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#### 论文

液相色谱-串联质谱法测定比格犬血浆中氢吗啡酮

李小燕:陈笑艳:严青英:张志宏:徐静华:金鑫:钟大放

1. 沈阳药科大学 药物代谢与药物动力学实验室, 辽宁 沈阳 110016; 2. 青海制药厂有限公司, 青海 西宁 810003 摘要:

目的建立快速、灵敏的液相色谱-串联质谱法测定比格犬血浆中氢吗啡酮。方法比格犬血浆0.1 mL经 $\beta$ -葡糖苷酸酶孵化16 h后,采用液-液萃取法处理,以甲醇-水-甲酸(65:35:231)为流动相,Zorbax SB C<sub>8</sub>柱分离,采用大气压化学电离源,选择反应监测(SRM)。结果测定氢吗啡酮的线性范围为0.80-200.0  $\mu$ g·L<sup>-1</sup>,定量下限为0.80  $\mu$ g·L<sup>-1</sup>。日内、日间精密度(RSD)均小于6.0%,准确度(RE)在±1%以内。应用此法研究了6只比格犬单剂量p0盐酸氢吗啡酮缓释片4 mg后的药代动力学特征。结论该法选择性强、灵敏度高,适用于氢吗啡酮缓释制剂的药代动力学研究。

关键词: 氢吗啡酮 液相色谱-串联质谱法 血浆药物浓度

Determination of hydromorphone in Beagle dogs plasma by liquid chromatography-tandem mass spectrometry

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#### Abstract:

AimTo establish a LC/MS/MS method for determination of hydromorphone (HYD) in Beagle dog plasma. MethodsAfter incubation with  $\beta$ -glucuronidase for 16 h, an aliquot of 0.1 mL plasma was treated by liquid-liquid extraction. The analytes of interest were separated on a Zorbax SB C $_8$  column with the mobile phase consisting of methanol-water- formic acid (65:35:1). Atmospheric pressure chemical ionization source of MS was applied and operated in positive ion mode. ResultsThe linear calibration curve was obtained in the concentration range of 0.80-200.0  $\mu$ g·L $^{-1}$ . The lower limit of quantification was 0.80  $\mu$ g·L $^{-1}$ . The inter-day and intra-day precision (RSD) was below 6.0%, and the accuracy (RE) was within 1% calculated from QC samples. The method was used to determine the pharmacokinetic parameters of HYD after a single oral administration of 4 mg HYD sustained release tablets to Beagle dogs. ConclusionThe method was proved to be specific, sensitive, and suitable for the pharmacokinetic study of HYD sustained release formulation.

Keywords: liquid chromatography-tandem mass spectrometry plasma concentration hydromorphone

收稿日期 2004-02-25 修回日期 网络版发布日期

DOI:

基金项目:

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