

Aflatoxin B1 (AFB1) FQ Test Kit

NFB220 – 20 tests

Detection Limit: 2 ppb

Detection Range: 0 – 200 ppb

Sample Types: Grains, Feed, Edible Oil etc.

General Description

Aflatoxin is one kind of toxic metabolite of aspergillus flavus and aspergillus parasiticus. They primarily contaminate crops such as corn, peanuts, and hazelnuts. Aflatoxins are mainly divided into four types: AFB1, AFB2, AFG1, and AFG2. The total aflatoxin amount usually refers to the sum of these four toxins. They are classified as Group 1 carcinogens and have been shown to pose significant dangers to organs and tissues such as the liver and kidneys in humans and animals. Aflatoxins are potent and highly toxic carcinogens.

Test Principle

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

Kit Contents and Storage

The shelf life of the kit is 12 months. Store the kit at 2-8 °C and avoid freezing.

Components	Quantity
Test Strips	20 pcs
Reconstitution Buffer	30 mL
Manual	1 pcs

Materials Required but Not Supplied

- Fluorescence Strip Reader
- Grinder (for homogenizing solid samples)
- Vortex mixer (for shake and mix)
- Centrifuge or filter paper
- Balance with a division value of 0.01 g
- Micropipettes,
- For grain and feed treatment: Ethanol
- For edible oil treatment: Methanol, n-hexane

Precautions

- Mix all reagents gently by inverting them before use. Do not foam.
- 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.
- Do not touch the white nitrocellulose membrane in the middle of the detection card.
- 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.
- The batch number selected on the fluorescence strip reader must correspond with the product QR code; reagents from different batches should not be mixed.

Preparation

Please remember that all laboratory equipments must be clean. Use disposable pipette tips to prevent contamination of results.

Reagent Preparation:

Reagent 1: 50% Ethanol Solution

Dilute the ethanol with distilled water at a volume ratio 1 : 1 (1 unit Ethanol : 1 unit Distilled Water).

Reagent 2: 70% Methanol Solution

Dilute the methanol with distilled water at a volume ratio 7 : 3 (7 unit Methanol : 3 unit Distilled Water).

Sample Preparation:

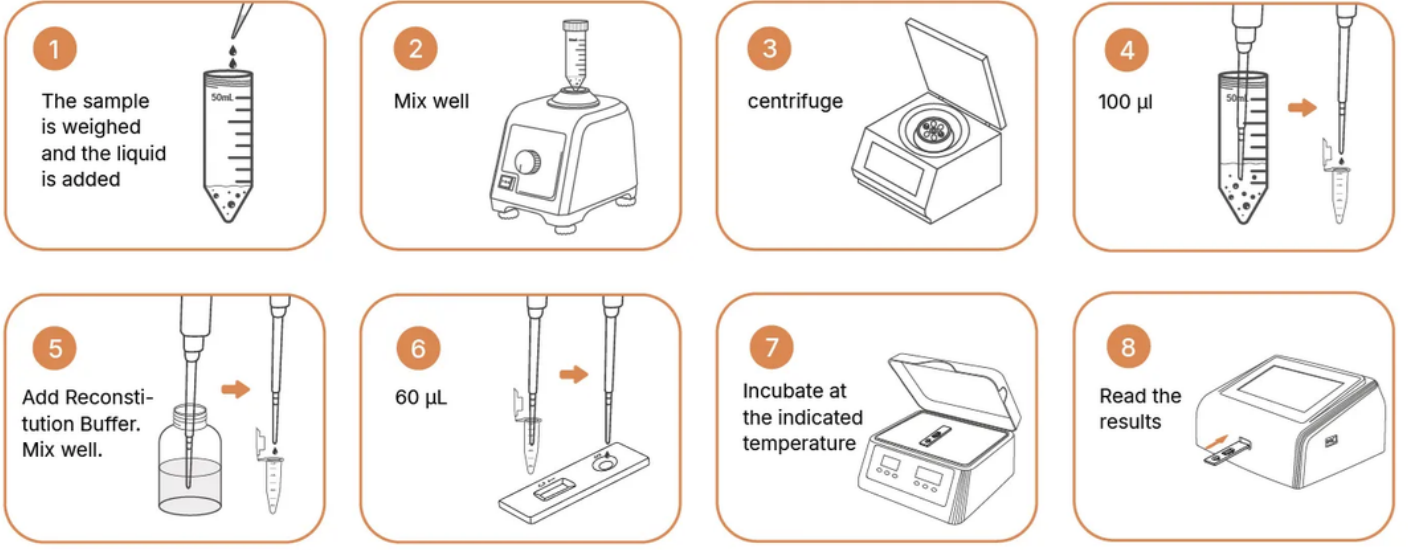
Grain and Feed Treatment:

1. Mix the well ground sample (passing a 20 mesh sieve) thoroughly and sub-sampling.
2. Suspend 10.0 g of ground sample in 50 mL of 50% Ethanol Solution (Reagent 1), vortex or shake extraction for 3 min.
3. Filter the extraction with filter paper or centrifuge at 4000 r/min for 5 min.
4. Transfer the filtrate (or supernatant) 100 µL to a new centrifuge tube, add 400 µL Reconstitution Buffer and mix well.
5. Take out 60 µL for test.

Edible Oil Treatment:

1. Weigh 10.0 g of ground sample in 50 mL of 70% Ethanol Solution (Reagent 2) and then add 8mL of n-hexane, vortex or shake extraction for 3 min.
2. Filter the extraction with filter paper or centrifuge at 4000 r/min for 5 min.
3. Transfer the filtrate (or supernatant) 100 µL to a new centrifuge tube, add 400 µL Reconstitution Buffer and mix well.
4. Take out 60 µL for test.

Test Steps:



Protocol

Place all reagents and samples to room temperature (adjust to around 25°C) for 30min. Gently shake the reagent bottles before use. Take out the frame of the microplate along with the required number of wells. Then place the unused microplate wells into the sealed bag with the desiccant provided. Store the remaining kit in the refrigerator at 2-8°C.

1. Turn on the thermostatic incubator and set the temperature to 37°C.
2. Turn on the fluorescence strip reader, click “Sample Test” and scan the QR code on the test kit. If the “Item” and “Lot No. / SN(Serial No.)” displayed on the device screen match the test kit label, the QR code has been scanned successfully.
3. Tear the foil pouch, take out of the test card and mark properly. Place the test card in the thermostatic incubator.
4. Pipette 60µL of sample solution and add it vertically and slowly into the sample hole (“S”). Close the incubator lid and incubate at 37°C for 10 minutes.
5. Insert the test card into the fluorescence strip reader, click “Start Test” and the result will be automatically displayed on the screen.

NEPENTHE Fluorescence Test Kits

Total Aflatoxin (AFT) FQ Test Kit	NFT220
Aflatoxin B1 (AFB1) FQ Test Kit	NFB220
Aflatoxin M1 (AFM1) FQ Test Kit	NFM220
Deoxynivalenol (DON) FQ Test Kit	NFD220
Fumonisin B1 (FB1) FQ Test Kit	NFF220
Ochratoxin A (OTA) FQ Test Kit	NFO220
T-2 Toxin (T2) FQ Test Kit	NF2220
Zearalenone (ZEN) FQ Test Kit	NFZ220

NEPENTHE ELISA Kits

Total Aflatoxin (AFT) ELISA Kit	NET609
Total Aflatoxin (AFT) 1-STD ELISA Kit	NET619
Aflatoxin B1 (AFB1) ELISA Kit	NEB709
Aflatoxin B1 (AFB1) 1-STD ELISA Kit	NEB719
Aflatoxin M1 (AFM1) ELISA Kit	NEM209
Aflatoxin M1 (AFM1) 1-STD ELISA Kit	NEM219
Deoxynivalenol (DON) ELISA Kit	NED309
Deoxynivalenol (DON) 1-STD ELISA Kit	NED319
Fumonisin B1 (FB1) ELISA Kit	NEF509
Fumonisin B1 (FB1) 1-STD ELISA Kit	NEF519
Ochratoxin A (OTA) ELISA Kit	NEO609
Ochratoxin A (OTA) 1-STD ELISA Ki	NEO619
T-2 Toxin (T2) ELISA Kit	NE2509
T-2 Toxin (T2) 1-STD ELISA Kit	NE2519
Zearalenone (ZEN) ELISA Kit	NEZ309
Zearalenone (ZEN) 1-STD ELISA Kit	NEZ319