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Spectrophotometric Determination of Febuxostat from Bulk and Tablet Dosage Form by Area Under Curve Method

Dudhe P.B.*,Chavare P. D., Shelke P. S.

Department of Quality Assurance Technique, Sinhgad College of Pharmacy,
Vadgaon (Bk), Pune-411 041, India

Abstract:The present research work discusses the determination of Febuxostat from bulk and tablet dosage form by UV Spectrophotometric Area under Curve method. A new, simple, specific, accurate and cost effective spectroscopic method has been developed for the estimation of Febuxostat in bulk as well as formulation. The optimum conditions for the analysis of the drug were established. Methanol was used as a solvent to prepare standard as well as sample solutions. The maximum wavelength (λ_{max}) was found to be 315nm. For quantitative determination of Febuxostat, values were measured at 305.00 nm-325.00 nm. The validation was performed as per ICH guidelines for linearity, accuracy, precision, LOD and LOQ. Calibration curve was observed with concentrations 2-10 $\mu\text{g/ml}$ ($R^2 = 0.9998$). The % assay in commercial formulation was found to be 99.47 %. The recovery of proposed method was found to be 99.42%. The results of all validation parameters were found to be within acceptable limit. The developed method can be used for routine estimation of Febuxostat in bulk and tablet dosage forms.

Keywords:Febuxostat, Area under Curve, UV Spectrophotometric, ICH guidelines.

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