

Special Issue

Research Progress of New Tuberculosis Vaccines and Vaccine Design for Intracellular Pathogens

Message from the Guest Editors

Intracellular parasitic bacteria, including *Mycobacterium tuberculosis* (*M. Tuberculosis*), *Rickettsia*, *Chlamydia*, *Salmonella Typhi*, *Legionella*, and *Listeria*, pose significant threats to global health due to their ability to evade host immune responses by residing within host cells. For instance, tuberculosis (TB) caused an estimated 10.8 million new cases and 1.25 million deaths in 2023 (WHO, 2024). The limitations of current vaccines –most notably the *Bacillus Calmette–Guérin* (BCG) vaccine, which provides only partial protection against adult pulmonary TB—underscore the urgent need for innovative vaccine development strategies tailored to the unique biology of intracellular pathogens. This Special Issue aims to highlight cutting-edge research on vaccine development for intracellular pathogens, with a focus on TB as a model system but extending to other medically relevant species. We invite original research articles and reviews that address the following themes:

- Novel protective antigen discovery;
- Host-pathogen interaction;
- Immunodominant or multiepitope validation;
- Vaccine evaluation models.

Guest Editors

Dr. Wenping Gong

Senior Department of Tuberculosis, The 8th Medical Center of PLA General Hospital, Beijing, China

Dr. Ashok Aspatwar

Faculty of Medicine and Health Technology. Tampere University, Arvo Ylpön Katu 34, 33520 Tampere, Finland

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Vaccines
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
vaccines@mdpi.com

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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

Prof. Dr. Ger Rijkers

Department of Health, Cognition and Behavior, University College
Roosevelt, 4331 CB Middelburg, The Netherlands

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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).