

HPTLC METHOD DEVELOPMENT AND VALIDATION FOR THE QUANTIFICATION OF ALECTINIB HYDROCHLORIDE IN BULK POWDER AND CAPSULE PREPARATIONS

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ABSTRACT

The high performance thin layer chromatography method described here enables simple, accurate and precise estimation of alectinib hydrochloride content in capsule formulation. To achieve adequate separation, G60 - F254 pre-coated silica gel sheets of aluminium were used as the stationary phase. A mobile phase comprising a solvent mixture of methanol and water in a ratio of 80:20 (V/V) was utilized with a chamber saturation duration of 30 minutes. The retardation factor value was found to be 0.47 at the detection wavelength 341 nm. The method's linearity was confirmed across a concentration range from 600 - 2100 ng band⁻¹, exhibiting a high correlation coefficient of 0.9992. The accuracy range was observed between 98.50 % - 100.45 %. The lowest detection limits of drug were observed to be 17.49 ng band⁻¹ and lowest quantitation limits of drug were found to be 53.01 ng band⁻¹. This developed methodology was effectively employed for the quantification of alectinib hydrochloride in capsule preparations.