

## β-lactams and Cefalexin 2in1 Rapid Test

Rapid Test for the presence of β-lactams + cefalexin in raw cow milk

### PRINCIPLE

The DairyPal BC is competitive test involving two receptors in one single operation, the β-lactams and cefalexin in the raw milk sample compete for the antibody with the antigen coated on the membrane of the test dipstick. Then after a color reaction, when the sample is free of the analytes, a strong colour density development occurs at the specific capture lines, indicating the presence of the concerned analytes in the milk sample. On the contrary, the presence of the analytes in the sample will not cause the strong coloured signal at the specific capture lines.

### APPLICATIONS

The DairyPal BC is a rapid test that detect simultaneously the presence of either the β-lactams or cefalexin molecules in a raw cow milk sample.

### LIMIT OF DETECTION (LOD)

	Antibiotics	LOD(μg/L)	MRL(μg/L)
β-lactams	Penicillin G	1.5-2	4
	Ampicillin	3-4	4
	Amoxicillin	3-4	4
	Oxacillin	6-8	30
	Cloxacillin	5-7	30
	Dicloxacillin	5-7	30
	Nafcillin	15-20	30
Cephalosporins	Cefquinome	15-20	20
	Cefacefrile	25-30	125
	Cefalonium	4-6	20
	Ceftriaxone	90-100	-
	Cefoperazone	7-10	50
	Cephapirin	15-20	60
	Ceftiofur	80-100	100
	Cefepime	20-30	20
	Cefalothin	25-30	-
	Cefalexin	20-30	100
	Cefadroxil	80-100	-
	Cefradine	50-60	-

## CONTENTS

- 12 tubes each with 1 strip of 8 reagent microwells and 8 dipsticks.
- 1 Microwell holder
- 1 Kit insert
- 100pcs Disposable plastic pipette,

## TEST PROCEDURE

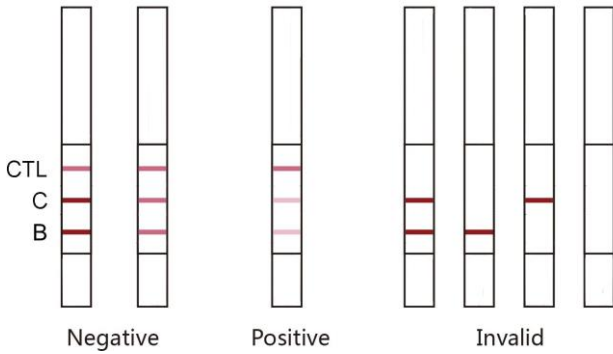
1. Read the instruction attentively, choose a clean and dry place to perform the test, wash and dry your hands before starting.
2. Take the kit out of the fridge and wait until the temperature of the reagents reaches the ambient temperature.
3. Calculate how many milk sample will be tested and mark the sample tubes to identify. The milk samples should be fully liquid without any clots or deposition, the ideal temperature of milk sample is between 4 to 20°C.
4. Take the tubes required from the kit package, take out as many micro-wells and dipsticks as the milk samples to be tested, and make proper marks to match the milk sample.
  - To open a dipsticks tube, press the safety ring down, take off the ring and get the tube cap off with your thumb.
  - Recover the cap tightly after taking out the required micro-wells and dipsticks.
  - Empty one test tube then open another one.
  - Keep the unused micro-well caps tightly sealed. Do NOT tear off the strip of 8 microwell caps.
  - Use the exposed dipsticks in 1 hour.
5. Preheat the Dry Incubator(suggest to use **DairyPal Mini-T** Dry Incubator) to 35°C.
6. Place the required numbers of the microwells in the dry incubator, transfer 200ul of the milk samples into the microwells, inject and reject the milk sample for 5 times consecutively to homogenize the lyophilized reagent and milk sample.
  - Dip the end of the plastic pipette(**DairyPal** Mini pipette) tips into the milk and slowly releases the sucker. When the sucker is back into its initial position, transfer the 200ul of milk into the reagents, by slowly pushing the sucker down to the bottom.
7. Start the timer to incubate for 3 minutes at 35°C;
  - During the incubation, The receptors will detect the presence of the antibiotics in the milk sample. The reaction will take 3 minutes.
8. Dip the dipsticks into the micro-wells with the "Sample End" down side to the bottom.
9. Start the timer to incubate for 6 minutes at 35°C again.
10. Then take out the dipsticks and place them laterally in a dry clean place, peel off the sample pad, interpret the result.
  - Use a clean nipper(or new pipette tip) to scrape gently and slowly the sample pad.
  - The peeling off of the sample pad will stop the ongoing reaction of the receptors.
  - File the used sample pad peeled off dipsticks if necessary.

## RESULTS INTERPRETATION

The dipsticks are embodied with 3 lines, **Control line**, **β-lactams Line** and **cefalexin Line**, which are briefly expressed as "**CTL**", "**B**" and "**C**". The test results will be determined by the color presence of the lines. The following diagram describes the result identification.

- **NEGATIVE:** Line **CTL** is visible, Line **B** and Line **C** are both stronger than or equal to Line **CTL**, which means that, the milk sample contains fewer β-lactams and cefalexin than value given in the table.
- **β-lactams POSITIVE:** Line **CTL** is visible, Line **B** is weaker than Line **CTL**, Line **C** is stronger than Line **CTL**, which means that the milk sample contains the β-lactams more than the value in the table, the cefalexin fewer that the value in the table.

- **Cefalexin POSITIVE:** Line **CTL** is Visible, Line **C** is weaker than Line **CTL**, Line **B** is stronger than Line **CTL**; which means that the milk sample contains the cefalexin more than the value in the table, the  $\beta$ -lactams fewer than the value in the table.
- **$\beta$ -lactams and Cefalexin POSITIVE:** Line **CTL** is visible; either Line **B** or Line **C** is weaker than Line **CTL**; which means that, the milk sample contains the the  $\beta$ -lactams and cefalexin both more than the value in the table.
- **Remarks:** Control line is used as a quality indicator, which will always appear regardless of the B/T line. If Control line does **NOT** appear, it indicates that the result is **invalid**. Users please check the kit insert again and re-do the assay with new test dipsticks.



### SPECIFICITY

The test shows negative when spiking the sulfamethazine, chloramphenicol or enrofloxacin at the level of 500 $\mu$ g/L(ppb).

### STORAGE

2-8 $^{\circ}$ 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.

### PRECAUTIONS

- Do the assay following the instruction, do **NOT** touch the membrane of the dipstick.
- Seal the bottle after taking out required dipsticks.
- The dipstick is used for only once; Do **NOT** use it repeatedly.
- The positive result should be further confirmed.

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