

## Special Issue

# SARS-CoV-2 Spike Protein: Pathogenesis, Variants, Immunogenicity, Vaccines, and Potential Therapies

### Message from the Guest Editors

SARS-CoV-2 spike-based vaccines have been proven a huge success in eliciting protective humoral and cellular immunity and mitigating the disease. Since it first began circulating, the WHO has identified five variants of concern: Alpha (B.1.1.7), Beta (B.1.351), Gamma (P.1), Delta (B.1.617.2) and Omicron (B.1.1.529). Omicron has further emerged into BA.1, BA.2, BA.2.12.1, BA.3, and BA.4/5 subvariants, which have displayed further immune escape, compromising current vaccine and antibody effectiveness. 1. Studies that broaden our current understandings of spike protein's roles in SARS-CoV-2 pathogenesis. 2. Insights into host humoral and cellular responses against spike proteins. 3. Novel approaches for spike mutation predictions and mechanisms of immune evasion. 4. Exploration of next-generation vaccine, pan-beta coronavirus vaccine, pan-human endemic coronavirus vaccine developments and potential anti-COVID therapies. 5. Interdisciplinary technologies or platforms to accelerate the development of new anti-COVID therapies.

### Guest Editors

Dr. Hanzhong Ke

Department of Cancer Immunology and Virology, Dana-Farber Cancer Institute, Boston, MA 02215, USA

Dr. Zhaoqi Yan

Gladstone Institutes, San Francisco, CA 94158, USA

### Deadline for manuscript submissions

closed (31 December 2023)



## Vaccines

an Open Access Journal  
by MDPI

Impact Factor 3.4  
CiteScore 9.9  
Indexed in PubMed



[mdpi.com/si/130827](https://mdpi.com/si/130827)

*Vaccines*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[vaccines@mdpi.com](mailto:vaccines@mdpi.com)

[mdpi.com/journal/  
vaccines](https://mdpi.com/journal/vaccines)





# Vaccines

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.4  
CiteScore 9.9  
Indexed in PubMed



[mdpi.com/journal/  
vaccines](https://mdpi.com/journal/vaccines)



## About the Journal

### Message from the Editor-in-Chief

*Vaccines* (ISSN 2076-393X) has had a 6-year history of publishing peer-reviewed state of the art research that advances the knowledge of immunology in human disease protection. Immunotherapeutics, prophylactic vaccines, immunomodulators, adjuvants and the global differences in regulatory affairs are some of the highlights of the research published that have shaped global health. Our open access policy allows all researchers and interested parties to immediately scrutinize the rigorous evidence our publications have to offer. We are proud to present the work and perspectives of many to contribute to future decisions concerning human health.

---

### Author Benefits

#### High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, Embase, CAPlus / SciFinder, and other databases.

#### Journal Rank:

JCR - Q2 (Medicine, Research and Experimental) /  
CiteScore - Q1 (Pharmacology (medical))

#### Rapid Publication:

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).