World Academy of Science, Engineering and Technology
International Journal of Chemical and Materials Engineering
Vol:10, No:01, 2016

Liquid Chromatographic Determination of Alprazolam with ACE Inhibitors in Bulk, Respective Pharmaceutical Products and Human Serum

Authors : Saeeda Nadir Ali, Najma Sultana, Muhammad Saeed Arayne, Amtul Qayoom

Abstract : Present study describes a simple and a fast liquid chromatographic method using ultraviolet detector for simultaneous determination of anxiety relief medicine alprazolam with ACE inhibitors i.e; lisinopril, captopril and enalapril employing purospher star C18 (25 cm, 0.46 cm, 5 µm). Separation was achieved within 5 min at ambient temperature via methanol: water (8:2 v/v) with pH adjusted to 2.9, monitoring the detector response at 220 nm. Optimum parameters were set up as per ICH (2006) guidelines. Calibration range was found out to be 0.312-10 µg mL-1 for alprazolam and 0.625-20 µg mL-1 for all the ACE inhibitors with correlation coefficients > 0.998 and detection limits 85, 37, 68 and 32 ng mL-1 for lisinopril, captopril, enalapril and alprazolam respectively. Intra-day, inter-day precision and accuracy of the assay were in acceptable range of 0.05-1.62% RSD and 98.85-100.76% recovery. Method was determined to be robust and effectively useful for the estimation of studied drugs in dosage formulations and human serum without obstruction of excipients or serum components.

Keywords : alprazolam, ACE inhibitors, RP HPLC, serum
Conference Title : ICCIS 2016 : International Conference on Chemical Industry and Science
Conference Location : Jeddah, Saudi Arabia
Conference Dates : January 26-27, 2016