



Determination of Linezolid in Rabbit Plasma by LC-MS/MS and its Application to Pharmacokinetics

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SUMMARY. A sensitive and selective liquid chromatography mass spectrometry (LC-MS) method for determination of linezolid in rabbit plasma was developed. After addition of estazolam 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 × 50 mm, 3.5 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 338→296 for linezolid and m/z 295→267 for the IS. Calibration plots were linear over the range of 10-2000 ng/mL for linezolid in plasma. Lower limit of quantification (LLOQ) for linezolid was 10 ng/mL. Mean recovery of linezolid from plasma was in the range 89.3-96.4 %. RSD of intra-day and inter-day precision were both less than 17 %. This method is simple and sensitive enough to be used in pharmacokinetic research for determination of linezolid in rabbit plasma.

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

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