

Special Issue

Structure-Based Antiviral Drug Discovery

Message from the Guest Editors

Despite remarkable progress in antiviral therapy, viral infections remain a major global health threat, affecting billions annually and triggering recurrent pandemics. The emergence of drug-resistant viral strains and the continuous discovery of novel viruses further exacerbate this challenge, creating an urgent need for innovative antiviral drugs. Structure-based drug discovery (SBDD) has emerged as a pivotal strategy in antiviral development, leveraging high-resolution structural insights into viral targets (e.g., proteases, polymerases, and spike proteins) to design precise, mechanism-driven inhibitors. Amid persistent viral pandemics and the rise of drug-resistant strains, SBDD accelerates lead identification, optimizes binding affinity, and enhances therapeutic specificity—addressing unmet needs in antiviral therapy. This Special Issue aims to compile cutting-edge research on SBDD applications in antiviral drug discovery, covering structural biology advances, computational modeling, structure–activity relationship analyses, and preclinical validation. We invite submissions that advance our understanding of SBDD for diverse viruses and drive translational progress.

Guest Editors

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Message from the Editor-in-Chief

The worldwide impact of infectious disease is incalculable. The consequences for human health in terms of morbidity and mortality are obvious and vast but, when infections of animals and plants are also taken into account, it is hard to imagine any other disease that has such a significant impact on our lives—on healthcare systems, on agriculture and on world economics.

Pathogens is proud to continue to serve the international community by publishing high quality studies that further our understanding of infection and have meaningful consequences for disease intervention.

Editor-in-Chief

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