عنوان مقاله:

Evaluation of loading efficiency of azelaic acid-chitosan particles using artificial neural networks

محل انتشار:

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خلاصه مقاله:

Objective(s): Chitosan, a biodegradable and cationic polysaccharide with increasing applications in biomedicine, possesses many advantages including mucoadhesivity, biocompatibility, and low-immunogenicity. The aim of this study, was investigating the influence of pH, ratio of azelaic acid/chitosan and molecular weight of chitosan on loading efficiency of azelaic acid in chitosan particles. Materials and Methods: A model was generated using artificial neural networks (ANNs) to study interactions between the inputs and their effects on loading of azelaic acid. Results: From the details of the model, pH showed a reverse effect on the loading efficiency. Also, a certain ratio of drug/chitosan (~ 0.7) provided minimum loading efficiency, while molecular weight of chitosan showed no important effect on loading efficiency.Conclusion: In general, pH and drug/chitosan ratio indicated an effect on loading of the drug. pH was the major factor affecting in determining loading efficiency.

کلمات کلیدی:

Azelaic acid, Artificial neural networks (ANNs), Chitosan, Loading efficiency

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