

A Waters Business

PRODUCT GUIDE 2017



 \mathcal{M}



[ONGOING DEDICATION TO FOOD SAFETY]

VICAM's mission is rooted in the fundamental human need for safe and abundant food supply. As awareness of the dangers of naturally occurring agricultural contaminants continues to grow, concern about the safety and quality of globally sourced food has become increasingly widespread. The need to routinely monitor for the occurrence of these contaminants inspired VICAM's commitment to the research, development, and worldwide distribution of advanced rapid diagnostic solutions for food safety.

VICAM stands ready to meet the needs of every sector of today's complex global supply chain. With a comprehensive product line vetted by industry leaders and trusted by customers in more than 100 countries, VICAM is the global provider of choice for next-generation food safety technology and rapid mycotoxin test solutions.



[CONTENTS]

2 Markets

- 4 Botanicals
- 5 Coffee
- 6 Corn
- 7 Dairy
- 8 DDGs/Ethanol
- 9 Dried Fruit
- 10 Feed and Grain
- 11 Peanuts
- 12 Pet Food
- 13 Rice
- 14 Spices
- 15 Tree Nuts
- 16 Wheat

17 Technologies

- 18 HPLC/UPLC and LC-MS
- 19 Fluorometer
- 20 Lateral Flow Reader
- 21 Quantitative Strip Tests
- 22 Qualitative Strip Tests

23 Products

- 23 Aflatoxin Testing Solutions
- 34 Citrinin Testing Solutions
- 36 Deoxynivalenol Testing Solutions
- 41 Fumonisin Testing Solutions
- 46 Ochratoxin Testing Solutions
- 50 T-2 Testing Solutions
- 52 Zearalenone Testing Solutions
- 55 Multi-Analyte Testing Solutions









[MARKETS]

Botanicals

To ensure the purity and safety of Botanical products, manufacturers monitor for the presence of mycotoxins such as aflatoxin and ochratoxin A. Botanical and herbal products are subject to global regulatory limits as low as 10 parts per billion (ppb) for ochratoxin A, and 2 ppb for aflatoxin B₁ for edible products. VICAM offers a full range of on-site detection systems and laboratory methods for quantitation and confirmation to meet regulatory limits for mycotoxins in botanicals.

Botanicals Mycotoxin Testing Solutions

- AflaOchra[™]
- AflaTest[®]
- AflaTest[®] WB
- OchraTest[™]
- OchraTest[™] WB

Coffee

Coffee is among several food and agricultural commodities required to meet regulatory limits for mycotoxins such as ochratoxin. VICAM offers on-site and laboratory based methods for ochratoxin A detection at levels as low as 2 ppb, easily meeting EU and other export regulatory limits. Pro-active monitoring ensures that only the highest quality coffee reaches the marketplace, establishing brand strength and trust across the global supply chain.

Coffee Mycotoxin Testing Solutions

- OchraTest
- OchraTest WB



[MARKETS]

Corn

Corn/maize is at risk for the presence of mycotoxins such as aflatoxin, vomitoxin (DON), fumonisin, zearalenone and ochratoxin. Global regulations set limits for maximum allowable levels of mycotoxins in maize as low as 2 parts per billion (ppb) for aflatoxin B₁, 750 ppb deoxynivalenol (DON), 200 ppb fumonisin, 3 ppb ochratoxin A and 60 ppb of zearalenone. VICAM offers a full range of versatile, practical screening and quantitative solutions for on-site and laboratory detection of mycotoxins in corn.

Corn Mycotoxin Testing Solutions

- AflaOchra™ HPLC
- AOZ[®] HPLC
- AflaTest
- AflaTest WB
- Afla-V[®]
- Afla-V AQUA[™]

- AflaCheck[®]
- CitriTest[®]
- DON-V[®]
- DONCheck[™]
- DONtest[™] HPLC
- FumoniTest[™]

- FumoniTest[™] WB
- Fumo-V[®]
- Fumo-V AQUA™
- Myco6in1^{+®}
- OchraTest
- OchraTest WB

Dairy

If dairy cattle are fed rations containing aflatoxin or other mycotoxins, contamination may appear in the cow's milk, rendering it unsafe for human consumption. Global regulatory limits for aflatoxin in milk and other dairy products are as low as 0.05 parts per billion, with even lower limits for food intended for children. VICAM offers rapid, accurate test kits that deliver precise data to ensure dairy products are safe to consume.

Dairy Mycotoxin Testing Solutions

- AflaTest
- Afla M₁ FL^{+®}
- Afla M₁[™] HPLC
- Afla M₁™-V
- Afla-V

DDGs/Ethanol

Ethanol co-products such as dried distillers' grains (DDG), distillers grains with soluble (DDGS), wet distillers grains (WDGS) and heavy steep water (HSW) are valuable nutrition sources for livestock producers. However, if inbound corn contains aflatoxin, fumonisin or other mycotoxins prior to processing, the final co-products streams will contain concentrated levels of mycotoxins. Rapid, on-site mycotoxin monitoring tools from VICAM help protect the value of ethanol co-products, ensuring safety and marketability.

DDGs/Ethanol Mycotoxin Testing Solutions

- AflaTest
- AflaTest WB
- Afla-V
- Afla-V AQUA
- DONtest HPLC
- DONtest[™] WB

- DON-V
- FumoniTest
- FumoniTest WB
- Fumo-V
- Fumo-V AQUA

Dried Fruit

Dried fruit is at risk for mycotoxins such as aflatoxin and ochratoxin A which may be present in the fresh fruit counterpart prior to drying. EU countries enforce maximum allowable limits for dried fruits at levels as low as 5 parts per billion (ppb) for aflatoxin B_1 and 10 ppb for ochratoxin A. VICAM's complete family of AOAC and USDA approved methods ensure rapid, actionable data to support dried fruit exports worldwide.

Dried Fruit Mycotoxin Testing Solutions

- AflaOchra HPLC
- AflaTest
- AflaTest WB
- OchraTest
- OchraTest WB

Feed and Grain

Corn, wheat, rice, barley and grain crops are acutely vulnerable to mycotoxins, a family of microcontaminants that pose a threat to quality, safety, and profitability of grain-based products. As regulatory agencies intensify scrutiny of domestic and imported grain commodities for unsafe levels of mycotoxins, farmers, processors, and storage facilities rely on frequent testing at every phase of production. VICAM offers a comprehensive line of GIPSA and AOAC-approved mycotoxin testing solutions for feed and grain.

Feed and Grain Mycotoxin Testing Solutions

- AflaOchra HPLC
- AOZ HPLC
- AflaTest
- AflaTest WB
- Afla-V
- Afla-V AQUA
- AflaCheck
- DONtest HPLC

- DONtest WB
- DON-V
- DONCheck
- FumoniTest
- FumoniTest WB
- Fumo-V
- Fumo-V AQUA
- Myco6in1+

- OchraTest
- OchraTest WB
- Ochra-V
- T-2test[™] HPLC
- T-2/HT-2™ HPLC
- ZearalaTest[™]
 - ZearalaTest™ WB,

Peanuts

Peanut contact with soil during cultivation may result in exposure to mycotoxinproducing molds. Aflatoxin is classified as a Group I carcinogen by the International Agency for Research on Cancer (IARC) and is regulated in 60+ countries at levels as low as 2 parts per billion (ppb) for aflatoxin B_1 and 4 ppb for total aflatoxins. Ensure the safety and marketability of peanut products with VICAM's complete array of AOAC and USDA approved methods for on-site or laboratory detection.

Peanuts Mycotoxin Testing Solutions

- AflaTest
- AflaTest WB
- Afla-V
- Afla-V AQUA

Pet Food

Mycotoxins, the toxic chemical byproducts of naturally occurring molds, are among the most common risks for pet food companies today. The US FDA recommendation for pet foods indicates maximum levels for aflatoxin at less than 20 ppb and less than 5 parts per million (ppm) for deoxynivalenol (DON). VICAM's AOAC and USDA-GIPSA approved diagnostic kits provide the most comprehensive and effective tools for mycotoxin monitoring and prevention in pet food.

Pet Food Mycotoxin Testing Solutions

- AflaOchra HPLC
- AOZ HPLC
- AflaTest
- AflaTest WB
- Afla-V
- Afla-V AQUA
- DONtest

- DONtest WB
- DON-V
- FumoniTest
- FumoniTest WB
- Fumo-V
- Fumo-V AQUA
- Myco6in1⁺

- OchraTest
- OchraTest WB
- T-2test HPLC
- T2/HT-2 HPLC
- ZearalaTest
- ZearalaTest WB

12 www.vicam.com/petfood

Rice

Like other field crops, rice is vulnerable to the presence of mycotoxins when specific mold species appear during growth, harvest, storage or processing. Aflatoxin B₁ is highly toxic—even at very low concentrations—resulting in regulatory limits in most importing countries as low as 2 parts per billion (ppb). VICAM offers comprehensive screening and detection solutions to ensure a safe, marketable rice supply worldwide.

Rice Mycotoxin Testing Solutions

- AflaOchra HPLC
- DONtest
- AflaTest 🗧
- AflaTest WB
- Afla-V
- CitriTest

FumoniTest

- OchraTest
- OchraTest WB



[MARKETS]

Spices

Despite good cultivation practices, spices may be at risk for mycotoxins when environmental conditions encourage mold growth. Aflatoxin and ochratoxin are the most common to affect spice products. Global legislation places maximum allowable limits on domestic and imported food products for levels as low as 2 parts per billion (ppb) in spices. VICAM's fast, effective detection solutions deliver AOAC and USDA approved results to help ensure market ready spice products.

Spices Mycotoxin Testing Solutions

- AflaOchra HPLC
- AflaTest
- AflaTest WB
- OchraTest
- OchraTest WB

Tree Nuts

Tree nuts are at risk for the presence of mycotoxins throughout cultivation and storage when environmental conditions favor mold growth. Global regulatory limits in more than 60 countries establish maximum allowable levels of aflatoxin in tree nuts—as low as 2 parts per billion (ppb) for aflatoxin B₁. VICAM offers rapid, accurate diagnostic test kits for aflatoxin screening and quantitation that meet internal quality requirements and strict global regulations for tree nuts.

Tree Nuts Mycotoxin Testing Solutions

- AflaOchra HPLC
- AflaTest
- Afla-V
- AflaCheck
- AflaTest WB
- AflaTest WB SR

[MARKETS]

Wheat

Wheat and other cereal grains are at risk for the presence of mycotoxins such as aflatoxin, vomitoxin (DON), fumonisin, zearalenone and ochratoxin. Flour millers, bakeries and import/export regulations set limits for maximum allowable levels as low as 4 parts per billion for aflatoxin, 3 ppb for ochratoxin A, 75 ppb for zearalenone, 500 ppb for deoxynivalenol (DON) and 1,750 ppb for fumonisin. VICAM offers a complete family of screening and quantitative solutions for on-site and laboratory detection of mycotoxins in wheat.

Wheat Mycotoxin Testing Solutions

- AflaOchra HPLC
- DON-V

- AflaTest
- AflaTest WB
- Afla-V
- DONtest
- DONtest WB

- OchraTest
- OchraTest WB
- Ochra-V
- T-2 test HPLC
- ZearalaTest

[TECHNOLOGIES]



[TECHNOLOGIES]

HPLC/UPLC and LC-MS

Optimized sample cleanup and precise, reproducible results remain the core strength of our HPLC line. VICAM's wide-bore (faster-flow) immunoaffinity columns ensure the increased sample throughput and top-notch HPLC performance you need to boost productivity in today's stringent regulatory environment. VICAM's columns enable labs to analyze parts per billion (ppb) levels of several simultaneously occurring mycotoxins in a single HPLC or UPLC[®] run.

HPLC/UPLC and LC-MS Mycotoxin Testing Solutions

- Afla B™
- Afla M₁ HPLC
- Afla Ochra HPLC
- AflaTest
- AflaTest WB
- AflaTest[®] WB SR
- AOZ HPLC
- CitriTest HPLC
- DONtest HPLC
- DONtest WB

- DON-NIV[™] WB
- FumoniTest
- FumoniTest WB
- Myco6in1*
- OchraTest
- OchraTest WB
- T-2Test HPLC
- T-2/HT-2 HPLC
- ZearalaTest
- ZearalaTest WB



Fluorometer

The VICAM Series-4EX Fluorometer accurately measures down to extremely low ppt concentrations of mycotoxins in samples prepared using VICAM immunoaffinity columns. Expanded data storage capacity allows for storage of all the VICAM mycotoxin test protocols and calibration levels, as well as up to 200 test results. Stored testing protocols provide for a digital readout in ppm, ppb, ppt, mg/kg, µg/kg, or ng/kg concentration units without requiring conversion.

Series-4EX Fluorometer Mycotoxin Testing Solutions

- Afla B
- AflaTest
- Afla M₁ FL⁺
- FumoniTest
- OchraTest
- ZearalaTest



Lateral Flow Reader

VICAM's Vertu® Lateral Flow Reader provides fast, easy and quantitative mycotoxin screening. The Vertu reader provides more accessible mycotoxin testing to food and agriculture producers worldwide who rely on early detection to protect humans and animals from potentially lethal effects of contamination. Digital readings are clearly displayed on the screen of the Vertu Lateral Flow Reader, eliminating any guesswork about the results. The Vertu Lateral Flow Reader is used in conjunction with VICAM Quantitative Test Strips.

Vertu Lateral Flow Reader Mycotoxin Testing Solutions

- Afla M₁-V
- Afla-V
- Afla-V AQUA
- DON-V
- Fumo-V
- Fumo-V AQUA
- Ochra-V



Quantitative Strip Tests

VICAM's portfolio of quantitative strip tests, which are used in conjunction with the VICAM Vertu Lateral Flow Reader, provide validated monitoring solutions for companies seeking to minimize the costly consequences of mycotoxin contamination. Utilizing the proven sensitivity and selectivity of VICAM's monoclonal antibodies, quantitative strip tests can accurately detect and measure a variety of mycotoxins in less than 5 minutes.* The tests can be easily performed on-site or in the lab, require no special training and have a long shelf life. Regulatory compliance and risk management decisions demand proven solutions to provide accurate, precise results—screen, quantify, and confirm mycotoxin levels with total confidence.

Quantitative Strip Test Mycotoxin Testing Solutions

- Afla M₁-V
- Afla-V
- Afla-V AQUA
- DON-V
- Fumo-V
- Fumo-V AQUA
- Ochra-V

*after extraction



www.vicam.com/quantitative-strip-tests 21

Qualitative Strip Tests

Regulatory compliance and risk management decisions demand proven solutions. VICAM's portfolio of AOAC- and USDA/GIPSA-approved tests provides validated monitoring solutions for companies seeking to minimize the costly consequences of mycotoxin contamination. Built upon the highly specific reactions between antibodies and target contaminant, VICAM's Qualitative Strip Tests for aflatoxins and deoxynivalenol (DON) deliver fast, accurate, on-the-spot results in as little as 3 minutes. This inexpensive testing protocol can be used with a variety of samples and requires no special training or equipment.

Qualitative Strip Test Mycotoxin Testing Solutions

- AflaCheck[®]
- DONCheck[™]



[PRODUCTS] Aflatoxin Testing Solutions

[PRODUCTS] Aflatoxin Testing Solutions



Ordering Information: Cat. No. G1010/12022

AflaTest is a quantitative method for the detection of aflatoxin in many commodities. VICAM's advanced biotechnology permits the measurement of aflatoxins (including AFB₁, AFB₂, AFG₁, AFG₂, AFM₁, and M₂). The AflaTest mycotoxin testing system can be used in a wide variety of locations from the local farm elevator to food processing quality control laboratories to government testing laboratories.

Benefits

- *Convenient* For use with fluorometer, HPLC or UPLC
- Comprehensive Total readings for all aflatoxins
- Durable Long shelf life; requires no refrigeration
- Versatile For use with a variety of samples
- Quick Less than 10 minutes to isolate toxin*
- Wide Range Detects levels as high as 1000 ppb and as low as 0.1 ppb**
- Safe Requires less toxic materials than other methods

*excluding preparation and extraction **1 ppb for grain and nuts

Applications

- Botanicals
- Corn
- Dairy
- DDGs/Ethanol
- Dried Fruit
- Feed and Grain
- Peanuts
- Pet Food
- Rice

AflaTest

- Spices
- Tree Nuts
- Wheat

24 www.vicam.com/aflatoxin-test-kits/aflatest



Ordering Information:

Cat. No. G1024

AflaTest WB is an HPLC-only test for the detection of aflatoxins B_1 , B_2 , G_1 , G_2 , M_1 , and M_2 using wide bore immunoaffinity columns. With a total volume of 3 mL, AflaTest WB allows for a faster flow rate preferred by many laboratories and is the ideal cleanup step for any HPLC. AflaTest WB can be used in control laboratories of food quality and safety and commercial testing laboratories.

Benefits

- *Exclusive* Specifically for HPLC or UPLC use
- *Comprehensive* Total readings for all aflatoxins
- Durable Long shelf life; requires non refrigeration
- Versatile For use with a variety of samples
- Quick 15 minutes to isolate toxin*
- Wide Range Detects levels as high as 100 ppb and as low as 0.03 ppb for aflatoxin B₁
- Fast Flow Passes more volume over the column

*excluding preparation and extraction

Applications

- Botanicals
- Corn
- DDGs/Ethanol
- Dried Fruit
- Feed and Grain
- Peanuts
- Pet Food
- Rice
- Spices
- Tree Nuts
- Wheat

[PRODUCTS] Aflatoxin Testing Solutions



Ordering Information:

Cat. No. G1068

AflaTest WB SR is a quantitative method that uses immunoaffinity chromatography to selectively isolate aflatoxins B_1 , B_2 , G_1 , G_2 , M_1 and M_2 for HPLC or UPLC analysis. The SR test kit's fast-flow widebore columns are specially designed to maximize aflatoxin G_2 recovery and accelerate sample throughput. AflaTest WB SR can be used in control laboratories of food quality and safety and commercial testing laboratories.

Benefits

- *Powerful* Designed exclusively for laboratory use
- Enhanced Recovery Improved aflatoxin G₂ recovery
- Comprehensive Determines individual aflatoxin levels (B₁, B₂, G₁, G₂, M₁ and M₂)
- Durable Long shelf life; requires no refrigeration
- Versatile For use with a variety of samples
- Quick 15 minutes to isolate toxin*
- Wide Range Detects total aflatoxin levels as high as 500 ng and as low 0.005 ng for total aflatoxin
- Fast Flow Passes more volume over the column

*excluding preparation and extraction

Applications

- Almonds
- Feed and Grain
- Pet Food
- Tree Nuts



26 www.vicam.com/aflatoxin-test-kits/aflatest-wb-sr

Using monoclonal antibody-based affinity chromatography, Afla B is a guantitative method that can isolate aflatoxins B_1 and B_2 from corn via fluorometric or HPLC detection. Afla B is sensitive, simple, and fast, enabling guick tests for parts per billion

or parts per trillion levels. Afla B can be used in a wide variety of locations from the local farm elevator to food QC and safety laboratories.

Benefits

- *Convenient* For use with fluorometer, HPLC or UPLC .
- **Durable** Long shelf life; requires no refrigeration
- **Ouick** Less than 10 minutes to isolate toxin* н.
- *Wide Range* Detects levels as low as 1 ppb (fluorometer) н. and 50 ppt (HPLC) and as high as 300 ppb
- Safe Requires less toxic materials than н. other methods

*excluding preparation and extraction



Cat. No. 61003

Applications

Corn







Ordering Information:

Cat. No. 100000173

Aflatoxin levels in grain, food and feed are subject to strict regulations in more than 60 countries. AflaCheck is a qualitative one-step test kit for the detection of aflatoxin. AflaCheck uses highly specific reactions between antibodies and aflatoxin to detect aflatoxin in a variety of samples. The test strips can be used to detect the presence of aflatoxin at two different cutoff levels depending on the protocol followed.

Benefits

- Fast Results in as little as 3 minutes*
- *Simple* No special training or equipment required
- Accurate Detects the presence of aflatoxin at levels of 10 ppb or 20 ppb
- Convenient Can be performed anywhere with a variety of samples
- Durable Long shelf life, no refrigeration required
- Economical Inexpensive first step in your testing protocol
- Versatile Choice of two cut off procedures: 10 ppb and 20 ppb

*excluding preparation and extraction

Applications

- Corn
- Grain
- Peanuts
- Canola and Canola oil



28 www.vicam.com/aflatoxin-test-kits/aflacheck



Ordering Information:

Cat. No. G1047

Strict global regulatory limits govern how much aflatoxin M_1 may be present in dairy products. Using monoclonal antibody-based affinity chromatography, Afla M_1 FL⁺ is a quantitative method for the fluorometer based detection of aflatoxin M_1 in milk at parts per trillion (ppt) levels. Afla M_1 FL⁺ can be performed rapidly, requires no special skills and is useful for both the milk processing QC and government testing laboratory.

Benefits

- Exclusive Specifically for fluorometer use
- Durable Long shelf life; requires no refrigeration
- Quick 25 minutes to isolate toxin
- Wide Range Detects levels as low as 12.5 ppt and as high as 200 ppt without HPLC analysis
- Safe Requires less toxic materials than conventional test methods

Applications

Dairy





[PRODUCTS] Aflatoxin Testing Solutions

Afla M₁^M HPLC

Ordering Information:

Cat. No. G1007

Strict global regulatory limits govern how much aflatoxin M_1 may be present in dairy products. Using monoclonal antibody based affinity chromatography, Afla M_1 HPLC is an HPLC only test for the detection of aflatoxin M_1 using immunoaffinity columns. An ideal cleanup step for any HPLC, Afla M_1 HPLC delivers the results dairies need using a fast-flow column that delivers 75% to 95% recovery depending on the sample.

Benefits

- Exclusive Specifically for HPLC or UPLC use
- Durable Long shelf life; requires no refrigeration
- Versatile Can be used with a variety of milk samples
- Quick Sample ready in less than 30 minutes
- Wide Range Detects levels as low as 10 ppt and as high as 3 ppb
- Safe Requires less toxic materials than other methods
- Comprehensive Binds both aflatoxin M₁ and aflatoxin M₂
- Anama min

depending on the sample.

Applications

Dairy





Ordering Information:

Cat. No. 176002071

Afla-V strip tests utilize the proven sensitivity and selectivity of VICAM's monoclonal antibodies to accurately detect and measure total aflatoxins B_1 , B_2 , G_1 , and G_2 at levels as low as 2 ppb and as high as 100 ppb. The single dilution sample preparation procedure saves time and materials, and the test takes 5 minutes* to develop. Digital readings are clearly displayed on the screen of the Vertu Lateral Flow Reader, eliminating any guesswork about the results.

Benefits

- Fast Screening Results in 5 minutes*
- Simple No special training required
- Sensitive Limits of detection as low as 2 ppb**
- Convenient Easily performed on-site or in the lab
- Durable Long shelf life
- Accurate Real-time data which can be printed or downloaded to a computer
- Wide Range 0 to 100 ppb
- Certified USDA-GIPSA certified method available

*after extraction
**1imits of detection will vary based on procedure



Applications

- CornDairy
- Peanuts
- Rice
- Soy

www.vicam.com/aflatoxin-test-kits/afla-v 31

[PRODUCTS] Aflatoxin Testing Solutions



Ordering Information:

Cat. No. 176003520 (Corn) Cat. No. 176003776 (Peanuts) Cat. No. 176003783 (Corn Europe)

Afla-V AQUA Strip Tests utilize the proven sensitivity and selectivity of VICAM's monoclonal antibodies to accurately detect and measure total aflatoxins (B_1 , B_2 , G_1 and G_2) at levels as low as 2.0 ppb and as high as 300 ppb. Afla-V AQUA eliminates the need for hazardous solvents using a water-based, dilution-free extraction procedure that develops in just 5 minutes.* Results are displayed on the digital screen and may also be printed or transferred to Excel for storage and used as a vital quality assurance tool.

Benefits

- Sustainable Safe, solvent-free testing
- Fast Screening Results in 5 minutes*
- Simple No special training required
- Sensitive Limits of detection as low as 2.0 ppb**
- Convenient Easily performed on-site or in the lab
- Durable Long shelf life
- Accurate Real-time data which can be printed or downloaded to a computer
- Wide Range 0 to as high as 300 ppb**
- Certified USDA-GIPSA Certified method available

*after extraction

**limits of detection and range will vary based on procedure

Applications

- Corn
- Peanuts
- Soy



32 www.vicam.com/aflatoxin-test-kits/afla-v-aqua



Ordering Information:

Cat. No. 176003404

Aflatoxin M₁ is the metabolic byproduct created when a cow ingests feed that contains aflatoxin B₁. Aflatoxin M₁ is a Group 2B (probable) carcinogen according to the International Agency for Research on Cancer (IARC). VICAM's Afla M₁-V quantitative strip tests answer one of today's toughest food safety challenges with a new, userfriendly lateral flow strip test for aflatoxin M₁ in dairy products—providing precise results in just minutes.

Benefits

- Fast Screening Results in 10 minutes*
- Simple No special training required
- Sensitive Limit of detection as low as 25 ppt
- Convenient Easily performed on-site or in the laboratory
- Durable Long shelf life
- Accurate Real-time data which can be printed or transferred to a spreadsheet

*after extraction

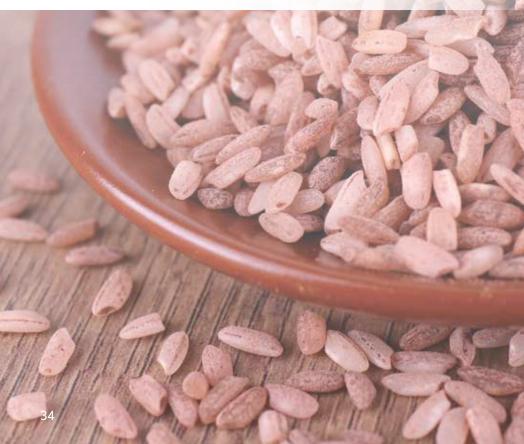


Applications

Dairy



[PRODUCTS] Citrinin Testing Solutions



Ordering Information:

Cat. No. G1070

CitriTest HPLC is a quantitative method for detection of citrinin in Kogi Red Rice and corn that uses monoclonal antibody-based affinity chromatography. An ideal cleanup step for any HPLC, CitriTest HPLC provides precise numerical results in parts per billion levels. The preferred test of laboratories around the world, no other test comes close for speed, quantification, and specificity.

Benefits

- *Exclusive* Specifically for HPLC or UPLC use
- Convenient Uses same methods as other VICAM tests
- Durable Long shelf life
- Quick 20 minutes to isolate toxin*
- Wide Range Detects levels as low as 10 ppb and as high as 500 ppb

*excluding preparation and extraction



- Corn
- Rice



[PRODUCTS] Deoxynivalenol Testing Solutions





Ordering Information: Cat. No. 100000198

DONCheck is a simple qualitative test for the detection of the trichothecene mycotoxin deoxynivalenol (DON) in grain samples. Many nations have adopted guidance or maximum allowable levels for DON to control its spread. DONCheck Test Strips provide fast, accurate, on-the-spot results with no special training or expensive equipment required. DONCheck is easy to use in the field or in the lab. Simply dip the Test Strip into the sample and read the results.

Benefits

- Fast Results in as little as 3 minutes*
- Simple No special training or equipment required
- Accurate Detects the presence of DON at 1 ppm
- Convenient Can be performed anywhere
- Durable Long shelf life
- Economical Inexpensive first step in your testing protocol
- Versatile Works with a variety of samples

*excluding preparation and extraction

- Barley
- Corn
- Wheat



DONtest HPLC

Ordering Information:

Cat. No. G1005

DONtest HPLC is a quantitative method for customers in the food processing industry who need to test samples for the presence of DON (also known as deoxynivalenol or vomitoxin) in parts per million (ppm) levels. DONtest HPLC uses monoclonal antibodybased affinity chromatography to provide a solution that is safe, simple, fast and works reproducibly and accurately.

Benefits

- Exclusive Specifically for HPLC or UPLC use
- Quick 10 minutes to isolate toxin*
- Durable Long shelf life
- Wide Range Detects levels as low as 0.10 ppm and as high as 5 ppm
- Safe Requires less toxic materials than other methods

*excluding preparation and extraction

Applications

Wheat

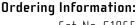


Deoxynivalenol or DON (also known as vomitoxin) has been isolated from grains and feeds throughout the world at levels as high as 92 ppm. DONtest WB is an HPLC test for the detection of DON at parts per million (ppm) levels using wide bore immunoaffinity columns —the method is simple, accurate and reproducible. With a total volume of 3 mL, DONtest WB allows for a faster flow rate and is the ideal cleanup step for any HPLC or UPLC.

Benefits

- *Exclusive* Specifically for HPLC or UPLC use
- Durable Long shelf life
- Quick 10 minutes to isolate toxin*
- Wide Range Detects levels as low as 0.04 ppm and as high as 5 ppm
- Fast Flow Faster results than narrow bore test

*excluding preparation and extraction



Cat. No. G1065

Applications

Wheat





[PRODUCTS] Deoxynivalenol Testing Solutions



Ordering Information:

Cat. No. 176002072

DON-V strip tests utilize the proven sensitivity and selectivity of VICAM's monoclonal antibodies to accurately detect and measure total DON in grain at levels as low as 0.20 ppm. The single-dilution sample preparation procedure saves time and materials, and the test takes less than 5 minutes^{*} to complete. Digital readings are clearly displayed on the screen of the Vertu Lateral Flow Reader, eliminating any guesswork about the results.

Benefits

- Fast Screening Results in less than 5 minutes*
- Simple No special training required
- Sensitive Limits of detection as low as 0.20 ppm
- Convenient Easily performed on-site or in the lab
- Durable Long shelf life
- Accurate Real-time data which can be printed or downloaded to a computer
- Wide Range 0 to 10 ppm

*after extraction

- Barley
- Corn
- Wheat





[PRODUCTS] Fumonisin Testing Solutions



[PRODUCTS] Fumonisin Testing Solutions



Ordering Information:

Cat. No. G1008

FumoniTest is a quantitative method for the detection of fumonisin B_1 , B_2 and B_3 in a variety of commodities by fluorometer, HPLC or UPLC. FumoniTest can be used in diverse locations, from the farm elevator to food processing quality control laboratories to government testing laboratories. FumoniTest is safe, fast, requires no special skills and produces precise results at parts per million levels.

Benefits

- Convenient For use with fluorometer, HPLC or UPLC
- Comprehensive Tests for fumonisins B₁, B₂, and B₃
- Durable Has a long shelf life
- Versatile For use with a variety of samples
- Quick Less than 15 minutes to isolate toxin*
- Wide Range Detects levels as low as 0.016 ppm and as high as 5 ppm

*excluding preparation and extraction

- Beer
- Corn
- Corn Meal
- Corn/Soy Blend
- Milo/Sorghum
- Popcorn
- Poultry Feed

Ordering Information:

Cat. No. G1060

FumoniTest WB is a quantitative HPLC method that uses wide bore immunoaffinity columns for the detection of fumonisin mycotoxins B_1 , B_2 and B_3 in a variety of commodities. With a total volume of 3 mL, FumoniTest WB allows for a faster flow rate preferred by many laboratories and is the ideal cleanup step for any HPLC or UPLC.

Benefits

- *Exclusive* Specifically for HPLC or UPLC use
- Comprehensive Total readings for fumonisins B₁, B₂, and B₃
- Durable Long shelf life
- Versatile For use with a variety of samples
- Quick 15 minutes to isolate toxin*
- Wide Range Detects levels as high as 10 ppm
- Fast Flow Passes more volume over the column

*excluding preparation and extraction



- Corn
- DDGs





[PRODUCTS] Fumonisin Testing Solutions



Ordering Information:

Cat. No. 176002810

Fumo-V test strips use the proven sensitivity and selectivity of VICAM's monoclonal antibodies to accurately detect and measure total fumonisin B_1 , B_2 , and B_3 at levels as low as 0.2 ppm and as high as 5 ppm. The single dilution sample preparation procedure saves time and materials, and the test strip develops in just 5 minutes.^{*} Digital results are displayed on the Vertu Lateral Flow reader, eliminating the need for subjective visual interpretation.

Benefits

- Fast Screening Results in 5 minutes*
- Simple No special training required
- Sensitive Limits of detection as low as 0.2 ppm
- Convenient Easily performed on-site or in the laboratory
- Durable Long shelf life
- Accurate Real-time data which can be printed or transferred to a spreadsheet
- Wide Range 0 to 10 ppm

*after extraction

Applications

- Corn
- Wheat



44 www.vicam.com/fumonisin-test-kits/fumo-v

www.vicam.com/fumonisin-test-kits/fumo-v-aqua

mo-/ AQUA

- Sustainable Safe, solvent-free testing .
- Fast Screening Results in 5 minutes* .
- Simple No special training required .
- Sensitive Limits of detection as low as 0.2 ppm** .
- *Convenient* Easily performed on-site or in the laboratory
- Durable Long shelf life
- **Accurate** Real-time data which can be printed or downloaded to a computert
- Wide Range 0 to 100 ppm н.

*after extraction **limits of detection will vary based on procedure

Ordering Information: Cat. No. 176003952

Fumo-V AQUA test strips use the proven sensitivity and selectivity of VICAM's monoclonal antibodies to accurately detect and measure total fumonisin B₁, B₂, and B₃ levels as low as 0.2 ppm and as high as 100 ppm. Fumo-V AQUA eliminates the need for hazardous solvents using a water-based dilution-free extraction procedure that develops in just 5 minutes.* Results are displayed on the digital screen and may also be printed or transferred to Excel for storage and use as a vital guality assurance tool.

Benefits

FU



45

Corn



[PRODUCTS] Ochratoxin Testing Solutions





Ordering Information:

Cat. No. 13012

OchraTest is a quantitative method for the detection of ochratoxin A in a variety of commodities using a fluorometer, HPLC or UPLC. The test requires no special skills and is rugged enough for field or laboratory use. Designed for room temperature storage, OchraTest is safe, sensitive and fast—enabling detection at parts per billion levels in just minutes.

Benefits

- Convenient For use with fluorometer, HPLC or UPLC
- Durable Long shelf life; requires no refrigeration
- Versatile Can be used with a variety of samples
- Quick Less than 10 minutes to isolate toxin*
- Wide Range Detects levels as low as 0.10 ppb and as high as 100 ppb
- *Easy* No special skills required, test can be performed virtually anywhere
- Safe Requires less toxic materials than other methods

*excluding preparation and extraction

Applications

- Barley
- Beer
- Coffee
- Corn Meal
- Corn/Soy Blend
- Dried Fruit
- Green Coffee
- Poultry Feed
- Popcorn
- Roasted Coffee
- Soluble Coffee
- Spices

Ochra

- Wheat
- Wine

[PRODUCTS]



Ordering Information:

Cat. No. G1033

OchraTest WB is a quantitative method for the detection of ochratoxin A with LC and LC-MS/MS in a variety of commodities. Using wide bore immunoaffinity columns with a total volume of 3 mL, compared to 1 mL in VICAM's standard columns, OchraTest WB allows for a faster flow rate preferred by many laboratories and is the ideal cleanup step for any HPLC or UPLC.

Benefits

- *Exclusive* Specifically for HPLC or UPLC
- Durable Long shelf life; requires no refrigeration
- Versatile For use with a variety of samples
- Quick 10 minutes to isolate toxin*
- Wide Range Detects levels as low as 0.25 ppb and as high as 100 ppb
- Fast Flow Passes more volume over the column

*excluding preparation and extraction

- Coffee
- Corn
- Licorice
- Spice
- Wheat



Ochratoxin Testing Solutions



Ordering Information:

Cat. No. 176003046

Ochra-V test strips use the proven sensitivity and selectivity of VICAM's monoclonal antibodies to accurately detect and quantify ochratoxin A in wheat samples at levels as low as 2.5 ppb. The single dilution sample preparation procedure saves time and materials, and the test takes 7 minutes* to develop. Digital readings are clearly displayed on the screen of the Vertu Lateral Flow Reader, eliminating any guesswork about the results.

Benefits

- Convenient Easily performed on-site or in the laboratory
- Wide Range Detects levels as low as 2.5 ppb and as high as 100 ppb
- Fast Screening Results in minutes
- Safe Requires less toxic matrial than other methods

*after extraction

- Applications
- Wheat





[PRODUCTS] T-2 Testing Solutions



T-2 Testing Solutions



Ordering Information:

Cat. No. G1028

Using monoclonal antibody-based affinity chromatography, T-2test HPLC is a HPLC-only test for the detection of T-2 mycotoxin for customers in the food processing industry. An ideal cleanup step for any HPLC, T-2test HPLC is simple, reliable and provides precise numerical results in parts per million levels—the preferred test of laboratories around the world for speed, quantification, and specificity.

Benefits

- Exclusive Specifically for HPLC or UPLC use
- Convenient Uses same methods as other VICAM tests
- Durable Long shelf life; requires no refrigeration
- Versatile Can be used with a variety of samples
- Wide Range Detects levels as low as 5 ppb and as high as 1500 ppb
- Safe Requires less toxic materials than other methods

- Barley
- Corn
- Milo/Sorghum
- Oats
- Rice
- Wheat





[PRODUCTS] Zearalenone Testing Solutions



Zearalenone Testing Solutions



Ordering Information:

Cat. No. G1012

ZearalaTest is a monoclonal antibody-based affinity chromatography method for the detection of zearalenone mycotoxin at parts per million levels. Quantitative results can be obtained using a fluorometer, HPLC or UPLC. ZearalaTest provides grain and feed processors the sensitivity, simplicity, and speed they require to generate precise, on-time data.

Benefits

- Convenient For use with fluorometer, HPLC or UPLC
- Durable Long shelf life; requires no refrigeration
- Versatile For use with a variety of samples
- Quick Less than 15 minutes to isolate toxin*
- Wide Range Detects levels as low as 0.1 ppm (fluorometer) and as high as 9 ppm (HPLC)
- Safe Requires less toxic materials than conventional methods

*excluding preparation and extraction

- Corn
- DDG
- Milo
- Poultry Feed



ZearalaTest WB is designed for the rapid, precise detection of zearalenone using wide bore immunoaffinity columns. With 3 mL wide bore construction, ZearalaTest WB allows for a faster flow rate and is the ideal cleanup step for any HPLC or UPLC analysis.

Benefits

- *Exclusive* Specifically for HPLC or UPLC use
- Durable Long shelf life; requires no refrigeration
- Versatile For use with a variety of samples
- Quick 20 minutes to isolate toxin*
- Wide Range Detects levels as high as 1500 ng
- Fast Flow Passes more volume over the column
- Limit of Detection 1.9 μg/kg

*excluding preparation and extraction



- Corn
- Milo
- Poultry Feed





Ordering Information:

Cat. No. G1026



[PRODUCTS] Multi-Analyte Testing Solutions



AflaOchra[®] HPLC

AflaOchra HPLC is the only test that employs a single column to produce precise numerical results for both ochratoxin A and the aflatoxins B_1 , B_2 , G_1 and G_2 in a variety of commodities. AflaOchra HPLC is safe and simple. It can be performed in less than 30 minutes (excluding sample preparations and extraction) and requires only basic HPLC skills.

Benefits

- Exclusive For HPLC, UPLC and LC-MS/MS use
- **Comprehensive** Detects aflatoxins B_1 , B_2 , G_1 , and G_2 . and ochratoxin A
- Durable Long shelf life; requires no refrigeration н.
- *Versatile* Can be used with a variety of samples н.
- **Ouick** Less than 30 minutes to isolate toxins* .
- Wide Range Measures levels as low as 0.25 ppb н. and as high as 100 ppb
- Safe Requires less toxic materials than other methods

*excluding preparation and extraction

Applications

- Botanicals
- Spices
- Wheat





Ordering Information:

Cat. No. 61017

Multi-Analyte Testing Solutions



Ordering Information:

Cat. No. G1031

AOZ HPLC is a quantitative method for the simultaneous detection of aflatoxin, ochratoxin A (OTA) and zearalenone (ZEA) in several commodities. AOZ HPLC immunoaffinity columns simultaneously isolate aflatoxins B₁, B₂, G₁, G₂; OTA; and ZEA. Using HPLC, UPLC or LC-MS/MS for detection, this test produces precise numerical results in micrograms per kilogram (μ g/kg) or parts per billion (ppb).

Benefits

- *Exclusive* Specifically for HPLC or UPLC use
- Convenient Uses same methods as other VICAM tests
- Comprehensive Detects aflatoxins B₁, B₂, G₁, G₂; ochratoxin A (OTA); and zearalenone (ZEA)
- Durable Long shelf life; requires no refrigeration
- Versatile Can be used with a variety of samples
- Wide Range Detects aflatoxin levels from 0.1 to 100 µg/kg; 0.25 to 100 µg/kg for OTA; and 5.0 to 1,000 µg/kg for ZEA

- Barley
- Corn
- Rice



Monoclonal antibodies enable the DON-NIV WB immunoaffinity column to isolate DON and NIV simultaneously from a single sample extract. Its 3 mL, wide-bore construction delivers flow-through speed to this powerful sample preparation column. Coupled with LC for detection, DON-NIV WB doubles the productivity of traditional laboratory analysis for DON and NIV.

Benefits

- High Recovery Over 90% for deoxynivalenol and nivalenol*
- **Exclusive** Primarily for HPLC or UPLC use н.
- **Convenient** Total readings for deoxynivalenol and nivalenol
- Durable Long shelf life .
- *Versatility* For use with wheat and other commodities н.
- **Ouick** 15 minutes to isolate toxins** .
- Simple Easy-to-use procedure н.

*using procedure developed by VICAM **excluding preparation and extraction

Applications

Wheat





Ordering Information:

Cat. No. 176002933

Multi-Analyte Testing Solutions



Ordering Information:

Cat. No. 100000176

Myco6in1⁺ columns for LC-MS/MS is a quantitative method that delivers fast, accurate and simultaneous determination of aflatoxins, ochratoxin A, fumonisins, deoxynivalenol, zearalenone, nivalanol, T-2 and HT-2 toxins. Samples are purified by the Myco6in1⁺ LC-MS/MS immunoaffinity column before being quantitated by LC or LC-MS/MS.

Benefits

- Exclusive For use with LC-MS/MS, HPLC with PDA, fluorescence detector and post-column derivatization or UPLC with ACQUITY[®] QDa[®] Mass Detector
- Accurate Meets European Committee for Standardization (CEN) criteria for mycotoxin analysis methods
- Comprehensive Detects aflatoxins, deoxynivalenol and nivalenol, fumonisins, ochratoxin A, zearalenone and T-2 and HT-2 toxins with one simple test
- Convenient One sample, one pass through the column to detect multiple mycotoxins
- Durable Long shelf life
- Economical One test provides results for multiple toxins, saving time and materials

- Corn (Maize)
- Corn Flakes
- Maize Crackers
- Wheat



The T-2/HT-2 HPLC test combines VICAM's proven immunoassay technology with HPLC or UPLC to detect and measure both T-2 and HT-2 toxins. T-2/HT-2 HPLC streamlines sample cleanup and when used in conjunction with UV detection provides precise readings at ng levels. This simple, sensitive, and reliable LC-only test has a long shelf life and can be used with a variety of samples.

Benefits

-	<i>Exclusive</i> – Specifically for HPLC or UPLC use	•	Barley
•	Convenient – Uses same methods as other VICAM tests	•	Corn
-	<i>Durable</i> – Long shelf life; requires no refrigeration	•	Oats
-	<i>Versatile</i> – Can be used with a variety of samples	-	Rice
•	<i>Wide Range</i> – Reliable readings of contamination levels ranging from 100* ng to 1,000 ng of T-2 and HT-2	•	Wheat

Safe – Requires less toxic materials than other methods

*lower limits may be achieved with other methods of detection

Ordering Information: Cat. No. 176000207

Applications

1-2 MF.2 WAS





Headquarters:

34 Maple Street Milford, MA 01757 USA Tel.: +1 800 338 4381 +1 508 482 4935 Fax: +1 508 482 4972

Orders:

1848 N. Deffer Drive Nixa, MO 65714 USA Tel.: +1 877 228 4244 +1 417 725 6588 Fax: +1 417 725 6102

Try our mycotoxin regulations tool at www.commodityregs.com



facebook.com/vicamwaters

linkedin.com/company/vicam

youtube.com/vicamwaters

Technical Service and Support:

email: techservice@vicam.com

www.vicam.com

Waters THE SCIENCE OF WHAT'S POSSIBLE.®

©2016 Waters Corporation. Waters, The Science of What's Possible, VICAM, Vertu, AflaCheck, Afla M1 FL+, AflaTest, Afla-V, AOZ, CitriTest, DON-V, Fumo-V, Myco6in 1+, UPLC, ACQUITY, and QDa are registered trademarks of Waters Corporation. Afla B, Afla-M1 HPLC, AflaOchra, AQUA, DONCheck, DONtest, DON-NIV, FumoniTest, OchraTest, Ochra-V, T-2test, T-2/HT-2 and ZearalaTest are trademarks of Waters Corporation. All other trademarks are the property of their respective owners.

The analytical methods presented in this product quide have been researched and developed by VICAM to be used exclusively with VICAM products. These methods have been validated in the VICAM laboratories to perform to the specifications indicated in the VICAM procedures. The user assumes all risk in using VICAM procedures and products. VICAM makes no warranty of any kind, expressed or implied, other than that VICAM products conform to VICAM's printed specification and quality control standards. VICAM will, at its option, repair or replace any product, or part thereof, which proves to be defective in workmanship or material. VICAM's undertaking to repair or service such products is exclusive and is in lieu of all other warranties whether written, oral, expressed, or implied, including any implied warranty of merchantability or fitness for a particular purpose. VICAM shall have no liability for anticipated or lost profits or any loss, inconvenience or damage whether direct, indirect, incidental, consequential or otherwise, to person or property, or for strict liability or negligence arising from or in connection with the use of these assay procedures or VICAM products.

Printed in the U.S.A. October2016 720005359EN AO-SIG