

Special Issue

Development of Vectors for Drug and Gene Delivery via the Nasal Route

Message from the Guest Editors

Delivery of drugs and genes targeting the brain represents a remarkable challenge due to the blood–brain barrier (BBB). Overcoming this barrier via the nasal route has emerged as an important non-invasive method for nose-to-brain delivery. Nasal delivery has also provided access to systemic or targeted organs. In this sense, different strategies have been developed to enhance targeted drug delivery via the nasal route, focusing on designing pharmaceutical vectors that interact effectively with nasal mucosa. These strategies may include nanotechnology-based drug encapsulation, protection, or target systems, mucoadhesive polymers to enhance mucoadhesion and prolong drug contact, and permeation enhancers to improve drug penetration across the nasal epithelium. Consequently, the development of effective nasal delivery systems remains a significant challenge in the field of controlled drug targeting and delivery. This Special Issue aims to highlight recent advancements in developing vectors for drug and gene delivery delivered via the nasal route.

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