Saxitoxin (PSP) Lateral Flow Kit (Shellfish Test)

Catalog Number: AU2057-01

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

1. Intended Use

For the screening of Saxitoxin in shellfish samples as low as 50 ppb. 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 shellfish samples.

Format: Rapid-Shellfish - 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 in the food chain during harmful algal blooms (HABs). An action level of 800ppb, or 80ug per 100grams of shellfish, has been established.

3. Kit Contents

Component Name	Volume	Storage
Saxitoxin Detection Cassette	24 each	RT
Sample Dilution Buffer	12 each	RT
Extract Collection Tube	12 each	RT
Negative Control	12 each	RT
1.2uM Syringe Filters	12 each	RT
Fixed Volume Pipette	24 each	RT
50mL Conical Tube	12 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
- Blender – For Sample Homogenization
- Scale capable of weighing out 0.5-100 grams – For sample dilution

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 strips are packaged in a cassette enclosed in a foil bag with 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. Sample Collection and Storage

- Make sure to wear proper personal protective equipment when handling raw shellfish.
- Shellfish may be stored at 4 degrees if they're kept alive for up to 2 days.
- Once the tissue has been extracted from the animal either begin the sample homogenization process immediately or freeze the tissue.
- Allow the cassettes, running buffer, and samples to reach room temperature before testing.

8. Procedure

Sample Preparation:

- Using gloves, remove the shell from each shellfish and thoroughly rinse the meat with distilled or deionized water. Allow any excess water to drain from the tissue before continuing.
- Homogenize the shellfish tissue (e.g. blending, puree) in an appropriately sized high-speed blender. **Disclaimer:** It is imperative that a good homogenate is obtained. To achieve this blend the sample for a minimum of 120 seconds or longer. Ensure that the sample does not get stuck to the sides of the blender. Periodically push tissue sample back into the blades if needed.
- Weigh out 1 gram of sample in the provided 50mL conical tube.
- Add 30mL of distilled water into the conical sample tube.
- Vigorously shake, or vortex, the conical tube until all remaining tissue has gone into solution. It is normal for the solution to have a cloudy appearance along with the formation of bubbles.
- Using the provided 1mL syringe, intake as much sample as the syringe will allow. **Do not use the filter during this step.**
- Next, insert the syringe into the end of the syringe filter. Firmly press the syringe into the filter for a secure attachment.
- From here dispense the filtered contents of the syringe into the extract collection tube. Your sample is now ready to be tested.

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

A. Negative Control (perform first):

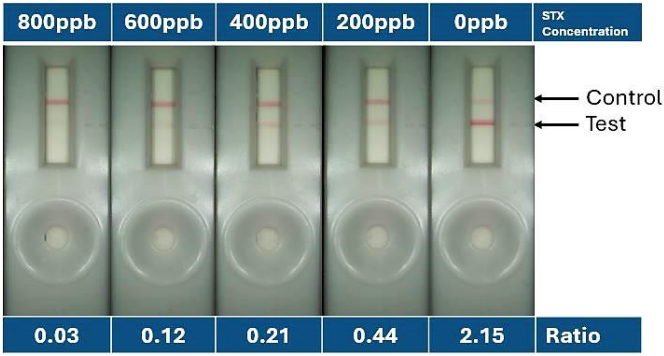
- Use the pipette to transfer 200uL of buffer from the Negative Control tube directly into the sample port of the cassette.
- Set a timer for 30 minutes.

B. Sample:

- Next, using the pipette transfer 200uL of shellfish 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 strip. 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 50ppb 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 $\geq$ 50 ppb. Test strips with no test line visible (only the control line is visible) indicate a result which is $\geq$ 800 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 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 – 800 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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