Special Issue

Engineering of Advanced Nanocarriers and Extracellular Vesicle Systems for Precision Drug Delivery

Message from the Guest Editors

The development of efficient and targeted drug delivery systems is a critical goal in pharmaceutical research. Smart nanocarriers and extracellular vesicle (EV)based systems are emerging as next generation platforms for targeted drug delivery, offering high potential for precision medicine thanks to their unique advantages in terms of biocompatibility, versatility, and targeting efficiency.

We also emphasize the importance of manufacturing and translational challenges, encouraging contributions on scalable production, GMP compliant processes, and the standardization of downstream protocols. In this context, a key focus is the exploration of alternative, natural EV sources including plant derived vesicles, bacterial and algal EVs, and milk derived EVs as promising systems delivery due to their scalability, cost effectiveness, and safety.

By integrating insights from nanotechnology, pharmaceutical sciences, and bioengineering, this Special Issue aims to advance clinically translatable delivery platforms, bridging experimental innovation and real world therapeutic application.

Guest Editors

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Deadline for manuscript submissions

28 February 2026



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Impact Factor 5.5 CiteScore 10.0 Indexed in PubMed



mdpi.com/si/250591

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Impact Factor 5.5 CiteScore 10.0 Indexed in PubMed



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