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Estimation of Lidocaine-HCl in Pharmaceutical drugs by HPLC-UV System

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ABSTRACT

An accurate, precise and sensitive HPLC system is used to determination of Lidocaine-HCl in vial dosage form as parenteral solution (intra-muscular), to compare with two Lidocaine-HCl form; commercial formulations and standard Lidocaine-HCl high purity as a test formulation. Lidocaine-HCl concentrations were analyzed by a HPLC-UV System (λ = 254 nm) at 25 ^{o}C. The separation was achieved using the Ion Pac Ercus C18 RP-Column; 5µm, (250×4.5 mm id). The mobile phase consisted of acetonitrile/ water (20/80) with 5% acetic acid at pH 3.4. The method was found to be linearity in the range (0.1 to 0.5) µg/ml (n = 5) with $R^2 \geq 0.9987$, also, the recoveries were range within 96.0-100%. The detection limit of quantification (LLOQ) was 0.01645 µg/ml and lower limit of detection (LLOD) 0.00521 µg/ml. showing average intra assay and inter-assay coefficients of ± RSD % about 0.526 %. The standard Lidocaine-HCl drug eluted at a flow rate of 1.0 ml/min. The results of recoveries, ± RSD, and statistical parameters obtained in this study, clearly indicated that the HPLC–UV system offer a successfully and excellent method for the separation and determination of Lidocaine-HCl in the commercial drugs.

Keywords: Lidocaine-HCl as parenteral solution (intra-muscular) and Standardized, HPLC- UV System.

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