

研究论文

## 气相色谱-质谱法测定鸡肉组织中残留的氯羟吡啶

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收稿日期 2008-7-6 修回日期 2008-9-15 网络版发布日期 2009-2-2 接受日期 2008-9-20

**摘要** 建立了气相色谱-质谱(GC-MS)测定鸡肉组织中氯羟吡啶残留的确证方法。采用乙腈提取鸡肉组织中的待测物,经碱性氧化铝层析柱净化, Sylon BFT衍生剂衍生后,采用选择离子监测(SIM)模式检测。对氯羟吡啶三甲基硅烷化衍生物的电子轰击(EI)质谱碎片进行解析,选择 $m/z$  212, 214, 248和263等4个特征离子作为定性离子,其中 $m/z$  248为定量离子。同时还考察了检测过程中的基质效应。氯羟吡啶衍生物响应与其质量浓度在5.0~500  $\mu\text{g/L}$ 范围内呈良好的线性关系,相关系数大于0.998;以3倍信噪比(S/N)计算方法的检出限达0.5  $\mu\text{g/kg}$ ;在5, 10和20  $\mu\text{g/kg}$ 添加水平下鸡肉组织中待测物的平均回收率分别为77.0%, 84.5%及89.4%,相对标准偏差小于6.9%。结果表明,该方法简单、灵敏、可靠,适用于鸡肉组织中氯羟吡啶残留的分析确证。

**关键词** [气相色谱-质谱法](#) [氯羟吡啶](#) [残留](#) [鸡肉](#)

## Determination of clopidol residues in chicken muscle by gas chromatography-mass spectrometry

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### Abstract

A confirmative method to determine clopidol residues in chicken muscle by gas chromatography-mass spectrometry (GC-MS) was developed. The analyte was extracted with acetonitrile, and then purified with an Alumina-B cartridge column. The drug was derived at 80 °C for 60 min with Sylon BFT, and more toluene was added and then applied to GC-MS. The mass spectral characteristics of trimethylsilyl derivative of clopidol were interpreted, and selected ion monitoring (SIM) mode was performed at  $m/z$  212, 214, 248 and 263. The clopidol was qualitatively identified by the ratio of relative abundance of the selected ions and determined quantitatively by SIM mode at  $m/z$  248. In the meantime, the matrix effect was evaluated. The range of linearity was 5.0-500  $\mu\text{g/L}$  with the correlation coefficients better than 0.998, and the detection limit was 0.5  $\mu\text{g/kg}$  (S/N=3) for clopidol. The average recoveries from chicken muscle fortified at 5, 10 and 20  $\mu\text{g/kg}$  were 77.0%, 84.5% and 89.4%, respectively, and the relative standard deviations (RSD) were less than 6.9%. The established method is simple, sensitive and reproducible for the identification and quantification of clopidol residues in chicken muscle tissue.

**Key words** [gas chromatography-mass spectrometry \(GC-MS\)](#) [clopidol](#) [residue](#) [chicken muscle](#)

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