

SIMULTANEOUS DETERMINATION OF FIVE ISOSTEROIDAL ALKALOIDS IN SIBERIAN FRITILLARY BULB IN RAT PLASMA AND ITS APPLICATION IN PHARMACOKINETIC STUDY BY HPLC-MS/MS

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In this study, a sensitive high-performance liquid chromatography with tandem mass spectrometry (HPLC-MS/MS) method established for simultaneously determining five main isosteroidal alkaloids (imperialine-3- β -Dglucoside (imperialine-G), imperialine, peimine, hupehenine and yibeinoside A) in Siberian fritillary bulb, was applied to pharmacokinetic studies in rat plasma. The plasma samples pretreated using liquid-liquid extraction with ethyl acetate were quantitated by multiple reaction monitoring (MRM) via positive electrospray ionization (ESI) mode. Chromatographic separation was performed on an Intersil ODS-2 column (5 μ m, 4.6 \times 150 mm) with a single fifteen minutes run using gradient elution. The mobile phase consisted of (A) 10 mM ammonium acetate (containing 0.1% of formic acid) and (B) methanol. Method validation results showed that the developed method had good accuracy and precision over the corresponding linearity range for all the analytes. Besides, bench-top, autosampler, freeze-thaw circulation and long-term storage stabilities met the acceptable limit. This study examined a specific and robust method which was successfully applied to analyze rat plasma samples for pharmacokinetic study of five isosteroidal alkaloids.

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