

Tentative Outline

Special/Thematic Issue for the journal "Current Pharmaceutical Design - CPD"

Tentative Title: Molecular Dynamics Simulations in Drug Discovery

Guest Editor: Dr. Hélder A Santos

Co-Guest Editor: Dr. Xin Huang

Scope of the Thematic Issue:

Drug delivery systems (DDSs) are categorized as formulations or apparatuses that transport therapeutic agents precisely to lesions without affecting non-target sites. DDSs can give medications a variety of advantages, such as improved stability, increased solubility, longer circulation times, more sustained drug release, stronger tissue targetability, reduced side effects, increased efficacy, and so on. Bioinspired drug delivery systems have recently been the subject of extensive research. The benefits of bioinspired DDSs over conventional DDSs include no immunogenicity, improved biocompatibility, biodegradability, and higher safety. For example, cell membrane vesicle-inspired DDSs have been rapidly developed. These latest advances should be concisely summarized and reviewed. This special issue aims to collect comprehensive reviews that explore the advances in cell membrane-coated nanovesicle in targeted delivery systems.

Keywords: Drug delivery systems; Cell membrane-coated nanovesicles; Bioinspired systems; Targeted delivery; Therapeutic agents; Diseases

Sub-topics:

The sub-topics to be covered within the issue should be provided:

- Development and preparation methods of membrane vesicles as drug delivery systems.
- Functional modification methods of cell membrane-coated nanovesicles for better performance.
- Evaluation of the functions or abilities of membrane vesicles such as targeting ability.
- The diagnostic and therapeutic effects of cell membrane-coated nanovesicles for various diseases.
- Underlying mechanisms of cell membrane-coated nanovesicles for medical applications.

Tentative titles:

- Exosome membrane-modified M2 macrophages targeted nanomedicine: Treatment for allergic asthma
- Biomimetic platelet membrane-coated nanoparticles for targeted therapy
- Lung cell membrane-coated nanoparticles capable of enhanced internalization and translocation in pulmonary epithelial cells
- Cancer cell membrane-coated nanoparticles for bimodal imaging-guided photothermal therapy and docetaxel-enhanced immunotherapy against cancer
- Tissue oxygenation stabilizes neovessels and mitigates hemorrhages in human atherosclerosis-induced angiogenesis
- Harvest of quality-controlled bovine myogenic cells and biomimetic bovine muscle tissue engineering for sustainable meat production
- Biomimetic and cell-based nanocarriers - New strategies for brain tumor targeting
- Highly permselective uric acid detection using kidney cell membrane-functionalized enzymatic biosensors
- Polymeric micelles coated with hybrid nanovesicles enhance the therapeutic potential of the reversible topoisomerase inhibitor camptothecin in a mouse model
- Cell membrane coated nanocarriers - an efficient biomimetic platform for targeted therapy

Schedule

Complete Thematic issue submission deadline: **10 October 2023**

Details of Guest Editors:

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