



## Determination of Imatinib in Rat Plasma by Liquid Chromatography Mass Spectrometry and its Application

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**SUMMARY.** A sensitive and selective liquid chromatography mass spectrometry (LC-MS) method for determination of imatinib in rat plasma was developed. After addition of metoprolol as internal standard (IS), protein precipitation by acetonitrile was used as sample preparation. Chromatographic separation was achieved on a Zorbax SB-C18 (2.1 mm × 150 mm, 5 μm) column with acetonitrile-0.1% formic acid as mobile phase with gradient elution. Electrospray ionization (ESI) source was applied and operated in positive ion mode; selective ion monitoring (SIM) mode was used to quantification using target fragment ions *m/z* 494 for imatinib and *m/z* 268 for the IS. Calibration plots were linear over the range of 10-2000 ng/mL for imatinib in plasma. Lower limit of quantification (LLOQ) for Imatinib was 10 ng/mL. Mean recovery of imatinib from plasma was in the range 80.5-96.6%. CV of intra-day and inter-day precision were both less than 9%. This method is simple and sensitive enough to be used in pharmacokinetic research for determination of imatinib in rat plasma.

**KEY WORDS:** Imatinib, LC-MS, Pharmacokinetics, Rat plasma.

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