

桑黃中麥角硫因分析方法之建立和確效

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摘要

麥角硫因是一新型之天然抗氧化劑，僅會在某些細菌及真菌中形成，人體僅能由食物來供應無法合成，主要是經由食用菇之攝取。研究顯示麥角硫因具有輻射保護及捕捉單線態氧、經自由基及脂質過氧化自由基，並具抗發炎、抗致突變及保護神經損傷作用。本研究旨在建立麥角硫因之分析方法並對桑黃之菌絲體及濾液中麥角硫因含量進行測定。結果顯示由全離子層析圖及萃取離子層析圖及配合麥角硫因標準品之質譜圖，可確定樣品中含有麥角硫因。在HPLC分析方法確效方面，麥角硫因標準品在10~50 µg/mL 的濃度範圍內，具有良好之線性關係；偵測極限為4.67 ng/mL，定量極限為15.56 ng/mL，回收率為94.87~98.04 %。而在精密度方面，不論是同日間或異日間，不同濃度點之變異係數值均小於4%，顯示具有良好之再現性。若以每克乾重含有之麥角硫因量來計算，菌絲體含量為148.5 µg/g dw，濾液含量為334.5 µg/g dw。綜此，可利用HPLC方法來分析菇類中之麥角硫因含量。

關鍵詞：桑黃、麥角硫因、偵測極限、定量極限

Development and Validation of a Liquid Chromatography Method for Analysis of Ergothioneine in *Phellinus linteus*

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Abstract

Ergothioneine, a novel antioxidant, is formed in some bacteria and fungi but not in animals. In humans, ergothioneine is only absorbed through consumption of diet, primarily by consumption of edible mushrooms. Many studies have shown that ergothioneine is radioprotective and that it scavenges singlet oxygen, hydroxyl radical and peroxy radicals as well as anti-inflammatory, antimutagenicity and protection against neuronal injury. The purpose of this study aims to develop the HPLC method for analysis of ergothioneine from mycelia and filtrate of *Phellinus linteus*. On the basis of the results obtained, the calibration curve of ergothioneine was linear in the range of 10~50 µg/mL. The recoveries of ergothioneine were greater than 94%. The limit of detection and quantification of ergothioneine were 4.67 and 15.56 ng/mL, respectively. A good intra-day and inter-day precisions were obtained, of which with coefficient variations to be less than 4%. Contents of ergothioneine from *P. linteus* mycelia and filtrate were 148.5 and 334.5 µg/g dw, respectively. Overall, HPLC method can be used for analysis of ergothioneine from mycelia and filtrate of *Phellinus linteus*.

Key words: *Phellinus linteus*,
ergothioneine, limit of detection, limit of
quantification

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