

## عنوان مقاله:

Necrotic Effect of Free and Sodium Alginate Nanoparticle encapsulated ICD-85 on Primary Lamb Kidney Cells

## محل انتشار:

هشتمین کنگره بین المللی سرطان پستان (سال: 1391)

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## خلاصه مقاله:

Delivery of anticancer agents to tumors remains a significant challenge. Themedical application of nanotechnology can overcome potential problems incancer therapy. Nanoparticulate carriers (NPs) offer a suitable means fordelivering anticancer agent since they lead to high therapeutic concentrations of anticancer agents to tumors, with minimal systemic side effects. Sodiumalginate has been shown to be nontoxic, non-immunogenic, biocompatible andbiodegradable. Therefore, it is ideal material to fabricate nanoparticles for drugdelivery. Sodium alginate nanoparticles have gained considerable attentionowing to have shown the ability to encapsulate a variety of therapeutic agentsand being well tolerated without any serious side effects. In this report polymerbased sodium alginate nanoparticles of ICD-85 was used to reduce its sideeffects. ICD-85 loaded sodium alginate nanoparticles were prepared by ionicgelation method. The membrane integrity was evaluated by measuring LDHactivity. The morphological alterations of untreated and treated cells wereassessed by light inverted microscope. LDH assay demonstrated that free ICD-85 has dose-dependent cytotoxicity on primary lamb kidney cells while ICD-85NPs exhibited significantly decrease cytotoxicity at equivalent concentrations. Moreover, morphological analysis showed no significant difference betweencontrol and treated cells with ICD-85 NPs. In conclusion, results of thisinvestigation clearly showed that sodium alginate can be considered aspromising biocompatible polymer to be used on development of ICD-85 forleast toxicity on normal cells. A better understanding of the mechanisms ofaction of these vehicles will provide a basis for their further optimization, thusopening more exciting opportunities in the area of drug delivery

کلمات کلیدی:

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