

Lipid nanoparticles for the topical delivery of retinoids and derivatives

Morales, Javier O.

Valdés, Karina

Morales, Javier

Oyarzun-Ampuero, Felipe

© 2015 Future Medicine Ltd. Retinoids are lipophilic compounds that are highly used in cosmetics/therapeutics for skin disorders. Conventional formulations are limited by poor water solubility, high chemical/photochemical instability and the irritation of retinoids. Interestingly, lipid nanoparticles enable the administration of retinoids in aqueous media, providing drug stabilization and controlled release. Recently, it has been demonstrated that retinoids in solid lipid nanoparticles, nanostructured lipid carriers, nanoemulsions and nanocapsules can decrease degradation, improve targeting and enhance efficacy for the treatment of skin disorders. This article focuses on the formulation, fabrication, characterization and in vitro/in vivo evaluation of solid lipid nanoparticles, nanostructured lipid carriers, nanoemulsions and nanocapsules loaded with retinoids for skin administration. Furthermore, the incorporation of these lipid nanoparticles into secondary vehicles is discussed.