

ABSTRACT

Doripenem is an antibiotic which belongs to the class of carbapenems and it is used against the infections of bacteria. The main object behind this study was to develop a simple, rapid, sensitive, economically suitable and less time consuming HPLC and UV method for determination of Doripenem in the plasma of human blood and also for pharmaceutical dosage forms. In UV spectroscopy the determination was carried out at 298nm and water was used as solvent. For HPLC method a mixture of water and acetonitrile (85:15) %v/v was used for determination at the flow rate of 0.8mL/min. the stationary column was Thermo Scientific ODS Hypersil C₁₈ (250 × 4.6 mm, 5 μm). Both these methods were developed by using ICH guidelines. These methods showed sensitivity, linearity, accuracy and were specific for stress degradation studies i.e., thermal (70 °C, 2 h), oxidative (3% H₂O₂), acidic (0.1N HCl), basic (0.1N NaOH) and photolytic (200-800nm, 3h). The samples of plasma were cleaned before analysis to avoid the interference of matrix. For the determination of Doripenem in the plasma of human and pharmaceuticals forms, the validated methods were successfully applied.

Keywords : Doripenem, Carbapenems, ICH, HPLC, UV-Vis Spectrophotometry, Wavelength, Stability, Acetonitrile, Dosage forms, Human plasma, Validation.