

## INSTRUCTIONS

### 37ExpressVue® Fc Tag Rapid Detection



Rapid tests for Fc fusion protein detection (**Patent Pending**)

- Human Fc Fusion Detection (Cat# 110100)
- Rabbit Fc Fusion Detection (Cat# 110200)
- Mouse Fc Fusion Detection (Cat# 110300)

The Fc domain of immunoglobulin is a popular tag for recombinant protein expression for both protein and antibody production. Detection of protein using gel electrophoresis/Western Blotting or ELISA methods can be cumbersome and time consuming and requires skilled handling. The 37ExpressVue® Fc Test detects Fc tagged protein directly from cell culture media or lysate without any special instruments or sample handling. The test is completed in 5 to 10 minutes.

#### Principles of the Procedure

37ExpressVue® Fc Test is an immunochromatographic membrane assay that uses antibodies to detect Fc tagged proteins in cell culture and lysate. A detection antibody and a control antibody are immobilized on a membrane support as two distinct lines. A capture antibody is labeled with colored particles (colloidal gold nanoparticles) to allow visualization of the formation of immunocomplex between the antibodies and the Fc tagged protein.

To perform the test, the strip is dipped into samples of cell culture media or lysate. Fc tagged protein present in the sample binds the gold-labeled capture antibody, which is specific to Fc domain. The antigen-antibody-gold complexes migrate along the test strip, where they are captured by the immobilized detection antibody, forming the Test Line (T). Immobilized control antibody captures the overflow complexes, forming the Control Line (C). The appearance of both a T Line and a C Line indicates the presence of tagged protein in the sample.

#### Intended Use

The 37ExpressVue® Test strips may be used in monitoring recombinant protein expression in a variety of applications, such as optimization of protein expression conditions, real time monitoring of protein expression, determining dose response of inducer in protein expression, monitoring change of protein expression levels in response to environments, such as temperature, nutrient and/or oxygen level, etc.

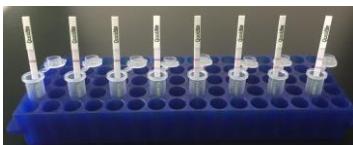
#### Test Procedure

1. All tests are performed at room temperature. Take out test strips from container after it comes to room temperature.
2. Pipette ~200 ul of sample into an Eppendorf tube or ~120 ul into a well of 96-well microtiter plate. Hold the “QoolAbs” logo end of the strip, dip the other end of the strip (with stripped lines) into the sample, making sure only the white pad below the green colored lines is immersed into the sample (Figure A and B).

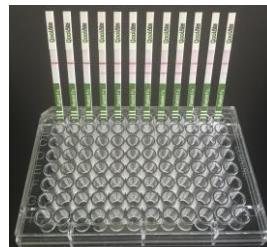
**NOTE:** to test samples with high concentrations of tagged protein, dilute the samples with PBS prior to testing. The lower detection limit of the Fc test strips is 10ng/ml of Fc-protein. The linear detection range

of the Fc test strips is 10ng/ml to 1000ng/ml. The test line is most visible for samples with the concentration between 20ng/ml and 10ug/ml. When you are expecting higher protein concentration than the upper limit of the linear range, it is recommended to try 2-3 different dilutions of the original samples to avoid hook effect.

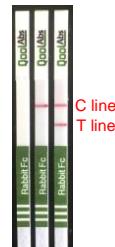
3. 5-10 minutes later, read the test result (Figure C). Results read before or after this time frame may be inaccurate.



A



B



C

## Result Interpretation

The unused strips are blank in the test zone (the strip on the left in figure C). If only the C line appears (the strip in the middle in Figure C), there is no detectable tagged protein in the sample. If both the control line and the test line appear (the strip on the right in Figure C), it indicates the sample has the protein tag. The tests for Fc tags have a detection limit of 1ng/ml in PBS. The test is invalid when the control line does not clearly visible or does not show.

## Related Materials (sold separately)

### 37ExpressVue® Fc Positive Control Kits

Product	Catalog number
37ExpressVue® Human Fc Positive Controls, ready to use, 1 ml	910101-001
37ExpressVue® Rabbit Fc Positive Controls, ready to use, 1 ml	910201-001
37ExpressVue® Mouse Fc Positive Controls, ready to use, 1 ml	910301-001

## Precautions

1. Keep test strips sealed in its foil pouch until just before use.
2. Do not re-use the test strips.
3. Do not use the strips past its expiration date.
4. Excessive air circulation (i.e. air conditioners, fans, etc.) can slow the flow of the sample. During testing, protecting the devices from excessive air flow is recommended.

## Storage and Stability

Store test strips dry at 4°C. Do not freeze. After opening, the unused strips should be stored in a desiccator at 4°C and use within one week; Or, for test strips packed in re-closable aluminum bags, unused strips should be kept in the sealed bag at 4°C with the supplied desiccants and use within one week.