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Review

Nano lipid-drug conjugate: An integrated review

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ABSTRACT

Lipid-drug conjugates (LDC), which may also be addressed as lipoidal prodrug, have the therapeutic actives chemically bound to a lipid moiety like fatty acids or phospholipids. Fabricated in nano-size, lipid-drug conjugate forms another breed of lipid nanoparticles. LDCs are prepared in order to increase the drug loading and hence prevent leakage of a highly polar drug from a lipophilic matrix. In turn, it assists to achieve active targeting of therapeutics with reduced side effect by altering the pharmacokinetic profile of the drug. These self-assembled systems take the benefit of metabolic pathways of lipid biochemistry, allowing suitable organ targeting depending upon its size. These lipids because of its similarities with physiological lipids, enhances the solubility of the therapeutic agents and thereby improve the bioavailability. This present review is meant to encompass different aspects related to lipid drug conjugates which include types of lipids and drugs that can be used to develop this type of formulation. Here, we throw light on methods of preparation of lipid drug conjugate, processing them into nanoparticle, its characterization and different applications of lipid drug conjugate. We aim to present a holistic view on lipid drug conjugate as a suitable drug delivery approach.

Contents

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