Saxitoxin (PSP) Lateral Flow Kit (Freshwater Streams and Source Water)

Catalog Number: AU2057

For Research Use Only. Not for use in Diagnostic Procedures.

1. Intended Use

For the screening of Saxitoxin in freshwater recreational water samples as low as 70 ppt. Samples requiring regulatory action should be confirmed by ELISA, HPLC, or other conventional methods.

2. Introduction

Attogene' s Saxitoxin Lateral Flow Kit can be used to detect Saxitoxin in source water samples.

Format: Rapid-Water - Run Time: 30 Minutes

Saxitoxins (STXs) are naturally occurring alkaloids produced by some marine dinoflagellates and by strains of various species of freshwater cyanobacteria. Saxitoxin is one of the prevalent paralytic shellfish toxins (PSTs). It belongs to a family of potent neurotoxins with a molecular weight around 300 Da. Saxitoxin and its derivatives are alkaloids composed of a tetrahydropurine ring system with a highly polar guanidinium group. Due to their significant toxicity, saxitoxins are closely monitored in marine environments where they can accumulate during harmful algal blooms (HABs). In 2009 an action level of 0.6ppb (600ppt) was recommended by EFSA as a guidance framework have been established to manage saxitoxin levels in water.

3. Kit Contents

Component Name	Volume	Storage
Saxitoxin Cassette	10 each	RT
Sample Dilution Buffer	5 each	RT
Negative Control	5 each	RT
Water Sample Bottle	5 each	RT
Fixed Volume Pipette	5 each	RT

4. Storage and Stability

- The kit should be stored at 2°C - 30°C until ready to use.
- The test must remain in the sealed pouch until use.

5. Required Materials Not Supplied

- Timer - For timing use
- Marker – for labeling

6. Precautions

- The Saxitoxin Lateral Flow Kit provides 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 cassettes are individually packaged in a foil pouch with a desiccant
- Avoid cross-contamination of samples by using a new bottle for each sample.
- Use only Saxitoxin Lateral Flow Kit reagents from one kit lot, as they have been calibrated in combination.
- It is good laboratory practice to use positive and negative controls to ensure proper test performance. Samples which do not contain Saxitoxin (negative controls) as well as samples containing known quantities of Saxitoxin (positive controls) should be analyzed with each lot of test strips to provide a reference for line intensity to be expected.

7. Water Collection and Storage

- Using gloves, collect water samples into the 125 ml Water Sample Bottle and store refrigerated for up to 5 days (label the water collection bottle). If samples must be stored for a period greater than 5 days, samples should be stored frozen.
- Allow the test cassettes, running buffer, and samples to reach room temperature before testing.

8. Procedure

- Using gloves, remove each lateral flow cassette from the foil pouch. A marker may be used to write on the plastic cassette if desired.

Perform A and B for each sample evaluation starting with the negative control first.

A. Negative Control (perform first):

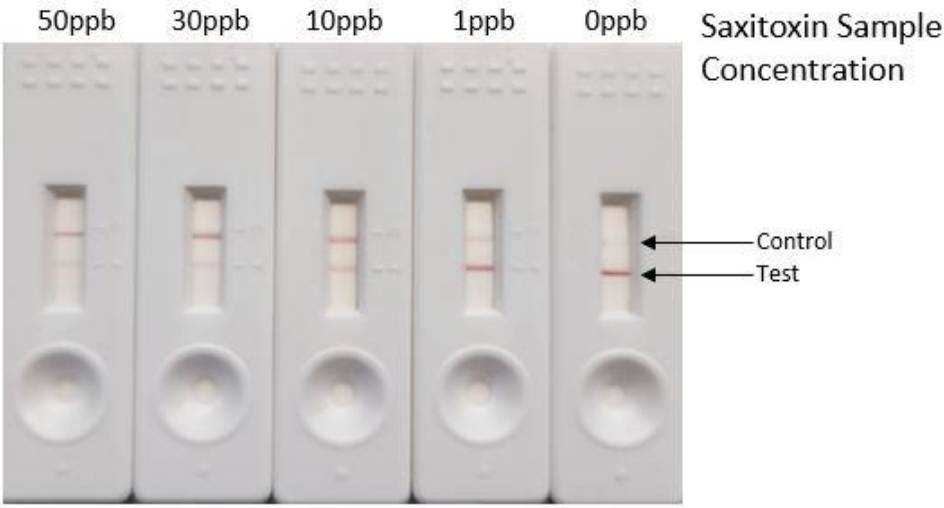
- Use the pipette to transfer 200uL of buffer from the Negative Control tube directly into the sample port of the cassette.
- Set a timer for 30 minutes.

B. Sample:

- Next, using the pipette transfer 200uL of sample into the 10X sample dilution buffer tube
- Mix the sample gently up and down 3 times using the pipette.
- Use the pipette to transfer 200uL of sample directly into the sample port of the cassette.
- Set a timer for 30 minutes.

9. 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 parallel test strips. Although the control line intensity may vary, a visible control line must be present for results to be considered valid. It is important to note that on negative samples the control line will barely be visible. You can expect the intensity of the control line to increase significantly with the presence of 200ppt final sample concentration. Test strips with a test line which is darker than or of equal intensity to the test line of the control are indicative of results which are below the limit of detection of the test. Test strips with a test line which is lighter than the control strip indicates a result which is $\geq$ 100 ppt. Test strips with no test line visible (only the control line is visible) indicate a result which is $\geq$ 50 ppb. Results should be determined within 5 minutes after completion of the strip test procedure. Determinations made using strips which have dried outside of the required time may be inaccurate, as line intensities may vary with drying time. The maximum number of tests ran concurrently are dependent on analysis turnaround times. Generally, it is not advisable to run more than 10 cassettes at once if only one person or reader are available to analyze results.



The appearance of test strips may also be compared to the illustration 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 – 20 ppb, solutions of known Saxitoxin concentrations (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.

10. Additional Analysis

If necessary, positive samples can be confirmed by ELISA, HPLC, or other conventional methods. A lateral flow reader may also be employed to generate numerical readings from the visual result. Contact us if you have any questions.

Who we are

Attogene is a biotechnology company located in Austin, Texas. Our focus is to enhance health and wellness by offering and developing customer focused Life Science Products domestically and internationally.

Our mission is to:

- Enhance detection technologies
- Enable rapid responses
- Enable impactful research discoveries

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