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A validated bioanalytical HPLC method for estimation of quetiapine in human plasma

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The objective of the present investigation is to develop and validate a simple, economical and reliable high performance liquid chromatography method for the quantification of quetiapine in human plasma. A reverse phase C8 column and acetonitrile, buffer (pH-3.4) and methanol in the ratio of 15:50:35 v/v/v as mobile phase used. The olanzapine was used as an internal standard for method development with and detection was done at 290nm. The retention time of quetiaine and olanzapine (internal standard) were found to be 7 min and 2.5 min respectively. The validated method allows quantification of quetiapine in 2-10 µg/ml. The method was shown to be precise and accurate results and good recovery studies. The correlation coefficient for quetiapine was found to be 0.9986. The simplicity of the assay and rapid liquid-liquid extraction make it an attractive procedure in high-throughput bioanalysis of quetiapine.

Biography

Shilpa Kache student of M.Pharm Pharmaceutical Analysis, JSS College of Pharmacy, Mysore. She is doing her dissertation work under the guidance of Mr. R.S. Chandan, Asst. Professor, Dept. of Pharmaceutical Analysis, JSS College of Pharmacy, Mysore. Her current area of research is on Method Development and Validation of Zoledronic Acid.

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Stress degradation studies on acenocoumarol by reverse phase high performance liquid chromatography

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The aim of present work was to develop and validate Stability indicating RP-HPLC method for determination and quantitative estimation of Acenocoumarol and to study its stress degradation. Acenocoumarol is mainly used in the management of thromboembolic disorders. RP-HPLC method was set on Thermo BDS - Hypersil column (250 mm X 4.6 mm, 5 µm) using Acetonitrile: Ammonium Acetate buffer 0.01M with pH adjusted to 6 using 0.1 N NaOH in 80:20 v/v ratio as mobile phase. Flow rate was adjusted to 0.8 ml/min and detection wavelength was set at 283 nm. Acenocoumarol was found to elute at 2.67 min. The method was validated with respect to linearity, precision, LOD, LOQ, accuracy and robustness. Linear calibration curve was obtained at concentration range 25-150 µg/ml (r^2 = 0.997 ± 0.0006). LOD and LOQ values were found to be 0.0076 µg/ml and 0.0231 µg/ml respectively. Stress degradation of Acenocoumarol was carried out under acidic, alkaline, neutral, thermal, photolytic and oxidative conditions. Acenocoumarol was found to degrade significantly under acidic, photolytic and oxidative conditions. Analysis of tablet formulation was also successfully done for the method and the results obtained were in favor of developed method. The RP-HPLC method was found to be rapid, accurate, precise and robust. Stress degradation was conducted to determine the specificity of RP-HPLC method.

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