# ProXpress

Welcome to the future of protein detection – ProXpress. Born from a gene synthesis service extension, our rapid protein detection kit lets you verify target protein expression swiftly, accurately, and without the need for professional training.

## Why Choose ProXpress?

ProXpress is designed to simplify your work on gene synthesis and protein expression profiling. It is designed as a one-step experiment, eliminating the need for WB/ELISA and other tests. Within only 2-3 minutes, you can observe the expression with the naked eye, saving both time and testing costs.



SYNBIO TECHNOLOGIES


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# 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.

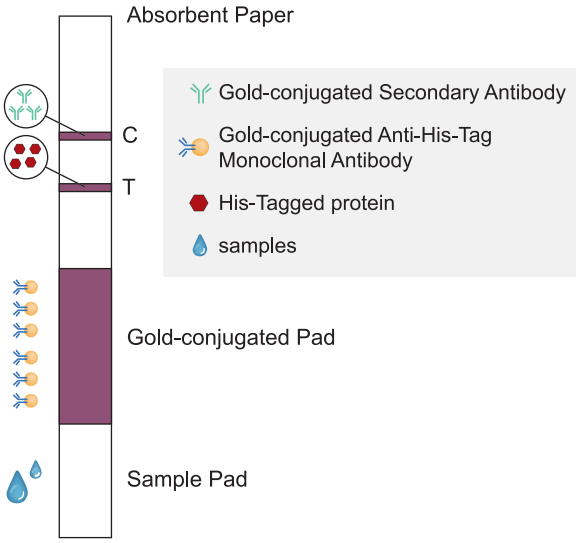
## Detection Principle

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



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## 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 2-3 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.



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## 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



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## 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*



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

**Cat. No.:** HX002327-5

**Unit size:** 5

## Expected Use

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

## Detection Principle

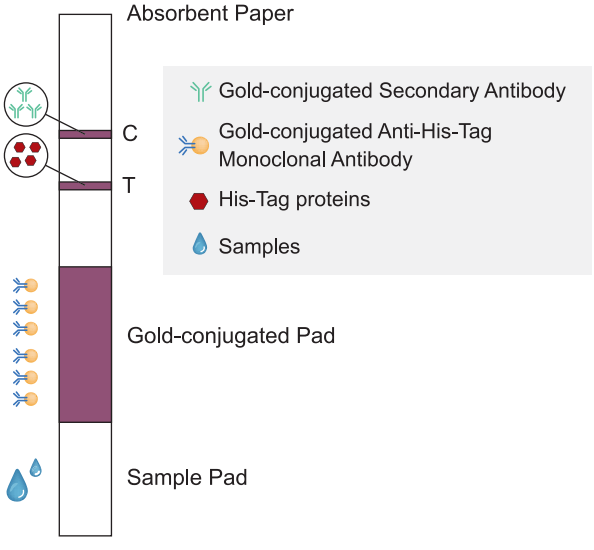
This product is a semi-quantitative protein detection reagent that relies on the use of a colloidal gold-based lateral flow assay. The foundation of this product is comprised of various components, such as a sample pad, a gold-conjugated pad, a chromatography membrane, and absorbent paper.

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-tagged protein is present in the test sample, the gold-conjugated anti-His-Tag antibody will bind solely to the His-tagged protein, leading to an increase in antibody binding as more His-tagged protein is introduced. As the laminar flow moves towards the T line, there will be less free gold-conjugated anti-His-Tag antibody present to bind to the immobilized His-tagged protein, which in turn results in a possible faint purple-red band or no band.

Moving onto the control line (C line), the complex will be captured by the immobilized gold-conjugated secondary antibody on the C line, resulting in a purplish-red band. To determine the presence or absence of His-tagged protein in the sample being tested, users need to read whether both the T line and C line are colored and the intensity of the coloration.

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



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## Package Contents

1. His-Tag-PLUS (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 3 μg/ml. If you don't know the concentration, you can perform a 25-fold dilution of the sample from a bacterial lysate or a 5-fold dilution for a sample from mammalian cell lysate with ProXpress dilution buffer. Ensure thorough mixing by vortexing.
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 2-3 minutes.

Note: If the test result of the sample after pre-dilution shows very weak color development and is difficult to discern with the naked eye, it may indicate the possibility of an excessively high sample concentration (e.g., if the sample concentration after pre-dilution exceeds 3 μg/ml). In such cases, it is recommended to repeat the test with a second 10-fold dilution of the pre-diluted sample. If visible bands appear on the T line, it confirms that the initial weak color development was indeed due to excessive protein concentration. If there is suspicion that the color difference between the T line and the negative control T line is difficult to distinguish due to low protein concentration, the dilution factor in the pre-dilution step can be reduced to 3-fold. However, we do not recommend a dilution factor lower than 3-fold, as test results in such cases can be influenced by complex components in the protein solution, leading to reduced testing accuracy.



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## Product Performance Indicators

The test strip has a minimum detection limit of 1 μg/mL. As the concentration of the His-tagged protein in the test sample reaches 1 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 1 μg/mL to 10 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 10 μg/mL, the color of the T line completely fades out.

## Results Interpretation

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

2. **Positive result:** The C line is colored, but the T line is not colored or is significantly weaker than the negative control.

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

**ProXpress (His-Tag-PLUS) -Competitive**


Test card color rendering display diagram



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## 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 |
|---|---|---|
| The T line did not show a visible weakening of coloration compared to the negative control | Sample did not contain His-Tag protein | Verify correct test card is used. |
| | | Verify presence of His-Tag protein via alternative method (e.g. ELISA or Western Blot). |
| Low intensity at the test line | Sample was above the working concentration range | Repeat the test with a second dilution of the test sample. |
| No control line detected | Incorrect operation | Please repeat the test according to the instructions. |
| | Test card exceeds expiration date | Use the test card within the expiration date. |

*21 August 2023*



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

**Cat. No.:** HX002323-5

**Unit size:** 5

## Expected Use

Rapidly detects Flag-tagged protein products obtained from prokaryotic and eukaryotic expression systems.

## Detection Principle

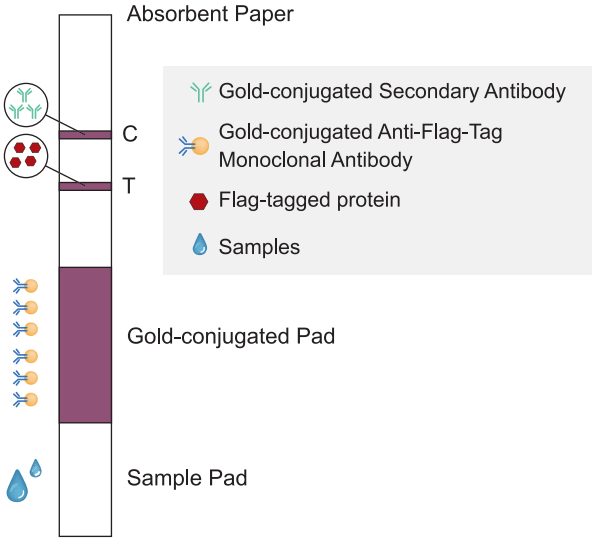
This product is a semi-quantitative protein detection reagent that relies on the use of a colloidal gold-based lateral flow assay. The foundation of this product is comprised of various components, such as a sample pad, a gold-conjugated pad, a chromatography membrane, and absorbent paper.

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 Flag-tagged protein is present in the sample, the gold-conjugated anti-Flag-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 Flag-tagged protein on the T line, forming a purplish-red band.

However, when Flag-tagged protein is present in the test sample, the gold-conjugated anti-Flag-Tag antibody will bind solely to the Flag-tagged protein, leading to an increase in antibody binding as more Flag-tagged protein is introduced. As the laminar flow moves towards the T line, there will be less free gold-conjugated anti-Flag-Tag antibody present to bind to the immobilized Flag-tagged protein, which in turn results in a possible faint purple-red band or no band.

Moving onto the control line (C line), the gold-conjugated anti-Flag-Tag antibody will be captured by the immobilized gold-conjugated secondary antibody on the C line, resulting in a purplish-red band. To determine the presence or absence of Flag-tagged protein in the sample being tested, users need to read whether both the T line and C line are colored and the intensity of the coloration.

In summary, this reagent relies on a gold-conjugated lateral flow assay that can detect Flag-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



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## Package Contents

1. Flag-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. To maintain the concentration of the test protein between 1-10 μg/ml, make sure not to exceed or fall below this concentration range. Concentrations higher than 10 μg/ml can result in weak or barely visible color development of the T line, leading to distorted protein concentration interpretation. Conversely, low protein concentrations below 1 μg/ml can weaken the color development of the T line compared to the negative control T line, resulting in false-negative 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 3 μg/ml. If you don't know the concentration, you can perform a 25-fold dilution of the sample from a bacterial lysate or a 5-fold dilution for a sample from mammalian cell supernatant or lysate with ProXpress dilution buffer. Ensure thorough mixing by vortexing.
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 2-3 minutes.

Note: If the test result of the sample after pre-dilution shows very weak color development and is difficult to discern with the naked eye, this may indicate the possibility of an excessive sample concentration. In such cases, it is best to repeat the test with a second 10-fold dilution of the pre-diluted sample. If visible bands appear on the T line, it confirms that the initial weak color development was indeed due to excessive protein concentration. If there is suspicion that the color difference between the T line and the negative control T line is challenging to distinguish due to low protein concentration, the dilution factor in the pre-dilution step can be reduced to 3-fold. However, we do not recommend a dilution factor lower than 3-fold, as testing results in such cases can be influenced by complex components in the protein solution and lead to reduced testing accuracy.

Overall, ensure to follow the steps above to obtain reliable and accurate results.

## Product Performance Indicators

The test strip has a minimum detection limit of 1 μg/mL. As the concentration of the Flag-tagged protein in the test sample reaches 1 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 Flag-tagged protein concentration falls within the range of 1 μg/mL to 10 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 Flag-tagged protein concentration in the test sample surpasses 30 μg/mL, the color of the T line completely fades out.

## Results Interpretation

1. **Negative Results:** 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 C line is colored, but the T line is not colored or is significantly weaker than the negative control.

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.

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

**ProXpress (Flag-Tag)-Competitive**


Test card color rendering display diagram



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## Additional Information

| Substance | Compatible Concentration | Substance | Compatible Concentration |
|---|---|---|---|
| NaCl | 0.25M | EDTA | 5mM |
| Urea | 0.4M | Glycerol | 10% |
| TritonX-100 | 1% | KCl | 0.25M |
| Tween-20 | 1% | CHAPS | 1.0% |
| SDS | 0.20% | RIPA | 100% |
| NP-40 | 1% | — | — |

## Troubleshooting

| Observation | Possible Cause | Recommended Action |
|---|---|---|
| No visible weakening of the test line compared to the negative control | The sample did not contain Flag-Tag protein | Verify that the correct test card is used. |
| | | Verify presence of Flag-Tag protein via alternative method (e.g. ELISA or Western Blot). |
| Low intensity test lines | Sample concentration above the upper limit of the working concentration range | Repeat the test with a second dilution of the test sample. |
| No control line detected | Incorrect operation | Repeat the procedure according to the instructions and make sure that the concentration of lysis and extraction reagents added to the sample is within the recommended range. |
| | Test card exceeds expiration date | Use the test card within the expiration date. |

*21 August 2023*



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

| | |
|---|---|
| **Cat. No.:** | HX002322-5 |
| **Unit size:** | 5 |

## Expected Use

Rapidly detects GST-tagged protein products obtained from prokaryotic and eukaryotic expression systems.

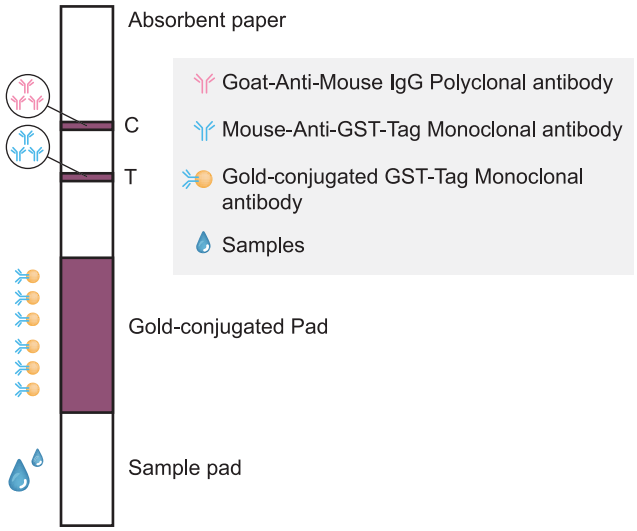
## Detection Principle

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. When GST-tagged protein is present in the test sample pass through the gold-conjugated pad, forming a purplish-red band.

Moving onto the control line (C line), the gold-conjugated -mouse monoclonal antibody will be captured by the immobilized goat-anti-mouse IgG polyclonal antibody on the C line, resulting in a purplish-red band.

By carefully observing the coloration of both the T and C lines, users can determine the presence or absence of the GST-Tagged protein they are testing for.




Schematic Diagram of the Test Principle



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## Package Contents

1. GST-Tag protein 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. To maintain the concentration of the test protein between 30-3000 ng/ml, make sure not to exceed or fall below this concentration range. Concentrations higher than 3000 ng/ml can result in weak or barely visible color development of the T line, leading to distorted protein concentration interpretation. Conversely, low protein concentrations below 30 ng/ml can weaken the color development of the T line compared to the negative control T line, resulting in false-negative 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 300 ng/ml.
If you don't know the concentration, you can perform a 30-fold dilution of the sample from a bacterial lysate, mammalian cell, yeast, insect cell lysate. Ensure thorough mixing by vortexing.
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 2-3 minutes.

Note: If the test result of the sample after pre-dilution shows very weak color development and is difficult to discern with the naked eye, this may indicate the possibility of an excessive sample concentration. In such cases, it is best to repeat the test with a second 100-fold dilution of the pre-diluted sample. If visible bands appear on the T line, it confirms that the initial weak color development was indeed due to excessive protein concentration. If there is suspicion that the color difference between the T line and the negative control T line is challenging to distinguish due to low protein concentration, the dilution factor in the pre-dilution step can be reduced to 5-fold. However, we do not recommend a dilution factor lower than 5-fold, as testing results in such cases can be influenced by complex components in the protein solution and lead to reduced testing accuracy.

Overall, ensure to follow the steps above to obtain reliable and accurate results.

## Product Performance Indicators

The test strip has a minimum detection limit of 30 ng/mL. In cases where the GST-tagged protein concentration falls within the range of 30 ng/mL to 3000 ng/mL, the color depth of the T line displays a positive correlation with the protein concentration. As the protein concentration increases within the range of 3 μg/mL to 10 μg/mL, the T line's color appears lighter.

## Results Interpretation

1. **Positive result:** The color development of both the C and T lines.

2. **Negative result:** The color development of the C lines, and T lines 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.

**ProXpress (GST-Tag)**


Test card color rendering display diagram



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## Additional Information

| Substance | Compatible Concentration | Substance | Compatible Concentration |
|---|---|---|---|
| NaCl | 1.5M | 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 |
|---|---|---|
| No Test line detected | The sample did not contain GST-Tag protein | Verify correct test card is used. |
| | | Verify presence of Flag-Tag protein via alternative method (e.g. ELISA or Western Blot). |
| Low intensity test lines | Sample concentration below the lower limit of the working concentration range | Retest by reducing the sample dilution to a 5-fold dilution. |
| | Sample concentration above the upper limit of the working concentration range | Repeat the test with a second dilution of test sample. |
| No control line detected | Incorrect operation | Repeat the procedure according to the instructions. |
| | Test card exceeds expiration date | Use the test card within the expiration date. |

*21 August 2023*

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

| | |
|---|---|
| **Cat. No.:** | HX002321-5 |
| **Unit size:** | 5 |

## Expected Use

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

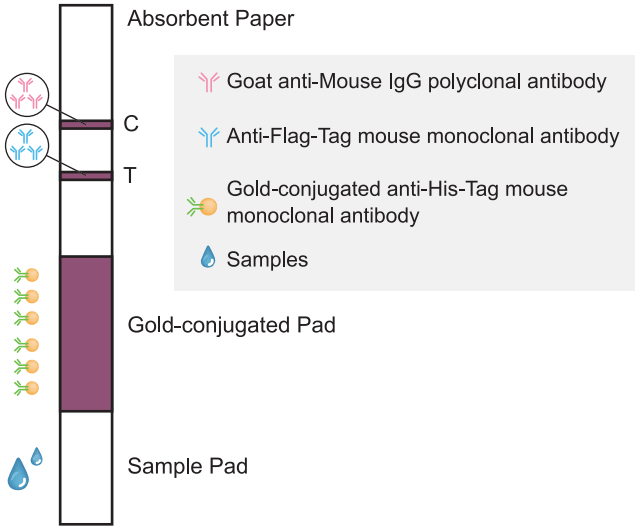
## Detection Principle

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. When Flag-His-tagged protein is present in the test sample, the gold-conjugated anti-His-Tag mouse monoclonal antibody will bind solely to it.

As the complex laminar flow moves towards the T line, it is captured by the immobilized anti-Flag-Tag mouse monoclonal antibody, forming a purplish-red band. Moving onto the control line (C line), it is captured by the immobilized Goat anti-Mouse IgG polyclonal antibody, forming a purplish-red band.

In summary, this reagent relies on a gold-conjugated lateral flow assay that can detect Flag-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



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## Package Contents

1. Flag-His-Tag 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. To maintain the concentration of the test protein between 4-500 ng/ml, make sure not to exceed or fall below this concentration range. Concentrations higher than 500ng/ml can result in weak or barely visible color development of the T line, leading to distorted protein concentration interpretation. Conversely, low protein concentrations below 4 ng/ml can weaken the color development of the T line compared to the negative control T line, resulting in difficult to read with naked eye.
If you know the concentration of the target labeled protein, you can directly dilute the sample with ProXpress dilution buffer to a concentration of 100 ng/ml. If you don't know the concentration, you can perform a 50-fold dilution of the sample from a bacterial, mammalian, yeast and insect cell lysate with ProXpress dilution buffer. Ensure thorough mixing by vortexing.
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 2-3 minutes.

Note: If the test result of the sample after pre-dilution shows very weak color development and is difficult to discern with the naked eye, or the concentration is seriously lower than expected, then there is a possibility that the concentration of the sample is too high (e.g., the concentration of the sample is more than 1 mg/ml), it is recommended that the pre-diluted sample should be diluted by a second time by 100-fold and repeat the test. If there is a visible band in the T line, it means that the protein concentration is too high; if no visible band is observed, it means that your test material does not contain Flag-His-tagged protein or its content is lower than 200 ng/ml; if you suspect that the protein concentration is too low to cause the weak color development, you can reduce the dilution factor to 10 times. We don't recommend pre-dilution of less than 10 times, because in this case, the results will be easily interfered by the complex components in the protein solution, resulting in a decrease in the accuracy of detection.

Overall, ensure to follow the steps above to obtain reliable and accurate results.

## Product Performance Indicators

The test strip has a minimum detection limit of 4 ng/mL.

In cases where the Flag-His-tagged protein concentration is within the range of 4 ng/mL to 500 ng/mL, the color depth of the T line displays a positive correlation with the protein concentration. As the protein concentration increases within this range, the T line's color appears deeper.

When the Flag-tagged protein concentration in the test sample surpasses 1000 ng/ml, the T line is maintained at a high intensity and there is no significant reduction in the coloration due to excessive amounts of the test substance.

## Results Interpretation

1. **Negative results:** Color development of the C line, with no observable color on the T line.

2. **Positive results:** Color development of both the C and T lines.

Note: when the sample contains Flag-His-tagged protein, as the Flag-His-tagged protein content increases, the color of the T line gradually enhances.

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

**ProXpress（Flag-His-Tag）**


Test card color rendering display diagram



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## Additional Information

| Substance | Compatible Concentration | Substance | Compatible Concentration |
|---|---|---|---|
| NaCl | 1.5M | EDTA | 7.5mM |
| Urea | 0.4M | Glycerol | 10% |
| TritonX-100 | 1% | KCl | 1.5M |
| Tween-20 | 1% | CHAPS | 1.0% |
| SDS | 0.20% | RIPA | 100% |
| NP-40 | 1% | — | — |

## Troubleshooting

| Observation | Possible Cause | Recommended Action |
|---|---|---|
| No test lines detected | Sample did not contain Flag-His-Tag protein | Verify correct test card is used. |
| | | Verify presence of Flag-His-Tag protein via alternative method (e.g. ELISA or Western Blot). |
| Low intensity at the test line | Sample was below the working concentration range | Reduce dilution to 10-fold and retest using a new test strip. |
| | Sample was above the working concentration range | Perform a second dilution on the diluted sample to bring the concentration into the working concentration range. |
| No control line detected | Incorrect operation | Please repeat the test according to the instructions. |
| | Test card exceeds expiration date | Use the test card within the expiration date. |

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# ProXpress (Human-IgG-Fc) Rapid Test Card Manual

**Cat. No.:** HX002325-5

**Unit size:** 5

## Expected Use

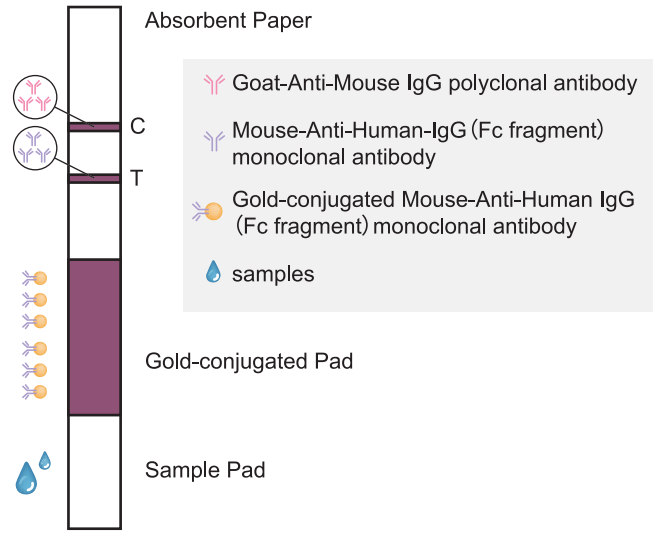
Rapidly detects human-IgG antibody products obtained from human serum and eukaryotic expression systems.

## 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 the sample flows through the gold-conjugated pad, if the sample contains human IgG antibodies, it binds to the mouse-anti-human IgG（Fc fragment） monoclonal antibody fixed on the gold-conjugated pad.

The complex is captured by mouse-anti-human IgG Fc monoclonal antibodies on the T line. As the captured complex accumulates, it appears purplish-red band . Moving onto the control line (C line), the goat-anti-mouse-IgG antibody capture the gold-conjugated mouse monoclonal antibody. To determine the presence or absence of human IgG antibodies in the sample being tested, users need to read whether both the T line and C line are colored and the intensity of the coloration.




Schematic Diagram of the Test Principle



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## Package Contents

1. Human-IgG (Fc fragment) 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. Draw 20 µl of the pre-diluted test sample using a micropipette and dispense it into the sample well.
3. Next, add 50 µl of ProXpress dilution buffer to the sample well.
4. After completing the previous steps, read the results after 2-3 minutes.

## Product Performance Indicators

The test strip has a minimum detection limit of 0.3 µg/mL, In cases where the Human-IgG antibody concentration falls within the range of 0.25 µg/mL to 30 µg/mL in the test sample, the color depth of the T line displays a positive correlation with the sample concentration.

## Results Interpretation

1. **Positive Results:** The color development of both the C and T lines.
2. **Negative Results:** The color development of the C lines, and T lines no color visible.
3. Please judge the relative expression level based on the color chart.
4. **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.



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**ProXpress（Human IgG-Fc）**


Test card color rendering display diagram

## Troubleshooting

| Observation | Possible Cause | Recommended Action |
|---|---|---|
| Light color display of C line | The sample have interfering substances | Repeat the test with 10-fold dilution of the test sample. |
| Detection failed | Reagent failure | Use the test card within the expiration. |

# ProXpress (Mouse IgG-Fc) Rapid Test Card Manual

| | |
|---|---|
| **Cat. No.:** | HX002326-5 |
| **Unit size:** | 5 |

## Expected Use

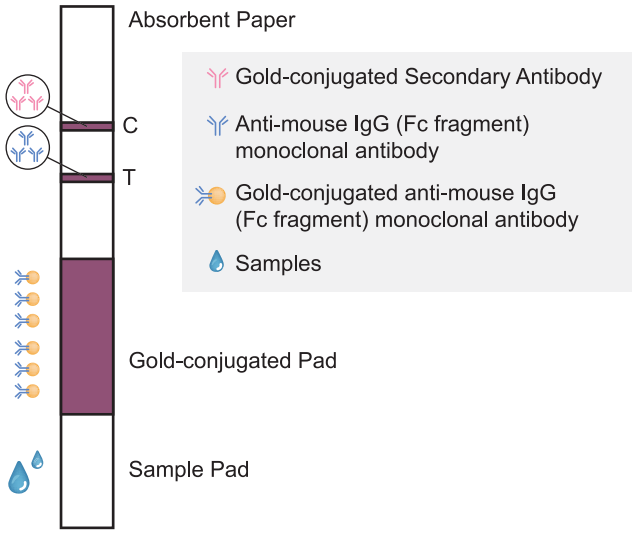
Rapidly detects Mouse IgG antibodies (or recombinant protein products with mouse Fc fragments) obtained from eukaryotic expression systems.

## 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. When mouse IgG antibody (Fc fragment) is present in the sample, anti-mouse IgG (Fc fragment) monoclonal antibody will bind solely to it.

As the complex laminar flow moves towards the T line, it is captured by another strain of immobilized gold-conjugated anti-mouse IgG (Fc fragment) monoclonal antibody, forming a purplish-red band. Moving onto the control line (C line), it is captured by the immobilized gold-conjugated secondary antibody, forming a purplish-red band.




Schematic Diagram of the Test Principle



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## Package Contents

1. Mouse IgG-Fc 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. Draw 20 µl of the pre-diluted test sample using a micropipette and dispense it into the sample well.
3. 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.
4. After completing the previous steps, read the results after 2-3 minutes.

Overall, ensure to follow the steps above to obtain reliable and accurate results.

## Product Performance Indicators

The test strip has a minimum detection limit of 0.04 µg/mL. In cases where the mouse IgG (Fc) concentration is within the range of 0.04 µg/mL to 1 µg/mL, the color depth of the T line displays a positive correlation with the protein concentration. As the protein concentration increases within this range, the T line's color appears deeper.

## Results Interpretation

1. **Negative results:** Color development of the C line no observable color on the T line.
2. **Positive results:** The color development of both the C and T lines.

Note: when the sample contains mouse IgG (Fc), the T line color is gradually enhances, with the increase of mouse IgG (Fc).

3. **Invalid result:** No color is observable on the C line, regardless of the presence of color on the T line. This indicates an ineffective reagent, rendering the test invalid.

**ProXpress (Mouse IgG-Fc)**


Test card color rendering display diagram

## Troubleshooting

| Observation | Possible Cause | Recommended Action |
|---|---|---|
| Low intensity at the control line | Interfering substances in the sample | Repeat the test after diluting 10 times with ProXpress dilution buffer. |
| Test failure | Reagent failure | Check expiration date. |

## About Us

Synbio Technologies is a leading biotech company dedicated to transforming biology into technology. We are committed to enabling advancements in life science research, bio-manufacturing, health, and agriculture through our premier synthetic biology platform. Our core competencies involve gene synthesis, molecular biology, genomics, protein engineering, and phage display. Synbio Technologies is at the forefront of biotechnology, providing comprehensive, multi-level, and industrialized DNA services to scientists all over the world. For more information, please visit [www.synbio-tech.com](www.synbio-tech.com).

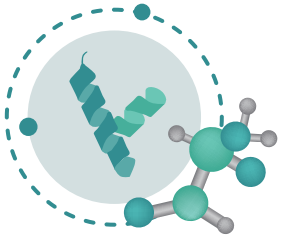
DNA WRITING


DNA READING

DNA EDITING

SYNTHETIC BIOLOGY

ANTIBODY DISCOVERY



PROTEINS & PEPTIDES

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