

响应面法优选黄芪提取工艺

投稿时间: 2012-03-13 [点此下载全文](#)

引用本文: 沈小钟,杨帆,于荣敏.响应面法优选黄芪提取工艺[J].中国实验方剂学杂志,2012,18(18):34~37

摘要点击次数: 123

全文下载次数: 156

作者 单位

E-mail

沈小钟 广东食品药品职业学院,广州 510520;暨南大学药学院,广州 510632

杨帆 重庆市食品药品检验所,重庆 401121

于荣敏 暨南大学药学院,广州 510632

tyrm@jnu.edu.cn

基金项目:广东省科技计划粤港关键领域项目(2009A030901011)

中文摘要:目的:响应面法优选黄芪的渗漉提取工艺。方法:采用三因素三水平Box-Behnken试验设计,以乙醇体积分数、流速、乙醇用量为自变量,黄芪甲苷提取率为因变量,HPLC-ELSD测定黄芪甲苷含量,通过对自变量各水平的多元回归及二项式拟合,用响应面法优选乙醇渗漉提取工艺,并进行预测分析。结果:最佳提取工艺条件为30%乙醇,流速 $1.9 \text{ mL} \cdot \text{min}^{-1} \cdot \text{cm}^{-2}$,乙醇用量为药材量6.5倍。在此条件下,黄芪甲苷提取率理论值 $1.50 \text{ mg} \cdot \text{g}^{-1}$,实测值 $1.487 \text{ mg} \cdot \text{g}^{-1}$,说明该优选工艺模型拟合度良好。结论:Box-Behnken试验设计可用于黄芪渗漉提取工艺的优选,该优选工艺简便、稳定。

中文关键词:[黄芪甲苷](#) [Box-Behnken设计](#) [响应面法](#) [高效液相色谱法-蒸发光散射检测器法](#)

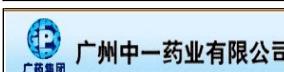
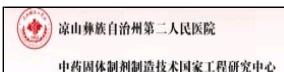
Optimization of Extraction Technology for Astragaloside IV from *Astragalus membranaceus* by Response Surface Methodology

Abstract: Objective: To optimize extraction technology of astragaloside IV from *Astragalus membranaceus* by response surface methodology (RSM). Method: Three-factor and three-level Box-Behnken experimental design was employed with ethanol concentration, flow rate and liquid-solid ratio as independence variables, extraction rate of astragaloside IV as dependent variable which was determined by HPLC-ELSD, experimental data obtained by multiple regression and binomial fitting of levels from independent variables, ethanol percolation extraction technology was optimized by RSM, and to predictive analysis. Result: Optimum extraction conditions were as follows: 30% ethanol as solvent, flow rate $1.9 \text{ mL} \cdot \text{min}^{-1} \cdot \text{cm}^{-2}$, liquid-solid ratio $6.5 \text{ mL} \cdot \text{g}^{-1}$. Under these conditions, theoretical value of extraction rate of astragaloside IV $1.50 \text{ mg} \cdot \text{g}^{-1}$, but measured value of $1.487 \text{ mg} \cdot \text{g}^{-1}$, it showed optimized technology model fitted well. Conclusion: Box-Behnken experimental design could be used for extraction optimization of percolation extraction process for *A. membranaceus*, optimized technology was simple and stable.

keywords:[astragaloside IV](#) [Box-Behnken experimental design](#) [response surface methodology](#) [HPLC-ELSD](#)

[查看全文](#) [查看/发表评论](#) [下载PDF阅读器](#)

广告服务





中国实验方剂学杂志编辑部版权所有

您是本站第**3048451**位访问者 今日一共访问**4526**次 [linezing.com](#)

地址：北京东直门内南小街16号邮编：100700

电话：010-84076882 在线咨询 [京ICP备09084417号](#)