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UPLC-MS/MS Method for Determination of Sophoricoside in Beagle Plasma and Pharmacokinetic Application

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***SUMMARY*. This study was to develop a reliable and simple UPLC-MS/MS for determination of sophoricoside in beagle plasma and study its pharmacokinetics. Liquiritin was used as the internal standard (IS), an Acquity UPLC BEH C18 column was used to separate sophoricoside 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 negative mode by MRM of the transitions at m/z 431.0→267.9 for sophoricoside and m/z 417.0→255.0 for IS, respectively. The linearity of sophoricoside in beagle plasma was found within 1-500 ng/mL. The intra-day and inter-day precision (RSD %) were less than 6.14% and accuracy (RE %) was within ± 1.70%. In short, A reliable and simple UPLC-MS/MS method was successfully developed and validated for determination of sophoricoside in beagle plasma.**

RESUMEN. El objetivo de este estudio fue desarrollar una UPLC-MS MS confiable y simple para la determinación de soforicósido en plasma de beagle y estudiar su farmacocinética. Se usó liquiritina como estándar interno (IS) y una columna Acquity UPLC BEH C18 para separar soforicósido e IS. Como fase móvil se utilizaron acetonitrilo y una solución acuosa de ácido fórmico al 0,1%. El caudal fue de 0,3 mL/min. Se usó un espectrómetro de masas en tándem de triple cuadrupolo equipado con ESI para monitorear en modo negativo por MRM las transiciones en m/z 431.0→267.9 para soforicósido y m/z 417.0→255.0 para IS, respectivamente. La linealidad de soforicósido en plasma de beagle se encontró dentro de 1-500 ng/mL. La precisión intradiaria e interdiaria (RSD%) fue inferior al 6,14% y la precisión (RE%) estuvo dentro de ± 1,70%. En resumen, se desarrolló y validó con éxito un método UPLC-MS/MS confiable y simple para la determinación de soforicosido en plasma de beagle.

KEY WORDS: beagles, pharmacokinetics, sophoricoside, UPLC-MS/MS.

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