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Special Issue Reprint

The Chitosan Biomaterials

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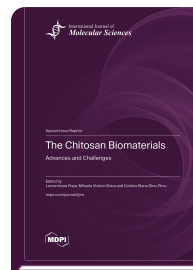
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This Reprint gathers original research and reviews from the Special Issue “Chitosan Biomaterials: Advances and Challenges” (*International Journal of Molecular Sciences*), offering a clear picture of how chitosan is being developed into advanced, multifunctional biomaterials. The contributions highlight the versatility of chitosan, from films and scaffolds designed for controlled drug delivery and wound healing to membranes and tablets enriched with plant extracts that enhance antimicrobial performance. Studies also present smart composites that combine chitosan with innovative components such as boron-based molecules or cellulose nanofibers, improving strength, cytocompatibility, and therapeutic effect. Beyond biomedical use, chitosan is explored as a natural coagulant to improve drinking water quality and as a carrier for inhalable formulations with antiviral activity. Together, these works demonstrate how chemical modification and functionalization strategies expand the physicochemical and biological potential of chitosan. This Reprint provides an up-to-date and accessible resource for scientists, engineers, and practitioners interested in biomaterials, showing how a natural polymer can be transformed into solutions for medicine, healthcare, environmental protection, and beyond.



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