ABSTRACT

The influence of N-methylglucamine to the disolution rate of Ketoprofen within solid dispersion of ketoprofen-PEG 8000- N-methylglucamine

Ketoprofen is a non-steroidal anti-inflammatory drug (NSAID) that has the effectiveness as an anti-inflammatory, analgesic, and antipyretic drugs. Based on literature study has been done, it is known that the solubility of ketoprofen in water is practically insoluble, but the permeation of ketoprofen has a good ability (BCS class II [low solubility, high permeability]) so that dissolution rate is the rate limiting step of drug absorbsion process and determine bioavailability of oral drug administration.

The aim of this study was to investigate the effect of N-methylglucamine concentration in the solid dispersion of Ketoprofen –PEG 8000 – N-methylglucamine. Solid dispersions of Ketoprofen –PEG 8000 – N-methylglucamine were prepared by fusion-solvent method with ratio of Ketoprofen – PEG 8000 5:5; Ketoprofen –PEG 8000 – N-methylglucamine 5:5:1; Ketoprofen –PEG 8000 – N-methylglucamine 5:5:2.

The result showed that solid dispersion of ketoprofen –PEG 8000 – N-methylglucamine 5:5:2 give a highest dissolution rate compared to physical mixtures and ketoprofen substance.

Keywords: Ketoprofen, PEG 8000, N-methylglucamine, Solid Dispersion, and Dissolution rate.