

New Method for the Determination of Montelukast in Human Plasma by Solid Phase Extraction Using Liquid Chromatography Tandem Mass Spectrometry

Authors : Vijayalakshmi Marella, NageswaraRaoPilli

Abstract : This paper describes a simple, rapid and sensitive liquid chromatography / tandem mass spectrometry assay for the determination of montelukast in human plasma using montelukast d6 as an internal standard. Analyte and the internal standard were extracted from 50 μ L of human plasma via solid phase extraction technique without evaporation, drying and reconstitution steps. The chromatographic separation was achieved on a C18 column by using a mixture of methanol and 5mM ammonium acetate (80:20, v/v) as the mobile phase at a flow rate of 0.8 mL/min. Good linearity results were obtained during the entire course of validation. Method validation was performed as per FDA guidelines and the results met the acceptance criteria. A run time of 2.5 min for each sample made it possible to analyze more number of samples in short time, thus increasing the productivity. The proposed method was found to be applicable to clinical studies.

Keywords : Montelukast, tandem mass spectrometry, montelukast d6, FDA guidelines

Conference Title : ICABC 2015 : International Conference on Analytical and Bioanalytical Chemistry

Conference Location : New York, United States

Conference Dates : June 04-05, 2015