International Journal of PharmTech Research
CODEN (USA): IJPRIF, ISSN: 0974-4304, ISSN(Online): 2455-9563
Vol.11, No.02, pp 168-176, 2018

Bioanalysis of Febuxostat in Human Plasma by Liquid Chromatography/Tandem Mass Spectrometry

Surya Prakasarao Kovvasu[3,4], Steven Yeung[4], Priyanka Kunamaneni[4], Balaji Kodali[1,2]*

***[1]AxisClinicalsLimited, Miyapur, Hyderabad-500049,Telangana, India.**
[2]University College of Pharmaceutical Sciences, Acharya Nagarjuna University, Nagarjuna Nagar, Guntur- 522510, Andhra Pradesh, India.
[3]University College of Pharmaceutical Sciences,Andhra University, Visakhapatnam-530 003, Andhra Pradesh, India.
[4]College of Pharmacy, Western University of Health Sciences, Pomona, CA 91766, United States.

Abstract: The objective of this paper was to describe the development and validation of a novel liquid chromatography / tandem mass spectrometry (LC-MS/MS) method for the determination of Febuxostat in human plasma using febuxostat-d9 as internal standard (IS). An API-4000 triple quadrupole mass spectrometer operated in MRM mode was used for the selective quantification of Febuxostat in human plasma. Sample extraction utilizes protein precipitation (PP), followed by analyte and the IS were chromatographed on a C18 column using an isocratic mobile phase composed of 5mM ammonium formate and acetonitrile (20:80, v/v) pumped at a flow rate of 1.0 mL/min. Precision and accuracy of the method was determined using five analytical batches in the concentration range of 15.0–8000 ng/mL. All the validation experiments were carried out as per the US FDA guidelines and results met the acceptance criteria. The developed method was rapid with a total chromatographic run time of 2.0 min.

Keywords : Febuxostat; Human plasma; Method validation; LC–MS/MS.

International Journal of PharmTech Research, 2018,11(2): 168-176.

DOI: http://dx.doi.org/10.20902/IJPTR.2018.11207

*****