

Working Mechanism:

This product uses a chromatographic double-antibody sandwich method to simultaneously detect the target gene CRISPR digestion product and LAMP, RAA or RPA, PCR amplification product. This product can be used for detection when the CRISPR signal probe (A) or the amplification product (B) is modified as follows - one end of the CRISPR signal probe (A) is modified with biotin (Biotin), and the other end is modified with Fluorescein isothiocyanate (FITC) or 6-carboxyfluorescein (6-FAM); the amplification product (B) is modified with digoxin (Dig) at one end and rhodamine (TAMRA) at the other end.

Intended Use:

Simultaneous detection of CRISPR single-digestion products and amplification products.

Packing specification/Article number:

Packing specification: 50T/pack, packed in moisture-proof aluminum foil bags.

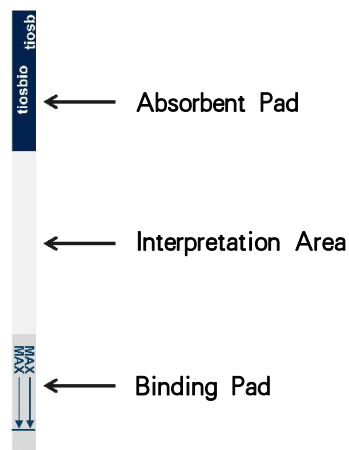


Figure 1 Schematic diagram of the structure of a disposable nucleic acid detection test strip

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 50-100 μ L, the nucleic acid product can be detected directly in the 200 μ L PCR reaction tube. When the amplification product is less than 50 μ L, it is necessary to add ultrapure water to the PCR tube to make up the volume to 50 μ L, 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:

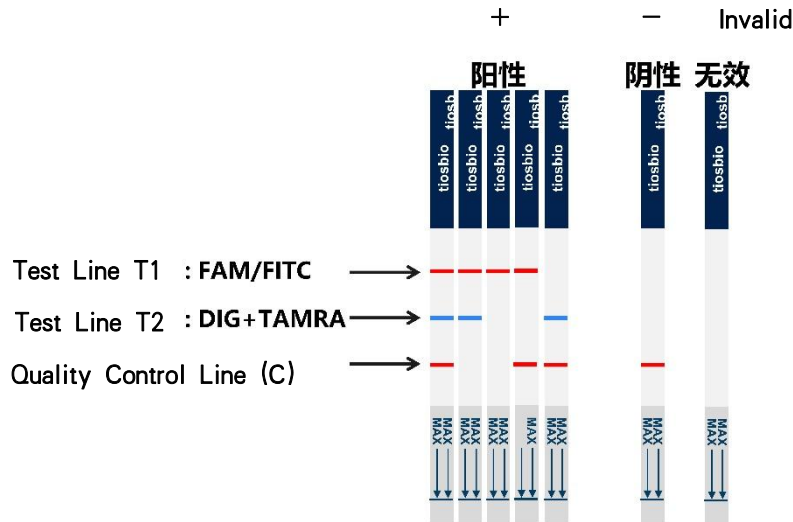


Figure 2 Interpretation of CRISPR single enzyme digestion and amplification product test strip results

1. Positive (+):

Bands appear on both the test strip quality control line (C line) and the two test lines (T line), among which T1 is red, T2 is blue, and C line is red; the test strip quality control line (C line) does not Color development, when T1 is red and T2 is blue. Both indicate that the CRISPR system can carry out effective enzyme digestion and activate the reporter group for color development, and the corresponding target genes can be regarded as positive.

When bands appear on the quality control line (C line) and one of the test lines (T line) on the test strip, where T1 is red, C line is red, or only T1 is red, it means that the CRISPR system can carry out effective enzyme digestion and activate the reporter group to develop color: The corresponding target gene can be regarded as positive. When T2 is blue and C line is red, the amplification product of the target gene labeled with Dig and rhodamine can be regarded as positive.

2. Negative (-):

A red band appears only on the quality control line (C line) of the test strip, and the test line (T line) does not show any color. This indicates a negative result.

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. This product can be used to test the quality of probe synthesis. Adjust the concentration of the probe used in the blank negative control to 400 nM, and perform a cleavage reaction. If the T line of the test strip appears red within 5-7 minutes after immersing the end of the test strip binding pad in the Cas12/Cas13 cleavage product, then the purity of the probe cannot meet the experimental requirements, and false positive results may be caused by insufficient probe purity. It is recommended to change the probe synthesis supplier and re-synthesize the probe. **When the probe concentration of this product is 20~50nM, the T line will not develop color within 30 minutes after the end of the test strip binding pad is immersed in the Cas12/Cas13 cleavage product.**
3. This product is for scientific research use only. Please read the instructions carefully before use and operate in strict accordance with the instructions. Violation or failure to follow instructions may result in erroneous results.
4. The product should be stored in a suitable environment and temperature according to the instructions, and used before the expiry date. Improper storage or expired product may lead to 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.
5. 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.