

Spectrofluorimetric determination of Bisoprolol fumarate and Rosuvastatin calcium in a novel combined formulation and in human spiked plasma

Sensitive, simple and rapid spectrofluorimetric method was developed for simultaneous determination of bisoprolol fumarate (BIS) and rosuvastatin calcium (ROS) in novel formulated tablets and in human spiked plasma depending on measuring their native fluorescence. The fluorescence intensity of BIS and ROS were measured in methanol at emission wavelength of 297 and 485 nm upon excitation at 227 and 242 nm, respectively. The emission spectrum of each drug reveals zero value at the emission wavelength of the other drug, thus allowing their simultaneous determination without any interference and without using any tedious derivatization steps. Excellent linearity was obtained over the range of 10-500 and 20-1000 ng/mL for BIS and ROS, respectively. The developed method was evaluated by applying to laboratory prepared mixtures and pharmaceutical formulation. The high sensitivity of the method was the motivation to its application for analysis of the cited drugs in spiked human plasma. Likewise, analytical and bioanalytical method validation was carried out following International Conference on Harmonisation guidelines and also statistical analysis with the reported methods was carried out and no significant difference was found. The developed method is the first developed spectrofluorimetric method for simultaneous determination of the newly formulated drugs