Spectrofluorometric Determination of Certain Antihyperlipidemic Agents in Bulk and Pharmaceutical Preparations

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Abstract

A simple, rapid, and sensitive spectrofluorometric method was developed for the determination of three antihyperlipidemic drugs, namely, rosuvastatin calcium (RSV), ezetimibe (EZE), and pitavastatin calcium (PIT). The method is based on measuring the native fluorescence of the cited drugs at their optimum excitation and emission wavelengths. The fluorescence intensity was measured at $\lambda_{em}$ 362 nm, 309 nm, and 373 nm upon excitation at $\lambda_{ex}$ 315 nm, 260 nm, and 245 nm for RSV, EZE, and PIT, respectively. The calibration graphs were linear over the concentration ranges 0.50–10.0, 0.25–4.0, and 0.10–3.00 $\mu$g mL$^{-1}$ for RSV, EZE, and PIT, respectively. Besides, a spectrofluorometric method for the simultaneous determination of RSV and EZE was developed. The fluorescence was measured at $\lambda_{em}$ 309 nm for EZE and 432 nm for RSV upon excitation at $\lambda_{ex}$ 260 nm for both. The proposed methods were applied to the determination of the cited drugs either in bulk and pharmaceutical preparations.