ABRAXIS® Microcystins Strip Test for Finished Drinking Water
Sample Preparation for Brackish or Sea Water

1. Intended Use

For the screening of Microcystins in brackish or seawater. Samples requiring regulatory action should be confirmed byELISA, HPLC, or other conventional methods.

2. Materials and Reagents Required

ABRAXIS® Microcystins Strip Test Kit for Finished Drinking Water
Distilled or deionized water
20 mL glass vials
3 mL graduated disposable pipettes
1 mL graduated disposable pipettes

3. Notes and Precautions

This procedure is intended for use with brackish or seawater samples. Other matrices should be thoroughly validated before use with this procedure.

- The ABRAXIS® Microcystins Strip Tests for Recreational Water and for Source Drinking Water are intended for use with fresh watersamples only. Analysis of brackish or seawater samples with these kits will produce inaccurate results due to matrix interference. Brackish water samples with salinities ≤ 2.5 parts per thousand and brackish or seawater samples which have been diluted according to the procedure described in section 6, below, can be screened using the ABRAXIS® Microcystins Strip Kit for Finished Drinking Water.
- The ABRAXIS® Microcystins Strip Test for Finished Drinking Water is for the screening of samples for the presence of free Microcystins. Water samples containing cyanobacterial cells, which are to be screened for total Microcystins content, (free and cell-bound) must undergo an appropriate cell lysis procedure, such as the freeze/thaw method, prior to testing toobtain accurate total Microcystins results. *Note: Seawater samples must be diluted, as described in section 6 below, prior to freeze/thaw lysis.*
- The ABRAXIS® Microcystins Strip Tests provide only preliminary qualitative test results. Use another, more quantitative, analytical method such as ELISA or instrumental analysis to obtain a confirmed quantitative analytical result.
- Prior to use, ensure that the product has not expired by verifying that the date of use is prior to the expiration date on the label.
- The test strips are packaged in a desiccant vial. The vial should be kept completely closed except for opening to remove test strips. When re-closing, ensure lid is completely sealed.
- Avoid touching or bending the membrane on the test strip.
- Avoid cross-contamination of samples by using a new conical vial and disposable pipette for each sample. Use only Microcystins Strip Test reagents from one kit lot, as they have been adjusted in combination.
- It is good laboratory practice to use positive and negative controls to ensure proper test performance. Samples that do not contain Microcystins (negative controls) as well as samples containing known quantities of Microcystins (positive controls) should be analyzed with each lot of test strips to provide a reference for line intensity to be expected.

4. Sample Collection and Handling

Collect water samples in glass containers and store refrigerated for up to 5 days. If samples must be held for greater than 5 days, samples should be stored frozen.

5. Test Preparation

Allow the test strips, conical vials, and samples to reach room temperature before testing.

6. Procedure

Samples with salinities ≤ 2.5 parts per thousand can be analyzed according to the procedure described in the ABRAXIS® MicrocystinsStrip Test for Finished Drinking Water user's guide (section E, Procedure) with no additional sample preparation prior to analysis (these salinities will not produce matrix interference in the test). Results are then determined as described in the Finished Drinking Water Test user's guide (section F, Interpretation of Results). Samples with salinities that have been determined to be > 2.5 parts per thousand or samples with unknown salinities must be diluted as described below in order to obtain accurate screening results (results will be in the screening range of 15 – 75 ppb, as shown in section 7 below).

To prepare brackish or seawater samples prior to screening:

6.1 Label 20 mL glass vials for each sample to be tested.

6.2 Using a 3 mL graduated disposable pipette, add 14 mL of distilled or deionized water to each of thepreviously labeled 20 mL vials.

6.3 Using a new 1 mL graduated disposable transfer pipette for each sample, transfer 1 mL of the appropriatewater sample to the appropriate labeled vial.

6.4 Cap the vial tightly and shake for 10-20 seconds to mix.

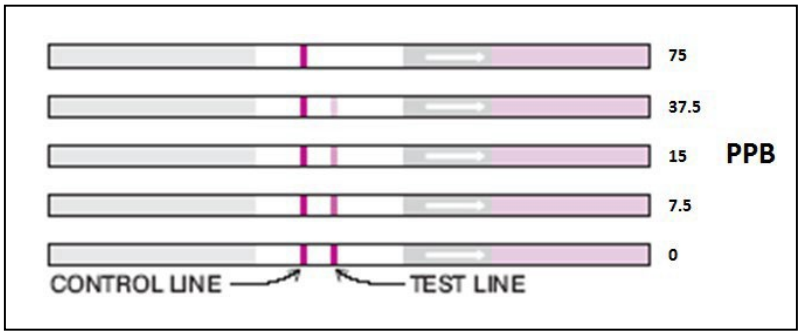
Samples are ready for screening using the Microcystins Strip Test for Finished Drinking Water.

7. Interpretation of Results

For samples prepared as described above, screening concentrations are determined by comparison of the intensity of the test line to the intensity of the control line on the same test strip. Although control line intensity may vary, a visible control line must be present for results to be considered valid. Test strips with a test line which is darker than or of equal intensity to the control line indicates a result which is below the limit of detection of the test. Test strips with a test line which is lighter than the control line indicates a result which is < 75 ppb. Test strips with no test line visible (only the control line is visible) indicates a result which is ≥ 75 ppb. Results should be determined within 5-10 minutes after completion of the strip test procedure. Determination made using strips which have dried for more or less than the required time may be inaccurate, as line intensities may vary with drying time.

Control Line	***Test Line***	***Interpretation***
No control line present	No test line present	Invalid result
Control line present	No test line present	>75 ng/mL (ppb)
Control line present	Moderate to equal intensity test line present	Between 0 and 75 ng/mL(ppb)

The appearance of test strips may also be compared to the illustration below to determine approximate sample concentration ranges. Please note that the illustration is intended for the demonstration of test line to control line intensity only. Results should not be determined by comparing the intensity of test lines from test strips to the test line intensity of the illustration, as the overall intensity of test strips may vary slightly with different lots of reagents. To obtain semi-quantitative results in the range of 0-75 ppb, solutions of known Microcystins concentration (control solutions) must be tested concurrently with samples. Sample test line intensities can then be compared with control solution test line intensities, yielding approximate sample concentrations. Do not use strips run previously to determine semi-quantitative sample concentrations, as test line intensities may vary once strips are completely dry.



8. Additional Analysis

Positive samples should be confirmed by ELISA, HPLC, or other conventional methods.

9. For ordering or technical assistance contact:

Gold Standard Diagnostics
795 Horsham Road
Horsham, PA 19044
WEB: www.abraxiskits.com

Phone: (215) 357 3911
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