Chloramphenicol Rapid Test Kit

Catalog No.: abx092045

Size: 50 tests

Sensitivity: 0.3 ppb (ng/ml)

Detection Limit: Milk – 0.3 ppb; Honey, egg, and muscle – 0.1 ppb.

Storage: Store all reagents at 2-30 °C. Keep dry.

Application: For the qualitative detection of Chloramphenicol in milk, honey, egg, and muscle tissue samples.

Introduction and assay principle

Abbexa's Chloramphenicol Rapid Test Kit is based on the gold immuno-chromatography assay (GICA) principle, using a competitive inhibition protocol. Any Chloramphenicol present in the samples combines with the colloidal gold particle-labelled Chloramphenicol antibody in the cassette well. When the concentration of Chloramphenicol in the sample is more than the detection limit, the antibodies' binding sites are saturated, and so they cannot bind the chloramphenicol conjugate present on the detection membrane. Little to no color change is observed, and the result is positive. When the concentration of Chloramphenicol in the sample solution is less than the detection limit, there is a strong color change in the detection line and the result is negative.

Kit Components

- Test cassettes with pipettes: 50
- Sample Buffer: 1 vial

Material Required But Not Provided

- Timer
- Water bath or nitrogen evaporator
- Deionized water
- Acetonitrile
- N-hexane
- Ethyl acetate

Solution Preparation

- **Working Acetonitrile solution**: Dilute the Acetonitrile with deionized water in a ratio of 84:16 (i.e. to 105 ml Acetonitrile, add 20 ml Deionized water).

Sample preparation

- **Milk:** Milk samples can be tested directly.
- **Muscle:** Remove any skin, fat, or bone from the sample. Homogenize by hand, using a mechanical homogenizer, or by ultrasonication. Carefully weigh 2 g of homogenate into a microcentrifuge tube. Add 2 ml of Deionized water, 2 ml of Ethyl acetate, and oscillate to mix fully. Centrifuge at 4000 rpm for 5 minutes. Take 1 ml of the upper liquid layer and dry at 60°C with a water bath or nitrogen evaporator. Dissolve the dried homogenate with 2 ml N-hexane, then add 0.3 ml of Sample Buffer. Oscillate until mixed fully, then stand for 5 minutes. Carefully take the lower liquid layer for immediate analysis.
- **Honey**: Homogenize the sample by hand, or by ultrasonication. Carefully weigh 2 g of homogenate into a microcentrifuge tube. Add 2 ml of Deionized water, 2 ml of Ethyl acetate, and oscillate to mix fully. Centrifuge at 4000 rpm for 5 minutes. Take 1 ml of the upper liquid layer and dry at 60°C with a water bath or nitrogen evaporator. Dissolve the dried homogenate with 2 ml N-hexane, then add 0.3 ml of Sample Buffer. Oscillate until mixed fully, then stand for 5 minutes. Carefully take the lower liquid layer for immediate analysis.
- **Egg**: Carefully weigh 3 g of sample into a centrifuge tube. Add 9 ml Working Acetonitrile solution, oscillate for 2 minutes, then mix. Centrifuge at 4000 rpm for 10 minutes at 15°C. Take the upper liquid layer and dry at 60°C with a water bath or nitrogen evaporator. Dissolve the dried sample with 2 ml N-hexane, then add 0.3 ml of Sample Buffer. Oscillate to mix fully, then stand for 5 minutes. Carefully aliquot the lower liquid layer for immediate analysis.

Note:

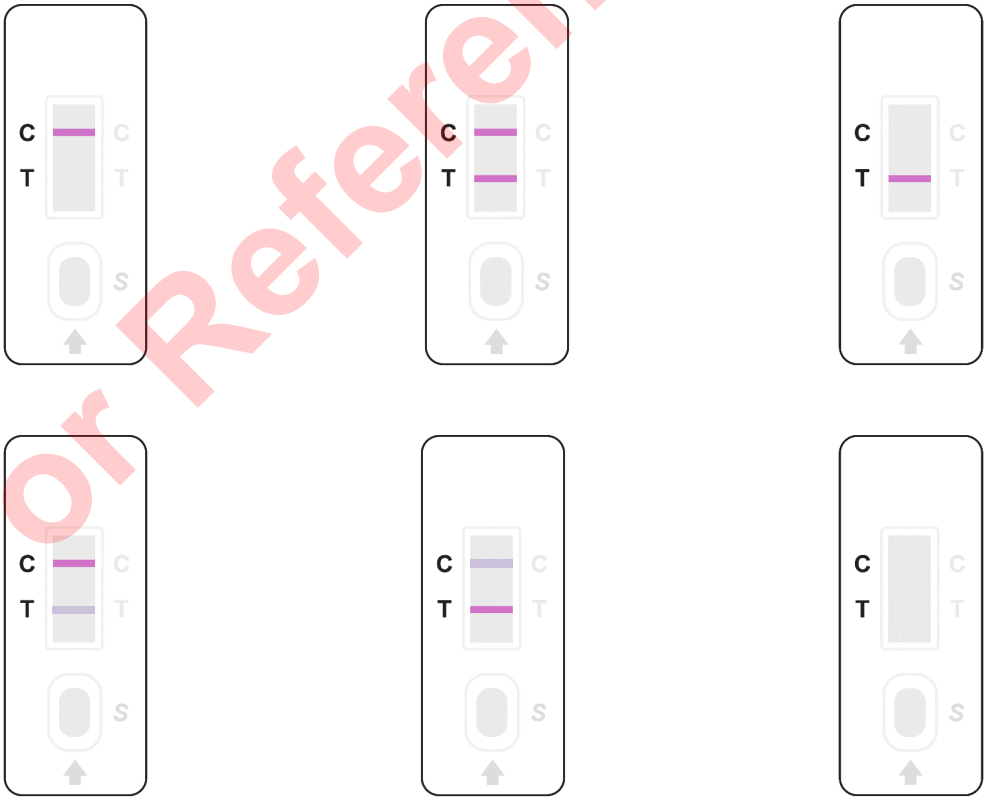
- When pipetting fresh milk samples onto the cassette well, add the sample **slowly** to avoid well blocking.
- Drying with the Acetonitrile solution may produce fumes. Only perform the drying steps in a well-ventilated area, or under a fume hood.
- Use fresh samples.

Assay procedure

1. Take a test cassette and lay it flat on a clean table. Using the provided pipette, slowly and vertically add 2-3 drops (approximately 60 µl) of diluted sample to the sample well on the test cassette. Avoid foaming.
2. Leave at room temperature for 8 – 10 minutes, then analyze the result.

Results analysis

- **Positive result**: A colored line is observed in the control (C) section. A fainter line, or no line at all, is observed in the test (T) section.
- **Negative result:** A colored line is observed in both the test (T) and control (C) sections.
- **Invalid result**: A colored line is observed in test (T) section but not the control (C) section, or no lines are observed.



Positive **Negative** **Invalid**

Notes

1. The test cassettes should be brought to room temperature before use.
2. After opening the aluminum foil, use the test cassette as soon as possible.
3. Samples should be clear with no visible particles, turbidity or bacterial pollution.
4. Do not mix or re-use the disposable pipettes to avoid cross-contamination.
5. Avoid touching the cassette membrane through the sample well or test result window.
6. This kit is for qualitative detection of Chloramphenicol in milk, honey, egg, and muscle tissue samples. For other sample types, a preliminary experiment is recommended to determine compatibility with this kit. Positive samples can be tested with another method (e.g. HPLC, LC/MS) for quantitative results.
7. This kit is for research use only and the results are for reference only.
8. It is recommended to use this kit in conjunction with another detection method.
9. All waste should be disposed appropriately. Please note that you may need to follow special waste disposal procedures for infectious samples. Please check local disposal regulations.