DNaseAlarm Lateral Flow Assay Kit

For Laboratory Use

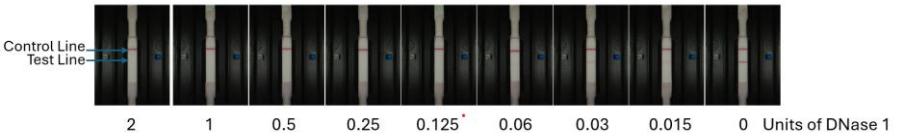
Catalog Number: AU2056

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

I. Introduction

Attogene's DNaseAlarm Lateral Flow test is designed for the sensitive and accurate analysis of DNAse activity in liquid samples. DNase Alarm uses a synthetic DNA substrate that attaches to the streptavidin colloidal reporter molecule (gold) using a 5' biotin. The DNA substrate also contains a FAM molecule that enables it to be captured by the anti-FAM antibody (test line). In the absence of DNases, the DNA oligo tethers gold to the test line giving a visual test line. When DNases are present, the DNA substrate is degraded, and the gold particles can no longer be tethered to the test line thus, signal is lost. Since the cleavage of the DNA Substrate increases over time when DNase activity is present, results can be evaluated kinetically. This assay has applications for quality control testing and analysis of unit activities of DNase and DNase inhibitors. DNase's can cause havoc in laboratories working with DNA and are important to perform routine testing.

Method control: It is best to run a set of negative and positive controls with each sample set run to ensure comparable readings from the day, time, and user. Depending on the sample being analyzed, a DNase I spike solution can be used to generate the positive control can be made and added into control wells. In the presence of DNase, the test line should diminish or disappear. At 2 units of DNase the test line is expected to disappear.



	Control	Test
2 units	839860	3300
1 unit	823904	3548
0.5 units	772532	14321
0.25 units	864877	13812
0.125 units	793945	8759
0.06 units	896146	63566
0.03 units	829098	211048
0.015 units	792499	155275
NO Dnase 1	781830	592849

Features & Benefits

- Can be used for detection of DNases in solutions
- No need to stripe capture antibodies

- No expensive equipment required
- Cost-effective way to screen for a DNase-Free environment

2. Kit Contents

Component Name	Volume	Storage
4.5mm Dipsticks	50 each	RT
DNaseAlarm Lateral Flow Running Buffer	10 mL	RT
DNaseAlarm 1X Reaction Buffer	10mL	RT
DNase substrate containing biotin and FAM	20 µL	Refrigerate
96 well plate	1 each	RT
Manual	1 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
- Centrifuge - For preparation of clear specimens
- Pipettor and pipette tips – to transfer samples and controls
- Molecule of interest containing Biotin and either FITC/FAM (01 version) or DIG (02 version).
- Tubes or microtiter plates to run the strips

6. Precautions

- 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 container.
- Avoid cross-contamination of samples by using a new tube and disposable pipette tip for each sample.

- Use only Lateral Flow Kit 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.
- Due to the hook effects, if no signal is detected in the test line, a serial dilution may be necessary to bring the nucleic acid into the appropriate concentration ratio/stoichiometry with the gold and the test line capture reagents to see the test line.

8. Procedure

Perform the following:

1. Add 70μL of DNaseAlarm Reaction Buffer into a well of a 96 well plate
2. 5ul of DNA into a well of the supplied 96 well plate
3. Always run a positive and negative control well with sample
4. 5ul sample, negative, or positive control into each well of the provided 96-well plate.
5. Incubate for 20 minutes at 37°C
6. Add 70ul of 2X RNase Alarm Running Buffer and mix well
7. Add one lateral flow strip into each well
8. Run for 15 minutes
9. Visually analyze the strip by eye, photography or read in a lateral flow reader.

NOTE: Negative Control line should yield a test and control line signal on the strip within 15 minutes.

9. Interpretation of Results

This test is a lateral flow assay containing test lines that are dependent on the concentration of DNases in the sample.

What to expect at the test lines:

The higher the concentration of DNase in the sample the lower the intensity of the test line compared to the strip lacking DNase (negative control strip).

What to expect at the control line:

The intensity of the control may decrease as the test line increases.

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.

10. Precautions

To prevent DNase cross contamination, use barrier tips and avoid splashing. Use DNase Free solutions and reagents if diluting samples. Ensure Bio-DNA-FITC is opened in a clean environment and kept away from contaminating DNase.

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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