Feed Quick

Aflatoxin B1(AFB1) Rapid Test Kit

Technical Manual

(GICA)

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1 Principle and Application

The test kit is used for detecting Aflatoxin B1(AFB1) in grains, feed and others.

The kit is developed using the principle of competitive colloidal gold immunochromatography assay (GICA). After sample solution is added to sample hole, if AFB1 is present, they will combine with gold labeled antibodies, thereby preventing the labeled antibodies from combining the AFB1 conjugates of nitrocellulose membrane.

If the content of AFB1 in sample solution is less than detection limit, it will make the test ("T") line colored, and the result is negative. If the content is greater than detection limit, no color reaction will be produced, and the result is positive.

2 Technique Data

Kit sensitivity: 5-50 ppb (ug/kg=ppb)

3 Kit Content

Package specification	32T/Kit
Test device (with disposable dropper)	32
Instruction	1

4 Materials Required but Not Supplied

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

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

4.3 Reagents: Ethanol, Sodium chloride.

5 Sample Pre-treatment

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

5.1 Solution preparation before sample pre-treatment

Solution 1: Sample Extraction Solution:

50% Ethanol salt solution

(Solution preparation: 50mL of Ethanol (analytical grade) +50mL of Deionized water +5g of Sodium chloride.

5.2 Sample pretreatment step:

5.2.1 Cereal, Feed:

1) Weigh 2g of crushed samples into a centrifuge tube, add 5mL of Sample Extraction Solution (Solution 1), shake it for 3 min and centrifuge at 4000 r/min for 5 min at room temperature.

2)Add the supernatant and deionized water according to different detection limit requirements in the following table, mix them well, and wait for testing.

Detection Limits(ppb)	5	10	20	50
Supernatant(μL)	100	50	50	50
Deionized water(μL)	150	200	450	950

5.2.2 Samples with strong water absorption (such as bran, flour, cottonseed meal, alfalfa)

1) Weigh 2g of crushed samples into a centrifuge tube, add 8mL of Sample Extraction Solution (Solution 1), shake it for 3 min and centrifuge at 4000 r/min for 5 min at room temperature.

2)Add the supernatant and deionized water according to different detection limit requirements in the following table, mix them well, and wait for testing.

Detection Limits(ppb)	5	10	20	50
Supernatant(μL)	100	50	50	50
Deionized water(μL)	150	200	450	950

5.2.3 Edible Oil (such as vegetable oil, sesame oil, salad oil, peanut oil):

1) Weigh 1g of the sample into a centrifuge tube, add Sample Extraction Solution (Solution 1) according to different detection limit requirements in the following table, shake for 3min fully, centrifuge at 4000 r/min for 5 min at room temperature or stand until layered.

Detection Limits(ppb)	10	20
Solution 1(mL)	4	8

2) Take 0.1mL of lower liquid, add 0.4mL deionized water, and mix fully.

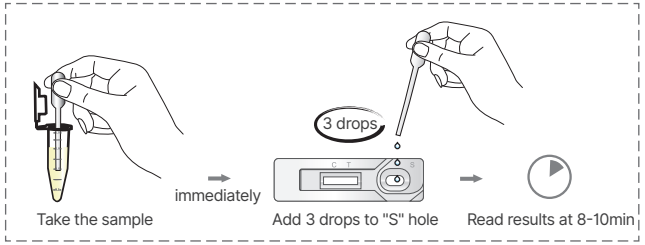
6 Test Steps

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

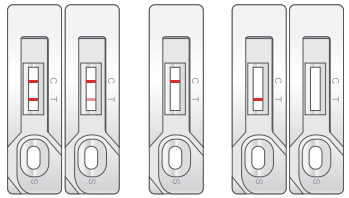
2)Pipette the prepared sample solution with the provided dropper, then add 3 drops (approximately 60μL) vertically and slowly into the sample hole("S"). Please

be aware to avoid the formation of foam during the process.

3)Read the result at room temperature in 8 to 10 minutes. Results over 10 minutes can only be used as reference.



7 Results Judgement



Negative: Test (“T”) line and control(“C”) line both appear in the result window. It indicates that the concentration of AFB1 in the sample is below the detection limit, or absent.

Positive: Only control (“C”) line appears in the result window.

It indicates that the concentration of AFB1 in the sample is above the detection limit (AFB1 is present in the sample).

Invalid: If the control (“C”) line does not appear, the result might be considered invalid.

8 Notice

8.1 Don’t use the expired or damaged products.

8.2 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.

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

8.4 In order to avoid cross-contamination, the droppers cannot pipet another Solution after pipetting one.

8.5 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.

9 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.