

Aflatoxin B1(AFB1) Rapid Kit

【Intended Application】

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

【Principle】

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.

【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.

【Technique Data】

Kit sensitivity: 2 ppb (ug/kg=ppb)

The final detection limit for the sample must be calculated by multiplying the kit sensitivity by the dilution ratio used in sample processing.

Detection Limits:

Grains, animal feed (treatment 1)20ppb

Grains, animal feed (treatment 2)5ppb

Edible oil.....10ppb

【Kit Content】

Package specification	20T/Kit	40T/Kit
Test device (with disposable dropper)	20	40
Instruction	1	1

【Materials Required but Not Supplied】

- ❖ 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, nitrogen evaporator.
- ❖ Micropipettes: single-channel (20-200μL and 100-1000μL)
- ❖ Reagents: Methanol, n-Hexane.

【Sample Pre-treatment】

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

- Solution preparation before sample pre-treatment

Solution 1: Sample Extraction Solution: 70% Ethanol solution

Volumetric ratio of Methanol to Deionized Water = 7:3.

➤ Sample pretreatment step:

1. Cereal, Feed (treatment 1):

1) Weigh 2g of crushed sample into a centrifuge tube, then add the Sample Extraction Solution (Solution 1) according to the different detection limit requirements in the table. Shake for 5 minutes and centrifuge at 4000 rpm at room temperature for 5 minutes.

Detection Limits(ppb)	20	50	100
Solution 1 (mL)	4	10	20

2) Take 0.1mL of the supernatant, add 0.4mL of deionized water, mix well, and set aside for use.

2. Grains, animal feed (treatment 2):

1) Weigh 2g of crushed samples into a centrifuge tube, add 4mL of Sample Extraction Solution (Solution 1), shake it for 5 min and centrifuge at 4000 r/min for 5 min at room temperature.

2) Take 1mL of the upper liquid to another tube, and evaporate it to dryness with nitrogen or air under 50-60°C conditions.

3) First, add 0.25mL of Sample Extraction Solution (Solution 1) (used to dissolve the residue obtained in the previous step), vigorously shake for 2 minutes; followed by adding 1mL of deionized water, mix well, and set aside. (Note: The order of adding Solution 1 and water in this step should not be reversed.)

3. Edible oil (such as vegetable oil, sesame oil, salad oil, peanut oil):

1) Weigh 2g of the sample into a centrifuge tube, add Sample Extraction Solution (Solution 1) according to different detection limit requirements in the following table, then add 8 mL of n-Hexane, shake for 5min fully, centrifuge at 4000 r/min for 5 min at room temperature.

Detection Limits(ppb)	10	20	40	100
Solution 1(mL)	2	4	8	20

2) Remove the upper liquid, take 0.1mL of the lower liquid, add 0.4mL of deionized water, mix well, and set aside for further use.

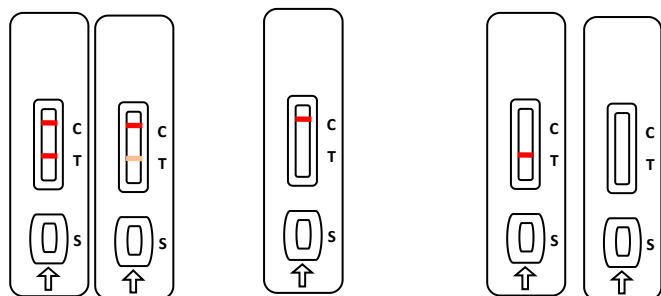
【Test Steps】

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.

【Results Judgement】



Negative

Positive

Invalid

- ◆ **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.

【Notice】

Don't use the expired or damaged products.

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.

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

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

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.