Special Issue

Progress and Innovation on Nanosystems for Gene Therapy

Message from the Guest Editors

Gene therapy has shown potential for use as a clinical intervention for the treatment of several conditions. Currently, this therapy is not limited to the delivery of DNA to cells, but it can also consider other nucleic acids as therapeutic agents. Non-viral vectors, especially nanocarriers, have offered an ideal platform to be applied as gene delivery systems acting as a realistic alternative to viral vectors for achieving better efficacy and safety in gene therapy. Different types of nanocarriers have been developed, and each shows distinct characteristics. Meanwhile, systemic delivery is a real challenge for these non-viral vectors since they need to survive in the bloodstream without being degraded or captured by cellular defence mechanisms. Also, when reaching the target organ/tissue, the systems must cross the tissue and bind specifically to the target cells. After this internalization process, it is further required to surpass intracellular obstacles, namely by achieving endosomal escape, surpassing cytoplasm traffic, and finally, entering the nucleus. So, the ability of non-viral vectors to overcome these barriers will dictate their efficiency.

Guest Editors

Dr. Fani Pereira de Sousa

CICS-UBI—Health Science Research Centre, University of Beira Interior, 6200-506 Covilha, Portugal

Dr. Joana Valente

Centre for Rapid and Sustainable Product Development, Polytechnic Institute of Leiria, 2430-028 Leiria, Portugal

Deadline for manuscript submissions

closed (20 August 2023)



Pharmaceutics

an Open Access Journal by MDPI

Impact Factor 5.5 CiteScore 10.0 Indexed in PubMed



mdpi.com/si/118739

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

mdpi.com/journal/ pharmaceutics





an Open Access Journal by MDPI

Impact Factor 5.5 CiteScore 10.0 Indexed in PubMed



About the Journal

Message from the Editor-in-Chief

Pharmaceutics (ISSN 1999-4923) is an online open access journal on the science and technology of pharmaceutics and biopharmaceutics. The scientific community, the wider community and the general public have unlimited and free access to the content as soon as a paper is published; this open access to your research ensures your findings are shared with the widest possible audience. Please consider publishing your impressive work in this high quality journal. We would be pleased to welcome you as one of our authors.

Editor-in-Chief

Prof. Dr. Patrick J. Sinko

Ernest Mario School of Pharmacy, Rutgers, The State University of New Jersey, William Levine Hall, Room 225C, 160 Frelinghuysen Road, Piscataway, NJ 08854-8020, USA

Author Benefits

High Visibility:

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

Journal Rank:

JCR - Q1 (Pharmacology and Pharmacy) / CiteScore - Q1 (Pharmaceutical Science)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 14.9 days after submission; acceptance to publication is undertaken in 3.3 days (median values for papers published in this journal in the first half of 2025).

