Cefotetan (0.016-256)

Cat. 7514

Quantitative assay for determining the Minimum Inhibitory Concentration (MIC)

Practical information

Aplications	Categories
Antibiotic susceptibility test	General use

Industry: Clinical

CE
IVD

Principles and uses

MIC Test Strip is a quantitative assay for determining the Minimum Inhibitory Concentration (MIC) of antimicrobial agents against microorganisms and for detecting the resistance mechanisms. MIC Test Strip are available in large variety of configurations

MIC Test Strip is formed from an absorbent paper strip calibrated with a MIC scale in µg/ml and code(s) to identify the antimicrobial agents. A predefined concentration gradient of antibiotic or antifungal agent, across 15 two-fold dilutions of a conventional MIC method, is immobilized on the other surface of the carrier. After 18 hours incubation, a symmetrical inhibition zone centred along the strip is formed. The MIC is read directly from the scale in terms of µl/ml at the point where the edge of the inhibition zone intersects the strip. In case of other detection mechanism methods of resistance, different growth/inhibition paterns will be shown. When the MIC Test Strip is applied onto an inoculated agar surface, the preformed exponential gradient of antimicrobial agent is immediately transferred to the agar matrix.

MIC Test Strip is only used for in vitro disgonostic purpose. Although MIC Test Strip employs a simple procedure, personnel trained in susceptibility testing techniques should use the system.

Leftover MIC Test Strip from an opened package must be stored at 2-8°C in airtight tube for maximum 7 days. Do not store them near sources of heat and do not expose them to excessive temperature variations. Do not use after expiry date.

Instructions for use

The colonies that are to be subjected to the evaluation of Minimum Inhibition Concentration (MIC) should be pure. In the case of mixed colonies the bacterial strains must be purified before inoculation.
1. Select the specific agar medium and supplements for the organism to be tested.
2. Emulsify several well-isolated colonies from a pure overnight culture into a suitable suspension medium. Fastidious organisms should be suspended in broth and used within 15 minutes.
3. Compare the turbidity to the appropriate 0.5 McFarland standard.
4. Dip a sterile cotton swab into the inoculum suspension and press against the inside wall of the tube to remove excess fluid. For antifungal testing streak the plate twice dipping the swab in the inoculum in- between streaking.
5. Drag it along the surface of the medium contained on the plate so as to produce even growth; allow excess moisture to be fully absorbed and ensure that the surface is completely dry before applying MIC Test Strips.
6. Apply the MIC Test Strip to the agar surface with the MIC scale facing upwards. Ensure that the whole length of the antibiotic gradient is in complete contact with the agar surface. Once applied, do not move the strip. Not use the paper strips which marked with ‘’ x ‘’ symbol.
7. Plates are incubated in an inverted position under conditions appropriate for the microorganism.
8. One night incubation or longer time later, read the MIC value where the edge of inhibition zone inter- sects the strip (intersection between two scale segments should be round up to the higher value).
MIC break points for defining susceptibility categories as provided by CLSI or EUCAST could be used for in- terpreting MIC values. Always round up MIC Test Strip half dilution values to the next upper two-fold value before categorization.

Microbiological test

Test appropriate quality control strains according to recommendations from CLSI or EUCAST. The inherent content of certain cations in Mueller Hinton agar may vary between brands and batches, which can affect MIC results; particularly when testing Tigecycline and Daptomycin. Perform QC of agar plates on a batch to batch basis to qualify it for use.

Storage

Temp. Min.:-20 ºC
Temp. Max.:8 ºC

Bibliography

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