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A Validated Reversed-Phase High Performance Liquid Chromatographic Method forSimultaneous Estimation ofThiocolchicoside and Dexketoprofen in Bulk and in Tablet Dosage Form

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ABSTRACT

The present work describes a rapid, precise and specific validated Reverse phase high performance liquid chromatographic method for simultaneous estimation of Thiocolchicoside and Dexketoprofen in bulk and in pharmaceutical dosage form. Chromatographic separations was achieved on Waters Younglin system C-18 (5µm, 250×4.6 mm) HPLC column within a short runtime of 10 min. HPLC system having isocratic mode, with mobile phase containing Acetonitrile: water (pH 3) (70:30% v/v) and flow rate maintained at 1.0 mL min^{-1} was used. Effluents were monitored at 260 nm. Retention time of Thiocolchicoside and Dexketoprofen was found to be 4.8 and 2.7 min respectively. Linearity was studied in the concentration range of 2 - 12 µg mL^{-1} and 12 - 72 µg/mL for Thiocolchicoside and Dexketoprofen respectively, with a correlation coefficient of 0.999 for both the drugs. The newly developed method was validated according to the ICH guidelines with respect to specificity, linearity, accuracy, precision and robustness. This simultaneous estimation work with advanced High performance thin layer chromatographic technique gave the new dimensions and gives some contribution to the analytical and bio-analytical field. It was concluded that the developed method offered several advantages such as rapid, cost effective, simple mobile phase and sample preparation steps and improved sensitivity made it specific, reliable and easily reproducible in any quality control set-up providing all the parameters are followed accurately for its intended use.

Keywords: Dexketoprofen, Liquid chromatography, Specificity, Thiocolchicoside.