Scienxt Journal of Pharmacy and Drug Research (SJPDR)

Design and characterisation of antihyperlipidemic drug Rosuvastatin Calcium nanoparticles

Sugata Datta*, Mithun Bhowmick, Tulshi Chakraborty, Pratibha Bhowmick

Bengal College of Pharmaceutical Sciences and Research, Durgapur, West Bengal, India

***Corresponding Author: Sugata Datta**

ABSTRACT

The objective of the present study was to formulate and evaluate polymeric nanoparticles of Rosuvastatinby Emulsification sonication method using Sodium alginate, Chitosanand Ethyl celluloseas a polymers.The nanoparticles were characterized for FTIR, particle size, poly-dispersity index, entrapment efficiency (EE), zeta potential, morphological study, DSC and*invitro* study. Infrared studies showed that there was no drug excipients interaction. Negative values of zetapotential indicated the good stabilization of the prepared nanoparticles.The entrapment efficiency was found in between 51.82% – 75.14%. The *in-vitro* drug release was extended maximum up to 48hrs with Chitosan. The curve fitting data shows that the drug release followed first order kinetics.SEM shows that nanoparticles were found spherical in structure without aggregation and uniform distribution of the drug within the nanoparticles.

Keywords: Rosuvastatin, Emulsification sonication method, odium alginate, Chitosan,Ethyl cellulose and Nanoparticles.