



Nanotechnology-based Drug Delivery Systems: A General Overview of the Pharmacokinetic Aspects

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Pharmacokinetic evaluations are among the most important considerations which should be addressed during the research projects on the nanocarriers developed for drug delivery purposes. Overall, nanotechnology-based drug delivery systems have shown promising results in terms of the pharmacokinetic outcomes of the loaded drugs compared to the free drug moieties in animal models. It is obvious that the fulfillment of the ultimate goals from the development of a nanotechnology-based drug delivery system, i.e., the spatial and/temporal control on drug or purposes from distribution throughout the body can be eventually evaluated only after an extensive full-course pharmacokinetic analysis on the drug to be delivered with an appropriate data interpretation and analysis being the key point. The purpose of the current study was to present an insightful scene for the pharmacokinetic analysis of nanotechnology-based drug delivery systems with the majority of the data published in literature being reviewed. To be more conclusive and informative, an ADME-based approach will be followed in this survey.

Keywords: Nanotechnology; Nanocarriers; Drug Delivery; Pharmacokinetic