

Special Issue

Revolutionizing Therapeutic Applications of Natural Biopolymers for Drug/Gene Delivery

Message from the Guest Editor

Traditional delivery systems often face limitations such as poor bioavailability, rapid clearance, and off-target effects when applied to drug and gene delivery in order to specific target sites. Natural biopolymers, derived from biological sources such as proteins, polysaccharides, and nucleic acids, offer a promising alternative for overcoming these challenges. Additionally, the ability to engineer these biopolymers in order to respond to specific environmental cues, such as pH, temperature, or enzymatic activity, can enhance site-specific drug release and improve the efficiency of gene transfection. By regulating the inherent properties of these biopolymers, advanced delivery platforms could be designed with enhanced efficacy and reduced toxicity. This Special Issue aims to provide an overview of the recent advancements made with regard to utilizing natural biopolymers for drug and gene delivery, highlighting their potential to address existing challenges in conventional delivery systems and pave the way for personalized and targeted therapies.

Guest Editor

Dr. Pankaj Dwivedi

Department of Administrative and Pharmaceutical Sciences, University of Health Science and Pharmacy in St. Louis, St. Louis, MO 63110, USA

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Pharmaceutics
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
pharmaceutics@mdpi.com

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Prof. Dr. Patrick J. Sinko
Department of Pharmaceutics, Ernest Mario School of Pharmacy,
Rutgers University, Piscataway, NJ 08854, USA

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