

论文

一测多评法同步测定人参和三七药材中多种人参皂苷的含量

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摘要:

通过建立人参皂苷Rb<sub>1</sub>与其他8种皂苷间的紫外相对校正因子(RCF), 实现只用一个对照品测定人参和三七药材中多个人参皂苷类成分的含量, 以解决人参等药材质量控制中, 对照品供应不足问题。结果表明, 在一定的线性范围内, 人参皂苷Rb<sub>1</sub>与Rg<sub>1</sub>、Re、Rf、Rh<sub>1</sub>、Rc、Rb<sub>2</sub>、Rb<sub>3</sub>、Rd间的RCF值分别为1.400, 1.215, 1.517, 1.801, 0.944, 1.012, 1.143, 1.135, 且在不同实验条件下重现性良好(RSD=0.30%~3.9%)。本方法只需测定人参和三七药材中Rb<sub>1</sub>的含量, 其余人参皂苷含量由其RCF值计算得到, 实现一测多评; 并与常规外标法比较, 两种药材中一测多评法与外标法所得结果均无显著性差异; 所建立的校正因子可同时用于人参及三七药材及其相关产品的定量分析及质量评价。

关键词: 一测多评 相对校正因子 HPLC 人参皂苷 人参 三七

A quantitative method using one marker for simultaneous assay of ginsenosides in *Panax ginseng* and *P. notoginseng*

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Abstract:

Current quality control patterns are limited to industrial application, for most of the natural chemical reference substances are expensive and unavailable. Herein, a method, quantitative analysis of multi-components with single marker (QAMS), was established and validated to simultaneously determine nine ginsenosides (ginsenoside Rg<sub>1</sub>, Re, Rf, Rh<sub>1</sub>, Rb<sub>1</sub>, Rc, Rb<sub>2</sub>, Rb<sub>3</sub>, Rd) in *P.ginseng* and four ginsenosides (ginsenoside Rg<sub>1</sub>, Rh<sub>1</sub>, Rb<sub>1</sub>, Rd) in *P.notoginseng*. Using ginsenoside Rb<sub>1</sub> as the contrast, the relative correction factors (RCF) of the other eight ginsenosides were determined by HPLC-DAD. Within the linear ranges, the values of RCF of ginsenoside Rb<sub>1</sub> to ginsenoside Rg<sub>1</sub>, Re, Rf, Rh<sub>1</sub>, Rc, Rb<sub>2</sub>, Rb<sub>3</sub> and Rd were 1.400, 1.215, 1.517, 1.801, 0.944, 1.012, 1.143, and 1.135, respectively. The RCF had a good reproducibility in various instruments, chromatographic columns (RSD=0.30%-3.9%). According to their RCF, we simultaneously determined nine ginsenosides in *P.ginseng* only using one marker. In addition, the RCF of ginsenosides were used to simultaneously quantitative analysis of four ginsenosides in *P.notoginseng*. The results of QAMS method were validated by comparing with that of external standard method, and no obvious significant difference was found.

Keywords: relative correction factor HPLC ginsenosides *Panax ginseng* *Panax notoginseng* quantitative analysis of multi-components by single marker

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