



Afla- γ [®] AQUA™
QUANTITATIVE STRIP TESTS

**INSTRUCTION GUIDE
FOR CORN 0-100 PPB
AND GIPSA METHOD**



VICAM[®]

A Waters Business

CULTIVATING SUCCESS THROUGH SCIENCE™

For more than 20 years, VICAM has been the global provider of choice for next-generation food safety technology and rapid mycotoxin test solutions.

The goal of securing the world's food supply requires knowledge, cooperation, and collaboration. To advance that objective, VICAM works closely with government regulatory agencies, international standards bodies, major food industry laboratories, and leading research institutions around the world. With a global scientific and distribution presence, VICAM has access to the latest research advances, industry expertise, and regulatory information needed to design solutions that maximize food safety and quality at every stage of the global food supply chain.

As the trusted partner of the agricultural industry, VICAM is proud to consistently deliver the superior products, responsive service, and individualized support for your industry-specific goals.



AFLA-V AQUA CORN KIT 176003520
(25 tests)

KIT CONTENTS*

Afla-V Strip Tests 100000247
Micro-Pipette Tips, 100 µL 600001109
Filter Paper 600001106
Extraction Tubes, 40 mL 600000827
Afla-V AQUA Corn Barcode 715004633
Strip Test Vial (25/pk) 600000813
Afla-V Strip Test Diluent, 6mL 100000249
Afla-V AQUA Instruction guide 715005308

AFLA-V AQUA GIPSA kit 176003991
(25 tests)

KIT CONTENTS*

Afla-V Pack (25 strips) 100000247
Micro-Pipette Tips, 100 µL 600001109
Extraction Tubes, 40 mL 600000827
Strip Test Vial (25/pk) 600000813
Filter Paper (25/pk) 600001522
Afla-V Strip Test Diluent 6 mL 100000249
Extraction Cups (25/pk) 600001568
Weigh Boats (25/pk) 600001571
Afla-V AQUA Instruction Guide 715005308
Afla-V AQUA Barcode Set 715004633

REQUIRED BUT NOT INCLUDED*

AQUA Premix Solution 100000339
(900 mL)
AQUA Premix Solution (4 L) 100000345
AQUA Premix Solution (20 L) 100000347
OR
AQUA Solution A 100000336
AQUA Solution B 100000337

Vertu Mycotoxin BEQ, 110V 176002078

Vertu Mycotoxin BEQ, 220V 176002079

EQUIPMENT PACKAGE CONTENTS**

Vertu Reader, 110V & 220V 725000574
Vertu Bar-Code Scanner 725000576
Printer, 110V & 220V 725000577
Vortex Mixer 23040
Digital Timer G4036
Micro-Pipettor, 100 µL 600001108
Filter Funnel, 65 mm (4 pack) 36020
Strip Test Vial Rack 600001107
Graduated Cylinder, 25 mL 600000937
Vertu Basic Instruction Guide 715002426
Extraction tubes 600000827
Micro-pipette tips 600001109
Strip test filters 600001106
Vortex sample holder 600001136
Graduated cylinder, 50mL 20050
Strip test vials 600000813

REQUIRED BUT NOT INCLUDED FOR GIPSA**

Mini Incubator 600001287
Mini Incubator Block 600001289
Magnetic Plate Stirrer 600001566
Magnetic Stir Bar 600001567

STORAGE AND SAMPLING

STORAGE RECOMMENDATIONS

Strip tests must be refrigerated. Store at 4 ° – 8 °C (39 ° – 46 °F).

Strip test and sample extract should be at room temperature of between 20 °C (68 °F) and 25 °C (77 °F) before use. After removing strips from refrigerator leave strips at room temperature for 20 minutes or longer to equilibrate.

If room temperature is lower than 20 °C (68 °F) or higher than 25 °C (77 °F), use Afla-V AQUA GIPSA incubator method.

SAMPLING

Mycotoxins tend to occur in scattered locations in large corn loads and may be detectable in only a small percentage of kernels in a lot. The uneven distribution of contaminated corn kernels can cause test results to vary significantly from sample to sample. It is therefore essential to take a representative sample from the lot. Product must be collected from different locations in a static lot based on a probing pattern. The probe must draw from the top to the bottom of the lot. The samples obtained from the probes must be ground and mixed well and a subsample taken for testing. Contact your local regulatory authorities or VICAM for more information on sampling.





The information contained in each barcode includes the test name, test lot number, method of scanning, parameters of measure, and algorithm for result calculation. This information is specific to each lot of strip test cassettes and varies from barcode to barcode ensuring the accuracy, precision, and reliability of each test.

The lot number and test type displayed on the Vertu reader must match the label information on the strip test package. If the reader has just been turned on, confirm that “scan” is selected on the display screen and then press the center button on the keypad. If the reader has already run a test, use the arrow keys to select “NT” and then press the center button.

When the scanner is ready to read the barcode, the reader will beep 3 times. Press the yellow trigger on the barcode scanner and aim the laser beam point at the barcode for the test you are running. When scanning the barcode, it may be necessary to adjust the distance between the scanner and the barcode while pressing the yellow trigger. When the barcode is scanned, the reader will beep once and the display screen will show the correct information.

PREPARATION OF PREMIXED AQUEOUS EXTRACTION SOLUTION

A premixed Aqueous solution containing all three reagents (water, AQUA Solution A and AQUA Solution B) can be made in advance and the one solution added to the sample.

To make 900 mL of AQUA Premix Solution, combine the following reagents in a glass or plastic container in the order listed below:

1. 540 mL purified water
2. 180 mL AQUA Solution A (one bottle VICAM p/n 100000336)
3. 180 mL AQUA Solution B (one bottle VICAM p/n 100000337)

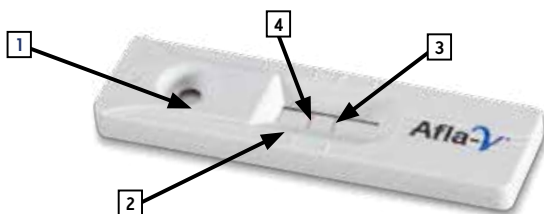
Mix well.

Alternatively, the following AQUA Premix solutions can be purchased from VICAM:

- 900 mL p/n 100000339
- 4 L p/n 100000345
- 20 L p/n 100000347

PRODUCT FEATURES

Afla-V Strip Test Cassette



- 1 Sample Well
- 2 Results Window
- 3 Control Line
- 4 Test Line

PIPETTE TERMS

Aspirate – to draw the sample up into the pipette tip

Blow out – to empty the tip completely

PIPETTING TECHNIQUES

1. Press the operating button to the first stop.
2. Dip the tip into the solution and slowly release the operating button to "wet" the tip.
3. Press the operating button to the first stop again and slowly release the operating button. Wait 1–2 seconds and then withdraw the tip from the liquid, touching it against the edge of the reservoir to remove excess liquid.
4. Dispense the liquid into the receiving vessel by gently pressing the operating button to the first stop and then press the operating button to the second stop. This action will empty the tip. Remove the tip from the vessel, sliding it up the wall of the vessel.
5. Release the operating button to the "Ready" position.
6. Please consult the chart for visual instructions on operating the pipette. Be sure to always hold the pipette in a vertical position.

PIPETTE POSITIONS

- | | | |
|---|--|--|
| 1. Press pipette button down to first stop and place the tip into liquid. | 2. With tip in liquid, slowly aspirate (draw up) by letting button return to "Ready" position. | 3. Dispense liquid into receiving vessel by pressing button to first stop and then to second stop. This will blow out the tip. |
|---|--|--|



AFLA-V AQUA PROCEDURE FOR CORN (0 -100 ppb)

1. Turn on the Vertu reader by pressing the center key. Using the arrow keys, move the cursor to the scan on the display, then gently press the center key. You will then hear 3 beeps.
2. Calibrate the Vertu reader daily by scanning in the Afla-V AQUA CORN bar code for the lot of strips being used. You will hear a beep when the bar code is accepted. Make sure the lot number displayed on the reader is the same lot number as the strips. The Afla-V AQUA CORN bar code will have a “CQ” designation. For example Afla 035-004**CQ**.0.
3. Sample extraction: Weigh 5.0 + 0.1 g ground sample into an extraction tube.
4. Add to the extraction tube 25 mL of AQUA premix.
5. Cover the extraction tube and vortex at high speed for 2 minutes.
6. Filter the extract for 1-5 minutes into a clean extraction tube.
7. Transfer 100 µl of the Afla-V diluent to a strip test vial.
8. Using the same pipette tip, add 100 µl of the sample extract to the vial. Cover vial and mix well by vortexing.



9. Transfer 100 μ l of solution from strip test vial to the circular opening on the Afla-V strip at a rate of about 1 drop per second. Be sure to hold the pipet straight up and down.
10. Allow the strip test to develop for 5 minutes on a flat surface.
11. Insert the Afla-V strip test into the Vertu reader (circular opening side in first).
12. Press the center key on the reader to take a reading.
13. To print the result, move the cursor to “P” in the upper left hand corner of the display using the arrow keys then press the center key.
14. To run the next sample, move the cursor to “NT” using the arrow keys and press the center key. If you are using the same lot of strips, you are now ready to insert the next sample. If you are using a different lot of strips, you will need to scan in the new bar code.

Assay range: 0 – 100ppb

Limit of detection: 5 ppb



AFLA-V AQUA USDA GIPSA CORN PROCEDURE (0 - 300 ppb)

Method for Corn (including dent or field corn, corn meal, corn flour, cracked corn, corn grits or polenta, and corn screenings) and popcorn.

1. Turn on the Vertu reader by pressing the center key. Using the arrow keys, move the cursor to the “scan” on the display, then gently press the center key. You will then hear 3 beeps.
2. Calibrate the Vertu reader daily by scanning in the Afla-V AQUA GIPSA bar code for the lot of strips being used. You will hear a beep when the bar code is accepted. Make sure the lot number displayed on the reader is the same lot number as the strips. The Afla-V AQUA GIPSA bar code will have a “TQ” designation. For example 035-007**TQ**.0.
3. Transfer 250mL of AQUA Premix solution to an extraction cup containing a stir bar. Place the cup on a magnetic plate and allow it to stir at maximum speed.
4. Weigh 50g of ground sample and add to the extraction cup.
5. Stir the sample for 2 minutes at maximum speed minutes making sure to maintain a visible vortex and that no solid sample rests on the bottom of the cup.
6. Filter the extract using Afla-V fluted filter paper (VICAM product #600001522) for 1-5 minutes into a clean extraction tube.
7. Place a strip test vial in the rack. Add 100µl of the AFLA-V diluent into the strip test vial.
8. Using the same pipette tip, add 100 µl of the extract to the vial. Cover it and mix well by vortexing.
9. Place above mixture from step 8 and an AFLA-V strip cassette into the Vertu-incubator (circular opening side in first), close the incubator plastic cover and incubate at 30°C for 4 minutes.
10. Transfer 100 µl of the pre-warmed solution from step 9 to the circular opening on the pre-warmed AFLA-V strip at a rate of about 1 drop per second. Be sure to hold the pipet vertically. The pipet tip can touch the bottom of cassette.

AFLA-V AQUA USDA GIPSA CORN PROCEDURE (0 - 300 ppb)

Method for Corn (including dent or field corn, corn meal, corn flour, cracked corn, corn grits or polenta, and corn screenings) and popcorn.

11. Close the incubator plastic cover, and allow the strip test to develop at 30°C for 4 minutes.
12. Insert the AFLA-V strip test into the Vertu reader (circular opening side in first).
13. Press the center key on the reader to take a reading.
14. To print the result, move the cursor to “P” in the upper left hand corner of the display using the arrow keys then press the center key.
15. To run the next sample, move the cursor to “NT” using the arrow keys and press the center key. If you are using the same lot of strips, you are now ready to insert the next sample. If you are using a different lot of strips, you will need to scan in the new bar code.

Greater than range results:

16. If the reader displays “> Range” (greater than 50ppb), dilute sample extract from step 6 one to ten with AQUA Premix (100 μ L extract + 900 μ L AQUA premix)
17. Repeat steps 7 to 13.
18. Multiply the displayed result by 10 to obtain the true level of contamination.

Assay range: 0 – 300 ppb

Limit of detection: 5 ppb



NOTES

1. Press the center button on the keypad quickly and gently to read samples. Pressing the center button on the keypad long and hard will turn the instrument off.
2. Purified water can be reverse osmosis purified, distilled or deionized water.
3. All strips should have a visible control line.
4. Do not run test in a location where air from an air conditioner, heater, or window will blow directly on strips.
5. If funnel is being used, clean the funnels using detergent and rinse with water between runs or dispose.





Sustainable – Safe, solvent free testing

Fast screening – Results in 5 minutes*

Simple – No special training required

Precise – Limits of detection as low as 5.0 ppb

Convenient – Easily performed onsite 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 or 0 to 300 ppb with USDA GIPSA Method.

**after extraction.*



A Waters Business

KEY LOCATIONS

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