



Determination of Erlotinib in Rabbit Plasma by Liquid Chromatography Mass Spectrometry

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SUMMARY. A sensitive and selective liquid chromatography mass spectrometry (LC-MS) method for determination of erlotinib in rabbit plasma was developed. After addition of midazolam as internal standard (IS), protein precipitation by acetonitrile was used as sample preparation. Chromatographic separation was achieved on a Zorbax SB-C18 (2.1 × 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; multiple reaction monitoring (MRM) mode was used to quantification using target fragment ions m/z 394→336 for erlotinib and m/z 326→291 for the IS. Calibration plots were linear over the range of 5-2000 ng/mL for erlotinib in plasma. Lower limit of quantification (LLOQ) for erlotinib was 5 ng/mL. Mean recovery of erlotinib from plasma was in the range 84.5-95.7 %. CV of intra-day and inter-day precision were both less than 12 %. This method is simple and sensitive enough to be used in pharmacokinetic research for determination of erlotinib in rabbit plasma.

KEY WORDS: Erlotinib, LC-MS, Pharmacokinetics, Plasma.

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