Der Pharmacia Lettre

Abstract

A simultaneous method validation for the estimation of mefenamic

acid from marketed tablets by reversed phase high performance liquid chromatography (RP-HPLC) and UV-VIS spectrophotometer

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Method validation is an important part of the quantitative determination of drug analyte in the formulated products. For this purpose a simple, sensitive and reproducible reversed phase-high performance liquid chromatographic (RP-HPLC) and UV-VIS spectrophotometer method have been developed for the quantitative determination of mefenamic acid analyte. The instrument (HPLC) was equipped with C18-column. The solvents methanol and water were used as a mobile phase in the ratio of 70:30 (v/v). The retention time of mefenamic acid was 5.80 min at the flow rate 1.25 ml/min. The maximum peak area was optimized at 370 nm. Statistically the limit of detection and limit of quantification were calculated 0.03 and 0.09 ppm by reverse phase high performance liquid chromatography (RP-HPLC) and 0.3 and 0.9 ppm by UV-Spectrophotometer, respectively. Good results were obtained with respect to linearity R2=0.993 by RP-HPLC and R2=0.996 by UV-Spectrophotometer. The inter-day and intra-day mean recoveries by RP-HPLC statistically were calculated 97.33 % and 97.66 % and for UV-Spectrophotometer 98.56 % and 97.13 %. Hence, the method was validated for linearity, accuracy, repeatability, limit of detection (LOD) and limit of quantification (LOQ). Hence, these both methods are valuable for the quality control purpose.

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