A simple, sensitive and rapid determination of moexipril in human plasma by a novel LC-MS/MS method using solid phase extraction technique

Vinayender Adireddy¹,², Vinutha kommineni³, Venkateswarlu Ponneri⁴

¹Research Studies, Rayalaseema University, Kurnool-518 002, India
²PCR Laboratories, Ramanthapur, Hyderabad–500 013, India
³Sri Venkateswara college of pharmacy, Madhapur, Hyderabad-500083
⁴Analytical and Environmental Chemistry Division, Department of Chemistry, Sri Venkateswara University, Tirupati-517502, India

Abstract: The aim of this work was to develop a simple, sensitive and selective liquid chromatography tandem mass spectrometry assay for quantification of moexipril in human plasma. Analytes and the internal standard (stable labelled isotopes) from human plasma by using solid phase extraction technique with the help of Waters Oasis® HLB 1 cc (30 mg) extraction cartridge. The reconstituted samples were chromatographed on Zorbax XDB C18,4.6*50mm column by using a mixture of acetonitrile -5 mM ammonium acetate buffer (80:20, v/v) as the mobile phase at a flow rate of 0.6 mL/min. The calibration curve obtained was linear (r ≥ 0.99) over the concentration range of 0.102-101.389 ng/mL for moexipril. Method validation was performed as per FDA guidelines and the results met the acceptance criteria. A run time of 2.2 min for each sample made it possible to analyze more than 350 human plasma samples per day.

Key words: Moexipril; Human plasma; Solid phase extraction; LC-MS/MS.