Solid lipid nanoparticles preparation and characterization.

ABSTRACT

The presents study aimed to prepare and characterize Solid Lipid Nanoparticles (SLNs) from palm oil materials. Hydrogenated palm oil and lecithin incorporated with surfactant were mixed and formed by High Pressure Homogenization (HPH) at elevated temperature. Appropriate analytical methods are needed for the characterization of SLN. The use of several analytical techniques is a necessity such as particle size which determined using Photon Correlation Spectroscopy (PCS). The change of particle charge was studied by Zeta Potential (ZP) measurements, while the melting and recrystallization behavior characterized by Differential Scanning Calorimetry (DSC). Data showed physical stability of the formulation. In conclusion, the SLN presented here are well suited for several applications including drug delivery.