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Short communication

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Determination of Ramosetron in Rat Plasma by LC-ESI-MS and its Application

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***SUMMARY*. A sensitive and simple liquid chromatography/electrospray mass spectrometry (LC-ESI-MS) method for determination of ramosetron in rat plasma using one-step protein precipitation was developed and validated. After addition of midazolam as internal standard (IS), protein precipitation by acetonitrile was used as sample preparation. Chromatographically separation was achieved on an SB-C18 (2.1 mm × 150 mm, 5 μm) column with acetonitrile-0.1 % formic acid as the mobile phase with gradient elution. Electrospray ionization (ESI) source was applied and operated in positive ion mode; selected ion monitoring (SIM) mode was used to quantification using target fragment ions *m/z* 280 for ramosetron and *m/z* 326 for the IS. Calibration plots were linear over the range of 10-1000 ng/mL for ramosetron in rat plasma. Lower limit of quantification (LLOQ) for Ramosetron was 10 ng/mL. Mean recovery of ramosetron from plasma was in the range of 88.5-92.8 %. CV of intra-day and inter-day precision were both less than 15 %. This method is simple and sensitive enough to be used in pharmacokinetic study for determination of ramosetron in rat plasma.**

KEY WORDS: LC-MS, rat plasma, ramosetron.

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