

论文

裙带菜中聚甘露糖醛酸的分离纯化与结构分析

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摘要:

以裙带菜(*Undaria pinnatifida*, wakame)为原料, 经水提醇沉、DEAE-Sephacryl S-300和Sephacryl S-200凝胶柱分离纯化, 得到2个酸性多糖UPPSO3和UPPSO4. 高效凝胶渗透色谱测试结果表明, 其为均一多糖, 平均分子量分别为 3.6×10^4 和 1.1×10^4 . 采用糖组成分析、高碘酸氧化及Smith降解、糖醛酸还原、甲基化、红外光谱和核磁共振等方法对该多糖的化学结构进行了表征. 结果表明, 2个多糖均为1,4连接的聚甘露糖醛酸.

关键词: 裙带菜; 聚甘露糖醛酸; 分离纯化; 结构分析

Isolation, Purification and Structural Analysis of Polymannuronic Acid from *Undaria pinnatifida*

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Abstract:

UPPSO3 and UPPSO4 were obtained from *Undaria pinnatifida* by water extraction, DEAE-Sephacryl S-300 and Sephadex S-200 gel permeation chromatography. HPGPC shows that both of them are homogeneous polysaccharides with an average molecular weight of 3.6×10^4 and 1.1×10^4 , respectively. The structural features of UPPSO3 and UPPSO4 were characterized with sugar composition analysis, periodic acid oxidation and Smith degradation, reduction of uronic acid, methylation analysis, IR and NMR. The results indicate that they are all linear polysaccharide with β -1,4-linked polymannuronic acid, and this is the first report of polymannuronic acid isolated from *Undaria pinnatifida*.

Keywords: *Undaria pinnatifida*; Polymannuronic acid; Isolation and purification; Structural analysis

收稿日期 2009-03-19 修回日期 网络版发布日期

DOI:

基金项目:

国家“八六三”计划(批准号: 2006AA090405)和上海市曙光计划项目(批准号: 08SG44)资助.

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