DETERMINATION OF PATULIN IN APPLE JUICE

Regulations for apple juice:
Europe (EC 1881/2006) : 50µg/Kg
USA (FDA CPG Sec.510.150) : 50µg/Kg
Regulations for apple juice for infants and young children:
Europe (EC 1881/2006) : 10µg/Kg

PROTOCOL OF PURIFICATION

Sample preparation

Loading solution: 2.5mL apple juice and 2.5mL of water-2% acetic acid are mixed.

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

Equilibration
- 2mL Acetonitrile
- 1mL water

Loading
- 4mL of loading solution

Washing of interferents (W1)
- 1mL $NaHCO_3$ in Water
- 2mL Water

Drying by applying vacuum 10 seconds

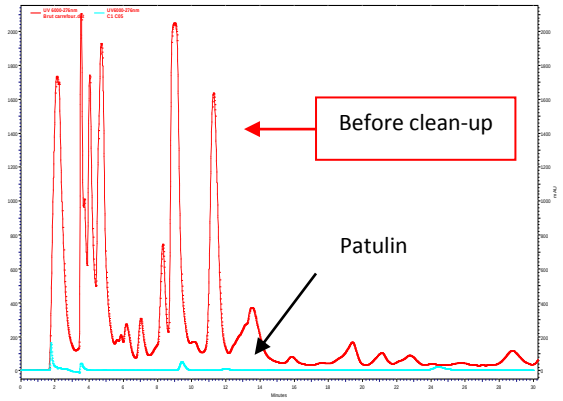
Washing of interferents (W2)
- 1mL Diethyl Ether

Elution (E)
- 2mL Ethyl Acetate

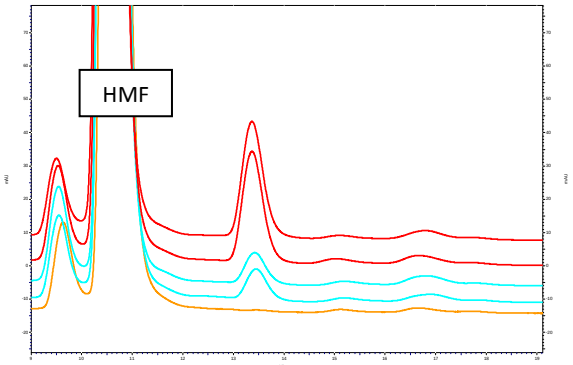
The elution fraction was then evaporated and dissolved in water containing 0.1% acetic acid before HPLC analysis.

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 of apple juice containing 25µg/kg of Patulin before (Red) and after (Blue) AFFINIMIP® SPE Patulin Clean-up



Chromatograms obtained after AFFINIMIP® SPE Patulin Clean-up of an apple juice spiked at 40µg/kg (tested twice, red) or at 10µg/kg (tested twice, blue) with Patulin or not spiked (orange)

Recovery of Patulin in apple juice 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	97.9	11 (n=9)
40	90.6	11 (n=41)

Catalog number:
3mL-100mg sorbent for most uses
FS102-02 for 25 cartridges
FS102-03 for 50 cartridges
6mL-200mg sorbent for a DRIED APPLE or higher enrichment with apple juice
FS102-02B -200mg for 25 cartridges
FS102-03B -200mg for 50 cartridges