Special Issue

Nuclear Pore Complex in Nanomedicine: Third Edition

Message from the Guest Editor

Nuclear pore complexes (NPCs) serve as essential molecular “supply chain stations” within our cells, mediating selective macromolecule trafficking across the nuclear envelope. However, the precise phase state of the barrier, built from intrinsically disordered phenylalanine–glycine (FG) repeat proteins, remains enigmatic due to the limitations of current imaging and biochemical tools. Dysfunctional nucleoporins and NPCs have been implicated in an array of pathologies. Recently, NPC components have been recognized as regulators in broader cellular processes, including autophagy and programmed necrosis, with significant implications for innate and adaptive immunity. This makes NPC modulation a promising avenue for enhancing drug delivery systems (DDSs) or optimizing the efficacy of existing chemotherapeutics. Building on these advances, this third edition of the Special Issue continues to explore the intricate role of NPC homeostasis in nanomedicine development, inviting contributions that shed light on the mechanisms, functions, and potential therapeutic applications of NPCs.

Guest Editor

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Deadline for manuscript submissions

30 June 2026

Cells

an Open Access Journal by MDPI

Impact Factor 5.2
CiteScore 10.5
Indexed in PubMed

mdpi.com/si/227364

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Cells has become a solid international scientific journal that is now indexed on SCIE and in other databases. We have successfully introduced a special issues format so that these issues serve as mini-forums in specific areas of cell science. *Cells* encourages researchers to suggest new special issues, serve as special issues editors, and volunteer to be reviewers. Our main focus will remain on cell anatomy and physiology, the structure and function of organelles, cell adhesion and motility, and the regulation of intracellular signaling, growth, differentiation, and aging. We are open to both original research papers and reviews.

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