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
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High performance liquid chromatographic determination of mefenamic acid in human plasma using uv vis detector (Article)

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Abstract

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Objective: Mefenamic Acid (MA) is a non-steroidal anti-inflammatory drug (NSAIDs). This drug provides analgesic and antipyretic (fever reducing effect) and higher doses, anti-inflammatory effect. This study is focused to develop a rapid and sensitive method for the detection of mefenamic acid in human plasma.

Methods: Protein precipitation technique using acetonitrile was used. Chromatographic separation was achieved on Agilent Zorbax Eclipse XDB-C₁₈ (150 mm x 4.6 mm, i. d 3.5 μm) with a mobile phase consisting of acetonitrile and 2% triethylamine (pH was adjusted to 4.2 with phosphoric acid) in a ratio of 60:40. The retention time for mefenamic acid and diclofenac was 5.4 and 3.9 minutes respectively. The mefenamic acid was monitored at 280 nm using variable-wavelength detector.

Results: The recovery was found 83% for MA. The method was validated according to the Centre for Drug Evaluation and Research (CDER) guidelines. Calibration plot was linear within the range from 250 to 5000ng ml⁻¹ with the coefficient of determination (r²) of ≥ 0.99. The quality control samples of mefenamic acid which was termed as low (L), medium (M) and high (H) were analysed to get the precision and accuracy. The accuracy for intra-day for L, M and H was 99.71%, 93.8% and 89.52% while for inter day were 97.67%, 93.46% and 91.67% respectively. On the other hand, coefficient variance (CV) for intra-day precision for L, M and H was found 2.57%, 2.45% and 1.45% and for inter day CV were 3.11%, 5.5% and 4.37% respectively. Diclofenac sodium was used as internal standard for this study.

Conclusion: The results were in compliance with CDER guideline. © 2014, International Journal of Pharmacy and Pharmaceutical Sciences. All right reserved.

Author keywords

HPLC Human plasma Mefenamic Acid Protein precipitation UV detector

Indexed keywords

EMTREE drug terms: mefenamic acid

EMTREE medical Article controlled study drug determination drug stability

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