

## Shiga Toxin (STX) Rapid Test Strip Kit (20 tests/kit)

*For Detection of STX1 and 2 from food, grain, feed, and stool.*

### INTRODUCTION

Tribioscience’s Shiga Toxin (STX) Rapid Test Strip is based on the principle of POCT (point of care) product design and is used for rapid screening of enterohemorrhagic E. coli (EHEC) produced Shiga toxin (Stx1 and2) in stool, food, water, and other samples to assist in food safety testing and epidemiological surveillance. It provides a fast (results shown in 10 minutes), simple (no instrument is required, and results can be observed visually), sensitive, and reliable detection approach for the presence of STX in grains and grain products, spices, and coffee beans.

### APPLICATIONS

The STX Test Strip Kit is used for rapid detection of STX1 and STX2 in grain, water, feed, and stool samples.

### PRINCIPLE OF THE ASSAY

This product utilizes the principle of colloidal gold immunochromatography technology to coat a strain of enterohemorrhagic Escherichia coli STX1 (EHEC STX1) and STX2 (EHEC Stx2) on the surface of the NC membrane as a detection line (T). Then another STX1 and STX2 monoclonal antibody was coupled to colloidal gold and attached to the colloidal gold pad. When the sample liquid chromatography passes through the colloidal gold pad, the EHEC mixed toxin in the sample will specifically bind to the red monoclonal antibody-colloidal gold conjugate and continue to chromatograph to another coating on the NC membrane and the detection line. The monoclonal antibody of the strain specifically binds to form a pink band, which shows a positive result. When the sample does not contain toxins, the two monoclonal antibodies cannot form a double-antibody sandwich structure at the position of the test line and show a pink band. At this time, the test result is negative. Please see the Diagram of Fig. 2.

### KIT CONTENT AND STORAGE CONDITIONS

PART	DESCRIPTION	STORAGE CONDITIONS
STX test strip	1 test trip/pack, 20pack/kit	The kit can be stored at 4-8°C for 1 year.
Disposable dropper	1 Disposable dropper/pack	
Sample diluent	8mL /Kit	

### 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.**

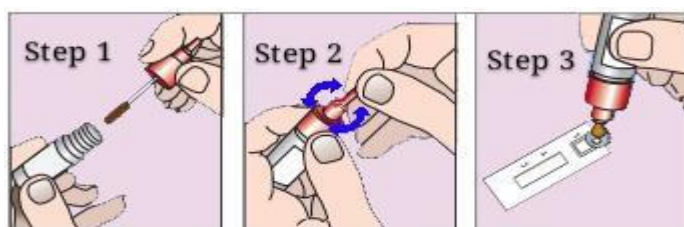
#### Grain Sample Detection

1. Pulverize over 5±0.05 g of representative grain sample and pass through a sieve with mesh size of 20. Place 2 grams of this pulverized sample into a 50 ml centrifuge tube.

2. Add 8 ml ethyl acetate (EtAc) into this centrifuge tube and close lid tightly. Shake violently (or vortex) for 5 minutes, and then centrifuge at 4000rpm for 5min or let stand afterwards.
3. 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 by shaking and mixing thoroughly. Take 100 µl of this re-dissolved solution and add another 100 µl sample diluent to obtain test solution.
4. Add 2 drops of test solution described above into sample loading well with a disposable dropper.
5. Observe result in 5-15 minutes.

**Stool Sample Detection Procedures (Please See Diagram Fig. 1)**

**Fig. 1 Diagram of Test procedures:**



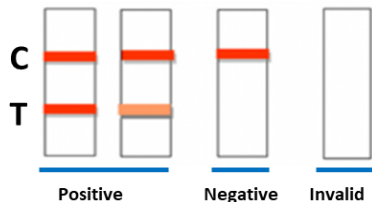
1. Stool specimens should be collected in containers that do not contain media, preservatives, animal serum or detergents since any of these additives may interfere with the test.
2. Specimens may be stored at 2-8°C for 3 days without interfering with the assay performance.
3. For long-term storage of specimens, -20°C or colder is recommended.
4. Repeated freezing and thawing of specimens is not recommended and may cause erroneous results. Do not store specimens in self-defrosting freezers.
5. Unscrew the sample bottle, use the attached applicator stick attached on the cap to transfer small piece of stool (5-6 mm in diameter; approximately 100mg–200mg/0.1-0.2 g) into the sample bottle containing specimen preparation buffer. Replace the stick in the bottle and tighten securely. Mix stool sample with the buffer thoroughly by shaking the bottle for a few seconds.
6. Hold the sample bottle upright with the tip point toward the direction away from the test performer, Unscrew cutting-edge.
7. Hold the bottle in a vertical position over the sample well of the Cassette, deliver drops (120 -150 µL) of diluted stool sample to the sample well.
8. Read the result within 5 to 15 minutes.

#### Result Interpretation.

Test result is interpreted by observing test line and control line shown in result window as the below diagram (Fig. 1).

**Positive (+):** both test (T) and control lines (C) are present,

indicating STX present in the sample; **Negative (-):** control line(C) is present, and test line (T) is absent. This result indicates STX absent in the sample; **Invalid:** no control line (C) is present. Please repeat the test using a new test strip following instructions in this user guide.



**Fig. 2 Diagram for result interpretation.**

**RELATIVE PRODUCTS**

- Clenbuterol Rapid Test Strip (TBS11111)
- Chloramphenicol (CAP) Test Strip (TBS11121)
- Ractopamine Rapid Test Strip (TBS11131)
- Salbutamol Rapid Test Strip (TBS11141)
- Shiga Toxin-2 Test Strip (TBS11151)
- Deoxynivalenol (DON) Test Strip (TBS11156)
- OTA Rapid Test Strip (TBS11161)
- Aflatoxin B1 Test Strip (TBS11166)
- Zearalenone (ZEA) Test Strip (TBS11171)
- Microbial Magnetic DNA Extraction (TBS6025)
- STEC-Salmonella qPCR kit (TBS42029)
- 4-in-1 Aspergillus qPCR kit (TBS42025)

**For research use only.**