# Aflatoxin B1 (AFB1) FQ Test Kit

Technical Manual

(GICA)

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## 1 Principle and Application

The test kit is used for the quantitative detection of Aflatoxin B1(AFB1) in the samples such as grains, animal feeds.

The kit is developed using a competitive fluorescence immunochromatography assay. After adding the sample solution to the sample well of the test card, the Aflatoxin B1 in the solution binds to the fluorescent microsphere-labeled antibodies, thereby preventing these antibodies from binding to the Aflatoxin B1 conjugate on the cellulose membrane. The quantitative test results are obtained through the fluorescence strip reader.

## 2 Technique Data

**Detection limit:** 2 ppb (ppb=μg/Kg)

**Detection range:** 2-200 ppb (ppb=μg/Kg)

**Accuracy:** 80%–120%

**Precision:** CV≤15%

## 3 Kit Content

| Package specification | 20T/Kit |
|---|---|
| Test device | 20 |
| AFB1 Reconstitution Buffer | 30mL×1 |
| Instruction | 1 |

## 4 Materials Required but Not Supplied

**Equipment:** grinder (for crushing solid samples), vortex mixer (for shake and mix), centrifuge, graduated transfer pipette, and balance with a division value of 0.01 g.

**Micropipettes:** single-channel (20-200μL and 100-1000μL).

**Reagents:** Ethanol.

## 5 Sample Pre-treatment

Please note that the labware must be clean. Use disposable pipette tips to avoid contamination of interference results.

**5.1 Solution preparation before sample pre-treatment**

**Solution 1:** Sample extraction solution:

50% Ethanol solution, (Ethanol /Deionized water= 1: 1).

**5.2 Sample pretreatment step:**

**5.2.1 Grain, feed treatment.**

(1)Crush the sample thoroughly using a grinder and pass it through a 20-mesh sieve.

(2)Weigh 2 g of ground sample into a 50 mL centrifuge tube. Add 10 mL of Sample extraction solution (Solution 1) and vortex at 2500 rpm for 3 minutes to get the mixed liquid. Centrifuge at room temperature at 4000 rpm for 5 minutes, and collect the supernatant for later use.

(Note: If using a mini centrifuge, take 500μL of the mixed liquid from the centrifuge tube and transfer it into a 1.5 mL centrifuge tube. Centrifuge at 4000 rpm for 5 minutes to obtain the supernatant. Alternatively, take 5 mL of the mixed liquid and filter it through filter paper, and collect the filtrate.)

(3)Transfer 100μL of the supernatant into a 1.5 mL container, then add 400μL of AFB1 Reconstitution Buffer and mix by shaking. The resulting mixture is the sample solution.

## 6 Test Steps

(1)Tear the foil pouch, take out of the test card, and put on a flat, clean work surface.

(2)Pipette 60μL of sample solution and add it vertically and slowly into the sample hole (“S”).

(3)After incubating at room temperature for 10 minutes, insert the test card into the fluorescence strip reader to read the results, which will be automatically displayed on the reader screen.

## 7 Notice

7.1 Don’t use the expired or damaged products.

7.2 When the test card is taken out of the refrigerator, it should be restored to the room temperature and then opened. The opened test card should be used as soon as possible to avoid failure after being affected by moisture.

7.3 Avoid touching the white nitrocellulose membrane in the middle of the detection card.

7.4 The sample solution to be examined needs to be clear and free of turbid particles. Otherwise, it is prone to lead to blockage, non-obvious color development and other abnormalities, affecting the determination of

the experimental results.

7.5 The batch number selected on the fluorescence strip reader must correspond with the product QR code; reagents from different batches should not be mixed.

## 8 Storage Conditions

The kit shall be stored at 2°C to 30°C (35.6°F to 86°F) in dry environment.

Shelf life: 12 months. The date of manufacture is presented in the label of the box.