

ABSTRAK

Lisinopril merupakan obat antihipertensi golongan ACE inhibitor yang banyak digunakan dalam terapi tekanan darah tinggi. Mengingat banyaknya merek tablet lisinopril yang beredar di pasaran, penting untuk menjamin mutu produk dari segi kadar zat aktif dan profil disolusinya. Penelitian ini bertujuan untuk mengembangkan serta memvalidasi metode analisis kadar lisinopril dalam tablet menggunakan spektrofotometri UV-Vis, serta membandingkan profil disolusi dua brand tablet lisinopril. Metode penelitian ini bersifat eksperimental dengan pendekatan kuantitatif, menggunakan sampel tablet dari dua merek yang berbeda. Validasi metode dilakukan dengan parameter linearitas, akurasi, presisi, batas deteksi (LOD), dan batas kuantifikasi (LOQ). Hasil penelitian menunjukkan metode spektrofotometri UV-Vis memiliki linearitas yang baik ($R^2 = 0,990$), akurasi berkisar antara 90,53%–100,67%, presisi dengan RSD sebesar 0,1127%, LOD sebesar 0,221 ppm, dan LOQ sebesar 0,670 ppm. Penetapan kadar menunjukkan bahwa kedua merek memenuhi kriteria Farmakope Indonesia, dengan kadar rata-rata Brand A sebesar 106,03% dan Brand B 101,8%. Uji disolusi menunjukkan profil disolusi Brand A lebih baik (88,76%) dibanding Brand B (67,16%), dengan perbedaan yang signifikan secara statistik. Penelitian ini menunjukkan bahwa metode spektrofotometri UV-Vis valid digunakan untuk analisis lisinopril dan dapat diterapkan untuk menjamin mutu obat di pasaran.

Kata kunci: Lisinopril, Spektrofotometri UV-Vis, Validasi Metode, Disolusi

KARAWANG

ABSTRACT

Lisinopril is an antihypertensive drug from the ACE inhibitor class widely used in the treatment of high blood pressure. Given the variety of lisinopril tablet brands available on the market, it is important to ensure product quality in terms of active substance content and dissolution profile. This study aims to develop and validate an analytical method for determining lisinopril content in tablets using UV-Vis spectrophotometry, as well as to compare the dissolution profiles of two brands of lisinopril tablets. This research is experimental with a quantitative approach, using tablet samples from two different brands. The method was validated based on parameters including linearity, accuracy, precision, limit of detection (LOD), and limit of quantification (LOQ). The results showed that the UV-Vis spectrophotometric method had good linearity ($R^2 = 0.990$), accuracy ranging from 90.53% to 100.67%, precision with an RSD of 0.1127%, LOD of 0.221 ppm, and LOQ of 0.670 ppm. The content determination indicated that both brands met the standards of the Indonesian Pharmacopoeia, with average content of 106.03% for Brand A and 101.8% for Brand B. Dissolution testing showed that Brand A had a better dissolution profile (88.76%) compared to Brand B (67.16%), with a statistically significant difference. This study demonstrates that the UV-Vis spectrophotometric method is valid for lisinopril analysis and can be applied to ensure the quality of lisinopril tablets in the market.

Keywords: *Lisinopril, UV-Vis Spectrophotometry, Method Validation, Dissolution*



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