

复方天麻微丸的制备及天麻素的含量测定

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收稿日期 2007-4-12 修回日期 2007-9-30 网络版发布日期 2007-11-30 接受日期 2007-6-30

摘要

目的 制备复方天麻微丸并测定天麻素的含量。方法 采用D101大孔树脂富集天麻素, 用CO₂超临界萃取法提取五味子甲素, 采用挤出滚圆法制备复方天麻微丸。结果 在复方天麻微丸的制备过程中, 稀释剂、主机转速、滚圆时间、挤出筛网尺寸对微丸的收率有较大影响。微丸制备的最佳处方及工艺参数是稀释剂为质量分数40%的微晶纤维素(microcrystalline cellulose, MCC); 黏合剂为质量分数为80%的乙醇加体积分数为10%的聚乙烯吡咯烷酮(polyvidone, PVP)溶液; 主机转速为600 r·min⁻¹; 滚圆时间为6 min; 挤出筛网尺寸为0.90 mm。采用HPLC法测定天麻素的含量, 以乙腈-质量分数为0.05%的磷酸溶液(体积比 3:97)为流动相, 天麻素质量浓度在0.45~1.05 mg·L⁻¹内与峰面积呈良好的线性关系; 精密度、稳定性和加样回收率良好。结论 挤出滚圆法制备复方天麻微丸的方法可靠, 微丸具有较好的外观和较高的收率。HPLC法测定天麻素含量结果准确, 可靠, 重现性好。

关键词 [药剂学](#) [复方天麻微丸](#) [挤出滚圆法](#) [天麻素](#) [高效液相色谱法](#)

分类号 [R943](#)

Preparation of Chinese traditional medicinal compound recipe (CTMCR) gastrodine pellets and determination of gastrodine content

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Abstract

Objective To prepare Chinese traditional medicinal compound recipe (CTMCR) gastrodine pellets and determine the content of gastrodine from the preparation. Methods Gastrodine was collected with macroporous resin D101 as filler. By the method of supercritical fluid extraction, deoxyschizandrin was prepared. The technique of extrusion-spheronization was applied for preparing CTMCR gastrodine pellets. In the process, the effects of formulation and technique on the yield of pellets were investigated, and the HPLC method was used to determine the content of gastrodine in the preparation. Results Diluents, adhesives, rotation speeds, spheronization time, extrusion sieve mesh number exerted considerable influences on the yield of Chinese traditional medicinal compound Recipe (CTMCR) gastrodine pellets. The optimum formulation, was 40 % (W:W) microcrystalline cellulose (MCC), 10% (V:V) povidone (PVP) in 80% ethanol. The method of HPLC was utilized to determine the content of gastrodine, with acetonitrile-0.05% phosphoric acid solutions (V:V=3:97) as mobile phase. The concentration of gastrodine between 0.45-1.05 mg·L⁻¹ had good linear relationship with peak area, and the precision, stability and recovery were all good. Conclusions The method of supercritical fluid extraction is reliable for the preparation of Chinese traditional medicinal compound recipe (CTMCR) gastrodine pellets, with high production and good surface characteristics. The HPLC method, for assay of gastrodine content is accurate, reliable and reproducible.

Key words [pharmaceutics](#) [traditional Chinese medicinal compound recipe \(CTMCR\)](#) [gastrodine pellets](#) [extrusion-spheronization](#) [gastrodine](#) [HPLC](#)

DOI:

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