

## β-Lactams & Sulfonamides & Tetracyclines Triple Test Dipstick

### 1. Principle

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

### 2. Applications

This kit is used for rapid qualitative analysis of β-lactams, sulfonamides and tetracyclines in raw milk sample.

### 3. Detection Limit (LOD)

β-lactams	MRL(μg/L)	LOD(μg/L)	Tetracyclines	MRL(μg/L)	LOD(μg/L)
penicillin G	4	2-2.5	tetracycline	100	25-30
ampicillin	4	3-4	oxytetracycline	100	25-30
amoxicillin	4	3-4	doxycycline	100	30-35
oxacillin	30	5-6	chlortetracycline	100	30-35
nafcillin	30	14-16	<b>Sulfonamides</b>	<b>MRL(μg/L)</b>	<b>LOD(μg/L)</b>
dicloxacillin	30	4-5	sulfamethazine	100	2-2.5
<b>Cephalosporins</b>	<b>MRL(μg/L)</b>	<b>LOD(μg/L)</b>	sulfadimethoxine	100	1-1.2
cefquinome	20	10-12	sulfaquinoxaline	100	0.8-1
cefoperazone	50	4-5	sulfadiazine	100	0.4-0.5
ceftiofur	100	100	sulfapyridine	100	18-20
Cefalonium	20	3-4	sulfamonomethoxine	100	0.3-0.4
cephacetrile	125	35-40	sulfachlorpyridazine	100	1.5-2
			sulfamethoxypyridazine	100	8-9
			sulfamerazine	100	1-1.5
			sulfathiazole	100	3-4

### 4. Kit Components

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

\*\* Use one dipstick for one sample, the rest dipsticks can be stored in the bottle for future use.

### 5. Instrument May Needed but not Provided

- Dipstick Reader
- Metal incubator

### 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 dipsticks, and make proper marks. Please use these test dipstick within 1h. Seal the cap of the bottles. The rest dipstick can be stored for future use.
- (3) Place the microwells 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.
- (4) Incubate for **3min** at ambient temperature (20-25°C); insert the test dipstick into the wells with the "**Sample pad**" end fully dipped in to the mixture.
- (5) Incubate for **6min** at ambient temperature (20-25°C) again. Take out the dipstick; judge the result according to **Part 7**.

**7. Results**

There are 4 lines in the dipstick, **Control line, Beta-lactams Line, Sulfonamides Line** and **Tetracyclines Line**, which are briefly used as "**C**", "**T<sub>1</sub>**", "**T<sub>2</sub>**" and "**T<sub>3</sub>**". The test results will depend on the color of these lines. The following diagram describes the result identification.

**7.1 Method 1(manual interpretation)**

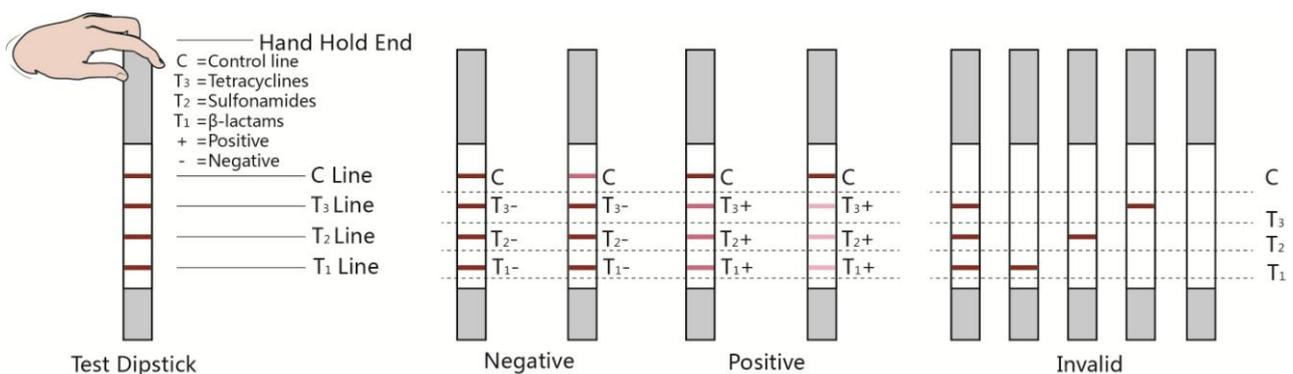
**Negative:** Line C, Line T<sub>1</sub>, Line T<sub>2</sub> and Line T<sub>3</sub> are all red, color of Line T<sub>1</sub>, Line T<sub>2</sub> and Line T<sub>3</sub> are all darker than or similar to Line C, indicating the corresponding residue in sample is less than LOD of the kit.

**Beta-lactams Positive:** Line C is red, color of Line T<sub>1</sub> is weaker than Line C, indicating the beta-lactams residue in sample is higher than LOD of the kit.

**Sulfonamides Positive:** Line C is red, color of Line T<sub>2</sub> is weaker than Line C, indicating the sulfonamides residue in sample is higher than LOD of the kit.

**Tetracyclines Positive:** Line T is red, color of Line T<sub>3</sub> is weaker than Line C, indicating the tetracyclines residue in sample is higher than LOD of the kit.

**Please notice:** Control line is used as a quality indicator, which will always appear regardless of the B/T line. If Control line does **NOT** appear, this indicates that the result is **invalid**. Users please check the kit insert again and re-do the assay with new test dipstick.



**7.2 Method 2(Instrument interpretation)**

Read the test dipstick with the instrument

**8. Specificity**

The product shows negative at the level of 500µg/L of melamine, chloramphenicol, streptomycin, lincomycin etc.

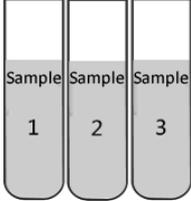
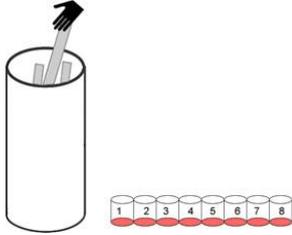
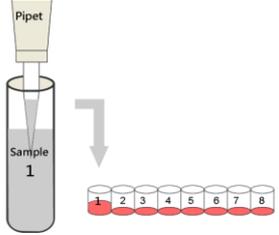
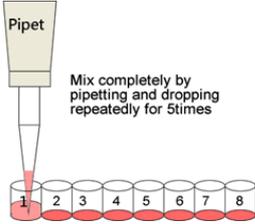
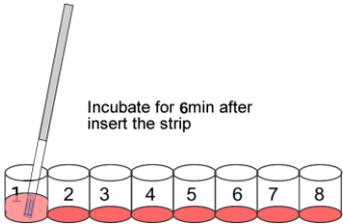
**9. Storage**

2-8°C in cool dark place, do not freeze. The kit will be valid in 12 months. The lot number and expired date are printed on the package.

**10. Notice for operations**

- (1) Please do the assay following the instruction, do not touch the membrane of the dipstick.
- (2) Please seal the bottle after taking out required dipstick.
- (3) This dipstick is used for only once; please do not use it repeatedly.
- (4) This kit is only for screening test, positive result should be further confirmed with other method.

**Assay Steps**

 <p>1. Prepare the test samples. Make proper marks, bring them to room temperature.</p>	 <p>2. Take out required test wells, make proper marks.</p>	 <p>3. Take 200ul test sample into the wells</p>
 <p>Mix completely by pipetting and dropping repeatedly for 5times</p> <p>4. Mix the sample and reagent in the well completely by pipetting and dropping repeatedly for 5 times. Start the timer when the mixture is pink. Incubate for 3min at room temperature.</p>	 <p>Incubate for 6min after insert the strip</p> <p>5. Insert the test dipstick into the wells with the "Sample Pad" fully dipped in to the mixture. Incubate for 6min at room temperature again.</p>	 <p>6. Take out the dipstick; judge the result according to <b>Part 7</b>.</p>