

Aflatoxin B1 Rapid Test Strip (Catalog: TBS11166; 20 tests/kit)

For detection of Aflatoxin B1 from grain and other food samples.

INTRODUCTION

Aflatoxins are a class of structurally similar mycotoxins produced by *Aspergillus* species, such as *Aspergillus flavus*. Currently, 17 different types of aflatoxins have been discovered, including aflatoxins B1 and B2 (produced by *A. flavus* and *A. parasiticus*), aflatoxins G1 and G2 (produced by *A. parasiticus*), and aflatoxins M1 and M2, metabolites of B1 and B2 respectively. Aflatoxin B1, the most common form of aflatoxin that originated in naturally contaminated food, has acute toxicity to animals and has been classified as a Group 1 carcinogen by IARC of World Health Organization.

Tribioscience's Aflatoxin B1 Rapid Test Strip provides a rapid and convenient method to test aflatoxin B1 with a colloidal gold immunochromatographic design, effectively preventing food contaminated with aflatoxins from being consumed and is an effective tool for food safety. It can be used to detect the presence of aflatoxin B1 in products including corn, rice, beans, peanuts, nuts, cereal, as well as peanut butter, animal feed, and cooking oil.

KIT APPLICATIONS

Tribioscience's Aflatoxin B1 Test Strip is a lateral flow strip test for rapid detection of aflatoxin B1 in grain samples.

Assay sensitivity: 5 ng/ml (5 ppb).

Assay time: 5-10min

PRINCIPLE OF THE ASSAY

The Aflatoxin B1 Rapid Strip Test is based on the principle of competitive lateral flow immunochromatography. An aflatoxin B1 antibody is conjugated to colloidal gold and placed on conjugate pad. Colloidal gold provides red color to visualize antibody-antigen binding. Aflatoxin B1 antigen is immobilized on nitrocellulose membrane. After testing sample is loaded onto sample pad, it mixes with gold-antibody conjugate and migrates together along the membrane. If sample contains no aflatoxin B1, antibody conjugated to colloidal gold will bind the antigen immobilized on membrane, leading to clear red color presented on membrane detection line where the test antigen is immobilized (indicating a negative result). If aflatoxin B1 is present in the test sample, it will bind gold-antibody conjugate and prevent its binding onto the antigen line on membrane. As a result, no color will be visible on detection line on membrane (indicating a positive result).

KIT CONTENT AND STORAGE CONDITIONS

- 20×foil pouches/kit. Each pouch contains one cassette, one pipette and a desiccant.
- Assay buffer (10 mL)

Shelf-life: Storage at room temperature (2-30°C) is stable for one year.

PRECAUTIONS

Wear protective gloves, clothing, eye, and face protection. Wash hands thoroughly after handling.

SAMPLE PREPARATION AND TEST PROCEDURES

Bring test strip, samples, and all reagents to room temperature (20-25°C) before use.

Sample Preparation:

1. Pulverize over 5 g of representative grain sample, and pass through a sieve with mesh size of 20.
2. Place 2 grams of this pulverized sample into a 50 ml centrifuge tube.
3. Add 8 ml ethyl acetate (EtAc) into this centrifuge tube and close lid tightly. Shake violently (or vortex) for 5 minutes and let stand afterwards. If less than 3 ml supernatant is present after sedimentation, centrifuge at 4,000 rpm for 1 minute.
4. Transfer 3 ml supernatant into a clean glass beaker, blow air over surface until solvent evaporates completely. Re-dissolve residue in 200 µl sample diluent (included with the test strip) by shaking and mixing thoroughly. Take 100 µl of this re-dissolved solution and add another 100 µl sample diluent to obtain test solution.

Testing Procedures

1. Take out the cassette from the foil pouch and place it horizontally.
2. Gradually drip 3 drops of sample into the sample hole "S". Interpret the result in 5-10 minutes.
3. Result Interpretation.

Test result is interpreted by observing test line and control line shown in result window as the below diagram (Fig. 1). **Negative (-):** both test (T) and control lines (C) are present, indicating "Negative" which means that the aflatoxin B1 concentration in sample is lower than the detectable amount; **Positive (+):** control line(C) is present, and test line (T) is absent. This result indicates the aflatoxin B1 concentration is higher than the detectable line in sample. **Invalid test:** no control line (C) is present. Please repeat the test using a new test strip following instructions in this user guide.

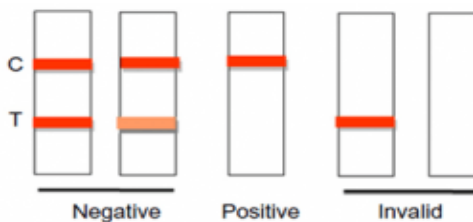


Fig. 1 Diagram for result interpretation.

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RELATIVE PRODUCTS

Clenbuterol Rapid Test for Tissue Samples (TBS11112)
Clenbuterol Rapid Test for Urine Samples (TBS11111)
Ractopamine rapid detection test strip (TBS11131)
Ochratoxin A test strip (TBS11161)
Shiga Toxin (STX) Rapid Test Strip (TBS11151)
Vomitoxin / Deoxynivalenol (DON) Test Strip (TBS11156)
Zearalenone (ZEA) Test Strip (TBS11171)
Chloramphenicol Fast ELISA (TBS21121)
Melamine Fast ELISA (TBS21104)
Total Aflatoxin Fast ELISA(TBS21131)
Ochratoxin-A Fast ELISA(TBS21133)
Microbial Magnetic DNA Extraction (TBS6025)
STEC-Salmonella qPCR kit (TBS42029)
4-in-1 Aspergillus qPCR kit (TBS42025)