

### XpressCheck FLAG Tag test strip

FLAG Tag is one of the most common epitope tags used to produce recombinant proteins. It is an artificial tag with the peptide sequence of DYKDDDDK. FLAG tag can be used in the isolation of protein complexes with multiple subunits, because FLAG tag's mild purification procedure tends not to disrupt such complexes.

The XpressCheck FLAG Tag test strip is a competitive lateral flow assay-based technique for the rapid detection of FLAG tagged proteins. The assay has a simple procedure and can be completed within 3 minutes without any instrument. The strip can be applied directly to unpurified samples in cell lysis buffer or cell culture medium (with or without PBS). It is also compatible with samples in water or different buffers such as PBS, Tris, or HEPES etc.

The test strip can be used to qualitatively detect the expression of FLAG tagged proteins. With serial diluted samples the assay can also be carried out in a semi-quantitative manner to determine the concentration of the FLAG tagged protein. It is an ideal tool for protein expression evaluation, optimization and colony selection. The detection limit of the strip is about 0.2  $\mu\text{M}$ , corresponding to 10  $\mu\text{g}/\text{mL}$  for a protein with a molecular weight of 50 kDa.

XpressCheck is a patent pending technique with improved sensitivity, compatibility, ease of use and shelf-life compared to traditional lateral flow products.

### Contents and Storage


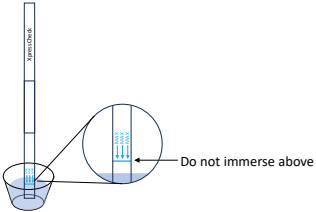
CATALOG NUMBER	UNIT	STORAGE
XC-FLAG-25	25	Room temperature Keep dry
XC-FLAG-100	100	Room temperature Keep dry

### 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  $\mu\text{M}$  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 FLAG tag detection

Step	Description	Illustration
1	Add 100 $\mu\text{L}$ 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 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>The illustration shows three test strips. The first strip, labeled 'Negative', has no lines. The second strip, labeled 'Positive', has a very faint test line (T) and a strong control line (C). The third strip, labeled 'Invalid', has a strong test line (T) but no control line (C). Each strip has a 'Sprint/Check' label at the top and a blue multi-line indicator at the bottom.</p>

### Semi-quantitative FLAG tagged protein measurement

Step	Description	Illustration
1	<p>Make serial diluted samples, 100 <math>\mu</math>L each.</p> <p>(For unknown samples, it is recommended to start with a 10<math>\times</math> serial dilution.)</p>	<p>The illustration shows a series of eight small blue cups. Arrows above the cups indicate the direction of liquid transfer from the first cup to the second, and so on, up to the eighth cup.</p>
2	Put the test strips into the wells, with the arrow label sides immersed in the samples.	<p>The illustration shows eight test strips, each with an arrow pointing to the cup it is being inserted into. The strips are being held vertically with their arrow-labeled ends submerged in the liquid.</p>
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 <math>\mu</math>M FLAG tagged protein.</p>	<p>The illustration shows the eight test strips after 3 minutes. Each strip now has a red control line (C) at the top. The test lines (T) are visible in the first four cups but are very faint. An arrow points to the fourth cup, indicating it is the last one showing a positive result.</p>