

## ABSTRAK

Kaptopril merupakan obat antihipertensi dengan waktu paruh eliminasi pendek (2 jam) sehingga perlu dibuat menjadi sediaan *gastroretentive* dengan pendekatan sistem *mucoadhesive*. Penelitian ini bertujuan untuk mendapatkan formula optimum dari kombinasi konsentrasi matriks HPMC E6 dan HPMC K100M dalam pembuatan tablet kaptopril *mucoadhesive*.

Data yang diperoleh meliputi sifat alir granul, daya serap granul serta data uji sifat tablet yang meliputi keragaman bobot, kekerasan, kerapuhan, *swelling index*, daya lekat *mucoadhesive*, dan disolusi. Formula optimum diperoleh melalui analisis data menggunakan *software Design Expert*® 10 dengan metode *Simplex Lattice Design*. Verifikasi formula optimum dilakukan menggunakan *software IBM SPSS Statistics* 23 dengan metode analisis *one-sample t-test*.

Hasil penelitian menunjukkan formula optimum tablet *mucoadhesive* kaptopril dengan *desirability* 0,319 dapat diperoleh dengan mengkombinasikan HPMC E6 24,82 % terhadap bobot tablet atau 62,06 mg dan HPMC K100M 20,18 % terhadap bobot tablet.

**Kata kunci : Kaptopril, *mucoadhesive*, tablet, HPMC E6, HPMC K100M**

## ABSTRACT

*Captopril is drug for hypertension therapy which has relatively short half-life (2 hours) so it needed to be made into gastroretentive drug by mucoadhesive system. This study aims to identify the optimum formula by combining HPMC E6 and HPMC K100M matrices for making the captopril mucoadhesive tablet.*

*The data obtained are granule flow properties, granule absorption and tablet properties test data which include weight variation, hardness, friability, swelling index, mucoadhesive strength and dissolution. The optimum formula was obtained by analyzing the test data by Design Expert® 10 Software using the Simplex Lattice Design method. The optimum formula verification was performed using IBM SPSS Statistics 23 software with one-sample t-test analysis method.*

*The results showed that the optimum formula with 0,319 desirability for making the mucoadhesive tablet of captopril was obtained with the combination of HPMC E6 62,06 mg (24,82% w/w) and HPMC K100M 50,44 mg (20,18% w/w).*

**Keywords:** *Captopril, mucoadhesive, tablet, HPMC E6, HPMC K100M*