

Sample Preparation for the Simultaneous Analysis of Aflatoxins and Ochratoxin A

Aflatoxins and ochratoxin A are produced by storage fungi, e. g. Aspergillus and Penicillium species. Therefore both toxin types are found together in many foods and animal feeds, e. g. cereals. Thus it is appropriate to analyze one extract for the occurrence of both mycotoxins in a single step.

A significant assistance is the cleanup of extracts by a combined immunoaffinity column for both mycotoxin types in one step. The subsequent analysis may then be performed by LC-MS for example.

For sample preparation the combination column Afla-OtaCLEAN™ from LCTech provides an ideal immunoaffinity column. This combination column is very tolerant towards many matrices and allows for a comprehensive cleanup of the aflatoxins B1, B2, G1, and G2 as well as ochratoxin A. The high maximum capacity of 150 ng for aflatoxin B1 and ochratoxin A provides a wide measurement range.

The recovery rates are very good as shown by the subsequent examples:

	B1	B2	G1	G2	OTA
Maize (Afla 10 ppb, OTA 14,3 ppb)	107%	91%	103%	75%	97%
Rice (Afla 10 ppb, OTA 14,3 ppb)	107%	93%	98%	85%	101%
Malt (Afla 10 ppb, OTA 14,3 ppb)	98%	99%	97%	70%	96%
Raisins (Afla 10 ppb, OTA 14,3 ppb)	99%	106%	101%	69%	97%

In order to meet quality demands of European and international directives at a consistently high level, extensive controls are undertaken during all production steps.

The column is available in the practical 3 mL polypropylene format. Each 25-pack will contain a quality certificate and protocols for the processing of different matrices.

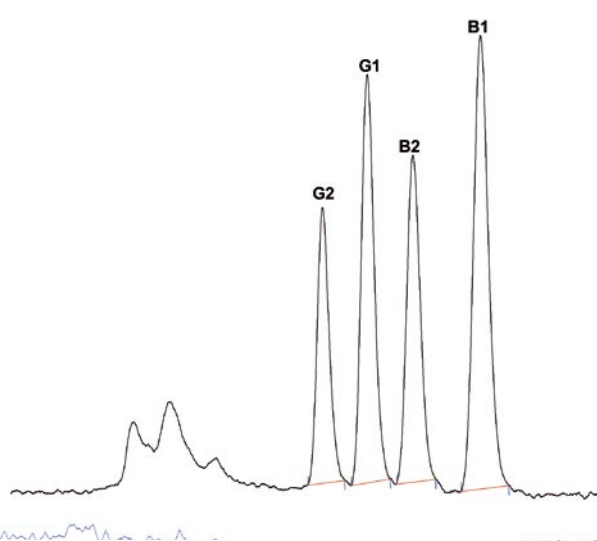


Chromatograms of aflatoxins and ochratoxin A extracted from malt and cleaned up with an Afla-OtaCLEAN™ column. 0.5 g of malt spiked with 26 ppb total aflatoxin and 20 ppb total ochratoxin A were cleaned up with the immunoaffinity column, after a methanol extraction according to the procedure described in the LCTech protocol.

Aflatoxin B1 in Malt; LC-MS



Aflatoxine B and G;
HPLC/UVE-FLD; Malt



Ochratoxin A HPLC/
Pickering-FLD; Malt



Ordering Information:

Immunoaffinity Column Afla-OtaCLEAN™
(25 columns/Box); with batch certificate
Part No. 11022

Sample reservoir 120 mL; DURAN® glass,
Labwasher-proof; reusable; includes screw
caps and seals
Part No. 10896

Clamp; 3 fingers with rubber (for usage
with reservoir)
Part No. 10081



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