

Melamine Rapid Test Strip (Catalog: TBS11102; 20 tests/kit)

For detection of melamine residue from milk samples.

INTRODUCTION

Melamine is a trimer of cyanamide with the chemical formula $C_3H_6N_6$, and the IUPAC name 1,3,5-triazine-2,4,6-triamine. It is widely used in the manufacturing of plastics, dyes, fertilizers, and textiles. Like cyanamide, it is 66% nitrogen by mass, which leads to the practice in various countries of adding "melamine scrap" to animal feed, pet food, or milk in order to give the appearance of increased protein content. This practice can potentially contaminate animal products intended for human consumption like dairy products. Animal and human consumption of melamine could lead to kidney stones and renal failure, causing severe consequences including possible death.

Tribioscience's Melamine Test Strip provides a convenient test to screen milk samples. It allows for fast (result shown in 10 minutes), simple (direct analysis for milk without pretreatment or dilution), sensitive and reliable detection of melamine contamination in milk, with sensitivity at 1 ppm of melamine in milk. If necessary, samples requiring regulatory action can be confirmed by HPLC, GC/MS, or other conventional methods.

KIT APPLICATIONS

The Melamine Rapid Test is a lateral flow strip test for the rapid detection of melamine in milk and feed samples.

Assay sensitivity: 1 $\mu\text{g/ml}$ (1 ppm)

Assay time: 5-10min

PRINCIPLE OF THE ASSAY

The Melamine Rapid Test is based on the principle of competitive lateral flow immunochromatography. A melamine antibody is conjugated to colloidal gold and placed on conjugate pad. Colloidal gold provides red color to visualize antibody-antigen binding. Melamine 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 melamine, 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 melamine 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.

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:

Milk Sample: Take milk sample, centrifuge at 6000rpm/min for 5min. The clear supernatant can be directly used for the assay.

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 melamine 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 melamine 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.



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)
- Aflatoxin B1 Test Strip (TBS11166)
- Zearalenone (ZEA) Test Strip (TBS11171)
- Chloramphenicol Fast ELISA (TBS21121)
- Total Aflatoxin Fast ELISA(TBS21131)
- Microbial Magnetic DNA Extraction (TBS6025)
- STEC-Salmonella qPCR kit (TBS42029)
- 4-in-1 Aspergillus qPCR kit (TBS42025)