

## Special Issue

# Advances in Cationic Nanoparticles for Vaccine Delivery: Design, Mechanisms, and Applications

### Message from the Guest Editors

Cationic nanoparticles (cNPs) and adjuvants are emerging as transformative tools in vaccine research, offering innovative solutions to enhance antigen delivery and immunogenicity. Their positive charge facilitates strong electrostatic interactions with negatively charged cell membranes, promoting efficient cellular uptake and improved antigen presentation. These properties make cNPs well suited for delivering diverse vaccine types, including protein-based, viral vector, and nucleic acid vaccines. At the same time, cationic adjuvants amplify immune responses, enabling robust and long-lasting immunity with reduced doses and fewer administrations.

We particularly encourage contributions that achieve the following:

- Focus on vaccines for high-priority global health targets, including both infectious diseases (e.g., HIV, malaria, tuberculosis) and therapeutic applications like cancer.
- Explore how cNPs can support dose-sparing strategies, improve accessibility, or enhance vaccine stability outside cold-chain environments.
- Integrate experimental and computational approaches to enhance understanding and predict vaccine safety and efficacy.

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### Guest Editors

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### Deadline for manuscript submissions

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## Pharmaceutics

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