

Supramolecular biovectors: Novel nanopolymers for drug delivery and gene therapy

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Supramolecular biovectors (SMBVs) are the polymers made from intrinsic nutrient carrier systems of the body such as lipoproteins by repeating units held together with noncovalent bonds. The SMBVs are nanosized virus like particular system comprising of polysaccharide core surrounded by phospholipid layer. These polymers combine good material properties with low viscosity and easy to handle makes them advantageous for drug delivery applications. The purpose of this review is to listing various applications of them in site-specific drug delivery and gene therapy. Apart from this review is highlighted on the chemistry, mechanism, fabrication, design and various approaches supramolecular hydrogels. Further the developments of the supramolecular polymers using Cyclodextrin have widened the arena of drug delivery, non-viral gene delivery due to the strong DNA-binding ability has expected to provide a new paradigm for biomaterials.

Biography

Suryakanta Swain, after completing his B. Pharm from Berhampur University and join in to post graduate course (M. Pharm) by qualifying Gate and NIPER entrance having All India Rank 611 and 253 with Biju Patanaik University of Technology. He is currently pursuing his Ph.D on "Design and Characterization of Mucoadhesive Multiparticulate Drug Delivery Systems of Some Selected Drugs" under the joint guidance of Prof. M.E. Bhanoji Rao and Prof. S.C Dinda. He started his career as a Trainee Executive in Formulation R&D in Medley Pharmaceuticals Pvt. Ltd, Daman, (Gujarat). Presently he is working as Asst. Professor in Department of Pharmaceutics at Roland Institute of Pharmaceutical Sciences till date. He has published 8 papers and reviewed three papers of reputed journal having high indexing as well as high Impact factor.

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