MECHANISTIC OUTCOMES OF LIPID CORE ON SOLID LIPID NANOPARTICLE CHARACTERIZATION

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ABSTRACT

In our present study, solid lipid nanoparticles were fabricated by modified double emulsification followed by ultracentrifugation method. The SLNs of the anti-HIV drugs lamivudine, tenofovir disoproxil fumarate and efavirenz were synthesized using lipids Compritol 888 ATO, glyceryl monostearate, stearic acid and emulsifiers soy lecithin and Pluronic®F68. The synthesized SLNs were characterized for compatibility studies, mean particle size, PDI, zeta potential, surface morphology and entrapment studies. The higher amount of Compritol based SLNs formulation showed maximum entrapment efficiency with comparatively larger sized, homogenous particles. All the lipid based SLNs possessed no incompatibilities and showed high stability profiles. Based on the results of surface morphology, zeta potential and high entrapment efficiency values, the optimum lipid for SLNs formulation among the other lipids was determined to be Compritol 888 ATO.