

β-LACTAMASE TEST

β-Lactamase Test rapidly detects the presence of β-Lactamase enzyme produced by strains of *Staph aureus*, *Neisseria gonorrhoeae*, *Branhamella catarrhalis* and *Haemophilus influenzae*. These enzymes confer resistance to a number of penicillin antibiotics by attacking the common β-lactam ring structure, resulting in inactivation of these drugs. This mode of action forms the basis of the β-Lactamase test reaction. Each strip is impregnated with benzylpenicillin and a pH indicator, bromocresol purple. β-Lactamase positive organisms produce enzyme, which hydrolyses benzyl penicillin forming penicilloic acid. This in turn causes a fall in pH, which is demonstrated by a rapid change in the colour of the pH indicator from purple to yellow. β-Lactamase Test requires only small numbers of organisms and can be performed as soon as there is visible growth on the primary culture medium.

Procedure

1. Place a β-Lactamase Test strip on a clean microscope slide and moisten with one or two drops of sterile distilled water.
2. Using a loop take 2 or 3 colonies, to give a heavy inoculum, of the test organism and smear them onto the test strip.
3. Positive and negative controls of further test organisms can be smeared onto the same strip in a similar manner.
4. A change in colour of the strip from purple to yellow in the area of inoculation within 5-10 minutes constitutes a positive β-Lactamase test.

β-Lactamase positive organisms should be reported as resistant to benzyl penicillin, ampicillin and all other β-Lactamase sensitive penicillin's and cephalosporins.

Technical Notes

Staphylococcal β-Lactamase is inducible and therefore, colonies of *Staph aureus* taken from the zone edge around penicillin, ampicillin and methicillin discs will give a much stronger and faster β-Lactamase test reaction.

β-Lactamase test should not be performed on colonies taken from media containing fermentable carbohydrates as it may give false positive results.

In vitro diagnostic for laboratory use only

β-LACTAMASE TEST

β-Lactamase Test rapidly detects the presence of β-Lactamase enzyme produced by strains of *Staph aureus*, *Neisseria gonorrhoeae*, *Branhamella catarrhalis* and *Haemophilus influenzae*. These enzymes confer resistance to a number of penicillin antibiotics by attacking the common β-lactam ring structure, resulting in inactivation of these drugs. This mode of action forms the basis of the β-Lactamase test reaction. Each strip is impregnated with benzylpenicillin and a pH indicator, bromocresol purple. β-Lactamase positive organisms produce enzyme, which hydrolyses benzyl penicillin forming penicilloic acid. This in turn causes a fall in pH, which is demonstrated by a rapid change in the colour of the pH indicator from purple to yellow. β-Lactamase Test requires only small numbers of organisms and can be performed as soon as there is visible growth on the primary culture medium.

Procedure

1. Place a β-Lactamase Test strip on a clean microscope slide and moisten with one or two drops of sterile distilled water.
2. Using a loop take 2 or 3 colonies, to give a heavy inoculum, of the test organism and smear them onto the test strip.
3. Positive and negative controls of further test organisms can be smeared onto the same strip in a similar manner.
4. A change in colour of the strip from purple to yellow in the area of inoculation within 5-10 minutes constitutes a positive β-Lactamase test.

β-Lactamase positive organisms should be reported as resistant to benzyl penicillin, ampicillin and all other β-Lactamase sensitive penicillin's and cephalosporins.

Technical Notes

Staphylococcal β-Lactamase is inducible and therefore, colonies of *Staph aureus* taken from the zone edge around penicillin, ampicillin and methicillin discs will give a much stronger and faster β-Lactamase test reaction.

β-Lactamase test should not be performed on colonies taken from media containing fermentable carbohydrates as it may give false positive results.

In vitro diagnostic for laboratory use only

Abtek Biological Ltd. Unit 7, Brookfield Business Park, Muir Road,
Liverpool, L9 7AR, England.



Date of revision 2013-09-30

Abtek Biological Ltd. Unit 7, Brookfield Business Park, Muir Road,
Liverpool, L9 7AR, England.



Date of revision 2013-09-30