UPLCMS method development, validation of amlodipine, hydrochlorothiazide and losartan in tablet dosage form

Anandkumar R. Tengli and Gurupadayya B. M
JSS College of Pharmacy, India

A simple, sensitive and specific UPLCMS method with ELSD and PDA detection was developed for the simultaneous estimation of amlodipine, hydrochlorothiazide and losartan in tablet dosage form and telmisartan were used as an internal standard. Separation was achieved with Waters ACQUITY BEH C18, 1.7 µm, 2.1X50 mm column (Waters Corp., Ireland) with mobile phase containing acetonitrile (A) & 0.1% formic acid (B) [Gradient mode (2 min: 2% A : 98% B, 2-4 min: 24% A : 76% B, 4-5 min,50% A : 50% B)]. The target analytes were transferred into a triple quadrupole mass spectrometer equipped with an atmospheric pressure electrospray as the ionization source. The flow rate was 0.4 mLmin
-1 column maintained at 25°C and the injection volume was 2 µl. The eluent was monitored by using ELSD and PDA detector. The selected chromatographic conditions were found to effectively separate amlodipine (AMLO), hydrochlorothiazide (HCT) and losartan (LOSAT) with retention time of 3.7, 2.5 and 3.9 min respectively. The proposed method was found to be rectilinear over the range of 25-87.5 ngmL
-1, 125-437.5 ngmL
-1 and 500-1750 ngmL
-1 for amlodipine, hydrochlorothiazide and losartan respectively. The proposed method was found to be accurate, precise, reproducible and specific and it can also be used for routine quality control analysis of these drugs in biological samples either alone or in combined pharmaceutical dosage forms.

Keywords: UPLCMSMS, Amlodipine, Hydrochlorothiazide, Losartan, Telmisartan, Simultaneous estimation.

Biography
Anandkumar R. Tengli is perusing his Ph.D. in JSS University, JSS College of Pharmacy Mysore, under the guidance of Dr. B. M. Gurupadayya, Professor, Department of Pharmaceutical Chemistry JSS College of Pharmacy Mysore. He has published 5 papers in reputed journals.

anandrtengli@gmail.com