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Immunoaffinity columns and consumables

Aflatoxins B/G and Ochratoxin A

Afla-OtaCLEAN

Mycotoxins

About Aflatoxins and Ochratoxin A

Aflatoxins and ochratoxin A are produced by fungi in wet storage. They are often found together in many foods and feeds. Aflatoxins are found in nuts (e.g. peanuts, Brazil nuts), figs, dates, cereals, dried paprika, spices and many other food of plant origin. Ochratoxin A is found in various cereals and dried fruits and nuts. Coffee, cacao and liquorice were found to be contaminated with ochratoxin A, too.



It could be detected in products derived from contaminated cereals or nuts (e.g. beer, wine, liquors, soluble coffee, and liquorice containing sweets). In order to reduce the workload and to halve the working time, a way of

testing several mycotoxins in one single operation was needed.



One for All

The Afla-OtaCLEAN columns are available in the practical 3 mL polypropylene format, which has significant handling advantages over columns with a smaller inner diameter. The column bed consists of a soft-gel, separated by frits to ensure highest recoveries for both toxin types, which is covered by a storage buffer. The storage buffer contains a preservative. Afla-OtaCLEAN was developed for the sample preparation within the food analysis via HPLC with fluorescence detection and LC-MS, respectively.

Advantages at a Glance

- 3 mL format
- Shelf life: 18 months at room temperature between 4 and 30 °C
- Capacity Aflatoxin B1: 150 ng Aflatoxin B1
- Capacity Ochratoxin A: 200 ng Ochratoxin A
- Best recoveries: B1 > 90 %, B2 > 80 %, G1 > 90 %, G2 > 60 %, ochratoxin A > 90 %
- Suitable for automated processing

Functionality of the Columns

The monoclonal antibodies were specifically designed for this field of application and thus guarantee best results also with difficult matrices. Although dedicated for food analysis only, most feeding stuffs (Aflatoxin B1) can be analyzed with very good results. The working mode is based on the principles of immunoaffinity.

The material within the columns is covered with antibodies which are directed against B and G aflatoxins and against ochratoxin A. Upon application of a crude extract onto the column, the aflatoxins are retained, whereas the remaining matrix components pass through the column. After a washing step, the aflatoxins and ochratoxin A can be eluted quantitatively from the column with methanol and subsequently measured with HPLC.



SMART Combined

The immunoaffinity columns [AflaCLEAN SMART](#) and [OtaCLEAN SMART](#) can also be combined. Just stack the two columns and they will be instantly ready for the manual clean-up of aflatoxins B1, B2, G1, G2 and ochratoxin A. Click on the image to enlarge it.

Quality is important to us!

Since the antibodies as well as the immunoaffinity columns are produced by LCTech, numerous in-house quality tests over the whole production process guarantee a persistent quality. LCTech meets the high demands of European and international legal requirements concerning mycotoxin analysis and controls every single production step. A detailed quality certificate is included in each pack.

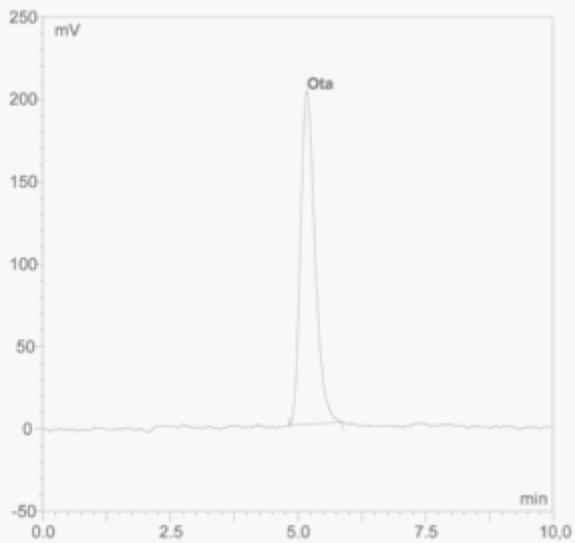
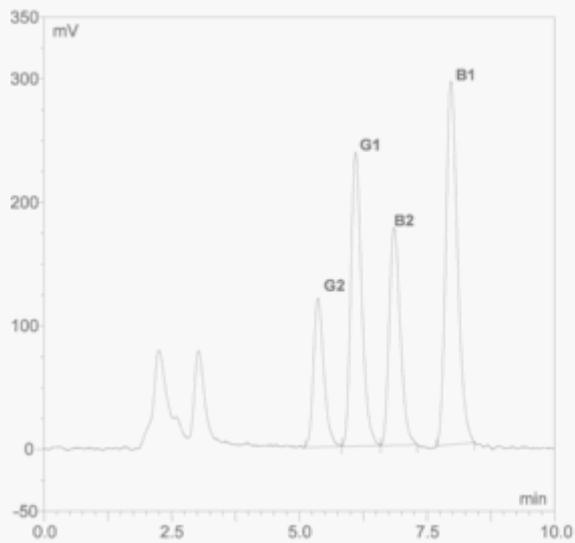
Recovery Rates

The following recoveries given are customer as well as LCTech data. The results correspond to the performance specifications of EC 401 / 2006 (Section 4.3.1):

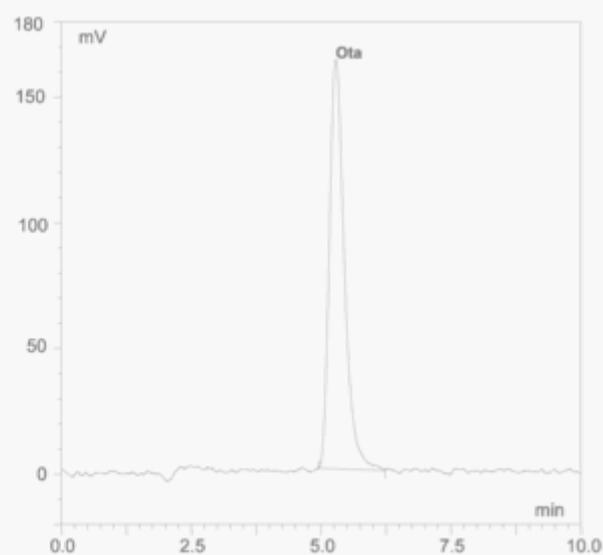
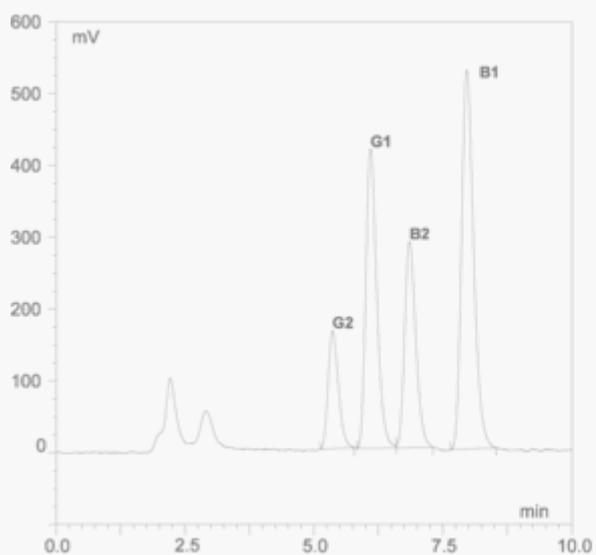
Matrix	B1	B2	G1	G2	OTA
Rice	99	98	97	81	97
Malt	98	99	97	70	96
Peanut Butter	99	98	99	73	94
Raisins	99	98	94	69	97
Maize	99	93	98	85	98
Pepper (Black)	93	91	97	78	95
Turmeric	77	83	73	74	95

Chromatograms

In the following some exemplary chromatograms are shown, which were obtained by using Afla-OtaCLEAN columns:



Rice spiked with 5 ppb Aflatoxin (B/G) and 10 ppb Ochratoxin A



Malt, spiked with 10 ppb Aflatoxin (B/G) and 10 ppb Ochratoxin A

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Upon request to info@lctech.de, we will be happy to send you your access data.

Automated processing

Fully automated processing via FREESTYLE

Brochures

[Brochure mycotoxins \(pdf | 3 MB \)](#)

Poster presentation

[Mycotoxins - Invisible, odourless, yet, an unwanted ingredient in food and feed \(pdf | 791 KB \)](#)

Matrix of the month

[Afla-OtaCLEAN in our matrix of the month](#)

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