

Special Issue

Design, Development and Biomedical Applications of Hyaluronic Acid-Based Drug and Gene Delivery Systems

Message from the Guest Editors

Hyaluronic acid (HA) has emerged as a powerful tool in biomedical applications, particularly in drug and gene delivery. Its biocompatibility, biodegradability and ability to interact with receptors such as CD44 make it ideal for targeted delivery strategies. HA-based systems—ranging from nanoparticles to hydrogels—have shown promise in improving therapeutic efficacy, reducing off-target effects, prolonging drug circulation time and enabling precise targeting in cancer and inflammation. This Special Issue aims to highlight the latest advances in the design and development of HA-based carriers for the delivery of small molecules, nucleic acids and biologics. We invite original research and review articles focusing on the synthesis, functionalization and characterization of HA-based materials, their biological performance and translational potential. By bringing together innovative approaches in HA engineering and application, this Special Issue will contribute to the growing field of targeted and responsive drug/gene delivery. We look forward to hearing from you.

Guest Editors

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