



pharmaceuticals



Special Issue Reprint

Current Insights on Lipid-Based Nanosystems

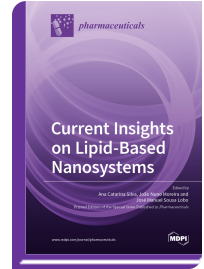
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Lipid-based nanosystems, including solid lipid nanoparticles (SLNs) and nanostructured lipid carriers (NLCs), cationic lipid nanoparticles, nanoemulsions, and liposomes, have been extensively studied to improve drug delivery through different administration routes. The main advantages of these systems are their ability to protect, transport, and control the release of lipophilic and hydrophilic molecules (either small-molecular-weight molecules or macromolecules); the use of generally recognized as safe (GRAS) excipients that minimize the toxicity of the formulations; and the possibility to modulate pharmacokinetics and enable the site-specific delivery of encapsulated payloads. In addition, the versatility of lipid-based nanosystems has further been demonstrated for the delivery of vaccines, the protection of active cosmetic ingredients, and the improvement of moisturizing properties of cosmetic formulations.

Lipid-based nanosystems are well established and there are already different commercially approved formulations for various human disorders. This success has paved the way for the diversification of the pipeline of development, to address unmet medical needs for several indications, such as cancer, neurological disorders, and autoimmune, genetic, and infectious diseases.

This Special Issue aims to update readers on the latest research on lipid-based nanosystems, both at the preclinical and clinical levels. A series of 15 articles (six reviews and nine studies) is presented, with authors from 12 different countries, showing the globality of the research that are being carried out in this area.



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