

XpressCheck His Tag test strip

The His Tag is one of the most commonly used affinity tags for recombinant protein production. It typically consists of 6–9 histidine residues fused to either the N- or C-terminus of the recombinant protein.

The XpressCheck His Tag test strip is a competitive lateral flow assay designed for the rapid detection of His-tagged proteins. The assay features a simple procedure and can be completed within 3 minutes without the need for any instruments. The strip can be applied directly to unpurified samples, including cell lysates and cell culture media (with or without FBS). It is also compatible with samples in water or common buffers such as PBS, Tris, and HEPES.

The test strip can be used for qualitative detection of His-tagged protein expression. By testing serially diluted samples, the assay can also be performed in a semi-quantitative manner to estimate the concentration of the His-tagged protein. It is an ideal tool for protein expression screening, optimization, and colony selection. The detection limit of the strip is approximately 0.2 μM , corresponding to about 10 $\mu\text{g}/\text{mL}$ for a protein with a molecular weight of 50 kDa.

XpressCheck is a patent-pending technology that offers improved sensitivity, compatibility, ease of use, and shelf life compared with traditional lateral flow assays.

Contents and Storage


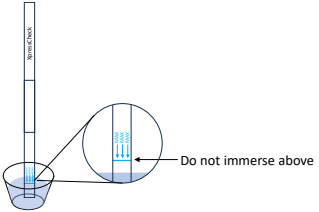
CATALOG NUMBER	UNIT	STORAGE
XC-HIS-25	25	Room temperature Keep dry
XC-HIS-100	100	Room temperature Keep dry

Precautions

- There 2 lines on the strip – control line C and test line T. The C line is the upper line and about 37 mm from the strip bottom. The T line is the lower line and about 32 mm from strip bottom.
- Reading results after more than 15 minutes is not recommended.
- The detection limit of 0.2 μM corresponds to 10 $\mu\text{g}/\text{mL}$ for a protein with a molecular weight of 50 kDa. The strip sensitivity could vary with different proteins.
- For more accurate quantification, a pre-evaluation of the strip on standard samples with known concentrations of the same protein is recommended.

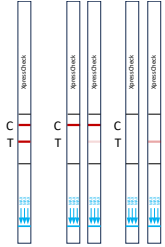
Test Procedure

Rapid His tag detection

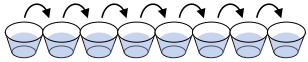
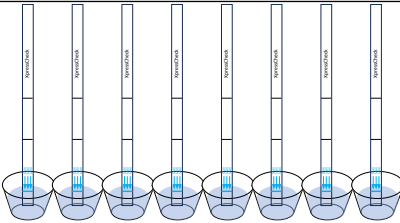
Step	Description	Illustration
1	Add 100 μL sample to a well (e.g. a well of a 96-well plate) or a vial. (Dilute the sample with water or a buffer (e.g. PBS) if desired.)	
2	Put the test strip into the vial, with the arrow label side immersed in the sample.	

Continue on the back side

Continue from the front side

Step	Description	Illustration
3	Wait until the control line (C) shows up, usually within 3 minutes	
4	<p>Read result</p> <p>Negative: Both control (C) and test (T) lines are clear. The test line intensity is about equal to or stronger than the control line.</p> <p>Positive: The test line (T) intensity is much weaker than the control line (C), or only the control line (C) is visible.</p> <p>Invalid: No Control line (C) is visible.</p>	 <p>Negative Positive Invalid</p>

Semi-quantitative His tagged protein concentration measurement

Step	Description	Illustration
1	<p>Make serial diluted samples, 100 μL each.</p> <p>(For unknown samples, it is recommended to start with a 10\times serial dilution.)</p>	
2	Put the test strips into the wells, with the arrow label sides immersed in the samples.	
3	Wait until the control lines show up, usually within 3 minutes	
4	<p>Read result</p> <p>The last sample showing a positive result (arrow pointed) corresponds to about 0.2 μM His tagged protein.</p>	