

Tentative Outline
Special Issue for Recent Patents on Nanomedicine

Guest Editor(s): Dr Abdus Samad, Dr Sarwar Beg

TITLE: Lipid-based Nanostructured Drug Delivery Systems

Aims & Scope:

One of the biggest challenges confronting the contemporary drug delivery science today is to improve upon the oral bioavailability of a vast number of drugs exhibiting poor oral bioavailability and inconsistent gastrointestinal absorption. Myriad drug delivery strategies like, solid dispersions, inclusion complexes, polymorphs, cocrystals, nanocrystals have been tried for improving the oral bioavailability of drugs for last two decades, however have yielded limited success owing to their solubility enhancement characteristic only. Of late, lipid-based nanostructured drug delivery systems have proved as highly useful technological innovations to surmount such bioavailability hiccups by virtue of their miniaturized particle size, robust formulation advantages, and easier scalability in the industrial milieu. Besides, these systems are also known to inhibit the P-glycoprotein (P-gp) efflux, reduce metabolism by gut Cytochrome P-450 enzymes, and circumnavigate the hepatic first-pass effect owing to the presence lipidic triglycerides. Owing to these characteristics, the lipid-based drug delivery systems have now become highly popular. The escalating number of literature reports, patents, technological innovations and marketed products is a testimony. Some of the extensively explored drug delivery systems of higher interest include self-emulsifying systems, solid lipid nanoparticles, nanostructured lipidic carriers, lipid-drug conjugates, lipid microparticles, nanolipospheres, etc. The current issue endeavors to provide an updated account on the recent advances in the publications and patents on the aforesaid drug delivery technologies. Providing a relatively pithy overview, the articles in this issue would certainly provide updated piece of knowledge and knowhow to guide the product development scientist in formulating such variegated systems.

Key words: Lipids, solubility, bioavailability, self-emulsifying systems, solid lipid nanoparticles, nanostructured lipidic carriers, lipid-drug conjugates, lipid microparticles, nanolipospheres

Tentative subtopics:

1. Self-emulsifying systems for oral bioavailability enhancement: An updated review of patents
2. Solid lipid nanoparticles for oral bioavailability enhancement: An updated review of patents
3. Nanostructured lipidic carriers for oral bioavailability enhancement: An updated review of patents
4. Lipid-drug conjugates for oral bioavailability enhancement: An updated review of patents
5. Lipid microparticles for oral bioavailability enhancement: An updated review of patents
6. Nanolipospheres for oral bioavailability enhancement: An updated review of patents
7. Lipid-based systems for delivery of biological macromolecules
8. Regulatory considerations for development of lipid-based drug delivery systems

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