

Special Issue

Pneumococcal Vaccines: Advances, Challenges, and Future Directions

Message from the Guest Editor

Streptococcus pneumoniae is a leading cause of global morbidity and mortality. Antimicrobial resistance (AMR) worsens this problem, increasing treatment failures. Vaccination is crucial to fight AMR, especially in vulnerable groups like children and the elderly. While effective, current pneumococcal conjugate vaccines (PCVs) are undermined by serotype replacement. This requires frequent updates to include more serotypes. Yet, deploying new vaccines in low-resource settings is difficult, leading to uneven coverage and ongoing disease. To address this, research focuses on developing serotype-independent vaccines, such as those using conserved protein antigens. This Special Issue will examine leading vaccine candidates and analyze preclinical and clinical findings. Key topics include:

- Vaccine development from early-stage discovery to Phase 3 clinical trials;
- The application and limitations of various animal models;
- The crucial role of novel adjuvants and delivery systems.

This collection provides a thorough overview of the field to help guide development of next-generation pneumococcal vaccines and public health strategies.

Guest Editor

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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).