



Determination of Dezocine in Rabbit 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 dezocine in rabbit plasma was developed and validated. After addition of diazepam as internal standard (IS), liquid-liquid extraction (LLE) was used for sample preparation, and chromatography involved Agilent SB-C18 column (2.1 mmx50 mm, 3.5 μ m) using 0.1 % formic acid in water and acetonitrile as a mobile phase with gradient elution. Detection involved positive ion mode electrospray ionization (ESI), and selective ion monitoring (SIM) mode was used for quantification of target fragment ions m/z 245.8 for dezocine and m/z 284.8 for diazepam (internal standard, IS). The assay was linear over the range of 5–500 ng/mL for dezocine, with a lower limit of quantitation (LLOQ) of 5 ng/mL for dezocine. Intra- and inter-day precisions were less than 13 % and the accuracies were in the range of 93.1-105.2 % for dezocine. This developed method was successfully applied for the determination of dezocine in rabbit plasma for pharmacokinetic study.

KEY WORDS: LC-MS, Dezocine, Pharmacokinetics, Rabbit plasma.

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