Spectrophotometric Determination of Acetazolamide in Bulk and Tablet Dosage Form by Area Under Curve and First Order Derivative Methods

Dudhe P.B.*, Lahane A. V., Borhade K. D., Shelke P.S., Chavare P.D.

Department of Pharmaceutical Chemistry, Sinhgad College of Pharmacy, Vadgaon (Bk), Pune-411 041, India

Abstract:A simple, reproducible and economical two spectrophotometric methods have been developed for determination of acetazolamide in tablet dosage form. All solutions were prepared by using methanol as an solvent. Method A is area under curve (AUC), in which area was integrated in the range of 253.00 nm – 273.00 nm andinmethod B i.e. first order derivative spectroscopy, absorbance values were measured at λmin = 248.83 nm, λmax = 278.94 nm and λzero cross = 263.89 nm. For both methods linearity was established in the range of 5μg/ml - 30μg/ml (Method A: R^2 = 0.9991 and Method B: R^2 = 0.9991). validation studies were performed by ICH Q2(R1) guideline for method A and B. Accuracy, precision, assay, limit of detection (LOD) and limit of quantitation (LOQ) studies were done for both methods and results was found within acceptable limit. Proposed methods were applied successfully for determination of acetazolamide from pharmaceutical dosage form.

*****