



Determination of Pantoprazole in Rat Plasma by LC-MS/MS and its Application to Pharmacokinetics

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SUMMARY. A highly sensitive liquid chromatographic mass spectrometric (LC-MS/MS) method for determination of pantoprazole in rat plasma using omeprazole as the internal standard (IS) was developed. Plasma samples were precipitated by acetonitrile and separated on a Zorbax SB-C18 column with gradient profile at a flow of 0.4 mL/min. Detection was carried out by SIM mode on an ion-trap LC-MS/MS system with an electrospray ionization interface. The lower limit of quantification (LLOQ) was 5 ng/mL. Calibration curve was linear over the range from 5 to 5000 ng/mL. The intra- and inter-run relative standard deviations of the assay were less than 7 %. The mean absolute recoveries determined at the concentrations of 25, 400, and 4000 ng/mL were 87.40 ± 4.40 %, 87.77 ± 3.30 %, and 92.78 ± 5.02 %, respectively. The method was applied to the pharmacokinetic of 15 mg/kg of pantoprazole in six rats.

KEY WORDS: LC-MS/MS, Pantoprazole, Pharmacokinetics, Rat plasma.

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