

反相高效液相色谱法测定药用植物大红袍中的两个生物活性成分

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Determination of two bio-active compounds in *Campylotropis hirtella* (Franch.) Schindl. using reversed-phase high performance liquid chromatography

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摘要 建立了反相高效液相色谱-二极管阵列检测器(RP-HPLC-DAD)测定药用植物大红袍中具有抗菌活性的异黄酮类化合物3'-geranyl-5,7,4'-trihydroxyisoflavone(化合物1)及具有良好免疫抑制活性的紫檀烯类化合物8,9-dihydroxy-1-methoxy-[6',6'-dimethylpyrano(2',3':2,3)] pterocarpene(化合物2)含量的方法。采用的色谱柱为Agilent Zorbax SB-C18柱(250 mm×4.6 mm, 5 μm),以乙腈-0.1%甲酸水溶液为流动相进行梯度洗脱,流速为1.0 mL/min;柱温30 ℃。化合物1和化合物2分别在4.4~13.2 μg和0.428~1.284 μg范围内呈线性关系;平均回收率分别为99.65%和99.11%,相对标准偏差分别为1.83%和2.59%(n=5)。该方法快速简便,灵敏度和分离度好,适用于大红袍药材中活性黄酮类成分的测定。

关键词: 反相高效液相色谱法 异黄酮类化合物 紫檀烯类化合物 大红袍 药用植物

Abstract: A method of reversed-phase high performance liquid chromatography (RP-HPLC) using diode array detection (DAD) was developed for the quantitative determination of 3'-geranyl-5,7,4'-trihydroxyisoflavone (compound 1) and 8,9-dihydroxy-1-methoxy-[6',6'-dimethylpyrano(2',3':2,3)] pterocarpene (compound 2) in *Campylotropis hirtella*. The separation and quantification were achieved using an Agilent Zorbax SB-C18 column (250 mm×4.6 mm, 5 μm), and mobile phases of acetonitrile and 0.1% formic acid with gradient elution at a flow rate of 1.0 mL/min and 30 ℃. The calibration curves for compounds 1 and 2 were linear in the ranges of 4.4~13.2 μg and 0.428~1.284 μg, respectively. The recoveries were 99.65% and 99.11% with the relative standard deviations of 1.83% and 2.59% (n=5), respectively. This RP-HPLC-DAD method is rather simple, accurate and convenient. It can be used for the quantitative determination of the active flavonoids in *Campylotropis hirtella* (Franch.) Schindl.

Keywords: reversed-phase high performance liquid chromatography (RP-HPLC) isoflavone pterocarpene *Campylotropis hirtella* (Franch.) Schindl. medicinal plant

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