

药用高分子材料

去甲斑蝥素壳聚糖的合成与抗肿瘤活性考察

洪维为,张雅昕,吕娉婷,周欣羽,石莉,邓意辉

沈阳药科大学 药学院, 辽宁 沈阳110016

收稿日期 2009-1-12 修回日期 2009-4-30 网络版发布日期 2009-5-30 接受日期 2009-2-12

摘要

目的 获得具有抗肿瘤活性的去甲斑蝥素壳聚糖衍生物, 解决去甲斑蝥素的血管刺激性及水溶性问题。方法 以壳聚糖与去甲斑蝥素为起始原料, 经一步反应制备去甲斑蝥素壳聚糖 (norcantharidin chitosan derivative, Nor-Chi); 选用小鼠肉瘤S180瘤株为模型, 对去甲斑蝥素壳聚糖的抗肿瘤活性与升高白细胞的作用进行考察。结果 通过IR和NMR谱确证了目标化合物的结构, 产品收率为43%; 低、中、高剂量去甲斑蝥素壳聚糖抑瘤率分别为32.9%、40.6%、60.8%; 给药后3个剂量组的白细胞数都有显著增加, 分别为 9.82×10^6 、 15.4×10^6 、 15.0×10^6 ; 高剂量组抗肿瘤效果与阳性对照药5-氟尿嘧啶无差异。结论 去甲斑蝥素壳聚糖具有抗肿瘤活性和升高白细胞作用。

关键词 [药剂学](#) [壳聚糖](#) [去甲斑蝥素](#) [化学合成](#) [抗肿瘤](#) [升高白细胞](#)

分类号 [R94](#)

Synthesis and antitumor activity of norcantharidin chitosan derivative

Hong Weiwei, Zhang Yaxin, Lv Pingting, Zhou Xinyu, Shi Li, Deng Yihui

School of Pharmacy, Shenyang Pharmaceutical University, Shenyang 110016

Abstract

Objective To prepare norcantharidin chitosan derivative (Nor-Chi) and evaluate its antitumor activity as well as its increasing leukocyte effect. Methods The target compound was synthesized by only one step with chitosan and norcantharidin as the starting materials. S180 sarcoma mice were selected to estimate its antitumor and increasing leukocyte activities. Results The structure of the target compound was confirmed by IR and NMR, with yield 43%. The tumor inhibition rates of low, middle and high doses of Nor-Chi were 32.9%, 40.6% and 60.8%, respectively; and the number of leukocyte was 9.82×10^6 , 15.4×10^6 and 15.0×10^6 , respectively. There was no remarkably difference between the high dose Nor-Chi and positive control 5-fluorouracil regarding antitumor effect. However, the number of leukocytes in the three tested groups increased significantly. Conclusion Norcantharidin chitosan derivative has antitumor activity and increasing leukocyte effect.

Key words pharmaceutics; chitosan; drug synthesis; norcantharidin; antitumor; increase leukocyte

Key words [pharmaceutics](#) [chitosan](#) [drug synthesis](#) [norcantharidin](#) [antitumor](#) [increase leukocyte](#)

DOI:

通讯作者 邓意辉 dds-666-happy@163.com

作者个人主页 洪维为;张雅昕;吕娉婷;周欣羽;石莉;邓意辉

扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF \(274KB\)](#)

▶ [\[HTML全文\]\(0KB\)](#)

▶ [参考文献\[PDF\]](#)

▶ [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](#)

相关信息

▶ [本刊中 包含“药剂学”的 相关文章](#)

▶ 本文作者相关文章

- [洪维为](#)
- [张雅昕](#)
- [吕娉婷](#)
- [周欣羽](#)
- [石莉](#)
- [邓意辉](#)