

Steady-state and synchronous spectrofluorimetric methods for simultaneous determination of aliskiren hemifumarate and amlodipine besylate in dosage forms

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Abstract

Aliskiren hemifumarate (ALS) and amlodipine besylate (AML) were simultaneously determined by two different spectrofluorimetric techniques. The first technique depends on direct measurement of the steady-state fluorescence intensities at 535 nm and 674 nm, respectively, in a solvent composed of methanol and water (10: 90, v/v). The second technique utilizes synchronous fluorimetric quantitative screening of the fluorescence intensity at 494 nm and 588 nm. Effects of different solvents and surfactants on relative fluorescence intensity were studied. The method was validated according to ICH guidelines. Linearity, accuracy and precision were found to be satisfactory in both techniques over the concentration ranges of 3637 and 20666 µg/ml for ALS and 20289 and 20426 µg/ml for AML, respectively. Also, limit of detection and limit of quantification were estimated and found to be 0.001 µg/ml and 0.003 µg/ml for ALS, respectively. Also, limit of detection and limit of quantification were found to be 0.001 µg/ml and 0.003 µg/ml for AML, respectively. The developed methods are rapid, sensitive, inexpensive and accurate for the quality control and routine analysis of the cited drugs in bulk and in pharmaceutical preparations without pre-separation. Copyright © 2014 Future University in Egypt.

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