

实验研究

Box – Behnken 响应面法 优选凤丹皮中苷类成分的醇提工艺^{*}

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摘要:目的 优选凤丹皮中苷类成分的醇提工艺。方法 在单因素试验的基础上,以乙醇浓度、料液比和提取时间3个因素为自变量,以氧化芍药苷、芍药苷、苯甲酰芍药苷和浸膏得率的综合评分为因变量,采用基于Box – Behnken 设计的响应面法优化凤丹皮中苷类成分的醇提工艺。结果 最优醇提工艺为60%乙醇,料液比1:70,提取2次,每次90min。结论 优选的醇提工艺方法简单、稳定可行,可为进一步的生产开发和应用研究提供参考。

关键词:牡丹皮;苷类;响应面法;醇提工艺

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Box – Behnken Response Surface Methodology for Optimizing the Ethanol Extraction Process of Glycosides from Cortex Paeoniae Sinensis

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Abstract: Objective To optimize the ethanol extraction process of glycosides from cortex paeoniae sinensis. **Methods** On the basis of single factor experiment, taking ethanol concentration, solid – liquid ratio and extraction time as independent variables, and taking the comprehensive scores of paeoniflorin oxide, paeoniflorin, benzoyl paeoniflorin and extract yield as dependent variables, response surface methodology based on Box – Behnken design was used to optimize the ethanol extraction process of glycosides from cortex paeoniae sinensis. **Results** The optimum ethanol extraction process was 60% ethanol, the ratio of material to liquid was 1:70, extraction twice, 90 minutes each time. **Conclusion** The optimized ethanol extraction process is simple, stable and feasible, which can provide reference for further production development and application research.

Keywords: cortex paeoniae sinensis; glycosides; response surface methodology; ethanol extraction

牡丹皮为毛茛科芍药属植物牡丹 *Paeonia suffruticosa* Andr. 的干燥根皮,性微寒,味苦、辛;归心、肝、肾经,具有清热凉血、活血化瘀的功效,主

治热入营血、温毒发斑、无汗骨蒸、跌仆伤痛、痈肿疮毒等症^[1]。牡丹皮主产于安徽、四川、河南、山东等地,安徽铜陵凤凰山所产者称“凤丹皮”^[2]。