



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

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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.





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Editor-in-Chief

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Message from the Editor-in-Chief

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