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HPTLC Method for Quantitative Determination of Granisetron Hydrochloride in Bulk Drug and in Tablets

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SUMMARY. **A new simple, rapid and reproducible high performance thin layer chromatographic method has been developed and validated for the analysis of granisetron hydrochloride (GSH) in bulk drug and from pharmaceutical formulation. The chromatographic separation was achieved on HPTLC aluminium plates precoated with silica gel $60F_{254}$ as the stationary phase with chloroform: methanol (80:20 %v/v) as mobile phase. The method gives a compact band for GSH (R_f value of 0.45 ± 0.02). Densitometric analysis of GSH was carried out in the absorbance mode at 301 nm. The linear regression analysis data for the calibration plots showed good linear relationship with the correlation coefficient of 0.9980 with respect to peak area in the concentration range of 400-1600 ngband^{-1}. The method was validated for accuracy, precision, recovery studies, specificity, sensitivity, limit of detection and limit of quantification. Statistical analysis proved the method was precise, reproducible, selective, specific, and accurate for analysis of GSH. The wide linearity range, sensitivity, accuracy, and simple mobile phase composition imply the method is suitable for routine quantification of GSH with high precision and accuracy in bulk drug and marketed oral solid dosage form.**

KEY WORDS: Bulk drug, Granisetron hydrochloride, HPTLC, Tablets.

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