

develop a RP-HPLC method to determine tadalafil in bulk and in formulation. The method used lamotrigine as internal standard, retention time for tadalafil was 4.12 min (K.Anandakumar,*et al.*, 2010).

RP –HPLC method was developed and validated for estimation of tadalafil in dosage forms . The mobile phase used was acetonitrile:acetate buffer pH (2.8) in ratio of 45:55 v/v was used, the flow rate was 1 mL/min and effluent was monitored at 283 nm. Hi-Qsil C18-10 column in isocratic mode was utilized. The Method has been validated in terms of linearity, accuracy and precision (A. S. Sutar *et al.*, 2009).

Validated liquid chromatographic ultraviolet method for the quantitation of tadalafil in human plasma using liquid-liquid extraction was developed and applied. Loratadine was used as an internal standard , and a BDS Hypersil C-18 column (250mmx4.6mm, 5 microm, Thermo Separation Co., USA) with a mobile phase of acetonitrile and aqueous solution containing 0.012 M triethylamine+0.020 M orthophosphoric acid (50/50, v/v). The analytes were detected at 225 nm. The method is applied for the clinical study of the tadalafil in human volunteers (Shakya AK., *et al.*,2007).

Another method was developed and validated for determination of tadalafil in small volumes of plasma by high-performance liquid chromatography with UV detection Chromatographic separation was achieved on a C18 column with the mobile phase of acetonitrile-water containing 20 mM phosphate buffer (pH 7) (35/65, v/v), at a flow rate of 1 ml/min. The eluant was detected at 290 nm. The method was validated according to ICH guidelines (Cheng CL. *et al.*, 2005).

Up to date literature survey indicate no method for simultaneous determination of esomeprazole and tadalafil in pharmaceutical formulation.