

MaxSignal® IAC for Aflatoxin M₁

Catalog #FOOD-1506-01

ISO 9001
QUALITY ASSURANCE

Manufactured in compliance with our ISO 9001 certified quality management system.

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MaxSignal® IAC for Aflatoxin M₁ is intended as a screening tool for research use only. This product is not intended for clinical diagnostic use.

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RELATED PRODUCTS

CATALOG #	PRODUCT	QTY
FOOD-1503-01	MaxSignal® IAC 2-in-1 Combo for Total Aflatoxin and Ochratoxin A	25 Tests
FOOD-1504-01	MaxSignal® IAC 3-in-1 Combo for Total Aflatoxin, Zearalenone, and Vomitoxin	25 Tests
FOOD-1505-01	MaxSignal® IAC 6-in-1 Combo Mycotoxin Immunoaffinity Column	10 Tests
FOOD-1513-01	MaxSignal® IAC for Total Aflatoxins	25 Tests

GENERAL INFORMATION

Purpose

This immunoaffinity column can selectively adsorb Aflatoxin M₁ from the sample solution, thereby purifying the sample. The purified sample solution can be directly used for HPLC analysis after being blown dried using nitrogen gas and redissolved in suitable solvent..

Affinity columns can be used in combination with HPLC to achieve rapid testing, and to increase signal-to-noise ratio and improve the accuracy of the detection method.

Overview

Aflatoxins are toxic secondary-metabolites of a class of fungi (such as *Aspergillus flavus* and *Aspergillus parasiticus*). They are highly carcinogenic and are found mainly in grains, peanuts, nuts, cottonseeds, animal feed, vegetable oils, as well as animal tissues and blood. Among them, Aflatoxin B₁ (AFT B₁) ranks first in terms of toxicity, carcinogenicity and frequency of contamination. Aflatoxin M₁ is the hydroxylated metabolite of Aflatoxin B₁ and a strong carcinogen. Cow's milk and its products are prone to Aflatoxin M₁ contamination.

Principle

This IAC functions by an antigen-antibody interaction. The antibody is embedded in the column. After a sample is extracted and filtered, it is slowly passed through the IAC. The toxoids bind to their corresponding antibody in the column. The IAC is then washed to remove unbound substances. The toxins are then eluted with the eluent, concentrated using nitrogen gas, then injected into an analytical instrument for detection.

KIT CONTENTS, STORAGE, & SHELF LIFE

Each box contains Aflatoxin M₁ immunoaffinity columns of various specifications and 1 instruction manual. Store the entire kit at 2–8°C. Do not use this product past the expiration date indicated on the box label.

Required Materials Not Provided with the Kit

- HPLC
- Centrifuge capable of at least 3,000-4,000 x g
- Nitrogen gas evaporator apparatus
- Nitrogen gas tank and pressure regulator
- LC-MS (LC-MS/MS)
- Air-pressure controller
- Air pump
- Balance with 0.01 g readability
- High-speed freezing centrifuge (can be set to 10°C, 7, 500 r/min)
- Constant temperature incubator or water bath (can be set to 35–37°C)
- High-speed homogenizer (i.e. rotary shaker, vortexer, stomacher, or equivalent) (maximum speed ≥ 10,000 RPM)
- Grinder
- Sieving screen: 2-mm
- pH meter (or pH test paper)
- Graduated cylinder: 10 mL & 100 mL
- Funnel: 50 mL
- Syringe: 10 mL & 20 mL
- Pipette and pipette tips
- Homogenization flask (or 250-mL conical flask with pestle)
- Sample tubes and bottles
- Qualitative filter paper
- Microfiber filter paper (e.g. Whatman 934-AH)
- Column holder and syringe connector plug (for use with 6-mL immunoaffinity columns)
- Methanol (CH₃OH): Chromatography Grade
- Acetonitrile (CH₃CN): Analytical Grade
- Disodium hydrogen phosphate dodecahydrate (Na₂HPO₄ · 12H₂O): Analytical Grade
- Acetic acid (CH₃COOH): Chromatography Grade
- Potassium dihydrogen phosphate (KH₂PO₄): Analytical Grade
- Potassium chloride (KCl): Analytical Grade
- Sodium chloride (NaCl): Analytical Grade
- Tween-20® (C₁₈H₃₄O₆): Analytical Grade
- Hydrochloric acid (HCl): Analytical Grade
- Sodium hydroxide (NaOH): Analytical Grade
- Distilled/deionized water

