

Datasheet for ABIN2860641

Lentivirus Titration XpressCard**2** Images[Go to Product page](#)

Overview

Quantity:	20 tests
Target:	Lentivirus
Reactivity:	Lentivirus
Detection Range:	10 ⁵ -10 ⁷ TU/mL
Minimum Detection Limit:	10 ⁵ TU/mL
Application:	Lateral Flow Chromatographic Immunoassay (LFCIA), Rapid Test (rapid)

Product Details

Purpose: A rapid lateral flow immunoassay that allows quick confirmation of useful lentivirus titers in the packaging supernatants.

Characteristics: Lentivirus Titration XpressCard is a rapid lateral flow immunoassay that allows quick confirmation of useful lentivirus titers* in the packaging supernatants.

The test detects lentiviral capsid proteins released into the packaging supernatant as a surrogate marker to determine whether virus production yields a usable titer for subsequent infection.

This assay takes only 10-15 minutes, compared to the conventional re-infection based assay that takes 2-3 Days.

*Users are encouraged to correlate T line intensity with functional titers in their own infection system, as different cell types have different susceptibility to lentivirus. In the above example, HEK293 cells were infected with serially diluted lentivirus packaging supernatants. After 72 hrs, ZsGreen1-expressing cells were observed under fluorescence microscope. A dark red test line was generated by a dilution containing ~2 x 10⁶ IFU/ml (as measured by flow cytometry of

Product Details

transduced HEK293 cells).

Components: 2 cassetts per pouch

Target Details

Target: Lentivirus

Target Type: Virus

Application Details

Application Notes: Can purified lentivirus particles be used in this assay? As shown in the above case, both packaging supernatant and purified lentivirus particles can be used, as the sample pad contains detergent to efficiently lyse viral particles and release p24 protein during flow migration.

How is XpressCard compared with similar product on the market? When loaded with the same packaging supernatant, XpressCard showed the T line quickly in about 30 sec, much faster than Vendor A's, which showed the T line around 2 min. When observed at 10 min, XpressCard showed the T line at somewhat stronger or at least equivalent intensity as Vendor A's. Therefore, XpressCard is more sensitive than similar product on the market.

Comment: We tested XpressCards using serial dilution of purified concentrated lentivirus stock with known titres (Cellomics Technology, MD USA).
The results showed that the detection limit is at 1×10^5 TU/ml or 1×10^4 TU (in 100 μ L). According to the literature, one lentivirus particle carries about 2,000 p24 molecules, which is the analyte of the XpressCard :

$$\begin{aligned} &1 \times 10^5/\text{ml} \times 2000 \div (6.23 \times 10^{23}) \times 24 \times 10^3 \text{ g} \\ &= 2 \times 10^8 \div (6.23 \times 10^{23}) \times 24 \times 10^3 \times 10^{12} \text{ pg/ml} \\ &= 7.7 \text{ pg/ml} \end{aligned}$$

As a comparison, Vendor A's "Lenti-X™ p24 Rapid Titer Kit" ELISA kit has a sensitivity of 12.5 pg/ml, whereas Vendor B's "QuickTiter Lentivirus Titer Kit" has a sensitivity of 1 ng/ml. These assays are all ELISA based, which need 3-4 hours. Therefore, XpressCard can reach ELISA sensitivity but with only 10-15 min on hand time.

Sample Volume: 100 μ L

Assay Time: 15 min

Assay Procedure: 1) Place the card horizontally

Application Details

- 2) Add 100 μ L of packaging supernatant directly to the Sample Well
- 3) Wait for 10-15 Minutes.

Calculation of Results:

Results:

A red control line will always appear in 5 minutes.

Depending on the titers

(a usable titer should be at least 1×10^6 IFU/mL), a dark red test line will appear within 10-15 Minutes.

Restrictions:

For Research Use only

Handling

Storage:

RT

Storage Comment:

Store the cards in their original packaging at room temperature.

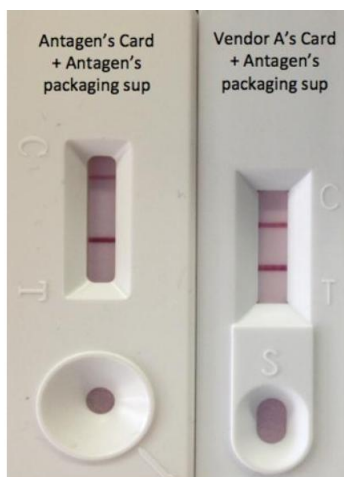
This product is stable for up to 18 months from the certified date.

Freezing the strips is not Recommended.

Expiry Date:

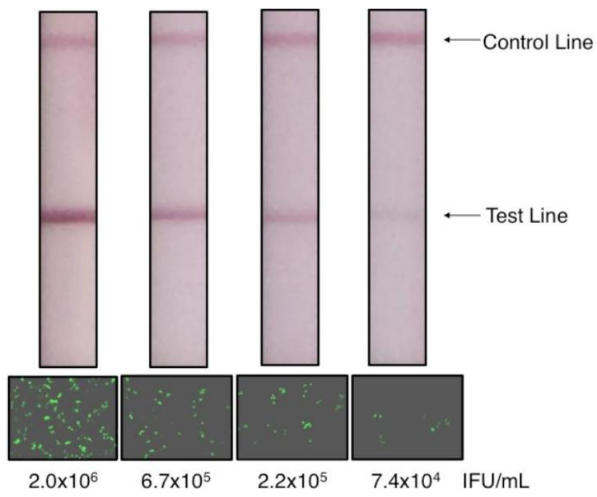
18 months

Images



Lateral Flow Chromatographic Immunoassay

Image 1.



Lateral Flow Chromatographic Immunoassay

Image 2.