



Recent Advances in Drug Delivery Systems

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ABSTRACT: The worldwide sell for drug delivery products was up to \$134.3 billion in 2008, and was increased to \$139 billion in 2009. The approximation for 2014 is \$196.4 billion, for a compound annual growth rate of 7.2% in the 5-year phase. NDDS manufacturing aspects and their new modes of action stand for one of the leading research areas in pharmaceuticals. NDDS is based on the different functions viz. complexation of nanoparticles with the biological surrounding, active and passive targeting to the receptors, controlled drug release action, multiple or poly drug management, permanence of active principles and mode of action at molecular level for cell-signaling. In last few years, biodegradable polymeric liposomes, microspheres, micelles, microsponges and hydrogel have been revealed to be efficient in drug targeting specificity, reducing poisoning or systemic active toxicity, modulation of absorption rates and protecting actives against biochemical or enzymatic degradation. Moreover, advancement in NDDS viz. dendrimers (so-called star polymers), electroactive polymers, and modified C-60 fullerenes (also known as “buckyballs”) show exciting outcomes with active targeting and multifunctional applications. Recently, NDDS uses interdisciplinary branches like advanced material and polymer science, genomics, biochemical and bioconjugate chemistry and molecular biology. © 2014 iGlobal Research and Publishing Foundation. All rights reserved.

**Conference Proceedings: International Conference on Life Sciences, Informatics, Food and Environment;
August 29- 30, 2014**

Indo Global Journal of Pharmaceutical Sciences(ISSN 2249 1023 ; CODEN- IGJPAI; NLM ID: 101610675) indexed and abstracted in EMBASE(Elsevier), SCIRUS(Elsevier),CABI, CAB Abstracts, Chemical Abstract Services(CAS), American Chemical Society(ACS), Index Copernicus, EBSCO, DOAJ, Google Scholar and many more. For further details, visit <http://iglobaljournal.com>