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### UPLC-MS测定不同产地薏苡仁中甘油三油酸酯的含量

Determination of Triolein Content in Coicis Semen from Different Regions by  
UPLC-MS

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英文关键词: [UPLC-MS](#) [Coicis Semen](#) [triolein](#) [quality control](#)

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中文摘要:

目的 建立测定甘油三油酸酯的UPLC-MS, 并对23个不同产地的薏苡仁中甘油三油酸酯含量进行测定。方法 使用Waters Quattro Micro液质联用仪, 色谱柱为Acquity UPLC BEH C<sub>18</sub>柱(2.1 mm×150 mm, 1.7 μm); 流动相(A)为甲醇-乙腈-氨水(19:19:2)调至pH 3的0.1%甲酸溶液, 流动相(B)为丙醇, A-B(55:45); 柱温45℃; 流速0.3 mL·min<sup>-1</sup>; ESI+, 多反应监测模式, 监测离子为m/z 92.8→m/z 603.2。结果 标准曲线为Y=4.233×10<sup>3</sup>X+ 9.172×10<sup>2</sup>(r=0.999 5), 甘油三油酸酯在0.~25.56 μg·mL<sup>-1</sup>内具有良好的线性关系; 平均回收率为97.21%, RSD为1.44%(n=9); 不同产地来薏苡仁中甘油三油酸酯含量存在差异。结论 本方法灵敏、准确、重复性好, 可用于薏苡仁及薏苡仁油质量控制。

英文摘要:

OBJECTIVE To establish a ultra-high performance liquid chromatography with mass spectrometry (UPLC-MS) method for determination of triolein content, and determine triolein content in Coicis Semen from 23 different regions. METHODS Using Waters Quattro Micro with

mass, the column was Acquity UPLC BEH C<sub>18</sub> (2.1 mm × 100 mm, 1.7 μm); the mobile phase was made up that A phase contained methanol, acetonitrile and 0.1% formic acid solution with ammonia to pH 3 in the proportion for 19:19:2, and B phase was isopropyl alcohol, the proportion of A phase and B phase was 55:45; column temperature was 45 °C; the flow rate was 0.3 mL · min<sup>-1</sup>. Detection in ESI using positive ionization and multiple reactions monitoring mode(MRM) was applied to determine positive ions m/z 902.8 → m/z 603.2. RESULTS The standard curve was  $Y=4.23 \times 10^3 X + 9.172 \times 10^2$  ( $r=0.9995$ ), the triolein in linear range of 0.142–25.56 μg · mL<sup>-1</sup> had good linear relationship; the average recovery was 97.21%, RSD was 1.44% (n=9); and triolein content in Coicis Semen from different regions was different. CONCLUSION The established UPLC-MS method on determination of triolein content in Coicis Semen is