

عنوان مقاله:

Docetaxel delivery using folate-targeted liposomes: in vitro and in vivo studies

محل انتشار:

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خلاصه مقاله:

Objective(s): Folate-targeted liposomes have been well considered in folate receptor (FR) overexpressing cells including MCF-7 and 4T1 cells in vitro and in vivo. The objective of this study is to design an optimum folate targeted liposomal formulations which show the best liposome cell uptake to tumor cells. Material and Methods: In this study, we prepared and characterized different targeted formulations and a nontargeted form as a control. Physicochemical analysis showed that the liposomes had homogeneous population and appropriate size to accumulate to tumor sites through the enhanced permeation and retention (EPR) mechanism. Moreover, we compared the cell uptake of folate targeted liposomal docetaxel compared to nontargeted liposomes in vitro. Results: The in vitro drug release profile of the formulations at different time points showed none of the formulations did not has burst release. However, targeted liposomes accumulated in tumor tissue in vivo less than nontargeted formulations which could be attributed to their uptake by RES due to relatively greater size of targeted formulations. It is presumable that analyze the biodistribution process at longer time points and the molecular mechanisms behind the tissue accumulation could clear the issue. Conclusion: We conclude that success in vitro studies holds the promise of folate targeting strategy and in vivo study .merits further investigations

کلمات کلیدی:

Docetaxel Encapsulation, Folate Targeting, Liposomes, Tumor Drug Delivery

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