

“创刊30周年”专栏

HPLC-UV-FTICRMS/MSⁿ法分离鉴定葛根素原料药中4种有关物质

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摘要 采用高效液相色谱-紫外检测器-傅里叶变换离子回旋共振质谱(HPLC-UV-FTICRMS/MSⁿ)技术获得了葛根素及其有关物质的MSⁿ和HRMS数据, 分析其可能的裂解机制, 推断有关物质的结构, 并依据HRMS数据确证了有关物质及其部分碎片的分子组成, 最终鉴定葛根素原料药中4种有关物质, 其准分子离子峰[M+H]⁺分别为*m/z* 433.112 95、433.112 92、417.118 01和417.118 01, 通过质谱裂解机制研究以及与文献数据的对比, 推测它们的结构分别为3'-羟基葛根素、染料木素-8-C-葡萄糖苷、新葛根素B和新葛根素A。

关键词 [葛根素](#) [电喷雾电离\(ESI\)](#) [傅里叶变换离子回旋共振质谱\(FTICR-MS\)](#) [结构鉴定](#)

分类号

Separation and Characterization of 4 Related Impurities in Puerarin Bulk Drug by HPLC-UV-FTICRMS/MSⁿ

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Abstract The molecular structures and mechanism for the fragmentations of the related impurities were proposed by the MSⁿ and HRMS results obtained by high performance liquid chromatography-ultraviolet detector-fourier transform ion cyclotron resonance mass spectrometry(HPLC-UV-FTICRMS/MSⁿ). The molecular compositions of the related impurities and some of the fragmentations were confirmed by the HRMS datas. Four related impurities in puerarin bulk drug were separated. Their [M+H]⁺ ion peaks are *m/z* 433.112 95, 433.112 92, 417.118 01 and 417.118 01, respectively. They are identified as 3'-hydroxy puerarin, genistin-8-C-glucoside, neopuerarin B and neopuerarin A on the basis of fragmentation mechanism and reference data.

Key words [puerarin](#) [electrospray ionization\(ESI\)](#) [fourier transform ion cyclotron resonance mass spectrometry \(FTICR-MS\)](#) [structure characterization](#)

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