



RAPID AND SENSITIVE TLC AND HPLC WITH ON-LINE WAVELENGTH SWITCHING METHODS FOR SIMULTANEOUS QUANTITATION OF AMLODIPINE, VALSARTAN AND HYDROCHLOROTHIAZIDE IN PHARMACEUTICAL DOSAGE FORMS

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ABSTRACT

Two RP-HPLC and TLC methods were developed and validated according to the ICH guidelines for the simultaneous determination of Amlodipine, Valsartan and Hydrochlorothiazide in tablet dosage form. The two methods are simple, rapid and selective. Complete HPLC separation was achieved using Nucleosil C₁₈ column and acetonitrile/methanol/isopropyl alcohol (55:41:4 by volume) mixture as the mobile phase, the pH was adjusted to 8 ± 0.1 with triethylamine and the flow rate was 1.2 mL/min. The detection wavelengths were chosen to be 238, 248 and 271 nm for Amlodipine, Valsartan and Hydrochlorothiazide, respectively. The linearity of the proposed method was established over the ranges, 2.0–28.0, 10.0–120.0 and 0.6–32.0 µg/mL for Amlodipine, Valsartan and Hydrochlorothiazide, respectively. For the densitometric TLC method, silica gel 60 F₂₅₄ plates were used and ethyl acetate/toluene/methanol/ammonia (50.5:23.5:23.5:2.5 by volume) mixture as the developing solvent. Detection and quantification were performed densitometrically at 252 nm. The linearity of the proposed method was established over the ranges, 0.5–9.0, 4.0–18.0 and 3.0–11.0 µg/band for Amlodipine, Valsartan and Hydrochlorothiazide, respectively.

KEYWORDS: HPLC; Densitometry; TLC; Amlodipine; Valsartan; Hydrochlorothiazide.



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