ABSTRACT

Influence of Avicel PH 101 as An Adsorbent in Solid Dispersion of Curcumin-PVP K-30 on The Dissolution Rate of Curcumin

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Curcumin is a substance obtained from *Curcuma longa* and *Curcuma xanthorrhiza* which has wide therapeutic activities. Curcumin is practically insoluble in water and has poor bioavailability. Solid dispersion could enhance dissolution rate of curcumin. Solid dispersion system adsorbed on a surface adsorbent could increase drug wettability, decrease the particle size of drugs, decrease surface tension between drug and dissolution medium so that the dissolution rate of curcumin could increase. PVP K-30 was used as hydrophilic carrier and Avicel PH 101 was used as an adsorbent.

The aim of this study was to enhance the dissolution rate of curcumin by preparing adsorbed solid dispersion curcumin-PVP K-30-Avicel PH 101 with ratio 1:1:2. Adsorbed solid dispersion system of curcumin-PVP K-30-Avicel PH 101 were made by solvent evaporation method. Evaluation were carried out by dissolution test for adsorbed solid dispersion of curcumin-PVP K-30-Avicel PH 101 (1:1:2), solid dispersion of curcumin-PVP K-30 (1:1), surface adsorption of curcumin-Avicel PH 101 (1:2), physical mixtures and curcumin substance.

The result showed that adsorbed solid dispersion of curcumin-PVP K-30-Avicel PH 101 has the highest dissolution rate compare to the solid dipersion, surface adsorption, physical mixture and curcumin substance.

Keywords: curcumin, PVP K-30, Avicel PH 101, solid dispersion, surface adsorption, dissolution