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# AflaCLEAN SMART

## Mycotoxins



## Small + Fast + Economical = SMART

The AflaCLEAN SMART columns are available in a small 3 cm polypropylene format, which has significant handling and storage advantages over larger columns.

### The Advantages at a Glance

- Size: only 3 cm
- Solvent saving of 80 % due to miniaturisation
- Shelf life: 9 months cooled at 4 to 8 °C
- Loading capacity: 100 ng aflatoxin B1
- Recoveries: B1 > 90 %, B2 > 80 %, G1 > 90 %, G2 > 60 %
- Suitable for manual and automated processing

### Application Fields and Functionality

The column bed consists of a soft-gel, which is covered by a storage buffer. The storage buffer contains a preservative. The maximum loading capacity is 100 ng B1 absolute. The minimum shelf life of the columns is 9 months at a storage temperature of 4 °C. Clean-up with AflaCLEAN SMART can be done either manually or automatically with the robotic system [FREESTYLE](#)

ThermELUTE™.

## Reduced solvent consumption, fast sample handling

The AflaCLEAN SMART immunoaffinity columns for aflatoxins B1, B2, G1 and G2 convince not only by their small size and low price, but also through reduced solvent usage, shorter processing time and very good recovery rates. Like their bigger siblings [AflaCLEAN](#) and [AflaCLEAN Select](#), these are suited for clean-up of samples for subsequent aflatoxin analysis. With a loading capacity of 100 ng, they are AOAC compliant.

With their use in extraction, dilution, rinsing, sample loading and elution, more than 80 % of the solvents can be saved. Processing time is also reduced in key steps of the clean-up procedure when using AflaCLEAN SMART. For example, emptying of the column is not necessary and sample loading and washing of the column only takes 4 minutes at the most with a 10 mL sample volume and a flow rate of 3 mL/min. Since a maximum of only 400 µL are used for elution, processing time will be reduced even further.

The working mode is based on the principles of immunoaffinity with elevated flow rates and downscaled elution volume to reduce time which might be needed for evaporation of the sample. The material within the column is covered with antibodies which are directed against B and G aflatoxins. Upon application of a raw extract onto the column, the aflatoxins are retained, whereas the remaining matrix components pass through the column. After a washing step, the aflatoxins can be eluted quantitatively from the column with methanol and subsequently measured with HPLC.

## 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

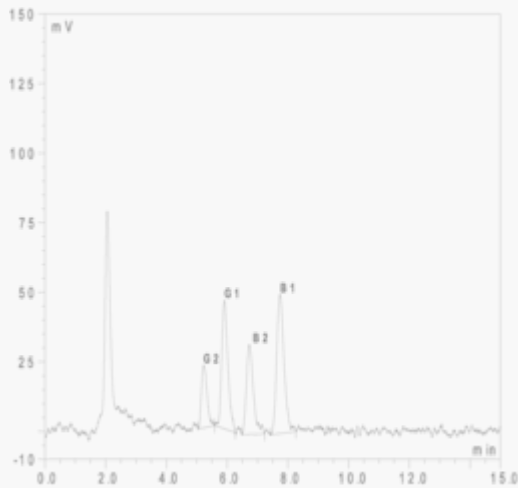
Exemplary recovery rates of various matrices are shown in the following. The results correspond to the performance specifications of EC 401 / 2006 (Section 4.3.1):

Matrix	B1	B2	G1	G2
Chili	82	87	83	85
Corn	101	95	100	85

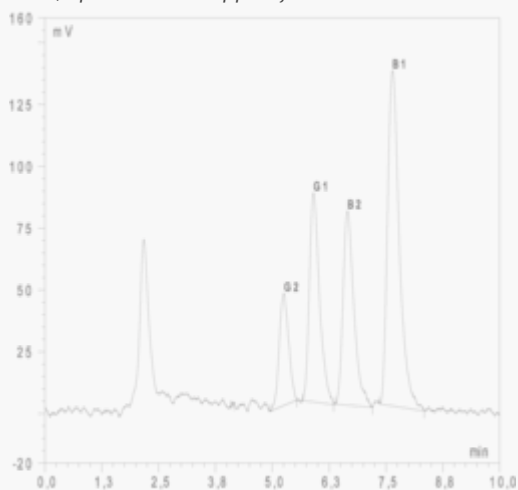
Matrix	B1	B2	G1	G2
Curcuma	96	107	102	104
Hazelnut	104	98	101	83
Parsley	85	86	83	81
Peanut	106	99	100	85
Pistachio	99	94	95	81

## Chromatograms

In the following some exemplary chromatograms are shown, which were obtained by using AflaCLEAN SMART columns:



*Chili, spiked with 10 ppb Aflatoxin total*



*Peanut, spiked with 10 ppb Aflatoxin total*

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More SMART columns

[AflaCLEAN M1 SMART](#)

[OtaCLEAN SMART](#)

[ZeaCLEAN SMART](#)

FREESTYLE ThermELUTE™

[Read more about fully automated processing via the robotic system FREESTYLE ThermELUTE™](#)

Video

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Brochures

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Poster presentation

[Fully automated mycotoxin analysis from extract to chromatogram \(pdf | 1.5 MB\)](#)

Matrix of the month

[AflaCLEAN SMART in our matrix of the month](#)

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