



中文标题 检索 跨刊检索

以胆盐/磷脂混合胶束制备技术提高葛根素溶解度的研究

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中文摘要:目的: 制备葛根素混合胶束, 以增加葛根素在水中的溶解度。方法: 以去氧胆酸钠和卵磷脂为辅料, 采用正交试验制备混合胶束。以混合胶束的溶解度、形态、粒径等为指标, 筛选葛根素混合胶束的最佳制备工艺。结果: 优选出的最佳制备工艺为摩尔比3 : 2 : 4的葛根素、卵磷脂及去氧胆酸钠, 溶于甲醇-氯仿(1 : 1)中, 30℃旋转蒸发至干。最佳工艺所得混合胶束粒径为(64.8 ± 13) nm(体积径), 溶解度为0.811 1 g · L⁻¹, 是葛根素原料溶解度(0.0364 g · L⁻¹)的22.3倍。结论: 胆盐/磷脂混合胶束制备技术能显著提高葛根素的溶解度。

中文关键词: 葛根素 混合胶束 胆盐 磷脂 增溶

Improvement of solubility of puerarin through deoxycholate/phospholipid mixed micelle preparing technology

Abstract: Objective: To prepare puerarin deoxycholate/phospholipid mixed micelle to increase the solubility of puerarin. Method: Sodium deoxycholate and soybean phospholipids were used to prepare puerarin mixed micelle through orthogonal design experiments. With the solubility, shape and particle size as the response indexes, the preparing process of puerarin mixed micelle was optimized. Result: The optimized process for the puerarin deoxycholate/phospholipid mixed micelle was that the puerarin, soya phosphatidylcholine and sodium deoxycholate with the mole ratio of 3 : 2 : 4 should be dissolved in methanol-chloroform(1 : 1), and the solvents should be evaporated rotatively at 30℃. The particle diameter of the mixed micelle was (64.8 ± 13) nm(volume-weighted particle size distribution), and the solubility was 0.811 1 g · L⁻¹ in water at the room temperature, which was 22.3 times as that of the raw puerarin(0.0364 g · L⁻¹). Conclusion: The puerarin deoxycholate/phospholipid mixed micelle can improve the solubility of puerarin significantly.

keywords: puerarin mixed micelle bile salt phospholipid solubilization

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