



Pharmacokinetics of Vicenin-2 in Rat after Intravenous Administration

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SUMMARY. Vicenin-2 has antibacterial, anti-inflammatory, and cytotoxic pharmacological activities. In this study, we used UPLC-MS/MS to detect vicenin-2 in rat plasma, and investigated its pharmacokinetics in rats. Six rats were given vicenin-2 (5 mg/kg) by intravenous (iv) administration. The blood (100 μ L) was withdrawn from the caudal vein at 5, 30 min, 1, 2, 4, 6, 8, 12, and 24 h after administration. Chromatographic separation was achieved using a UPLC BEH C18 column using mobile phase of methanol-0.1 % formic acid with gradient elution. Electrospray ionization (ESI) tandem mass spectrometry in multiple reaction monitoring (MRM) mode with positive ionization was applied. Intra-day and inter-day precision RSD of vicenin-2 in rat plasma were lower than 14%. The method was successfully applied in the pharmacokinetics of vicenin-2 in rats after intravenous administration. The $t_{1/2}$ of vicenin-2 is 2.2 ± 0.9 h, which indicates the quick elimination.

RESUMEN. Vicenina-2 tiene actividades farmacológicas antibacterianas, antiinflamatorias y citotóxicas. En este estudio utilizamos UPLC-MS/MS para detectar vicenina-2 en plasma de rata, e investigamos su farmacocinética en ratas. A seis ratas se les administró vicenina-2 (5 mg/kg) por vía intravenosa (iv). La sangre (100 μ L) se extrajo de la vena caudal a los 5, 30 min, 1, 2, 4, 6, 8, 12 y 24 h después de la administración. La separación cromatográfica se logró utilizando una columna UPLC BEH C18 utilizando una fase móvil de metanol-ácido fórmico al 0,1% con elución en gradiente. Se aplicó espectrometría de masas en tándem de ionización por electropulverización (ESI) en modo de monitoreo de reacción múltiple (MRM) con ionización positiva. La RSD de precisión intradía e interdía de vicenina-2 en plasma de rata fue inferior al 14%. El método se aplicó con éxito en la farmacocinética de vicenina-2 en ratas después de la administración intravenosa. El $t_{1/2}$ de vicenina-2 es 2.2 ± 0.9 h, lo que indica la eliminación rápida.

KEY WORDS: pharmacokinetics, rat, UPLC-MS/MS, vicenin-2.

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