

## **ABSTRAK**

### **PENGEMBANGAN METODE PENETAPAN KADAR TEOFILIN DAN EFEDRIN HIDROKLORIDA PADA TABLET KOMBINASI SECARA SIMULTAN DENGAN METODE KCKT**

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Asma merupakan suatu penyakit yang menyerang sistem pernapasan sehingga menyebabkan sesak dada, batuk dan mengi berulang. Kombinasi teofilin dan efedrin HCl digunakan untuk meredakan asma. Menurut Farmaope V teofilin kadarnya ditentukan secara Kromatografi Cair Kinerja Tinggi dan efedrin HCl dengan cara titrasi bebas air menggunakan asam perkolat 0,1 N LV. Telah dilakukan pengembangan metode analisis kombinasi teofilin dan efedrin HCl dengan metode KCKT. Validasi metode analisis kombinasi teofilin dan efedrin HCl menggunakan kolom C<sub>18</sub> (150×4,6 mm) fase gerak metanol dan air 40:60, laju alir 1 ml/menit, waktu elusi 15 menit, sistem elusi isokratik, detektor ultraviolet dan panjang gelombang 265 nm. Hasil penelitian diperoleh nilai linieritas teofilin  $R^2 = 0,9996$  efedrin HCl  $R^2 = 0,9981$ . Nilai LoD dan LoQ teofilin 2,96 bpj dan 9,87 bpj dan efedrin HCl 0,60 bpj dan 2,01 bpj. Uji presisi teofilin 0,29% dan efedrin HCl 1,85%. Uji akurasi untuk teofilin dan efedrin HCl 80% : (98,02%:99,30%); 100%: (101,49%:99,66%); 120% : (99,83%:99,10)%. Uji spesifitas teofilin 24,139 dan efedrin HCl 5,269.

**Kata Kunci:** *Efedrin Hidroklorida, KCKT, Teofilin, Validas*

**ABSTRACT**

**DEVELOPMENT METHOD OF DETERMINATION THEOPHYLLINE  
AND EPHEDRINE HYDROCHLORIDE ON SIMULTANEOUS  
COMBINATION TABLET USING HPLC**

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Asthma is a disease that attacks the respiratory system and causes tightness, coughing and wheezing repeatedly. The combination of theophylline and ephedrine HCl is used to relieve asthma. According to the Farmaope V, these drugs contain HCV by means of free water titration using 0.1 N percolate acid LV. The method of combining theophylline and ephedrine HCl with the HPLC method has been developed. Validation of theophylline and ephedrine HCl combination analysis method using C18 column (150 × 4.6 mm) methanol and air phase 40:60, flow rate of 1 ml / minute, 15 minutes elution time, isocratic elution system, ultraviolet detector and wavelength 265 nm. The results showed that theophylline R<sub>2</sub> = 0.9996 ephedrine HCl R<sub>2</sub> = 0.9981. Theophylline LoD and LoQ values were 2.96 ppm and 9.87 ppm and ephedrine HCl 0.60 ppm and 2.01 ppm. Theophylline precision test 0.29% and ephedrine HCl 1.85%. Accuracy test for theophylline and 80% ephedrine HCl: (98.02%: 99.30%); 100%: (101.49%: 99.66%); 120%: (99.83%: 99.10)%. Test theophylline specificity 24,139 and ephedrine HCl 5,269.

**Keywords:** *Ephedrine Hydrochloride, HPLC, Theophylline, Validatio*