Tiosbio® Double-Labeled Nucleic Acid Detection Test Strip

(Rainbow Type)

Cat. No. JY0209

Working Mechanism:

This product uses a chromatographic double-antibody sandwich method to quickly detect nucleic acid amplification products. Compared with the traditional agarose gel electrophoresis detection, the nucleic acid detection test strip is simple to operate, quick to interpret, does not contain toxic substances, and does not require any equipment. When designing the first detection sequence primer, the user only needs to label one primer/probe with Biotin and the other primer/probe with FITC or 6-carboxyfluorescein 6-FAM. When designing the second detection sequence primer, label one primer/probe with Rhodamine TAMRA, and label the other primer/probe with Digoxin. There are 2 labeling options to choose from, see the table below. Also, ensure that the two markers can be integrated into the double-stranded amplification product at the same time, then this product can be used for detection. If the internal reference design is used, please design the internal reference fragment marker as digoxin.

Marking options： 1. 5 'Biotin----3' FAM(FITC),5' Digoxin-----3' TAMRA

2. 5' Biotin----- Digoxin ,5' TAMRA -----3' FAM(FITC)

Intended use:

Detection of nucleic acid amplification products。

Packing specification/Article number:

Packing specification: 10T/pack x 5, packed in moisture-proof aluminum foil bags.

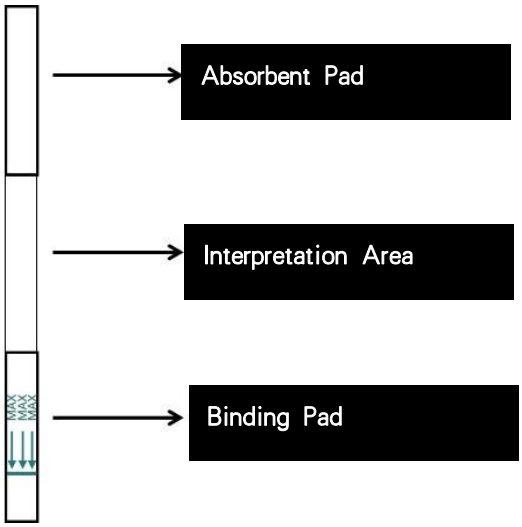

Figure 1 Schematic diagram of the structure of a disposable nucleic acid detection test strip

Storage conditions and expiration date:

Storage conditions: avoid light and moisture, at a temperature of 4~30°C.

Expiry date: 12 months from production.

Instruction:

1. **Take out the corresponding number of test strips according to the number of test samples, and mark them on the absorbent pad (Figure 1). Each test strip can only be used for an one-time single sample test. When the volume of the amplification product is between 50-100μL, the nucleic acid product can be detected directly in the 200μL PCR reaction tube. When the amplification product is less than 50μL, it is necessary to add ultrapure water to the PCR tube to make up the volume to 50μL, and the detection can only be performed after mixing by pipetting.**
2. **After PCR, RPA or RAA products are added to the CRISPR system, open the PCR reaction tube and insert the binding pad end (arrow end) of the test strip into the PCR reaction tube (Figure 1). The liquid level must not exceed the top of the binding pad. After the reading area is fully saturated (about 1-2 minutes, when the external environment temperature is low, such as winter, the water absorption speed will be reduced, and the saturation time of the reading area will be prolonged), and after the color of the quality control line (C line) emerges, take the test strip out. Read the test result directly according to the color development of the test strip.**
3. **Read the results within 10 minutes after the color of the quality control line (C line) emerges. Interpretation after 10 minutes is invalid.**
4. **Record the test results, seal and dispose of the test strips in a safe place.**

Interpretation of results:

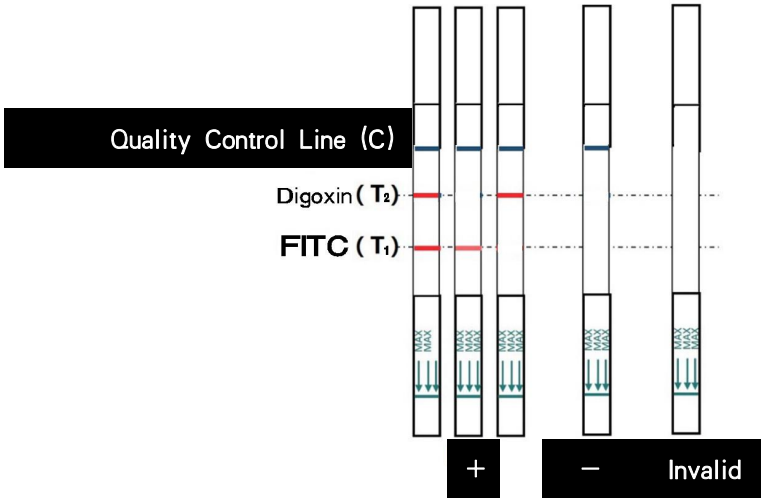

Figure 2 Schematic diagram of interpretation of results of disposable nucleic acid test strips

1. **Positive (+):**

   There is a blue band on the test strip, located on the quality control line (C line); 2 red bands, located on the test line (T line). A positive result indicates that the sample contains the nucleic acid fragment to be detected, and its amount is ≥ the minimum detection amount of the test strip. When the concentration of the target nucleic acid product is low, the color of the C line of the test strip is blue, and the T line is light red or even light pink. This result should also be regarded as positive. When the concentration of the target nucleic acid product is high, the C line of the test strip is red, and the T line is red, and the result should also be regarded as positive.
2. **Negative (-):**

   A blue band appears on the quality control line (C line) of the test strip, and there is no band on the test line (T line). A negative result indicates that the sample does not contain the target nucleic acid fragment, or its amount is lower than the minimum detection amount of the test strip.
3. **Invalid:**

   There are no bands on the quality control line (C line) or test line (T line) of the test strip, indicating that the test strip or amplification reagent used may be damaged, invalid or the user has not followed the instruction. In these cases, read the instructions carefully, and amplification and detection should be reconducted. If the problem

persists, stop using the product with the same batch number immediately and contact the local supplier.

Precautions and Safety Tips:

1. **This product should be used in tandem with probes. If the purity of the probe synthesis is insufficient, that is, when the probe contains free Biotin or free FITC, the T line of the cleaved product that uses ultrapure water as a negative control will appear red, which produces a false positive result.**
2. **The product should be stored in a suitable environment and temperature as described above, and used before the expiry date. Improper storage or expired product may yield erroneous results. Please use the test strips as soon as possible after opening the package, so as not to affect the test results due to the dampness of the test strips. Insufficient light in the detection environment, an operator who suffers from color weakness and other factors may also lead to wrong results.**
3. **After use, put the test strip into a sealed bag as soon as possible and dispose of it properly. This product is for one-time use only, please do not reuse it.**
4. **After receiving the product, test each indicator with this product separately, and ensure that each indicator is in the accurate position after amplification, and there are no false positives. Then verify the sensitivity of the index primer system. When the two indicators are at the same sensitivity level, use the double primer system to amplify. Then use the product to test.**