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论文

獐牙菜总苷高效液相色谱指纹图谱研究

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摘要：

目的研究獐牙菜总苷的高效液相色谱指纹图谱，为科学评价及有效控制其工艺和质量提供可靠方法。方法利用HPLC-DAD方法，梯度洗脱，测定了10批獐牙菜总苷样品。色谱条件为：Kromusil C_{18}分析柱(250 mm×4.6 mm ID, 5 μm)；柱温40 ℃；流动相A为10%甲醇-水，流动相B为80%甲醇-水，流动相A梯度洗脱(100%→0%)，分析时间32 min，0-15 min A:B从100%:0 → 0:100%，15-32 min保持在0% A；流速为1.0 mL·min^{-1}；检测波长为260 nm。结果10批獐牙菜总苷样品得到的色谱指纹图谱有16个共有峰，分为3个部分：保留时间0-10 min，出现1个峰；保留时间10-15 min，出现9个峰，主要特征峰1-7号峰均在此区域，保留时间15-30 min出现5个峰。通过与对照品的保留时间、紫外光谱及LC/MS所得分子量信息，1-7号峰分别鉴定为獐牙菜苦苷、龙胆苦苷、獐牙菜苷、异荭草苷、当药黄素、异当药黄素、獐牙菜山酮苷；时间15-30 min，出现6个峰。通过峰面积及含量测定结果，确定最强峰为1号峰。相同色谱条件下测定了不同工艺提取的獐牙菜提取物及獐牙菜药材的HPLC图谱，其结果与獐牙菜总苷有很好的相关性。结论獐牙菜总苷的指纹图谱特征性及专属性强，可结合含量测定用于全面控制獐牙菜总苷的质量，确保每批产品的均一性。

关键词： 獐牙菜 总苷 高效液相色谱 指纹图谱

HPLC fingerprinting of total glycosides ofranchet *Swertia fiana*

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Abstract:

AimTo establish a sensitive and specific HPLC method for controlling the quality of total glycosides from *Swertia franchetiana H.Smith*.MethodsHPLC method was applied for quality and quantitative assessment of the pharmaceutical extracts from *Swertia franchetiana* H.Smith.The preparation of sample，the HPLC column，mobile phase, elution mode (isocratic or gradient) and gradient program were optimized in order to obtain HPLC profile.The HPLC system consisted of a SPD-10Avp pump, SPD-M10AVP photodiode-array detector (PAD), SIL-10ADVP auto injector.Data were acquired and processed with the CLASS-VP6 1 workstation.HPLC analysis was performed on a Kromasil C_{18} column (250 mm×4 6 mm ID, 5 μm) with methanol and water as mobile phase.The column temperature was set up at 40 ℃ and the flow-rate was 1 mL·min^{-1}.The reference solution of chemical standards and sample were injected into HPLC system, separately.ResultsThe HPLC chromatographic fingerprinting of the total glycosides, showing 16 characteristic peaks which were partitioned into three parts: one peak in 0-10 min of retention time, nine peaks containing main 1-7 peaks in 10-15 min of retention time, 6 peaks in 15-30 min of retention time, was established from 10 lots of their products.By comparison of the retention time and the on-line UV spectra and their molecule weights of chemical standards，peak 1-7 were identified as swertiamarin (1), gentiopicroside (2), sweroside (3), isoorientin (4), swertisin (5), isoswertisin (6) and swetianolin (7), respectively.The ratios of peak area between 1-16 were in their extent.Moreover, comparison of the HPLC profiles of the total glycosides, the extracts prepared using another process and the plant indicated that they were closely related to each other.ConclusionThe HPLC profiles and quantitative assessment of the total glycosides from *Swertia franchetiana* H.Smith with high specificity can be used to control their quality and assure lot to lot consistency.

Keywords: total glycosides HPLC fingerprinting *Swertia franchetiana*

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