

Special Issue

Decoding the Host–Microbe Interface in Vaccination: Immune Mechanisms, Microbiota, and Vaccine Responsiveness

Message from the Guest Editors

Vaccination remains a cornerstone of public health, yet individual and population responses vary widely. Growing evidence underscores the crucial influence of the host–microbe interface—encompassing the microbiota, host immune landscape, and microbial-derived signals—in shaping vaccine-induced immunity. These interactions affect antigen sensing, innate and adaptive immune activation, and long-term memory, ultimately determining vaccine responsiveness.

This Special Issue will feature cutting-edge research on the immunological mechanisms of host–microbe interactions in vaccination. We welcome studies examining **how commensal and pathogenic microbes modulate vaccine efficacy, how immune pathways integrate microbial cues, and how host factors (e.g., age, inflammation, mucosal immunity) affect outcomes.** Contributions on novel platforms, adjuvants, mucosal vaccines, systems immunology, and translational/clinical insights are encouraged. By integrating fundamental and applied research, this issue aims to advance vaccine biology and inform strategies for improved vaccine design across diverse populations.

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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.

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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).