicine, Zanjan University of Medical Sciences, Zanjan, Iran*

Behrooz Johari - *Department of Medical Biotechnology, School of Medicine, Zanjan University of Medical Sciences, Zanjan, Iran*

خلاصه مقاله:

Introduction:Breast cancer is the second leading cause of cancer deaths among women and its prevention remains challenging in the world. Chrysin is a natural flavonoid found abundantly in vegetables and fruits. There is ample evidence that Chrysin has therapeutic potential for the prevention and treatment of various diseases including cardiovascular disease, cancer and neurological diseases. On the other hand, copper (Cu) is one of the nanoparticles of interest in medicine that has anti-cancer properties. This metal has photocatalytic ability and high oxidation capacity against prokaryotic and eukaryotic cells. These nanoparticles have the ability to selectively induce apoptosis on tumor cells as well as being a cancer inhibitory agent.
Materials and Methods:In the present study, a hybrid of copper nanoparticles with synthesized albumin nanoparticles was used as a nanocarrier to deliver the anticancer Chrysin drug. The purity of the nanoparticles was authenticated using different characterization techniques, including UV spectroscopy, SEM, EDX and DLS. Moreover, the drug release was successfully performed from the Cu@BSA@Chrysin Nps under ۳۷°C.
Results:The antiproliferation as well as apoptotic activity of the Chrysin-carrying nanoparticles were investigated using MDA-MB-۲۳۱ cells. The results show that Cu@BSA@Chrysin Nps can increase apoptosis and decrease the growth of MDA-MB-۲۳۱ breast cancer cells.
Conclusion:It can be concluded that Cu@BSA@Chrysin Nps could potentially suppress the cancerous properties of MDA-MB-۲۳۱ cells and the presented nanocarrier system can be a promising approach for targeted drug delivery in cancer treatment.

کلمات کلیدی:

BSANPs, Drug Delivery, Copper Nanoparticles, Chrysin, MDA-MB-۲۳۱ Cell Line

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1377904>

