Matrix of the Month

December, 2013:

Ochratoxin A
in Gingerbread Spices

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 matrix are mixed with 2 g NaCl. 100 mL methanol/water 80/20 (v/v) are added for extraction and 50 mL n-hexan for defatting.

The extract is strongly mixed for 5 - 10 minutes and then filtrated by a fluted filter. The n-hexan-free phase is used in the following steps.

2 mL of the filtrated raw extract are mixed with 12 mL PBS-puffer containing 8% Tween20.

The sample is mixed and pipeted onto the immunoaffinity column. The sample reservoir is washed with 10 mL deionized water and the washing solution is added onto the column.

The column is then dried by flushing through the column and eluted with 2 x 1 ml methanol. The first milliliter methanol should incubate on the column bed for 5 minutes to ensure complete denaturation of the antibodies to release the toxin.

The methanol is collected in a flask and can be analyzed in HPLC after dilution.

HPLC Conditions

HPLC: isocratic
Column oven: 40 °C
Separation column: C18 RP
Flow rate: eluent water/methanol/acetonitrile (40/55/5) + 1 % acetic acid
Fluorescence detection
Excitation wavelength: 335 nm
Emission wavelength: 460 nm

Recovery Rate

Content of Ochratoxin A in gingerbread spices

	Ochratoxin A
Standard*	100 %
Recovery rate** gingerbread spices spiked with 10 ppb	88 %

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

Chromatograms →

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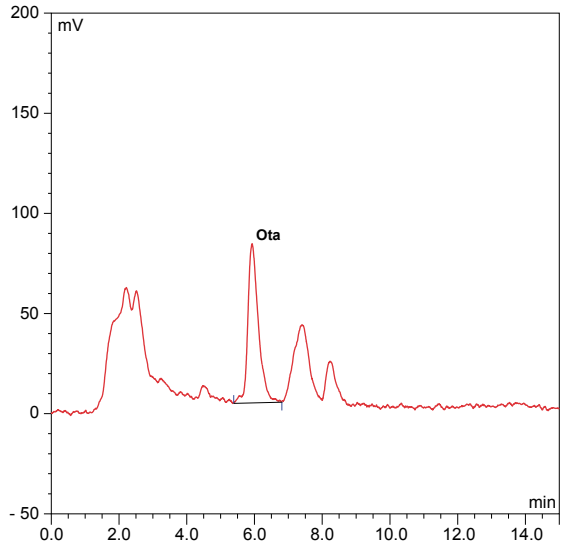
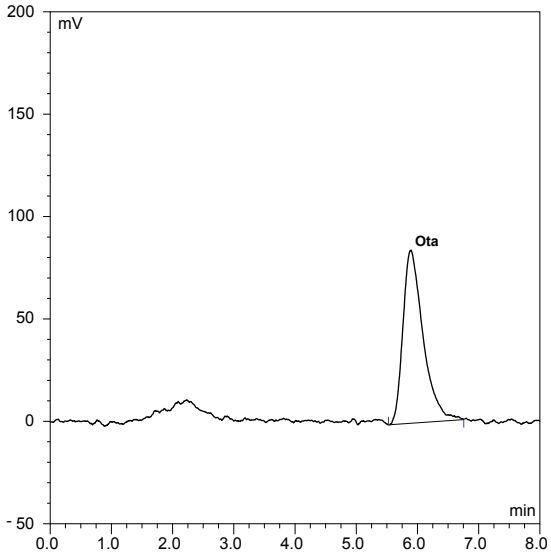
Chromatograms

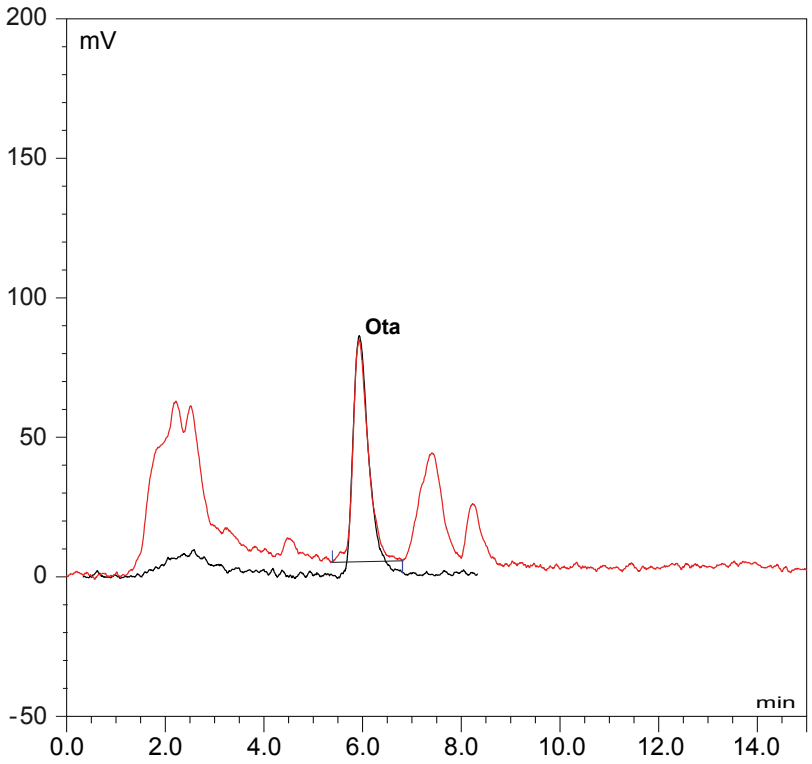
Gingerbread spices (OTA, without post column derivatisation), spiked with 10 ppb



Standard OTA 4 ng/2 mL (represents 10 ppb)



Overlay of both chromatograms



This LCTech product was used:

OtaCLEAN,
Immunoaffinity column
for Ochratoxin A

P/N 10515

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

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