



**Simultaneous Estimation of Thin Layer Liquid Chromatography /
Densitometry Method for Thiocolchicoside and Dexketoprofen in Bulk and in
Tablet Dosage Form**

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ABSTRACT

The present work describes a validated normal phase high performance thin layer liquid chromatographic method for simultaneous estimation of Thiocolchicoside and Dexketoprofen in bulk and in pharmaceutical dosage form. Chromatographic separation of the drugs were performed on aluminum plates precoated with 200- μ m layers of silica gel 60 F254S as the stationary phase and the solvent system consisted of toluene: ethyl acetate: methanol : glacial acetate (6 :4 :4 : 0.5)(v/v/v/v). Densitometric evaluation of the separated zones was performed at 295 nm. The two drugs were satisfactorily resolved with R_f values 0.29 ± 0.02 and 0.76 ± 0.02 for Thiocolchicoside and Dexketoprofen respectively. The accuracy and reliability of the method was assessed by evaluation of linearity (400-2400 ng/spot for Thiocolchicoside and 2500-15000 ng/spot for Dexketoprofen), precision (intraday RSD 1.29 – 1.36 and interday % RSD 0.36– 1.17 % for Thiocolchicoside and intra-day RSD 0.89–1.71 % and inter-day RSD 0.24–1.13 % for Dexketoprofen), accuracy (99.74 ± 1.02 % for Thiocolchicoside and 100.18 ± 0.45 % for Dexketoprofen), and specificity in accordance with ICH guidelines. This novel Statistical analysis proves that the method is repeatable and selective for the analysis of Thiocolchicoside and Dexketoprofen as bulk drug and in pharmaceutical formulations without any interference from the excipients. 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: Thinlayer chromatography, dexketoprofen, Thiocolchicoside.
