



# Mycotoxin Solutions

Testing Solutions from Neogen®





# Lateral Flow Tests

For high or low throughput users looking for qualitative or quantitative results, we have a solution for you. We offer qualitative screening tests for fast visual results perfect for onsite detection of aflatoxin and aflatoxin M<sub>1</sub>. Our quantitative tests, detailed below, provide exact levels for a wide range of toxins.

Our Reveal® Q+ tests are simple, easy-to-use lateral flow tests, providing quantitative results in minutes. Perfect for use onsite, the tests have unmatched accuracy and reproducibility allowing for quick and convenient testing.

## Why Use Our Reveal Q+ and Reveal Q+ MAX Tests?

Neogen’s rapid tests for the detection of mycotoxins are available in multiple formats. Neogen’s Reveal and Reveal Mycotoxin Aqueous Extraction (MAX) tests are the easiest available for those who require only a simple yes/no result, providing screening results in as little as two minutes.

Reveal Q+ lateral flow format utilizes solvent and water-based extractions needed for analysis of complex commodities. The tests available include aflatoxin, DON, fumonisin, ochratoxin, zearalenone, and T2/HT2. The Reveal Q+ Endpoint format is designed for use when increased workflow output is needed.

### Quantitative

- Knowing the accurate level of toxins present allows you to evaluate and maintain compliance with regulatory levels

### Easy Data Management

- Protect the integrity of your data with the automated transfer of data from the system to your data program.

### Provides Fast, Actionable Results

- The lateral flow format simplifies your work process and standardizes your testing protocols.

### Easy To Use

- Minimal training and equipment required.

## Our Reveal Q+ MAX Aqueous Extraction Tests are Available for:

	Testing Time	Range of Detection*
Reveal Q+ MAX Aflatoxin	6 min	3-300 ppb
Reveal Q+ MAX DON	3 min	300-30000 ppb
Reveal Q+ MAX Ochratoxin	5 min	5-100 ppb
Reveal Q+ MAX T-2/HT-2	5 min	50-3000 ppb
Reveal Q+ MAX Zearalenone	5 min	25-1500 ppb

\*Range of detection with dilutions

Results from our lateral flow format tests are interpreted using our innovative Raptor® platform available in two formats to suit your needs. Whether you are looking for scalability or portability, our two reader options are automated to reduce hands-on time and protect the integrity of your data. Our compact desktop Raptor unit can process multiple tests at the same time to increase your productivity, while our handheld Solo unit is a battery-operated reader for testing on-the-go.

# ELISA Tests

Veratox® quantitative ELISA microwell assays are perfect for those with laboratory set-ups, from food manufacturers to commercial and government laboratories. These tests provide accurate quantitative results in a wide range of levels, including lower levels with our high-sensitivity assays.

## Why Use Our ELISA Tests?

### Quantitative

- Get an exact concentration of any toxins present within your samples to determine the safety and regulatory compliance of your products.

### Batch Testing

- Our ELISAs allow you to test up to 19 samples at a time against test controls.

### Precise Results

- ELISA testing produces comparable results to analytical methods, such as HPLC.

### Efficient Workflow

- With only minimal training required, the simple process means no wasted time or resources within your lab.

Our Veratox ELISA test kits are available for aflatoxin, DON, ochratoxin, zearalenone, T-2/HT-2 toxin, and fumonisin. ELISA assays can be read using the Awareness Statfax Reader or other microwell plate readers.

For analysis at lower levels of contamination, we offer our high-sensitivity (HS) option for aflatoxin, DON, fumonisin, and ochratoxin. In addition, we have kits that utilize an aqueous extraction that includes Veratox MAX for Total Aflatoxin, Veratox MAX for Total Aflatoxin HS, and Veratox MAX for Zearalenone.

Veratox MAX for Total Aflatoxin, Total Aflatoxin HS, and Zearalenone are the first microwell tests available utilizing an aqueous extraction.

## Aflatoxin M<sub>1</sub>

For dairy products such as milk, milk powder, butter, or cheese, we also offer a rapid ELISA test for the detection of aflatoxin M<sub>1</sub> at 5–100 ppt in just 45 minutes, and lateral flow options for rapid screening in five minutes.

## Screening vs. Quantifying Results

Our rapid tests for the detection of mycotoxins are available in multiple formats. Reveal and Reveal MAX tests are the easiest available for those who require only a simple yes/no result, providing screening results in as little as two minutes. Veratox, Reveal Q+, and Reveal Q+ MAX provide results in exact parts per million or billion in just minutes. Each requires only a minimal amount of training and equipment.

## Solvent vs. Aqueous Extraction

Neogen has test kits available that use a water-based extraction method. The MAX line of kits simply require distilled or deionized water to be added to the extraction packets, offering an easy-to-use and environmentally friendly extraction method. The common extraction protocol allows you to test for multiple mycotoxins from a single sample. Please contact a Neogen representative for a complete list of tests.



# Procedure Snapshot

Our test kits and procedures are simple to follow. Please see below for example protocols for our lateral flow and ELISA test formats.

## Lateral Flow Test Procedure: Reveal Q+ MAX



1 Add contents of a MAX 1 packet to 10 g of sample.



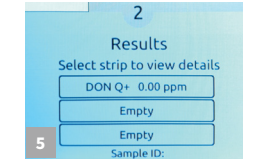
2 Add 50 mL distilled or deionized water and shake vigorously. Once settled, filter and collect filtrate.



3 Mix sample diluent with sample extract.



4 Insert test strip into the Raptor cartridge and insert into reader.



5 Add prepared sample to the Raptor cartridge. The reader will start automatically and show results.

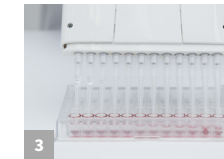
## ELISA Test Procedure: Veratox for Aflatoxin



1 Remove 1 red mixing well for each sample plus 4 for controls. Remove equal number of clear antibody wells and place in well holder. Add 100  $\mu$ L of conjugate to each red-marked mixing well.



2 Add 100  $\mu$ L of controls and extracted samples to the red-marked mixing well. Make sure the controls are in the correct order per the kit instructions.



3 Mix well, then transfer (using the 12-channel pipette) 100  $\mu$ L to the clear antibody wells. Incubate at room temperature for 2 minutes, sliding the microwell holder back and forth gently for the first 30 seconds.



4 Shake out the contents of the antibody wells.



5 Wash wells thoroughly with deionized water. Repeat wash step 5 times.



6 Tap out the water on an absorbent paper towel.



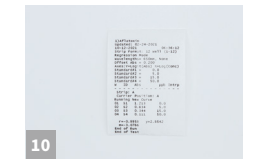
7 Transfer (using the 12-channel pipettor) 100  $\mu$ L of substrate from the reagent boat to the antibody wells. Incubate at room temperature for 3 minutes, sliding microwell holder back and forth gently for the first 30 seconds.



8 Transfer (using the 12-channel pipettor) 100  $\mu$ L of Red Stop Solution from reagent boat into the antibody wells and mix by sliding back and forth on a flat surface.



9 Wipe the bottom of the microwells with a dry cloth and read using a microwell reader with a 650 nm filter.



10 The result should read with a coefficient above 0.980 to be considered valid. Sample results above 50 ppb must be diluted and retested. Sample results below the limit of quantification must be reported as < 5 ppb.

## External Laboratory Services

If you are looking for an external laboratory to carry out your full testing requirements, or simply looking for a partner to verify your results, we are here to help.

In some regions we offer a range of testing services for a variety of food and feed matrices. These services are performed at our ISO/IEC 17025:2017 accredited laboratory.



# Training and Support

Our in-depth product training can be delivered where and when you need it. Our talented team is on hand to provide comprehensive training and support tailored to your business needs, from customized sessions catered to all skill levels, to technical troubleshooting and guidance.

## LabLive

Our interactive online tool, LabLive, lets us offer you support, training, and troubleshooting from the comfort of your own desktop or lab. Our free web service links you directly with technical experts for a personal experience, giving you instant access to support when you need it.

## Proficiency Testing

We offer regular mycotoxin proficiency testing to help support compliance with customer demands, certifications, and regulatory requirements. As part of a ring trial we can send you spiked samples to blind-test and report results. We will assess your results against the known sample levels and produce a confidential report to validate the efficacy of your test procedure and results.

## Mycotoxin Workshops

Throughout the year we host free-to-attend, localized workshop events. Here, you can meet with our experts to test and calibrate equipment, ensure all software is up to date, and receive refresher training for you or your team.

## Mycotoxin Reference Material

When looking to validate your in-house results, we can also provide naturally contaminated mycotoxin reference material (MRM) for testing. The samples will have varying levels of toxin present and can be used as part of training or internal certification to confidently evaluate your sampling, extraction, and testing performance.

**For additional information visit our website at [neogen.com](https://www.neogen.com)**





## Explore Our Other Solutions

### Allergens

From rapid onsite qualitative tests to quantitative ELISAs, we've got a solution for you. Our Reveal 3-D lateral flow tests are uniquely designed with three lines of detection and can be used on-site to screen for low levels of allergens in rinses, environmental swabs, and validated matrices, with results in 10 minutes or less. Our latest developments include a rapid test for the detection of any one or a combination of six tree nuts, plus assays for coconut.

### Histamine

Our histamine testing solutions help the seafood industries maintain compliance with regulatory requirements. Our goal is to help your facility confidently test your seafood supplies and seamlessly comply with regulatory requirements.

Our easy-to-use Alert®, Reveal, and Veratox tests for histamine offer rapid qualitative or quantitative test results based on your needs.

### Hygiene Monitoring

Neogen offers two complete hygiene monitoring systems to meet your needs: AccuPoint® Advanced Next Generation Hygiene Monitoring System, and Clean Trace® Hygiene Monitoring and Management System. Both systems validate the effectiveness of your hygiene monitoring programme by detecting food residues and microorganisms present on surfaces and rinse waters by measuring the amount of adenosine triphosphate (ATP) present.

### Microbiology Solutions

For decades, we have been a global developer and provider of traditional and new tech microbiology solutions. Our comprehensive portfolio is sure to meet your needs whether you're looking for traditional microbial solutions, in-house validation units, filtration testing solutions, pathogen tests, or water microbiology products.



Neogen Corporation, 620 Lesher Place, Lansing, MI 48912 USA  
© Neogen Corporation 2023. All rights reserved. Neogen, AccuPoint, Alert, Clean Trace, Raptor, Reveal, and Veratox are registered trademarks of Neogen Corporation.

FS00710-0923