Chloramphenicol (CAP) Rapid Test Kit

Technical Manual

(GICA)

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1 Principle and Application

The test kit is used for detecting Chloramphenicol (CAP) in various samples such as tissue, water and eggs.

The kit is developed using the principle of competitive colloidal gold Immunochromatographic Assay (GICA). After the sample solution is added to sample hole, if CAP is present, it will bind with gold labeled antibodies, thereby preventing the labeled antibodies from binding to the CAP conjugates on the nitrocellulose membrane.

If the content of CAP in the sample solution is less than detection limit, it will make the test ("T") line colored (The color is consistent with the control line or deeper) and the result is negative. If the content is greater than detection limit, no color reaction will be produced (or color is lighter than the control line) and the result is positive.

2 Technique Data

Kit Sensitivity: 0.3ppb (ppb=μg/kg)

The final detection limit for the sample must be calculated by multiplying the kit sensitivity by the dilution ratio used in sample processing.

Detection Limits:

Water 0.3ppb

Tissue 0.1ppb

Eggs 0.1ppb

3 Kit Content

Package specification	20T/Kit
Test device (with disposable dropper)	20
Sample reconstitution buffer	30mL×1
Instruction	1

4 Materials Required but Not Supplied

4.1 Equipment: grinder (for crushing solid samples), vortex mixer (for shake and mix), centrifuge, graduated transfer pipette, and balance with a division value of 0.01 g, nitrogen evaporator.

4.2 Micropipettes: single-channel (20-200μL and 100-1000μL)

4.3 Reagents: Ethyl acetate, n-hexane, acetonitrile.

5 Sample Pre-treatment

Please note that the labware must be clean. Use disposable droppers to avoid contamination of interference results.

5.1 Solution preparation before sample pre-treatment

Solution 1: Acetonitrile-water solution:

Volumetric ratio of acetonitrile to water is 84:16.

5.2 Sample pretreatment step:

5.2.1 Water:

No processing required.

5.2.2 Animal tissues (Aquatic products, livestock and poultry):

(1)Take 2±0.05g homogenized samples (for animal tissues, remove fat) in a 15 mL centrifuge tube.

(2)Add 2 mL of deionized water, followed by 2mL of Ethyl acetate. Then shake thoroughly and centrifuge at 4000r/min for 5 minutes at room temperature.

(3)Take 1 mL of the upper liquid after centrifugation and transfer it to another 15 mL centrifuge tube. Dry it at 50-60°C using a nitrogen evaporator until a solid residue is obtained.

(4)Add 2 mL of n-hexane, shake well for thorough mixing, add 0.3 mL of the Sample reconstitution buffer to the above 15 mL centrifuge tube (from step (3)), shake to dissolve the residue completely, let it stand for approximately 5 minutes, and then retrieve the lower liquid for testing.

5.2.3 Poultry eggs:

(1)Take 3±0.05g of homogenized egg samples in a 50 mL centrifuge tube, add 9 mL of acetonitrile-water solution, shake well for 2 minutes, centrifuge at 15°C and 4000 rpm for 10 minutes.

(2)Take 3 mL of the upper liquid into another centrifuge tube, add 3 mL of deionized water, then add 4.5 mL of ethyl acetate, shake for 1 minute, and centrifuge at 15°C and 4000 rpm for 10 minutes.

(3)Transfer all the upper liquid (as much as possible) into a 15 mL centrifuge tube and dry using a nitrogen evaporator at 50-60°C.

(4)First, add 1-2 mL of n-hexane, shake well for thorough mixing, add 0.3 mL of the Sample reconstitution buffer to the above 15 mL centrifuge tube

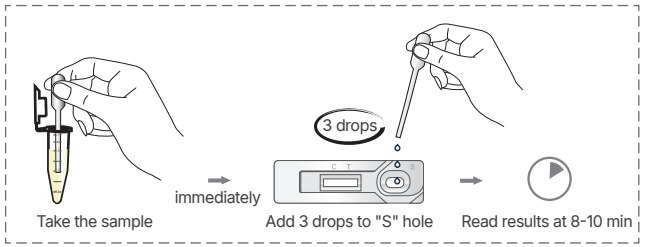
(from step (3)), shake to dissolve the residue completely, let it stand for approximately 5 minutes, and then retrieve the lower liquid for testing.

6 Test Steps

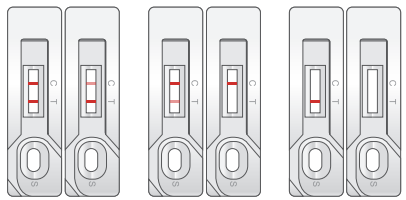
(1)Tear the foil pouch, take out of the test card, and put it on a flat, clean work surface.

(2)Pipette the treated sample with the provided dropper, then add 3 drops (approximately 60μL) vertically and slowly into the sample hole("S"). Please be aware to avoid the formation of foam during the process.

(3)Read the result at room temperature in 8 to 10 minutes. Results over 10 minutes can only be used as reference.



7 Results Judgement



Negative: Test ("T") line and control("C") line both appear in the result window. The color of the test ("T") line is consistent or deeper than the control("C") line. It indicates that the concentration of CAP in the sample is below the detection limit, or absent.

Positive: In the result window, the control("C") line appears, while the Test("T") line does not appear or appears lighter in color than the control("C") line. It indicates that the concentration of CAP in the sample is above the detection limit.

Invalid: If the control("C") line does not appear, the result might be considered invalid.

8 Notice

8.1 Don't use the expired or damaged products.

8.2 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.

8.3 Avoid touching the white nitrocellulose membrane in the middle of the detection card.

8.4 In order to avoid cross-contamination, the droppers cannot pipet another Solution after pipetting one.

8.5 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.

9 Storage Conditions

The kit shall be stored at 2°C to 30°C (35.6°F to 86°F) in dry environment.

Shelf life: 12 months. The date of manufacture is presented in the label of the box.