

Special Issue

Advances and Emerging Strategies in Gene Therapy

Message from the Guest Editor

This Special Issue aims to highlight cutting-edge research in gene therapy, covering a broad spectrum of innovations. Topics of interest include engineered next-generation adeno-associated virus (AAV) capsids with enhanced tissue tropism, innovative and unique transgene expression cassette designs, next-generation gene-editing tools such as base editing, prime editing, and RNA editing, as well as non-viral delivery platforms, including lipid nanoparticles, liposomes, and exosomes. We also welcome studies on novel therapeutic strategies, such as tRNA therapy and small activating RNAs. Additionally, advances in the clinical-scale manufacturing of gene therapies are a key focus of this Special Issue. Both original research and review articles are welcome. We are pleased to invite you to submit your work to this Special Issue and look forward to receiving your contributions.

Guest Editor

Dr. Xin Chen

Department of Pediatrics, UTSW Medical Center, Dallas, TX 75390, USA

Deadline for manuscript submissions

31 May 2026



Biomolecules

an Open Access Journal
by MDPI

Impact Factor 4.8
CiteScore 9.2
Indexed in PubMed



mdpi.com/si/256957

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

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





Biomolecules

an Open Access Journal
by MDPI

Impact Factor 4.8
CiteScore 9.2
Indexed in PubMed



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



About the Journal

Message from the Editorial Board

Biomolecules is a multidisciplinary open-access journal that reports on all aspects of research related to biogenic substances, from small molecules to complex polymers. We invite manuscripts of high scientific quality that pertain to the diverse aspects relevant to organic molecules, irrespective of the biological question or methodology. We aim for a competent, fair peer review and rapid publication. Please look at some of the exciting work that has been published in *Biomolecules* so far. We would be delighted to welcome you as one of our authors.

Editors-in-Chief

Prof. Dr. Peter E. Nielsen

Department of Cellular and Molecular Medicine, Faculty of Health and Medical Sciences, University of Copenhagen, Blegdamsvej 3C, DK-2200 Copenhagen, Denmark

Prof. Dr. Lukasz Kurgan

Department of Computer Science, Virginia Commonwealth University, Richmond, VA 23284, USA

Author Benefits

Open Access

— free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

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

Journal Rank:

JCR - Q1 (Biochemistry and Molecular Biology) / CiteScore - Q1 (Biochemistry)