ABSTRAK

Penelitian tentang mikroenkapsulasi lansoprazole telah dilakukan dengan penyalut eudragit RS PO menggunakan metode emulsifikasi penguapan pelarut dengan perbandingan lansoprazole : eudragit RS PO yaitu 1:6 (formula 1), 1:8 (formula 2) dan 1:10 (formula 3). Mikrokapsul dievaluasi menggunakan FTIR, Scanning Electron Microscopy (SEM), penentuan distribusi ukuran partikel, penentuan efisiensi enkapsulasi dan uji disolusi. Spektrum IR menunjukkan tidak adanya interaksi kimia antara lansoprazole dan eudragit RS PO selama proses pembuatan mikrokapsul. Hasil dari SEM menunjukan bahwa mikrokapsul yang dihasilkan berbentuk bulat (sferis). Mikrokapsul lansoprazole mempunyai distribusi ukuran partikel dari 5μm – 29 μm. Persentase efisiensi enkapsulasi untuk formula 1, 2 dan 3 berturut-turut adalah 81,17 ± 1,87 %; 83,72 ± 2,46 % dan 87,27 ± 1,24 %. Persentase efisiensi disolusi formula 1, 2 dan 3 berturut-turut adalah 42,53 ± 1,18 %; 38,66 ± 1,17 % dan 30,91 ± 1,18 %. Uji pelepasan lansoprazole secara *in vitro* menggunakan HCl 0,1 N dan dapar pospat pH 6,8. Pelepasan lansoprazole dipengaruhi oleh konsentasi eudragit RS PO. Formula 3 merupakan formula terbaik dengan efisiensi enkapsulasi tertinggi yaitu 87,27 % ± 1,24 % yang mengikuti model kinetika pelepasan Higuchi.

ABSTRACT

Study on microencapsulation lansoprazole with eudragit RS PO as coating agent by solvent evaporation method have been done in ratio lansoprazole : eudragit RS PO were 1:6 (formula 1), 1:8 (formula 2) and 1:10 (formula 3). The microcapsules were evaluated by FTIR, Scanning Electron Microscope (SEM), particle size distribution, encapsulation efficiency and dissolution test. IR spectrum showed no chemical interaction between lansoprazole and Eudragit RS PO during the process of making microcapsules. The result of Scanning Electron Microscope showed spherical was proved. Lansoprazole microcapsules had particle size distribution from 5µm - 29 µm. The percentage of encapsulation efficiency for formula 1, 2 and 3 respectively were 81,17 ± 1,87%; 83,72 ± 2,46 % and 87,27 ± 1,24 %. Percent efficiency of dissolution in formula 1, 2 and 3 respectively were 42, 53 ± 1, 18 %; 38, 66 ± 1, 17% and 30, 91 ± 1, 18 %. The *in vitro* drug dissolution were studied in 0,1 N HCl and phosphate buffer (pH 6,8). The release of Lansoprazole was influenced by the concentration eudragit RS PO. Formula 3 was the best formulation with the percentage of encapsulation efficiency was 87,27 % and the release kinetics model of microcapsules followed Higuchi.