Lead Lateral Flow Rapid Lab Use

Catalog Number: AU2027-01

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

1. Intended Use

For the screening of Lead in water samples ≥ 10 ppb in a laboratory setting. Samples requiring regulatory action should be confirmed by other conventional methods.

2. Introduction

Attogene' s Lead Lateral Flow Rapid Detection Kit can be used to detect Lead in liquid samples.
Format: 10 test cassettes, Run Time: 15 Minutes

Lead contamination is a serious worldwide environmental problem. As it is difficult to detoxify by chemical or biological methods, gradual lead ion accumulation in the nervous and cardio-vascular systems of the human body can subsequently cause serious diseases. Long-term health consequences of consuming lead-contaminated water are kidney disease, reproductive system complications, and high blood pressure for adults. In infants and children, lead exposure can cause impaired growth and neurological effects such as learning and hearing disabilities, and they are particularly vulnerable to lead's toxicity due to their accelerated metabolism and hand-to-mouth activity. Lead exposure often occurs with no immediate symptoms, thus lead regulations and detection methods need to be proactive.

Attogene's Lead Lateral Flow test gives results conforming to the US EPA guideline of 15 ppb in public water systems (drinking water) and the FDA's 2022 draft action levels for juice producers (10 ppb in ready-to-drink apple juice & 20 ppb for other ready-to-drink juices). Our kit allows water and juice suppliers to assess their compliance with these guidelines.

3. Kit Contents

Component Name	Volume	Storage
Lead Cassette	10 each	RT
Sample Dilution Buffer	5 each	RT
Negative Control	5 each	RT
Manual	1 each	RT

4. Storage and Stability

- The kit should be stored at room temperature until ready to use.
- The test must remain in the sealed pouch until use.

5. Required Materials Not Supplied

- Timer - For timing use
- Transfer pipettes
- Sample collection bottle
- Filters for turbid samples

6. Precautions

- The Lead Lateral Flow Kit provides preliminary qualitative test results. Analysis should be confirmed using quantitative tools.
- 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 and disposable pipette for each sample.
- It is good laboratory practice to use positive and negative controls to ensure proper test performance. Samples which do not contain Lead (negative controls) as well as samples containing known quantities of Lead (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

- Collect samples into a bottle and store refrigerated for up to 5 days. If samples must be held for 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

- Open two sealed cassettes (negative control and sample). Perform A and B for each sample evaluation.

A. Sample:

- Use a transfer pipet to remove 200 µL of sample from your water sample vessel.
- Transfer 200 µL of the sample into a sample dilution buffer tube.
- Mix by pipetting up and down 3 times.
- Using the transfer pipet add the diluted sample directly into the sample port of the cassette.

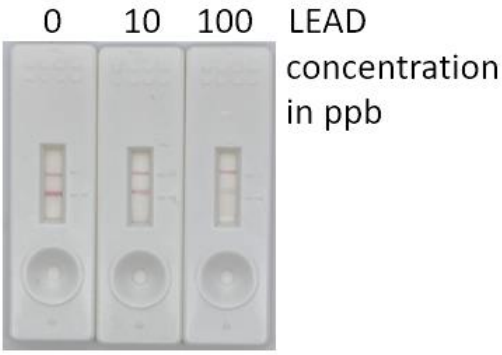
B. Negative Control:

- Use a transfer pipet to transfer 200 µL of Negative Control directly into the sample port of the cassette.

After A and B are complete, set a timer for 15 minutes. Wait, then read the results.

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 control line intensity may vary, there always must be a visible test control line for the results to be considered valid. Test strips with a test line that is darker than or of equal intensity to the test line of the control indicate a result below the limit of detection of the test, 10 ppb. Test strips with a test line that is lighter than the test line of the control strip indicate a result of $\geq$ 10 ppb. Test strips with no test line visible (only the control line is visible) indicate a result of $\geq$ 50 ppb. Results should be determined within 5 minutes after completion of the strip test procedure, or by 20 minutes of . 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.



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 Lead 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.

10. Additional Analysis

If necessary, positive samples can be confirmed by other conventional methods. A lateral flow reader may also be employed to generate numerical readings from the visual result.

11. Customer Notes

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

Contact Us

3913 Todd Lane, Suite 310
Austin, TX 78744

Phone: 512- 333-1330

Email: sales@attogene.com

Web: www.attogene.com

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