

عنوان مقاله:

Preparation and evaluation of new magnetic nanocomposite for smart targeted drug delivery in the breast cancer therapy

محل انتشار:

یازدهمین کنگره بین المللی سرطان پستان (سال: 1394)

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خلاصه مقاله:

Introduction: Breast cancer is one of the most important health problems among communities ,also the use of chemotherapy drugs is one of the ways of fighting with this cancer. But , Toxicity and low stability of these drugs in circulatory blood system is a major problem that has inspired researchers to develop new drug delivery systems. This research also utilizes nanomagnetic amphiphilic new drug delivery system for targeted treatment of breast cancer, Methods: Superparamagnetic Iron Oxide Nanoparticles prepared by chemical coprecipitation method, Zeta potential and particle size estimated by DLS technique and Zeta Sizer. To ensure the purity of final product based on Cyclo dextrin FTIR is used . Other properties of prepared drug delivery system by techniques SEM, TEM , TGA, XRD, XPS, EDAX,, Flow Cytometry VSM was evaluated. Results: The results of the measurements by DLS method showed that size of iron oxide nanoparticles was 25 nm. Excellent magnetic property confirmed with VSM. Accuracy preparation and purity of magnetic nanocomposite was confirmed by FTIR. The results of flow cytometry showed that good cellular uptake to destroy breast cancer tumor cells. Conclusion We have developed a multi-functional magnetic nanocomposite with biocompatible Surface modifications. This work presents a simple approach to prepare an cyclodextrin based nanomagnetic composite with great potential in cancer theranostics .This results may be useful in .the correction consumption pattern of chemotherapy drugs

کلمات کلیدی:

Targeting drug delivery, Super Paramagnetic Iron Oxide Nanoparticle (SPION), Cyclodextrin, Breast Cancer

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