

DETERMINATION OF PATULIN IN BABY FOOD APPLE 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 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

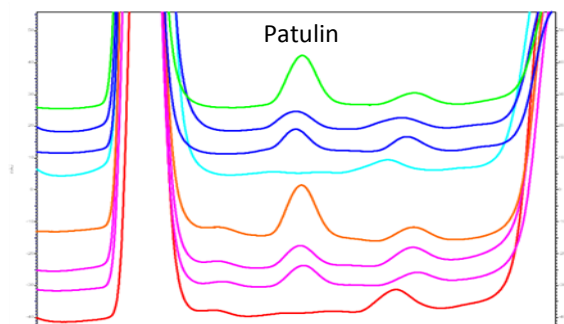
Time (min)	% water	% ACN
0	98	2
20	98	2
21	50	50
25	50	50
26	98	2

Flow rate: 0.2mL/min

Detection: UV - 276nm

Injection volume: 100µL.

RESULTS



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

In the lower part, clean-up of an apple puree from a well-known brand spiked at 25µg/kg (orange), 10µg/kg with Patulin (pink, tested twice) or not spiked (red).

In the top part, clean-up of an apple puree second well known brand spiked at 25µg/kg (green), 10µg/kg with Patulin (blue, tested twice) or not spiked (turquoise).

Recovery and repeatability of Patulin (n=4) at a contamination level of 10µg/kg in apple puree after AFFINIMIP® SPE Patulin Clean-up.

Recoveries % (n=4)	% RSD _R
81.2	2.1

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