

Penicillinase Solution

Composition and concentration

The Penicillinase solution contains

~ 200 000 I.U. Penicillinase /ml

Storage and use by date

The Penicillinase solution can be stored at 6 – 10 °C, until the mentioned date on the packing (for at least 6 weeks). In the case of contamination the solution may be rendered unusable or may lead to incorrect results. The solution must therefore always be kept clean and carried out with care.

Instructions for use

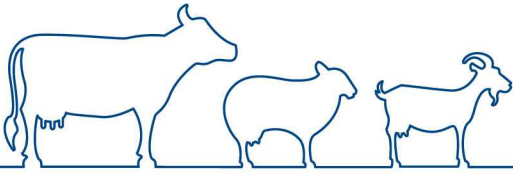
The Penicillinase solution can be used for the identification of penicillinase-unstable penicillins. The Penicillinase solution is delivered ready for use and can be used as follows:

1. Pipette 10 µl of the Penicillinase solution into one of the wells.
2. Add 0.1 ml of the positive test sample.
3. Incubate by the described manner. If the milk sample has been contaminated by Penicillinase-unstable penicillins, the well will show a negative reaction after incubation. In the presence of other inhibitors, it will show a positive reaction.

Mechanism of action

β -lactam-antibiotics, like penicillins and cephalosporines can be inactivated by enzymes, the so-called β -lactamases, to which also penicillinase belongs. β -lactamases hydrolyse the lactam ring of the antibiotics, responsible for their activity. This ring can be protected by side chains against the β -lactamases, as a result, the various β -lactam-antibiotics have different stability.

With the addition of penicillinase to a sample contaminated with penicillins the antibiotics are deactivated. So, during the test (BRT) the growth of the test germ *Geobac. stearothermophilus* var. *calidolactis* C953 (before *B. stearothermophilus*) is not inhibited any more and the test result is negative yellow cavity.



Stability of selected beta-lactamase antibiotics against beta-lactamase

Substance	Beta-lactamase Stability	Substance	Beta-lactamase Stability
Penicillins		Cefalosporines	
Benzylpenicillin	low	Cefapirin	low
Ampicillin	low	Cefazolin	low
Amoxicillin	low	Cefacetril	
Piperacillin	low	Cefquinom	medium
Oxacillin	high	Ceftiofur	high
Cloxacillin	high	Cefaperazon	high
Dicloxacillin	high	Cefuroxim	high
Nafcillin	medium		

Beta-lactamase does not inactivate other antiinfectives as e.g. tetracyclines, sulfonamides, makrolides or amino-glykosides

Further information

- BRT – Background and Basic Information**
- BRT – Product Information**
- BRT – Instructions for Use of Plates**
- BRT – Instructions for Use of Tubes**
- BRT – The Correct Incubation**
- BRT – Use of Preserved Samples**
- BRT – The Visual Evaluation**
- BRT – The Photometric Evaluation**
- BRT – Use of Milk Products**
- Standards, lyophilised – Product Information**
- Penicillinase Product Information**

Should you have any further questions or require any special information, please do not hesitate to contact us directly.