Fumonisin B1 (FB1) Immunoaffinity Column

1. Application

This product is used for quantitative detection of FB1 by using Scigiene Lateral Flow Test Kits or other Mycotoxin tests.

It is suitable for purification of FB1 in samples such as cereal and feed. The purified extracting solution can be detected by Scigiene Lateral Flow Test Kits or other Mycotoxin tests.

2. Product Performance

Capacity：≥5000 ng/vial

Rate：85%~110%

Column Gel：**Agarose Gel**

Advantages：**Large loading capacity, Monoclonal antibody site-specific conjugation, Easy to elute, High recovery rate.**

3. Measuring Principle

Determination of fumonisin B1 (FB1) immunoaffinity column is based on the antigen-antibody reaction. FB1 monoclonal antibody is coupled to agarose gel material. After extracting, filtering and diluting FB1 in sample, sample extracting solution slowly passes through the Immunoaffinity Column. FB1 in sample extracting solution combines with specific monoclonal antibody, meanwhile, impurities are eluted from immunoaffinity column along with washing solution. Finally, FB1 is eluted by using methanol.

4. Product Composition

20 vial/box

1* manual

5. Sample Preparation and Purification

1). Weigh 20g pulverized sample, then add 100mL 50% acetonitrile water (V:V), and then velocity mix them in homogenizer for 2minutes or vibrate for 30 minutes and extract later.

2). Centrifuge at 5000r/min for 5 minutes or filter through glass fiber filter paper. Later, take 10mL filtrate, and then add 20mL water to dilute and mix well.

3). Filter by rapid qualitative filter paper or quantitative filter paper or glass microfiber filter paper, then collect filtrate.

4). Take 15mL filtrate for passing immunoaffinity column.

Note:

1. For sample extracting solution (pH<6 or pH>8), it is necessary to adjust pH value to neutral and use **glass microfiber filter paper/quantitative filter paper.**

2. For samples that are difficult to filter because of turbidity, centrifuge samples for separation.

Scigiene
1295 Morningside Avenue, Unit 16-18
Scarborough, ON M1B 4Z4 Canada
Phone: 416-261-4865 Fax: 416-261-7879
www.scigiene.com

6. Immunoaffinity Column Purification

Note: Do not let column liquid drain dry before step 4.

1) Take out immunoImmunoaffinity Column microcolumn, then take off upward plug and cut it. And then plug it back into immunoaffinity column.

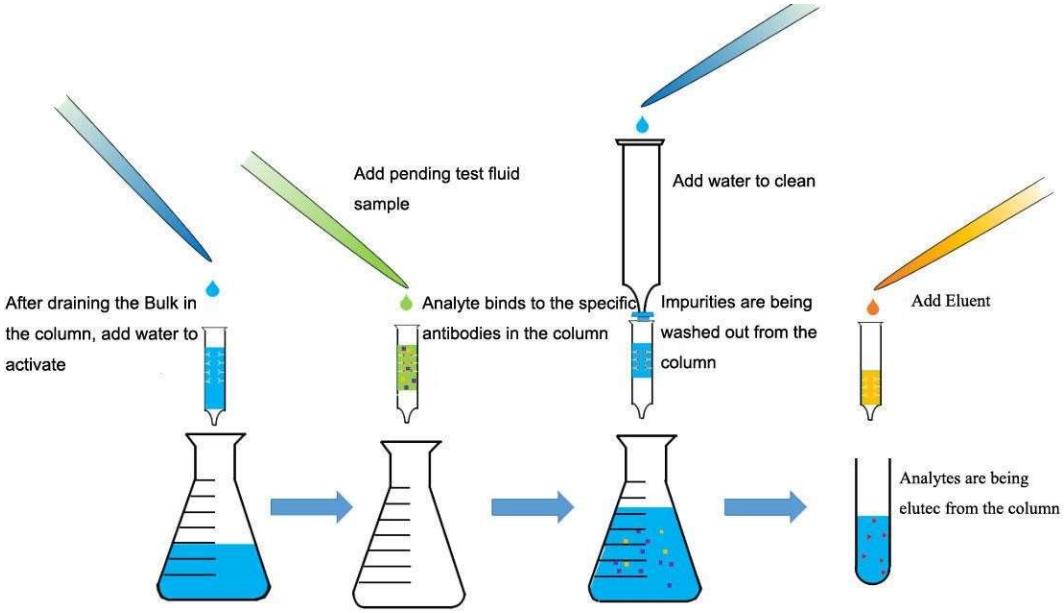
2) Connect the column with glass syringe on pump flow operation frame, then take off downward plug. Later, wash it once with 15mL water or phosphate buffer solution (PBS) at pH7.4 at flow rate of 1-1.5mL/min.

3) Add sample extracting solution at flow rate of 1-1.5mL/min.

4) Wash it twice with 15mL water or phosphate buffer solution (PBS) at pH 7.4 at flow rate of 1-1.5mL/min, until 2~3 mL air passes through the column to ensure that there is no residual liquid in the column.

5) Elute three times with 1mL methanol-acetic acid solution (add 2m acetic acid into 98m methanol and mix well) at flow rate of 1mL/min, and use sample bottle/glass tube to collect the eluent.

6) The collected eluent can be used for detection.



Immunoaffinity Column Operation Diagram

7. Note

1) FB1 is harmful to human, so please wear gloves while operation. All glassware exposed to standard/sample should be soaked overnight with 5% sodium hypochlorite solution.

2) Do not use expired immunoaffinity column.

3) Immunoaffinity column should be stored at 2~8℃. Do not freeze.

4) Please put immunoaffinity column at room temperature (25℃) for half an hour at least before use.

5) If content of FB1 in sample is higher than column capacity, please decrease sample loading volume accordingly.

6) Make sure that pH value of sample extracting solution that passes the column is between 6 and 8. You can adjust it with hydrochloric acid solution or sodium hydroxide solution.

7) Amount of sample weighed and volume of extracting solution can be adjusted in proportion according to actual situation. It is recommended to take 10g sample in minimum.

Reference: National standard method: "GB 5009.240-2016 National Food Safety Standard Determination of Fumonisinin Food"

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8. HPLC Instrument Measurement Condition

Chromatographic Column: C18, 5μm, 4.6 mm×250 mm

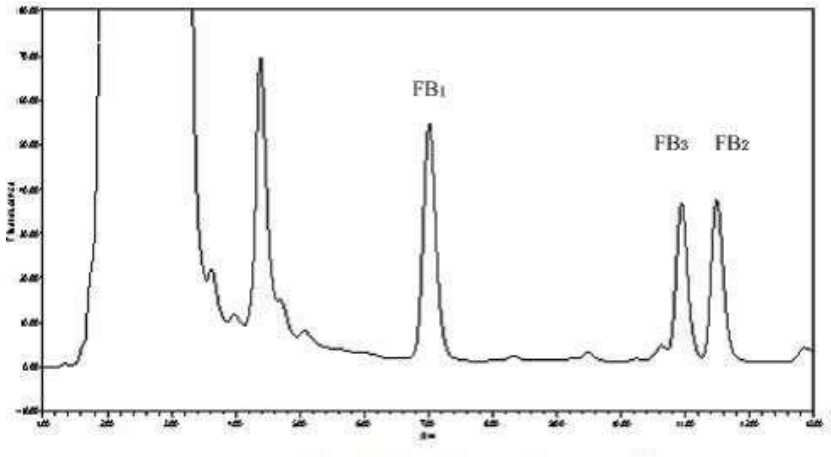
Mobile Phase: A: 1% Formic Acid Water B: Methanol

Flow Rate: 1.0mL/min

Detection Wavelength: Excitation Wavelength 335nm, Emission Wavelength 440nm

Sample Loading Quantity: 10μL

Column Temperature: 25℃



Fumonisin Standard Liquid Chromatogram

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