

## PRODUCT DATA SHEET



### Opr0021 Immunoaffinity columns for the purification of Aflatoxin

Immunoaffinity columns are reliable and designed for rapid and simple purification of aflatoxins B1, G1, B2, and G2 from extracts of foodstuffs. Immunoaffinity columns contain monoclonal antibody against aflatoxins, which are covalently bound to gel-particles.

#### Product details

**Column** Opr0021-1: 5 x 1 ml  
Opr0021-3: 5 x 3 ml

**Gel bed volume** Opr0021-1: 0.25 ml  
Opr0021-3: 0.5 ml

**Antibody coupled on the gel** Monoclonal antibody against aflatoxin B1, B2, G1 and G2.

#### Intended use

Immunoaffinity columns are intended for use in a wide range of commodities including cotton seeds, cereals, maize, peanuts, walnuts, pistachio and spices. For this process, a representative sample of the commodity to be analysed is extracted with a mixture of solvent. The extract is filtered and then diluted with a buffer. The diluted extract can be run directly over the Immunoaffinity columns, in which the aflatoxins are bound and separated from the other substances of the extract. After a short rinsing phase isolated aflatoxins can be eluted using methanol. This eluate is suited for determining the concentration of aflatoxins directly with the HPLC.

#### Warnings and precautions

1. Mycotoxins are highly toxic substances! Please take care about protective measures.
2. Please decontaminate any equipment used with 4% solution of sodium hypochloride
3. Each Immunoaffinity column contains thimerosal.
4. Do not use the Immunoaffinity column after the expiration date indicated on the label.
5. Immunoaffinity columns are designed for single use only.

#### Recommended solvents and buffers

PBS - buffer (0.05 M / 0.15 M NaCl, pH 7.4).  
Extraction solution: 60/40 (v/v) methanol/water.  
All solvents and buffers should be at room temperature (22-28°C).

#### Storage

Stored at +4°C  
Preservative: PBS 1X, 0, 02% thimerosal

#### Publications

1. CAST (Council for Agricultural Science and Technology) -report, Mycotoxins Risks in Plant, Animal, and Human Systems, Jan. 2003
2. USDA/ GIPSA, Aflatoxin handbook, Chapter 3, sample preparation.  
<http://www.usda.gov/gipsa/reference-library/handbooks/>
3. EC-Directive 98/53/EC, 16th July 1998, EC-directive 2002/27/EC of 13th of March 2002, laying down the sampling methods and methods for analysis for the official control of the levels for certain contaminants in foodstuff
4. Tauchmann, F., et al; Alimenta 11, 85 (1972): protective measures
5. EMAN, European Mycotoxin Awareness Network, Basic fact sheet 2, Aflatoxin  
<http://www.Lfra.co.uk>

#### Product type

Immunoaffinity Column

#### Warning

This is a laboratory reagent. It is not to be administered to human or animals nor be used as a drug

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#### Covalab France

11, Avenue Albert Einstein  
69100 Villeurbanne- France  
Phone +33 (0) 437 654 230  
Fax +33 (0) 437 289 416  
Email [pa@covalab.com](mailto:pa@covalab.com)  
[www.covalab.com](http://www.covalab.com)

#### Covalab - UK Ltd

St John's Innovation Centre  
Unit 75, Cowley Road  
Cambridge, CB4 0WS - UK  
Phone +44 (0) 1223 421055  
Fax +44 (0) 1223 420844  
Email [enquiries@covalab.co.uk](mailto:enquiries@covalab.co.uk)  
[www.covalab.co.uk](http://www.covalab.co.uk)

## PROCEDURE



### Opr0021 Immunoaffinity columns for the purification of Aflatoxin

#### 1) EXTRACTION

For solid samples:

1. Weigh out 25 g of sample into a 250 ml Erlenmeyer flask or a half-pint blender jar.
2. Add 100 ml of extraction solution and stopper flask or seal blender jar.
3. Blend on high speed for 3 minutes or in case of fine powder shakes for 1 hour on a gyratory shaker.
4. Using a funnel, filter extract into a sample jar through qualitative filter paper. Liquid samples can be diluted directly with PBS, without preceding extraction. Any alcohol content in the sample must be considered in the calculation of the dilution, or the sample can be vaporized if necessary.

#### 2) DILUTION OF THE EXTRACTS

The extract is diluted with PBS until the part of acetonitrile is not higher than 5 % (v/v). In case of methanol extracts the part of methanol can be up to 20 % (v/v). E.g. 4 ml extract (methanol/water) and 12 ml total PBS is adequate.

Please note, the pH of the diluted extract should be neutral. If necessary, neutralize with NaOH-solution.

#### 3) SAMPLE APPLICATION

The column and the extract must be at room temperature. The column does not require rinsing before application of the diluted extract.

The diluted extract is applied until all has passed over the column.

#### 4) WASH

After the diluted extract has completely passed through, the column must be washed. Immunoaffinity column should be washed with 2 x 10 ml of distilled or deionized water.

Any remaining liquid should be removed from the column through slight pressure from above or slight negative pressure from below.

#### 5) ELUTION

For the elution of bound Ochratoxins use only water free methanol (HPLC grade).

Elute with 1.5 - 3 ml methanol/acetic acid 98/2, which should be applied to the column in several small portions (for example 3 x 0.5 ml). After the last portion is applied, the methanol still remaining in the column is pressed out and added to the remaining eluate.

This can be directly analyzed with HPLC. In case of low level contamination, the eluate can be dried down to dryness.

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[www.covalab.com](http://www.covalab.com)

#### Covalab - UK Ltd

St John's Innovation Centre  
Unit 75, Cowley Road  
Cambridge, CB4 0WS - UK  
Phone +44 (0) 1223 421055  
Fax +44 (0) 1223 420844  
Email [enquiries@covalab.co.uk](mailto:enquiries@covalab.co.uk)  
[www.covalab.co.uk](http://www.covalab.co.uk)