

POLYSACCHARIDE NANOPARTICLES: PREPARATION AND THEIR POTENTIAL APPLICATION AS DRUG DELIVERY SYSTEMS

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ABSTRACT

There is an increasing interest in using nanoparticles, and in particular polysaccharide-based ones as carriers for the delivery of chemotherapeutic agents. They are also being investigated for enhancing their blood circulation time thereby resulting in increased therapeutic efficiency. Natural Polysaccharides as drug delivery systems, have received the most attention, owing to their benefits, which include their biodegradability, upgradability, biocompatibility, multiple reacting groups and low cost. This results in polysaccharides being seen as the materials with the highest promise in preparation of nanometric carriers. In this review, polysaccharides-based nanoparticles and their connections with drugs were analyzed. The different methods that are adopted to prepare polysaccharides-based nanoparticles were enumerated and finally with a discussion on the potential for these nanoparticles in controlled drug delivery and biomedical imaging.

KEYWORDS: Polysaccharides, Nanoparticles, Chitosan, Drug Delivery System