

PRODUCT DATA SHEET

Thrombin Lateral Flow Assay Kit

Catalog No. LF-020-10

Assay Kit Description

The Thrombin Lateral Flow Assay Kit is a 15-minute aptamer sandwich-based assay used for the detection of human α thrombin, a serine protease with a critical role in blood clotting.

The kit is designed for detection in human plasma samples and may be used qualitatively by comparing band intensity by eye, or quantitatively by using a lateral flow dipstick reader.

Common applications of the kit include pathological coagulation and oncological research.

Kit Components

- 10 Lateral Flow Dipsticks
- 15 mL Sample Dilution Buffer
- 1.5 mL Lateral Flow Assay Buffer

Storage

Store at 2-8° C. Stable for at least 3 months if stored as specified.

Product Safety and Handling

This product is for R&D use only, not for use in diagnostic procedures. Please review the safety datasheet (SDS) available online for proper safety and handling procedures.

Sample Dilution

Assay working range: 0.001-0.5 μ M final sample human α thrombin in human plasma diluted 8x with Sample Dilution Buffer. Note that the assay can detect outside of this range but it is not recommended for use below 0.001 μ M or above 0.5 μ M.

Human plasma samples may be diluted further than 8x with the Sample Dilution Buffer if required, and thrombin in other matrices may also be measured by diluting in Sample Dilution Buffer. However, samples should only be compared with matching dilution factors to account for matrix effects, reagents should be assessed for compatibility (Table 1) and the detection range may vary in differing matrices.

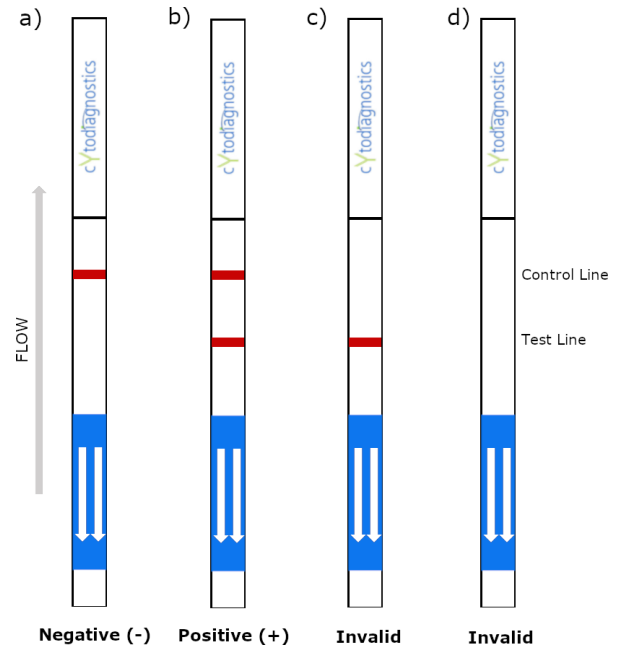


Figure 1. Possible lateral flow assay test outcomes. A valid test is either negative (a, control line visible) or positive for human thrombin (b, control and test lines visible). Invalid tests show only the test line (c) or no red lines (d) after completion.

Test Procedure

1. Transfer 40 μ l of Lateral Flow Assay buffer into a microtiter plate well.
2. Transfer 40 μ l of diluted sample into the well with Lateral Flow Assay Buffer.
3. Place a lateral flow dipstick with the arrows pointing downwards into the sample.
4. Incubate for 15 minutes.
5. Remove the lateral flow dipstick from the well and read test outcome.

A positive test will display two red lines (Figure 1b) and a negative test will display one red line (Figure 1a). Strips showing no line (Figure 1d) or only the lower test line (Figure 1c) are invalid and should be repeated.

Note that after 20 minutes, faint background may start to appear in negative samples. Ideally, run sample tests alongside negative material tests with an identical matrix for background subtraction.

Quantification

Relative, qualitative thrombin concentrations may be determined by comparing test band intensity by eye. Alternatively, intensity of test bands may be measured to calibrate a lateral flow reader for quantification purposes.

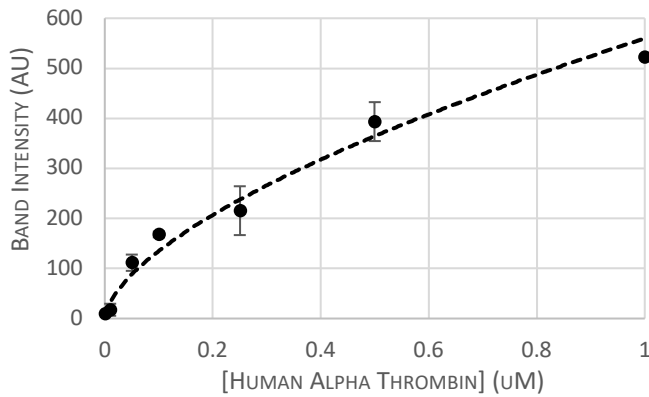


Figure 2. Calibration curve using color intensity test line measurements with thrombin samples in 8x diluted human plasma.

Reagent Compatibility

Reagent	Compatible Concentration
NaCl	≤ 1M
Glycerol	≤ 10%
Triton X-100	≤ 1%
NP-40	≤ 1%
EDTA	≤ 5mM
SDS	≤ 0.2%

Table 1. The kit is designed for human plasma samples diluted 8x using the Sample Dilution Buffer, but samples in other matrices may be compatible if the above reagents are kept below their maximum compatible values.