



## Charm MRL Beta-lactam and Tetracycline Test for Milk

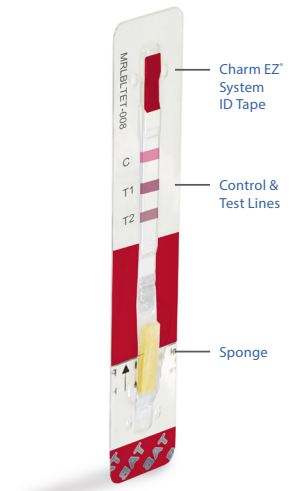
### Product Overview

Charm® ROSA® (Rapid One Step Assay) technology is trusted by the dairy industry worldwide for fast and accurate milk residue screening.

The Charm MRL Beta-lactam and Tetracycline Test (MRLBLTET) easily detects multiple veterinary drugs in two antibiotic families in a single test. The MRLBLTET test is fine tuned to meet the 100 ppb EU Maximum Residue Limit (MRL) for tetracycline drugs.

### Benefits of MRLBLTET Test Include:

- Achieves results in 8 minutes
- Detects 14 beta-lactam and 3 tetracycline drugs
- Meets the EU/CODEX MRL
- Approved by the Polish Veterinary Research Institute (PIWET)
- Evaluated according to EU657/2002 by EMBRAPA Brazil



Charm ROSA Strip

### Simple Procedure with the Charm EZ System



Add Sample



Incubate



Read Results in Less Than 5 Seconds



For Batch Processing

Incubate multiple strips simultaneously, then read results in the Charm EZ system.

## Sensitivity in Milk

Detection Ranges in Cow Milk at 0 to 7 °C		
Beta-lactam Drug	Detection Range (ppb*)	EU/CODEX MRL (ppb*)
Amoxicillin	2.5 to 4.0 ppb	4 ppb
Ampicillin	2.5 to 4.0 ppb	4 ppb
Cefacetrile	6 to 12 ppb	125 ppb
Cefalexin	15 to 30 ppb	100 ppb
Cefalonium	3 to 5 ppb	20 ppb
Cefazolin	8 to 16 ppb	50 ppb
Cefoperazone	4 to 8 ppb	50 ppb
Cefquinome	15 to 20 ppb	20 ppb
Ceftiofur and Metabolite <sup>^</sup>	10 to 20 ppb	100/100 ppb
Cephapirin	4 to 8 ppb	60 ppb <sup>§</sup>
Cloxacillin	25 to 35 <sup>Ω</sup> ppb	30 ppb
Dicloxacillin	20 to 30 <sup>Ω</sup> ppb	30 ppb
Penicillin G	2 to 3 ppb	4/4 ppb
Tetracycline Drug	Detection Range (ppb*)	EU/CODEX MRL (ppb*)
Chlortetracycline	50 to 100 ppb	100/100 ppb
Oxytetracycline	50 to 100 ppb	100/100 ppb
Tetracycline	10 to 30 ppb	100/100 ppb

<sup>^</sup> Ceftiofur parent drug sensitivity is approximately 1/2 that reported in the table  
<sup>§</sup> U.S. tolerance is 20 ppb cephalosporins  
<sup>\*</sup> parts per billion, µg/kg or µg/L  
<sup>Ω</sup> Detection Range is 50 to 100 ppb Cloxacillin and 30 to 80 ppb dicloxacillin for goat and sheep milk.

## Ordering Information

Order Codes	Each Kit Includes
LF-MRLBLTET-40NSK	Test Strips and Positive Controls
LF-MRLBLTET-100K	Test Strips and Positive Controls

See Operator's Manual for additional kits and order codes.