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Review Article

Recent Developments in Biopolymeric Nanoparticles for Drug Delivery Systems: An Overview

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Abstract

Nanotechnology has gained momentum in recent years in the field of drug delivery, including nanomedicine and nano-delivery systems. Several applications such as biological agents, chemotherapeutic agents and immunotherapeutic agents are used for the treatment of a number of diseases. This review compiles an updated summary on recent developments in this emerging field of nanomedicines and nanotechnology-based drug delivery systems. The study of nanostructured drug delivery systems helps to understand the efficient transport and controlled release of drugs to the diseased tissues of living organisms. This has stimulated the authors to highlight recent advances in smart nanocarriers composed of biopolymeric nanoparticles such as liposomes, dendrimers, and hydrogels. This review also highlights some critical issues in the design of nanocarrier systems for biomedical applications.

Keywords: Biopolymeric nanoparticles, chitosan, alginates, cellulose, liposomes, gelatine, dextrane, drug delivery.