

## DETERMINATION OF PATULIN IN APPLE PUREE

**Regulations for apple puree:**

Europe (EC 1881/2006) : 25µg/Kg

**Regulations for apple juice 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 interferences (W1)**

- 4mL Water -1%Acetic acid
- 4mL 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.

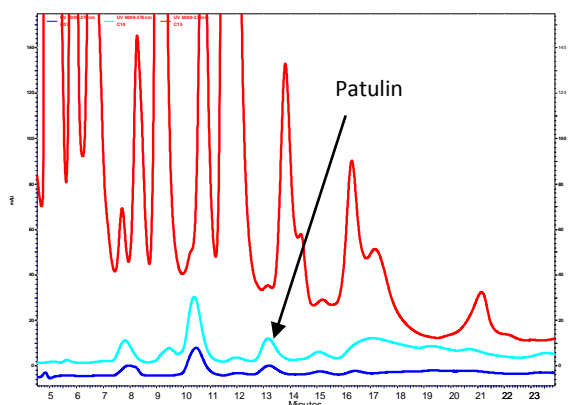
**HPLC Method**

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

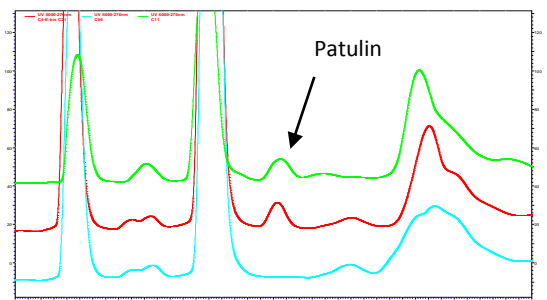
Time (min)	% water	% ACN
0	98	2
20	98	2
21	50	50
25	50	50
26	98	2

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

**RESULTS**



Chromatograms of apple puree containing 40µg/kg or 80µg/kg of Patulin before (Red) and after (Blue) AFFINIMIP® SPE Patulin Clean-up



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

Recovery and repeatability of Patulin (n=3) at a contamination level of 20µg/kg in apple puree after AFFINIMIP® SPE Patulin Clean-up.

Concentration of Patulin (µg/kg)	Recoveries % (n=3)	% RSDr
20	84	4.5

**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