



Determination of Gemcitabine in Rabbit Plasma by LC-ESI-MS Using an Allure PFP Propyl Column

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SUMMARY. A sensitive and selective liquid chromatography/electrospray mass spectrometry (LC-ESI-MS) method for determination of gemcitabine in rabbit plasma was developed. Chromatographic separation was achieved on a Restek Allure (TM) PFP Propyl (2.1 mm × 100 mm, 5 μm) column with (85: 15, v/v) methanol-water as mobile phase. Electrospray ionization (ESI) source was applied and operated in positive ion mode; selected ion monitoring (SIM) mode was used to quantify gemcitabine using target fragment ions m/z 264. Calibration plots were linear over the range of 5-4000 ng/mL for gemcitabine in plasma. Lower limit of quantitation (LLOQ) for gemcitabine was 5 ng/mL. Mean recovery of gemcitabine from plasma was in the range 91.0-95.5 %. RSD of intra-day and inter-day precision were less than 10 %, respectively. This method is simple, sensitive and fast enough to be used in pharmacokinetic research for determination of gemcitabine in rabbit plasma.

KEY WORDS: Allure PFP Propyl, Gemcitabine, LC-ESI-MS, Rabbit plasma.

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