

论文

知母中的两种新呋甾皂苷

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摘要:

目的研究知母根茎的化学成分。方法采用水煎提取、大孔吸附树脂SP825柱色谱、反相C₁₈柱色谱等进行分离,并通过化学手段和光谱分析(FAB-MS, ¹H NMR, ¹³C NMR, ¹H-¹H COSY)鉴定其化学结构。结果从知母根茎中分离得到6种甾体皂苷,分别鉴定为:(25S)-26-O-β-D-吡喃葡萄糖基-22-羟基-5β-呋甾-2β, 3β, 26-三醇-3-O-β-D-吡喃葡萄糖基-(1→2)-β-D-吡喃半乳糖苷(知母皂苷N, 1), 知母皂苷E₁(2), (25S)-26-O-β-D-吡喃葡萄糖基-22-甲氧基-5β-呋甾-2β, 3β, 26-三醇-3-O-β-D-吡喃葡萄糖基-(1→2)-β-D-吡喃半乳糖苷(知母皂苷O, 3), 知母皂苷E₂(4), (25R)-26-O-β-D-吡喃葡萄糖基-22-羟基-5α-呋甾-2α, 3β, 26-三醇-3-O-β-D-吡喃葡萄糖基-(1→2)-[β-D-吡喃木糖基-(1→3)]-β-D-吡喃葡萄糖基-(1→4)-β-D-吡喃半乳糖苷(purpureagitosid, 5), marcogenin-3-O-β-D-glucopyranosyl-(1→2)-β-D-galactopyranoside (6)。结论化合物1和3为新化合物,命名为知母皂苷N和知母皂苷O,化合物5为首次从知母中分离得到。

关键词: 知母 呋甾皂苷 知母皂苷N 知母皂苷O

Two new furostanol saponins from the rhizomes of *Anemarrhena asphodeloides*

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Abstract:

AimTo investigate the chemical constituents of the rhizomes of *Anemarrhena asphodeloides* Bunge. MethodsThe compounds were separated by means of solvent extraction, chromatography on absorbent resin SP825 and silica gel C₁₈ repeatedly, and their structures were elucidated on the basis of chemical methods and spectral analyses (FAB-MS, ¹H NMR, ¹³C NMR, ¹H-¹H COSY). ResultsSix steroidal saponins were isolated from the rhizomes of *Anemarrhena asphodeloides* Bunge. They were identified as (25S)-26-O-β-D-glucopyranosyl-22-hydroxy-5β-furostane-2β,3β,26-triol-3-O-β-D-glucopyranosyl-(1→2)-β-D-galactopyranoside (timosaponin N, 1), timosaponin E₁(2), (25S)-26-O-β-D-glucopyranosyl-22-methoxy-5β-furostane-2β,3β,26-triol-3-O-β-D-glucopyranosyl-(1→2)-O-β-Dgalactopyranoside (timosaponin O, 3), timosaponin E₂(4), (25R)-26-O-β-D-glucopyranosyl-22-hydroxy-5α-furostane-2α,3β,26-triol-3-O-β-D-glucopyranosyl-(1→2)-[β-D-xylypyranosyl-(1→3)]-β-D-glucopyranosyl-(1→4)-β-D-galactopyranoside (purpureagitosid, 5) and marcogenin-3-O-β-D-glucopyranosyl-(1→2)-β-D-galactopyranoside (6). ConclusionCompound 1 and compound 3 are new compounds, and compound 5 was isolated from the rhizomes of *Anemarrhena asphodeloides* Bunge for the first time.

Keywords: furostanol saponins timosaponin N timosaponin O *Anemarrhena asphodeloides* Bunge

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