Special Issue

Bio-Inspired Nanocarriers in Next-Generation Vaccines Against Bacterial and Viral Pathogens

Message from the Guest Editors

The COVID-19 pandemic has driven unprecedented vaccine development, underscoring nanotechnology's key role in vaccine design and delivery. Many approved vaccines use nanoparticles to enhance the stability and efficacy of antigens like proteins, mRNA, or DNA. Synthetic lipid nanoparticles, including liposomes, have emerged as scalable platforms, allowing controlled antigen release. Natural nanocarriers, such as extracellular vesicles (EVs), offer additional promise by closely mimicking cellular interactions for enhanced immune responses. Bacterial EVs also show potential, broadening the scope of nanocarrier-based vaccines. This Special Issue will explore both synthetic and natural nanocarriers, focusing on innovative applications against diverse bacterial and viral pathogens, paving the way for next-generation immunization strategies.

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Message from the Editor-in-Chief

Vaccines (ISSN 2076-393X) has had a 6-year history of publishing peer-reviewed state of the art research that advances the knowledge of immunology in human disease protection. Immunotherapeutics, prophylactic vaccines, immunomodulators, adjuvants and the global differences in regulatory affairs are some of the highlights of the research published that have shaped global health. Our open access policy allows all researchers and interested parties to immediately scrutinize the rigorous evidence our publications have to offer. We are proud to present the work and perspectives of many to contribute to future decisions concerning human health.

Editor-in-Chief

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