



黄芩药材主、侧根中黄酮类成分含量的比较及其相关性研究

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中文摘要:目的: 分析比较黄芩药材主、侧根中黄酮类成分的含量, 并对其相关性进行研究, 为黄芩品种系统选育过程中为了使主根继续繁殖以保存优良种质, 而采用侧根估测整体的黄酮类成分含量提供理论依据。方法: 以黄芩中5个主要的黄酮类成分黄芩苷、汉黄芩苷、黄芩素、汉黄芩素和千层纸素A为指标, 采用高效液相色谱法对黄芩药材主、侧根中5个黄酮类成分的含量进行测定, 并对侧根与整体中的黄酮类成分含量进行相关与回归分析。结果: 黄芩主根上部、主根下部、侧根及整体中的黄芩苷、汉黄芩苷含量无显著性差异, 主根下部的黄芩素、汉黄芩素及千层纸素A含量与主根上部差异显著; 侧根中只有汉黄芩素的含量与整体存在显著性差异, 其余均无统计学差异。相关与回归分析显示, 侧根与整体之间各成分均呈显著的正相关, 除汉黄芩素的决定系数较小, 其余化学成分均较高。结论: 黄芩药材主、侧根中的黄酮类成分含量分布较均匀, 在黄芩品种系统选育过程中为了使主根继续繁殖以保存优良种质, 可采用侧根估测整体的黄酮类成分含量。

中文关键词: 黄芩 主根 侧根 黄酮类成分 高效液相色谱

Comparative and correlational studies on contents of flavonoids in axial root and lateral root of *Scutellaria baicalensis*

Abstract: Objective: To compare the contents of flavonoids in axial root and lateral root of *Scutellaria baicalensis*, and study their correlation. Method: The contents of 5 major flavonoids, baicalin, wogonoside, baicalein, wogonin and oroxylin A, were determined in axial root and lateral root of *S. baicalensis* by HPLC. The correlation and regression analysis between the contents of flavonoids in the lateral root and whole root was carried out. Result: The contents of baicalin and wogonoside showed no significant difference among upper part and lower part of the axial root, lateral root and whole part of the root. The contents of baicalein, wogonin and oroxylin A showed a significant difference between upper part and lower part of the axial root. There was only the content of wogonin existing significant difference between lateral root and whole part of the root. The results of the correlation and regression analysis indicated that the contents of flavonoids in the lateral root and whole root were significant positively correlated, the coefficient of determination for all components were quite higher, except for wogonin. Conclusion: The contents of flavonoids are uniformly distributed in axial and lateral root of *S. baicalensis*. The contents of flavonoids in lateral root could be used to estimate the content of the whole root. The result could be useful for breeding and preserving excellent germplasm at the system breed process for *S. baicalensis*.

keywords: *Scutellaria baicalensis* axial root lateral root flavonoids HPLC

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