MilkGuard β-Lactams & Tetracyclines Combo Test Kit

1、Principle

This kit is based on the specific reaction of antibody-antigen and immunochromatography. β-lactams and tetracyclines antibiotics in the sample compete for the antibody with the antigen coated on the membrane of the test strip. Then after a color reaction, the result can be observed.

The test strip can be matched with colloidal gold analyzer for detection at the same time, and extract the sample test data. After the data analysis, the final test result will be obtained.

2、Applications

This kit is used for rapid qualitative analysis of β-lactams and tetracyclines in raw milk, pasteurized milk and UHT milk samples.

3、Detection Limit (LOD for parts of β-lactams and Tetracyclines)

β-lactams	**LOD (μg/L)**	**β-lactams**	**LOD (μg/L)**
Penicillin G	2	Cefquinome	6
Ampicillin	2	Cefoperazone	2
Amoxicillin	2	Cloxacillin	2
Oxacillin	3	Ceftiofur	60
Nafcillin	8	Dicloxacillin	2
Cefacetrile	25	Cefalonium	2
Cefapirin	7	Desacetylcefapirin	14
Cefazolin	35		
Tetracyclines	**LOD (μg/L)**	**Tetracyclines**	**LOD (μg/L)**
Tetracycline	2	Oxytetracycline	4
Doxycycline	3	Chlortetracycline	4
4-Epioxytetracycline	4	4-Epichlortetracycline	12
4-Epitetracycline	7		

4、Kit components

- 8-well strip and 8 test strip in one bottle. 12 bottles / kit.
- microwell holder, 1pcs
- Kit insert
- Plastic pipette, 96pcs

5、Instrument needed but not provided

Metal incubator

Test Dipstick Reader

6、Assay operations

（1）Read the instructions carefully before experiment. Bring the test kit and samples to room temperature. Milk samples should be fully liquid without any agglomeration or deposition.

（2）Take bottles needed from the kit package, take out required wells and strips, and make proper marks. Please use

these test strips within 1h. Seal the cap of the bottles. The rest strips can be stored for future use.

（3）Preheat the metal incubator to ***45℃***.

（4）Place the mircrowells in the metal incubator, Take ***200ul*** of the test samples into the wells, then repeatedly absorb and drop for 5 times to mix the sample with the reagent in the wells completely. The mixture should be pink, and then start the timer.

（5）Incubate for ***3min*** in the metal incubator (45℃); insert the test strips into the wells with the "**Sample pad**" end fully dipped in to the mixture.

（6）Incubate for ***5min*** in the metal incubator(45℃) again. Take out the strip; judge the result according to **Part 7.**

7、Results

There are 3 lines in the strip, **Control line**, **Beta-lactams Line** and **Tetracylcines Line**, which are briefly used as “**C**”, “**B**” and “**T**”.

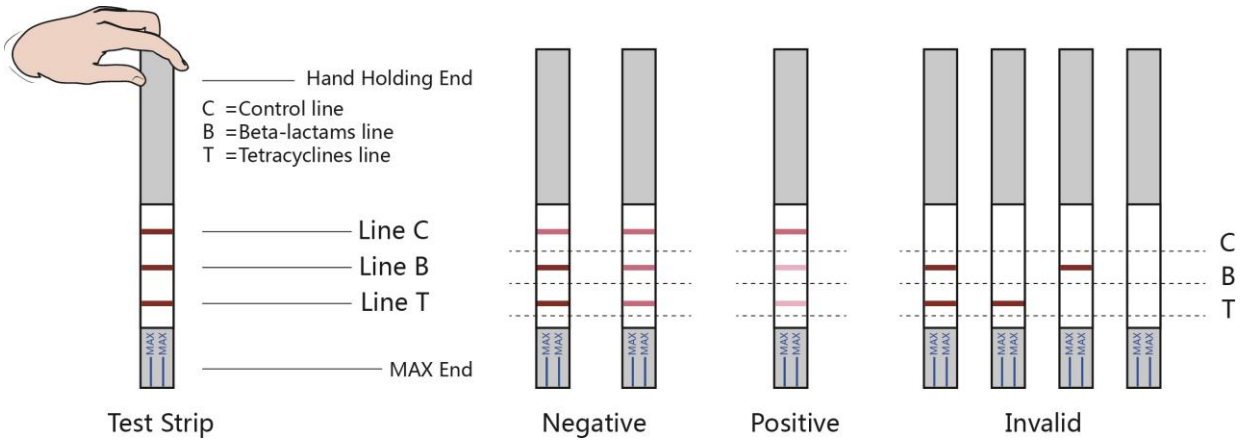
The test results will depend on the color of these lines. The following diagram describes the result identification.

（一）manual interpretation

（1）If control line does **NOT** appear, this indicates that the result is **invalid.**

（2）If control line (Line C) is red, judge the result according to the following diagram：

Comparison of color depth among Line C, T and B	Result judgement	Result Analysis
Line T/ B≥Line C	**Negative**	β-lactams and tetracyclines residues in the test sample are lower than LOD
Line T/ B＜Line C or Line T/ B no color	**Positive**	β-lactams and tetracyclines residues in the test sample are higher than LOD



（二）Instrument interpretation

（1）Turn on colloidal gold analyzer, click the “detect” button, and select the reagent name "β-lactams and tetracyclines";

（2）Connect the scanner, read the QR code, and check whether batches information in the upper right corner at the detection interface of the colloidal gold analyzer is consistent with the batches of reagent strips to be tested;

（3）Insert the test strip into the holder of the colloidal gold analyzer with the handle end out, and press the “detect” button. The colloidal gold analyzer will automatically interpret the test strip.

（4）When the "Result" is "-", the sample test result is negative;

When the "Result" is "+", the sample test result is positive;

8、Notice for operations

（1）*Please do the assay following the instruction, do not touch the membrane of the strip.*

（2）*Please seal the bottle after taking out required strips.*

（3）*Do not mix test strips and microwell reagents in different batches.*

（4）*This strip is used for only once; please do not use it repeatedly.*

（5）*This kit is only for screening test, positive result should be further confirmed with other method.*

9、Specificity

The medicines in following diagram shows negative

Medicine	Concentration（mg/L）	Medicine	Concentration（mg/L）
Sulfamethazine	10	Erythromycin	4
Enrofloxacin	10	Lincomycin	15
Trimethoprim	5	Neomycin	1500
Colistin	5	Chloramphenicol	0.03
Dapsone	0.05		

10、Storage

2-8℃ in cool dark place, do not freeze. The lot number and expired date are printed on the package.

The kit will be valid in 12 months.

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