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Short communication

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Determination of Ibudilast 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 ibudilast in rabbit plasma was developed and validated. After addition of estazolam as internal standard (IS), protein precipitation by acetonitrile was used as sample preparation, and chromatography involved Agilent SB-C18 column (2.1 mm x 50 mm, 3.5 μm) 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 230.7 for ibudilast and m/z 294.7 for estazolam (internal standard, IS). The assay was linear over the range of 20–2000 ng/mL for ibudilast, with a lower limit of quantitation (LLOQ) of 20 ng/mL for ibudilast. Intra- and inter-day precisions were less than 15 % and the accuracies were in the range of 90.78 %-105.60 % for ibudilast. This developed method was successfully applied for the determination of ibudilast in rabbit plasma for pharmacokinetic study.**

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

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