

Pharmacokinetic Study of Baicalin in Beagle Dogs by UPLC-MS/MS

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SUMMARY. This study was to develop a reliable and simple UPLC-MS/MS for determination of baicalin in beagle plasma and study its pharmacokinetics. Paeoniflorin was used as the internal standard (IS), an Acquity UPLC BEH C18 column was used to separate baicalin and IS. Acetonitrile and 0.1% formic acid aqueous solution were used as the mobile phase. The flow rate was 0.3 mL/min. A triple quadrupole tandem mass spectrometer equipped with ESI was used to monitor in positive mode by MRM of the transitions at m/z 447.0 → 271.0 for baicalin and m/z 498.2 → 179.0 for IS, respectively. The linearity of baicalin in beagle plasma was found within 5-1000 ng/mL. The intra-day and inter-day precision (RSD %) were less than 7.76% and accuracy (RE %) was within ± 2.21%. In short, a reliable and simple UPLC-MS/MS method was successfully developed and validated for determination of baicalin in beagle plasma.

RESUMEN. Este estudio fue para desarrollar un UPLC-MS/MS confiable y simple para la determinación de baicalina en plasma de beagle y estudiar su farmacocinética. Se usó paeoniflorina como estándar interno (IS) y una columna Acquity UPLC BEH C18 para separar la baicalina y la IS. Como fase móvil se usó un espectrómetro de masas en tándem de triple cuadrupolo equipado con ESI para monitorear en modo positivo por MRM de las transiciones en m/z 447,0 → 271,0 para baicalina y m/z 498,2 → 179,0 para IS, respectivamente. La linealidad de la baicalina en el plasma de beagle se encontró entre 5 y 1000 ng/mL. La precisión intradiaria e interdiaria (% RSD) fue inferior al 7,76 % y la precisión (% RE) estuvo dentro de ± 2,21 %. En resumen, se desarrolló y validó con éxito un método UPLC-MS/MS fiable y sencillo para la determinación de baicalina en plasma de beagle.

KEY WORDS: baicalin, Beagle dogs, pharmacokinetics, UPLC-MS/MS.

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