

## AmpliDetect – Nucleic Acid Lateral Flow (NALF)

Product Number ADLF-25T

### INTENDED USE

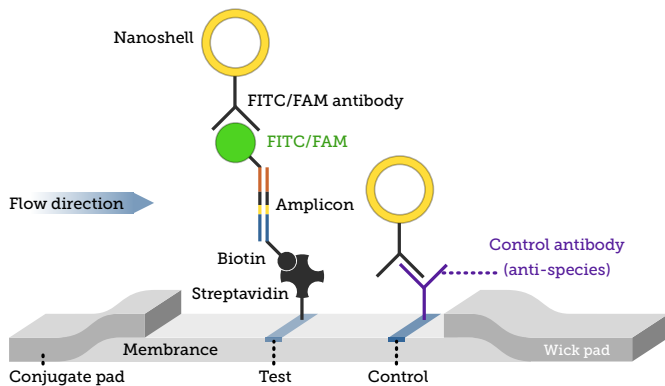
The nanoComposix AmpliDetect assay is a single use, rapid immunochromatographic test for the qualitative visual detection of amplified nucleic acids labeled with 6-FAM or FITC and biotin. This assay is a proof-of-concept prototype intended for research use only.

### SUMMARY

Lateral flow test strips are a fast and inexpensive way to confirm the successful outcome of DNA amplification. AmpliDetect incorporates affinity reagents that form a “sandwich” with double-stranded amplification products containing FITC and Biotin. AmpliDetect utilizes nanoComposix gold nanoshell ultra-bright reporter particles for high visual sensitivity. This simple method of amplicon detection delivers a visual, qualitative signal within 10 minutes.

### PRINCIPLE

AmpliDetect is an immunochromatographic assay based on lateral flow technology.



This lateral flow assay has two reaction lines. The test line (T) detects 6-FAM/Biotin or FITC/biotin labeled amplicons. The control line (C) ensures the validity of the test.

Upon addition of the sample, gold nanoshell conjugate bound to an anti-FITC antibody is rehydrated and travels through the nitrocellulose membrane along with the sample via capillary forces. In the presence of FITC/Biotin-labeled amplicons the gold nanoshell conjugates form a “sandwich” at the test line, resulting in the formation of a visible line in the result window at the (T) test line, and another visible line at the (C) control line. In the absence of FITC/biotin-labeled amplicons, only one line will be visible at the (C) control line. The test is complete and ready to analyze 10 minutes after the test is run, although results may appear sooner.

### PRECAUTIONS

- For investigative use only.
- Device should remain in the sealed foil pouch until ready to use.

### STORAGE & STABILITY

The test device can be stored at ambient temperature until the expiration date listed. Device should remain sealed in the foil pouch until immediately before use. Do not freeze. Expiration dates not yet established.

### MATERIALS

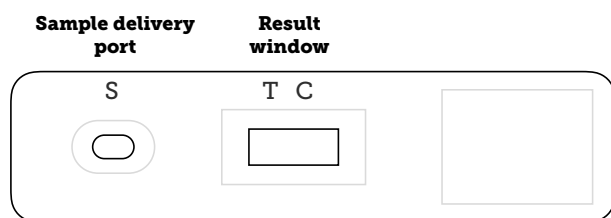
- nanoComposix AmpliDetect cassettes
- Running buffer
- Amplicon (not supplied)
- Tubes (not supplied)

### EQUIPMENT REQUIRED

- Micropipettes
- Vortex mixer or similar

## DIRECTIONS FOR USE

1. Remove device from pouch and place on a flat surface. Note the location of the *sample delivery port*.

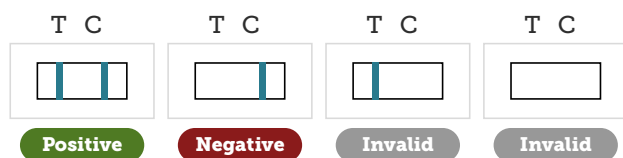


2. Allow all reagents to come to room temperature prior to use.
3. Transfer 65  $\mu$ L of the running buffer into a micro-tube.
4. Pipette 5  $\mu$ L of the amplification product into the tube with buffer and vortex mix thoroughly.  
*Note: Further dilution of the amplified material may be required to achieve detection or to avoid an invalid result. Dilution may be performed in the running buffer or another buffer of your choice.*
5. Apply 70  $\mu$ L of diluted sample to the *sample delivery port* of the test device.

Allow test to run for 10 minutes and interpret results.

## RESULT INTERPRETATION

Interpret results in the *result window* after 10 minutes. Results read 15 minutes or more after running the sample are considered invalid.



**Positive:** Two distinct lines appear: one at the control line (C) and one at the test line (T).

**Negative:** The control line (C) appears. No test line (T) appears.

**Invalid:** No control line (C) is present.

## QUALITY CONTROL

The presence of the control line (C) is included in each test strip as a procedural control. The presence of a control line indicates sufficient sample volume and proper procedural technique. The absence of a control line after 10 minutes of sample application indicates an invalid result.

The performance characteristics for this prototype have not been defined. A comprehensive evaluation of the assay performance will need to be completed to determine the accuracy, precision, cross-reactivity, robustness, stability, and limit of detection.

## ADDITIONAL RESOURCES

For more information on conjugation techniques and lateral flow assay development, visit [ncx.bz/br](http://ncx.bz/br)

Watch our webinars and video tutorials related to bioconjugation and lateral flow at [ncx.bz/kb](http://ncx.bz/kb)

For inquiries regarding custom conjugation or determining which gold product is right for you, contact [info@nanocomposix.com](mailto:info@nanocomposix.com)

For technical assistance, contact (858) 565-4227 or email us at: [techsupport@nanocomposix.com](mailto:techsupport@nanocomposix.com)