



茅苍术中苍术酮、茅术醇、 β -桉叶醇和苍术素的同时含量测定及其聚类分析

投稿时间: 2009-07-25 责任编辑: 王亚君 [点此下载全文](#)

引用本文: 张磊,欧阳臻,赵明,王佩香,方静.茅苍术中苍术酮、茅术醇、 β -桉叶醇和苍术素的同时含量测定及其聚类分析[J].中国中药杂志,2010,35(6):725.

DOI: 10.4268/cjmm20100615

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基金项目:江苏省中医药局中医药科技专项(HZ07005.1Z09086)

中文摘要:目的:建立气相色谱法同时测定茅苍术药材中苍术酮、茅术醇、 β -桉叶醇和苍术素的含量,根据含量水平对茅苍术药材进行聚类分析。方法:HP-1弹性石英毛细管色谱柱(0.25 mm \times 30 m, 0.25 μ m);氦火焰离子化检测器(FID);载气氮气;起始温度145 $^{\circ}$ C,保持25 min,以10 $^{\circ}$ C \cdot min $^{-1}$ 升温至250 $^{\circ}$ C,保持10 min;进样方式为分流进样,分流比为40:1;进样量为2 μ L;采用SPSS 13.0统计软件进行聚类分析。结果:苍术酮、茅术醇、 β -桉叶醇和苍术素进样浓度分别在0.012~2.32($r=0.999$ 8),0.008~1.68($r=0.999$ 8),0.008~1.76($r=0.999$ 9),0.016~3.20 $g\cdot L^{-1}$ ($r=0.999$ 7)呈良好线性关系;平均回收率($n=3$)分别为98.0%~99.0%,97.7%~99.4%,98.4%~99.2%,97.8%~99.7%;所分析的茅苍术药材大致划分为两类。结论:该方法准确、简便,具有良好的重复性和稳定性,可用于茅苍术药材中苍术酮、茅术醇、 β -桉叶醇和苍术素含量的同时测定;道地产区茅苍术与其它非道地产区茅苍术4种活性成分含量的差异较大。

中文关键词:茅苍术 苍术酮 茅术醇 β -桉叶醇 苍术素 含量测定 聚类分析

Simultaneous determination of atractylone, hinesol, β -eudesmol, atrctylodin in *Atractylodes lancea* and hierarchical cluster analysis

Abstract:Objective : To develop a GC method for simultaneous determination of 4 compounds(atractylone, hinesol, β -eudesmol and atrctylodin) in *Atractylodes lancea*. Method : A HP-1 capillary column (0.25 mm \times 30 m, 0.25 μ m) was used; The detector was FID; Inlet temperature was 250 $^{\circ}$ C; The detector temperature was 250 $^{\circ}$ C; The column temperature was set at 145 $^{\circ}$ C and held for 25 min after injection, then programmed at 10 $^{\circ}$ C \cdot min $^{-1}$ to 250 $^{\circ}$ C and held for 10 min at the temperature. The carrying gas was nitrogen, split ratio was 40 : 1, Injection volume was 2 μ L. Cluster analysis was performed by SPSS13.0 software. Result: The linear ranges for atractylone, hinesol, β -eudesmol and atrctylodin were 0.012-2.32($r=0.999$ 8), 0.008-1.68($r=0.999$ 8), 0.009-1.76($r=0.999$ 9), 0.016-3.20 $g\cdot L^{-1}$ ($r=0.999$ 7), respectively. The average recoveries ($n=3$) of atractylone, hinesol, β -eudesmol and atrctylodin were 98.0%-99.0%, 97.7%-99.4%, 98.4%-99.2%, 97.8%-99.7%, respectively. The samples analyzed were divided into two classes. Conclusion : This method is simple, specific, repeatable and stable. It can be applied for the simultaneous determination of 4 compounds (atractylone, hinesol, β -eudesmol and atrctylodin) in *A. lancea*, which will provide the basis for the quality control of *A. lancea*. The contents of 4 active compounds were significantly different between geo-authentic and non-authentic producing areas.

keywords: *Atractylodes lancea* atractylone hinesol β -eudesmol atrctylodin determination cluster analysis

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