

研究简报

# 正相HPLC-MS/MS法测定人体血浆中西酞普兰对映异构体浓度

向瑾; 余勤; 张成; 梁茂植; 南峰; 秦永平

四川大学华西医院GCP中心临床药理研究室, 四川 成都610041

收稿日期 修回日期 网络版发布日期:

## 摘要

建立了正相高效液相色谱-串联质谱(HPLC-MS/MS)法测定人体血浆中西酞普兰(citalopram, CIT)对映异构体浓度。采用CHIRALCEL OJ H(250 mm×4.6 mm×5 μm)手性柱, 利多卡因作为内标, 流动相为V(正己烷):V(无水乙醇):V(二乙胺)=70:30:0.1的溶液, 流速为0.5 mL·min<sup>-1</sup>。血浆样品在碱性条件下用V(正己烷):V(异丙醇)=98:2的溶液提取浓集后, 选择大气压化学电离源和多反应离子监测(MRM)模式进行测定。CIT和内标检测离子对分别为m/z 325.1→108.9和 m/z 235.4→86.1。rac-CIT的线性范围为0.156~50 μg·L<sup>-1</sup>, S-CIT的线性范围为0.078~25 μg·L<sup>-1</sup>, 标准曲线的线性良好(r>0.99)。rac-CIT、S-CIT和R-CIT的方法回收率分别为99.7%~101.5%, 99.1%~103.3%, 99.9%~100.2%; 萃取回收率分别为73.5%~75.1%, 73.9%~76.0%, 73.1%~74.3%。各组分的日内RSD和日间RSD均小于5.0%。

## 关键词

[西酞普兰](#) [对映异构体](#) [血药浓度](#) [高效液相色谱-串联质谱 \(HPLC-MS/MS\)](#)

## 分类号

## Determination of Citalopram Enantiomers in Human Plasma with Normal Phase HPLC-MS/MS

XIANG Jin; YU Qin; ZHANG Cheng; LIANG Mao-zhi; NAN Feng; QIN Yong-ping

Institute of Clinical Pharmacology, GCP center, West China Hospital of Sichuan University, Chengdu 610041, China

## Abstract

A normal phase high performance liquid chromatography-tandem mass spectrometry (HPLC-MS/MS) method for the determination of citalopram (CIT) enantiomers concentration in human plasma was established. CHIRALCEL OJ-H column (250 mm×4.6 mm×5 μm) was used. The mobile phase consisted of n-hexane, alcohol and diethylamine (V (n-hexane) : V (alcohol) : V (diethylamine) =70:30:0.1). The flow rate of mobile phase was 0.5 mL·min<sup>-1</sup>. The analytes were determined using atmospheric pressure chemical ionization source and multiple reaction monitoring (MRM) detection mode, which was adopted to detect the concentration of CIT in positive mode. Lidocaine was used as internal standard. CIT and the internal standard are monitored at m/z 325.1→108.9 and m/z 235.4→86.1, respectively. Calibration curves are linear in range from 0.156 to 50 μg·L<sup>-1</sup> for rac-CIT, from 0.078 to 25 μg·L<sup>-1</sup> for S-CIT and both the coefficient correlation were more than 0.99. For rac-CIT, S-CIT and R-CIT, the relative recoveries are 9

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9.7%—101.5%, 99.1%—103.3%, 99.9%—100.2%; the extraction recoveries are 73.5%—75.1%, 73.9%—76.0%, 73.1%—74.3%, respectively. The inter-day and intra-day RSDs of the determinations of all species are less than 5.0%.

## Key words

[citalopram](#) \_ [enantiomer](#) \_ [plasma concentration](#) \_ [high performance liquid chromatography-tandem mass spectrometry \(HPLC-MS/MS\)](#)

DOI

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