Syed N Alvi, J Bioequiv Availab 2014, 6:5
http://dx.doi.org/10.4172/0975-0851.S1.017

OMICS Group Conferences
Accelerating Scientific Discovery

5th World Congress on
Bioavailability and Bioequivalence
Pharmaceutical R&D Summit

September 29-October 01, 2014 DoubleTree by Hilton Baltimore-BWI Airport, USA

Determination of clarithromycin in human plasma by liquid chromatography-electrospray ionization tandem mass spectrometry application to bioequivalence studies

Syed N Alvi
King Faisal Specialist Hospital & Research Center, Saudi Arabia

A rapid Liquid Chromatographic Tandem Mass Spectrometric (LC-MS/MS) assay for the measurement of clarithromycin level in human plasma was developed and validated. Clarithromycin and erythromycin (IS) were extracted from plasma using tert. butyl methyl ether and reconstituted with 100 µl mobile phase. The mobile phase consisted of acetonitrile and 0.5% triethylamine (70:30, v:v). Analysis was performed at room temperature using a reversed phase Atlantis dC18 (2.1x100 mm, 3 µm) column. The components of interest were detected in the positive ion mode of electrospray ionization using transition 749 → 158.4 and 719.3 → 158.2 for clarithromycin and the IS, respectively. The relationship between clarithromycin concentration in plasma and peak height ratio of clarithromycin to IS was linear 0.9833 in the range of 5-4000 ng/ml; intra- and inter-day accuracy between 91-114%, and coefficient of variations were 9.5 % and 13.1% respectively. The quantification limit of clarithromycin in 0.2 ml plasma was 5.0 ng/ml and the detection limit was 2.0 ng/ml. Mean extraction recovery of clarithromycin (normalized for the concentration) and the IS were 94% and 99%, respectively. Clarithromycin (15 and 3600 ng/ml) was stable for at least 24 hours at room temperature or 14 weeks at -20°C in plasma. The method was applied in a bioequivalence study of four tablet formulations of clarithromycin.

Biography

Syed N Alvi obtained his PhD in Chemistry from Osmania University, Hyderabad, India in 2001. He is currently scientist at King Faisal Specialist Hospital & Research Centre, Riyadh, Saudi Arabia. His research interest includes: Method development and validation and application to bioavailability/bioequivalence studies. He has published more than thirty papers in various journals of international repute.

salvi@kfshrc.edu.sa