

DETERMINATION OF PATULIN IN CIDER

Regulations for cider:

Europe (EC 1881/2006) : 50µg/Kg

PROTOCOL OF PURIFICATION

Sample preparation

The cider is degassed by sonicating sample for 1 hour. Then the degas cider is diluted by 2 with water containing 2% of acetic acid. This solution is mixed and used as the loading solution.

Purification with a 3mL/100mg AFFINIMIP® SPE Patulin cartridge

Equilibration

- 2mL Acetonitrile
- 1mL Water

Loading

- 4mL of loading solution

Washing of interferences (W1)

- 1mL NaHCO₃ 1% in Water
- 2mL Water

Drying by applying vacuum 10 seconds

Washing of interferences (W2)

- 500µL Diethyl Ether

Elution (E)

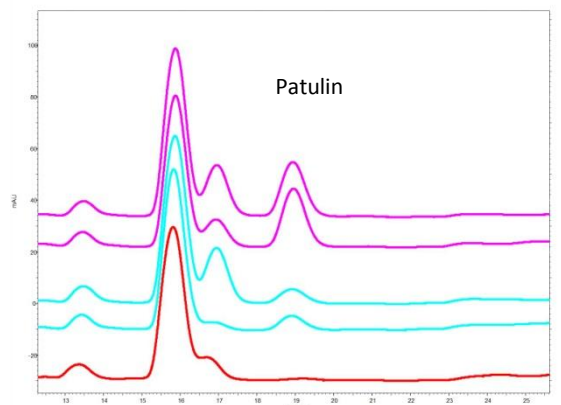
- 2mL Ethyl Acetate

The elution fraction was then evaporated and dissolved in water containing 0.1% acetic acid before HPLC analysis.

HPLC Method

Column: Atlantis T3 column, 150mm x 2.1mm
 Mobile phase: Deionized water/ACN (95/5, v/v)
 Flow rate: 0.2mL/min
 Detection: UV - 276nm
 Injection volume: 100µL.

RESULTS



Chromatograms obtained after AFFINIMIP® SPE Patulin Clean-up of a cider spiked at 40µg/kg (tested twice, pink) or at 10µg/kg (tested twice, blue) with Patulin or not spiked (red).

Recovery of Patulin at a contamination level of 10µg/kg and 40µg/kg in cider after AFFINIMIP® SPE Patulin Clean-up and relative standard deviation calculated from results generated under reproducibility conditions.

Concentration of Patulin (ng/mL)	Recoveries %	% RSD _R
10	87.5 (n=2)	-
40	80.5 (n=5)	7.5

Catalog number:

3mL-100mg sorbent

FS102-02 for 25 cartridges

FS102-03 for 50 cartridges

FS102-02K for a kit of 25 cartridges + 50mL Pectinase

FS102-03K for a kit of 50 cartridges + 50mL Pectinase

REA-001-50mL for 50mL Pectinase solution