

Submission Summary

Conference Name

International Conference on Nanoscience and Nanotechnology

Paper ID

38

Paper Title

Chitosan loaded nanoparticles for ocular delivery

Abstract

The eye ointment remains a concern for effective management of various ocular viral diseases owing to poor ocular drug bioavailability. The present study was aimed to develop and evaluate nanosphere colloidal suspension containing acyclovir as potential ocular delivery system. The acyclovir-loaded chitosan nanoparticles were prepared by ionic gelation of chitosan with tripolyphosphate anions. The nanoparticles were characterized by scanning electron microscopy, zeta potential analyser, differential scanning calorimetry (DSC) and Fourier transform infrared Spectroscopy. The in vitro diffusion profile of acyclovir from the nanoparticles showed a sustained release of the drug over a period of 24 hrs. Kinetic release profiles of acyclovir from nanoparticles appeared to fit best with Higuchi model with zero order and the non-Fickian diffusion mechanism for the release of the drug from the nanoparticles. The results shows that the effective use of acyclovir-loaded chitosan nanoparticles as a controlled release preparation for treatment of ocular viral infections.

Created on

11/14/2023, 2:42:32 AM

Last Modified

11/14/2023, 2:42:32 AM

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