

分离工程

大孔树脂吸附分离长春花中的文多灵、长春质碱和长春碱

张琳, 杨磊, 牛卉颖, 祖元刚

东北林业大学森林植物生态学教育部重点实验室

收稿日期 2007-7-26 修回日期 2007-11-13 网络版发布日期 2008-3-11 接受日期

摘要

通过对11种国产大孔树脂对文多灵、长春质碱和长春碱的静态吸附容量和解吸率等指标的考察, 筛选出AB-8大孔吸附树脂作为分离长春花生物碱的载体, 其对文多灵、长春质碱和长春碱吸附量分别为365.8、254.2、24.8 mg·ml⁻¹。利用大孔吸附树脂吸附分离长春花3种生物碱的过程为: 长春花原料用稀硫酸溶液提取, 提取液用氨水调节pH值为8, 然后采用AB-8大孔吸附树脂柱吸附, 用20%乙醇洗涤除去强极性成分, 在30℃下用pH=4的50%乙醇解吸, 得单吲哚生物碱文多灵和长春质碱, 再用90%乙醇解吸, 得双吲哚生物碱长春碱。单吲哚生物碱纯度可达50%以上, 长春碱纯度达60%以上。

关键词 [长春花](#) [文多灵](#) [长春质碱](#) [长春碱](#) [大孔吸附树脂](#) [分离](#)

分类号

Separation of vindoline, catharanthine and vinblastine from *Catharanthus roseus* (L.) G. Don with macroporous adsorption resin

ZHANG Lin, YANG Lei, NIU Huiying, ZU Yuangang

Key Laboratory of Forest Plant Ecology, Ministry of Education, Northeast Forestry University

Abstract

Eleven different macroporous adsorption resins were studied with respect to the static adsorption capacity and desorption ratio of vinblastine, vindoline and catharanthine. The best resin was AB-8 and the adsorption capacities of vindoline, catharanthine and vinblastine were 365.8, 254.2 and 24.8 mg·ml⁻¹, respectively. The optimum parameters of separation process by AB-8 resin were as follows: extraction solvent was sulfate dilution; pH value of the extraction was adjusted to 8 by ammonia; elute solvents were 20% alcohol to remove polar components, 50% alcohol (pH=4) to obtain the mono-indole alkaloids (vindoline and catharanthine) at 30℃ and 90% alcohol to obtain the dimeric-indole alkaloid (vinblastine). The results showed that the content of mono-indole alkaloids was above 50% and the purity of vinblastine was above 60%.

Key words [Catharanthus roseus](#) [vindoline](#) [catharanthine](#) [vinblastine](#) [macroporous adsorption resin separation](#)

DOI:

通讯作者 祖元刚 zygorl@vip.hl.cn

扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF\(2305KB\)](#)

▶ [\[HTML全文\]\(0KB\)](#)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [加入引用管理器](#)

▶ [复制索引](#)

▶ [Email Alert](#)

▶ [文章反馈](#)

▶ [浏览反馈信息](#)

相关信息

▶ [本刊中 包含“长春花” 的相关文章](#)

▶ [本文作者相关文章](#)

- [张琳](#)
- [杨磊](#)
- [牛卉颖](#)
- [祖元刚](#)