

## Charm® Beta-lactam Tetracycline 2-Minute Combo Test for Milk

The Charm® Beta-lactam Tetracycline Test (MRLBLTET2) is a 2 minute combination test for antibiotics in milk. This combo-test detects most primary beta-lactams and 3 primary tetracycline drugs at or below EU Maximum Residue Limits (MRL /CODEX level).

### Meets Global Regulations

The Charm combo-test also meets the 100 ppb MRL requirement for tetracycline drugs, a level which most countries around the world have adopted in their milk regulations, e.g., Australia, China, Japan, Korea, New Zealand, Poland, Taiwan and Vietnam.

Speed, sensitivity and simplicity... all rolled into one test strip.

### MRLBLTET2 test at a glance

- ▶ Test Time: 2 minutes (cow milk), 8 minute (goat and sheep)
- ▶ 2 tests using 1 test strip: beta-lactam and tetracycline
- ▶ Rapid One Step Assay (ROSA®)
- ▶ Meets EU/MRL/CODEX
- ▶ Simple procedure; add sample, incubate, read results



**Beta-lactam Tetracycline  
2-Minute Combo-Test**

## Sensitivity in Milk

**Table 1. Sensitivity – Detection Ranges in Cow Milk at 0 to 7 °C**

Beta-lactam Drug	Detection Range (ppb*)	EU / CODEX MRL (ppb*)
Amoxicillin	3-5	4
Ampicillin	3-4	4
Cefacetrole	20-40	125
Cefalonium	10-20	20
Cefazolin	20-40	50
Cefoperazone	1-3	50
Cefquinome	15-25	20
Ceftiofur and Metabolites <sup>^</sup>	40-70	100 / 100
Cephapirin	15-25	60 §
Cloxacillin	10-20	30
Dicloxacillin	10-20	30
Penicillin G	2 to 3	4 / 4

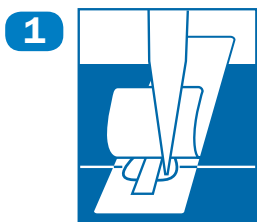
Tetracycline Drug	Detection Range (ppb)	EU / CODEX MRL (ppb)
Chlortetracycline	50 to 100	100 / 100
Oxytetracycline	50 to 100	100 / 100
Tetracycline	10 to 30	100 / 100

\* parts per billion

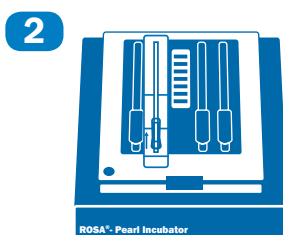
<sup>^</sup> Ceftiofur parent drug sensitivity is approximately 1/4 those reported in the table

§ U.S. Tolerance is 20 ppb cephalosporin

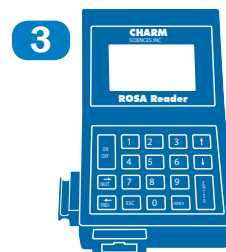
## Simple and fast test procedure



1 Add milk sample to ROSA strip



2 Incubate 2 minutes (cow)  
8 minutes (goat and sheep)



3 Read the results!

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