



Review article

Polymeric micelle as a multifunctional therapeutics

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Abstract

Polymeric micelles are nano-scopic core/shell structures produced by amphiphilic block copolymers with hydrophobic core and hydrophilic shell. Both the inherent and modifiable properties of polymeric micelles construct them particularly well appropriate for drug delivery purposes. In the last two decades, polymeric micelles have been vigorously studied as an innovative type of drug carrier system, because it possesses high stability both in vitro and in vivo and good biocompatibility, and can solubilize a broad variety of poorly soluble drugs. Polymeric micelles can overcome various limitations of the conventional drug delivery system, acting as carriers able to enhance drug absorption, protection of the loaded drug from the harsh environment of the GI tract, release of the drug in a controlled manner at target sites, prolongation of the residence time in the targeted area, and improve the drug accumulation in effectors area. In this review, polymeric micelle drug carrier systems are discussed with a spotlight on designs, types and classifications of the polymeric micelle system. Advantages and disadvantages are briefly summarized and explained, followed by delivery of different drug category.

Keywords: Polymeric Micelles, Nano-scopic, Drug Targeting, Drug Carrier System.

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