

# ProXpress (His-Tag) - Competitive Rapid Test Card Manual

Cat. No.: HX002324-5

Unit size: 5

## Expected Use

Rapidly detects His-Tagged protein products obtained from prokaryotic and eukaryotic expression systems.

## Detection Principle

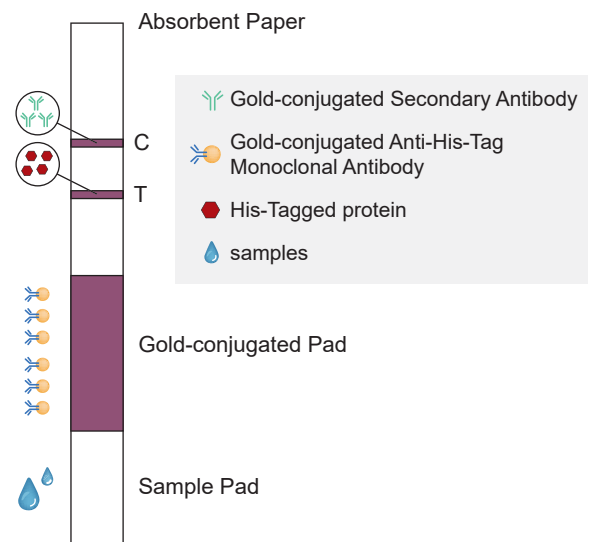
This product is a semi-quantitative protein detection reagent that relies on the use of a colloidal gold-based lateral flow assay. The foundation of this product is comprised of various components, such as a sample pad, a gold-conjugated pad, a chromatography membrane, and absorbent paper.

When administering the assay, users will add a drop of the test sample onto the sample pad, which then undergoes chromatography via capillary effects. In cases where no His-tagged protein is present in the sample, the gold-conjugated anti-His-Tag antibody will move with the laminar flow to the T

line (also referred to as the test line). From this point, the antibody will then bind specifically to the immobilized His-tagged protein on the T line, forming a purplish-red band.

However, When His-Tag protein passes through the gold-conjugated pad, a faint purplish-red band or no band will be formed on the T line.

In summary, this reagent relies on a gold-conjugated lateral flow assay that can detect His-tagged protein based on chromatography via capillary effects. By carefully observing the coloration of both the T and C lines, users can determine the presence or absence of the protein they are testing for.



Schematic Diagram of the Test Principle

## Package Contents

1. His-Tag (competitive) rapid test cards
2. ProXpress dilution buffer
3. Instructions

## Storage & Validity

Stored in a cool place, 4~30°C, do not freeze, avoid direct sunlight. Valid for 12 months.

## Instructions

1. Begin by letting the test card equilibrate to room temperature before conducting any further steps. This is crucial to ensure accurate results.
2. The proper pre-dilution of test samples is essential to obtain reliable results.  
If you know the concentration of the target labeled protein, you can directly dilute the sample with ProXpress dilution buffer to a concentration of 30 µg/ml.  
If you don't know the concentration, you can perform a 4-fold dilution of the sample from a bacterial lysate. Ensure thorough mixing by vortexing. No pre dilution is required for the test sample derived from mammalian cell lysate.
3. Draw 20 µl of the pre-diluted test sample using a micropipette and dispense it into the sample well.
4. Next, add 50 µl of ProXpress dilution buffer to the sample well. You can accomplish this by gently adding two drops vertically from the dropper.
5. After completing the previous steps, read the results after 10-15 minutes.

Note: It is recommended to set up a negative control test card for each test. By comparing the color intensity of the T line with the negative control test card, experimental conclusions can be drawn more intuitively.

## Product Performance Indicators

The test strip has a minimum detection limit of 10 µg/mL.

As the concentration of the His-tagged protein in the test sample reaches 10 µg/mL and higher, the intensity of the T line's color weakens, resulting in a faint purplish-red band or even no coloration.

In cases where the His-tagged protein concentration falls within the range of 10 µg/mL to 100 µg/mL, the color depth of the T line displays a negative correlation with the protein concentration. As the protein concentration increases within this range, the T line's color appears lighter.

When the His-tagged protein concentration in the test sample surpasses 100 µg/mL, the color of the T line completely fades out.

## Results Interpretation

1. **Negative Results:** The color development of both the C and T lines. The intensity of the T line color matches that of the negative control.

2. **Positive Results:** The color development of both the C and T lines is weaker than that of the negative control, or there is no color visible.

3. **Invalid Result:** If no color is observable on the C line, regardless of the presence of color on the T line. This indicates that the reagent is ineffective, rendering the test invalid.

Note: When no Flag-tagged protein is present, the T line exhibits the deepest color. As the Flag-tagged protein content increases, the color of the T line gradually diminishes until it disappears.

### ProXpress (His-Tag) -Competitive



Test card color rendering display diagram

## Additional Information

Substance	Compatible Concentration	Substance	Compatible Concentration
NaCl	0.5M	EDTA	5mM
Urea	0.4M	Glycerol	10%
TritonX-100	1%	KCl	0.5M
Tween-20	1%	CHAPS	1.0%
SDS	0.20%	RIPA	100%
NP-40	1%	—	—

## Troubleshooting

Observation	Possible Cause	Recommended Action
Low intensity at the C line	The sample have interfering substances	Dilute 10 times with diluent and repeat the test.
Detection failed	Test card exceeds expiration date	Use the test card within the expiration date.

21 August 2023