DETERMINATION OF PATULIN IN APPLE – FRUIT PUREE

Regulations for apple puree:
Europe (EC 1881/2006) : 25µg/Kg
Regulations for apple puree for infants and young children:
Europe (EC 1881/2006) : 10µg/Kg

PROTOCOL OF PURIFICATION

Sample preparation

10g of apple puree, 150µL of a pectinase enzyme solution and 10mL water are mixed. Leave solution at room temperature overnight or for 2h at 40°C. Centrifuge at 4500g for 5min and then filter the solution with a 0.2µm filter. This solution is used as the loading solution.

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

Equilibration
- 2mL Acetonitrile
- 1mL Water

Loading
- 5mL of loading solution

Washing of interferents (W1)
- 4mL Water -1%Acetic acid
- 4mL Water

Drying by applying vacuum 10 seconds

Washing of interferents (W2)
- 500µL Diethyl Ether

Elution (E)
- 2mL Ethyl Acetate

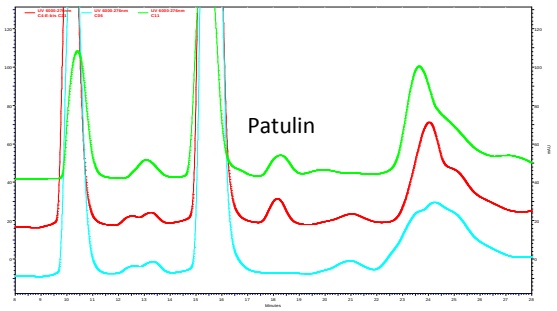
The elution fraction was then evaporated and dissolved in water containing 0.1% acetic acid before HPLC analysis.

HPLC Method
Column: Atlantis T3 column, 150mm x 2.1mm
Mobile phase: gradient

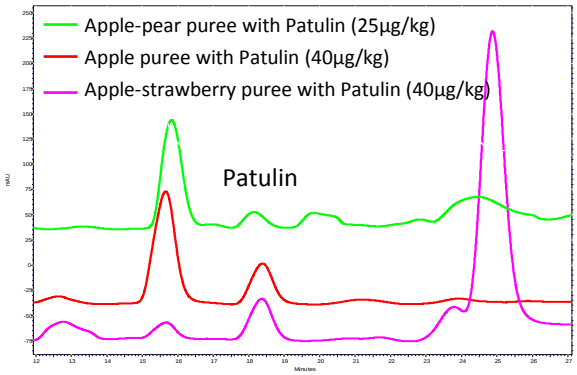
Time (min)	% water	% ACN
0	98	2
20	98	2
21	50	50
25	50	50
26	98	2

Flow rate: 0.2mL/min
Detection: UV - 276nm
Injection volume: 100µL.

RESULTS



Chromatograms of apple puree containing 0µg/kg (blue) or 20µg/kg (tested twice, green and red) of Patulin after AFFINIMIP® SPE Patulin Clean-up.



Chromatograms obtained after AFFINIMIP® SPE Patulin Clean-up of different purees.

Recovery and reproducibility of Patulin with different levels of contamination for all tested apple-fruit puree after AFFINIMIP® SPE Patulin Clean-up.

Concentration of Patulin (µg/kg)	Recoveries %	% RSD_R
10 (n=9)	77.4	8.1
25 (n=8)	90.9	11.4
40 (n=6)	86.0	11.9

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