Application of Chromatographic and Spectrophotometric Methods for The Analysis of Aliskiren and Hydrochlorothiazide Antihypertensive Combination.

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Abstract

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High performance liquid chromatographic (HPLC) and spectrophotometric methods developed for the simultaneous determination of Aliskiren (ALK) and Hydrochlorothiazide (HCT) combination in bulk powder and in tablets dosage form. Determination of ALK and HCT was achieved by chromatographic separation on Econosphere C-18 column using a mobile phase consisting of water (pH 7.5): acetonitrile (50:50) at a flow rate of 0.5 mL.min−1 and UV detection at 208 nm. Method validation parameters were found to be acceptable over the concentrations range of 5-150 µg.mL-1, 1-50 µg.mL-1 for ALK and HCT respectively. Regarding the spectrophotometric methods, two methods were employed. Simultaneous Equation method, absorbance readings are taken at two wavelengths 277.48 nm (for ALK) and 267.48 nm (for HCT) in methanol. Dual Wavelength method, the difference between absorbance readings are taken at two wavelengths 273.3 nm, 260 nm (for Aliskiren) and 270 nm, 280 nm (for HCT) in methanol. The applied spectrophotometric methods were found to be rapid, specific, precise and accurate over the concentration range of 5 – 150 µg.mL-1 and 1 – 41 µg.mL-1 for ALK and HCT respectively and can be applied for the routine analysis of these drugs in bulk, and combined dosage form without any interference by the excipients.

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