



免疫亲和和柱净化-在线柱后光化学衍生-HPLC-FLD同时测定甘草中黄曲霉毒素 B_1, B_2, G_1, G_2 和赭曲霉毒素A的含量

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中文摘要: 目的: 建立同时检测甘草中黄曲霉毒素 B_1, B_2, G_1, G_2 和赭曲霉毒素A的免疫亲和和柱净化-在线柱后光化学衍生- HPLC- FLD测定的方法。方法: 样品经甲醇(80 : 20)超声提取后, 用免疫亲和和柱净化和富集, 以甲醇和0.5%乙酸溶液为流动相进行梯度洗脱, 通过柱后光化学衍生-荧光检测器测定。结果: 黄曲霉毒素 G_2, G_1, B_2, B_1 和赭曲霉毒素A的检测限分别为0.02, 0.06, 0.015, 0.03, 0.25 $\mu\text{g} \cdot \text{kg}^{-1}$, 平均加样回收率为76.0%~103%, RSD低于13%。结论: 该方法快速简便、准确, 可用于甘草中同时测定黄曲霉毒素 B_1, B_2, G_1, G_2 和赭曲霉毒素A的含量。

中文关键词: 真菌毒素 甘草 免疫亲和柱 光化学衍生 HPLC 荧光检测

Simultaneous determination of aflatoxin B_1, B_2, G_1, G_2 and ochratoxin A in *Glycyrrhiza uralensis* by HPLC-FLD after immunoaffinity column with online post-column photochemical derivatization

Abstract: Objective: To develop a method for the simultaneous determination of aflatoxin B_1, B_2, G_1, G_2 and ochratoxin A in *Glycyrrhiza uralensis* by HPLC-FLD after immunoaffinity column with online post-column photochemical derivatization. Method: Sample was extracted with MeOH (80 : 20) and cleaned up by immunoaffinity column. The toxins were separated by reversed-phase HPLC and the mobile phase was consisted of methanol and 0.5% acetic acid solution with gradient elution. The determination was carried out by fluorescence detector after photochemical derivatization. Result: The detection limits of aflatoxin G_2, G_1, B_2, B_1 and ochratoxin A were 0.02, 0.06, 0.015, 0.03 and 0.25 $\mu\text{g} \cdot \text{kg}^{-1}$, respectively. The recoveries of analytes were from 76.0% to 103% and the relative standard deviations (RSDs) were below 13%. Conclusion: The method is a simple, accurate and can be used to determine the contents of aflatoxin B_1, B_2, G_1, G_2 and ochratoxin A in *G. uralensis* simultaneously.

Keywords: mycotoxin *Glycyrrhiza uralensis* immunoaffinity column photochemical derivatization HPLC fluorescence detector

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