Special Issue

Bioengineering in Vaccine Design and Delivery

Message from the Guest Editor

During vaccine development, it is essential to improve delivery and manufacturing methods to reach the safe, effective, and cost-effective vaccine production criteria. Advances in bioengineering have made it possible to control the physicochemical properties of the vaccines for faster synthesis, improve the antigen presentation to get more robust immunogenicity of vaccines, and obtain safer vaccine formulas. Recent developments in vaccine delivery include the development of various polymeric particles as vaccine carriers due to their high biocompatibility and biodegradability. It is also shown that biodegradable hyaluronic cryogel mediates sustained antigen and adjuvant release, leading to a durable immune response. Proof of concept studies in vitro and in vivo will also be considered. Virus-like particles as vaccine carriers efficiently elicit the immune response and offer improved safety, especially for immunocompromised or elderly patients. Scientists working on different strategies to improve vaccine effectiveness, safety, or manufacturing using bioengineering technology are welcome to submit their work to this Special Issue by August 2024.

Guest Editor

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Deadline for manuscript submissions

closed (1 November 2025)

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About the Journal

Message from the Editor-in-Chief

Vaccines (ISSN 2076-393X), founded in 2013, now has a firm history of publishing peer-reviewed, state-of-the-art research papers on vaccines and vaccination in the broadest sense. Areas covered include, but are not limited to, novel and emerging vaccine technologies, building on in-depth knowledge of what constitutes a protective immune response. These can be new vaccines for old diseases, or old vaccines for new diseases. Vaccines against cancer and autoimmune diseases explicitly are also within the scope of the journal. Because public opinion and even government policies towards vaccines and vaccination have changed, vaccine policy and public health issues are major concerns. Climate change will also have an impact on the spread of infectious diseases, and thus also on vaccine and vaccination policies worldwide.

Editor-in-Chief

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 18.1 days after submission; acceptance to publication is undertaken in 2.8 days (median values for papers published in this journal in the second half of 2025).

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