World Academy of Science, Engineering and Technology
International Journal of Materials and Metallurgical Engineering
Vol:8, No:12, 2014

Topical Delivery of Griseofulvin via Lipid Nanoparticles

Authors : Yann Jean Tan, Hui Meng Er, Choy Sin Lee, Shew Fung Wong, Wen Huei Lim

Abstract : Griseofulvin is a long standing fungistatic agent against dermatophytosis. Nevertheless, it has several drawbacks such as poor and highly variable bio availability, long duration of treatment, systemic side effects and drug interactions. Targeted treatment for the superficial skin infection, dermatophytosis via topical route could be beneficial. Nevertheless, griseofulvin is only available in the form of oral preparation. Hence, it generates interest in developing a topical formulation for griseofulvin, by using lipid nano particle as the vehicle. Lipid nanoparticle is a submicron colloidal carrier with a core that is solid in nature (lipid). It has combined advantages of various traditional carriers and is a promising vehicle for topical delivery. The griseofulvin loaded lipid nano particles produced using high pressure homogenization method were characterized and investigated for its skin targeting effect in vitro. It has a mean particle size of 179.8±4.9 nm with polydispersity index of 0.306±0.011. Besides, it showed higher skin permeation and better skin targeting effect compared to the griseofulvin suspension.

Keywords : lipid nanoparticles, griseofulvin, topical, dermatophytosis
Conference Title : ICNB 2014 : International Conference on Nanotechnology and Biotechnology
Conference Location : Melbourne, Australia
Conference Dates : December 11-12, 2014