

论文

LC/MS/MS法测定血浆中左羟丙哌嗪浓度及其药代动力学

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摘要:

目的建立测定血浆中左羟丙哌嗪的液相色谱-串联质谱法, 考察左羟丙哌嗪在中国健康志愿者体内的药代动力学行为。方法血浆样品经液-液提取后, 进行色谱分离, 在三重四极杆串联质谱仪上, 以多重反应离子监测(MRM)方式进行定量分析, 用于监测的离子为m/z 237 → m/z 120 (左羟丙哌嗪)和m/z 288 → m/z 58(佐米曲普坦, 内标)。结果左羟丙哌嗪的最低定量浓度为0.25 μg·L⁻¹, 线性范围为0.25-500.0 μg·L⁻¹, 精密度与准确度符合生物样品分析要求。结论该法操作简便、快速、灵敏度高。可检测出健康志愿者po左羟丙哌嗪60 mg, 其24 h后的血药浓度, 适于临床药代动力学研究。

关键词: 左羟丙哌嗪 液相色谱-串联质谱法 药代动力学

Determination of levodropropizine and its pharmacokinetics in human plasma using LC/MS/MS

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Abstract:

AimTo develop a rapid and sensitive LC/MS/MS method for the analysis of levodropropizine in plasma and study the pharmacokinetics of levodropropizine in healthy Chinese volunteers. MethodsLevodropropizine and zolmitriptan (internal standard, IS) were extracted from plasma samples and chromatographed on a C18 column and detected using a tandem mass spectrometer with a TurboIon Spray ionization interface. Quantitation was performed using multiple reaction monitoring (MRM) of the transitions of the m/z 237 → m/z 120 for levodropropizine and m/z 288 → m/z 58 for the IS. ResultsThe limit of quantification of the method for levodropropizine was 0.25 μg·L⁻¹. The assay was linear over the concentration range from 0.25 to 500.0 μg·L⁻¹ and intra- and inter-day precision over this range were <11.4% with good accuracy. ConclusionThe method is shown to be accurate, and suitable for clinical pharmacokinetic study of levodropropizine.

Keywords: liquid chromatography-tandem mass spectrometry pharmacokinetics levodropropizine

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