Sagar Kasturi, Pharm Anal Acta 2016, 7:1 (Suppl)
http://dx.doi.org/10.4172/2153-2435.C1.028

OMICS International
conferenceseries.com

8th International Conference and Exhibition on
Pharmaceutics & Novel Drug Delivery Systems
March 07-09, 2016 Madrid, Spain

Formulation, optimization and evaluation of Valsartan nanosuspension

Sagar Kasturi
Indian Institute of Technology-BHU, India

In the present study, nanosuspension of valsartan is formulated, optimized and evaluated in order to enhance solubility, dissolution velocity and expected enhanced bioavailability. Valsartan is poorly water-soluble drug having low bioavailability, i.e. 10-25%. A 32 factorial design was employed to study the effect of independent variables that are amount of polaxomer 188 and stirring time on dependent variables, particle size (nm) and polydispersity index. Batch containing 0.75% polaxomer 188 with 2 hours stirring time showed particle size of 216+2.70 nm, with polydispersity index of 0.190. *In-vitro* dissolution study was performed for optimized batch, pure valsartan drug and marketed formulation and it revealed that valsartan showed pH dependent dissolution profile with maximum release of 67% in pH 6.8 buffer in 20mins while dissolution of pure drug and marketed formulation reaches only 8% and 27% in 20 mins, respectively. At pH 1.2 buffer, 65% of drug has been dissolved for optimized lyophilized nanosuspension after 120 mins while 15% and 38% has been dissolved for pure drug and marketed formulation, respectively within the same time. The pH change promoted valsartan ionization and diffusion of the ionized molecule in the release medium to faster extent. These results indicate the suitability of 32 factorial design for preparation of valsartan loaded nanosuspension significantly and improved dissolution rate, and possibly enhancing fast on set of therapeutic drug effect.

Biography

Sagar Kasturi is currently pursuing his Post-graduation (MPharm IDD) from Indian Institute of Technology, Banaras Hindu University (IIT-BHU) with CGPA 7.61. He has qualified GATE-2015 and GPAT-2015 examination. Currently, he is working for MPharm dissertation under the supervision of Mr. A.K. Srivastava, Associate Professor, Pharmaceutics, IIT-BHU.

sagarkasturi@yahoo.co.in

Notes: