Fumonitoxin Purification Kit
PRODUCT DATA SHEET

Fumonitoxin Purification Kit

Description

Fumonitoxin is a water-soluble mycotoxin produced by Fusarium moniliforme Sheld, which is widely found in agricultural products, food and feed products. At present, there are 28 known derivatives of fumonitoxin, which can cause acute and chronic toxicity in humans and animals, and have potential carcinogenicity. Specifically, studies have shown that fumonitoxin can cause white encephalomalacia in horses, pulmonary edema syndrome in pigs, in addition, it can also induce esophageal cancer and liver cancer, stomach cancer and other diseases in humans, posing a hazard to animal husbandry and human health. Therefore, accurate and rapid detection of fumonitoxin content in food and feed is of great significance for food safety monitoring.

Fumonitoxin purification magnetic bead kit is an economical and fast tool for detecting fumonitoxin. Abvigen can provide high quality fumonitoxin purification magnetic bead kits, the product has high repeatability between batches, which can meet the needs of different personalized materials such as research and development, testing and production of various customers.

For custom sizes, formulations or bulk quantities please contact our customer service department.

Website: www.abvigen.com Phone: +1 929-202-3014 Email: info@abvigenus.com

Intended use

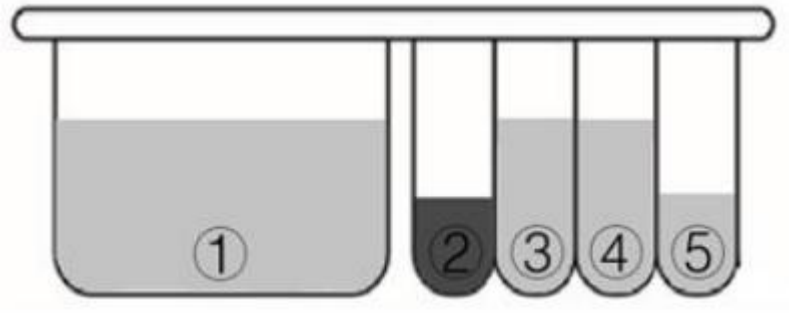
This product is suitable for purifying fumonitoxin in feed samples.

Test principle

The purification principle of this product is to extract the fumonitoxin in the sample, adsorb the fumonitoxin specific in the extraction liquid on the magnetic bead surface of the fumonitoxin antibody, use the external magnetic field to complete the whole process of target enrichment, impurity cleaning and target elution, with different terminal detection methods (high performance liquid chromatography, ultra-high performance liquid chromatography, liquid mass spectrometry, etc.), can quickly, High throughput, high precision detection of fumonitoxin content in samples.

Major component

This product includes 20 pre-divided slats, 2 magnetic rod sets and 1 manual.



The components in the pre-assembled slats are as follows:

Hole site	Constituent	Volume
①	Diluent	9 mL
②	Magnetic bead solution	0.5 mL
③	Cleaning solution 1	1 mL
④	Cleaning solution 2	1 mL
⑤	Eluate	0.5 mL

Storage conditions and expiration date

It is valid for 12 months at 2~8°C.

Material preparation

1 Equipment and Consumables

Fungal toxin fully automatic purification instrument

HPLC/UPLC

Derivative devices: such as photochemical derivators, electrochemical derivators, iodine derivators

Balance: Sensitivity 0.1 mg and 0.01 g

Mill: motor speed ≥ 1000 r/min

Screen: 20 mesh

Centrifuge tube: 50 mL/1.5 mL

Measuring cylinder: 100 mL

Syringe: 2 mL/1 mL

1378 US-206 Ste 6-126, Skillman, NJ USA
Email: info@abvigenus.com
Tel: 1-816-388- 0112 Fax: 1- 888-616-0161

One set of single channel pipette: the maximum measuring ranges are 20 µL, 100 µL, 200 µL and 1000 µL respectively

Chromatographic sample bottle: 2 mL

Internal cannula

Filter membrane: Filter 0.22 µm organic phase

2 Reagents

Acetonitrile (CH_3CN) : chromatographically or analytically pure

Formic acid (HCOOH)

Water (H_2O) : distilled or deionized water

Usage method

1 Preparation of extraction solution

Acetonitrile-water-formic acid (V acetonitrile: V water: V formic acid = 70:29:1): Take 70 mL acetonitrile, add 29 mL pure water, then add 1 mL formic acid, mix well.

2 Sample Treatment

After the solid sample is ground with a grinder, the solid sample is accurately weighed with 5g (accurate to 0.01 g) of the solid powder or liquid sample in a 50 mL centrifuge tube, and 20 mL of the extraction liquid is added, and the sample is vorticated for 20 min, and then centrifuged at 7000 r (or allowed to settle naturally) for 5 min.

Note: This kit is suitable for soybean meal, DDGS and other feed raw materials and pig, chicken, cattle and other feed products.

3 Sample purification

Use a 1 mL pipette gun to accurately remove 0.5 mL of extraction superserum and add it into the sample hole (1 hole) of the kit, put the kit into the mycotoxin automatic purifier and start the instrument. After the self-test is completed, enter the program quick interface, select FBs purification program, and click Run.

Note: Make sure that the 1 hole is located on the left side of the instrument base. Incorrect placement will not only fail the experiment but also cause damage to the instrument.

4 Machine Extraction

Accurately remove 0.4 mL of eluent from 5 Wells, slowly blow the eluent to near dry with nitrogen at 55°C, accurately add 0.4 mL of initial mobile phase, swirl for 30 s to dissolve the residue, filter with

0.22 μm filter membrane, collect filtrate in sample vial (including internal intubation) for sample injection, dilution ratio of 4.

Note: Sample concentration = on-machine detection concentration * dilution ratio.

5 Computer Test

Derived method reference

Preparation of borax solution (0.1 mol/L) : Weigh 3.8 g borax, dissolve it with water and dilute it to 100 ml, mix well and set aside.

Preparation of derivative solution: accurately weigh 40 mg phthalaldehyde, dissolve in 1 ml methanol, dilute with borax solution (0.1 mol/L) 5 ml, add 2-mercaptoethanol 50 μl, mix well, put into brown bottle, ready for use.

Take 100μl standard solution or sample solution into the sample bottle, add 100 μl derivative solution, vortex mixing for 30 s, and inject the sample within 2 min for analysis.

UPLC reference conditions

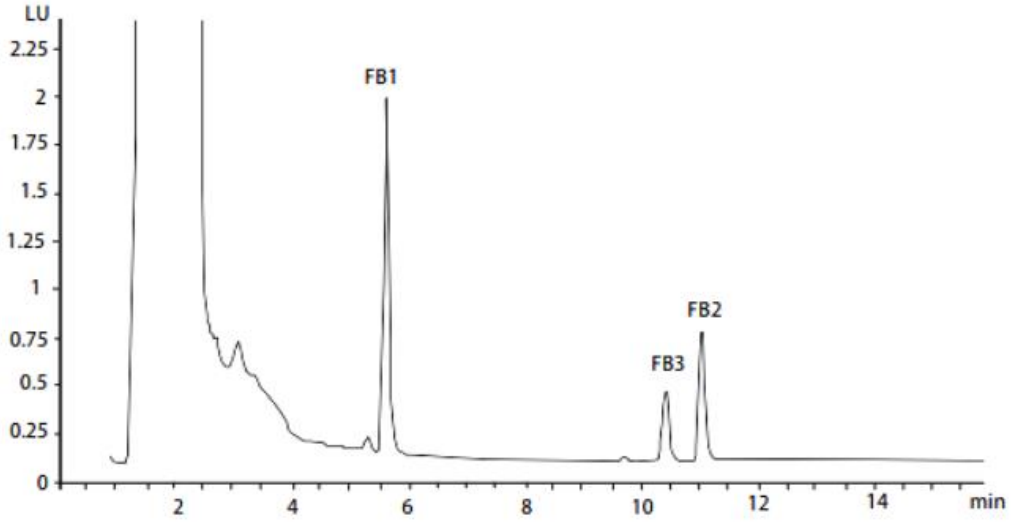
Column: C18 column (column length 150 mm, column inner diameter 4.6 mm, packing particle size 5 μm), or comparable performance column.

Fluorescence detection wavelength: excitation wavelength 335 nm; The emission wavelength is 440 nm.

Mobile phase: A: ammonium formate-formic acid aqueous solution; B: Methanol

Flow rate: 1.0 mL/min, column temperature: 40°C, sample size: 50 μL.

Mobile phase elution procedure



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Notes

(1) The kit should be stored at 2-8°C, not frozen, and restored to room temperature before use;

(2) Pay attention to check the validity period of the kit before use, do not use after expiration;

(3) It is recommended that the amount of sample extract in 1 well should be 10 mL;

(4) The maximum detectable amount (after correction and dilution 4 times): 6000 ng. When the toxin content in the sample is higher than the maximum detectable amount, the volume of extracted liquid added at 1 well should be appropriately reduced and re-detected.

(5) Use as soon as possible after tearing and sealing, so as not to reduce the accuracy of solvent volatilization;

(6) It is recommended to use certified matrix standard substances or quality control samples for quality control to ensure reliable process;

(7) Keeping the solvent consistent with the mobile phase during detection can eliminate the influence of the solvent effect;

(8) Mycotoxins can cause cancer, should wear gloves, masks and other protective equipment operation. Used containers and mycotoxin solution are soaked overnight in sodium hypochlorite solution (5% V/V);

(9) Do not use the pre-loading plate if it is found to leak.

Ordering Information

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Phone: +1 929-202-3014

Email: info@abvigenus.com