

QUICKSTIX™ KIT FOR QUICKSCAN QUANTUM BLUE

EXTRACT AND
EVALUATE THE ACTIVITY
OF QUANTUM BLUE IN
LESS THAN 15 MINUTES



The most important additive is intelligence



INTENDED USE

The QuickStix Kit for QuickScan Quantum Blue is designed to quickly extract and detect the amount of Quantum Blue in supplement or feed samples. The kit will then provide quantitative results when used in conjunction with the QuickScan System. This method is only suitable for feeds containing AB Vista Quantum Blue and is not suitable for other phytase products.

IMPORTANT NOTES:

- Before testing, the enclosed Multi-Matrix Barcode Card (MMBC) must be scanned just once for each kit lot to upload information to the QuickScan
- QuickScan software version 5.9.0 or higher (current version is 5.11.0 as of January 2025) is required

Contents of Kit (supplier catalogue code AQ-081-BG):

- 50 QuickStick Strips packed in a moisture-resistant canister
- 50 clear reaction vials
- 50 transfer pipettes
- Multi-Matrix Barcode Card, kit lot specific

Items Not Provided:

- QuickScan System (scanner)
- Sample grinding equipment
- Digital scale for weighing samples
- Graduated cylinder (200ml) or balance for measuring 150ml tap water
- Timer
- Pipette(s) to deliver 200µl and 600µl (optional for extended dilution)
- Graduated cylinder(s) (50ml) (optional for extended dilution)
- Room temperature tap water
- Scissors
- Positive and negative control feed samples

HOW THE TEST WORKS

Each QuickStick Strip has an absorbent pad at each end. The protective tape with the arrow indicates which end of the strip to insert into the reaction vial. The sample extract travels up the membrane strip and is absorbed into the larger pad at the top of the strip. At the end of the test time, the strip is cut off at the top of the arrow tape, the bottom pads are discarded, and the strip is inserted into the QuickScan reader to obtain quantitative results.

The QuickScan System software reads the test strip, retrieves the lot-specific information that was uploaded using the Multi-Matrix Barcode Card (MMBC), and uses the appropriate lot-specific curve to obtain a result.

- Limit of Detection (LOD) = 75 FTU/kg
- Limit of Quantification (LOQ) = 150 FTU/kg
- In the assay's base range, results are reported from 75 to 600 FTU/kg. Accuracy should not be assumed for results reported under 150 FTU/kg or over 550 FTU/kg
- Further dilution extends the range of the assay from 300 to 2400 FTU/kg. When following the range with dilution, accuracy should not be assumed for results reported under 600 FTU/kg or over 2200 FTU/kg.

SAMPLE PREPARATION

1. Grind sample to ground coffee consistency (see note on sample grinding).
2. Weigh out 10 grams of ground sample into clean sample cup. Important: Use a clean cup for every sample.
3. Measure 150 mL of room-temperature tap water with a graduated cylinder. Add water to the sample cup and cap securely so cup does not leak when shaken.
4. Shake the sample cup vigorously until the ground sample is completely saturated, and then continue shaking in an up-and-down motion for an additional 30 seconds.
5. Remove the cap from sample cup and let sit for 3 minutes.
6. Using a new transfer pipette, immediately transfer liquid from the upper 1/3 of the extract to the reaction vial. Fill vial to the halfway mark on the vial (approx. 0.8 mL).

HOW TO RUN THE QUICKSTIX STRIP TEST

1. Allow refrigerated canisters to come to room temperature before opening. Remove the QuickStix Strips to be used. Avoid bending the strips. Reseal the canister immediately.
2. Place the strip into the reaction vial, ensuring that the end indicated by the arrows on the protective tape is inserted.
3. Allow the strip to develop for exactly 5 minutes before making final assay interpretations.
4. Immediately cut off and discard the bottom section of the strip covered by the arrow tape and place in QuickScan Reader. Strips must be read immediately while still wet.

NOTE: Use extreme caution to prevent sample-to-sample cross-contamination with grain, fluids, or disposables.

USE OF THE QUICKSCAN SYSTEM

Detailed instructions for use of the QuickScan System are supplied with each unit, and can also be found at <http://www.envirologix.com/support/quickscan>. The Multi-Matrix Barcode Card must be scanned into the system prior to testing for each kit lot.

In summary, a strip is placed in the carrier, which is inserted into the reader, and the strips are read by touching or clicking on the "Read Test" area of the screen. Results are then recorded in an electronic worksheet, allowing each user to report and track data easily.

Development of the Control Line within 5 minutes indicates that the strip has functioned properly. Any strip that does not develop a Control Line should be discarded, and the sample re-tested using another strip.

Results are reported between 75 and 600 FTU/kg. Results greater than 600 FTU/kg are reported as ">600 FTU/kg".



RANGE WITH DILUTION

In the assay's base range, results are reported from 75 to 600 FTU/kg. If the initial result is greater than 600 FTU/kg (">600 FTU/kg" on QuickScan), and further knowledge about the level of Quantum Blue is required, samples can be retested by further dilution of the sample extract. Further dilution extends the range of the assay from 300 to 2400 FTU/kg, although accuracy should not be assumed for results reported under 600 FTU/kg or over 2200 FTU/kg.

Dilution using pipettes in reaction vial

1. In a separate clean reaction vial combine sample extract with room temperature tap water to create a 4 fold dilution (example: 1 part extract + 3 parts water; 200 μ L + 600 μ L) as follows:
 - a. Place a clean pipette tip securely on the 200 μ L pipette.
 - b. Draw up 200 μ L of clean tap water into the tip and dispense into a clean reaction vial. Repeat this step two more times for a total of 3 water dispenses (600 μ L total water added to the reaction vial).
 - c. Using the same 200 μ L pipette/tip draw up liquid from the extracted sample and dispense into the reaction vial with the 600 μ L of water. Mix the sample and water well by fully drawing up and down with the same pipette/tip 10 times.

Dilution using a graduated cylinder

1. In a separate clean 50ml graduated cylinder, combine sample extract with room temperature tap water to create a 4 fold dilution (example: 1 part extract + 3 parts water; 10ml + 30ml) as follows:
 - a. Using a transfer pipette provided in the kit, add extraction liquid to the 10ml line in a 50ml graduated cylinder.
 - b. Add 30ml tap water (to the 40ml line on the graduated cylinder). This is a dilution factor of 4.
 - c. Cover with laboratory film and mix this by inversion 3-4 times.

2. Rerun assay as before by adding a new Quantum Blue strip to the mixed sample in the reaction vial.
3. In the QuickScan Results Screen, choose "1:A" under the Dilution tab (dropdown menu). The System will calculate and record the Quantum Blue level in the diluted sample.

NOTE ON SAMPLE GRINDING

Thorough grinding of the sample is essential to the precision and accuracy of this assay. Grinding the sample with a laboratory mill is the preferred / recommended method for AB Vista laboratories: Grind 200g of the sample to a particle size of <1.0mm. The preferred equipment for grinding the sample is a laboratory mill, e.g. Retsch ZM 300 mill, with a 0.75 mm sieve. If a laboratory mill is unavailable, use a commercial blender; examples include a Blendtec™ or Oster™ blender. Grind 200g of the sample for 30 seconds in the blender. Check the consistency of the sample and if necessary, grind for another 15 seconds. Check the consistency of the sample again and if necessary, grind for another 15 seconds to a total / maximum of 60 seconds.

KIT STORAGE

This QuickStick Kit should be stored refrigerated. Note the shelf life on the kit box. Prolonged exposure to high temperatures may adversely affect the test results. Do not open the desiccated canister until ready to use the strips.

PRECAUTIONS AND NOTES

- Results from this test are indicative and relate only to the sample(s) tested. This does not guarantee the bulk of the material to be of equal quality.
- Strips must be read wet promptly to ensure accurate results.
- Accuracy of results less than the stated LOQ for the matrix being tested should not be assumed.
- The assay has been optimized for use with the protocols provided in the kit. Deviation from these protocols may invalidate the results of the test. Room-temperature components, proper and thorough mixing, accurate pipetting, and good timekeeping are essential to accurate results.
- Protect all components from hot or cold extremes of temperature when not in use. Do not leave in direct sunlight or in a vehicle; this could adversely affect the test results. Do not open the desiccated canister until ready to use the test strips.
- It is recommended to occasionally test a positive control sample (feed sample containing known activity of Quantum Blue) and negative control sample (feed sample without Quantum Blue). These samples are provided by AB Vista. Please contact us to obtain these samples and for further advice.

FOR TECHNICAL SUPPORT CONTACT AB VISTA:

ABVlabservices@abvista.com

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