本期目录 | 下期目录 | 过刊浏览 | 高级检索

[打印本页] [关闭]

论文

UPLC-MS/MS法同时测定人血浆中黄芩苷和绿原酸

居文政:刘芳:吴婷:夏小燕:谈恒山:王醒:熊宁宁

南京中医药大学 附属江苏省中医院临床药理科, 江苏 南京 210029

摘要:

建立UPLC-MS/MS法同时测定人血浆中黄芩苷和绿原酸的浓度,研究注射用银黄在健康人体的药代动力学。色谱柱 为BEH C₁₈(50 mm×2.1 mm ID, 1.7 μm); 流动相: A(水, 0.1%甲酸), B(甲醇, 0.1%甲酸), 梯度洗脱; 流 速: 0.35 mL·min⁻¹。电喷雾离子源,多反应监测。黄芩苷: [M+H] ⁺, *m/z* 447→271; 绿原酸: [M-H] ⁻, m/z 353 \rightarrow 191;山柰素: $\left[M+H\right]^+$,m/z 287 \rightarrow 287。结果表明,黄芩苷和绿原酸血药浓度的线性范围分别为 9.6~1 540和7.5~1 200 $\log\cdot mL^{-1}$,日内、日间精密度均小于10.2%。志愿者静脉滴注注射用银黄后,黄芩苷和绿原酸的药时曲线分别符合二房室和三房室模型。该法简便、灵敏、特异,适用于血浆中黄芩苷和绿原酸浓度的测 定。

关键词: 注射用银黄 黄芩苷 绿原酸 超高效液相色谱-串联质谱法 药代动力学

Simultaneous determination of baicalin and chlorogenic acid in human plasma by UPLC-MS/MS

JU Wen-zheng; LIU Fang; WU Ting; XIA Xiao-yan; TAN Heng-shan; WANG Xing; XIONG Ningning

Abstract:

To develop and validate an ultra performance liquid chromatography tandem mass spectrometric (UPLC-MS/MS) method for the simultaneous quantification of baicalin and chlorogenic acid in human plasma after iv infusion of Yinhuang injection, the analytes were isolated from plasma by protein precipitation with methanol. Then they were chromatographied on an Acquity UPLC BEH C_{18} column (50 mm×2.1 mm ightarrow 吴婷 ID, 1.7 μ m) at 40 $^{\circ}$ C. The mobile phase A consisted of water and 0.1% formic acid. The mobile phase B consisted of methanol and 0.1% formic acid. The analytes were eluted from the column with a linear gradient from 5% B to 80% B in 5 min, then hold for 0.5 min before returning to initial condition. The flow rate was 0.35 mL·min⁻¹. A tandem mass spectrometer equipped with electrospray ionization source was used as detector. Multiple reaction monitoring (MRM) using the precursor to product ion pairs of m/z447→271 (for baicalin), m/z 353→191 (for chlorogenic acid) and m/z 287→287 (for internal standard) were used to quantification. The linear concentration ranges of the calibration curves for baicalin and chlorogenic acid ranged from 9.6 to 1 540 ng mL⁻¹ and from 7.5 to 1 200 ng mL⁻¹, respectively. The intra- and inter-day relative standard deviation (RSD) across three validations run over the entire concentration range was less than 10.2% for both baicalin and chlorogenic acid. After iv infusion of Yinhuang injection to the volunteers, the concentration-time curves of baicalin and chlorogenic acid fitted the two-compartment and three-compartment model. $T_{1/2}a$ were (4.47±0.89) and (7.65±4.42) min, $T_{1/2}\beta$ were (46.22±10.03) and (34.40±19.16) min, respectively. The method was proved to be highly sensitive, selective, and suitable for pharmacokinetic investigations of both baicalin and chlorogenic acid.

Keywords: baicalin chlorogenic acid UPLC-MS/MS pharmacokinetics Yinhuang injection

收稿日期 2007-02-01 修回日期 网络版发布日期

DOI:

基金项目:

通讯作者: 居文政

作者简介:

参考文献:

扩展功能

本文信息

- ▶ Supporting info
- PDF(123KB)
- ▶ [HTML全文]
- ▶ 参考文献

服务与反馈

- ▶ 把本文推荐给朋友
- ▶加入我的书架
- ▶加入引用管理器
- ▶引用本文
- ▶ Email Alert
- ▶ 文章反馈
- ▶浏览反馈信息

- ▶注射用银黄
- ▶黄芩苷
- ▶绿原酸
- ▶ 超高效液相色谱-串联质谱法
- ▶ 药代动力学

本文作者相关文章

- ▶居文政
- ▶ 刘芳
- ▶夏小燕
- ▶ 谈恒山
- ▶王醒
- ▶ 熊宁宁

PubMed

- Article by
- Article by
- Article by Article by
- Article by
- Article by
- Article by

木刊	\mathbf{H}	14/1	*	I/II	77	辛

文章评论 (请注意:本站实行文责自负,请不要发表与学术无关的内容!评论内容不代表本站观点.)

反馈人	邮箱地址	
反馈标题	验证码	7688

Copyright 2008 by 药学学报