

基础研究

鸦葱中黄酮苷类成分的提取分离与结构鉴定

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摘要:

目的: 阐明鸦葱(Scorzonera ruprechtiana Lipsch. et Krasch.)中化学成分,为进一步开发利用其药用价值提供实验数据。方法: 以鸦葱全草为原材料,用70%乙醇冷浸提取,经大孔树脂柱色谱纯化,用硅胶、ODS柱色谱分离其化学成分,利用紫外光谱测定仪、红外光谱仪、核磁共振仪测定其化学成分的光谱学数据。结果: 根据在薄层色谱中呈现单一斑点结果,从鸦葱全草中分离得到3种黄酮苷和1种倍半萜苷,经理化常数测定及光谱学数据分析鉴定其化学结构,分别为5,7,3',4'-四羟基黄酮-8-C-β-D-葡萄糖碳苷(I); 5,7,3',4'-四羟基黄酮6-C-β-D-葡萄糖碳苷(II); 5,7,4'-三羟基黄酮6-C-β-D-木糖-(1→2)-β-D-葡萄糖碳苷(III); 3-氧-β-D-吡喃葡萄糖基3-羟基-1α,5α,7α H-4(15),10(14),11(13)-三烯-12,6α-愈创木内酯(IV)。结论: 从鸦葱全草中分离得到3种黄酮苷和1个其他成分。该3种黄酮苷(I、II、III)为首次从鸦葱中得的黄酮苷类化合物。

关键词: 鸦葱属; 黄酮苷; 倍半萜苷

Isolation and structure identification of flavonoid glycosides from Scorzonera ruprechtiana Lipsch.et Krasch

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Abstract:

Abstract: Objective

To exploit the medicinal values of Scorzonera ruprechtiana Lipsch.et Krasch.through investigating its chemical constituents. Methods The herbs of Scorzonera ruprechtiana were extracted with 70% ethanol,the extractives were purified with macroporous resin and isolated with silica gel,and ODS column chromatography.NMR,UV,IR spectrometers were used to obtain spectroscopic data. Results According to the single spot in TLC,three flavonoid glycoside compounds and one sesquiterpenoid glycoside compound were isolated from the herbs of Scorzonera ruprechtiana,and their structures were identified through physico-chemical constants and spectroscopic analysis.They were 5,7,3',4'-tetrahydroxy-flavone 8-C-β-D-glucoopyranoside (I); 5,7,3',4'-tetrahydroxy- flavone 6-C-β-D-glucoopyranoside (II); 5,7,4'-trihydroxy- flavone 6-C-β-D- xylofuranosyl-(1→2)-β-D- glucoopyranoside (III); 3-O-β-D- glucoopyranosyl-3 - hydroxy-1α,5α,7α H- guaia-4(15),10(14),11(13)- trien-12,6α-olide (IV).Conclusion Three flavonoid glycoside compounds and one sesquiterpenoid glycoside compound are isolated,and the flavonoid glycosides are isolated from Scorzonera ruprechtiana Lipsch.et Krasch.and also from Scorzonera genus plants for the first time.

Keywords: Scorzonera ruprechtiana; flavonoid glycoside; sesquiterpenoid glycoside

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