

论文

白芍的高效液相色谱指纹图谱研究

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摘要:

利用HPLC-DAD方法, 研究白芍的高效液相色谱指纹图谱, 为科学评价及有效控制其质量提供可靠方法。测定了28批白芍药材样品, 并应用LC-MS, MS/MS技术指认指纹图谱共有模式中共有峰的归属。结果表明, 28批白芍样品得到的色谱指纹图谱有11个共有峰, 并指认了9个峰, 分别为(+)-儿茶素, 没食子酸甲酯, 芍药内酯苷, 芍药苷, 四没食子酰葡萄糖, 没食子酰芍药苷, 五没食子酰葡萄糖, 牡丹皮苷I和苯甲酰芍药苷。可见, 白芍的指纹图谱特征性及专属性强, 可结合含量测定用于全面控制白芍的质量。

关键词: 白芍 高效液相色谱 指纹图谱

HPLC fingerprinting of Radix Paeoniae Alba

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Abstract:

To establish a sensitive and specific HPLC method for quality control of Radix Paeoniae Alba, HPLC method was applied for quality assessment of Radix Paeoniae Alba. HPLC analysis was performed on a Symmetry C₁₈ column (250 mm×4.6 mm ID, 5 μm, Waters, USA). The mobile phase consisted of acetonitrile (solvent A) and water containing 0.1% (v/v) phosphoric acid (solvent B) at a constant flow rate of 0.8 mL·min⁻¹. An increasing linear gradient (v/v) of solvent A was used (T/min, %A): (0,10), (5,10), (25,15), (45,22), (46,65), (50,80) and (60,80). The column temperature was set at 25 °C. The chromatograms were monitored at 230 nm and the on-line UV spectra were recorded in the range of 190-400 nm. The HPLC chromatographic fingerprinting of Radix Paeoniae Alba, showing 11 characteristic peaks, was established from 28 lots of Radix Paeoniae Alba. The areas of main chromatographic peaks were found to complied with the following rule: paeoniflorin>1,2,3,4,6-penta-O-galloyl-glucos>albiflorin>methyl gallate>other compounds. The chromatographic fingerprinting of Radix Paeoniae Alba with high specificity can be used to control its quality and assure lot-to-lot consistency.

Keywords: HPLC fingerprinting Radix Paeoniae Alba

收稿日期 2006-04-11 修回日期 网络版发布日期

DOI:

基金项目:

通讯作者: 杨柳

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