## "ANALYTICAL METHOD DEVELOPMENT AND VALIDATIONFOR SIMULTANEOUS ESTIMATION OF ROSUVASTATIN CALCIUM, CLOPIDOGREL BISULPHATE AND ASPIRIN IN PHARMACEUTICAL DOSAGE FORM"

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## Abstract

A First order derivative spectroscopic method and RP-HPLC method were developed and validated for simultaneous estimation of Rosuvastatin Calcium, Clopidogrel Bisulphate and Aspirin in Pharmaceutical Dosage form. First order derivative method based on the measurement of absorbance at three wavelengths 362.49nm, 224.05nm and 288.45nm i.e. Rosuvastatin Calcium, Clopidogrel Bisulphate and Aspirin respectively. The calibration curve was linear in a concentration range of 2-14µg/ml for Rosuvastatin Calcium, 7.5-52.5µg/ml for Clopidogrel Bisulphate and 7.5-52.5µg/ml for Aspirin. The RP-HPLC method has shown adequate separation of Rosuvastatin Calcium, Clopidogrel Bisulphate and Aspirin in Pharmaceutical Dosage form. The separation was achieved on a Luna C18 (250mmX4.6 mm i.d., 5µm particle size) with an Isocratic system of Acetonitrile: Buffer (0.05M Potassium Dihydrogen Phosphate and pH 3 was adjusted with Ortho phosphoric Acid) in the ratio of 60:40v/v, flow rate was at 1.0 ml/min, and wavelength of detection used was 238nm. The retention time for Rosuvastatin Calcium, Clopidogrel Bisulphate and Aspirin was obtained as 2.030±0.027min, 3.681±0.0259 and 6.293±0.028 respectively. The linearity of the proposed method was investigated in the range of 10-60µg/ml, 37.5-225µg/ml and 37.5-225µg/ml for Rosuvastatin Calcium, Clopidogrel Bisulphate and Aspirin respectively. Correlation coefficient was 0.998, 0.998 and 0.999for Rosuvastatin Calcium, Clopidogrel Bisulphate and Aspirin respectively. The developed method was validated as per ICH guideline, for its linearity, accuracy, precision, and robustness the results were found to be satisfactory. Thus, the method is specific, rapid and simple for estimation of Rosuvastatin Calcium, Clopidogrel Bisulphate and Aspirin.

**Key words:** Rosuvastatin Calcium, Clopidogrel Bisulphate and Aspirin, First order derivative method, RP-HPLC Method.