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Solid Phase Extraction-HPLC Method for Determination and Pharmacokinetic Study of Garenoxacin in Rat Plasma after Oral Administration

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Abstract : A method based on solid phase extraction was developed for the determination of Garenoxacin in rat plasma after oral administration by high-performance liquid chromatography coupled with PDA detection (HPLC–PDA). Variables parameter affecting the solid phase extraction efficiency were evaluated and optimized. Chromatography separation was performed on a THERMO, BDS HYERSIL C18 column (4.6 mm × 100mm, 5µ) by isocratic elution with PDA detection at 279 nm. The assay was linear over the range of 15- 44 µg/ml and the lower limit of quantification (LLOQ) was 15 µg/ml. The extraction recoveries were more than 77 %, the accuracies were within 3.97%, and the intra- and inter-day precisions were less than 9.36% in all cases. After strict validation, the method indicated good performance in terms of reproducibility, specificity, linearity, precision and accuracy, and it was successfully applied to the pharmacokinetic study of Garenoxacin in rats after oral administration.

Keywords : Solid Phase extraction; Garenoxacin; HPLC–PDA; Pharmacokinetics.

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