ABSTRACT

Effect of Primojel as Adsorbent in Solid Dispersion Kurkumin-PEG 8000 on Dissolution Rate of Curcumin

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The purpose of this research was to study effect of Primojel as adsorbent in solid dispersion system Curcumin-PEG 8000 (1:1) in order to increase dissolution rate of curcumin.

System solid dispersion Curcumin-PEG 8000 that adsorbed into primojel (1:1:2) was prepared by solvent method. Dissolution test was applied to solid dispersion Curcumin-PEG 8000 that adsorbed into Primojel (1:1:2), solid dispersion Curcumin-PEG 8000 (1:1), Surface adsorption Curcumin-Primojel (1:2), Physical mixture Curcumin-PEG 8000-Primojel (1:1:2) and pure curcumin. Dissolution conditions were conducted at temperature 37 ± 0.5 °C, using 0.5 % SLS b/v in water, at speed 50 rpm, and used paddle type.

Solid dispersion Curcumin-PEG 8000 that adsorbed into primojel (1:1:2) was found to have higher dissolution rate compared to surface adsorption Curcumin-Primojel (1:2), solid dispersion Curcumin-PEG 8000 (1:1), physical mixture Curcumin-PEG 8000-Primojel (1:1:2), and pure curcumin. Solid dispersion Curcumin-PEG 8000 that adsorbed into Primojel produced higher dissolution rate because system solid dispersion increased wettability curcumin and it was adsorbed into primojel, when primojel contact with medium it swelled and resulted larger surface effective area.

Keyword: Curcumin, PEG 8000, Primojel, Solid dispersion, Adsorption, Dissolution