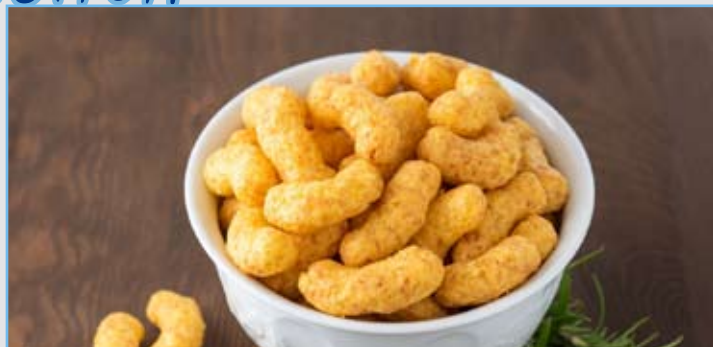


Matrix of the Month

March, 2014:

Aflatoxins B/G in Peanut Puffs



Do you have a special matrix that we should test for mycotoxins? Please let us know and write an e-mail to info@LCTech.de!

Protocol

20 g homogenised peanut puffs are mixed with 2 g sodium chloride and extracted by thoroughly mixing with 100 mL 80/20 (methanol/water (v/v)) and 50 mL n-hexane (5-10 min).

The extract is filtrated and centrifuged for 10 min at 2000 x g to support phase separation of aqueous and n-hexane phase. 2 mL of the aqueous phase (lower phase) are diluted with 12 mL PBS buffer containing 8% Tween20.

The extract is applied to the immunoaffinity column Afla-OtaCLEAN or AflaCLEAN, afterwards the sample reservoir is rinsed with 10 mL of deionised water. This washing solution is also applied to the immunoaffinity column.

The column is dried and eluted with methanol (2 mL). The methanol should incubate on the column bed for 5 minutes to ensure that the antibody is entirely denaturated.

The eluate is diluted to HPLC conditions or concentrated according to HPLC sensitivity. measured.

HPLC Conditions

Aflatoxins B/G

HPLC: Dionex Ultimate 3000 isocratic

Column oven: 36 °C

Separation column: RP C18

Flow rate: 1.2 mL/min, water/methanol/acetonitrile (60/30/15 (v/v/v))

Fluorescence detection: photochemical derivatisation with UVE

Excitation wavelength: 365 nm

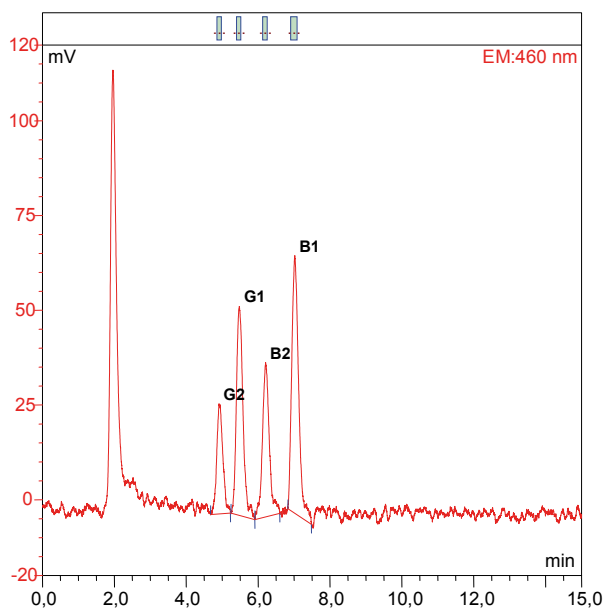
Emission wavelength: 460 nm

Recovery Rates

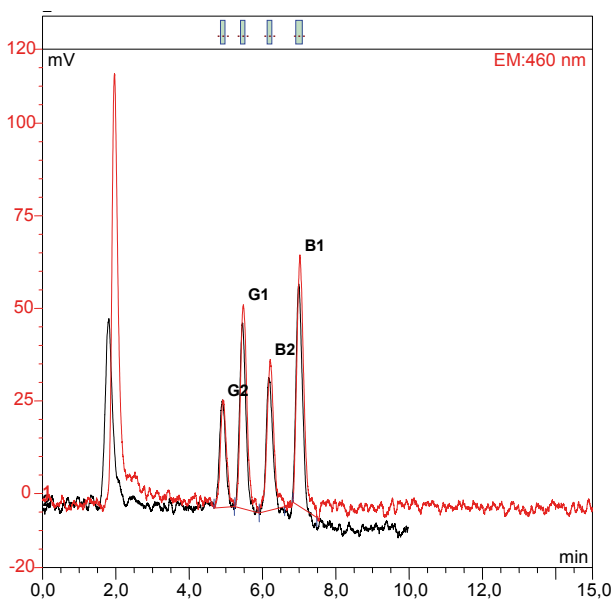
Content of Aflatoxins B1, B2, G1 and G2 in Peanut Puffs				
	Aflatoxin			
	B1	B2	G1	G2
Standard*	100	100	100	100
Recovery rate** Peanut Puffs 10 ppb	93	92	92	89

* Standard is set = 100 % , ** corrected with non-spiked sample

Chromatograms



Aflatoxins:
Overlay of both chromatograms



These LCTech products were used:

AflaCLEAN,
Immunoaffinity column
for the Aflatoxins B1, B2, G1, G2
P/N 10514

UVE,
Photochemical reactor
for the analysis of Aflatoxins
P/N 10519

HPLC column,
for the analysis of Aflatoxins
P/N 10522

Afla-OtaCLEAN,
Immunoaffinity column
for Aflatoxins B/G and Ochratoxin A
P/N 11022

Do you have further questions?
Please simply write an e-mail to info@LCTech.de!