Antimicrobial Susceptibility Systems

HiMediaLaboratories™
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HIMEDIA®
For Life is Precious

HiCrome™ Mueller Hinton Agar (M2010)

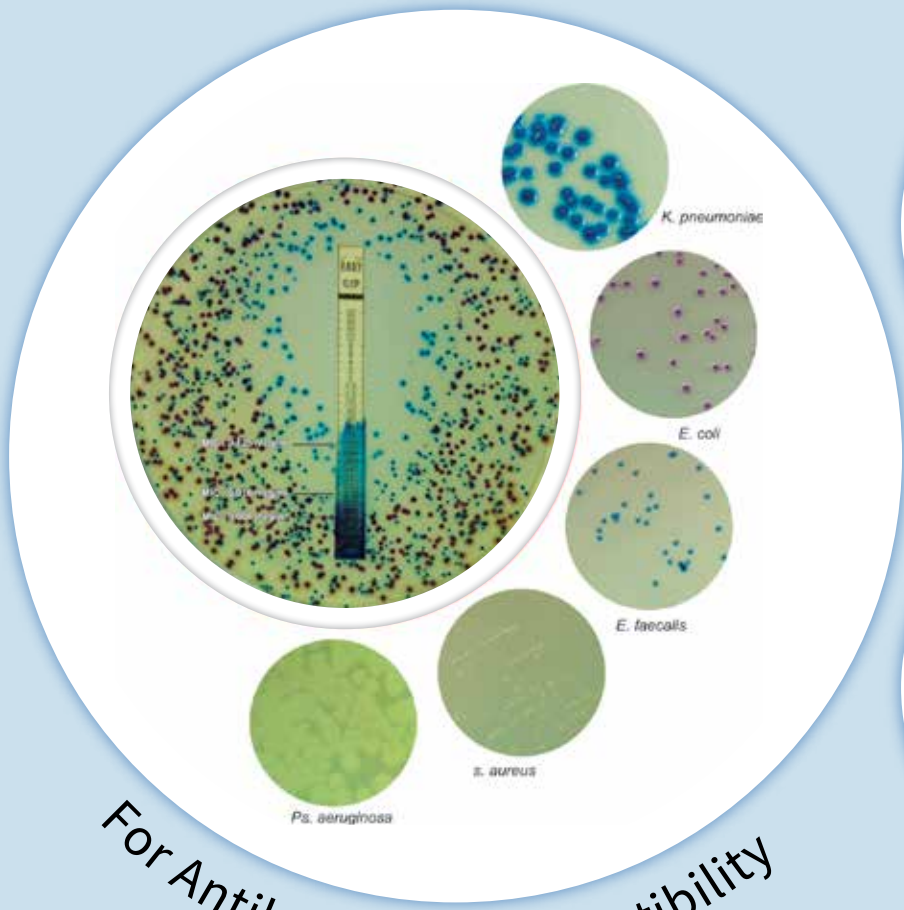
With dual advantage

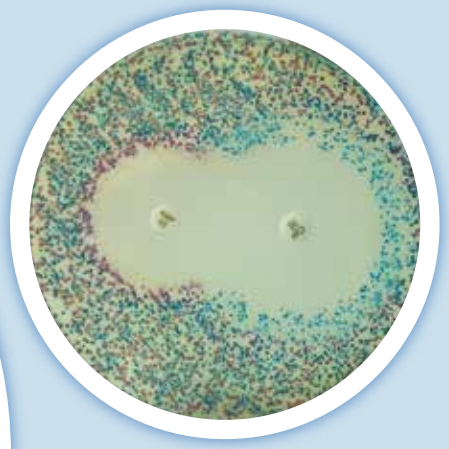
Chromogenic Identification + Antimicrobial Susceptibility

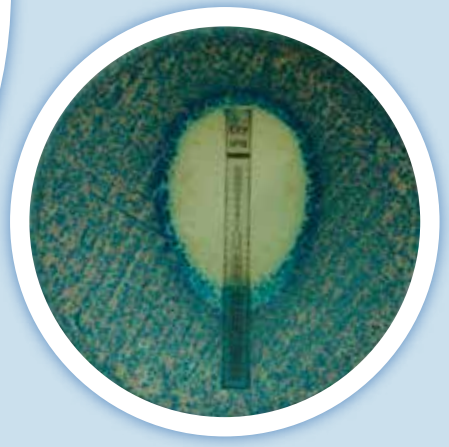
» Chromogenic differentiation of significant urinary tract pathogens

» Simultaneous detection of susceptibility to antimicrobials

» Rapid and reliable results in 24 hours as compared to traditional method which takes 48 hours for organism identification and antimicrobial susceptibility







For Antibacterial Susceptibility

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Abbreviations :

CLSI - Clinical & Laboratory Standards Institute
NCCLS - National Committee for Clinical Laboratory Standards
EUCAST - European Committee on Antimicrobial Susceptibility Testing

Antimicrobial Susceptibility – Guidelines for Testing

Introduction

Observation by Fleming in 1928 led to the discovery of a strain of Penicillium that produced a substance, lytic to staphylococci cells. Over eight decades have passed since the discovery of this "miracle drug" referred to as antibiotics or antimicrobials. These drugs are still used for control and treatment of various diseases caused by microbes. Therapy with antimicrobial agents is a relatively young aspect of medical practice, which has undergone enormous growth in the past few decades. The advent of antibiotics has had an enormous impact on the treatment of infectious diseases; but also with an adverse side, partly due to indiscriminate use of these drugs. Though an exhaustive number of antibiotics are discovered, this line of treatment also faces severe setbacks due to the emergence of single or multiple drug resistant microorganisms. Despite antibiotics' extraordinary value, the overuse of these miracle drugs in medicine and agriculture jeopardizes their continued effectiveness. To counter these problems antimicrobial susceptibility testing methods were developed and carried out in large scale as a guide to antibiotic therapy.

Importance of antimicrobial susceptibility testing

Antimicrobial susceptibility testing of bacterial and fungal isolates is a common and important technique in most clinical laboratories. The results of these tests are used for selection of the most appropriate antimicrobial agent(s) for treatment against the infectious organisms. Antimicrobial susceptibility testing is carried out in large scale as a guide to antibiotic therapy. From the earliest studies with chemotherapeutic substances, it was clear that obtaining an accurate assessment of susceptibility was not a simple task and many factors influence the results of testing. A lot of independent research and innovative technologies like Ezy MIC™ have helped in determining the susceptibility on a better scale of accuracy. Currently, antimicrobial susceptibility testing emphasizes on antimicrobial resistance testing and is able to quantify the endpoint, which can be directly related to a discrete concentration of the antimicrobial agents. The main objective of antimicrobial susceptibility testing is to forecast the success or failure of antibiotic therapy. Tests are performed *In vitro* and measure the growth response of an isolated organism to a particular drug or drugs. The trials are carried out under standardized conditions to have reproducible results and the test results are used to guide appropriate antibiotic selection. The results of antimicrobial susceptibility testing should be combined with clinical information and experience when selecting the most appropriate antibiotic for your patient. Currently, these methods are based on dilution or diffusion procedures. Of these, the disc method is best suited to routine use for most purposes as compared to the traditional broth-based techniques[4].

The need for rapid testing methods

The principles of determining the effectivity of an antimicrobial agent to a bacterium were well enumerated by Rideal, Walker and others. The discovery of antibiotics made these tests too cumbersome for the large numbers of tests necessary to be put up as a routine. The ditch plate method of agar diffusion used by Alexander Fleming and variety of agar diffusion methods were devised by workers in this field. With the introduction of a variety of antimicrobials, it became necessary to perform the antimicrobial susceptibility test as a routine. For this, different types of reservoirs containing antimicrobials are used, however, the antimicrobial impregnated absorbent paper disc is the most common type used so far. The disc diffusion method of AST is the most practical method and is still the method of choice for the average laboratory.

HiMedia has adopted this system in form of Antimicrobial sensitivity discs (SD), Multidiscs like Hexa (HX), Octo (OD), Dodeca (DE) and Icosa (IC) Discs.

However, the disc diffusion method cannot determine the exact Minimum Inhibitory concentration (MIC) of the antibiotics. Hence HiMedia has adopted MIC determination systems like Ezy MIC™ Strip & HiComb™ MIC Strips.

Minimum Inhibitory Concentration

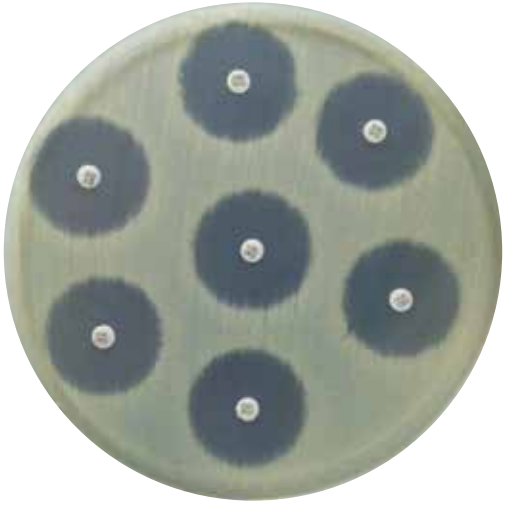
The MIC is the lowest concentration of an antimicrobial agent that visually inhibits the growth of a microorganism under defined experimental conditions. MIC values lower than the breakpoint are interpreted as susceptible results and those higher as resistant for treatment guidance. MIC breakpoint values are vital in categorizing susceptibility group for *In vitro* antimicrobial susceptibility testing and clinical interpretation. Understanding the concept of MIC and its relations to the interpretive breakpoint is one of the major hassles to microbiologists and clinicians. Since the pharmacokinetics of antimicrobial agents can be different two agents with the same MIC value for a pathogen may have totally different interpretations because they have different breakpoints. MIC testing is a very valuable quantitative assay tool for evaluating the pathogenic microorganism's degree of susceptibility and to detect the specific resistance mechanism. Today clinical microbiology laboratories can provide MIC testing services and in many cases exact values for determining the therapy for the individual patient. Selection of the most effective antimicrobial agent and dosing regimen for serious infection will help in eliminating the pathogens and minimize resistance selection and decrease mortality.

HiMedia has adopted this system in the form of HiComb™ (MD), which is based on innovative disc diffusion and gradient-based technique, essentially with a wide choice of antibiotics. This system is developed using dry chemistry technology and consists of two comb-shaped strips made of an inert material with antibiotic discs at the ends and the Ezy MIC™ Strip is based on gradient technology and the combination of dilution & diffusion principles for Testing of Susceptibility. This method generates the MIC values of a given antibiotic in µg/ml, which will inhibit the growth of a particular microorganism under the specified set of experimental conditions. The MIC value obtained from this method can be compared to the standardized CLSI procedure.

Parameters Affecting the Performance of Susceptibility Discs

1) The first and most important parameter affecting the performance of the discs is TEMPERATURE. This includes the transportation, storage & handling of discs. It should be made sure that the discs should be transported in cold chain. The user should be instructed not accept the discs if they do not receive them in ice pack. The customers on the receipt of the discs should also immediately place them at 2-8°C. The discs which are not to be used in near future should be stored at -20°C. Antimicrobial discs must be handled very carefully as many of the antimicrobial agents are temperature sensitive. Unopened/ used cartridges (containing discs) should be allowed to equilibrate to room temperature before opening. Discs must be stored with desiccant in containers with tightly fitting covers and refrigerated after each use. Even when the discs are removed, it should be made sure that they are not left out for too long and that if a burner is used for testing it should not be placed around the vicinity of the burner.

2) Second is THE MEDIUM USED IN TESTING AND ITS PREPARATION. The activity of the antimicrobial agent, growth rate of the test organism and the rate of diffusion of the antimicrobial agent are largely influenced by the composition of the test medium. The agar must allow free diffusion of the antimicrobial from the disc. Hence it is advisable to pour the plates to a depth of 3 to 5 mm. Smaller zone(s) of inhibition may appear due to the increased agar depths and thus false negative results may be interpreted. Variation in ionic strength and pH affects the zone sizes. The effect of antimicrobials like Aminoglycosides, Polymyxins and Tetracyclines is affected by free electrolyte content of the medium. For e.g. **Mueller - Hinton Agar should be monitored to make sure that it contains the acceptable concentrations of divalent cations such as Ca2+ and Mg2+, as the increased concentration of these results in decreased activity of Aminoglycosides and Tetracyclines (decreased concentrations of Ca2+ and Mg2+ have the opposite effect). Higher concentrations of thymine or thymidine result in decreased activity of Sulphonamides and Trimethoprim etc. Low or acidic pH results in the decreased activity of Aminoglycosides, Erythromycin and Clindamycin i.e. false resistance. However, the low pH results in increased activity of Tetracyclines. Glucose (dextrose) will enlarge the zones of antibiotics against the organisms; which are unfavorably affected by a drop in pH due to sugar fermentation. Blood, if added to the medium can reduce the zone size of protein-bound antimicrobials like Fusidic Acid. To avoid the antagonism of Trimethoprim and Sulphonamides, the levels of thymine and thymidine should be controlled and monitored**. HiMedia's range covers a number of culture media recommended for determining antimicrobial susceptibility using agar disc diffusion technique. The culture media mainly used for these tests are Mueller Hinton Agar (M173), Mueller Hinton HiVeg™ Agar (MV173), Mueller Hinton Agar No.2 (M1084), Mueller Hinton HiVeg™ Agar No.2 (MV1084). HiSensitivity Test Agar (M485), HiSensitivity Test HiVeg ™ Agar (MV485), HiSitest Agar (M485A). Wilkins Chalgren Anaerobic Agar (M832). Diagnostic Sensitivity Test (D.S.T.) Agar (M502) and G.C. Agar (M434) with added FD022 & FD025. The medium plates that are prepared should be as per manufacturer's instruction. The plates poured should have an even surface and depth.



Mueller Hinton Agar (M173)

plate showing zones of inhibition when impregnated antimicrobial sensitivity discs are used

3) Thirdly THE INOCULUM OF THE CULTURE used in the test, be it a standard ATCC strain or a clinical isolate. This is one of the most critical factors influencing the antimicrobial susceptibility test. It is advisable to use a technique, which always yields a uniform suspension of the correct number of organisms i.e. 10^5 - 10^6 cells/ ml, as a more dense culture will give zones smaller then expected and vice-versa. Even if the density of culture is adjusted, due to improper inoculation false results could be obtained. Inoculation method includes the correct and even swabbing of plates & correct placement of discs.

4) The next parameter is THE INCUBATION OF INOCULATED PLATES. Incubation for correct time and at correct temperature is also very important. Incubation at temperatures above 35°C may fail to detect Methicillin-resistant Staphylococci. At temperatures lower than 35°C, the rate of growth of most bacteria is prolonged; also antimicrobial agents diffuse more slowly. Increased CO_2 atmosphere results in decreased pH, which affects the activity of some antimicrobial agents. The plates should therefore be incubated in ambient air atmosphere unless CO_2 is necessary for the growth of the organisms. Hence calibration of instruments is a must at all stages.

5) Next been the CORRECT READING OF ZONES. An "mm" can make a difference between "R" & "S". Hence use of calibrated instruments like zone scales to measure the zones is advisable. While reading results :

- Ignore swarming of *Proteus* species if zones of inhibition are clearly defined.
- Measure the Sulphonamide zones at the margin of heavy growth since Sulphonamide may not inhibit organisms for several generations and slight growth may appear within zones of inhibition.

Technique

HiMedia Antimicrobial Sensitivity Test includes use of-Single Discs, Hexa Disc, Octo Discs, Dodeca Discs, Icosa Discs and HiComb™ MIC Strips and Ezy MIC™ Strips.

Single Test Discs (SD)

Guidelines for preparation of the medium

Prepare the medium of choice from dehydrated powder as per the directions detailed on the label. Cool the sterilized molten medium to 45-50°C and pour in sterile, dry Petri plates on a leveled surface, to a depth of 4 mm (approximately 25 ml medium in 90 mm diameter plate or 40 ml in 120 mm diameter plate or 60 ml in 150 mm diameter plate or 100 ml in 200 mm diameter plate). After the plates are solidified, incubate some representative plates at 35-37°C for 24-72 hours to check sterility. The medium should not show any microbial growth. Check the pH of solidified medium desired. The pH of Mueller Hinton Agar should be 7.3±0.1 at room temperature. Refrigerate the remaining agar plates until needed. Bring them to room temperature prior to use. Just before use, check for the presence of any excess surface moisture on the medium. This can be removed by keeping the plates inverted in an incubator (35±2°C). The surface should be moist, however, no droplets should be present either on the Petri plate cover or the surface of the medium. For Alternate Agar Overlay method, do not dry the surface before inoculation.

Preparation of Inoculum

1. Growth Method: Use only pure cultures. Confirm by Gram staining before starting susceptibility test. Transfer 4-5 similar colonies using a loop, wire or needle or to 5 ml Tryptone Soya Broth (M011) and incubate at 35-37°C for 2-8 hours until light to moderate turbidity develops. Compare the inoculum turbidity with that of standard 0.5 McFarland, prepared by mixing 0.5 ml of 1.175% barium chloride and 99.5 ml of 0.36N sulfuric acid. Dilute the inoculum or incubate further as per requirement to achieve comparative turbidity. Alternatively, the inoculum can be standardized by another appropriate optical method (0.08- 0.13 OD turbid suspension at 620 nm yields $1O^5$- 10^6 cells/ml).

2. Direct Colony Suspension Method: Prepare a direct colony suspension from 18- 24 hours old non-selective media plate in broth or saline. Adjust the turbidity to that of 0.5 Mcfarland. This method is recommended for testing fastidious organisms & for testing Staphylococci for Potential Methicillin or Oxacillin resistance.

Inoculation by Alternate Agar Overlay Technique

Mix 0.01ml of standardized inoculum with 9.0 ml of sterile, aqueous, 1.5% solution of agar that is melted and maintained at 45-50°C. Mix well and spread over the surface of a Petri plate containing Mueller Hinton Agar (M173) to a depth of 4 mm. Allow the plates to stand undisturbed for 3-5 minutes on a flat level surface.

Susceptibility Test Procedure

1. Prepare plates with Mueller Hinton Agar (M173) for rapidly growing aerobic organisms as per Kirby-Bauer Method. For fastidious organisms such as Streptococci, the Medium (M173) is supplemented with 5% sterile, defibrinated blood. For *Haemophilus* spp, Mueller Hinton Agar + 0.5% Yeast Extract + [NAD + Haematin (FD117)] and for *Neisseria gonorrhoeae*, GC Agar Base (M434) with 1% defined growth supplement is recommended. The steriled medium should be poured in the plates and depth of medium should be about 4 mm.
2. Dip a sterile non-toxic cotton swab on a wooden applicator into the standardized inoculum and rotate the soaked swab firmly against the upper inside wall of the tube to express excess fluid. Streak the entire agar surface of the plate with the swab three times, turning the plate at 60° angle between each streaking. Allow the inoculum to dry for 5 - 15 minutes with lid in place.
3. Apply the discs using aseptic technique. Deposit the discs with centers at least 24 mm apart. The discs should be deposited with centers 30 mm apart for fastidious organisms and for Penicillins and Cephalosporins
4. For HiComb™ MIC Strips apply the strips to the agar surface with the MIC scale facing upwards. Once applied, do not move the strip.
5. Immediately incubate at 35 ± 2°C and examine after 16-18 hours or later, if required. Measure the zones showing complete inhibition and record the diameters of the zones to the nearest millimeter, using calibrated instruments or Zone scales (PW096/PW297).

Antifungal Susceptibility Test Procedure

Preparation of Inoculum

1. Inoculum is prepared by selecting five different colonies of 1mm size approximately, from 24 hours old culture grown on Sabouraud Dextrose Agar (M063) and incubated at 35 ± 2°C. Colonies are suspended in 5ml of sterile 0.85% Saline.
2. Vortex the resulting suspension and adjust the turbidity to yield 1 x 10^6 - 5 x 10^6 cells /ml (i.e. 0.5 McFarland standard).

Susceptibility Test Procedure

1. Prepare plates with Muller Hinton Agar (M173) + 2% Glucose and 0.5 mg/ml Methylene Blue Dye (GMB) Medium for carrying out susceptibility of antifungal discs. The medium in the plates should be sterile and have a depth of about 4 mm.
2. Dip a sterile non-toxic cotton swab on a wooden applicator into the standardized inoculum (turbidity so adjusted as to obtain semi confluent growth on the petri plate) and rotate the soaked cotton swab firmly against the upper inside wall of the tube to remove excess fluid. Streak the entire agar plate surface with this swab three times. Turn the plate at 60° angle between each streaking. Allow the inoculum to dry for 5 - 15 minutes along with lid in place.
3. Apply the discs using aseptic technique. Deposit the discs with centres at least 24 mm apart.
4. Invert the plates and place in an incubator set to 35 ± 2°C within 15 minutes after the discs are applied.
5. Examine each plate after 20-24 hours of incubation. If plate was satisfactorily streaked the resulting zones of inhibition will be uniformly circular and there will be a semi-confluent lawn of growth. Read at 48 hours only when insufficient growth is observed after 24 hours incubation.

Precautions

1. The accuracy of the test depends on the disc potency, proper inoculum, functional pretested medium plates (nature of the medium and its depth), inoculation technique, incubation temperature and time, etc.
2. To maintain the potency of discs, store the stock containers of discs in the freezer at -20°C. The discs when required for use within a week. May be kept in the refrigerator (below 8°C) and the remainder should be kept with desiccant and tightly closed container caps in the freezer.
3. Remove the antimicrobial discs from refrigerator to room temperature 1- 2 hours before use to avoid moisture condensation. Return unused discs to refrigerator immediately after applications.
4. Measure the zone diameter to the nearest whole millimeter at the point at which there is a prominent reduction in growth. Pinpoint micro-colonies at the zone edge or large colonies within a zone are encountered frequently & should be ignored.

Determination of Disc Diffusion Breakpoints

The Disc diffusion test system depends on the development of a gradient of antimicrobial concentration. The antimicrobial agent diffuses from the disc, gradually decreasing in concentration as the distance from the disc increases.

At a critical point the amount of antimicrobial agent in the medium is not able to visibly inhibit the growth of test organisms and thus an inhibition zone is formed. The Minimum Inhibitory Concentration (MIC) is related to this particular point at which the inhibition zone occurs. To determine the breakpoints for defining a zone of inhibition as susceptible, intermediate or resistant, the relationship between zone diameter and MIC has been utilized.

Single Discs (SD)

Antimicrobial Susceptibility Test Discs Cartridges (SD)

These are ready-to-serve cartridges containing 50 Discs (antimicrobial susceptibility test discs), with a unique clip ejector mechanism to eject one disc at a time on a Petri plate. These cartridges are a convenient tool for placing microbial susceptibility test discs without the use of forceps.

Discs are manufactured from specially selected filter paper which meets the requirement and conforms to the FDA standards and has the high degree of antimicrobial stability. These discs containing various antimicrobials at minimal active levels are available in cartridges and vials. Symbols and concentrations of each antibiotic are marked on both faces of individual 6 mm diameter disc for ease of identification. Discs should always be stored at -20 to +8°C under dry conditions, along with a silica gel plug provided with each cartridge in an individual pack. Unopened cartridges should be allowed to equilibrate to room temperature before opening. SDs are also available in packing of vials and packs. 1 vial contains 100 discs and 1 pack contains 5 cartridges in a container.

Extended-Spectrum β.Lactamases (ESBL's)

ESBLs are enzymes that mediate resistance to extended-spectrum (third generation) Cephalosporins (e.g.,Ceftazidime, Cephotaxime, and Ceftriaxone) and monobactams (e.g., Aztreonam) but do not affect cephamycins (e.g.,Cephoxitin and Cefotetan) or Carbapenems (e.g.,Meropenem or lmipenem).

The presence of an ESBL-producing organism in a clinical infection can result in treatment failure if one of the above classes of drugs is used. ESBLs can be difficult to detect because they have different levels of activity against various cephalosporins. Thus, the choice of which antimicrobial agents to test is critical. If an ESBL is detected, all Penicillins, Cephalosporins and Aztreonam classes of drugs, should be reported as resistant, even though *In vitro* test results shows susceptibility.

CLSI has developed disk diffusion screening tests using selected antimicrobial agents (2). Each *Klebsiella pneumoniae*, *Klebsiella oxytoca* or *Escherichia coli* isolate should be considered a potential ESBL-producer if the initial screen tests results are as follows:

Zones for -	Cefpodoxime(10mcg)	< 17 mm
	Ceftazidime (30mcg)	< 22 mm
	Aztreonam (30mcg)	< 27 mm
	Cephotaxime (30mcg)	< 27 mm
	Ceftriaxone (30mcg)	< 25 mm

Proteus mirabilis isolate should be considered a potential ESBL producer if the initial screen tests results is as follows:

Zones for-	Cefpodoxime (10mcg)	< 22 mm
	Ceftazidime (30mcg)	< 22 mm
	Cephotaxime (30mcg)	< 27 mm

The sensitivity of screening for ESBLs in enteric organisms can vary depending on which antimicrobial agents are tested. The use of more than one antimicrobial agent suggested for screening will improve the sensitivity of detection. Cefpodoxime and Ceftazidime show the highest sensitivity for ESBL detection.

CLSI recommends performing phenotypic confirmation of potential ESBL-producing isolates of *K. pneumoniae*, *K. oxytaca*, or *E. coli* by testing both Cephotaxime and Ceftazidime, alone and in combination with Clavulanic acid (2). Testing can be performed by the broth micro dilution method or by disk diffusion. For disk diffusion testing, *K. pneumoniae* ATCC 700603 and *E. coli* ATCC 25922 should be used for quality control of ESBL tests (2).

If combination discs used in screening and confirmatory tests for the presence of ESBLs, following are the quality control recommendations- For *E. coli* ATCC 25922, check the control limits in the table for standard discs; with combination discs, < 2 mm increase in zone diameter for antimicrobial agent tested alone versus its zone when tested in combination with Clavulanic acid. For the ESBL-producing *K. pneumoniae* ATCC 700603 tested with: Cefpodoxime, 9-16mm; Ceftazidime, 10-18mm; Aztreonam, 9-17mm; Cephotaxime, 17-25mm; Ceftriaxone, 16-24mm. With the combination disc. > 3mm increase in Cephotaxime/Clavulanic acid zone diameter; > 5mm increase in ceftazidime/Clavulanic acid zone diameter.

However, the phenotypic confirmatory test does not detect all ESBLs. Some organisms with ESBLs contain other β-lactamases that can mask ESBL production in the phenotypic test, resulting in a false-negative test. Currently, detection of organisms with multiple β -lactamases that may interfere with the phenotypic confirmatory test can only be accomplished using isoelectric focusing and DNA sequencing.

If an isolate is confirmed as an ESBL-producer by the CLSI recommended phenotypic confirmatory test procedure, all penicillins, Cephalosporins and Aztreonam should be reported as resistant. This list does not include the Cephamycins (Cefotetan and Cephoxitin), which should be reported according to their routine test results. If an isolate is not confirmed as an ESBL-producer, current recommendations suggest reporting results as for routine testing. Do not change interpretations of Penicillins. Cephalosporins, and Aztreonam for isolates not confirmed as ESBLs.

Bacterial isolates other than *Escherichia coli* belonging to *Enterobacteriaceae* which produce ESBLs includes Salmonella species. *Klebsiella* species, *Proteus mirabilis* and *Pseudomonas aeruginosa*. Though screening of Proteus mirabilis for ESBL production is recommended only when it is deemed clinically relevant (e.g. bacteremic isolate).

HiMedia provides 4 kits of antibiotics and its combination with Clavulanic acid for the screening of these ESBL strains.

Screening for HLAR (High-level aminoglycosides resistance)

During past few decades, enterococci resistant to multiple antimicrobial agents have been recognized, including strains resistant to Vancomycin, β-Lactams and aminoglycosides, making it a formidable nosocomial pathogen. Such strains are not detected by routine disc diffusion.

A formal MIC determination, which shows that the MIC above or equal to 2000 mcg/ml is definitive for HLAR. However, performing MICs routinely is tedious and time-consuming. Hence, several alternative methods have been proposed for detection of HLAR. These methods are agar screening, high content discs and broth dilution. HiMedia provides these discs for the screening of high-level Aminoglycosides Resistance (HLAR), SD195 Gentamicin (120 mcg) and SD236 Streptomycin (300 mcg).

For interpretation, no zone of inhibition indicates high-level resistance and zone of < 10 mm indicate a lack of high-level resistance. Strains that yield zones of 7 to 9 mm should be examined using dilution method.

For QC of HLAR Screen tests use *Enterococcus faecalis* (ATCC 29212). For QC range see the Zone Size Interpretative Chart.

Screening for Metallo-β- lactamases

The introduction of carbapenems into clinical practice represented a great advance for the treatment of serious bacterial infections caused by beta-lactam resistant bacteria. Due to their broad spectrum of activity and stability to hydrolysis by most beta-lactamases, the carbapenems have been the drug of choice for treatment of infections caused by penicillin-or cephalosporin-resistant Gram-negative bacilli especially, extended spectrum-β-lactamase (ESBL) producing Gram negative infections. The carbapenems available for use in India are Imipenem and Meropenem. However, Carbapenem resistance has been observed frequently in non-fermenting bacilli *Pseudomonas aeruginosa* and *Acinetobacter* spp. Resistance to carbapenems is due to carbapenem hydrolyzing enzymes-carbapenemase among the others. These carbapenemase are class B metallo β-lactamases. Metallo β-lactamase (MBL) belongs to a group β-lactamase which requires divalent cations of zinc as co-factors for enzyme activity. These have potent hydrolyzing activity not only against carbapenem but also against other β -lactam antibiotics. The genes responsible for MBL production are horizontally transferable via plasmids and can rapidly spread to other bacteria. The genes responsible for MBL production may be chromosomally or plasmid-mediated and hence pose a threat of the spread of resistance by gene transfer among the Gram-negative bacteria. Thus MBL-producing *Pseudomonas aeruginosa* isolates have been reported to be important causes of nosocomial infections. The appearance of MBL genes and their spread among bacterial pathogens is a matter of concern with regard to the future of antimicrobial chemotherapy. Various methods have been recommended for screening MBL. These include the modified Hodge test, double disc synergy test using Imipenem and EDTA discs or ceftazidime and EDTA discs. EDTA impregnated Imipenem discs.

HiMedia offers Imipenem-EDTA (SD282) discs (10:750mcg), Imipenem with & without EDTA Ezy MIC™ Strip (EM078) and Meropenem with & without EDTA Ezy MIC™ Strip (EM092) for detection of Metallo-β-lactamases.

For interpretation of results

For Sensitivity disc:

A zone diameter difference of > 7 mm between Imipenem & Imipenem-EDTA discs should be interpreted as Metallo β -lactamases (MBL) positive isolates.

For Ezy MIC™ Strips:

When ratio of values obtained for Imipenem : Imipenem + EDTA and Meropenem : Meropenem + EDTA is more than 8, interpret the result as MBL positive.

Antibacterial Agents

Concentration of Antibiotics **as per CLSI** (formerly NCCLS) **& EUCAST** standards

Product	Symbol	Levels	Code
Amikacin #	AK	30 mcg	SD035-1PK SD035-1VL SD035-5VL SD035-5x50DS SD035-5CT
*Amoxyclav # (Amoxicillin/ Clavulanic acid)	AMC	30 mcg (20/10 mcg)	SD063-1PK SD063-1VL SD063-5VL SD063-5x50DS SD063-5CT
*Ampicillin #	AMP	10 mcg	SD002-1PK SD002-1VL SD002-5VL SD002-5x50DS SD002-5CT
*Ampicillin/Sulbactam #	A/S	10/10 mcg	SD112-1PK SD112-1VL SD112-5VL SD112-5x50DS SD112-5CT
Azithromycin	AZM	15 mcg	SD204-1PK SD204-1VL SD204-5VL SD204-5x50DS SD204-5CT
*Azlocillin	AZ	75 mcg	SD064-1PK SD064-1VL SD064-5VL SD064-5x50DS SD064-5CT
*Aztreonam #	AT	30 mcg	SD212-1PK SD212-1VL SD212-5VL SD212-5x50DS SD212-5CT
*Carbenicillin	CB	100 mcg	SD004-1PK SD004-1VL SD004-5VL SD004-5x50DS SD004-5CT
*Cefaclor #	CF	30 mcg	SD157-1PK SD157-1VL SD157-5VL SD157-5x50DS SD157-5CT
*Cefamandole	FAM	30 mcg	SD200-1PK SD200-1VL SD200-5VL SD200-5x50DS SD200-5CT

Product	Symbol	Levels	Code
*Cefazolin	CZ	30 mcg	SD047-1PK SD047-1VL SD047-5VL SD047-5x50DS SD047-5CT
*Cefdinir	CDR	5 mcg	SD218-1PK SD218-1VL SD218-5VL SD218-5x50DS SD218-5CT
*Cefepime #	CPM	30 mcg	SD219-1PK SD219-1VL SD219-5VL SD219-5x50DS SD219-5CT
*Cefixime #	CFM	5 mcg	SD211-1PK SD211-1VL SD211-5VL SD211-5x50DS SD211-5CT
*Cefmetazole	CMZ	30 mcg	SD244-1PK SD244-1VL SD244-5VL SD244-5x50DS SD244-5CT
*Cefonicid	CID	30 mcg	SD248-1PK SD248-1VL SD248-5VL SD248-5x50DS SD248-5CT
*Cefoperazone	CPZ	75 mcg	SD072-1PK SD072-1VL SD072-5VL SD072-5x50DS SD072-5CT
*Cefotaxime (Cephotaxime)	CTX	30 mcg	SD040-1PK SD040-1VL SD040-5VL SD040-5x50DS SD040-5CT
*Cefotaxime/ Clavulanic acid	CEC	30/ 10 mcg	SD724-1PK SD724-1VL SD724-5VL SD724-5x50DS SD724-5CT
*Cefotetan	CTN	30 mcg	SD249-1PK SD249-1VL SD249-5VL SD249-5x50DS SD249-5CT

Packing : 5x50DS = 5 vials of 50 discs each
1PK contains 5ct = 5x50 discs in plastic container,
1VL = contains 100 discs in vial,
5VL = 5x100 discs in vial,
5CT = contains 5x50 discs in blister pack.

#: Concentration of antibiotic also as per **EUCAST**
* : On receipt, store at -20°C.
On receipt all the other products to be stored between -20°C to 8°C.
For prolonged use, store at or below -20°C.

Antibacterial Agents

Concentration of Antibiotics **as per CLSI** (formerly NCCLS) **& EUCAST** standards

Product	Symbol	Levels	Code
*Cefoxitin # (Cephoxitin)	CX	30 mcg	SD041-1PK SD041-1VL SD041-5VL SD041-5x50DS SD041-5CT
*Cefpodoxime #	CPD	10 mcg	SD725-1PK SD725-1VL SD725-5VL SD725-5x50DS SD725-5CT
*Cefprozil	CPR	30 mcg	SD209-1PK SD209-1VL SD209-5VL SD209-5x50DS SD209-5CT
*Ceftazidime	CAZ	30 mcg	SD062-1PK SD062-1VL SD062-5VL SD062-5x50DS SD062-5CT
*Ceftazidime / Clavulanic acid	CAC	30/10 mcg	SD207-1PK SD207-1VL SD207-5VL SD207-5x50DS SD207-5CT
*Ceftizoxime	CZX	30 mcg	SD110-1PK SD110-1VL SD110-5VL SD110-5x50DS SD110-5CT
*Ceftriaxone #	CTR	30 mcg	SD065-1PK SD065-1VL SD065-5VL SD065-5x50DS SD065-5CT
*Cefuroxime #	CXM	30 mcg	SD061-1PK SD061-1VL SD061-5VL SD061-5x50DS SD061-5CT
*Cephalothin	CEP	30 mcg	SD050-1PK SD050-1VL SD050-5VL SD050-5x50DS SD050-5CT
Chloramphenicol #	C	30 mcg	SD006-1PK SD006-1VL SD006-5VL SD006-5x50DS SD006-5CT

Product	Symbol	Levels	Code
Cinoxacin	CIN	100 mcg	SD245-1PK SD245-1VL SD245-5VL SD245-5x50DS SD245-5CT
Ciprofloxacin #	CIP	5 mcg	SD060-1PK SD060-1VL SD060-5VL SD060-5x50DS SD060-5CT
Clarithromycin	CLR	15 mcg	SD192-1PK SD192-1VL SD192-5VL SD192-5x50DS SD192-5CT
Clindamycin #	CD	2 mcg	SD051-1PK SD051-1VL SD051-5VL SD051-5x50DS SD051-5CT
Colistin (Methane Sulphonate)	CL	10 mcg	SD009-1PK SD009-1VL SD009-5VL SD009-5x50DS SD009-5CT
Co-Trimoxazole # (Sulpha/Trimethoprim)	COT	25 mcg (23.75/ 1.25 mcg)	SD010-1PK SD010-1VL SD010-5VL SD010-5x50DS SD010-5CT
*Doripenem #	DOR	10 mcg	SD283-1VL SD283-5VL SD283-5x50DS
Doxycycline Hydrochloride	DO	30 mcg	SD012-1PK SD012-1VL SD012-5VL SD012-5x50DS SD012-5CT
Enoxacin	EN	10 mcg	SD237-1PK SD237-1VL SD237-5VL SD237-5x50DS SD237-5CT
*Ertapenem #	ETP	10 mcg	SD280-1VL SD280-5VL SD280-5x50DS

Packing : 5x50DS = 5 vials of 50 discs each
1PK contains 5ct = 5x50 discs in plastic container,
1VL = contains 100 discs in vial,
5VL = 5x100 discs in vial,
5CT = contains 5x50 discs in blister pack.

#: Concentration of antibiotic also as per **EUCAST**
* : On receipt, store at -20°C.
On receipt all the other products to be stored between -20°C to 8°C.
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Antibacterial Agents

Concentration of Antibiotics **as per CLSI** (formerly NCCLS) **& EUCAST** standards

Product	Symbol	Levels	Code
Erythromycin #	E	15 mcg	SD013-1PK SD013-1VL SD013-5VL SD013-5x50DS SD013-5CT
*Faropenem	FAR	5 mcg	SD279-1VL SD279-5VL SD279-5x50DS
Fosfomycin #	FO	200 mcg	SD205-1PK SD205-1VL SD205-5VL SD205-5x50DS SD205-5CT
Fusidic Acid #	FC	10 mcg	SD171-1PK SD171-1VL SD171-5VL SD171-5x50DS SD171-5CT
Gatifloxacin	GAT	5 mcg	SD737-1PK SD737-1VL SD737-5VL SD737-5x50DS SD737-5CT
Gemifloxacin	GEM	5 mcg	SD250-1PK SD250-1VL SD250-5VL SD250-5x50DS SD250-5CT
Gentamicin #	GEN	10 mcg	SD016-1PK SD016-1VL SD016-5VL SD016-5x50DS SD016-5CT
Gentamicin For detection of HLAR Strains.	HLG	120 mcg	SD195-1PK SD195-1VL SD195-5VL SD195-5x50DS SD195-5CT
*Imipenem #	IPM	10 mcg	SD073-1VL SD073-5VL SD073-5x50DS
Kanamycin	K	30 mcg	SD017-1PK SD017-1VL SD017-5VL SD017-5x50DS SD017-5CT

Product	Symbol	Levels	Code
Levofloxacin #	LE	5 mcg	SD216-1PK SD216-1VL SD216-5VL SD216-5x50DS SD216-5CT
Linezolid	LZ	30 mcg	SD215-1PK SD215-1VL SD215-5VL SD215-5x50DS SD215-5CT
Lomefloxacin	LOM	10 mcg	SD206-1PK SD206-1VL SD206-5VL SD206-5x50DS SD206-5CT
*Mecillinam #	MEC	10 mcg	SD176-1PK SD176-1VL SD176-5VL SD176-5x50DS SD176-5CT
*Meropenem #	MRP	10 mcg	SD727-1VL SD727-5VL SD727-5x50DS
*Methicillin	MET	5 mcg	SD019-1PK SD019-1VL SD019-5VL SD019-5x50DS SD019-5CT
*Mezlocillin	MZ	75 mcg	SD225-1PK SD225-1VL SD225-5VL SD225-5x50DS SD225-5CT
Minocycline #	MI	30 mcg	SD158-1PK SD158-1VL SD158-5VL SD158-5x50DS SD158-5CT
Moxalactam	MX	30 mcg	SD220-1PK SD220-1VL SD220-5VL SD220-5x50DS SD220-5CT
Moxifloxacin #	MO	5 mcg	SD217-1PK SD217-1VL SD217-5VL SD217-5x50DS SD217-5CT

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Antibacterial Agents

Concentration of Antibiotics **as per CLSI** (formerly NCCLS) **& EUCAST** standards

Product	Symbol	Levels	Code
Nafcillin	NAF	1 mcg	SD246-1PK SD246-1VL SD246-5VL SD246-5x50DS SD246-5CT
Nalidixic Acid #	NA	30 mcg	SD021-1PK SD021-1VL SD021-5VL SD021-5x50DS SD021-5CT
Netillin (Netilmicin Sulphate)	NET	30 mcg	SD046-1PK SD046-1VL SD046-5VL SD046-5x50DS SD046-5CT
Nitrofurantoin	NIT	300 mcg	SD023-1PK SD023-1VL SD023-5VL SD023-5x50DS SD023-5CT
Norfloxacin #	NX	10 mcg	SD057-1PK SD057-1VL SD057-5VL SD057-5x50DS SD057-5CT
Ofloxacin #	OF	5 mcg	SD087-1PK SD087-1VL SD087-5VL SD087-5x50DS SD087-5CT
*Oxacillin #	OX	1 mcg	SD088-1PK SD088-1VL SD088-5VL SD088-5x50DS SD088-5CT
Pefloxacin #	PF	5 mcg	SD070-1PK SD070-1VL SD070-5VL SD070-5x50DS SD070-5CT
*Penicillin-G	P	10 units	SD028-1PK SD028-1VL SD028-5VL SD028-5x50DS SD028-5CT
*Piperacillin	PI	100 mcg	SD066-1PK SD066-1VL SD066-5VL SD066-5x50DS SD066-5CT

Product	Symbol	Levels	Code
*Piperacillin/ Tazobactam	PIT	100/ 10 mcg	SD210-1PK SD210-1VL SD210-5VL SD210-5x50DS SD210-5CT
Polymyxin-B	PB	300 units	SD029-1PK SD029-1VL SD029-5VL SD029-5x50DS SD029-5CT
Pristinomycin # (Quinupristin / Dalfopristin)	RP	15 mcg	SD178-1PK SD178-1VL SD178-5VL SD178-5x50DS SD178-5CT
Prulifloxacin (Ulifloxacin)	PRU	5 mcg	SD268-1PK SD268-1VL SD268-5VL SD268-5x50DS SD268-5CT
Rifampicin #	RIF	5 mcg	SD030-1PK SD030-1VL SD030-5VL SD030-5x50DS SD030-5CT
Sparfloxacin	SPX	5 mcg	SD162-1PK SD162-1VL SD162-5VL SD162-5x50DS SD162-5CT
Spectinomycin	SPT	100 mcg	SD181-1PK SD181-1VL SD181-5VL SD181-5x50DS SD181-5CT
Streptomycin	S	10 mcg	SD031-1PK SD031-1VL SD031-5VL SD031-5x50DS SD031-5CT
Streptomycin For detection of HLAR Strains.	HLS	300 mcg	SD236-1PK SD236-1VL SD236-5VL SD236-5x50DS SD236-5CT
Sulphafurazole (Sulfisoxazole)	SF	300 mcg	SD032-1PK SD032-1VL SD032-5VL SD032-5x50DS SD032-5CT

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Antibacterial & Antifungal Agents

Concentration of Antibiotics **as per CLSI** (formerly NCCLS) **& EUCAST** standards

Product	Symbol	Levels	Code
Teicoplanin #	TEI	30 mcg	SD213-1PK SD213-1VL SD213-5VL SD213-5x50DS SD213-5CT
Tetracycline #	TE	30 mcg	SD037-1PK SD037-1VL SD037-5VL SD037-5x50DS SD037-5CT
*Ticarcillin #	TI	75 mcg	SD074-1PK SD074-1VL SD074-5VL SD074-5x50DS SD074-5CT
*Ticarcillin / # Clavulanic Acid	TCC	75/10 mcg	SD201-1PK SD201-1VL SD201-5VL SD201-5x50DS SD201-5CT
Tigecycline #	TGC	15 mcg	SD278-1PK SD278-1VL SD278-5VL SD278-5x50DS SD278-5CT
Tobramycin #	TOB	10 mcg	SD044-1PK SD044-1VL SD044-5VL SD044-5x50DS SD044-5CT
Trimethoprim #	TR	5 mcg	SD039-1PK SD039-1VL SD039-5VL SD039-5x50DS SD039-5CT
Vancomycin	VA	30 mcg	SD045-1PK SD045-1VL SD045-5VL SD045-5x50DS SD045-5CT

Product	Symbol	Levels	Code
ESBL Identification Test Kits ✦			
*Kit I for ESBL Identification, Cefotaxime (Cephotaxime) Kit contains 6 cartridges (6CT): 3CT of SD040 Cefotaxime (Cephotaxime) 30 mcg, 3CT of SD724 Cefotaxime (Cephotaxime)/Clavulanic acid 30/10 mcg		1kit	SD238-1KT
*Kit III for ESBL Identification, Ceftazidime Kit contains 6 cartridges (6CT): 3CT of SD062 Ceftazidime 30 mcg, 3CT of SD207 Ceftazidime / Clavulanic acid 30/10 mcg		1kit	SD240-1KT
✦ **Refer Hexa Discs section for Hexa G-Minus 23 & Hexa G-Minus 24 disc specially developed for screening of ESBL producer**			
Antifungal Agents			
Fluconazole	FLC	25 mcg	SD232-1PK SD232-1VL SD232-5VL SD232-5x50DS SD232-5CT
Voriconazole	VRC	1 mcg	SD277-1PK SD277-1VL SD277-5VL SD277-5x50DS SD277-5CT

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5CT = contains 5x50 discs in blister pack.

#: Concentration of antibiotic also as per **EUCAST**
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Antibacterial Agents

Concentration of Antibiotics **only as per EUCAST standards**.
(The European Committee on Antimicrobial Susceptibility Testing)

Product	Symbol	Levels	Code
*Ampicillin	AMP	2 mcg	SD002A-1PK SD002A-1VL SD002A-5VL SD002A-5x50DS SD002A-5CT
*Cefadroxil (Cephadroxil)	CFR	30 mcg	SD116-1PK SD116-1VL SD116-5VL SD116-5x50DS SD116-5CT
*Cefalexin (Cephalexin)	CN	30 mcg	SD048-1PK SD048-1VL SD048-5VL SD048-5x50DS SD048-5CT
*Cefotaxime	CTX	5 mcg	SD295E-1PK SD295E-1VL SD295E-5VL SD295E-5x50DS SD295E-5CT
*Ceftazidime	CAZ	10 mcg	SD062A-1PK SD062A-1VL SD062A-5VL SD062A-5x50DS SD062A-5CT
Gentamicin	GEN	30 mcg	SD170-1PK SD170-1VL SD170-5VL SD170-5x50DS SD170-5CT
Linezolid	LZ	10 mcg	SD296E-1PK SD296E-1VL SD296E-5VL SD296E-5x50DS SD296E-5CT
Netillin (Netilmicin Sulphate)	NET	10 mcg	SD085-1PK SD085-1VL SD085-5VL SD085-5x50DS SD085-5CT

Product	Symbol	Levels	Code
Nitrofurantoin	NIT	100 mcg	SD086-1PK SD086-1VL SD086-5VL SD086-5x50DS SD086-5CT
Nitroxoline	NO	30 mcg	SD196-1PK SD196-1VL SD196-5VL SD196-5x50DS SD196-5CT
*Penicillin-G	P	1 unit	SD089-1PK SD089-1VL SD089-5VL SD089-5x50DS SD089-5CT
*Piperacillin	PI	30 mcg	SD066A-1PK SD066A-1VL SD066A-5VL SD066A-5x50DS SD066A-5CT
*Piperacillin / Tazobactam	PIT	30/6 mcg	SD292E-1PK SD292E-1VL SD292E-5VL SD292E-5x50DS SD292E-5CT
Mupirocin	MUP	200 mcg	SD293E-1PK SD293E-1VL SD293E-5VL SD293E-5x50DS SD293E-5CT
Vancomycin	VA	5 mcg	SD155-1PK SD155-1VL SD155-5VL SD155-5x50DS SD155-5CT

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Antibacterial Agents

Concentration of Antibiotics **not as per CLSI** (formerly NCCLS) **& not as per EUCAST** standards

These codes do not have concentration of Antibiotics as per CLSI (formerly NCCLS) & EUCAST standards, However HiMedia provides these concentrations as required by our users. Although zone interpretative criteria for these codes can not be provided, Quality control limits of standard organisms can be made available.

Product	Symbol	Levels	Code
Amikacin	AK	10 mcg	SD082-1PK SD082-1VL SD082-5VL SD082-5x50DS SD082-5CT
*Amoxicillin	AMX	10 mcg	SD001-1PK SD001-1VL SD001-5VL SD001-5x50DS SD001-5CT
*Amoxicillin	AMX	25 mcg	SD129-1PK SD129-1VL SD129-5VL SD129-5x50DS SD129-5CT
*Amoxicillin	AMX	30 mcg	SD076-1PK SD076-1VL SD076-5VL SD076-5x50DS SD076-5CT
*Amoxicillin/ Sulbactam	AMS	30/15 mcg	SD264-1PK SD264-1VL SD264-5VL SD264-5x50DS SD264-5CT
*Amoxyclav	AMC	10 mcg	SD078-1PK SD078-1VL SD078-5VL SD078-5x50DS SD078-5CT
*Amoxyclav	AMC	50/10 mcg	SD281-1PK SD281-1VL SD281-5VL SD281-5x50DS SD281-5CT
*Ampicillin	AMP	25 mcg	SD077-1PK SD077-1VL SD077-5VL SD077-5x50DS SD077-5CT
*Ampicillin/Cloxacillin	AX	10 mcg	SD113-1PK SD113-1VL SD113-5VL SD113-5x50DS SD113-5CT
Azithromycin	AZM	30 mcg	SD124-1PK SD124-1VL SD124-5VL SD124-5x50DS SD124-5CT

Product	Symbol	Levels	Code
*Azlocillin	AZ	30 mcg	SD094-1PK SD094-1VL SD094-5VL SD094-5x50DS SD094-5CT
*Aztreonam	AT	50 mcg	SD263-1PK SD263-1VL SD263-5VL SD263-5x50DS SD263-5CT
Bacitracin	B	8 units	SD105-1PK SD105-1VL SD105-5VL SD105-5x50DS SD105-5CT
Bacitracin	B	10 units	SD003-1PK SD003-1VL SD003-5VL SD003-5x50DS SD003-5CT
*Cefaloridine (Cephaloridine)	CR	10 mcg	SD079-1PK SD079-1VL SD079-5VL SD079-5x50DS SD079-5CT
*Cefaloridine (Cephaloridine)	CR	30 mcg	SD005-1PK SD005-1VL SD005-5VL SD005-5x50DS SD005-5CT
*Cefepime	CPM	50 mcg	SD262-1PK SD262-1VL SD262-5VL SD262-5x50DS SD262-5CT
*Cefepime/ Clavulanic acid	CFC	30/10 mcg	SD234-1PK SD234-1VL SD234-5VL SD234-5x50DS SD234-5CT
*Cefepime/Tazobactam	CPT	30/10 mcg	SD257-1PK SD257-1VL SD257-5VL SD257-5x50DS SD257-5CT
*Cefepime/Tazobactam	CPT	80/10 mcg	SD247-1PK SD247-1VL SD247-5VL SD247-5x50DS SD247-5CT

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Antibacterial Agents

Concentration of Antibiotics **as per CLSI** (formerly NCCLS) **& EUCAST** standards

Product	Symbol	Levels	Code
*Cefixime	CFM	10 mcg	SD820-1PK SD820-1VL SD820-5VL SD820-5x50DS SD820-5CT
*Cefixime/ Clavulanic acid	CMC	5/10 mcg	SD266-1PK SD266-1VL SD266-5VL SD266-5x50DS SD266-5CT
*Cefoperazone/ Sulbactam	CFS	50/50 mcg	SD259-1PK SD259-1VL SD259-5VL SD259-5x50DS SD259-5CT
*Cefoperazone/ Sulbactam	CFS	75/10 mcg	SD254-1PK SD254-1VL SD254-5VL SD254-5x50DS SD254-5CT
*Cefoperazone/ Sulbactam	CFS	75/30 mcg	SD203-1PK SD203-1VL SD203-5VL SD203-5x50DS SD203-5CT
*Cefoperazone/ Tazobactam	CST	75/10 mcg	SD253-1PK SD253-1VL SD253-5VL SD253-5x50DS SD253-5CT
*Cefotaxime (Cephotaxime)	CTX	10 mcg	SD040A-1PK SD040A-1VL SD040A-5VL SD040A-5x50DS SD040A-5CT
*Cefoxitin-Cloxacillin For detection of AmpC.	CXX	30/ 200 mcg	SD285-1PK SD285-1VL SD285-5VL SD285-5x50DS SD285-5CT
*Cefpirome	CFP	30 mcg	SD738-1PK SD738-1VL SD738-5VL SD738-5x50DS SD738-5CT
*Cefpirome/ Clavulanic acid	CPC	30/7.5 mcg	SD235-1PK SD235-1VL SD235-5VL SD235-5x50DS SD235-5CT

Product	Symbol	Levels	Code
*Cefradine (Cephradine)	CH	25 mcg	SD160-1PK SD160-1VL SD160-5VL SD160-5x50DS SD160-5CT
*Cefradine (Cephradine)	CH	30 mcg	SD704-1PK SD704-1VL SD704-5VL SD704-5x50DS SD704-5CT
*Ceftazidime/ Tazobactam	CAT	30/10 mcg	SD252-1PK SD252-1VL SD252-5VL SD252-5x50DS SD252-5CT
*Ceftazidime/ Tazobactam	CAT	80/10 mcg	SD269-1PK SD269-1VL SD269-5VL SD269-5x50DS SD269-5CT
*Ceftriaxone	CTR	10 mcg	SD109-1PK SD109-1VL SD109-5VL SD109-5x50DS SD109-5CT
*Ceftriaxone/ Sulbactam	CIS	30/15 mcg	SD261-1PK SD261-1VL SD261-5VL SD261-5x50DS SD261-5CT
*Ceftriaxone/ Tazobactam	CIT	30/10 mcg	SD256-1PK SD256-1VL SD256-5VL SD256-5x50DS SD256-5CT
*Ceftriaxone/ Tazobactam	CIT	80/10 mcg	SD251-1PK SD251-1VL SD251-5VL SD251-5x50DS SD251-5CT
Chloramphenicol	C	10 mcg	SD081-1PK SD081-1VL SD081-5VL SD081-5x50DS SD081-5CT
Chloramphenicol	C	25 mcg	SD153-1PK SD153-1V SD153-5VL SD153-5x50DS SD153-5CT

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Antibacterial Agents

Concentration of Antibiotics **as per CLSI** (formerly NCCLS) **& EUCAST** standards

Product	Symbol	Levels	Code
Chloramphenicol	C	50 mcg	SD131-1PK SD131-1VL SD131-5VL SD131-5x50DS SD131-5CT
Chlortetracycline	CT	30 mcg	SD007-1PK SD007-1VL SD007-5VL SD007-5x50DS SD007-5CT
Ciprofloxacin	CIP	1 mcg	SD060A-1PK SD060A-1VL SD060A-5VL SD060A-5x50DS SD060A-5CT
Ciprofloxacin	CIP	10 mcg	SD080-1PK SD080-1VL SD080-5VL SD080-5x50DS SD080-5CT
Ciprofloxacin	CIP	30 mcg	SD142-1PK SD142-1VL SD142-5VL SD142-5x50DS SD142-5CT
Clindamycin	CD	10 mcg	SD164-1PK SD164-1VL SD164-5VL SD164-5x50DS SD164-5CT
*Cloxacillin	COX	1 mcg	SD008-1PK SD008-1VL SD008-5VL SD008-5x50DS SD008-5CT
*Cloxacillin	COX	5 mcg	SD075-1PK SD075-1VL SD075-5VL SD075-5x50DS SD075-5CT
*Cloxacillin	COX	10 mcg	SD143-1PK SD143-1VL SD143-5VL SD143-5x50DS SD143-5CT
*Cloxacillin	COX	30 mcg	SD165-1PK SD165-1VL SD165-5VL SD165-5x50DS SD165-5CT

Product	Symbol	Levels	Code
*Cloxacillin	COX	200 mcg	SD284-1PK SD284-1VL SD284-5VL SD284-5x50DS SD284-5CT
Colistin (Methane Sulphonate)	CL	25 mcg	SD108-1PK SD108-1VL SD108-5VL SD108-5x50DS SD108-5CT
Colistin (Methane Sulphonate)	CL	50 mcg	SD097-1PK SD097-1VL SD097-5VL SD097-5x50DS SD097-5CT
Co-Trimazine (Human)	CM	25 mcg	SD071-1PK SD071-1VL SD071-5VL SD071-5x50DS SD071-5CT
*Dicloxacillin	D/C	1 mcg	SD052-1PK SD052-1VL SD052-5VL SD052-5x50DS SD052-5CT
Doxycycline Hydrochloride	DO	10 mcg	SD120-1PK SD120-1VL SD120-5VL SD120-5x50DS SD120-5CT
Enrofloxacin	EX	5 mcg	SD156-1PK SD156-1VL SD156-5VL SD156-5x50DS SD156-5CT
Enrofloxacin	EX	10 mcg	SD150-1PK SD150-1VL SD150-5VL SD150-5x50DS SD150-5CT
Erythromycin	E	5 mcg	SD222-1PK SD222-1VL SD222-5VL SD222-5x50DS SD222-5CT
Erythromycin	E	10 mcg	SD083-1PK SD083-1VL SD083-5VL SD083-5x50DS SD083-5CT

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Antibacterial Agents

Concentration of Antibiotics **as per CLSI** (formerly NCCLS) **& EUCAST** standards

Product	Symbol	Levels	Code
Floxidin	FL	20 mcg	SD140-1PK SD140-1VL SD140-5VL SD140-5x50DS SD140-5CT
Floxidin	FL	30 mcg	SD141-1PK SD141-1VL SD141-5VL SD141-5x50DS SD141-5CT
Fosfomycin	FO	50 mcg	SD179-1PK SD179-1VL SD179-5VL SD179-5x50DS SD179-5CT
Framycetin	F	100 mcg	SD014-1PK SD014-1VL SD014-5VL SD014-5x50DS SD014-5CT
Fusidic Acid	FC	30 mcg	SD169-1PK SD169-1VL SD169-5VL SD169-5x50DS SD169-5CT
Furazolidone	FR	50 mcg	SD015-1PK SD015-1VL SD015-5VL SD015-5x50DS SD015-5CT
Furazolidone	FR	100 mcg	SD197-1PK SD197-1VL SD197-5VL SD197-5x50DS SD197-5CT
Furoxone	FX	100 mcg	SD042-1PK SD042-1VL SD042-5VL SD042-5x50DS SD042-5CT
Gatifloxacin	GAT	10 mcg	SD753-1PK SD753-1VL SD753-5VL SD753-5x50DS SD753-5CT
Gatifloxacin	GAT	30 mcg	SD740-1PK SD740-1VL SD740-5VL SD740-5x50DS SD740-5CT

Product	Symbol	Levels	Code
Gentamicin	GEN	50 mcg	SD166-1PK SD166-1VL SD166-5VL SD166-5x50DS SD166-5CT
*Imipenem/Cilastin	IC	10/10 mcg	SD265-1PK SD265-1VL SD265-5VL SD265-5x50DS SD265-5CT
*Imipenem-EDTA For detection of MBL producers.	IE	10/750 mcg	SD282-1PK SD282-1VL SD282-5VL SD282-5x50DS SD282-5CT
Isepamicin	IP	30 mcg	SD214-1PK SD214-1VL SD214-5VL SD214-5x50DS SD214-5CT
Kanamycin	K	5 mcg	SD223-1PK SD223-1VL SD223-5VL SD223-5x50DS SD223-5CT
Kanamycin Recommended for use in the presumptive identification and differentiation of gram-negative anaerobic bacilli and not for therapeutic purposes.	K	1000 mcg	SD837-1PK SD837-1VL SD837-5VL SD837-5x50DS SD837-5CT
Lincomycin	L	2 mcg	SD018-1PK SD018-1VL SD018-5VL SD018-5x50DS SD018-5CT
Lincomycin	L	10 mcg	SD084-1PK SD084-1VL SD084-5VL SD084-5x50DS SD084-5CT
Lincomycin	L	15 mcg	SD098-1PK SD098-1VL SD098-5VL SD098-5x50DS SD098-5CT
Lomefloxacin	LOM	15 mcg	SD260-1PK SD260-1VL SD260-5VL SD260-5x50DS SD260-5CT

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Antibacterial Agents

Concentration of Antibiotics **as per CLSI** (formerly NCCLS) **& EUCAST** standards

Product	Symbol	Levels	Code
Lomefloxacin	LOM	30 mcg	SD125-1PK SD125-1VL SD125-5VL SD125-5x50DS SD125-5CT
*Mecillinam	MEC	25 mcg	SD177-1PK SD177-1VL SD177-5VL SD177-5x50DS SD177-5CT
Methanamine Mandalate	ME	3 mg	SD068-1PK SD068-1VL SD068-5VL SD068-5x50DS SD068-5CT
*Methicillin	MET	10 mcg	SD136-1PK SD136-1VL SD136-5VL SD136-5x50DS SD136-5CT
*Methicillin	MET	30 mcg	SD137-1PK SD137-1VL SD137-5VL SD137-5x50DS SD137-5CT
Metronidazole	MT	4 mcg	SD099-1PK SD099-1VL SD099-5VL SD099-5x50DS SD099-5CT
Metronidazole	MT	5 mcg	SD020-1PK SD020-1VL SD020-5VL SD020-5x50DS SD020-5CT
Mupirocin	MU	5 mcg	SD748-1PK SD748-1VL SD748-5VL SD748-5x50DS SD748-5CT
Nadifloxacin	NAD	5 mcg	SD258-1PK SD258-1VL SD258-5VL SD258-5x50DS SD258-5CT
Neomycin	N	10 mcg	SD731-1PK SD731-1VL SD731-5VL SD731-5x50DS SD731-5CT

Product	Symbol	Levels	Code
Neomycin	N	30 mcg	SD022-1PK SD022-1VL SD022-5VL SD022-5x50DS SD022-5CT
Nitrofurantoin	NIT	200 mcg	SD090-1PK SD090-1VL SD090-5VL SD090-5x50DS SD090-5CT
Nitrofurazone	NR	100 mcg	SD024-1PK SD024-1VL SD024-5VL SD024-5x50DS SD024-5CT
Norfloxacin	NX	5 mcg	SD184-1PK SD184-1VL SD184-5VL SD184-5x50DS SD184-5CT
Novobiocin	NV	5 mcg	SD121-1PK SD121-1VL SD121-5VL SD121-5x50DS SD121-5CT
Novobiocin	NV	30 mcg	SD053-1PK SD053-1VL SD053-5VL SD053-5x50DS SD053-5CT
Ofloxacin	OF	2 mcg	SD069-1PK SD069-1VL SD069-5VL SD069-5x50DS SD069-5CT
Oleandomycin	OL	15 mcg	SD026-1PK SD026-1VL SD026-5VL SD026-5x50DS SD026-5CT
*Oxacillin	OX	5 mcg	SD043-1PK SD043-1VL SD043-5VL SD043-5x50DS SD043-5CT
Oxytetracycline	O	30 mcg	SD027-1PK SD027-1VL SD027-5VL SD027-5x50DS SD027-5CT

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Antibacterial Agents

Concentration of Antibiotics **as per CLSI** (formerly NCCLS) **& EUCAST** standards

Product	Symbol	Levels	Code
*Penicillin-G	P	2 units	SD144-1PK SD144-1VL SD144-5VL SD144-5x50DS SD144-5CT
Pipemidic Acid	PA	20 mcg	SD185-1PK SD185-1VL SD185-5VL SD185-5x50DS SD185-5CT
Pipemidic Acid	PA	30 mcg	SD175-1PK SD175-1VL SD175-5VL SD175-5x50DS SD175-5CT
*Piperacillin	PI	75 mcg	SD132-1PK SD132-1VL SD132-5VL SD132-5x50DS SD132-5CT
Polymyxin-B	PB	50 units	SD106-1PK SD106-1VL SD106-5VL SD106-5x50DS SD106-5CT
Polymyxin-B	PB	100 units	SD139-1PK SD139-1VL SD139-5VL SD139-5x50DS SD139-5CT
Prulifloxacin (Ulifloxacin)	PRU	10 mcg	SD267-1PK SD267-1VL SD267-5VL SD267-5x50DS SD267-5CT
Rifampicin	RIF	2 mcg	SD096-1PK SD096-1VL SD096-5VL SD096-5x50DS SD096-5CT
Rifampicin	RIF	15 mcg	SD128-1PK SD128-1VL SD128-5VL SD128-5x50DS SD128-5CT
Rifampicin	RIF	30 mcg	SD127-1PK SD127-1VL SD127-5VL SD127-5x50DS SD127-5CT

Product	Symbol	Levels	Code
Roxithromycin	RO	30 mcg	SD126-1PK SD126-1VL SD126-5VL SD126-5x50DS SD126-5CT
Sisomicin	SS	10 mcg	SD059-1PK SD059-1VL SD059-5VL SD059-5x50DS SD059-5CT
Spiramycin	SR	30 mcg	SD054-1PK SD054-1VL SD054-5VL SD054-5x50DS SD054-5CT
Spiramycin	SR	100 mcg	SD101-1PK SD101-1VL SD101-5VL SD101-5x50DS SD101-5CT
Sterile Discs	—	—	SD067-1PK SD067-1VL SD067-5VL SD067-5x50DS SD067-5CT
Streptomycin	S	25 mcg	SD091-1PK SD091-1VL SD091-5VL SD091-5x50DS SD091-5CT
Sulfasomidine	SO	300 mcg	SD056-1PK SD056-1VL SD056-5VL SD056-5x50DS SD056-5CT
Sulphadiazine	SZ	100 mcg	SD092-1PK SD092-1VL SD092-5VL SD092-5x50DS SD092-5CT
Sulphadiazine	SZ	300 mcg	SD034-1PK SD034-1VL SD034-5VL SD034-5x50DS SD034-5CT
Sulphamethizole	SM	300 mcg	SD033-1PK SD033-1VL SD033-5VL SD033-5x50DS SD033-5CT

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Antibacterial Agents

Concentration of Antibiotics **as per CLSI** (formerly NCCLS) **& EUCAST** standards

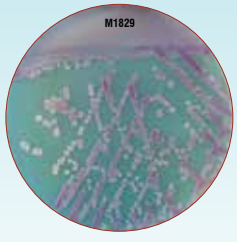
Product	Symbol	Levels	Code
Sulphamethoxypyridazine	ST	300 mcg	SD055-1PK SD055-1VL SD055-5VL SD055-5x50DS SD055-5CT
Sulphaphenazole	SP	200 mcg	SD036-1PK SD036-1VL SD036-5VL SD036-5x50DS SD036-5CT
Tetracycline	TE	10 mcg	SD133-1PK SD133-1VL SD133-5VL SD133-5x50DS SD133-5CT
Tobramycin	TOB	30 mcg	SD154-1PK SD154-1VL SD154-5VL SD154-5x50DS SD154-5CT
Trimethoprim	TR	10 mcg	SD093-1PK SD093-1VL SD093-5VL SD093-5x50DS SD093-5CT
Trimethoprim	TR	25 mcg	SD148-1PK SD148-1VL SD148-5VL SD148-5x50DS SD148-5CT
Trimethoprim	TR	30 mcg	SD149-1PK SD149-1VL SD149-5VL SD149-5x50DS SD149-5CT

Product	Symbol	Levels	Code
Triple Sulphas	S3	300 mcg	SD038-1PK SD038-1VL SD038-5VL SD038-5x50DS SD038-5CT
Tylosine	TL	15 mcg	SD199-1PK SD199-1VL SD199-5VL SD199-5x50DS SD199-5CT
Vancomycin	VA	10 mcg	SD163-1PK SD163-1VL SD163-5VL SD163-5x50DS SD163-5CT
Virginamycin	VI	15 mcg	SD182-1PK SD182-1VL SD182-5VL SD182-5x50DS SD182-5CT
ESBL Identification Test Kits•			
*Kit II for ESBL Identification, Cefepime Kit contains 6 cartridges (6CT): 3CT of SD219 Cefepime 30 mcg, 3CT of SD234 Cefepime / Clavulanic acid 30/10 mcg		1kit	SD239-1KT
*Kit IV for ESBL Identification, Cefpirome Kit contains 6 cartridges (6CT): 3CT of SD738 Cefpirome 30 mcg, 3CT of SD235 Cefpirome / Clavulanic acid 30/7.5 mcg		1kit	SD241-1KT

• Refer Hexa Discs section for Hexa G-Minus 23 & Hexa G-Minus 24 disc specially developed for screening of ESBL producer.

Now HiMedia brings to you complete range of products which can detect ESBL producung organisms

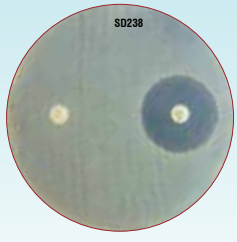
Dehydrated Culture Media Base



Tested against ESBL producing clinical isolate

M1829 – HiCrome™ ESBL Agar Base
FD278 – HiCrome™ ESBL Agar Supplement

Sensitivity Disc



Tested against ESBL producing clinical isolate

SD238 – Kit I for ESBL Identification, Cefotaxime (Cephotaxime)

Ezy MIC™ Strip

Tested against ESBL producing clinical isolate

EM132 – Improved ESBL Detection Ezy MIC™ Strip

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Antifungal Agents

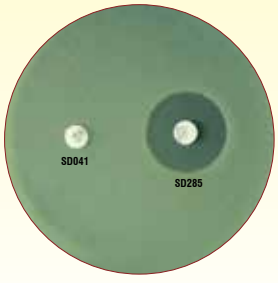
Concentration of Antibiotics **as per CLSI** (formerly NCCLS) **& EUCAST** standards

Product	Symbol	Levels	Code
Antifungal Agents			
Amphotericin-B	AP	100 units	SD111-1PK SD111-1VL SD111-5VL SD111-5x50DS SD111-5CT
Amphotericin B	AP	20 mcg	SD233-1PK SD233-1VL SD233-5VL SD233-5x50DS SD233-5CT
Amphotericin B	AP	50 mcg	SD270-1PK SD270-1VL SD270-5VL SD270-5x50DS SD270-5CT
Clotrimazole	CC	10 mcg	SD115-1PK SD115-1VL SD115-5VL SD115-5x50DS SD115-5CT
Fluconazole	FLC	10 mcg	SD114-1PK SD114-1VL SD114-5VL SD114-5x50DS SD114-5CT
Itraconazole	IT	10 mcg	SD221-1PK SD221-1VL SD221-5VL SD221-5x50DS SD221-5CT
Itraconazole	IT	30 mcg	SD276-1PK SD276-1VL SD276-5VL SD276-5x50DS SD276-5CT

Product	Symbol	Levels	Code
Ketoconazole	KT	10 mcg	SD224-1PK SD224-1VL SD224-5VL SD224-5x50DS SD224-5CT
Ketoconazole	KT	30 mcg	SD275-1PK SD275-1VL SD275-5VL SD275-5x50DS SD275-5CT
Ketoconazole	KT	50 mcg	SD274-1PK SD274-1VL SD274-5VL SD274-5x50DS SD274-5CT
Miconazole	MIC	30 mcg	SD273-1PK SD273-1VL SD273-5VL SD273-5x50DS SD273-5CT
Miconazole	MIC	50 mcg	SD272-1PK SD272-1VL SD272-5VL SD272-5x50DS SD272-5CT
Nystatin	NS	100 units	SD025-1PK SD025-1VL SD025-5VL SD025-5x50DS SD025-5CT
Nystatin	NS	50 mcg	SD271-1PK SD271-1VL SD271-5VL SD271-5x50DS SD271-5CT

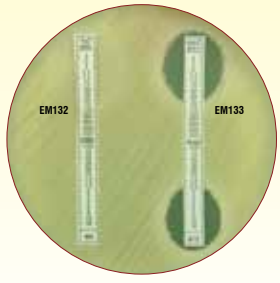
Range of products for detection of AmpC β-Lactamase

Sensitivity Disc
- **Cefoxitin (SD041)**
- **Cefoxitin-Cloxacillin (SD285)**



Tested against AmpC positive clinical isolate
Cefoxitin – SD041 & Cefoxitin-Cloxacillin (SD285)

Ezy MIC™ Strip
- **Improved AmpC Detection Ezy MIC™ Strip (EM133)**
- **Cefotetan / Cefotetan+Cloxacillin Ezy MIC™ Strip (EM127)**



Tested against AmpC positive clinical isolate
Improved AmpC Detection Ezy MIC™ Strip – EM133

Tested against AmpC positive clinical isolate
Cefotetan / Cefotetan+Cloxacillin Ezy MIC™ Strip – EM127

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HIMEDIA®

HiMedia Antibiotic Combination Modules

Product Specifications

For convenience and economy of conducting antimicrobial susceptibility tests HiMedia provides Hexa, Octo, Dodeca and Icosa Discs, which are enhanced extensions of single discs. These series of discs gives the privilege to study large number of antibiotics at one time. Also available are OctoDiscs in 2 different size. One which can be used on 90 mm media plates (codes of suffix "R") and other which is to be used on 120 mm media plates.

These discs along with OctoDiscs are made of unique inert material which enhance their absorption hence allowing faster adheration of discs to the media. Moreover the discs are designed in such a way that each antibiotic on a single ring is atleast 24 mm apart from the others, thus reducing the merging of zones.

The symbols and concentration of antimicrobials present are indicated in respect of each peripherally located discs.

The discs are available in various pre-selected combinations of 6, 8, 12 and 20 antibiotics.

HiMedia also undertakes manufacture of various customer-specific combinations of above for a bulk quantity on request.

For appropriate results use Hexadiscs on 90 mm or 100 mm, Octodiscs on 120 mm and 90 mm plates (for codes with suffix 'R'), Dodeca on 150 mm and Icosa on 200 mm media plates.

Petri Plates which can be used for
Antimicrobial Susceptibility Testing

Autoclavable Petri Plates

PW008 Size : 90mm diameter x 15mm
(To be used for **Hexa Discs** and **Octo Discs small size**)

PW060 Size : 100mm diameter x 15mm
(To be used for **Hexa Discs**)

PW011 Size : 150mm diameter x 20mm
(To be used for **Dodeca Discs**)

PW010 Size : 200mm diameter x 20mm
(To be used for **Icosa Discs**)

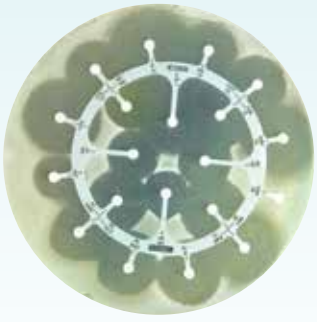
Sterile Disposable Petri Plates

PW001/PW1132 Size : 90mm diameter x 15mm
(To be used for **Hexa Discs** and **Octo Discs small size**)

PW002/PW1134 Size : 100mm diameter x 15mm
(To be used for **Hexa Discs**)

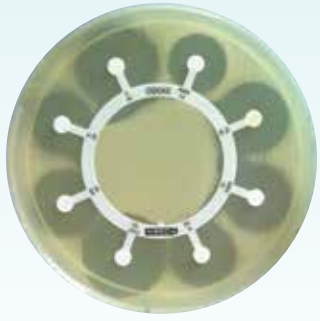
PW1146 Size : 120mm diameter x 15mm
(To be used for **Octo Discs big size**)

PW1226 Size : 150mm diameter x 20mm
(To be used for **Dodeca Discs**)



Icosa Disc on a 200 mm plate

Dodeca Disc on a 150 mm plate



Octo Disc (Big Size) on a 120 mm plate

Hexa Disc on a 90 mm plate

HiMedia 6-in-one ready antibiotic combination modules

[To be used on 90 mm plates (PW008) or 100 mm plates (PW060)]

Product	Symbol	Levels	Code
Gram - Positive Organisms			
***Hexa G-plus 1**			**HX001-1PK**
Penicillin G	P	10 units	
Oxacillin	OX	1mcg	
Cephalothin	CEP	30 mcg	
Clindamycin	CD	2 mcg	
Erythromycin	E	15 mcg	
Amoxyclav	AMC	30 mcg	
***Hexa G-plus 2**			**HX002-1PK**
Penicillin G	P	10 units	
Clindamycin	CD	2 mcg	
Co-Trimoxazole	COT	25 mcg	
Erythromycin	E	15 mcg	
Vancomycin	VA	30 mcg	
Ampicillin/Sulbactam	A/S	10/10 mcg	
***Hexa G-plus 3**			**HX003-1PK**
Vancomycin	VA	30 mcg	
Ofloxacin	OF	5 mcg	
Teicoplanin	TEI	30 mcg	
Ceftazidime	CAZ	30 mcg	
Gentamicin	GEN	10 mcg	
Cefoxitin	CX	30 mcg	
***Hexa G-plus 4**			**HX004-1PK**
Piperacillin	PI	100 mcg	
Linezolid	LZ	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Teicoplanin	TEI	30 mcg	
Vancomycin	VA	30 mcg	
Gentamicin	GEN	10 mcg	
***Hexa G-plus 5**			**HX005-1PK**
Tetracycline	TE	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Cloxacillin	COX	1 mcg	
Lincomycin	L	2 mcg	
Cefuroxime	CXM	30 mcg	
Cefotaxime	CTX	30 mcg	
***Hexa G-plus 6**			**HX022-1PK**
Ampicillin	AMP	10 mcg	
Chloramphenicol	C	25 mcg	
Penicillin G	P	1 unit	
Streptomycin	S	10 mcg	
Sulphatriad	S3	300 mcg	
Tetracycline	TE	25 mcg	
***Hexa G-plus 7**			**HX023-1PK**
Ampicillin	AMP	10 mcg	
Cephalothin	CEP	30 mcg	
Clindamycin	CD	2 mcg	
Erythromycin	E	15 mcg	
Oxacillin	OX	1 mcg	
Vancomycin	VA	30 mcg	

Product	Symbol	Levels	Code
***Hexa G-plus 8**			**HX024-1PK**
Penicillin-G	P	10 units	
Methicillin	MET	5 mcg	
Vancomycin	VA	30 mcg	
Oxacillin	OX	1 mcg	
Erythromycin	E	15 mcg	
Ampicillin	AMP	10 mcg	
***Hexa G-Plus 9**			**HX027-1PK**
Gentamicin	GEN	10 mcg	
Vancomycin	VA	30 mcg	
Fusidic acid	FC	10 mcg	
Chloramphenicol	C	30 mcg	
Methicillin	MET	5 mcg	
Cefepime	CPM	30 mcg	
***Hexa G-Plus 10**			**HX031-1PK**
Penicillin-G	P	10 units	
Erythromycin	E	15 mcg	
Ampicillin	AMP	10 mcg	
Cephalothin	CEP	30 mcg	
Clindamycin	CD	2 mcg	
Co-Trimoxazole	COT	25 mcg	
***Hexa G-plus 11**			**HX034-1PK**
Oxacillin	OX	1 mcg	
Erythromycin	E	15 mcg	
Tetracycline	TE	30 mcg	
Chloramphenicol	C	30 mcg	
Clindamycin	CD	2 mcg	
Co-Trimoxazole	COT	25 mcg	
***Hexa G-plus 12**			**HX039-1PK**
Augmentin	AMC	30 mcg	
Benzyl Penicillin	P	2 mcg	
Cefoxitin	CX	30 mcg	
Clindamycin	CD	2 mcg	
Imipenem	IPM	10 mcg	
Metronidazole	MT	5 mcg	
***Hexa G-plus 13**			**HX040-1PK**
Cloxacillin	COX	5 mcg	
Cefotaxime	CTX	30 mcg	
Chloramphenicol	C	30 mcg	
Tetracycline	TE	30 mcg	
Gentamicin	GEN	10 mcg	
Co-Trimoxazole	COT	25 mcg	
***Hexa G-plus 25**			**HX047-1PK**
Ceftriaxone	CTR	30 mcg	
Chloramphenicol	C	30 mcg	
Clindamycin	CD	2 mcg	
Erythromycin	E	15 mcg	
Levofloxacin	LE	5 mcg	
Tetracycline	TE	30 mcg	

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The Code nos. indicated in red have the concentration of antibiotics as per CLSI (formerly NCCLS) Standards.

Hexa Discs

HiMedia 6-in-one ready antibiotic combination modules

[To be used on 90 mm plates (PW008) or 100 mm plates (PW060)]

Product	Symbol	Levels	Code
***Hexa G-plus 26**			**HX048-1PK**
Cefotaxime	CTX	30 mcg	
Chloramphenicol	C	30 mcg	
Clindamycin	CD	2 mcg	
Erythromycin	E	15 mcg	
Levofloxacin	LE	5 mcg	
Penicillin-G	P	10 units	
***Hexa G-plus 27**			**HX049-1PK**
Ceftriaxone	CTR	30 mcg	
Chloramphenicol	C	30 mcg	
Clindamycin	CD	2 mcg	
Erythromycin	E	15 mcg	
Tetracycline	TE	30 mcg	
Vancomycin	VA	30 mcg	
***Hexa G-plus 14**			**HX080-1PK**
Ampicillin	AMP	10 mcg	
Ciprofloxacin	CIP	5 mcg	
Gentamicin	GEN	10 mcg	
Linezolid	LZ	30 mcg	
Streptomycin	S	10 mcg	
Vancomycin	VA	30 mcg	
***Hexa G-plus 15**			**HX081-1PK**
Ciprofloxacin	CIP	5 mcg	
Gentamicin	GEN	10 mcg	
Linezolid	LZ	30 mcg	
Penicillin-G	P	10 units	
Streptomycin	S	10 mcg	
Vancomycin	VA	30 mcg	
***Hexa G-plus 17**			**HX083-1PK**
Ampicillin	AMP	10 mcg	
Ciprofloxacin	CIP	5 mcg	
Doxycycline Hydrochloride	DO	30 mcg	
Fosfomycin	FO	200 mcg	
Nitrofurantoin	NIT	300 mcg	
Norfloxacin	NX	10 mcg	
***Hexa G-plus 18**			**HX090-1PK**
Ciprofloxacin	CIP	5 mcg	
Erythromycin	E	15 mcg	
Gentamicin	GEN	10 mcg	
Lincomycin	L	15 mcg	
Penicillin-G	P	10 units	
Vancomycin	VA	30 mcg	
***Hexa G-plus 19**			**HX091-1PK**
Clindamycin	CD	2 mcg	
Erythromycin	E	15 mcg	
Gentamicin	GEN	10 mcg	
Levofloxacin	LE	5 mcg	
Oxacillin	OX	1 mcg	
Vancomycin	VA	30 mcg	

Product	Symbol	Levels	Code
Hexa G-plus 20			**HX092-1PK**
Chloramphenicol	C	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Fusidic Acid	FC	30 mcg	
Linezolid	LZ	30 mcg	
Rifampicin	RIF	5 mcg	
Tetracycline	TE	30 mcg	
Hexa G-plus 21			**HX093-1PK**
Chloramphenicol	C	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Doxycycline Hydrochloride	DO	30 mcg	
Fusidic Acid	FC	30 mcg	
Linezolid	LZ	30 mcg	
Rifampicin	RIF	5 mcg	
***Hexa G-plus 24**			**HX101-1PK**
Vancomycin	VA	30 mcg	
Teicoplanin	TEI	30 mcg	
Linezolid	LZ	30 mcg	
Clindamycin	CD	2 mcg	
Amoxyclav	AMC	30 mcg	
Clarithromycin	CLR	30 mcg	
Gram - Negative Organisms			
***Hexa G-minus 1**			**HX006-1PK**
Ampicillin	AMP	10 mcg	
Amoxyclav	AMC	30 mcg	
Cefotaxime	CTX	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Gentamicin	GEN	10 mcg	
Tobramycin	TOB	10 mcg	
***Hexa G-minus 2**			**HX007-1PK**
Ceftazidime	CAZ	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Amikacin	AK	30 mcg	
Nitrofurantoin	NIT	300 mcg	
Netillin	NET	30 mcg	
Nalidixic acid	NA	30 mcg	
***Hexa G-minus 3**			**HX008-1PK**
Co-Trimoxazole	COT	25 mcg	
Amoxyclav	AMC	30 mcg	
Gentamicin	GEN	10 mcg	
Tetracycline	TE	30 mcg	
Ofloxacin	OF	5 mcg	
Cefuroxime	CXM	30 mcg	
***Hexa G-minus 5**			**HX010-1PK**
Cefotaxime	CTX	30 mcg	
Levofloxacin	LE	5 mcg	
Aztreonam	AT	30 mcg	
Imipenem	IPM	10 mcg	
Amikacin	AK	30 mcg	
Ceftazidime	CAZ	30 mcg	

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Hexa Discs

HiMedia 6-in-one ready antibiotic combination modules

[To be used on 90 mm plates (PW008) or 100 mm plates (PW060)]

Product	Symbol	Levels	Code
***Hexa G-minus 7**			**HX028-1PK**
Recommended for use in the presumptive identification and differentiation of gram negative anaerobic bacilli and not for therapeutic purposes.			
Kanamycin	K	1000 mcg	
Rifampicin	RIF	15 mcg	
Penicillin	P	2 units	
Vancomycin	VA	5 mcg	
Erythromycin	E	60 mcg	
Colistin	CL	10 mcg	
***Hexa G-Minus 8**			**HX030-1PK**
Amikacin	AK	30mcg	
Ceftazidime	CAZ	30 mcg	
Aztreonam	AT	30 mcg	
Piperacillin	PI	100 mcg	
Imipenem	IPM	10 mcg	
Ciprofloxacin	CIP	5 mcg	
***Hexa G-minus 9**			**HX035-1PK**
Ampicillin	AMP	10 mcg	
Gentamicin	GEN	10 mcg	
Nalidixic acid	NA	30 mcg	
Chloramphenicol	C	30 mcg	
Cefalexin	CN	30 mcg	
Co-Trimoxazole	COT	25 mcg	
***Hexa G-minus 29**			**HX036-1PK**
Ampicillin	AMP	10 mcg	
Gentamicin	GEN	10 mcg	
Tetracycline	TE	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Cefalexin	CN	30 mcg	
Co-Trimoxazole	COT	25 mcg	
***Hexa G-minus 26**			**HX056-1PK**
Ampicillin	AMP	10 mcg	
Ampicillin/Sulbactum	A/S	10/10 mcg	
Ceftazidime	CAZ	30 mcg	
Cefotaxime	CTX	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Gentamicin	GEN	10 mcg	
***Hexa G-minus 27**			**HX057-1PK**
Amoxyclav	AMC	30 mcg	
Ampicillin	AMP	10 mcg	
Ceftazidime	CAZ	30 mcg	
Ceftriaxone	CTR	30 mcg	
Gentamicin	GEN	10 mcg	
Ofloxacin	OF	5 mcg	
***Hexa G-minus 28**			**HX058-1PK**
Amoxyclav	AMC	30 mcg	
Ampicillin	AMP	10 mcg	
Ceftazidime	CAZ	30 mcg	
Cefotaxime	CTX	30 mcg	
Gentamicin	GEN	10 mcg	
Levofloxacin	LE	5 mcg	

Product	Symbol	Levels	Code
***Hexa G-minus 10**			**HX059-1PK**
Amoxyclav	AMC	30 mcg	
Cefepime	CPM	30 mcg	
Cefotaxime	CTX	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Gentamicin	GEN	10 mcg	
Imipenem	IPM	10 mcg	
***Hexa G-minus 11**			**HX060-1PK**
Amikacin	AK	30 mcg	
Ampicillin	AMP	10 mcg	
Ampicillin/Sulbactum	A/S	10/10 mcg	
Ceftriaxone	CTR	30 mcg	
Ofloxacin	OF	5 mcg	
Ticarcillin/Clavulanic Acid	TCC	75/10 mcg	
***Hexa G-minus 13**			**HX062-1PK**
Amikacin	AK	30 mcg	
Ampicillin	AMP	10 mcg	
Cefepime	CPM	30 mcg	
Cefotaxime	CTX	30 mcg	
Cefoxitin	CX	30 mcg	
Ciprofloxacin	CIP	5 mcg	
***Hexa G-minus 14**			**HX063-1PK**
Amikacin	AK	30 mcg	
Ampicillin	AMP	10 mcg	
Cefuroxime	CXM	30 mcg	
Cefotaxime	CTX	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Tetracycline	TE	30 mcg	
***Hexa G-minus 15**			**HX064-1PK**
Ampicillin	AMP	10 mcg	
Cefepime	CPM	30 mcg	
Cefotaxime	CTX	30 mcg	
Gentamicin	GEN	10 mcg	
Imipenem	IPM	10 mcg	
Piperacillin/Tazobactam	PIT	100/10 mcg	
***Hexa G-minus 17**			**HX066-1PK**
Cefepime	CPM	30 mcg	
Cefoperazone	CPZ	75 mcg	
Ceftriaxone	CTR	30 mcg	
Cefoxitin	CX	30 mcg	
Imipenem	IPM	10 mcg	
Ticarcillin/Clavulanic Acid	TCC	75/10 mcg	
***Hexa G-minus 18**			**HX067-1PK**
Amikacin	AK	30 mcg	
Cefaclor	CF	30 mcg	
Ceftriaxone	CTR	30 mcg	
Cefuroxime axetil	CXM	30 mcg	
Cefoxitin	CX	30 mcg	
Ticarcillin/Clavulanic Acid	TCC	75/10 mcg	

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Hexa Discs

HiMedia 6-in-one ready antibiotic combination modules

[To be used on 90 mm plates (PW008) or 100 mm plates (PW060)]

Product	Symbol	Levels	Code
***Hexa G-minus 19**			**HX068-1PK**
Amikacin	AK	30 mcg	
Cefixime	CFM	5 mcg	
Cefuroxime axetil	CXM	30 mcg	
Cefotaxime	CTX	30 mcg	
Cefoxitin	CX	30 mcg	
Meropenem	MRP	10 mcg	
***Hexa G-minus 20**			**HX069-1PK**
Ampicillin	AMP	10 mcg	
Cefotaxime	CTX	30 mcg	
Chloramphenicol	C	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Norfloxacin	NX	10 mcg	
Tetracycline	TE	30 mcg	
***Hexa G-minus 21**			**HX070-1PK**
Ampicillin	AMP	10 mcg	
Ceftriaxone	CTR	30 mcg	
Chloramphenicol	C	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Co-Trimoxazole	COT	25 mcg	
Tetracycline	TE	30 mcg	
***Hexa G-minus 23**			**HX095-1PK**
For Initial Screen test of ESBL producers			
Aztreonam	AT	30 mcg	
Cefpodoxime	CPD	10 mcg	
Cefpodoxime/Clavulanic acid	CCL	10/5 mcg	
Ceftazidime	CAZ	30 mcg	
Ceftriaxone	CTR	30 mcg	
Cefotaxime	CTX	30 mcg	
***Hexa G-minus 24**			**HX096-1PK**
For Phenotypic Confirmation of ESBL producers			
Cefpodoxime	CPD	10 mcg	
Cefpodoxime/Clavulanic acid	CCL	10/5 mcg	
Ceftazidime	CAZ	30 mcg	
Ceftazidime/Clavulanic acid	CAC	30/10 mcg	
Cefotaxime	CTX	30 mcg	
Cefotaxime/Clavulanic acid	CEC	30/10mcg	
***Hexa G-minus 25**			**HX102-1PK**
Gentamicin	GEN	10 mcg	
Amikacin	AK	30 mcg	
Netillin	NET	30 mcg	
Piperacillin	PI	100 mcg	
Ceftazidime	CAZ	30 mcg	
Cefoperazone	CPZ	75 mcg	

Product	Symbol	Levels	Code
Pseudomonas			
***Hexa Pseudo 1**			**HX011-1PK**
Cefoperazone	CPZ	75 mcg	
Piperacillin	PI	100 mcg	
Levofloxaxin	LE	5 mcg	
Gentamicin	GEN	10 mcg	
Amikacin	AK	30 mcg	
Colistin	CL	10 mcg	
***Hexa Pseudo 2**			**HX012-1PK**
Imipenem	IPM	10 mcg	
Aztreonam	AT	30 mcg	
Cefoperazone/Sulbactam	CFS	75/10 mcg	
Pipercillin/Tazobactam	PIT	100/10 mcg	
Ceftazidime	CAZ	30 mcg	
Netillin	NET	30 mcg	
***Hexa Pseudo 3**			**HX013-1PK**
Amikacin	AK	30 mcg	
Carbenicillin	CB	100 mcg	
Ciprofloxacin	CIP	5 mcg	
Gentamicin	GEN	10 mcg	
Tobramycin	TOB	10 mcg	
Mezlocillin	MZ	75 mcg	
***Hexa Pseudo 4**			**HX026-1PK**
Amikacin	AK	30 mcg	
Gentamicin	GEN	10 mcg	
Cefepime	CPM	30 mcg	
Ticarcillin	TI	75 mcg	
Piperacillin	PI	100 mcg	
Imipenem	IPM	10 mcg	
***Hexa Pseudo 5**			**HX029-1PK**
Ceftazidime	CAZ	30 mcg	
Imipenem	IPM	10 mcg	
Piperacillin	PI	100 mcg	
Ciprofloxacin	CIP	5 mcg	
Aztreonam	AT	30 mcg	
Tobramycin	TOB	10 mcg	
***Hexa Pseudo 7**			**HX051-1PK**
Amikacin	AK	30 mcg	
Cefepime	CPM	30 mcg	
Ceftazidime	CAZ	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Gentamicin	GEN	10 mcg	
Meropenem	MRP	10 mcg)	
***Hexa Pseudo 9**			**HX053-1PK**
Ceftazidime	CAZ	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Co-Trimoxazole	COT	25 mcg	
Gentamicin	GEN	10 mcg	
Imipenem	IPM	10 mcg	
Ticarcillin/Clavulanic Acid	TCC	75/10 mcg	

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Hexa Discs

HiMedia 6-in-one ready antibiotic combination modules

[To be used on 90 mm plates (PW008) or 100 mm plates (PW060)]

Product	Symbol	Levels	Code
***Hexa Pseudo 10**			**HX054-1PK**
Amikacin	AK	30 mcg	
Cefoperazone	CPZ	75 mcg	
Ciprofloxacin	CIP	5 mcg	
Gentamicin	GEN	10 mcg	
Imipenem	IPM	10 mcg	
Piperacillin	PI	100 mcg	
***Hexa Pseudo 11**			**HX055-1PK**
Amikacin	AK	30 mcg	
Aztreonam	AT	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Gentamicin	GEN	10 mcg	
Meropenem	MRP	10 mcg	
Tobramycin	TOB	10 mcg	
***Hexa Pseudo 12**			**HX103-1PK**
Ciprofloxacin	CIP	5 mcg	
Imipenem	IPM	10 mcg	
Meropenem	MRP	10 mcg	
Ertapenem	ETP	10 mcg	
Cefoperazone/Sulbactam	CFS	75/30 mcg	
Piperacillin/Tazobactam	PIT	100/10 mcg	
UTI Pathogenic Organisms			
***Hexa UTI 1**			**HX014-1PK**
Co-Trimoxazole	COT	25 mcg	
Norfloxacin	NX	10 mcg	
Oxytetracycline	O	30 mcg	
Cefuroxime	CXM	30 mcg	
Amoxyclav	AMC	30 mcg	
Gentamicin	GEN	10 mcg	
***Hexa UTI 2**			**HX015-1PK**
Nitrofurantoin	NIT	300 mcg	
Norfloxacin	NX	10 mcg	
Gentamicin	GEN	10 mcg	
Co-Trimoxazole	COT	25 mcg	
Netillin	NET	30 mcg	
Ampicillin	AMP	10 mcg	
***Hexa UTI 3**			**HX033-1PK**
Nalidixic acid	NA	30 mcg	
Nitrofurantoin	NIT	300 mcg	
Cephalothin	CEP	30 mcg	
Ampicillin	AMP	25 mcg	
Co-Trimoxazole	COT	25 mcg	
Norfloxacin	NX	10 mcg	
***Hexa UTI 4**			**HX037-1PK**
Ampicillin	AMP	25 mcg	
Gentamicin	GEN	10 mcg	
Nitrofurantoin	NIT	300 mcg	
Ciprofloxacin	CIP	5 mcg	
Nalidixic acid	NA	30 mcg	
Co-Trimoxazole	COT	25 mcg	

Product	Symbol	Levels	Code
***Hexa UTI 13**			**HX072-1PK**
Amoxyclav	AMC	30 mcg	
Ampicillin	AMP	10 mcg	
Ciprofloxacin	CIP	5 mcg	
Co-Trimoxazole	COT	25 mcg	
Fosfomycin	FO	200 mcg	
Norfloxacin	NX	10 mcg	
***Hexa UTI 5**			**HX073-1PK**
Amoxyclav	AMC	30 mcg	
Ampicillin	AMP	10 mcg	
Ciprofloxacin	CIP	5 mcg	
Co-Trimoxazole	COT	25 mcg	
Nitrofurantoin	NIT	300 mcg	
Norfloxacin	NX	10 mcg	
***Hexa UTI 6**			**HX074-1PK**
Amoxyclav	AMC	30 mcg	
Ampicillin	AMP	10 mcg	
Cefuroxime axetil	CXM	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Co-Trimoxazole	COT	25 mcg	
Norfloxacin	NX	10 mcg	
***Hexa UTI 7**			**HX075-1PK**
Amoxyclav	AMC	30 mcg	
Ampicillin	AMP	10 mcg	
Cefotaxime	CTX	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Co-Trimoxazole	COT	25 mcg	
Norfloxacin	NX	10 mcg	
***Hexa UTI 8**			**HX076-1PK**
Amoxyclav	AMC	30 mcg	
Ampicillin	AMP	10 mcg	
Ceftriaxone	CTR	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Co-Trimoxazole	COT	25 mcg	
Norfloxacin	NX	10 mcg	
***Hexa UTI 9**			**HX077-1PK**
Amoxyclav	AMC	30 mcg	
Ampicillin	AMP	10 mcg	
Ciprofloxacin	CIP	5 mcg	
Co-Trimoxazole	COT	25 mcg	
Gentamicin	GEN	10 mcg	
Norfloxacin	NX	10 mcg	
***Hexa UTI 11**			**HX079-1PK**
Amikacin	AK	30 mcg	
Amoxyclav	AMC	30 mcg	
Ceftriaxone	CTR	30 mcg	
Fosfomycin	FO	200 mcg	
Gentamicin	GEN	10 mcg	
Nitrofurantoin	NIT	300 mcg	

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Hexa Discs

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[To be used on 90 mm plates (PW008) or 100 mm plates (PW060)]

Product	Symbol	Levels	Code
Haemophilus			
***Hexa Haemophilus 2**			**HX017-1PK**
Erythromycin	E	15 mcg	
Cephalothin	CEP	30 mcg	
Ampicillin/Sulbactam	A/S	10/10 mcg	
Cefuroxime	CXM	30 mcg	
Ofloxacin	OF	5 mcg	
Oxytetracycline	O	30 mcg	
***Hexa Haemophilus 4**			**HX084-1PK**
Ampicillin	AMP	10 mcg	
Ampicillin/Sulbactum	A/S	10/10 mcg	
Chloramphenicol	C	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Co-Trimoxazole	COT	25 mcg	
Tetracycline	TE	30 mcg	
***Hexa Haemophilus 6**			**HX086-1PK**
Amoxyclav	AMC	30 mcg	
Ampicillin	AMP	10 mcg	
Cefotaxime	CTX	30 mcg	
Chloramphenicol	C	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Tetracycline	TE	30 mcg	
***Hexa Haemophilus 7**			**HX087-1PK**
Amoxyclav	AMC	30 mcg	
Ampicillin	AMP	10 mcg	
Ceftriaxone	CTR	30 mcg	
Chloramphenicol	C	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Tetracycline	TE	30 mcg	
***Hexa Haemophilus 8**			**HX088-1PK**
Ampicillin	AMP	10 mcg	
Ampicillin/Sulbactum	A/S	10/10 mcg	
Cefuroxime axetil	CXM	30 mcg	
Chloramphenicol	C	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Tetracycline	TE	30 mcg	
***Hexa Haemophilus 9**			**HX089-1PK**
Ampicillin	AMP	10 mcg	
Ampicillin/Sulbactum	A/S	10/10 mcg	
Ceftriaxone	CTR	30 mcg	
Chloramphenicol	C	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Imipenem	IPM	10 mcg	
Pneumococci			
***Hexa Pneumococci 2**			**HX020-1PK**
Vancomycin	VA	30 mcg	
Cefuroxime	CXM	30 mcg	
Levofloxacin	LE	5 mcg	
Gentamicin	GEN	10 mcg	
Ampicillin/Sulbactam	A/S	10/10 mcg	
Co-Trimoxazole	COT	25 mcg	

Product	Symbol	Levels	Code
***Hexa Pneumococci-4**			**HX042-1PK**
Oxacillin	OX	1 mcg	
Co-Trimoxazole	COT	25 mcg	
Erythromycin	E	15 mcg	
Levofloxacin	LE	5 mcg	
Lincomycin	L	15 mcg	
Tetracycline	TE	30 mcg	
***Hexa Pneumococci-7**			**HX045-1PK**
Chloramphenicol	C	30 mcg	
Erythromycin	E	15 mcg	
Levofloxacin	LE	5 mcg	
Oxacillin	OX	1 mcg	
Rifampicin	RIF	5 mcg	
Vancomycin	VA	30 mcg	
***Hexa Pneumococci-8**			**HX046-1PK**
Chloramphenicol	C	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Levofloxacin	LE	5 mcg	
Oxacillin	OX	1 mcg	
Rifampicin	RIF	5 mcg	
Vancomycin	VA	30 mcg	
Anaerobic Bacteria			
***Hexa Anaerobic 1**			**HX021-1PK**
Penicillin G	P	10 units	
Tetracycline	TE	30 mcg	
Lincomycin	L	2 mcg	
Gentamicin	GEN	10 mcg	
Cefotaxime	CTX	30 mcg	
Cefoxitin	CX	30 mcg	
General Purpose			
***Hexa Universal - 1**			**HX032-1PK**
Bacitracin	B	10 units	
Chloramphenicol	C	30 mcg	
Penicillin G	P	10 units	
Polymyxin B	PB	300 mcg	
Gentamicin	GEN	10 mcg	
Neomycin	N	30 mcg	
***Hexa Universal-2**			**HX038-1PK**
Cefotaxime	CTX	30 mcg	
Augmentin	AMC	30 mcg	
Erythromycin	E	10 mcg	
Chloramphenicol	C	30 mcg	
Ofloxacin	OF	5 mcg	
Co-Trimoxazole	COT	25 mcg	
Antifungal			
Hexa Antimyco-01			**HX104-1PK**
Amphotericin-B	AP	100 units	
Clotrimazole	CC	10 mcg	
Fluconazole	FLC	25 mcg	
Itraconazole	IT	10 mcg	
Ketoconazole	KT	10 mcg	
Nystatin	NS	100 units	

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Octo Discs

HiMedia 8-in-one ready antibiotic combination modules

Product	Symbol	Levels	Code #
Gram - Positive Organisms			
***Combi I**			**OD020-1PK** **OD020R-1PK**
Cephalothin	CEP	30 mcg	
Clindamycin	CD	2 mcg	
Co-Trimoxazole	COT	25 mcg	
Erythromycin	E	15 mcg	
Gentamicin	GEN	10 mcg	
Ofloxacin	OF	1 mcg	
Penicillin-G	P	10 units	
Vancomycin	VA	30 mcg	
***Combi IV**			**OD023-1PK** **OD023R-1PK**
Ampicillin	AMP	10 mcg	
Cephalothin	CEP	30 mcg	
Chloramphenicol	C	30 mcg	
Clindamycin	CD	2 mcg	
Erythromycin	E	15 mcg	
Gentamicin	GEN	10 mcg	
Oxacillin	OX	1 mcg	
Vancomycin	VA	30 mcg	
***Combi VII**			**OD026-1PK** **OD026R-1PK**
Amoxicillin	AMX	10 mcg	
Cloxacillin	COX	5 mcg	
Erythromycin	E	15 mcg	
Tetracycline	TE	10 mcg	
Penicillin-G	P	2 units	
Co-Trimoxazole	COT	25 mcg	
Penicillin-V	PV	3 mcg	
Cefalexin	CN	30 mcg	
***Combi XIII**			**OD032-1PK** **OD032R-1PK**
Penicillin-G	P	2 units	
Tetracycline	TE	10 mcg	
Co-Trimoxazole	COT	25 mcg	
Cloxacillin	COX	5 mcg	
Cefradine	CH	30 mcg	
Erythromycin	E	10 mcg	
Lincomycin	L	10 mcg	
Cefuroxime	CXM	30 mcg	
***Combi 69**			**OD271-1PK** **OD271R-1PK**
Ciprofloxacin	CIP	5 mcg	
Ofloxacin	OF	5 mcg	
Sparfloxacin	SPX	5 mcg	
Gatifloxacin	GAT	5 mcg	
Aztreonam	AT	30 mcg	
Azithromycin	AZM	15 mcg	
Vancomycin	VA	30 mcg	
Doxycycline Hydrochloride	DO	30 mcg	
***Combi 77**			**OD277-1PK** **OD277R-1PK**
Amikacin	AK	30 mcg	
Cefotaxime	CTX	30 mcg	
Amoxicillin	AMX	30 mcg	
Cefepim	CPM	30mcg	
Chloramphenicol	C	30 mcg	
Cefalexin	CN	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Isepamicin	IP	30 mcg	

Product	Symbol	Levels	Code #
***Combi 80**			**OD280-1PK** **OD280R-1PK**
Penicillin	P	10 units	
Azithromycin	AZM	15 mcg	
Vancomycin	VA	30 mcg	
Cefazolin	CZ	30 mcg	
Clindamycin	CD	2 mcg	
Cloxacillin	COX	30 mcg	
Erythromycin	E	15 mcg	
Teicoplanin	TEI	30 mcg	
***Combi 85**			**OD281-1PK** **OD281R-1PK**
Co-Trimoxazole	COT	25 mcg	
Gatifloxacin	GAT	5 mcg	
Cefuroxime	CXM	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Cefalexin	CN	30 mcg	
Chloramphenicol	C	30 mcg	
Doxycycline Hydrocloride	DO	30 mcg	
Azithromycin	AZM	15 mcg	
***Combi 90**			**OD291-1PK** **OD291R-1PK**
Ampicillin	AMP	10 mcg	
Levofloxacin	LE	5 mcg	
Vancomycin	VA	30 mcg	
Cephalothin	CEP	30 mcg	
Gentamicin	GEN	10 mcg	
Oxacillin	OX	1 mcg	
Clindamycin	CD	2 mcg	
Erythromycin	E	15 mcg	
***Combi 94**			**OD298-1PK** **OD298R-1PK**
Amikacin	AK	30 mcg	
Amoxyclav	AMC	30 mcg	
Ampicillin/Sulbactam	A/S	10/10 mcg	
Azithromycin	AZM	15 mcg	
Cefepime	CPM	30 mcg	
Cefoperazone/Sulbactam	CFS	75/30 mcg	
Cefpirome	CFP	30 mcg	
Ceftazidime	CAZ	30 mcg	
***Combi 510**			**OD286-1PK** **OD286R-1PK**
Penicillin	P	10 units	
Erythromycin	E	15 mcg	
Vancomycin	VA	30 mcg	
Teicoplanin	TEI	30 mcg	
Clindamycin	CD	2 mcg	
Ofloxacin	OF	5 mcg	
Azithromycin	AZM	15 mcg	
Tetracycline	TE	30 mcg	
***Combi 514**			**OD290-1PK** **OD290R-1PK**
Penicillin	P	2 units	
Erythromycin	E	10 mcg	
Cefazolin	CZ	30 mcg	
Lincomycin	L	2 mcg	
Cloxacillin	COX	5 mcg	
Vancomycin	VA	30 mcg	
Gentamicin	GEN	10 mcg	
Teicoplanin	TEI	30 mcg	

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Octo Discs

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Product	Symbol	Levels	Code #
***G-I-plus**			**OD001-1PK**
Amoxyclav	AMC	10 mcg	**OD001R-1PK**
Cefalexin	CN	10 mcg	
Ciprofloxacin	CIP	10 mcg	
Clindamycin	CD	2 mcg	
Cloxacillin	COX	1 mcg	
Co-Trimoxazole	COT	25 mcg	
Erythromycin	E	15 mcg	
Tetracycline	TE	30 mcg	
***G-II-plus**			**OD002-1PK**
Ampicillin	AMP	10 mcg	**OD002R-1PK**
Carbenicillin	CB	100 mcg	
Cefotaxime	CTX	30 mcg	
Chloramphenicol	C	30 mcg	
Co-trimazine	CM	25 mcg	
Gentamicin	GEN	10 mcg	
Norfloxacin	NX	10 mcg	
Oxacillin	OX	5 mcg	
***G-III-plus**			**OD003-1PK**
Amikacin	AK	10 mcg	**OD003R-1PK**
Amoxicillin	AMX	10 mcg	
Bacitracin	B	10 units	
Cephalothin	CEP	30 mcg	
Erythromycin	E	15 mcg	
Novobiocin	NV	30 mcg	
Oxytetracycline	O	30 mcg	
Vancomycin	VA	30 mcg	
***G-IV-plus**			**OD004-1PK**
Cefaloridine	CR	30 mcg	**OD004R-1PK**
Kanamycin	K	30 mcg	
Lincomycin	L	2 mcg	
Methicillin	MET	5 mcg	
Norfloxacin	NX	10 mcg	
Oleandomycin	OL	15 mcg	
Penicillin-G	P	10 units	
Tobramycin	TOB	10 mcg	
***G-V-plus**			**OD033-1PK**
Amoxicillin	AMX	10 mcg	**OD033R-1PK**
Tetracycline	TE	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Ciprofloxacin	CIP	5 mcg	
Gentamicin	GEN	10 mcg	
Erythromycin	E	15 mcg	
Chloramphenicol	C	30 mcg	
Cefalexin	CN	30 mcg	
***G-VI-plus**			**OD034-1PK**
Ceftriaxone	CTR	30 mcg	**OD034R-1PK**
Ceftazidime	CAZ	30 mcg	
Cefotaxime	CTX	30 mcg	
Lincomycin	L	2 mcg	
Netilmicin	NET	30 mcg	
Ofloxacin	OF	2 mcg	
Vancomycin	VA	30 mcg	
Amikacin	AK	30 mcg	

Product	Symbol	Levels	Code #
***G-VIII-plus**			**OD038-1PK**
Bacitracin	B	10 units	**OD038R-1PK**
Chloramphenicol	C	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Penicillin-G	P	10 units	
Polymyxin-B	PB	300 units	
Gentamicin	GEN	10 mcg	
Neomycin	N	30 mcg	
Tetracycline	TE	30 mcg	
***G-X-plus**			**OD011-1PK**
Chloramphenicol	C	25 mcg	**OD011R-1PK**
Erythromycin	E	5 mcg	
Fusidic acid	FC	10 mcg	
Methicillin	MET	10 mcg	
Novobiocin	NV	5 mcg	
Penicillin-G	P	1 unit	
Streptomycin	S	10 mcg	
Tetracycline	TE	25 mcg	
***G-XII-plus**			**OD041-1PK**
Tetracycline	TE	30 mcg	**OD041R-1PK**
Chloramphenicol	C	30 mcg	
Ampicillin	AMP	10 mcg	
Gentamicin	GEN	10 mcg	
Cefazolin	CZ	30 mcg	
Cefuroxime	CXM	30 mcg	
Amikacin	AK	30 mcg	
Co-Trimoxazole	COT	25 mcg	
***G-XIV-plus**			**OD050-1PK**
Penicillin-G	P	10 units	**OD050R-1PK**
Gentamicin	GEN	10 mcg	
Augmentin	AMC	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Erythromycin	E	10 mcg	
Fusidic acid	FC	10 mcg	
Chloramphenicol	C	30 mcg	
Vancomycin	VA	30 mcg	
***G Plus-15**			**OD303-1PK**
Penicillin-G	P	10 units	**OD303R-1PK**
Ampicillin	AMP	10 mcg	
Vancomycin	VA	30 mcg	
Linezolid	LZ	30 mcg	
Erythromycin	E	15 mcg	
Doxycyline Hydrochloride	DO	30 mcg	
Gentamicin	HLG	120 mcg	
Levofloxacin	LE	5 mcg	
***G Plus-16**			**OD304-1PK**
Penicillin-G	P	10 units	**OD304R-1PK**
Amoxicillin/Clavulanic acid	AMC	20/10 mcg	
Cefoxitin	CX	30 mcg	
Vancomycin	VA	30 mcg	
Linezolid	LZ	30 mcg	
Erythromycin	E	15 mcg	
Clindamycin	CD	2 mcg	
Gentamicin	GEN	10 mcg	

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Product	Symbol	Levels	Code #
***G Plus-17**			**OD305-1PK**
Doxycyline Hydrochloride	DO	30 mcg	**OD305R-1PK**
Levofloxacin	LE	5 mcg	
Cefepime	CPM	30 mcg	
Ceftriaxone	CTR	30 mcg	
Quinupristin/Dalfopristin	RP	15/15 mcg	
Co-Trimoxazole	COT	25 mcg	
Amikacin	AK	30 mcg	
Sparfloxacin	SPX	5 mcg	
***G Plus-18**			**OD309-1PK**
Oxacillin	OX	1 mcg	**OD309R-1PK**
Penicillin G	P	10 units	
Erythromycin	E	15 mcg	
Clindamycin	CD	2 mcg	
Linezolid	LZ	30 mcg	
Vancomycin	VA	30 mcg	
Teicoplanin	TEI	30 mcg	
Gentamicin	HLG	120 mcg	
Gram - Negative Organisms			
***Combi 61**			**OD258-1PK**
Imipenem	IPM	10 mcg	**OD258R-1PK**
Meropenem	MRP	10 mcg	
Ciprofloxacin	CIP	5 mcg	
Tobramycin	TOB	10 mcg	
Moxifloxacin	MO	5 mcg	
Ofloxacin	OF	5 mcg	
Sparfloxacin	SPX	5 mcg	
Levofloxacin	LE	5 mcg	
***Combi 70**			**OD272-1PK**
Ciprofloxacin	CIP	5 mcg	**OD272R-1PK**
Ofloxacin	OF	5 mcg	
Norfloxacin	NX	10 mcg	
Levofloxacin	LE	5 mcg	
Aztreonam	AT	30 mcg	
Gatifloxacin	GAT	5 mcg	
Nitrofurantoin	NIT	300 mcg	
Co-Trimoxazole	COT	25 mcg	
***Combi 78**			**OD278-1PK**
Ceftriaxone	CTR	30 mcg	**OD278R-1PK**
Gentamicin	GEN	10 mcg	
Co-Trimoxazole	COT	25 mcg	
Levofloxacin	LE	5 mcg	
Netillin	NET	30 mcg	
Tetracycline	TE	30 mcg	
Amoxyclav	AMC	30 mcg	
Ofloxacin	OF	5 mcg	
***Combi 92**			**OD293-1PK**
Amikacin	AK	30 mcg	**OD293R-1PK**
Ciprofloxacin	CIP	5 mcg	
Gentamicin	GEN	10 mcg	
Ceftazidime	CAZ	30 mcg	
Cefepime	CPM	30 mcg	
Cefoxitin	CX	30 mcg	
Cefoxatime	CTX	30 mcg	
Ceftriaxone	CTR	30 mcg)	

Product	Symbol	Levels	Code #
***Combi 95**			**OD299-1PK**
Ceftizoxime	CZX	30 mcg	**OD299R-1PK**
Ceftriaxone	CTR	30 mcg	
Cefuroxime	CXM	30 mcg	
Cefadroxil	CFR	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Doxycycline Hydrochloride	DO	30 mcg	
Gatifloxacin	GAT	5 mcg	
Gentamicin	GEN	10 mcg	
***Combi 508**			**OD284-1PK**
Ceftazidime	CAZ	30 mcg	**OD284R-1PK**
Cefotaxime	CTX	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Gentamicin	GEN	10 mcg	
Ceftriaxone	CTR	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Netillin	NET	30 mcg	
Gatifloxacin	GAT	30 mcg	
***Combi 509**			**OD285-1PK**
Tobramycin	TOB	10 mcg	**OD285R-1PK**
Imipenem	IPM	10 mcg	
Augmentin	AMC	30 mcg	
Cefoxitin	CX	30 mcg	
Piperacillin/Tazobactam	PIT	100/10 mcg	
Cefoperazone	CPZ	75 mcg	
Nalidixic acid	NA	30 mcg	
Norfloxacin	NX	10 mcg	
***Combi 513**			**OD289-1PK**
Cefuroxime	CXM	30 mcg	**OD289R-1PK**
Gentamicin	GEN	10 mcg	
Ampicillin	AMP	10 mcg	
Ceftriaxone	CTR	30 mcg	
Amikacin	AK	30 mcg	
Cephalothin	CEP	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Co-Trimoxazole	COT	25 mcg	
***Combi 517**			**OD296-1PK**
Cefuroxime	CXM	30 mcg	**OD296R-1PK**
Cefadroxil	CFR	30 mcg	
Ceftazidime	CAZ	30 mcg	
Cefepime	CPM	30 mcg	
Cefpirome	CFP	30 mcg	
Ceftriaxone	CTR	30 mcg	
Ceftizoxime	CZX	30 mcg	
Polymyxin-B	PB	300 units	
***Combi 518**			**OD297-1PK**
Gentamicin	GEN	10 mcg	**OD297R-1PK**
Amikacin	AK	30 mcg	
Ofloxacin	OF	5 mcg	
Gatifloxacin	GAT	5 mcg	
Cefoperazone/Sulbactam	CFS	75/30 mcg	
Piperacillin/Tazobactam	PIT	100/10 mcg	
Co-Trimoxazole	COT	25 mcg	
Doxycycline Hydrocloride	DO	30 mcg	

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Product	Symbol	Levels	Code #
***G-I-minus**			**OD005-1PK**
Ampicillin	AMP	10 mcg	**OD005R-1PK**
Ciprofloxacin	CIP	10 mcg	
Colistin	CL	10 mcg	
Co-Trimoxazole	COT	25 mcg	
Gentamicin	GEN	10 mcg	
Nitrofurantoin	NIT	300 mcg	
Streptomycin	S	10 mcg	
Tetracycline	TE	30 mcg	
***G-II-minus**			**OD006-1PK**
Cefotaxime	CTX	30 mcg	**OD006R-1PK**
Cefalexin	CN	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Chloramphenicol	C	30 mcg	
Nalidixic acid	NA	30 mcg	
Furazolidone	FR	50 mcg	
Norfloxacin	NX	10 mcg	
Oxytetracycline	O	30 mcg	
***G-III-minus**			**OD007-1PK**
Amikacin	AK	10 mcg	**OD007R-1PK**
Carbenicillin	CB	100 mcg	
Ciprofloxacin	CIP	10 mcg	
Co-Trimazine	CM	25 mcg	
Kanamycin	K	30 mcg	
Nitrofurantoin	NIT	300 mcg	
Streptomycin	S	10 mcg	
Tetracycline	TE	30 mcg	
***G-IV-minus**			**OD014-1PK**
Ampicillin	AMP	10 mcg	**OD014R-1PK**
Cephalothin	CEP	5 mcg	
Colistin sulphate	CL	25 mcg	
Gentamicin	GEN	10 mcg	
Streptomycin	S	10 mcg	
Sulphatriad	S3	200 mcg	
Tetracycline	TE	25 mcg	
Co-Trimoxazole	COT	25 mcg	
***G-V-minus**			**OD015-1PK**
Ampicillin	AMP	10 mcg	**OD015R-1PK**
Ticarcillin	TI	75 mcg	
Gentamicin	GEN	10 mcg	
Cefalexin	CN	30 mcg	
Trimethoprim	TR	1.25 mcg	
Sulphamethoxazole	SX	25 mcg	
Tetracycline	TE	25 mcg	
Colistin methane sulphonate	CL	25 mcg	
***G-VI-minus**			**OD042-1PK**
Ceftazidime	CAZ	30 mcg	**OD042R-1PK**
Ciprofloxacin	CIP	30 mcg	
Cefotaxime	CTX	30 mcg	
Nalidixic acid	NA	30 mcg	
Nitrofurantoin	NIT	300 mcg	
Norfloxacin	NX	10 mcg	
Netillin	NET	30 mcg	
Ofloxacin	OF	5 mcg	

Product	Symbol	Levels	Code #
***G-VII-minus**			**OD043-1PK**
Chloramphenicol	C	30 mcg	**OD043R-1PK**
Ampicillin	AMP	10 mcg	
Tetracycline	TE	30 mcg	
Gentamicin	GEN	10 mcg	
Kanamycin	K	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Amikacin	AK	30 mcg	
Streptomycin	S	25 mcg	
***G-VIII-minus**			**OD044-1PK**
Nalidixic acid	NA	30 mcg	**OD044R-1PK**
Norfloxacin	NX	300 mcg	
Co-Trimoxazole	COT	25 mcg	
Gentamicin	GEN	10 mcg	
Ampicillin	AMP	25 mcg	
Cefalexin	CN	30 mcg	
Norfloxacin	NX	10 mcg	
Mecillinam	MEC	33 mcg	
***G-IX-minus**			**OD045-1PK**
Ampicillin	AMP	10 mcg	**OD045R-1PK**
Augmentin	AMC	30 mcg	
Cefotaxime	CTX	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Gentamicin	GEN	10 mcg	
Tobramycin	TOB	10 mcg	
Cefoxitin	CX	30 mcg	
Cephalothin	CEP	30 mcg	
***G-XI-minus**			**OD047-1PK**
Chloramphenicol	C	25 mcg	**OD047R-1PK**
Ampicillin	AMP	25 mcg	
Tetracycline	TE	25 mcg	
Gentamicin	GEN	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Ceftriaxone	CTR	30 mcg	
Cefuroxime	CXM	30 mcg	
Ciprofloxacin	CIP	10 mcg	
***G-XII-minus**			**OD053-1PK**
Chloramphenicol	C	30 mcg	**OD053R-1PK**
Ampicillin	AMP	10 mcg	
Tetracycline	TE	25 mcg	
Gentamicin	GEN	30 mcg	
Streptomycin	S	10 mcg	
Kanamycin	K	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Amikacin	AK	10 mcg	
***G-XIII-minus**			**OD055-1PK**
Amikacin	AK	30 mcg	**OD055R-1PK**
Ceftazidime	CAZ	30 mcg	
Chloramphenicol	C	30 mcg	
Aztreonam	AT	30 mcg	
Tetracycline	TE	30 mcg	
Piperacillin	PI	100 mcg	
Imipenem	IPM	10 mcg	
Ciprofloxacin	CIP	1 mcg	

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Product	Symbol	Levels	Code #
***G-XVIII-minus**			**OD057-1PK**
Ceftazidime	CAZ	30 mcg	**OD057R-1PK**
Ciprofloxacin	CIP	5 mcg	
Cefotaxime	CTX	30 mcg	
Nalidixic acid	NA	30 mcg	
Nitrofurantoin	NIT	300 mcg	
Norfloxacin	NX	10 mcg	
Netillin	NET	30 mcg	
Ofloxacin	OF	5 mcg	
***G-XXI-minus**			**OD060-1PK**
Chloramphenicol	C	30 mcg	**OD060R-1PK**
Ampicillin	AMP	10 mcg	
Tetracycline	TE	30 mcg	
Gentamicin	GEN	10 mcg	
Co-Trimoxazole	COT	25 mcg	
Ceftriaxone	CTR	30 mcg	
Cefuroxime	CXM	30 mcg	
Ciprofloxacin	CIP	5 mcg	
***G-XXII-minus**			**OD061-1PK**
Chloramphenicol	C	30 mcg	**OD061R-1PK**
Ampicillin	AMP	10 mcg	
Tetracycline	TE	30 mcg	
Gentamicin	GEN	10 mcg	
Streptomycin	S	10 mcg	
Kanamycin	K	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Amikacin	AK	30 mcg	
***G minus-24**			**OD301-1PK**
Piperacillin /Tazobactam	PIT	100/10 mcg	**OD301R-1PK**
Piperacillin	PI	100 mcg	
Gentamicin	GEN	10 mcg	
Cefotaxime	CTX	30 mcg	
Amikacin	AK	30 mcg	
Meropenem	MRP	10 mcg	
Cefepime	CPM	30 mcg	
Levofloxacin	LE	5 mcg	
***G minus-25**			**OD302-1PK**
Ampicillin	AMP	10 mcg	**OD302R-1PK**
Amoxicillin /Clavulanic acid	AMC	20/10 mcg	
Cefoxitin	CX	30 mcg	
Ceftazidime	CAZ	30 mcg	
Ceftazidime /Clavulanic acid	CAC	30/10 mcg	
Doxycyline Hydrochloride	DO	30 mcg	
Aztreonam	AT	30 mcg	
Co-Trimoxazole	COT	25 mcg	
***G minus-26**			**OD310-1PK**
Piperacillin /Tazobactam	PIT	100/10 mcg	**OD310R-1PK**
Ampicillin /Sulbactam	A/S	10/10 mcg	
Ceftazidime	CAZ	30 mcg	
Ceftazidime/Clavulanic acid	CAC	30/10 mcg	
Ceftriaxone	CTR	75 mcg	
Cefepime	CPM	30 mcg	
Imipenem/Cilastin	IC	10/10 mcg	
Nalidixic acid	NA	30 mcg	

Product	Symbol	Levels	Code #
***G minus-27**			**OD311-1PK**
Cefixime	CFM	5 mcg	**OD311R-1PK**
Polymyxin B	PB	300 units	
Norfloxacin	NX	10 mcg	
Netilimicin	NET	30 mcg	
Levofloxacin	LE	5 mcg	
Cefoperazone	CPZ	75 mcg	
Colistin	CL	10 mcg	
Aztreonam	AT	30 mcg	
***G Minus-28**			**OD312-1PK**
Piperacillin /Tazobactam	PIT	100/10 mcg	**OD312R-1PK**
Amikacin	AK	30 mcg	
Cefoperazone/Sulbactam	CFS	75/10 mcg	
Meropenem	MRP	10 mcg	
Gentamicin	GEN	10 mcg	
Cefepime	CPM	30 mcg	
Cefotaxime	CTX	30 mcg	
Levofloxacin	LE	5 mcg	
***G Minus-29**			**OD313-1PK**
Cefepime /Tazobactam	CPT	30/10 mcg	**OD313R-1PK**
Netillin	NET	30 mcg	
Amoxicillin /Clavulanic acid	AMC	20/10 mcg	
Doxycyclin Hydrochloride	DO	30 mcg	
Imipenem	IPM	10 mcg	
Aztreonam	AT	30 mcg	
Ceftazidime	CAZ	30 mcg	
Cefuroxime	CXM	30 mcg	
Pseudomonas			
***Combi VI**			**OD025-1PK**
Amikacin	AK	30 mcg	**OD025R-1PK**
Ampicillin	AMP	10 mcg	
Cefoxitin	CX	30 mcg	
Ceftazidime	CAZ	30 mcg	
Ceftriaxone	CTR	30 mcg	
Chloramphenicol	C	30 mcg	
Gentamicin	GEN	10 mcg	
Piperacillin	PI	100 mcg	
***Combi XII**			**OD031-1PK**
Amikacin	AK	10 mcg	**OD031R-1PK**
Augmentin	AMC	30 mcg	
Cefotaxime	CTX	10 mcg	
Tobramycin	TOB	10 mcg	
Gentamicin	GEN	10 mcg	
Piperacillin	PI	75 mcg	
Ceftazidime	CAZ	30 mcg	
Colistin	CL	25 mcg	
***Combi 59**			**OD256-1PK**
Ampicillin/Sulbactam	A/S	10/10 mcg	**OD256R-1PK**
Piperacillin/Tazobactam	PIT	100/10 mcg	
Ticarcillin/Clavulanic acid	TCC	75/10 mcg	
Carbenicillin	CB	100 mcg	
Cephalothin	CEP	30 mcg	
Cefuroxime	CXM	30 mcg	
Cefotaxime	CTX	30 mcg	
Cefoperazone	CPZ	75 mcg	

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HIMEDIA®

Octo Discs

HiMedia 8-in-one ready antibiotic combination modules

Product	Symbol	Levels	Code #
***Combi 60**			**OD257-1PK**
Amoxyclav	AMC	10 mcg	**OD257R-1PK**
Ceftriaxone	CTR	30 mcg	
Ceftizoxime	CZX	30 mcg	
Ceftazidime	CAZ	30 mcg	
Cefpodoxime	CPD	30 mcg	
Gentamicin	GEN	10 mcg	
Amikacin	AK	30 mcg	
Cefoperazone/Sulbactam	CFS	75/30 mcg	
***Combi 93**			**OD294-1PK**
Amikacin	AK	30 mcg	**OD294R-1PK**
Piperacillin/Tazobactam	PIT	100/10 mcg	
Gentamicin	GEN	10 mcg	
Meropenem	MRP	10 mcg	
Ceftazidime	CAZ	30 mcg	
Aztreonam	AT	30 mcg	
Imipenem	IPM	10 mcg	
Ciprofloxacin	CIP	5 mcg	
***Pseudo**			**OD008-1PK**
Amikacin	AK	10 mcg	**OD008R-1PK**
Carbenicillin	CB	100 mcg	
Chloramphenicol	C	30 mcg	
Ciprofloxacin	CIP	10 mcg	
Cefotaxime	CTX	30 mcg	
Gentamicin	GEN	10 mcg	
Norfloxacin	NX	10 mcg	
Tobramycin	TOB	10 mcg	
***Pseudo I**			**OD036-1PK**
Amikacin	AK	30 mcg	**OD036R-1PK**
Carbenicillin	CB	100 mcg	
Ceftazidime	CAZ	30 mcg	
Ceftriaxone	CTR	30 mcg	
Netillin	NET	30 mcg	
Piperacillin	PI	100 mcg	
Tobramycin	TOB	10 mcg	
Gentamicin	GEN	10 mcg	
***Pseudo V**			**OD063-1PK**
Amikacin	AK	30 mcg	**OD063R-1PK**
Carbenicillin	CB	100 mcg	
Chloramphenicol	C	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Cefotaxime	CTX	30 mcg	
Gentamicin	GEN	10 mcg	
Norfloxacin	NX	10 mcg	
Tobramycin	TOB	10 mcg	
***Pseudo-6**			**OD307-1PK**
Ceftazidime	CAZ	30 mcg	**OD307R-1PK**
Gentamicin	GEN	10 mcg	
Piperacillin	PI	100 mcg	
Piperacillin /Tazobactam	PIT	100/10 mcg	
Amikacin	AK	30 mcg	
Cefoperazone	CPZ	75 mcg	
Levofloxacin	LE	5 mcg	
Meropenem	MRP	10 mcg	

Product	Symbol	Levels	Code #
UTI Pathogenic Organisms			
***Combi II**			**OD021-1PK**
Carbenicillin	CB	100 mcg	**OD021R-1PK**
Cefoxitin	CX	30 mcg	
Clindamycin	CD	2 mcg	
Chloramphenicol	C	30 mcg	
Erythromycin	E	15 mcg	
Metronidazole	MT	5 mcg	
Penicillin	P	10 units	
Tetracycline	TE	30 mcg	
***Combi III**			**OD022-1PK**
Ampicillin	AMP	10 mcg	**OD022R-1PK**
Cefotaxime	CTX	30 mcg	
Cephalothin	CEP	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Gentamicin	GEN	10 mcg	
Nalidixic acid	NA	30 mcg	
Nitrofurantoin	NIT	300 mcg	
Norfloxacin	NX	10 mcg	
***Combi XI**			**OD030-1PK**
Ampicillin	AMP	25 mcg	**OD030R-1PK**
Tetracycline	TE	50 mcg	
Co-Trimoxazole	COT	25 mcg	
Nalidixic acid	NA	30 mcg	
Mecillinam	MEC	25 mcg	
Gentamicin	GEN	10 mcg	
Colistin	CL	50 mcg	
Norfloxacin	NX	10 mcg	
***Combi 68**			**OD270-1PK**
Cefoperazone	CPZ	75 mcg	**OD270R-1PK**
Cefpodoxime	CPD	30 mcg	
Ceftazidime	CAZ	30 mcg	
Cefepime	CPM	30 mcg	
Meropenem	MRP	10 mcg	
Gentamicin	GEN	10 mcg	
Amikacin	AK	30 mcg	
Moxifloxacin	MO	5 mcg	
***Combi 71**			**OD273-1PK**
Ampicillin	AMP	10 mcg	**OD273R-1PK**
Cefazolin	CZ	30 mcg	
Nalidixic acid	NA	30 mcg	
Norfloxacin	NX	10 mcg	
Ciprofloxacin	CIP	5 mcg	
Co-Trimoxazole	COT	25 mcg	
Levofloxacin	LE	5 mcg	
Nitrofurantoin	NIT	50 mcg	
***Combi 82**			**OD066-1PK**
Cefoperazone	CPZ	75 mcg	**OD066R-1PK**
Cefpodoxime	CPD	10 mcg	
Ceftazidime	CAZ	30 mcg	
Cefepime	CPM	30 mcg	
Meropenem	MRP	10 mcg	
Gentamicin	GEN	10 mcg	
Amikacin	AK	30 mcg	
Moxifloxacin	MO	5 mcg	

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Octo Discs

HiMedia 8-in-one ready antibiotic combination modules

Product	Symbol	Levels	Code #
***Combi 83**			**OD067-1PK**
Ampicillin	AMP	10 mcg	**OD067R-1PK**
Cefazolin	CZ	30 mcg	
Nalidixic acid	NA	30 mcg	
Norfloxacin	NX	10 mcg	
Ciprofloxacin	CIP	5 mcg	
Co-Trimoxazole	COT	25 mcg	
Levofloxacin	LE	5 mcg	
Nitrofurantoin	NIT	300 mcg	
***Combi 91**			**OD292-1PK**
Augmentin	AMC	30 mcg	**OD292R-1PK**
Nitrofurantoin	NIT	300 mcg	
Nalidixic acid	NA	30 mcg	
Cefuroxime	CXM	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Norfloxacin	NX	10 mcg	
Gentamicin	GEN	10 mcg	
Cefixime	CFM	5 mcg	
***Combi 96**			**OD300-1PK**
Imipenem	IPM	10 mcg	**OD300R-1PK**
Linezolid	LZ	30 mcg	
Meropenem	MRP	10 mcg	
Nitrofurantion	NIT	300 mcg	
Ofloxacin	OF	5 mcg	
Piperacillin/Tazobactam	PIT	100/10 mcg	
Polymyxin-B	PB	300 units	
Vancomycin	VA	30 mcg	
***Combi 511**			**OD287-1PK**
Ampicillin	AMP	25 mcg	**OD287R-1PK**
Cefalexin	CN	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Nalidixic acid	NA	30 mcg	
Nitrofurantoin	NIT	100 mcg	
Gentamicin	GEN	10 mcg	
Ceftriaxone	CTR	30 mcg	
Norfloxacin	NX	10 mcg	
***UTI-I**			**OD009-1PK**
Amoxyclav	AMC	10 mcg	**OD009R-1PK**
Cefalexin	CN	30 mcg	
Cefotaxime	CTX	30 mcg	
Chloramphenicol	C	30 mcg	
Ciprofloxacin	CIP	10 mcg	
Co-Trimoxazole	COT	25 mcg	
Gentamicin	GEN	10 mcg	
Norfloxacin	NX	10 mcg	
***UTI-II**			**OD010-1PK**
Amikacin	AK	10 mcg	**OD010R-1PK**
Ampicillin	AMP	10 mcg	
Cefaloridine	CR	30 mcg	
Colistin	CL	10 mcg	
Co-Trimazine	CM	25 mcg	
Nalidixic acid	NA	30 mcg	
Nitrofurantoin	NIT	300 mcg	
Streptomycin	S	10 mcg	

Product	Symbol	Levels	Code #
UTI III			**OD035-1PK**
Norfloxacin	NX	10 mcg	**OD035R-1PK**
Ciprofloxacin	CIP	5 mcg	
Nalidixic acid	NA	30 mcg	
Nitrofurantoin	NIT	300 mcg	
Amoxicillin	AMX	10 mcg	
Co-Trimoxazole	COT	25 mcg	
Gentamicin	GEN	10 mcg	
Chloramphenicol	C	30 mcg	
***UTI-V**			**OD019-1PK**
Ampicillin	AMP	25 mcg	**OD019R-1PK**
Gentamicin	GEN	10 mcg	
Carbenicillin	CB	100 mcg	
Nalidixic acid	NA	30 mcg	
Nitrofurantoin	NIT	50 mcg	
Sulphamethizole	SM	200 mcg	
Tetracycline	TE	100 mcg	
Co-Trimoxazole	COT	25 mcg	
***UTI-VI**			**OD017-1PK**
Ampicillin	AMP	25 mcg	**OD017R-1PK**
Cephalothin	CEP	25 mcg	
Colistin methane sulphonate	CL	100 mcg	
Nalidixic acid	NA	30 mcg	
Nitrofurantoin	NIT	50 mcg	
Sulphamethizole	SM	200 mcg	
Tetracycline	TE	100 mcg	
Co-Trimoxazole	COT	25 mcg	
***UTI-VII**			**OD018-1PK**
Ampicillin	AMP	25 mcg	**OD018R-1PK**
Nitrofurantoin	NIT	50 mcg	
Ticarcillin	TI	75 mcg	
Tetracycline	TE	100 mcg	
Nalidixic acid	NA	30 mcg	
Trimethoprim	TR	2.5 mcg	
Sulphamethoxazole	SX	50 mcg	
Gentamicin	GEN	10 mcg	
***UTI-X**			**OD051-1PK**
Cefuroxime	CXM	30 mcg	**OD051R-1PK**
Augmentin	AMC	30 mcg	
Ceftriaxone	CTR	30 mcg	
Gentamicin	GEN	10 mcg	
Nitrofurantoin	NIT	200 mcg	
Co-Trimoxazole	COT	25 mcg	
Ciprofloxacin	CIP	5 mcg	
Ceftazidime	CAZ	30 mcg	
***UTI-XII**			**OD054-1PK**
Ampicillin	AMP	25 mcg	**OD054R-1PK**
Gentamicin	GEN	10 mcg	
Carbenicillin	CB	100 mcg	
Nalidixic acid	NA	30 mcg	
Nitrofurantoin	NIT	50 mcg	
Tetracycline	TE	100 mcg	
Co-Trimoxazole	COT	25 mcg	
Nicene	NI	30 mcg	

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Octo Discs

HiMedia 8-in-one ready antibiotic combination modules

Product	Symbol	Levels	Code #
***UTI-18**			**OD306-1PK** **OD306R-1PK**
Norfloxacin	NX	10 mcg	
Nalidixic acid	NA	30 mcg	
Nitrofurantoin	NIT	300 mcg	
Ofloxacin	OF	5 mcg	
Carbenicillin	CB	100 mcg	
Cefoperazone/Sulbactam	CFS	75/10 mcg	
Co-Trimoxazole	COT	25 mcg	
Ceftazidime	CAZ	30 mcg	
Sputum & Respiratory Pathogenic Organisms			
***Combi 67**			**OD269-1PK** **OD269R-1PK**
Ampicillin	AMP	10 mcg	
Ampicillin/Sulbactam	A/S	10/10 mcg	
Amoxicillin/Clavulanic acid	AMC	20/10 mcg	
Piperacillin/Tazobactam	PIT	100/10 mcg	
Ticarcillin/Clavulanic acid	TCC	75/10 mcg	
Cefoperazone/Sulbactam	CFS	75/10 mcg	
Cefuroxime	CXM	30 mcg	
Cefotaxime	CTX	30 mcg	
***Combi 84**			**OD276-1PK** **OD276R-1PK**
Chloramphenicol	C	30 mcg	
Ampicillin/Sulbactam	A/S	10/10 mcg	
Amoxicillin/Clavulanic acid	AMC	20/10 mcg	
Piperacillin/Tazobactam	PIT	100/10 mcg	
Ticarcillin/Clavulanic acid	TCC	75/10 mcg	
Cefoperazone/Sulbactam	CFS	75/10 mcg	
Cefuroxime	CXM	30 mcg	
Cefotaxime	CTX	30 mcg	

Product	Symbol	Levels	Code #
General Purpose			
***Combi 505**			**OD282-1PK** **OD282R-1PK**
Cefoperazone	CPZ	75 mcg	
Cefpodoxime	CPD	30 mcg	
Ceftazidime	CAZ	30 mcg	
Cefepime	CPM	30 mcg	
Imipenem	IPM	10 mcg	
Gentamicin	GEN	10 mcg	
Amikacin	AK	30 mcg	
Moxifloxacin	MO	5 mcg	
Combi 506			**OD283-1PK** **OD283R-1PK**
Ciprofloxacin	CIP	5 mcg	
Ofloxacin	OF	5 mcg	
Sparfloxacin	SPX	5 mcg	
Gatifloxacin	GAT	5 mcg	
Teicoplanin	TEI	30 mcg	
Azithromycin	AZM	15 mcg	
Vancomycin	VA	30 mcg	
Doxycycline Hydrocloride	DO	30 mcg	
***Universal-1**			**OD308-1PK** **OD308R-1PK**
Gentamicin	GEN	10 mcg	
Amikacin	AK	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Cefoxitin	CX	30 mcg	
Amoxicillin/Clavulanic acid	AMC	20/10 mcg	
Tetracycline	TE	30 mcg	
Chloramphenicol	C	30 mcg	
Co-Trimoxazole	COT	25 mcg	
***Combi 516**			**OD295-1PK** **OD295R-1PK**
Imipenem	IPM	10 mcg	
Meropenem	MRP	10 mcg	
Amoxyclav	AMC	30 mcg	
Ampicillin/Sulbactam	A/S	10/10 mcg	
Azithromycin	AZM	15 mcg	
Vancomycin	VA	30 mcg	
Linezolid	LZ	30 mcg	
Nitrofurantoin	NIT	300 mcg	

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Dodeca Discs

HiMedia 12-in-one ready antibiotic combination modules

[To be used on 150 mm plates (PW011)]

Product	Symbol	Levels	Code
General purpose			
***Dodeca Universal-I**			**DE001-1PK**
Cefpodoxime	CPD	10 mcg	
Chloramphenicol	C	30 mcg	
Vancomycin	VA	30 mcg	
Streptomycin	S	10 mcg	
Rifampicin	RIF	5 mcg	
Levofloxacin	LE	5 mcg	
Ceftriaxone	CTR	30 mcg	
Clindamycin	CD	2 mcg	
Augmentin	AMC	30 mcg	
Amikacin	AK	30 mcg	
Cefixime	CFM	5 mcg	
Tetracycline	TE	30 mcg	
***Dodeca Universal-II**			**DE007-1PK**
Amikacin	AK	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Colistin	CL	10 mcg	
Augmentin	AMC	30 mcg	
Netillin	NET	30 mcg	
Norfloxacin	NX	10 mcg	
Ceftriaxone	CTR	10 mcg	
Ciprofloxacin	CIP	5 mcg	
Cefotaxime	CTX	30 mcg	
Gentamicin	GEN	10 mcg	
Furazolidone	FR	50 mcg	
Amoxicillin	AMX	10 mcg	
***Dodeca Universal-III**			**DE008-1PK**
Ampicillin	AMP	10 mcg	
Cefuroxime	CXM	30 mcg	
Cefadroxil	CFR	30 mcg	
Augmentin	AMC	30 mcg	
Penicillin	P	10 units	
Cefotaxime	CTX	30 mcg	
Cefaclor	CF	30 mcg	
Azithromycin	AZM	15 mcg	
Erythromycin	E	15 mcg	
Cefoperazone	CPZ	75 mcg	
Clarithromycin	CLR	15 mcg	
Ciprofloxacin	CIP	5 mcg	
***Dodeca Universal-IV**			**DE012-1PK**
Cefuroxime	CXM	30 mcg	
Cefaclor	CF	30 mcg	
Ceftriaxone	CTR	30 mcg	
Cefalexin	CN	30 mcg	
Ceftazidime	CAZ	30 mcg	
Ceftizoxime	CZX	30 mcg	
Cefadroxil	CFR	30 mcg	
Ampicillin/Cloxacillin	AX	30 mcg	
Cefoperazone	CPZ	75 mcg	
Cefotaxime	CTX	30 mcg	
Cefixime	CFM	5 mcg	
Cefazolin	CZ	30 mcg	

Product	Symbol	Levels	Code
***Dodeca Universal-V**			**DE013-1PK**
Azithromycin	AZM	30 mcg	
Rifampicin	RIF	5 mcg	
Penicillin	P	10 units	
Piperacillin	PI	100 mcg	
Augmentin	AMC	30 mcg	
Ampicillin/ Sulbactam	A/S	10/10 mcg	
Roxithromycin	RO	30 mcg	
Erythromycin	E	15 mcg	
Ampicillin	AMP	10 mcg	
Cloxacillin	COX	1 mcg	
Amoxicillin	AMX	10 mcg	
Vancomycin	VA	30 mcg	
Dodeca Universal-VI			**DE014-1PK**
Chloramphenicol	C	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Norfloxacin	NX	10 mcg	
Lincomycin	L	2 mcg	
Lomefloxacin	LOM	30 mcg	
Clindamycin	CD	2 mcg	
Tetracycline	TE	30 mcg	
Levofloxacin	LE	5 mcg	
Pefloxacin	PF	5 mcg	
Sparfloxacin	SPX	5 mcg	
Ofloxacin	OF	5 mcg	
Doxycycline Hydrochloride	DO	30 mcg	
Dodeca Universal-VII			**DE015-1PK**
Gentamicin	GEN	10 mcg	
Netillin	NET	30 mcg	
Nalidixic Acid	NA	30 mcg	
Kanamycin	K	30 mcg	
Amikacin	AK	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Tobramycin	TOB	10 mcg	
Clarithromycin	CLR	15 mcg	
Nitrofurantoin	NIT	300 mcg	
Streptomycin	S	10 mcg	
Oxytetracycline	O	30 mcg	
Furazolidone	FR	50 mcg	
***Dodeca Universal-IX**			**DE017-1PK**
Ampicillin/ Sulbactam	A/S	10/10 mcg	
Gentamicin	GEN	10 mcg	
Ampicillin	AMP	10 mcg	
Amikacin	AK	30 mcg	
Aztreonam	AT	30 mcg	
Netillin	NET	30 mcg	
Vancomycin	VA	30 mcg	
Ceftriaxone	CTR	10 mcg	
Ceftazidime	CAZ	30 mcg	
Ofloxacin	OF	5 mcg	
Imipenem	IPM	10 mcg	
Cefepime	CPM	30 mcg	

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HIMEDIA®

Dodeca Discs

HiMedia 12-in-one ready antibiotic combination modules

[To be used on 150 mm plates (PW011)]

Product	Symbol	Levels	Code
***Dodeca Universal-XI**			**DE026-1PK**
Ceftriaxone	CTR	30 mcg	
Piperacillin/ Tazobactam	PIT	100/10 mcg	
Clindamycin	CD	2 mcg	
Linezolid	LZ	30 mcg	
Aztreonam	AT	10 mcg	
Meropenem	MRP	10 mcg	
Carbenicillin	CB	30 mcg	
Cefuroxime	CXM	30 mcg	
Imipenem	IPM	10 mcg	
Roxithromycin	RO	30 mcg	
Levofloxacin	LE	5 mcg	
Cefpirome	CFP	30 mcg	
***Dodeca Universal-XII**			**DE027-1PK**
Ofloxacin	OF	5 mcg	
Cefadroxil	CFR	30 mcg	
Doxycycline Hydrochloride	DO	30 mcg	
Cloxacillin	COX	5 mcg	
Azithromycin	AZM	30 mcg	
Cefotaxime	CTX	10 mcg	
Ceftriaxone	CTR	30 mcg	
Ticarcillin	TI	75 mcg	
Piperacillin/ Tazobactam	PIT	100/10 mcg	
Ciprofloxacin	CIP	5 mcg	
Levofloxacin	LE	5 mcg	
Ceftazidime	CAZ	30 mcg	
***Dodeca Universal-XIII**			**DE028-1PK**
Ampicillin	AMP	10 mcg	
Piperacillin	PI	100 mcg	
Augmentin	AMC	30 mcg	
Cefazolin	CZ	30 mcg	
Cefalexin	CN	30 mcg	
Cefaloridine	CR	10 mcg	
Cefadroxil	CFR	30 mcg	
Cefuroxime	CXM	30 mcg	
Cefoperazone	CPZ	75 mcg	
Cefotaxime	CTX	30 mcg	
Ceftazidime	CAZ	30 mcg	
Cefaclor	CF	30 mcg	
***Dodeca Universal-XIV**			**DE035-1PK**
Imipenem	IPM	10 mcg	
Amoxyclav	AMC	30 mcg	
Cefotaxime	CTX	30 mcg	
Cefuroxime	CXM	30 mcg	
Levofloxacin	LE	5 mcg	
Norfloxacin	NX	10 mcg	
Co-Trimoxazole	COT	25 mcg	
Doxycycline Hydrochloride	DO	30 mcg	
Chloramphenicol	C	30 mcg	
Gentamicin	GEN	10 mcg	
Amikacin	AK	30 mcg	
Cefoxitin	CX	30 mcg	

Product	Symbol	Levels	Code
***Dodeca Universal-XV**			**DE042-1PK**
Augmentin	AMC	30 mcg	
Amikacin	AK	30 mcg	
Gatifloxacin	GAT	5 mcg	
Cefepime	CPM	30 mcg	
Meropenem	MRP	10 mcg	
Ceftazidime	CAZ	30 mcg	
Chloramphenicol	C	30 mcg	
Cefuroxime	CXM	30 mcg	
Ceftriaxone	CTR	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Cefoperazone/Sulbactam	CFS	75/30 mcg	
Imipenem	IPM	10 mcg	
Gram-positive Organisms			
***Dodeca G-I-Plus**			**DE002-1PK**
Azithromycin	AZM	15 mcg	
Amikacin	AK	30 mcg	
Gentamicin	GEN	10 mcg	
Ciprofloxacin	CIP	5 mcg	
Cefadroxil	CFR	30 mcg	
Cefuroxime	CXM	30 mcg	
Roxithromycin	RO	30 mcg	
Ampicillin / Cloxacillin	AX	10 mcg	
Cefotaxime	CTX	30 mcg	
Cefoperazone	CPZ	75 mcg	
Clarithromycin	CLR	15 mcg	
Sparfloxacin	SPX	5 mcg	
***Dodeca G-II-Plus**			**DE009-1PK**
Cefotaxime	CTX	30 mcg	
Augmentin	AMC	30 mcg	
Cefuroxime	CXM	30 mcg	
Ceftriaxone	CTR	30 mcg	
Amoxicillin	AMX	10 mcg	
Erythromycin	E	15 mcg	
Clindamycin	CD	2 mcg	
Gentamicin	GEN	10 mcg	
Ofloxacin	OF	5 mcg	
Lincomycin	L	2 mcg	
Ciprofloxacin	CIP	5 mcg	
Tobramycin	TOB	10 mcg	
***Dodeca G-III-Plus**			**DE018-1PK**
Penicillin G	P	10 units	
Oxacillin	OX	1 mcg	
Erythromycin	E	15 mcg	
Clindamycin	CD	2 mcg	
Linezolid	LZ	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Vancomycin	VA	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Tetracycline	TE	30 mcg	
Cefotaxime	CTX	30 mcg	
Chloramphenicol	C	30 mcg	
Gentamicin	GEN	10 mcg	

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Dodeca Discs

HiMedia 12-in-one ready antibiotic combination modules

[To be used on 150 mm plates (PW011)]

Product	Symbol	Levels	Code
***Dodeca G-IV-Plus**			**DE023-1PK**
Amikacin	AK	30 mcg	
Amoxicillin	AMX	25 mcg	
Cefalexin	CN	30 mcg	
Cefazolin	CZ	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Gentamicin	GEN	10 mcg	
Streptomycin	S	10 mcg	
Amoxyclav	AMC	30 mcg	
Tetracycline	TE	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Teicoplanin	TEI	30 mcg	
Erythromycin	E	15 mcg	
***Dodeca G-V-Plus**			**DE032-1PK**
Penicillin G	P	10 units	
Amoxicillin	AMX	10 mcg	
Carbenicillin	CB	100 mcg	
Methicillin	MET	5 mcg	
Azithromycin	AZM	15 mcg	
Clindamycin	CD	2 mcg	
Roxithromycin	RO	15 mcg	
Lincomycin	L	2 mcg	
Vancomycin	VA	30 mcg	
Rifampicin	RIF	5 mcg	
Teicoplanin	TEI	30 mcg	
Linezolid	LZ	30 mcg	
***Dodeca G-VI-Plus**			**DE036-1PK**
Penicillin	P	10 units	
Cloxacillin	COX	10 mcg	
Oxacillin	OX	1 mcg	
Cefazolin	CZ	30 mcg	
Azithromycin	AZM	15 mcg	
Clindamycin	CD	2 mcg	
Vancomycin	VA	30 mcg	
Linezolid	LZ	30 mcg	
Teicoplanin	TEI	30 mcg	
Novobiocin	NV	5 mcg	
Minocycline	MI	30 mcg	
Piperacillin/Tazobactam	PIT	100/10 mcg	
***Dodeca G-VII-Plus**			**DE038-1PK**
Amoxyclav	AMC	10 mcg	
Co-Trimoxazole	COT	25 mcg	
Tetracycline	TE	30 mcg	
Erythromycin	E	15 mcg	
Cefoperazone	CPZ	75 mcg	
Cefepime	CPM	30 mcg	
Cloxacillin	COX	5 mcg	
Gentamicin	GEN	10 mcg	
Ciprofloxacin	CIP	5 mcg	
Clindamycin	CD	2 mcg	
Linezolid	LZ	30 mcg	
Vancomycin	VA	30 mcg	

Product	Symbol	Levels	Code
***Dodeca G-IX-plus**			**DE047-1PK**
Penicillin-G	P	10 units	
Cefoxitin	CX	30 mcg	
Cefazolin	CZ	30 mcg	
Cefuroxime	CXM	30 mcg	
Teicoplanin	TEI	30 mcg	
Linezolid	LZ	30 mcg	
Vancomycin	VA	30 mcg	
Amoxyclav	AMC	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Levofloxacin	LE	5 mcg	
Erythromycin	E	15 mcg	
Co-Trimoxazole	COT	25 mcg	
***Dodeca Staphylococci-1**			**DE048-1PK**
Penicllin-G	P	10 units	
Azithromycin	AZM	15 mcg	
Erythromycin	E	15 mcg	
Clarithromycin	CLR	15 mcg	
Linezolid	LZ	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Vancomycin	VA	30 mcg	
Cefoxitin	CX	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Gatifloxacin	GAT	5 mcg	
Ofloxacin	OF	5 mcg	
Clindamycin	CD	2 mcg	
***Dodeca Staphylococci-2**			**DE049-1PK**
Tigecycline	TGC	15 mcg	
Moxifloxacin	MO	5 mcg	
Gentamicin	GEN	10 mcg	
Rifampicin	RIF	5 mcg	
Lomefloxacin	LOM	10 mcg	
Norfloxacin	NX	10 mcg	
Novobiocin	NV	30 mcg	
Teicoplanin	TEI	30 mcg	
Nitrofurantoin	NIT	300 mcg	
Pristinomycin	RP	15 mcg	
Ampicillin/Sulbactam	A/S	10/10 mcg	
Piperacillin/Tazobactam	PIT	100/10 mcg	
***Dodeca Enterococcus -1**			**DE050-1PK**
Ampicillin	AMP	10 mcg	
Penicillin-G	P	10 mcg	
Linezolid	LZ	30 mcg	
Vancomycin	VA	30 mcg	
Gentamicin	HLG	120 mcg	
Tigecycline	TGC	15 mcg	
Erythromycin	E	15 mcg	
Pristinomycin	RP	15 mcg	
Ciprofloxacin	CIP	5 mcg	
Levofloxacin	LE	5 mcg	
Norfloxacin	NX	5 mcg	
Fosfomycin	FO	200 mcg	

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HIMEDIA®

Dodeca Discs

HiMedia 12-in-one ready antibiotic combination modules

[To be used on 150 mm plates (PW011)]

Product	Symbol	Levels	Code
Gram-negative Organisms			
***Dodeca G-I-Minus**			**DE003-1PK**
Amikacin	AK	30 mcg	
Lomefloxacin	LOM	10 mcg	
Cefadroxil	CFR	30 mcg	
Sparfloxacin	SPX	5 mcg	
Netillin	NET	30 mcg	
Ceftazidime	CAZ	30 mcg	
Ceftriaxone	CTR	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Cefotaxime	CTX	30 mcg	
Gentamicin	GEN	10 mcg	
Cefoperazone	CPZ	75 mcg	
Ampicillin/ Sulbactam	A/S	10/10 mcg	
***Dodeca G-II-Minus**			**DE010-1PK**
Amikacin	AK	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Cefotaxime	CTX	30 mcg	
Cefuroxime	CXM	30 mcg	
Augmentin	AMC	30 mcg	
Lomefloxacin	LOM	30 mcg	
Ceftazidime	CAZ	30 mcg	
Cefoperazone	CPZ	75 mcg	
Gentamicin	GEN	10 mcg	
Netillin	NET	30 mcg	
Pefloxacin	PF	5 mcg	
Ofloxacin	OF	5 mcg	
***Dodeca G-III-Minus**			**DE019-1PK**
Ampicillin	AMP	10 mcg	
Cefazolin	CZ	30 mcg	
Cephalothin	CEP	30 mcg	
Gentamicin	GEN	10 mcg	
Amikacin	AK	30 mcg	
Ampicillin/Sulbactam	A/S	10/10mcg	
Cefuroxime	CXM	30 mcg	
Cefepime	CPM	30mcg	
Cefoperazone	CPZ	75 mcg	
Cefoxitin	CX	30 mcg	
Cefotaxime	CTX	30 mcg	
Ciprofloxacin	CIP	5 mcg	
***Dodeca G-V minus**			**DE029-1PK**
Cefixime	CFM	5 mcg	
Cefpodoxime	CPD	10 mcg	
Ceftizoxime	CZX	30 mcg	
Cefpirome	CFP	30 mcg	
Cefepime	CPM	30 mcg	
Nalidixic acid	NA	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Ofloxacin	OF	5 mcg	
Pefloxacin	PF	5 mcg	
Lomefloxacin	LOM	10 mcg	
Norfloxacin	NX	10 mcg	
Ceftriaxone	CTR	30 mcg	

Product	Symbol	Levels	Code
***Dodeca G-VI minus**			**DE031-1PK**
Piperacillin/ Tazobactam	PIT	100/10 mcg	
Amikacin	AK	30 mcg	
Gentamicin	GEN	10 mcg	
Kanamycin	K	30 mcg	
Tobramycin	TOB	10 mcg	
Netillin	NET	30 mcg	
Sisomicin	SS	30 mcg	
Cefoperazone/Sulbactam	CFS	75/30 mcg	
Ampicillin/Sulbactam	A/S	10/10 mcg	
Cefotaxime/ Sulbactam	CES	30/15 mcg	
Ceftriaxone/ Sulbactam	CIS	30/15 mcg	
Ceftriaxone/Tazobactam	CIT	30/10 mcg	
***Dodeca G-VII Minus**			**DE033-1PK**
Cefixime	CFM	5 mcg	
Cefpodoxime	CPD	10 mcg	
Ceftizoxime	CZX	30 mcg	
Cefpirome	CFP	30 mcg	
Cefepime	CPM	30 mcg	
Nalidixic acid	NA	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Ofloxacin	OF	5 mcg	
Sparfloxacin	SPX	10 mcg	
Lomefloxacin	LOM	10 mcg	
Norfloxacin	NX	10 mcg	
Ceftriaxone	CTR	30 mcg	
***Dodeca G-VIII-Minus**			**DE037-1PK**
Ampicillin	AMP	10 mcg	
Ticarcillin	TI	75 mcg	
Piperacillin/Tazobactam	PIT	100/10 mcg	
Ceftazidime	CAZ	30 mcg	
Cefepime	CPM	30 mcg	
Cefpodoxime	CPD	10 mcg	
Gatifloxacin	GAT	5 mcg	
Aztreonam	AT	30 mcg	
Netillin	NET	30 mcg	
Tobramycin	TOB	10 mcg	
Colistin	CL	10 mcg	
Nitrofurantoin	NIT	300 mcg	
***Dodeca G-IX-Minus**			**DE039-1PK**
Ampicillin	AMP	10 mcg	
Co-Trimoxazole	COT	25 mcg	
Gentamicin	GEN	10 mcg	
Amikacin	AK	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Levofloxacin	LE	5 mcg	
Cefuroxime	CXM	30 mcg	
Cefoperazone	CPZ	75 mcg	
Cefepime	CPM	30 mcg	
Imipenem	IPM	10 mcg	
Piperacillin/Tazobactam	PIT	100/10 mcg	
Amoxyclav	AMC	10 mcg	

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Dodeca Discs

HiMedia 12-in-one ready antibiotic combination modules

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Product	Symbol	Levels	Code
***Dodeca G-XI-minus**			**DE045-1PK**
Amikacin	AK	30 mcg	
Amoxicillin/Clavulanic acid	AMC	30 mcg	
Ceftriaxone	CTR	30 mcg	
Cefotaxime	CTX	30 mcg	
Cefepime	CPM	30 mcg	
Doxycycline Hydrochloride	DO	30 mcg	
Norfloxacin	NX	10 mcg	
Tobramycin	TOB	10 mcg	
Gentamicin	GEN	10 mcg	
Ampicillin	AMP	10 mcg	
Nitrofurantoin	NIT	300 mcg	
Chloramphenicol	C	30 mcg	
***Dodeca G-XII minus**			**DE046-1PK**
Ceftazidime	CAZ	30 mcg	
Colistin (Methane Sulphonate)	CL	10 mcg	
Minocycline	MI	30 mcg	
Imipenem	IPM	10 mcg	
Tigecycline	TGC	15 mcg	
Cefuroxime	CXM	30 mcg	
Piperacillin/Tazobactam	PIT	100/10 mcg	
Levofloxacin	LE	5 mcg	
Co-Trimoxazole	COT	25 mcg	
Ciprofloxacin	CIP	5 mcg	
Aztreonam	AT	30 mcg	
Cefoperazone/Sulbactam	CFS	75/30 mcg	
***Dodeca Enterobacteriaceae-1**			**DE053-1PK**
Ampicillin	AMP	10 mcg	
Gentamicin	GEN	10 mcg	
Amikacin	AK	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Ofloxacin	OF	5 mcg	
Co-Trimoxazole	COT	25 mcg	
Amoxyclav	AMC	30 mcg	
Cefuroxime	CXM	30 mcg	
Ceftazidime	CAZ	30 mcg	
Ceftazidime/Clavulanic acid	CAC	30/10 mcg	
Cefepime	CPM	30 mcg	
Imipenem	IPM	10 mcg	
***Dodeca Enterobacteriaceae-2**			**DE054-1PK**
Cefotaxime	CTX	30 mcg	
Ceftriaxone	CTR	30 mcg	
Cefoxitin	CX	30 mcg	
Meropenem	MRP	10 mcg	
Piperacillin/Tazobactam	PIT	100/10 mcg	
Aztreonam	AT	75 mcg	
Gatifloxacin	GAT	5 mcg	
Ampicillin/Sulbactam	A/S	10/10 mcg	
Cefoperazone	CPZ	75 mcg	
Levofloxacin	LE	5 mcg	
Ceftizoxime	CZX	30 mcg	
Ticarcillin/Clavulanic acid	TCC	75/10 mcg	

Product	Symbol	Levels	Code
UTI Pathogenic Organisms			
***Dodeca UTI-I**			**DE004-1PK**
Amikacin	AK	30 mcg	
Cefuroxime	CXM	30 mcg	
Cefadroxil	CFR	30 mcg	
Nalidixic acid	NA	30 mcg	
Netillin	NET	30 mcg	
Norfloxacin	NX	10 mcg	
Cefaclor	CF	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Nitrofurantoin	NIT	300 mcg	
Gentamicin	GEN	10 mcg	
Cefoperazone	CPZ	75 mcg	
Ofloxacin	OF	5 mcg	
***Dodeca UTI-II**			**DE005-1PK**
Ceftriaxone	CTR	30 mcg	
Cefoperazone	CPZ	75 mcg	
Cefaclor	CF	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Cefotaxime	CTX	30 mcg	
Ceftazidime	CAZ	30 mcg	
Cefadroxil	CFR	30 mcg	
Nitrofurantoin	NIT	300 mcg	
Furazolidone	FR	50 mcg	
Augmentin	AMC	30 mcg	
Cefalexin	CN	30 mcg	
Amikacin	AK	30 mcg	
***Dodeca UTI-IV**			**DE011-1PK**
Amikacin	AK	30 mcg	
Cefalexin	CN	30 mcg	
Ceftriaxone	CTR	30 mcg	
Cefixime	CFM	5 mcg	
Cefoperazone	CPZ	75 mcg	
Nalidixic acid	NA	30 mcg	
Kanamycin	K	30 mcg	
Nitrofurantoin	NIT	300 mcg	
Lomefloxacin	LOM	30 mcg	
Ofloxacin	OF	5 mcg	
Norfloxacin	NX	10 mcg	
Gentamicin	GEN	10 mcg	
***Dodeca UTI-V**			**DE021-1PK**
Carbenicillin	CB	100 mcg	
Ciprofloxacin	CIP	5 mcg	
Levofloxacin	LE	5 mcg	
Norfloxacin	NX	10 mcg	
Lomefloxacin	LOM	10 mcg	
Gatifloxacin	GAT	5 mcg	
Nitrofurantoin	NIT	300 mcg	
Co-Trimoxazole	COT	25 mcg	
Tetracycline	TE	30 mcg	
Netillin	NET	30 mcg	
Ampicillin/Sulbactam	A/S	10/10 mcg	
Ceftizoxime	CZX	30 mcg	

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Dodeca Discs

HiMedia 12-in-one ready antibiotic combination modules

[To be used on 150 mm plates (PW011)]

Product	Symbol	Levels	Code
***Dodeca UTI-VI**			**DE025-1PK**
Amikacin	AK	30 mcg	
Amoxicillin	AMX	25 mcg	
Cefalexin	CN	30 mcg	
Cefazolin	CZ	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Gentamicin	GEN	10 mcg	
Streptomycin	S	10 mcg	
Amoxyclav	AMC	30 mcg	
Norfloxacin	NX	10 mcg	
Ceftazidime	CAZ	30 mcg	
Imipenem	IPM	10 mcg	
Cefoperazone/Sulbactam	CFS	75/30 mcg	
***Dodeca UTI-VII**			**DE030-1PK**
Sparfloxacin	SPX	10 mcg	
Levofloxacin	LE	5 mcg	
Gatifloxacin	GAT	10 mcg	
Chloramphenicol	C	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Nitrofurantoin	NIT	300 mcg	
Meropenem	MRP	10 mcg	
Imipenem	IPM	10 mcg	
Polymyxin B	PB	300 units	
Furazolidone	FR	100 mcg	
Aztreonam	AT	30 mcg	
Cloxacillin	COX	1 mcg	
***Dodeca UTI-VIII**			**DE034-1PK**
Pefloxacin	PF	10 mcg	
Levofloxacin	LE	5 mcg	
Gatifloxacin	GAT	10 mcg	
Chloramphenicol	C	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Nitrofurantoin	NIT	300 mcg	
Imipenem	IPM	10 mcg	
Meropenem	MRP	10 mcg	
Polymyxin B	PB	300 units	
Furazolidone	FR	100 mcg	
Aztreonam	AT	30 mcg	
Cloxacillin	COX	1 mcg	
***Dodeca UTI-IX**			**DE040-1PK**
Gentamicin	GEN	10 mcg	
Amikacin	AK	30 mcg	
Amoxyclav	AMC	10 mcg	
Norfloxacin	NX	10 mcg	
Nitrofurantoin	NIT	300 mcg	
Nalidixic acid	NA	30 mcg	
Cefuroxime	CXM	30 mcg	
Ceftazidime	CAZ	30 mcg	
Cefepime	CPM	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Piperacillin/Tazobactam	PIT	100/10 mcg	
Ciprofloxacin	CIP	5 mcg	

Product	Symbol	Levels	Code
Pseudomonas			
***Dodeca Pseudo-I**			**DE020-1PK**
Ceftazidime	CAZ	30 mcg	
Gentamicin	GEN	10 mcg	
Ticarcillin	TI	75 mcg	
Piperacillin	PI	100 mcg	
Amikacin	AK	30 mcg	
Cefepime	CPM	30 mcg	
Cefoperazone	CPZ	75 mcg	
Ciprofloxacin	CIP	5 mcg	
Levofloxacin	LE	5 mcg	
Tobramycin	TOB	10 mcg	
Netillin	NET	30 mcg	
Meropenem	MRP	10 mcg	
***Dodeca Pseudo-II**			**DE041-1PK**
Gentamicin	GEN	10 mcg	
Netillin	NET	30 mcg	
Amikacin	AK	30 mcg	
Piperacillin/Tazobactam	PIT	100/10 mcg	
Amoxyclav	AMC	30 mcg	
Imipenem	IPM	10 mcg	
Meropenem	MRP	10 mcg	
Levofloxacin	LE	5 mcg	
Tobramycin	TOB	10 mcg	
Cefuroxime	CXM	30 mcg	
Ceftriaxone/Tazobactam	CIT	30/10 mcg	
Cefepime	CPM	30 mcg	
***Dodeca Pseudomonas -1**			**DE051-1PK**
Ceftazidime	CAZ	30 mcg	
Gentamicin	GEN	10 mcg	
Piperacillin	PI	100 mcg	
Amikacin	AK	30 mcg	
Cefepime	CPM	30 mcg	
Aztreonam	AT	30 mcg	
Cefoperazone	CPZ	75 mcg	
Ciprofloxacin	CIP	5 mcg	
Levofloxacin	LE	5 mcg	
Imipenem	IPM	10 mcg	
Meropenem	MRP	10 mcg	
Piperacillin/Tazobactam	PIT	100/10 mcg	

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Icosa Discs

HiMedia 20-in-one ready antibiotic combination modules

[To be used on 200 mm plates (PW010)]

Product	Symbol	Levels	Code
General purpose			
***Icosa Universal - 1**			**IC001-1PK**
Norfloxacin	NX	10 mcg	
Gentamicin	GEN	10 mcg	
Chloramphenicol	C	30 mcg	
Cefuroxime	CXM	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Cefoperazone	CPZ	75 mcg	
Ceftazidime	CAZ	30 mcg	
Roxithromycin	RO	30 mcg	
Clarithromycin	CLR	15 mcg	
Co-Trimoxazole	COT	25 mcg	
Netillin	NET	30 mcg	
Cefaclor	CF	30 mcg	
Cefotaxime	CTX	30 mcg	
Cefadroxil	CFR	30 mcg	
Azithromycin	AZM	15 mcg	
Ampicillin/Cloxacillin	AX	10 mcg	
Penicillin	P	10 units	
Amikacin	AK	30 mcg	
Sparfloxacin	SPX	5 mcg	
Ampicillin/ Sulbactam	A/S	10/10 mcg)	
***Icosa Universal - 2**			**IC006-1PK**
Amikacin	AK	30 mcg	
Ampicillin	AMP	10 mcg	
Amoxicillin	AMX	10 mcg	
Cefadroxil	CFR	30 mcg	
Cefoperazone	CPZ	75 mcg	
Ceftazidime	CAZ	30 mcg	
Ceftriaxone	CTR	30 mcg	
Chloramphenicol	C	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Cloxacillin	COX	1 mcg	
Co-Trimoxazole	COT	25 mcg	
Erythromycin	E	15 mcg	
Gentamicin	GEN	10 mcg	
Nalidixic Acid	NA	10 mcg	
Netillin	NET	30 mcg	
Nitrofurantoin	NIT	300 mcg	
Norfloxacin	NX	10 mcg	
Penicillin	P	10 units	
Tobramycin	TOB	10 mcg	
Vancomycin	VA	30 mcg	

Product	Symbol	Levels	Code
Gram-positive Organisms			
***Icosa G-I-Plus**			**IC002-1PK**
Cephalothin	CEP	30 mcg	
Clindamycin	CD	2 mcg	
Co-Trimoxazole	COT	25 mcg	
Erythromycin	E	15 mcg	
Gentamicin	GEN	10 mcg	
Ofloxacin	OF	5 mcg	
Penicillin	P	10 units	
Vancomycin	VA	30 mcg	
Ampicillin	AMP	10 mcg	
Chloramphenicol	C	30 mcg	
Oxacillin	OX	1 mcg	
Linezolid	LZ	30 mcg	
Azithromycin	AZM	15 mcg	
Amikacin	AK	30 mcg	
Clarithromycin	CLR	15 mcg	
Teicoplanin	TEI	10 mcg	
Methicillin	MET	5 mcg	
Amoxyclav	AMC	30 mcg	
Novobiocin	NV	5 mcg	
Tetracycline	TE	30 mcg	
Gram - negative Organisms			
***Icosa G-I-Minus**			**IC003-1PK**
Imipenem	IPM	10 mcg	
Ciprofloxacin	CIP	5 mcg	
Tobramycin	TOB	10 mcg	
Moxifloxacin	MO	5 mcg	
Ofloxacin	OF	5 mcg	
Sparfloxacin	SPX	5 mcg	
Levofloxacin	LE	5 mcg	
Norfloxacin	NX	10 mcg	
Co-Trimoxazole	COT	25 mcg	
Colistin	CL	10 mcg	
Nalidixic acid	NA	30 mcg	
Augmentin	AMC	30 mcg	
Kanamycin	K	30 mcg	
Gatifloxacin	GAT	5 mcg	
Gentamicin	GEN	10 mcg	
Amikacin	AK	30 mcg	
Streptomycin	S	25 mcg	
Ceftriaxone	CTR	30 mcg	
Cefpodoxime	CPD	10 mcg	
Ticarcillin	TI	75 mcg	

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Icosa Discs

HiMedia 20-in-one ready antibiotic combination modules

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Product	Symbol	Levels	Code
***Icosa G-II-Minus**			**IC008-1PK**
Imipenem	IPM	10 mcg	
Ciprofloxacin	CIP	5 mcg	
Tobramycin	TOB	10 mcg	
Moxifloxacin	MO	5 mcg	
Ofloxacin	OF	5 mcg	
Ceftazidime	CAZ	30 mcg	
Levofloxacin	LE	5 mcg	
Norfloxacin	NX	10 mcg	
Co-Trimoxazole	COT	25 mcg	
Colistin	CL	10 mcg	
Nalidixic acid	NA	30 mcg	
Augmentin	AMC	30 mcg	
Cefoxitin	CX	30 mcg	
Gatifloxacin	GAT	5 mcg	
Gentamicin	GEN	10 mcg	
Amikacin	AK	30 mcg	
Aztreonam	AT	30 mcg	
Ceftriaxone	CTR	30 mcg	
Cefpodoxime	CPD	10 mcg	
Nitrofurantoin	NIT	300 mcg	
UTI Pathogenic Organisms			
***Icosa UTI - 1**			**IC004-1PK**
Ampicillin	AMP	10 mcg	
Cefotaxime	CTX	30 mcg	
Cephalothin	CEP	30 mcg	
Co-Trimoxazole	COT	25 mcg	
Gentamicin	GEN	10 mcg	
Nitrofurantoin	NIT	300 mcg	
Norfloxacin	NX	10 mcg	
Cefoperazone	CPZ	75 mcg	
Amikacin	AK	30 mcg	
Piperacillin /Tazobactam	PIT	100/10 mcg	
Cefepime	CPM	30 mcg	
Ciprofloxacin	CIP	5 mcg	
Cefazolin	CZ	30 mcg	
Streptomycin	S	10 mcg	
Doxycycline Hydrochloride	DO	30 mcg	
Moxifloxacin	MO	5 mcg	
Carbenicillin	CB	100 mcg	
Gatifloxacin	GAT	5 mcg	
Tetracycline	TE	30 mcg	
Ampicillin/Sulbactam	A/S	10/10 mcg	

Product	Symbol	Levels	Code
Pseudomonas			
***Icosa Pseudo - 1**			**IC005-1PK**
Amikacin	AK	30 mcg	
Gentamicin	GEN	10 mcg	
Imipenem	IPM	10 mcg	
Carbenicillin	CB	100 mcg	
Piperacillin	PI	100 mcg	
Aztreonam	AT	30 mcg	
Tobramycin	TOB	10 mcg	
Norfloxacin	NX	10 mcg	
Ciprofloxacin	CIP	5 mcg	
Ticarcillin/Clavulanic acid	TCC	75/10 mcg	
Cefoperazone	CPZ	75 mcg	
Azlocillin	AZ	75 mcg	
Levofloxacin	LE	5 mcg	
Ticarcillin	TI	75 mcg	
Ofloxacin	OF	5 mcg	
Mezlocillin	MZ	75 mcg	
Gatifloxacin	GAT	5 mcg	
Piperacillin/Tazobactam	PIT	100 / 10 mcg	
Ceftriaxone	CTR	30 mcg	
Netillin	NET	30 mcg	
***Icosa Pseudo - 2**			**IC007-1PK**
Amikacin	AK	30 mcg	
Gentamicin	GEN	10 mcg	
Imipenem	IPM	10 mcg	
Carbenicillin	CB	100 mcg	
Piperacillin	PI	100 mcg	
Aztreonam	AT	30 mcg	
Tobramycin	TOB	10 mcg	
Polymyxin-B	PB	300 mcg	
Ciprofloxacin	CIP	5 mcg	
Ticarcillin/Clavulanic acid	TCC	75/10 mcg	
Cefoperazone	CPZ	75 mcg	
Cefoperazone/Sulbactam	CFS	75/10 mcg	
Levofloxacin	LE	5 mcg	
Ticarcillin	TI	75 mcg	
Colistin	CL	10 mcg	
Cefepime	CPM	30 mcg	
Ampicillin/Sulbactam	A/S	10/10 mcg	
Piperacillin/Tazobactam	PIT	100/10 mcg	
Ceftriaxone	CTR	30 mcg	
Netillin	NET	30 mcg	

* : On receipt, store at -20°C.
On receipt all the other products to be stored between -20°C to 8°C. For prolonged use, store at or below -20°C.
The code nos. indicated in red have the concentration of antibiotics as per CLSI (formerly NCCLS) Standards.

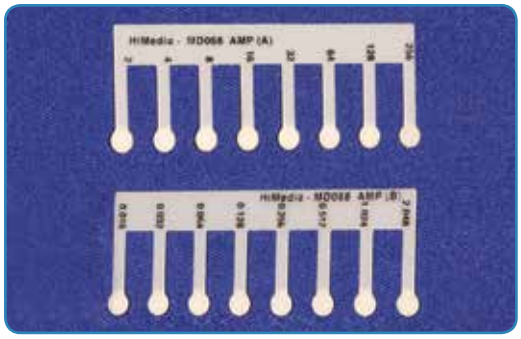
HiComb™ MIC Strips

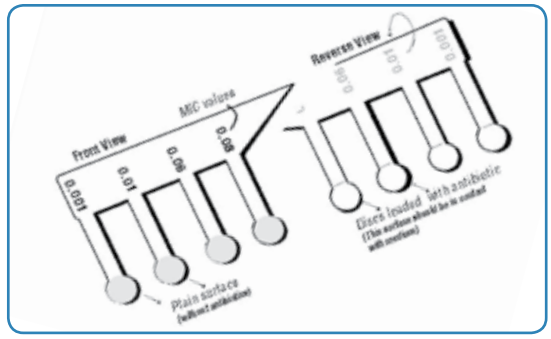
Product Specifications

HiComb™ consists of a strip made of an inert material, with 8 extensions that carry the discs of 4 mm, resembling the 'tooth' of a comb. Towards the stem of the strip, MIC reading scale in µg/ml is given along with the HiMedia code. A defined concentration of antibiotic is loadedd on each of the disc so as to form a gradient when placed on agar plate. HiComb™ (based on the principle of dilution and diffusion) consists of a gradient that covers a continuous range of 16 two-fold dilutions on 2 different strips (Part A & B) as per the conventional MIC method. When applied to the agar surface, the antibiotic instantaneously diffuses into the surrounding medium in high to low amounts from one end of the strip to the other. The gradient remains after diffusion, and the zone of inhibition created takes the form of ellipse.

Hicomb™ is advantageous for routine use as it is simple to set up and perform, and is rapid than any agar or broth dilution method. The test has special advantage to study the resistance surveillance. The wide concentration gradients of these tests cover the MIC ranges of susceptibillity of a wide variety of pathogens and allow both low level and high-level resistance detection.

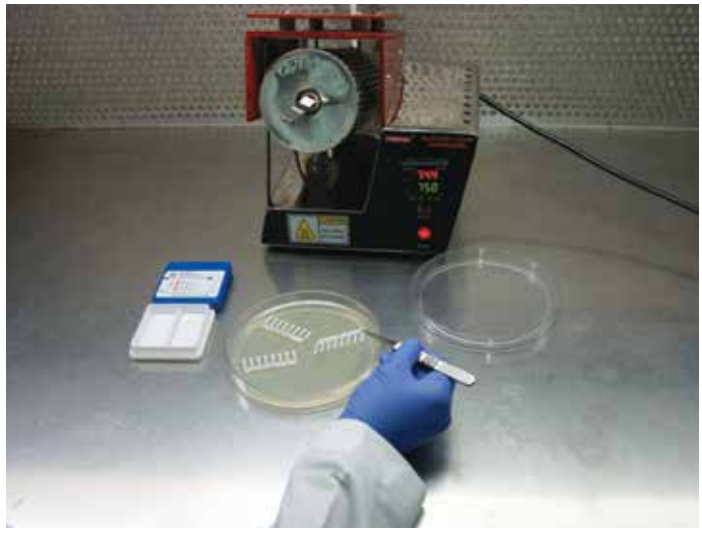
HiComb™ Strip





Precautions

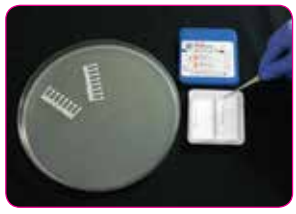
1. This strip is INTENDED ONLY FOR AGAR DIFFUSION METHOD AND NOT FOR BROTH DILUTION METHOD.
2. HiComb™ should be used for *In vitro* diagnostic purpose only and aseptic procedures and precautions should be used when handling bacterial samples throughout the testing procedure.
3. Before using HiComb™ strips, ensure that the strip is at Room temperature or 25°C.
4. Pick the HiComb™ strip by its handle.
5. If accidentally dropped on to a dry sterile surface, pick the strip up and use it.
6. If dropped in, an incorrect position, leave the strip there and use the other region of the plate.
7. When applying strips be steady. Do not move the strip once in contact with the agar surface, since the antibiotic instantaneously diffuse on contact with agar.
8. For fastidious organisms or very susceptible species, use only 4 to 5 strips on a 200 mm plate one on a 90 mm plate.
9. Strips should be applied with sterile forceps.
10. HiComb™ MIC strips are made of filter paper and the antibiotic gradient is created on the strip by applying different concentration of antibiotics. These strips must be handled very carefully as many of the antimicrobial agents are temperature sensitive Unopened strips should be allowed to equilibrate to room temperature before opening.



Using HiComb™ Strips

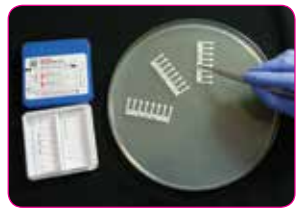
Step 1

Step 2



Step 3

Step 4



Step 5

Step 6

Step 7

1. Open the pack of HiComb™ under aseptic conditions.
2. Pick up one strip by its handle with a sterile forceps.
3. Place the strip with its higher concentration facing the edge of plate and the markings on strip facing upwards.
4. Press gently on the handle of the strip and assure that all the discs are in full contact with the medium.
5. Place other strip on the opposite side of plate with higher concentration towards the edge of plate and lower concentration towards the centre.
6. Close the plate and invert to check wether all the disc are in full contact with the medium [6 strip (3 of A and 3 of B) can be placed on a 200 mm plate with the marking facing upward].
7. While placing MD strips on 90 mm plate place the discs facing towards the edge of the plate and the printed side towards the middle of the plate and place the 2 strips in opposite direction such that the highest concentration of the 2 strips are in the opposite direction.

Result & Interpretation

The zone of inhibition will be in the form of an ellipse. MIC value would be the value at which the zone convenes the comb-like projections of the strips and not at the handle. If there is no zone of inhibition observed, report the MIC as grater than highest concentration on the strip. If the zone of inhibition is below the lowest concentration then report the MIC as less than the lowest concentration then report the MIC as less than the lowest concentration.

The MIC value interpreted from part A might not necessarily be the same for part B. In that case while reporting the MIC value - report the value that is the lower of the two.

While reading on a blood agar plate ignore the hemolysis of blood.

While checking the MIC of *Proteus* spp ignore the swarming growth PLEASE REFER TO TABLE-1 FOR LIST OF ANTIBIOTICS, MIC RANGES AND INTERPRETIVE CRITERIA.

Applications

This test is useful for determining the antimicrobial susceptibility of aerobes and anaerobes, non-fastidious and fastidious organisms (ex: Pneumococci, Streptococci, Gonococci, *Haemophilus Neisseria*). It can be used to study low-level resistance to antibiotics for ex: penicillin resistance in Pneumoniae (PRP), vancomycin resistance in Enterococci (VRE). Fairly accurate MIC values for critical cases including spesis, endocarditis, meningitis, osteomyelitis, cystic fibrosis and immunocompromised patients can assist immediate patient management. It can be used to study local, national and international antibiotic resistance surveillances. newer antimicrobial agents, on similar lines can be also be adapted and developed with HiMedia.

References

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2. Bryskier A., Antimicrobial agents. 2005, ASM Press, USA
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6. Clinical and Laboratory Standards Institute (formerly NCCLS), Performance Standards for Antimicrobial Susceptibility Testing (M100 - S28), Vol. 38 No. 3 Jan. 2018, CLSI, Wayne, PA 19087 USA.
7. Howard B. J. (Ed.), 1987, Clinical and Pathogenic Microbiology, 2nd ed., Mosby Year Book, Inc., St. Louis, MO.

HiComb™ MIC Strips

Product	Symbol	Range in µg	Levels in µg	Code •
Antibacterial Agents				
Amikacin	**AK**	A : 256-0.1 B : 4-0.001	A : 256, 128, 64, 32, 16, 8, 4, 0.1 B : 4, 2, 1, 0.5, 0.1, 0.05, 0.01, 0.001	**MD001-1PK**
Amikacin	**AK**	A : 256-2 B : 2.048-0.016	A : 256, 128, 64, 32, 16, 8, 4, 2 B : 2.048, 1.024, 0.512, 0.256, 0.128, 0.064, 0.032, 0.016	**MD067-1PK**
***Amoxicillin**	**AMX**	A : 240-0.01 B : 4-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 4, 2, 1, 0.5, 0.1, 0.05, 0.01, 0.001	**MD002-1PK**
***Amoxyclav (Amoxicillin/ Clavulanic acid)**	**AMC**	A : 240-0.01 B : 4-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 4, 2, 1, 0.5, 0.1, 0.05, 0.01, 0.001	**MD003-1PK**
***Ampicillin**	**AMP**	A : 256-2 B : 2.048-0.016	A : 256, 128, 64, 32, 16, 8, 4, 2 B : 2.048, 1.024, 0.512, 0.256, 0.128, 0.064, 0.032, 0.016	**MD068-1PK**
Azithromycin	**AZM**	A : 128-0.01 B : 2-0.0001	A : 128, 64, 32, 16, 8, 4, 0.1, 0.01 B : 2, 1, 0.5, 0.1, 0.05, 0.01, 0.005, 0.0001	**MD004-1PK**
***Azlocillin**	**AZ**	A : 240-0.01 B : 16-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 16, 8, 4, 2, 1, 0.1, 0.01, 0.001	**MD005-1PK**
***Aztreonam**	**AT**	A : 240-0.01 B : 2-0.0001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 2, 1, 0.5, 0.1, 0.05, 0.01, 0.005, 0.0001	**MD006-1PK**
***Benzyl Penicillin**	**P**	A : 256-2 B : 2.048-0.016	A : 256, 128, 64, 32, 16, 8, 4, 2 B : 2.048, 1.024, 0.512, 0.256, 0.128, 0.064, 0.032, 0.016	**MD062-1PK**
***Carbenicillin**	**CB**	A : 512-0.1 B : 32-0.01	A : 512, 256, 128, 64, 32, 16, 4, 0.1 B : 32, 16, 8, 4, 2, 1, 0.1, 0.01	**MD007-1PK**
***Cefalexin (Cephalexin)**	**CN**	A : 240-0.01 B : 30-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 30, 15, 7.5, 3.0, 1.0, 0.1, 0.01, 0.001	**MD014-1PK**
***Cefazolin**	**CZ**	A : 240-0.01 B : 4-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 4, 2, 1, 0.5, 0.25, 0.1, 0.01, 0.001	**MD008-1PK**
***Cefdinir**	**CDR**	A : 240-0.01 B : 4-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 4, 2, 1, 0.5, 0.1, 0.01, 0.008, 0.001	**MD009-1PK**
***Cefepime**	**CPM**	A : 240-0.01 B : 30-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 30, 15, 7.5, 3.0, 1.0, 0.1, 0.01, 0.001	**MD010-1PK**
***Cefepime**	**CPM**	A : 256-2 B : 2.048-0.016	A : 256, 128, 64, 32, 16, 8, 4, 2 B : 2.048, 1.024, 0.512, 0.256, 0.128, 0.064, 0.032, 0.016	**MD070-1PK**
***Cefotaxime (Cephotaxime)**	**CTX**	A : 240-0.01 B : 30-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 30, 15, 7.5, 3.0, 1.0, 0.1, 0.01, 0.001	**MD015-1PK**
***Cefotaxime (Cephotaxime)**	**CTX**	A : 256-2 B : 2.048-0.016	A : 256, 128, 64, 32, 16, 8, 4, 2 B : 2.048, 1.024, 0.512, 0.256, 0.128, 0.064, 0.032, 0.016	**MD064-1PK**
***Cefpirome**	**CFP**	A : 240-0.01 B : 30-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 30, 15, 7.5, 3.0, 1.0, 0.1, 0.01, 0.001	**MD011-1PK**
***Ceftazidime**	**CAZ**	A : 240-0.01 B : 30-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 30, 15, 7.5, 3.0, 1.0, 0.1, 0.01, 0.001	**MD012-1PK**
***Ceftazidime**	**CAZ**	A : 256-2 B : 2.048-0.016	A : 256, 128, 64, 32, 16, 8, 4, 2 B : 2.048, 1.024, 0.512, 0.256, 0.128, 0.064, 0.032, 0.016	**MD069-1PK**
***Ceftriaxone**	**CTR**	A : 240-0.01 B : 30-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 30, 15, 7.5, 3.0, 1.0, 0.1, 0.01, 0.001	**MD013-1PK**
***Ceftriaxone**	**CTR**	A : 256-2 B : 2.048-0.016	A : 256, 128, 64, 32, 16, 8, 4, 2 B : 2.048, 1.024, 0.512, 0.256, 0.128, 0.064, 0.032, 0.016	**MD066-1PK**
Chloramphenicol	**C**	A : 240-0.01 B : 8-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 8, 4, 2, 1, 0.5, 0.1, 0.01, 0.001	**MD016-1PK**
Ciprofloxacin	**CIP**	A : 240-0.01 B : 2-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 2, 1, 0.5, 0.25, 0.01, 0.008, 0.004, 0.001	**MD017-1PK**
Clarithromycin	**CLR**	A : 240-0.01 B : 16-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 16, 8, 4, 2, 1, 0.1, 0.01, 0.001	**MD018-1PK**

* : On receipt, store at -20°C.
On receipt all the other products to be stored between -20°C to 8°C. For prolonged use, store at or below -20°C.
• 1 Pack contains 10 strips of A + 10 strips of B.

HiComb™ MIC Strips

Product	Symbol	Range in µg	Levels in µg	Code •
Clindamycin	**CD**	A : 240-0.01 B : 8-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 8, 4, 2, 0.5, 0.08, 0.06, 0.01, 0.001	**MD019-1PK**
Colistin (Methane Sulphonate)	**CL**	A : 240-0.01 B : 30-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 30, 15, 7.5, 3.0, 1.0, 0.1, 0.01, 0.001	**MD020-1PK**
Co-Trimoxazole (Sulpha/ Trimethoprim)	**COT**	A : 240-0.01 B : 4-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 4, 2, 1, 0.5, 0.1, 0.05, 0.01, 0.001	**MD021-1PK**
Erythromycin	**E**	A : 240-0.01 B : 4-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 4, 2, 1, 0.5, 0.25, 0.1, 0.01, 0.001	**MD022-1PK**
Fusidic Acid	**FC**	A : 240-0.01 B : 30-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 30, 15, 7.5, 3.0, 1.0, 0.1, 0.01, 0.001	**MD023-1PK**
Gatifloxacin	**GAT**	A : 64-0.01 B : 2-0.001	A : 64, 32, 16, 8, 4, 2, 0.1, 0.01 B : 2, 1, 0.5, 0.1, 0.03, 0.008, 0.004, 0.001	**MD024-1PK**
Gemifloxacin	**GEM**	A : 240-0.001 B : 4-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 4, 2, 1, 0.5, 0.25, 0.1, 0.01, 0.001	**MD076-1PK**
Gentamicin	**GEN**	A : 240-0.01 B : 5-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 5, 2, 1, 0.5, 0.25, 0.1, 0.01, 0.001	**MD025-1PK**
Gentamicin	**GEN**	A : 1024-8 B : 8.192-0.064	A : 1024, 512, 256, 128, 64, 32, 16, 8 B : 8. 192, 4.096, 2.048, 1.024, 0.512, 0.256, 0.128, 0.064	**MD061-1PK**
Kanamycin	**K**	A : 240-0.01 B : 30-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 30, 15, 7.5, 3.0, 1.0, 0.1, 0.01, 0.001	**MD026-1PK**
Levofloxacin	**LE**	A : 240-0.01 B : 5-0.005	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 5, 4, 2, 1, 0.5, 0.25, 0.05, 0.005	**MD027-1PK**
Lincomycin	**L**	A : 240-0.01 B : 30-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 30, 15, 7.5, 3.0, 1.0, 0.1, 0.01, 0.001	**MD028-1PK**
Linezolid	**LZ**	A : 240-0.01 B : 8-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 8, 4, 2, 1, 0.5, 0.1, 0.01, 0.001	**MD029-1PK**
Lomefloxacin	**LOM**	A : 240-0.01 B : 4-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 4, 2, 1, 0.5, 0.25, 0.1, 0.01, 0.001	**MD030-1PK**
***Methicillin**	**MET**	A : 240-0.01 B : 4-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 4, 2, 1, 0.5, 0.25, 0.1, 0.01, 0.001	**MD031-1PK**
Minocycline	**MI**	A : 240-0.01 B : 4-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 4, 2, 1, 0.5, 0.25, 0.1, 0.01, 0.001	**MD032-1PK**
Moxifloxacin	**MO**	A : 240-0.01 B : 32-0.005	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 32, 16, 8, 4, 0.1, 0.06, 0.03, 0.005	**MD033-1PK**
Mupirocin	**MU**	A : 240-0.01 B : 30-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 30, 15, 7.5, 3.0, 1.0, 0.1, 0.01, 0.001	**MD034-1PK**
Nalidixic Acid	**NA**	A : 240-0.01 B : 8-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 8, 4, 2, 1, 0.5, 0.1, 0.05, 0.001	**MD035-1PK**
Neomycin	**N**	A : 240-0.01 B : 30-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 30, 15, 7.5, 3.0, 1.0, 0.1, 0.01, 0.001	**MD036-1PK**
Nitrofurantoin	**NIT**	A : 240-0.01 B : 30-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 30, 15, 7.5, 3.0, 1.0, 0.1, 0.01, 0.001	**MD037-1PK**
Norfloxacin	**NX**	A : 240-0.01 B : 8-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 8, 4, 2, 1, 0.5, 0.1, 0.05, 0.001	**MD038-1PK**
Ofloxacin	**OF**	A : 64-0.01 B : 8-0.001	A : 64, 32, 16, 8, 4, 2, 0.1, 0.01 B : 8, 4, 2, 0.5, 0.15, 0.06, 0.004, 0.001	**MD039-1PK**
***Oxacillin**	**OX**	A : 256-2 B : 2.048-0.016	A : 256, 128, 64, 32, 16, 8, 4, 2 B : 2.048, 1.024, 0.512, 0.256, 0.128, 0.064, 0.032, 0.016	**MD065-1PK**
Pefloxacin	**PF**	A : 240-0.01 B : 30-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 30, 15, 7.5, 3.0, 1.0, 0.1, 0.01, 0.001	**MD040-1PK**

* : On receipt, store at -20°C.
On receipt all the other products to be stored between -20°C to 8°C. For prolonged use, store at or below -20°C.
• 1 Pack contains 10 strips of A + 10 strips of B.

HiComb™ MIC Strips

Product	Symbol	Range in µg	Levels in µg	Code •
***Piperacillin**	**PI**	A : 240-0.01 B : 5-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 5, 1, 0.5, 0.1, 0.08, 0.06, 0.01, 0.001	**MD041-1PK**
***Piperacillin/Tazobactam**	**PIT**	A : 240-0.01 B : 5-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 5, 1, 0.5, 0.1, 0.08, 0.06, 0.01, 0.001	**MD042-1PK**
Polymyxin-B	**PB**	A : 240-0.01 B : 32-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 32, 16, 8, 4, 1, 0.1, 0.01, 0.001	**MD043-1PK**
Pristinomycin (Quinupristin/Dalfopristin)	**RP**	A : 240-0.01 B : 30-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 30, 15, 7.5, 3.0, 1.0, 0.1, 0.01, 0.001	**MD044-1PK**
Rifampicin	**RIF**	A : 240-0.01 B : 32-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 32, 16, 8, 4, 1, 0.1, 0.01, 0.001	**MD045-1PK**
Roxithromycin	**RO**	A : 240-0.01 B : 30-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 30, 15, 7.5, 3.0, 1.0, 0.1, 0.01, 0.001	**MD046-1PK**
Sparfloxacin	**SPX**	A : 64-0.01 B : 2-0.001	A : 64, 32, 16, 8, 4, 2, 1, 0.01 B : 2, 1, 0.5, 0.1, 0.06, 0.03, 0.004, 0.001	**MD047-1PK**
Streptomycin	**S**	A : 240-0.01 B : 30-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 30, 15, 7.5, 3.0, 1.0, 0.1, 0.01, 0.001	**MD048-1PK**
Sulfasomidine	**SO**	A : 240-0.01 B : 30-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 30, 15, 7.5, 3.0, 1.0, 0.1, 0.01, 0.001	**MD049-1PK**
Sulphadiazine	**SZ**	A : 240-0.01 B : 30-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 30, 15, 7.5, 3.0, 1.0, 0.1, 0.01, 0.001	**MD050-1PK**
Sulphafurazole (Sulfisoxazole)	**SF**	A : 240-0.01 B : 30-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 30, 15, 7.5, 3.0, 1.0, 0.1, 0.01, 0.001	**MD051-1PK**
Sulphamethizole	**SM**	A : 240-0.01 B : 30-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 30, 15, 7.5, 3.0, 1.0, 0.1, 0.01, 0.001	**MD052-1PK**
Sulphamethoxypyridazine	**ST**	A : 240-0.01 B : 30-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 30, 15, 7.5, 3.0, 1.0, 0.1, 0.01, 0.001	**MD053-1PK**
Sulphaphenazole	**SP**	A : 240-0.01 B : 30-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 30, 15, 7.5, 3.0, 1.0, 0.1, 0.01, 0.001	**MD054-1PK**
Teicoplanin	**TEI**	A : 240-0.01 B : 1-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 1, 0.8, 0.5, 0.25, 0.1, 0.05, 0.01, 0.001	**MD055-1PK**
Tetracycline	**TE**	A : 240-0.01 B : 5-0.01	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 5, 3, 2, 1, 0.5, 0.25, 0.1, 0.01	**MD056-1PK**
***Ticarcillin**	**TI**	A : 240-0.01 B : 16-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 16, 8, 4, 2, 1, 0.1, 0.01, 0.001	**MD057-1PK**
Tobramycin	**TOB**	A : 240-0.01 B : 16-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 16, 8, 4, 2, 1, 0.1, 0.01, 0.001	**MD058-1PK**
Trimethoprim	**TR**	A : 240-0.01 B : 32-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 32, 16, 8, 4, 2, 0.1, 0.01, 0.001	**MD059-1PK**
Vancomycin	**VA**	A : 240-0.01 B : 4-0.001	A : 240, 120, 60, 30, 10, 5, 0.1, 0.01 B : 4, 2, 1, 0.5, 0.1, 0.05, 0.01, 0.001	**MD060-1PK**
Vancomycin	**VA**	A : 256-2 B : 2.048-0.016	A : 256, 128, 64, 32, 16, 8, 4, 2 B : 2.048, 1.024, 0.512, 0.256, 0.128, 0.064, 0.032, 0.016	**MD063-1PK**
Antifungal Agents				
Amphotericin B	**AP**	A : 32-0.25 B : 0.256-0.002	A : 32, 16, 8, 4, 2, 1, 0.5, 0.25 B : 0.256, 0.128, 0.064, 0.032, 0.016, 0.008, 0.004, 0.002	**MD071-1PK**
Fluconazole	**FLC**	A : 256-2 B : 2.048-0.016	A : 256, 128, 64, 32, 16, 8, 4, 2 B : 2.048, 1.024, 0.512, 0.256, 0.128, 0.064, 0.032, 0.016	**MD072-1PK**
Itraconazole	**IT**	A : 32-0.25 B : 0.256-0.002	A : 32, 16, 8, 4, 2, 1, 0.5, 0.25 B : 0.256, 0.128, 0.064, 0.032, 0.016, 0.008, 0.004, 0.002	**MD073-1PK**
Ketoconazole	**KT**	A : 32-0.25 B : 0.256-0.002	A : 32, 16, 8, 4, 2, 1, 0.5, 0.25 B : 0.256, 0.128, 0.064, 0.032, 0.016, 0.008, 0.004, 0.002	**MD074-1PK**

* : On receipt, store at -20°C.
On receipt all the other products to be stored between -20°C to 8°C. For prolonged use, store at or below -20°C.
• 1 Pack contains 10 strips of A + 10 strips of B.

Quality Parameters

Quality parameters are important in this test as with any other clinical test to ensure that accurate and reproducible results are generated. For quality control of disc diffusion tests, CLSI (formerly NCCLS) has recommended use of ATCC reference strains[2].

List of reference strains used in Quality control testing recommended by CLSI

- Cultures used for testing Antibacterial Sensitivity discs, HexaDiscs, OctoDiscs, Dodeca Discs, Icosa Discs
  Escherichia coli ATCC 25922
  Staphylococcus aureus ATCC 25913
  Pseudomonas aeruginosa ATCC 27853
  Escherichia coli ATCC 35218
  Enterococcus faecalis ATCC 29212 (For HLAR Screening discs)
  Klebsiella pneumoniae ATCC 700603 (For ESBL Kits)
- Cultures used for testing HiComb™ MIC Test strips
  Escherichia coli ATCC 25922
  Staphylococcus aureus ATCC 29213
  Pseudomonas aeruginosa ATCC 27853
  Enterococcus faecalis ATCC 29212
- Cultures used for testing Antifungal Sensitivity discs
  Candida albicans ATCC 90028
  Candida parapsilosis ATCC 22019
  Candida tropicalis ATCC 750
  Candida krusei ATCC 6258

When these strains produce the results that fall within the specified limits, the susceptibility tests are considered to be in control 12. The inhibition zones should be in the range like susceptible (sensitive) intermediate and resistant of the isolate used in discs diffusion. By performing routine testing of reference strains number of test parameters are controlled as follows:

1. Test medium (agar depth, cation content, medium composition, pH, thymidine content etc).
2. Antimicrobial potency.
3. Standardization of inoculum and inoculation technique.
4. Incubation conditions like temperature, atmosphere etc.
5. Instrument functioning and measurement of end points.
6. The test parameters which are not controlled by performance testing of the reference strains are as follows:-
   - Individual technical errors
   - Individual antimicrobial test problems
   - Interpretation of results
   - Sodium chloride content for Oxacillin test with *Staphylococci* etc.

Antibiograms

An Antibiogram is one of the most helpful additional quality control measure for the verification of results generated on a clinical isolate. It is the susceptibility profile of a bacterial isolate to a battery of antimicrobial agents[12]. Typical susceptibility or resistance of specific bacteria towards particular drugs and the identity of a specific isolate can be checked against its expected antibiogram.

However one should be aware of typical, atypical or uncommon antibiograms[12]. To identify atypical antibiograms, basic knowledge of antimicrobial agents is nedded as difficulties in newer types of antimicrobial resistance are encountered. The factors like relatedness or the generation of a particular antibiotic should also be considered e.g. the third generation of Cephalosporins are more active than the second generation agents and the second generation agents are more active than the first generation agents, against *Enterobacteriaceae*.

Clinical Utility of Antimicrobial Susceptibility Tests

Antimicrobial susceptibility tests are performed on bacteria presumed of causing an infection, when the response to therapy with a particular antimicrobial agent is difficult to predict, depending on the identification of the bacterium. Some important things have to be taken into account while determining the necessity of antimicrobial susceptibility tests.

Several pathogenic bacteria have unpredictable antimicrobial susceptibility patterns to drugs that are used in clinical settings. For a particular antimicrobial agent the percentage of an isolate susceptibile to it may very considerably. Usually increased resisstance is observed in chronic care facilities and isolates from hospitalized patients as compare to isolates from patients with community acquired infections. Body site is also an important factor in the antimicrobial susceptibility test. For e.g. *Escherichia coli* isolated from faeces does not require susceptibility testing as this species is part of the normal flora of faeces. However, *Escherichia coli* isolated from blood should be tested since this is an indication of bacteremia which requires antimicrobial therapy.

Colony counts of pathogenic organisms and the presence of saprophytic commensals is also an important factor. Isolates from patients with immunosuppression may require antimicrobial susceptibility testing, irrespective of body site or colony count. It may even be necessary to test normal flora since this may be the cause of infection in such special situations.

Institutional Factors

One of the prime institutional factors is the patient's age. Certain antimicrobial agents are not suitable in children and hence the testing with these agents is not advisable. e.g. Quinolones can adversely affect the development of cartilage and Tetracycline may damage development of teeth.

Broad spectrum agents are required for treatment of immunosuppressed patients. For selection of antimicrobial agents for testing, the efficacy of these agents against organisms encountered in the particular hospital or institutional setting must be considered.

CLSI Testing and Reporting Guidelines

CLSI is the most widely used resource for development of strategies for testing and reporting specific antimicrobial agents.[2,12] Inappropriate testing and reporting decisions should be avoided by following the CLSI guidelines. If particular antimicrobial agent/s are not included in the CLSI (formerly NCCLS) list for specific organism/s, suitable techniques of testing and reporting of the agents against the organisms should be investigated further. Testing of certain agents against specific organisms groups may give false susceptibility results. Antibiotics like Cephalosporins should not be tested against Enterococci as these are clinically ineffective for treating enterococcal infections inspite of minimal *In vitro* activity.

Correlation of *In vitro* results with clinical factors is another very important factor. *In vivo* concentration attained at different body sites varies depending on the dose of drug, route of administration, protein binding, renal and hepatic functions of the patient and the vulnerability of the *In vivo* environment to antibacterial activity. Immune status of the patient and the nature of bacteria causing infection also influence the outcome of therapy. It should be noted here that correlation of susceptibility results with clinical success is far from perfect.[13] Correlation of resistance with clinical failure is relatively higher, especially in infections with associated immunosuppression.[12]

Interpretation

Interpret sizes of zone diameters of inhibition sizes based on criteria specified by CLSI specified at the end of the booklet.

Note

1. Ampicillin disc can be used for testing susceptibility to Amoxicillin as well.
2. Cephalothin disc can be used for testing suscptibility to Cephapirin, Cephaloridine, Cephalexin, Cefaclor, Cefoxitin, Cefazolin, Cephradine and Cephadroxil as well.
3. The Sulfisoxazole (Sulphafurazole) disc can be used to represent any of the currently available sulfonamide preparations.
4. The category "Intermediate" should be reported. Infections with bacteria of intermediate susceptibility may be considered moderately susceptible and may respond to antimicrobial agents with a wide safe dosage range.
5. While using MultiDiscs, known positive (susceptible) control cultures must be used. Results can be interpreted as :
   Sensitive : a zone within 3 mm radius of that of the positive control.
   Resistant : a zone of not more than 2 mm radius.
   Intermediate : a zone falling between the above limits.
6. Since certain strains of *Providencia* spp. have been reported to give false susceptible results with Cefprozil discs, strains of this genus should not be tested by a MIC method.
7. All Staphylococcal isolates with zone diameters of 14 mm or less should be tested by a MIC method.
8. For testing of vancomycin against Enterococci, plates should be incubated for full 24 hrs & examined using transmitted light, the presence of haziness or any growth within the zone of inhibation indicates resistance.
9. Ofloxacin susceptible *Streptococcus pneumoniae* will also be susceptible to levofloxacin.
10. Susceptibility & resistance to Azithromycin, Clarithromycin & Dirithromycin can be using Erythromycin for Streptococci.

Precautions

1. Accuracy of the test depends on disc potency, proper inoculum, functional pretested medium plates (nature of the medium and its depth), inoculation technique, incubation temperature and time etc.
2. To maintain the potency of discs, store the stock containers of discs in the freezer at -20°C. The discs when required for use within a week, may be kept in refrigerator (below 8°C) and the remainder should be kept with desiccant and tightly closed container caps in the freezer.
3. Remove the antimicrobial discs from refrigerator to room temperature 1-2 hours before use to avoid condensation. Return unused discs to refrigerator immediately after applications.
4. Even during the time taken to use the discs, care should be taken that the discs are not exposed to higher temperature like vicinity of burner or left open for a longer time before and after the use.
5. While reading results :
   - Ignore swarming of *Proteus* species if zones of inhibition are clearly defined.
   - Measure the Sulphonamide zones at the margin of heavy growth since Sulphonamide may not inhibit organisms for several generations and slight growth may appear within zones of inhibition.
   - Subculture, reidentify and retest any large colony growing within a clear zone of inhibition.
6. Control tests using known cultures should be included every time when a susceptibility test is performed.

7. Antibacterial agents other than those listed in Interpretative Chart are currently used in clinical practice. Susceptibility tests for these agents should be interpreted on the basis of presence or absence of a definite zone of inhibition and should be considered as only qualitative until the time interpretative zones have been established.

Precautions

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HiMedia Susceptibility Testing Media

HiMedia, manufacturers of world class culture media, have their own range of Antimicrobial Susceptibility Testing Media as listed below.

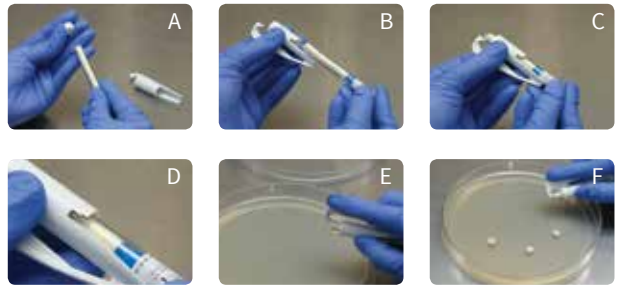
Dehydrated Powder Media supplied by HiMedia for Susceptibility Testing		Ready prepared Medias for Susceptibility Testing		Medias recommended by CLSI for Susceptibility Testing	
M173	Mueller Hinton Agar	MP173*	Mueller Hinton Agar Plate (90 mm Plate)	For AST by Agar Diffusion Method	
MV173	Mueller Hinton HiVeg™ Agar	SM173	Mueller Hinton Agar (Sterile Solid Medium to be melted and used)	For rapidly growing aerobic organisms	
M1084	Mueller Hinton Agar No. 2	MP1084	Mueller Hinton Agar No. 2 Plate	M173	Mueller Hinton Agar
MV1084	Mueller Hinton HiVeg™ Agar No. 2	MP1804GT	Mueller Hinton Agar No. 2 Plate, Gamma irradiated, Triple pack	M1084	Mueller Hinton Agar No. 2
M1259	Haemophilus Test Agar Base	MP1806	Mueller Hinton Agar Plate w/ 5% Sheep Blood	For *Haemophilus* species	
M1825	Mueller Hinton Agar 2% Glucose w/ Methylene blue	MP1825	Mueller Hindton Agar Plate with 2% Glucose w/Methylene Blue	M1259 & FD117	Haemophilus Test Agar Base
M434	GC Agar Base			FD117	Haemophilus Growth Supplement
M391	Mueller Hinton Broth	* Mueller Hinton Agar Plates are available in different sized prepared media plates		For *S.pneumoniae*	
MV391	Mueller Hinton HiVeg™ Broth			M173	Mueller Hinton Agar supplemented with 5% Sheep blood
M1657	Mueller Hinton Broth No. 2 Control Cations			For *Neisseria* Species	
M502	Diagnostic Sensitivity Test Agar (D.S.T. Agar)	MP173C (100 mm) MP173M (120 mm) MP173L (150 mm) MP173XL (200 mm)		M434 & FD025	G.C. Agar + 1% defined growth supplement
M485	Hi-Sensitivity™ Test Agar			FD025	Vitamino Growth Supplement (Twin Pack)
MV485	Hi-Sensitivity™ Test HiVeg™ Agar				
M485A	HiSitest™ Agar				
M296	Sensitivity Test Medium			For AST by Tube Dilution Method	
M308	Sulpha Sensitivity Test Agar			M391	Mueller Hinton Broth

Applicator

HiMedia provides an applicator for smooth & efficient despensing of single sensitivity discs (SD).

Operation

1. Open the cartridge under aseptic conditions (figure - A).
2. Fix the applicator on the groove provided on the cartridge, so that it gets locked (figure - B, C & D).
3. Move the dispensing arm of the applicator over the disc to push it out of the cartridge on the prepared agar plate (figure - E & F).



Disc Dispensers

LA971, Disc Dispenser 8 position with Advance Design Antibiotic Disc dispenser

The unique ergonomically designed single stroke, self tamping 8 position Antibiotic Disc Dispenser is profiled for users convenience.

This single hand operation dispenser consists of an 8 position-rotating turret with a vertical depressor tower. Labels of all disc cartridges (eight disc cartridges) can be viewed clearly by the operator while in use. Further the blue pushers pressing against the Hidiscs within each cartridge are also visible through the clear plastic dome for easy detection of the cartridge that is exhausted. It is possible for the operator to neatly dispense 8 sensitive disc on the plate at a time. The operator has to simply arrange petriplates on LAF platform, use one hand (generally left) to lift the petriplate and other hand (generally right) to dispense the discs.

The self tamping device neatly tucks in all 8 discs onto the agar medium surface. Thus the dispensing activity can be done in quick succession for a large scale operation.

These dispensers are particularly suitable for hospitals where large scale antimicrobial testing is to be done in record time. Even for smaller laboratories, this minimizes the stress and toil of the lab technician, helping in maintaining high working efficiency.

Technique and prepartion :

When 8 discs are required to be placed onto a petriplate select 8 discs cartridges as desired. Hold each of these horizontally and tap lightly on a hard table surface to ensure proper alignment of the discs inside. Now holding each cartridge vertically tap the dispensing end lightly on hard surface that all discs are in proper flat contact with one another.

Insert discs cartridges vertically into the circular receptacles. Ensure that each cartridge is fully inserted in its position and pressed tightly before operation. Remove their caps and place these discs vertically in predetermined sequence into the numbered holes so that each cartridge is fully pressed into the 'Click-Fit' position.

Now holding the dispenser at about 3" height from the table release it to fall gently on the table 3 or 4 times, to ensure that all the discs in all cartridges are in full contact with one another. The dispenser is now ready for operation.

Operation :

Ensure as above that each cartridge is fully pressed into the 'Click-Fit' position.

Now adjust the self tamping motion by manipulating the plunger head height with the help of 2 screws provided on the circular periphery of the instrument. This is to be done to suit the agar levels in the plates, so that the discs are gently pressed into the agar surface.

For lower media volumes (approx. 15 ml), the screws on the outer surface should be fixed in position 8.

For intermediate media volumes (approx. 20 ml) the screws on the outer surface should be adjusted in position 9.

For High media volumes (approx 0.25ml) 25 ml medium, adjust the plunger height to position 10.

Now the dispenser is ready to use. The agar plates inoculated with the test culture can now be arranged on the table so that the dispenser can be positioned on them one after the other and the 8 discs dispensed as shown by pressing the tower cap gently. Depress fully and turn the plunger clockwise without stopping and release.The dispenser will place 8/6 discs and press them firmly onto the agar surface.

The plates are now ready for incubation.

When all the 50 Discs are dispensed from each of the cartridges the dispensing cycle is complete. If any one of the cartridges gets empty, the dispenser will not operate indicating thereby that the empty cartridges need to be discarded and new ones placed into position.

Cleaning

The Discs Dispenser should be cleaned using distilled water, if necessary with a few drops of liquid soap added to it. Finally rinse with clean distilled water and dry.

If some parts of the dispenser get contaminated for some reason, they can be sterilized by dipping the dispenser in ethanol diluted in water (70% v/v solution) for five minutes and final rinsing with clean distilled water. Make sure to dry the dispenser before use.

Important

Discs Dispenser LA971 is designed for use with 90 mm diameter petri plates only. We recommend use of HiMedia petri plates code nos PW001 / PW1132 / PW1132G / PW1199 / PW1199G / PW1173 (sterile disposable) or PW008 (autoclavable).

Do not use solvents like acetone, chloroform, xylene and water dispersible disinfectants like phenyl, dettol, savlon etc.for cleaning of dispenser.

PW096/PW297 - Antibiotic Zone Scale

Accurate measurement of growth inhibition zone size of antimicrobial susceptibility test discs; so vital for the laboratory technician has always been extremely time consuming and laborious. Many times the zones are overlapping, causing significant chances of error in measurement. HiMedia's original invention, this zone scale has a perfect answer to solve this problem.

Addressing these problems HiMedia offers a innovative, simple, accurative, efficient solution which is free from trial and error.

1. Placing the plate on some dark surface slide the scale on the inhibition zone to be measured to match appropriate circle on the scale and read. Write the measured size on the plate with a marker pen.
2. Measure all the inhibition zones in the above manner and write the sizes measured on corresponding zones.

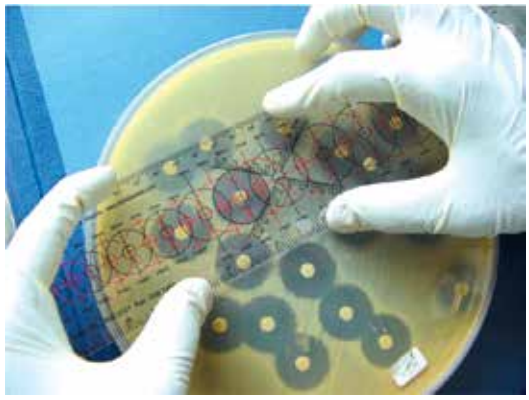
It is suggested that the Zone Scale be kept in its resealable PP transparent case, to assure that the scale stays scratch free.

PW096, antibiotic zone scale of dimensions 370 x 65 mm, is convenient means of accurate zone reading. It can measure zones in the range of 10 -40 mm.

PW297 is a compact (packet size) antibiotic zone reading scale of dimensions 200 x 95 mm. The zone scale can measure sizes of zones in the range of 10 - 40 mm.

Warning

Contact with any kind of solvent may erase markings on the scale. Diluted dettol may be used for cleaning the scale.



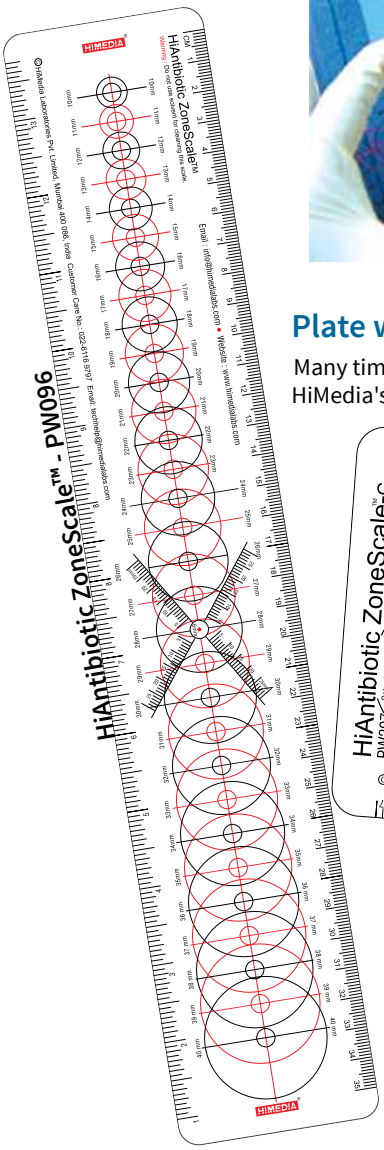
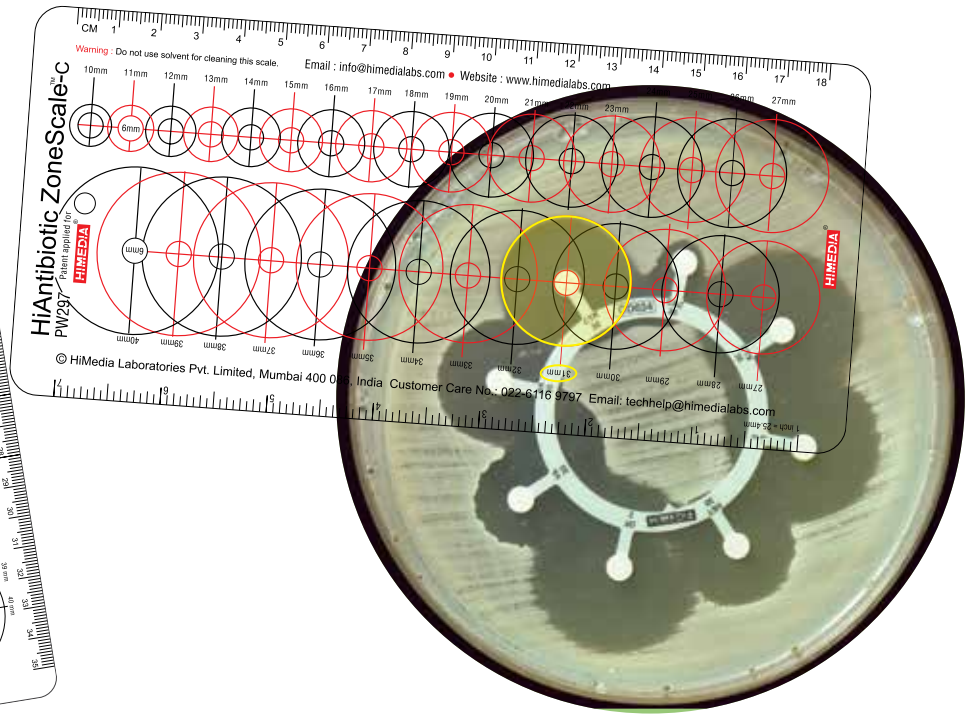


Plate with overlapping zones

Many times the zones are overlapping, causing significant chances of error in measurement. HiMedia's original invention, this zone scale has a perfect answer to solve this problem.



HiAntibiotic ZoneScale™-C - PW297

Zone Size Interpretative Chart (as per CLSI & EUCAST)

Antimicrobial Susceptibility Testing - Zone Size Interpretative Chart▼

Based on Results obtained using Mueller Hinton Agar

Product Code	Antimicrobial Agent	Sym-bol	Disc content	Interpretative Criteria			Quality Control Limits (mm)											
				Sen-sitive mm or more	Inter-mediate mm	Resi-stant mm or less	*E. coli* ATCC 25922	*S. aureus* ATCC 25923	*P. aeruginosa* ATCC 27853	*E. coli* ATCC 35218	*S. aureus* ATCC 29213	*E. faecalis* ATCC 29212	*H. influenzae* ATCC 49247	*H. influenzae* ATCC 49766	*K. pneumoniae* ATCC 700603	*N. gonorrhoeae* ATCC 49226	*S. pneumoniae* ATCC 49619	*C. jejuni* ATCC 33560
SD035	**Amikacin**	AK	30 mcg															
	Enterobacteriaceae, P. aeruginosa, Acientobacter & Staphylococcus spp.			17	15–16	14	19–26	20–26	18–26	–	–	–	–	–	–	–	–	–
	Enterobacteriaceae			18	15–17	15	19–26	–	–	–	–	–	–	–	–	–	–	–
	Pseudomonas spp.			18	15–17	15	–	–	18–26	–	–	–	–	–	–	–	–	–
	Staphylococcus spp.			18	16–17	16	–	–	–	–	18–24	–	–	–	–	–	–	–
	Coagulase negative *staphylococci*			22	19–21	19	–	–	–	–	–	–	–	–	–	–	–	–
	Acinetobacter spp.,			19	17–18	17	–	–	–	–	–	–	–	–	–	–	–	–
SD063	**Amoxyclav (Amoxicillin/Clavulanic acid)**	AMC	30 mcg (20/10) mcg															
	Enterobacteriaceae			18	14–17	13	18–24	28–36	–	17–22	–	–	–	–	–	–	–	–
	Haemophilus influenzae & Haemophilus parainfluenzae			20	–	19	–	–	–	–	–	–	15–23	–	–	–	–	–
	Enterobacteriaceae			19	–	19	18-24	–	–	17–22	–	–	–	–	–	–	–	–
	Enterobacteriaceae (uncomplicated UTI only)			16	–	16	–	–	–	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae			15	–	15	–	–	–	–	–	–	–	17–23	–	–	–	–
	Moraxella catarrhalis			19	–	19	–	–	–	–	–	–	–	–	–	–	–	–
	Pasteurella multocida			15	–	15	–	–	–	–	–	–	–	–	–	–	–	–
SD002	**Ampicillin**	AMP	10 mcg															
	Enterobacteriaceae			17	14–16	13	15–22	–	–	6	–	–	–	–	–	–	–	–
	Staphylococcus spp.			29	–	28	–	27–35	–	–	–	–	–	–	–	–	–	–
	Enterococcus spp.			17	–	16	–	–	–	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae & Haemophilus parainfluenzae			22	19–21	18	–	–	–	–	–	–	13–21	–	–	–	–	–
	Streptococcus spp. beta haemolytic group			24	–	–	–	–	–	–	–	–	–	–	–	–	30–36	–
SD002A	**Ampicillin**	AMP	2 mcg															
	Enterobacteriaceae			14	–	14	15–22	–	–	–	–	–	–	–	–	–	–	–
	Staphylococcus saprophyticus			18	–	18	–	–	–	–	15–21	–	–	–	–	–	–	–
	Enterococcus spp.			10	8-9	8	–	–	–	–	–	15–21	–	–	–	–	–	–
	Streptococcus spp. viridans group			21	15–20	15	–	–	–	–	–	–	–	–	–	–	25-31	–
	Haemophilus influenzae & Listeria monocytogens			16	–	16	–	–	–	–	–	–	6–12	19-25	–	–	–	–
	Pasteurella multocida			17	–	17	–	–	–	–	–	–	–	–	–	–	–	–
	Aerococcus sanguinicola & urinae			26	–	26	–	–	–	–	–	–	–	–	–	–	–	–
SD112	**Ampicillin/Sulbactam**	A/S	10/10mcg															
	Enterobacteriaceae, Acientobacter			15	12–14	11	19–24	29–37	–	13–19	–	–	–	–	–	–	–	–
	Haemophilus influenzae & Haemophilus parainfluenzae			20	–	19	–	–	–	–	–	–	14–22	–	–	–	–	–
	Enterobacteriaceae			14	–	14	19–24	–	–	13–19	–	–	–	–	–	–	–	–
SD204	**Azithromycin**	AZM	15 mcg															
	Staphylococcus, S.pneumoniae, Streptococcus spp. *Viridans group & Streptococcus* spp. *beta haemolytic group*			18	14–17	13	–	21–26	–	–	–	–	–	–	–	–	19–25	–
	Haemophilus influenzae & Haemophilus parainfluenzae			12	–	–	–	–	–	–	–	–	13–21	–	–	–	–	–
	Neisseria meningitidis			20	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	Salmonella Typhi			13	–	12	–	–	–	–	–	–	–	–	–	–	–	–
SD064	**Azlocillin**	AZ	75 mcg	–	–	–	–	–	24–30	–	–	–	–	–	–	–	–	–
SD212	**Aztreonam**	AT	30 mcg															
	Enterobacteriaceae			21	18–20	17	28–36	–	–	31–38	–	–	–	–	10–16	–	–	–
	P. aeruginosa			22	16–21	15	–	–	23–29	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae & Haemophilus parainfluenzae			26	–	–	–	–	–	–	–	–	30–38	–	–	–	–	–
	Enterobacteriaceae			26	21–25	21	28–36	–	–	–	–	–	–	–	9–17	–	–	–
	Pseudomonas spp.			50	16–49	16	–	–	23–29	–	–	–	–	–	–	–	–	–
***SD003**	**Bacitracin**	B	10 units	8	9–12	13	–	12–22	–	–	–	–	–	–	–	–	–	–
SD004	**Carbenicillin**	CB	100 mcg	–	–	–	23–29	–	18–24	–	–	–	–	–	–	–	–	–
SD157	**Cefaclor**	CF	30 mcg															
	Enterobacteriaceae, Staphylococcus spp.			18	15–17	14	23–27	27–31	–	–	–	–	–	–	–	–	24–32	–
	Haemophilus influenzae & Haemophilus parainfluenzae			20	17–19	16	–	–	–	–	–	–	–	25–31	–	–	–	–
	S. pneumoniae			50	28–49	28	–	–	–	–	–	–	–	–	–	–	25-31	–
SD116	**Cefadroxil**	CFR	30 mcg															
	Enterobacteriaceae			12	–	12	14–20	–	–	–	–	–	–	–	–	–	–	–
SD048	**Cefalexin**	CN	30 mcg															
	Enterobacteriaceae			14	–	14	15–21	–	–	–	–	–	–	–	–	–	–	–
SD200	**Cefamandole**	FAM	30 mcg															
	Enterobacteriaceae, Staphylococcus spp.			18	15–17	14	26–32	26–34	–	–	–	–	–	–	–	–	–	–
SD047	**Cefazolin**	CZ	30 mcg															
	Enterobacteriaceae			23	20–22	19	21–27	–	–	–	–	–	–	–	–	–	–	–
	Enterobacteriaceae (uncomplicated UTIs)			15	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	Staphylococcus spp.			18	15–17	14	–	29–35	–	–	–	–	–	–	–	–	–	–

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References: 1. Bauer, Kirby, Sherris and Turck, 1966, Am. J. Clin. Path., 45 : 493. 2.Performance Standards for Antimicrobial Disk Susceptibility Tests, M100S, 28th Ed., CLSI Vol.- 38 No.3, Jan-2018. For more details refer to this volume. 3. EUCAST, Breakpoint tables for interpretation of MICs & zone diameters, version 8.0, valid from 01.01.2018. 4. Routine & extended internal quality control for MIC determination & Disc diffusion as recommended by EUCAST. version 8.0, valid from 01.01.2018.

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Zone Size Interpretative Chart (as per CLSI & EUCAST)

Antimicrobial Susceptibility Testing - Zone Size Interpretative Chart▼

Based on Results obtained using Mueller Hinton Agar

Product Code	Antimicrobial Agent	Sym-bol	Disc content	Interpretative Criteria			Quality Control Limits (mm)											
				Sen-sitive mm or more	Inter-mediate mm	Resi-stant mm or less	*E. coli* ATCC 25922	*S. aureus* ATCC 25923	*P. aeruginosa* ATCC 27853	*E. coli* ATCC 35218	*S. aureus* ATCC 29213	*E. faecalis* ATCC 29212	*H. influenzae* ATCC 49247	*H. influenzae* ATCC 49766	*K. pneumoniae* ATCC 700603	*N. gonorrhoeae* ATCC 49226	*S. pneumoniae* ATCC 49619	*C. jejuni* ATCC 33560
SD218	**Cefdinir**	CDR	5 mcg															
	Enterobacteriaceae, Staphylococcus spp.			20	17–19	16	24–28	25–32	–	–	–	–	–	–	–	40–49	26–31	–
	Haemophilus influenzae & *Haemophilus parainfluenzae*			20	–	–	–	–	–	–	–	–	–	24–31	–	–	–	–
SD219	**Cefepime**	CPM	30 mcg															
	Enterobacteriaceae			*25*	19–24	18	31–37	–	25–31	–	–	–	–	–	–	–	–	–
	P. aeruginosa, *Acientobacter*			18	15–17	14	–	23–29	–	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae & *Haemophilus parainfluenzae*			26	–	–	–	–	–	–	–	–	25–31	–	–	–	–	–
	Neisseria gonorrhoeae			31	–	–	–	–	–	–						37–46	–	–
	Streptococcus spp. Viridans group			24	22–23	21	–	–	–	–	–	–	–	–	–	–	28–35	–
	Streptococcus spp. beta haemolytic group			24	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	Enterobacteriaceae			27	–	26	31–37	–	–	–	–	–	–	–	–	–	–	–
	Pseudomonas spp.			19	–	19	–	–	25–31	–	–	–	–	–	–	–	–	–
	Streptococcus spp. viridans group			25	–	25	–	–	–	–	–	–	–	–	–	–	31–37	–
	Haemophilus influenzae			28	–	28	–	–	–	–	–	–	–	30–36	–	–	–	–
	Moraxella catarrhalis			20	–	20	–	–	–	–	–	–	–	–	–	–	–	–
	Aeromonas spp.			27	24–26	24	–	–	–	–	–	–	–	–	–	–	–	–
SD211	**Cefixime**	CFM	5 mcg															
	Enterobacteriaceae			19	16–18	15	23–27	–	–	–	–	–	–	–	–	–	16–23	–
	Haemophilus influenzae & *Haemophilus parainfluenzae*			21	–	–	–	–	–	–	–	–	25–33	–	–	–	–	–
	Neisseria gonorrhoeae			31	–	–	–	–	–	–	–	–	–	–	–	37–45	–	–
	Enterobacteriaceae			17	–	17	20–26	–	–	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae			26	–	26	–	–	–	–	–	–	–	29–35	–	–	–	–
	Moraxella catarrhalis			21	18–20	18	–	–	–	–	–	–	–	–	–	–	–	–
SD244	**Cefmetazole**	CMZ	30 mcg															
	Enterobacteriaceae			16	13–15	12	26–32	25–34	–	–	–	–	16–21	–	–	–	–	–
	Neisseria gonorrhoeae			33	28–32	27	–	–	–	–	–	–	–	–	–	31–36	–	–
SD248	**Cefonicid**	CID	30 mcg															
	Enterobacteriaceae			18	15–17	14	25–29	22–28	–	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae & *Haemophilus parainfluenzae*			20	17–19	16	–	–	–	–	–	–	–	30–38	–	–	–	–
SD072	**Cefoperazone**	CPZ	75 mcg															
	Enterobacteriaceae			21	16–20	15	28–34	24–33	23–29	–	–	–	–	–	–	–	–	–
SD040	**Cefotaxime (Cephotaxime)**	CTX	30 mcg															
	Enterobacteriaceae			26	23–25	22	29–35	–	–	–	–	–	–	–	17–25	–	–	–
	Acientobacter & *Staphylococcus* spp.			23	15–22	14	–	25–31	18–22	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae & *Haemophilus parainfluenzae*			26	–	–	–	–	–	–	–	–	31–39	–	–	–	–	–
	Neisseria meningitidis			34	–	–	–	–	–	–	–	–	–		–	–	–	–
	Neisseria gonorrhoeae			31	–	–	–	–	–	–	–	–	–	–	–	38–48	–	–
	Streptococcus spp. Viridans group			28	26–27	25	–	–	–	–	–	–	–	–	–	–	31–39	–
	Streptococcus spp. beta haemolytic group			24	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SD295E	**Cefotaxime (Cephotaxime)**	CTX	5 mcg															
	Enterobacteriaceae			20	17–19	17	25–31	–	–	–	–	–	–	–	12–18	–	–	–
	Haemophilus influenzae			27	–	27	–	–	–	–	–	–	–	29–37	–	–	–	–
	Moraxella catarrhalis			20	17–19	17	–	–	–	–	–	–	–	–	–	–	–	–
	Pasteurella multocida			26	–	26	–	–	–	–	–	–	–	–	–	–	–	–
	Streptococcus spp. viridans group			23	–	23	–	–	–	–	–	–	–	–	–	–	28–34	–
	Kingella kingae			27	–	27		–	–	–	–	–	–	–	–	–	–	–
SD249	**Cefotetan**	CTN	30 mcg															
	Enterobacteriaceae			16	13–15	12	28–34	17–23	–	–	–	–	–	–	–	–	–	–
	Neisseria gonorrhoeae			26	20–25	19	–	–	–	–	–	–	–	–	–	30–36	–	–
SD041	**Cefoxitin (Cephoxitin)**	CX	30 mcg															
	Enterobacteriaceae			18	15–17	14	23–29	–	–	–	–	–	–	–	–	–	–	–
	For S. aureus & S. lugdunensis			22	–	21	–	23–29	–	–	–	–	–	–	–	–	–	–
	For Coagulase-negative *Staphylococci* except *S. lugdunensis* &																	
	S. pseudintermedius			25	–	24	–	–	–	–	–	–	–	–	–	–	–	–
	Neisseria gonorrhoeae			28	24–27	23	–	–	–	–	–	–	–	–	–	33–41	–	–
	Enterobacteriaceae			19	–	19	23–29	–	–	–	–	–	–	–	–	–	–	–
	Staphylococcus spp. *S. epidermidis*			25	–	25	–	–	–	–	–	–	–	–	–	–	–	–
	Staphylococcus spp. (Coagulase-negative *Staphylococci* other than *S. epidermidis*)			22	–	22	–	–	–	–	–	–	–	–	–	–	–	–
SD725	**Cefpodoxime**	CPD	10 mcg															
	Enterobacteriaceae, Staphylococcus spp.			21	18–20	17	23–28	19–25	–	–	–	–	–	–	9–16	–	28–34	–
	Haemophilus influenzae & *Haemophilus parainfluenzae*			21	–	–	–	–	–	–	–	–	25–31	–	–	–	–	–
	Neisseria gonorrhoeae			29	–	–	–	–	–	–	–	–	–	–	–	35–43	–	–
	Enterobacteriaceae			21	–	21	23–28	–	–	–	–	–	–	–	9–16	–	29–35	–
	Haemophilus influenzae			26	23–25	23	–	–	–	–	–	–	–	30–36	–	–	–	–

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For *S. pneumoniae* : Mueller Hinton Agar with 5% sheep blood; For *N. gonorrhoeae* : GC Agar Base with 1% defined growth supplement.

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Zone Size Interpretative Chart (as per CLSI & EUCAST)

Antimicrobial Susceptibility Testing - Zone Size Interpretative Chart✓

Based on Results obtained using Mueller Hinton Agar

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SD209	**Cefprozil**	CPR	30 mcg															
	Enterobacteriaceae,																	
	Haemophilus influenzae &																	
	Haemophilus parainfluenzae			18	15–17	14	21–27	27–33	–	–	–	–	–	20–27	–	–	25–32	–
SD062	**Ceftazidime**	CAZ	30 mcg															
	Enterobacteriaceae, B. cepacia			21	18–20	17	25–32	–	–	–	–	–	–	–	10–18	–	–	–
	P.aeruginosa, Acientobacter &																	
	Staphylococcus spp.			18	15–17	14	–	16–20	22–29	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae &																	
	Haemophilus parainfluenzae			26	–	–	–	–	–	–	–	–	27–35	–	–	–	–	–
	Neisseria gonorrhoeae			31	–	–	–	–	–	–	–	–	–	–	–	35–43	–	–
SD062A	**Ceftazidime**	CAZ	10 mcg															
	Enterobacteriaceae			22	19–21	19	23–29	–	–	–	–	–	–	–	6–12	–	–	–
	Pseudomonas spp.			17	–	17	–	–	21–27	–	–	–	–	–	–	–	–	–
SD110	**Ceftizoxime**	CZX	30 mcg															
	Enterobacteriaceae			25	22–24	21	30–36	27–35	12–17	–	–	–	–	–	–	–	28–34	–
	Haemophilus influenzae &																	
	Haemophilus parainfluenzae			26	–	–	–	–	–	–	–	–	29–39	–	–	–	–	–
	Neisseria gonorrhoeae			38	–	–	–	–	–	–	–	–	–	–	–	42–51	–	–
SD065	**Ceftriaxone**	CTR	30 mcg															
	Enterobacteriaceae			23	20–22	19	29–35	–	–	–	–	–	–	–	16–24	–	–	–
	P.aeruginosa, Acientobacter &																	
	Staphylococcus spp.			21	14–20	13	–	22–28	17–23	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae &																	
	Haemophilus parainfluenzae			26	–	–	–	–	–	–	–	–	31–39	–	–	–	–	–
	Neisseria meningitidis			34	–	–	–											
	Neisseria gonorrhoeae			35	–	–	–	–	–	–	–	–	–	–	–	39–51	–	–
	Streptococcus spp. Viridans group			27	25–26	24	–	–	–	–	–	–	–	–	–	–	30–35	–
	Streptococcus spp.																	
	beta haemolytic group			24	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	Enterobacteriaceae			25	22–24	22	29–35	–	–	–	–	–	–	–	16–22	–	–	–
	Streptococcus spp viridans group			27	–	27	–	–	–	–	–	–	–	–	–	–	32–38	–
	Haemophilus influenzae			31	–	31	–	–	–	–	–	–	–	34–42	–	–	–	–
	Moraxella catarrhalis			24	21–23	21	–	–	–	–	–	–	–	–	–	–	–	–
	Kingella kingae			30	–	30	–	–	–	–	–	–	–	–	–	–	–	–
SD061	**Cefuroxime**	CXM	30 mcg															
	Enterobacteriaceae (parenteral) &																	
	Staphylococcus spp.			18	15–17	14	20–26	27–35	–	–	–	–	–	–	–	–	–	–
	Enterobacteriaceae (oral)			23	15–22	14	–	–	–	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae &																	
	Haemophilus parainfluenzae			20	17–19	16	–	–	–	–	–	–	–	28–36	–	–	–	–
	Neisseria gonorrhoeae			31	26–30	25	–	–	–	–	–	–	–	–	–	33–41	–	–
	Enterobacteriaceae (IV) & (Oral)			19	–	19	20–26	–	–	–	–	–	–	–	–	–	–	–
	Streptococcus spp. viridans group (IV)			26	–	26	–	–	–	–	–	–	–	–	–	–	28–34	–
	Haemophilus influenzae (IV)			26	–	25	–	–	–	–	–	–	–	26–34	–	–	–	–
	Haemophilus influenzae (Oral)			50	26–49	26	–	–	–	–	–	–	–	–	–	–	–	–
	Moraxella catarrhalis (IV)			21	18–20	18	–	–	–	–	–	–	–	–	–	–	–	–
	Moraxella catarrhalis (Oral)			50	21–49	21	–	–	–	–	–	–	–	–	–	–	–	–
	Kingella kingae (IV)			29	–	29	–	–	–	–	–	–	–	–	–	–	–	–
SD050	**Cephalothin**	CEP	30 mcg	–	–	–	15–21	29–37	–	–	–	–	–	–	–	–	26–32	–
SD006	**Chloramphenicol**	C	30 mcg															
	Enterobacteriaceae, Staphylococcus &																	
	Enterococcus spp.			18	13–17	12	21–27	19–26	–	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae &																	
	Haemophilus parainfluenzae			29	26–28	25	–	–	–	–	–	–	31–40	–	–	–	–	–
	Neisseria meningitidis			26	20–25	19	–	–										
	S. pneumoniae			21	–	20	–	–	–	–	–	–	–	–	–	–	23–27	–
	Streptococcus spp. Viridans group & *Streptococcus* spp.																	
	beta haemolytic group			21	18–20	17	–	–	–	–	–	–	–	–	–	–	–	–
	Enterobacteriaceae			17	–	17	21–27											
	Staphylococcus spp.			18	–	18	–	–	–	–	20–28	–	–	–	–	–	–	–
	Streptococcus group A, B, C & G			19	–	19	–	–	–	–	–	–	–	–	–	–	–	–
	S. pneumoniae			21	–	21	–	–	–	–	–	–	–	–	–	–	24–30	–
	Haemophilus influenzae			28	–	28	–	–	–	–	–	–	–	31–37	–	–	–	–
	Moraxella catarrhalis			30	–	30	–	–	–	–	–	–	–	–	–	–	–	–
SD245	**Cinoxacin**	CIN	100 mcg															
	Enterobacteriaceae			19	15–18	14	26–32	–	–	–	–	–	–	–	–	–	–	–
SD060	**Ciprofloxacin**	CIP	5 mcg															
	Enterobacteriaceae other than *S. Typhi* & extraintestinal *Salmonella* spp., *P. aeruginosa,* Acientobacter, *Staphylococcus & Enterococcus* spp.			21	16–20	15	30–40	22–30	25–33	–	–	–	–	–	–	–	–	–
	For *S. Typhi* and extraintestinal *Salmonella* spp.			31	21–30	20	–	–	–	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae &																	
	Haemophilus parainfluenzae			21	–	–	–	–	–	–	–	–	34–42	–	–	–	–	–
	Neisseria meningitidis			35	33–34	32	–	–	–	–	–	–	–	–	–	–	–	–
	Neisseria gonorrhoeae			41	28–40	27	–	–	–	–	–	–	–	–	–	48–58	–	–

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Zone Size Interpretative Chart (as per CLSI & EUCAST)

Antimicrobial Susceptibility Testing - Zone Size Interpretative Chart▼

Based on Results obtained using Mueller Hinton Agar

Product Code	Antimicrobial Agent	Sym-bol	Disc content	Interpretative Criteria			Quality Control Limits (mm)										
				Sen-sitive mm or more	Inter-mediate mm	Resi-stant mm or less	*E. coli* ATCC 25922	*S. aureus* ATCC 25923	*P. aeruginosa* ATCC 27853	*E. coli* ATCC 35218	*S. aureus* ATCC 29213	*E. faecalis* ATCC 29212	*H. influenzae* ATCC 49247	*H. influenzae* ATCC 49766	*K. pneumoniae* ATCC 700603	*N. gonorrhoeae* ATCC 49226	*S. pneumoniae* ATCC 49619	*C. jejuni* ATCC 33560
	Enterobacteriaceae			26	24-25	24	29-37	–	–	–	–	–	–	–	–	–	22-28	–
	Staphylococcus spp.			21	–	21	–	–	–	–	21-27	–	–	–	–	–	–	–
	Coagulase-negative *Staphylococci*			24	–	24	–	–	–	–	–	–	–	–	–	–	–	–
	Pseudomonas spp.			26	–	26	–	–	25-33	–	–	–	–	–	–	–	–	–
	Enterococcus spp.			15	–	15	–	–	–	–	–	19–25	–	–	–	–	–	–
	Acinetobacter spp.			21	–	21	–	–	–	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae,			30	–	30	–	–	–	–	–	–	–	32–40	–	–	–	–
	Campylobacter spp.			26	–	26	–	–	–	–	–	–	–	–	–	–	–	34-42
	Moraxella catarrhalis			31	–	31	–	–	–	–	–	–	–	–	–	–	–	–
	Pasteurella multocida			27	–	27	–	–	–	–	–	–	–	–	–	–	–	–
	Corynebacterium spp.			25	–	25	–	–	–	–	–	–	–	–	–	–	–	–
	Aerococcus sanguinicola & *urinae*			21	–	21	–	–	–	–	–	–	–	–	–	–	–	–
	Kingella kingae			28	–	28	–	–	–	–	–	–	–	–	–	–	–	–
	Aeromonas spp.			27	24-26	24	–	–	–	–	–	–	–	–	–	–	–	–
SD192	**Clarithromycin**	CLR	15 mcg															
	Staphylococcus spp.			18	14–17	13	–	26–32	–	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae & *Haemophilus parainfluenzae*			13	11–12	10	–	–	–	–	–	–	11–17	–	–	–	–	–
	S. pneumoniae, Streptococcus spp. *Viridans group, Streptococcus* spp. beta haemolytic group			21	17–20	18	–	–	–	–	–	–	–	–	–	–	25–31	–
SD051	**Clindamycin**	CD	2 mcg															
	Staphylococcus spp.			21	15–20	14	–	24–30	–	–	–	–	–	–	–	–	–	–
	S. pneumoniae, Streptococcus spp. *Viridans group, Streptococcus* spp. beta haemolytic group			19	16–18	15	–	–	–	–	–	–	–	–	–	–	19–25	–
	Staphylococcus spp.			22	19-21	19	–	–	–	–	23-29	–	–	–	–	–	–	–
	Streptococcus spp viridans group & *S. pneumoniae*			19	–	19	–	–	–	–	–	–	–	–	–	–	22-28	–
	Streptococcus group A, B, C & G			17	–	17	–	–	–	–	–	–	–	–	–	–	–	–
	Corynebacterium spp.			20	–	20	–	–	–	–	–	–	–	–	–	–	–	–
SD009	**Colistin (Methane Sulphonate)**	CL	10 mcg	–	–	–	11–17	–	11–17	–	–	–	–	–	–	–	–	–
SD010	**Co–Trimoxazole (Trimethoprim/Sulphamethoxazole)** *Enterobacteriaceae, Acientobacter, B. cepacia, S. maltophila,*	COT	25 mcg (1.25/ 23.75) mcg															
	Staphylococcus, Haemophilus influenzae & *Haemophilus parainfluenzae*			16	11–15	10	23–29	24–32	–	–	–	>=20	24–32	–	–	–	–	–
	Neisseria meningitidis			30	26–29	25	–	–	–	–	–	–	–	–	–	–	–	–
	S. pneumoniae			19	16–18	15	–	–	–	–	–	–	–	–	–	–	20–28	–
	Enterobacteriaceae			14	11–13	11	23-29	–	–	–	–	–	–	–	–	–	–	–
	Acinetobacter spp.			14	11–13	11	–	–	–	–	–	–	–	–	–	–	–	–
	Staphylococcus spp.			17	14–16	14	–	–	–	–	26-32	–	–	–	–	–	–	–
	Stenotrophomonas maltophila			16	–	16	–	–	–	–	–	–	–	–	–	–	–	–
	Enterococcus spp.			50	21-49	21	–	–	–	–	–	26-34	–	–	–	–	–	–
	Streptococcus group A, B, C & G, *S.pneumoniae, Moraxella catarrhalis*			18	15-17	15	–	–	–	–	–	–	–	–	–	–	18-26	–
	Haemophilus influenzae			23	20-22	20	–	–	–	–	–	–	–	27–35	–	–	–	–
	Listeria monocytogens			29	–	29	–	–	–	–	–	–	–	–	–	–	–	–
	Pasteurella multocida			23	–	23	–	–	–	–	–	–	–	–	–	–	–	–
	Kingella kingae			28	–	28	–	–	–	–	–	–	–	–	–	–	–	–
	Aeromonas spp.			19	16-18	16	–	–	–	–	–	–	–	–	–	–	–	–
SD283	**Doripenem**	DOR	10 mcg															
	Enterobacteriaceae			23	20–22	19	27–35	33–42	–	–	–	–	–	–	–	–	30–38	–
	P. aeruginosa			19	16–18	15	–	–	28–35	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae & *Haemophilus parainfluenzae*			16	–	–	–	–	–	–	–	–	21–31	–	–	–	–	–
	Acinetobacter spp.			18	15–17	14	–	–	–	–	–	–	–	–	–	–	–	–
	Enterobacteriaceae			24	21-23	21	27-35	–	–	–	–	–	–	–	–	–	31-37	–
	Pseudomonas spp.			25	22-24	22	–	–	28-35	–	–	–	–	–	–	–	–	–
	Acinetobacter spp.			24	21-23	21	–	–	–	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae			20	–	20	–	–	–	–	–	–	–	26-32	–	–	–	–
	Moraxella catarrhalis			30	–	30	–	–	–	–	–	–	–	–	–	–	–	–
SD012	**Doxycycline Hydrochloride**	DO	30 mcg															
	Enterobacteriaceae			14	11–13	10	18–24	23–29	–	–	–	–	–	–	–	–	–	–
	Acientobacter			13	10–12	9	–	–	–	–	–	–	–	–	–	–	–	–
	Staphylococcus & Enterococcus spp.			16	13–15	12	–	–	–	–	–	–	–	–	–	–	–	–
	S. pneumoniae			28	25-27	24	–	–	–	–	–	–	–	–	–	–	25–34	–
SD237	**Enoxacin**	EN	10 mcg															
	Enterobacteriaceae			18	15–17	14	28–36	22–28	22–28	–	–	–	–	–	–	43–51	–	–
	Staphylococcus spp.			18	15–17	14	–	–	–	–	–	–	–	–	–	–	–	–
	Neisseria gonorrhoeae			36	32–35	31	–	–	–	–	–	–	–	–	–	–	–	–
SD280	**Ertapenem**	ETP	10 mcg															
	Enterobacteriaceae			22	19–21	18	29–36	–	13–21	–	–	–	–	27–33	–	–	28–35	–
	Staphylococcus spp.			19	16–18	15	–	24–31	–	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae & parainfluenzae			19	–	–	–	–	–	–	–	–	20–28	–	–	–	–	–
	Enterobacteriaceae			25	22-24	22	29-36	–	–	–	–	–	–	–	–	–	28–34	–
	Haemophilus influenzae			20	–	20	–	–	–	–	–	–	–	27–33	–	–	–	–
	Moraxella catarrhalis			29	–	29	–	–	–	–	–	–	–	–	–	–	–	–

▼ : In accordance to Performance Standards for Antimicrobial Disk Susceptibility Tests, CLSI & EUCAST.

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References: 1. Bauer, Kirby, Sherris and Turck, 1966, Am. J. Clin. Path., 45 : 493. 2.Performance Standards for Antimicrobial Disk Susceptibility Tests, M100S, 28th Ed., CLSI Vol.- 38 No.3, Jan-2018. For more details refer to this volume. 3. EUCAST, Breakpoint tables for interpretation of MICs & zone diameters, version 8.0, valid from 01.01.2018. 4. Routine & extended internal quality control for MIC determination & Disc diffusion as recommended by EUCAST. version 8.0, valid from 01.01.2018.

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SD013	**Erythromycin**	E	15 mcg															
	Staphylococcus & Enterococcus spp.			23	14–22	13	–	22–30	–	–	–	–	–	–	–	–	–	–
	S. pneumoniae, Streptococcus spp. *Viridans group, Streptococcus* spp. beta haemolytic group			21	16–20	15	–	–	–	–	–	–	–	–	–	–	25–30	–
	Staphylococcus spp. & *Streptococcus* group A, B, C & G			21	18-20	18	–	–	–	–	23-29	–	–	10-16	–	–	–	–
	S.pneumoniae			22	19-21	19	–	–	–	–	–	–	–	–	–	–	26-32	–
	Moraxella catarrhalis			23	20-22	20	–	–	–	–	–	–	–	–	–	–	–	–
	Listeria monocytogens			25	–	25	–	–	–	–	–	–	–	–	–	–	–	–
	Campylobacter coli			24	–	24	–	–	–	–	–	–	–	–	–	–	–	–
	Campylobacter jejuni			20	–	20	–	–	–	–	–	–	–	–	–	–	–	27-35
	Kingella kingae			20	–	20	–	–	–	–	–	–	–	–	–	–	–	–
SD279	**Faropenem**	FAR	5 mcg															
	Enterobacteriaceae			–	–	–	20–26	27–34	–	–	–	–	15–22	–	–	–	27–35	–
SD205	**Fosfomycin**	FO	200 mcg															
	Enterobacteriaceae, Enterococcus spp.			16	13–15	12	26–34	25–33	–	–	–	–	–	–	–	–	–	–
	Enterobacteriaceae (IV) & (oral)			24	–	24	26–34	–	–	–	–	–	–	–	–	–	–	–
SD171	**Fusidic acid**	FC	10 mcg	–	–	–	–	24–32	–	–	–	–	–	–	–	–	9–16	–
	Staphylococcus spp.			24	–	24	–	–	–	–	26-32	–	–	–	–	–	–	–
SD737	**Gatifloxacin**	GAT	5 mcg															
	Enterobacteriaceae, P. aeruginosa, Acientobacter & Enterococcus spp.			18	15–17	14	30–37	–	20–28	–	–	–	–	–	–	–	–	–
	Staphylococcus spp.			23	20–22	19	–	27–33	–	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae & Haemophilus parainfluenzae			18	–	–	–	–	–	–	–	–	33–41	–	–	–	–	–
	Neisseria gonorrhoeae			38	34–37	33	–	–	–	–	–	–	–	–	–	45–56	–	–
	S. pneumoniae, Streptococcus spp. *Viridans group, Streptococcus* spp. beta haemolytic group			21	18–20	17	–	–	–	–	–	–	–	–	–	–	24–31	–
SD250	**Gemifloxacin**	GEM	5 mcg															
	Enterobacteriaceae			20	16–19	15	29–36	27–33	19–25	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae & Haemophilus parainfluenzae			18	–	–	–	–	–	–	–	–	30–37	–	–	–	–	–
	S. pneumoniae			23	20–22	19	–	–	–	–	–	–	–	–	–	–	28–34	–
SD195	**Gentamicin**	HLG	120 mcg															
	Enterococcus spp.			10	7–9	6	–	–	–	–	–	16–23	–	–	–	–	–	–
SD016	**Gentamicin**	GEN	10 mcg															
	Enterobacteriaceae, P. aeruginosa, Acientobacter & Staphylococcus spp.			15	13–14	12	19–26	19–27	17-23	–	–	–	–	–	–	–	–	–
	Enterobacteriaceae			17	14-16	14	19-26	–	–	–	–	–	–	–	–	–	–	–
	Staphylococcus spp.			18	–	18	–	–	–	–	19-25	–	–	–	–	–	–	–
	Coagulase negative *Staphylococci*			22	–	22	–	–	–	–	–	–	–	–	–	–	–	–
	Pseudomonas spp.			15	–	15	–	–	17-23	–	–	–	–	–	–	–	–	–
	Acinetobacter spp.			17	–	17	–	–	–	–	–	–	–	–	–	–	–	–
	Corynebacterium spp.			23	–	23	–	–	–	–	–	–	–	–	–	–	–	–
SD170	**Gentamicin**	GEN	30 mcg															
	Enterococcus spp.			–	–	–	–	–	–	–	–	12–18	–	–	–	–	–	–
SD073	**Imipenem**	IPM	10 mcg															
	Enterobacteriaceae			23	20–22	19	26–32	–	–	–	–	–	–	–	–	–	–	–
	P. aeruginosa			19	16–18	15	–	–	20–28	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae & Haemophilus parainfluenzae			16	–	–	–	–	–	–	–	–	21–29	–	–	–	–	–
	Acientobacter spp.			22	19–21	18	–	–	–	–	–	–	–	–	–	–	–	–
	Enterobacteriaceae			22	16-21	16	26-32	–	–	–	–	–	–	–	–	–	34–42	–
	Pseudomonas spp.			20	17-19	17	–	–	20-28	–	–	–	–	–	–	–	–	–
	Acinetobacter spp.			23	17-22	17	–	–	–	–	–	–	–	–	–	–	–	–
	Enterococcus spp.			21	18-20	18	–	–	–	–	–	24–30	–	–	–	–	–	–
	Haemophilus influenzae			20	–	20	–	–	–	–	–	–	–	24–30	–	–	–	–
	Moraxella catarrhalis			29	–	29	–	–	–	–	–	–	–	–	–	–	–	–
SD017	**Kanamycin**	K	30 mcg															
	Enterobacteriaceae, Staphylococcus spp.			18	14–17	13	17–25	19–26	–	–	–	–	–	–	–	–	–	–
SD216	**Levofloxacin**	LE	5 mcg															
	Enterobacteriaceae, S. Typhi, *P. aeruginosa, Acientobacter* spp., *S. maltophila, Enterococcus* spp., *S. pneumoniae, Streptococcus* spp. *Viridans group, Streptococcus* spp. *beta haemolytic group*			17	14–16	13	29–37	–	19–26	–	–	–	–	–	–	–	20–25	–
	Staphylococcus spp.			19	16–18	15	–	25–30	–	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae & Haemophilus parainfluenzae			17	–	–	–	–	–	–	–	–	32–40	–	–	–	–	–

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	Enterobacteriaceae,			23	19-22	19	29-37	–	–	–	–	–	–	–	–	–	–	–
	Staphylococcus spp., *Pseudomonas* spp.			22	–	22	–	–	19-26	–	23-29	–	–	–	–	–	–	–
	Coagulase-negative *Staphylococci*			24	–	24	–	–	–	–	–	–	–	–	–	–	–	–
	Enterococcus spp.			15	–	15	–	–	–	–	–	19–25	–	–	–	–	–	–
	Acinetobacter spp.			23	20-22	20	–	–	–	–	–	–	–	–	–	–	–	–
	Streptococcus group A, B, C & G			17	–	17	–	–	–	–	–	–	–	–	–	–	–	–
	S. pneumoniae			16	–	16	–	–	–	–	–	–	–	–	–	–	21-27	–
	Haemophilus influenzae			30	–	30	–	–	–	–	–	–	–	31–39	–	–	–	–
	Moraxella catarrhalis			29	–	29	–	–	–	–	–	–	–	–	–	–	–	–
	Pasteurella multocida			27	–	27	–	–	–	–	–	–	–	–	–	–	–	–
	Kingella kingae			28	–	28	–	–	–	–	–	–	–	–	–	–	–	–
SD215	**Linezolid**	LZ	30 mcg															
	Staphylococcus spp.			21	–	20	–	25–32	–	–	–	–	–	–	–	–	–	–
	Enterococcus spp.			23	21–22	20	–	–	–	–	–	–	–	–	–	–	–	–
	S. pneumoniae, Streptococcus spp. *Viridans group, Streptococcus* spp. beta haemolytic group			21	–	–	–	–	–	–	–	–	–	–	–	–	25–34	–
SD296E	**Linezolid**	LZ	10 mcg															
	Enterococcus spp.			19	–	19	–	–	–	–	–	19–25	–	–	–	–	–	–
	Staphylococcus spp.			21	–	21	–	–	–	–	21–27	–	–	–	–	–	–	–
	Streptococcus group A, B, C & G			19	16–18	16	–	–	–	–	–	–	–	–	–	–	–	–
	Corynebacterium spp.			25	–	25	–	–	–	–	–	–	–	–	–	–	–	–
	S. pneumoniae			22	19–21	19	–	–	–	–	–	–	–	–	–	–	23–29	–
SD206	**Lomefloxacin**	LOM	10 mcg															
	Enterobacteriaceae, P. aeruginosa & *Staphylococcus* spp.			22	19–21	18	27–33	23–29	22–28	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae & *Haemophilus parainfluenzae*			22	–	–	–	–	–	–	–	–	33–41	–	–	–	–	–
	Neisseria gonorrhoeae			38	27–37	26	–	–	–	–	–	–	–	–	–	45–54	–	–
SD176	**Mecillinam**	MEC	10 mcg															
	Enterobacteriaceae			15	12–14	11	24–30	–	–	–	–	–	–	–	–	–	–	–
	Enterobacteriaceae (Uncomplicated UTI only)			15	–	15	24-30	–	–	–	–	–	–	–	–	–	–	–
SD727	**Meropenem**	MRP	10 mcg															
	Enterobacteriaceae			23	20–22	19	28–35	–	–	–	–	–	–	–	–	–	–	–
	P. aeruginosa			19	16–18	15	–	–	27–33	–	–	–	–	–	–	–	–	–
	Staphylococcus spp.			16	14–15	13	–	29–37	–	–	–	–	–	–	–	–	–	–
	B. cepacia			20	16–19	15	–	–	–	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae & *Haemophilus parainfluenzae*			20	–	–	–	–	–	–	–	–	20–28	–	–	–	–	–
	Neisseria meningitidis			30	–	–	–	–	–	–	–	–	–	–	–	–	28–35	–
	Acientobacter spp.			18	15–17	14	–	–	–	–	–	–	–	–	–	–	–	–
	Enterobacteriaceae			22	16–21	16	28–35	–	–	–	–	–	–	–	–	–	30–38	–
	Pseudomonas spp.			24	18–23	18	–	–	27–33	–	–	–	–	–	–	–	–	–
	Acinetobacter spp.			21	15–20	15	–	–	–	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae			20	–	20	–	–	–	–	–	–	–	27–35	–	–	–	–
	Moraxella catarrhalis			33	–	33	–	–	–	–	–	–	–	–	–	–	–	–
	Listeria monocytogens			26	–	26	–	–	–	–	–	–	–	–	–	–	–	–
	Aerococcus sanguinicola & *urinae*			31	–	31	–	–	–	–	–	–	–	–	–	–	–	–
	Kingella kingae			30	–	30	–	–	–	–	–	–	–	–	–	–	–	–
SD019	**Methicillin**	MET	5 mcg	–	–	–	–	17–22	–	–	–	–	–	–	–	–	–	–
SD225	**Mezlocillin**	MZ	75 mcg	–	–	–	23–29	–	19–25	–	–	–	–	–	–	–	–	–
SD158	**Minocycline**	MI	30 mcg															
	Enterobacteriaceae, Acientobacter			16	13–15	12	19–25	25–30	–	–	–	–	–	–	–	–	–	–
	B. cepacia, S. maltophila, Staphylococcus & Enterococcus spp.			19	15–18	14	–	–	–	–	–	–	–	–	–	–	–	–
	Neisseria meningitidis			26	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	Staphylococcus spp.,			23	20-22	20	–	–	–	–	23-29	–	–	–	–	–	–	–
	Streptococcus group A, B, C & G			23	20-22	20	–	–	–	–	–	–	–	–	–	–	–	–
	S.pneumoniae			24	21-23	21	–	–	–	–	–	–	–	–	–	–	25-31	–
	Haemophilus influenzae			24	21-23	21	–	–	–	–	–	–	–	26–32	–	–	–	–
	Moraxella catarrhalis			25	22-24	22	–	–	–	–	–	–	–	–	–	–	–	–
SD220	**Moxalactam**	MX	30 mcg															
	Enterobacteriaceae			–	–	–	28–35	18–24	17–25	–	–	–	–	–	–	–	–	–
SD217	**Moxifloxacin**	MO	5 mcg															
	Staphylococcus spp.			24	21–23	20	28–35	28–35	17–25	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae & *Haemophilus parainfluenzae*			18	–	–	–	–	–	–	–	–	31–39	–	–	–	–	–
	S. pneumoniae			18	15–17	14									–	–	25–31	–
	Enterobacteriaceae			22	–	22	28-35	–	–	–	–	–	–	–	–	–	–	–
	Staphylococcus spp.			25	–	25	–	–	–	–	25-31	–	–	–	–	–	–	–
	Coagulase-negative *Staphylococci*			28	–	28	–	–	–	–	–	–	–	–	–	–	–	–
	Streptococcus group A, B, C & G			19	–	19	–	–	–	–	–	–	–	–	–	–	–	–
	S.pneumoniae			22	–	22	–	–	–	–	–	–	–	–	–	–	24-30	–
	Haemophilus influenzae,			28	–	28	–	–	–	–	–	–	–	30–36	–	–	–	–
	Corynebacterium spp.			25	–	25	–	–	–	–	–	–	–	–	–	–	–	–
	Moraxella catarrhalis			26	–	26	–	–	–	–	–	–	–	–	–	–	–	–

▼ : In accordance to Performance Standards for Antimicrobial Disk Susceptibility Tests, CLSI & EUCAST.
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Zone Size Interpretative Chart (as per CLSI & EUCAST)

Antimicrobial Susceptibility Testing - Zone Size Interpretative Chart▼

Based on Results obtained using Mueller Hinton Agar

Product Code	Antimicrobial Agent	Sym-bol	Disc content	Interpretative Criteria			Quality Control Limits (mm)											
				Sen-sitive mm or more	Inter-mediate mm	Resi-stant mm or less	*E. coli* ATCC 25922	*S. aureus* ATCC 25923	*P. aeruginosa* ATCC 27853	*E. coli* ATCC 35218	*S. aureus* ATCC 29213	*E. faecalis* ATCC 29212	*H. influenzae* ATCC 49247	*H. influenzae* ATCC 49766	*K. pneumoniae* ATCC 700603	*N. gonorrhoeae* ATCC 49226	*S. pneumoniae* ATCC 49619	*C. jejuni* ATCC 33560
SD293E	**Mupirocin**	MUP	200 mcg															
	Staphylococcus spp.			–	–	–	–	–	–	–	31-37	–	–	–	–	–	–	–
SD246	**Nafcillin**	NAF	1 mcg	–	–	–	–	16–22	–	–	–	–	–	–	–	–	–	–
SD021	**Nalidixic Acid**	NA	30 mcg															
	Enterobacteriaceae			19	14–18	13	22–28	–	–	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae,			23	–	–	22-28	–	–	–	–	–	–	27–33	–	–	–	–
	Moraxella catarrhalis,			23	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	Pasteurella multocida			23	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SD046	**Netillin (Netilmicin Sulphate)**	NET	30 mcg															
	Enterobacteriaceae, P. aeruginosa, Staphylococcus spp.			15	13–14	12	22–30	22–31	17–23	–	–	–	–	–	–	–	–	–
SD085	**Netillin (Netilmicin Sulphate)**	NET	10 mcg															
	Enterobacteriaceae			15	12-14	12	18-24	–	–	–	–	–	–	–	–	–	–	–
	Staphylococcus spp.			18	–	18	–	–	–	–	20-26	–	–	–	–	–	–	–
	Coagulase negative *Staphylococci*			22	–	22	–	–	–	–	–	–	–	–	–	–	–	–
	Pseudomonas spp.			12	–	12	–	–	15-21	–	–	–	–	–	–	–	–	–
	Acinetobacter spp.			16	–	16	–	–	–	–	–	–	–	–	–	–	–	–
SD023	**Nitrofurantoin**	NIT	300 mcg															
	Enterobacteriaceae, Staphylococcus & Enterococcus spp.			17	15–16	14	20–25	18–22	–	–	–	–	–	–	–	–	23–29	–
SD086	**Nitrofurantoin**	NIT	100 mcg															
	Enterobacteriaceae			11	–	11	17-23	–	–	–	–	–	–	–	–	–	–	–
	Staphylococcus spp.			13	–	13	–	–	–	–	17-23	–	–	–	–	–	–	–
	Streptococcus group A, B, C & G,			15	–	15	–	–	–	–	–	–	–	–	–	–	25-31	–
	Enterococcus spp.			15	–	15	–	–	–	–	–	18-24	–	–	–	–	–	–
	Aerococcus sanguinicola & urinae			16	–	16	–	–	–	–	–	–	–	–	–	–	–	–
SD196	**Nitroxoline**	NO	30 mcg															
	Enterobacteriaceae (uncomplicated UTIs only)			15	–	15	18–24	–	–	–	–	–	–	–	–	–	–	–
SD057	**Norfloxacin**	NX	10 mcg															
	Enterobacteriaceae, P. aeruginosa, Staphylococcus & Enterococcus spp.			17	13–16	12	28–35	17–28	22–29	–	–	–	–	–	–	–	15–21	–
	Enterobacteriaceae spp.			22	19-21	19	28-35	–	–	–	–	–	–					
	Staphylococcus spp.			17	–	–	–	–	–	–	18-24	–	–	–	–	–	–	–
	Enterococcus spp.			12	–	12	–	–	–	–	–	16–22	–	–	–	–	–	–
	Streptococcus group A, B, C & G,			12	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	S.pneumoniae			11	–	–	–	–	–	–	–	–	–	–	–	–	18–24	–
	Aerococcus sanguinicola & urinae			17	–	17	–	–	–	–	–	–	–	–	–	–	–	–
***SD053**	**Novobiocin**	NV	30 mcg	17	18–21	22	–	22–31	–	–	–	–	–	–	–	–	–	–
SD087	**Ofloxacin**	OF	5 mcg															
	Enterobacteriaceae, P. aeruginosa, S. pneumoniae, Streptococcus spp. *Viridans group, Streptococcus* spp. *beta haemolytic group*			16	13–15	12	29–33	–	17–21	–	–	–	–	–	–	–	16–21	–
	Staphylococcus spp.			18	15–17	14	–	24–28	–	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae & Haemophilus parainfluenzae			16	–	–	–	–	–	–	–	–	31–40	–	–	–	–	–
	Neisseria gonorrhoeae			31	25–30	24								–	–	43–51	–	–
	Enterobacteriaceae			24	22-23	22	29-33	–	–	–	–	–	–	–	–	–	18-24	–
	Staphylococcus spp.			20	–	20	–	–	–	–	21-27	–	–	–	–	–	–	–
	Coagulase-negative *Staphylococci*			24	–	24	–	–	–	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae			30	–	30	–	–	–	–	–	–	–	31–37	–	–	–	–
	Moraxella catarrhalis			28	–	28	–	–	–	–	–	–	–	–	–	–	–	–
SD088	**Oxacillin**	OX	1 mcg															
	Staphylococcus (*S. pseudintermedius*)			18	–	17	–	18–24	–	–	–	–	–	–	–	–	–	–
	S. pneumoniae			20	–	–	–	–	–	–	–	–	–	–	–	–	–	<=12[a]	–
	S. pneumoniae			20	–	–	–	–	–	–	–	–	–	–	–	–	8 - 14	–
SD070	**Pefloxacin**	PF	5 mcg															
	Enterobacteriaceae (*S.* Typhi)			24	–	23	25–33	–	–	–	–	–	–	–	–	–	–	–
	Enterobacteriaceae			24	–	24	26–32	–	–	–	–	–	–	–	–	–	–	–
SD028	**Penicillin–G**	P	10 units															
	Staphylococcus spp.			29	–	28	–	26–37	–	–	–	–	–	–	–	–	–	–
	Enterococcus spp.			15	–	14	–	–	–	–	–	–	–	–	–	–	–	–
	Neisseria gonorrhoeae			47	27–46	26	–	–	–	–	–	–	–	–	–	26–34	–	–
	Streptococcus spp.																	
	beta haemolytic group			24	–	–	–	–	–	–	–	–	–	–	–	–	24–30	–

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For *S. pneumoniae* : Mueller Hinton Agar with 5% sheep blood; For *N. gonorrhoeae* : GC Agar Base with 1% defined growth supplement.

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HIMEDIA®

Zone Size Interpretative Chart (as per CLSI & EUCAST)

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Based on Results obtained using Mueller Hinton Agar

Product Code	Antimicrobial Agent	Sym-bol	Disc content	Interpretative Criteria			Quality Control Limits (mm)											
				Sen-sitive mm or more	Inter-mediate mm	Resi-stant mm or less	*E. coli* ATCC 25922	*S. aureus* ATCC 25923	*P. aeruginosa* ATCC 27853	*E. coli* ATCC 35218	*S. aureus* ATCC 29213	*E. faecalis* ATCC 29212	*H. influenzae* ATCC 49247	*H. influenzae* ATCC 49766	*K. pneumoniae* ATCC 700603	*N. gonorrhoeae* ATCC 49226	*S. pneumoniae* ATCC 49619	*C. jejuni* ATCC 33560
SD089	**Penicillin G**	P	1 unit															
	Staphylococcus spp.			26	–	26	–	–	–	–	12 - 18	–	–	–	–	–	–	–
	Streptococcus group A, B, C & G			18	–	18	–	–	–	–	–	–	–	–	–	–	16–22	–
	Streptococcus spp. viridans group			18	12-17	12	–	–	–	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae			12	–	–	–	–	–	–	–	–	6–9	15–21	–	–	–	–
	Listeria monocytogens			13	–	13	–	–	–	–	–	–	–	–	–	–	–	–
	Pasteurella multocida			17	–	17	–	–	–	–	–	–	–	–	–	–	–	–
	Corynebacterium spp.			29	–	29	–	–	–	–	–	–	–	–	–	–	–	–
	Aerococcus sanguinicola & urinae			21	–	21	–	–	–	–	–	–	–	–	–	–	–	–
	Kingella kingae			25	–	25	–	–	–	–	–	–	–	–	–	–	–	–
SD066	**Piperacillin**	PI	100 mcg															
	Enterobacteriaceae & Acientobacter spp.			21	18–20	17	24–30	–	–	12–18	–	–	–	–	–	–	–	–
	P. aeruginosa			21	15–20	14	–	–	25–33	–	–	–	–	–	–	–	–	–
SD066A	**Piperacillin**	PI	30 mcg															
	Enterobacteriaceae			20	17-19	17	21-27	–	–	–	–	–	–	–	–	–	–	–
	Pseudomonas spp.			18	–	18	–	–	–	–	–	–	–	–	–	–	–	–
SD210	**Piperacillin/ Tazobactam**	PIT	100/															
	Enterobacteriaceae & Acientobacter spp.		10 mcg	21	18–20	17	24–30	27–36	–	24–30	–	–	–	–	–	–	–	–
	P. aeruginosa			21	15–20	14	–	–	25–33	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae & Haemophilus parainfluenzae			21	–	–	–	–	–	–	–	–	33–38	–	–	–	–	–
SD292E	**Piperacillin / Tazobactam**	PIT	30/6 mcg															
	Enterobacteriaceae			20	17-19	17	21-27	–	–	21–27	–	–	–	–	14-20	–	–	–
	Pseudomonas spp.			18	–	18	–	–	23-29	–	–	–	–	–	–	–	–	–
SD029	**Polymyxin–B**	PB	300 Units	–	–	–	13–19	–	14–18	–	–	–	–	–	–	–	–	–
SD178	**Pristinomycin (Quinupristin/Dalfopristin)**	RP	15 mcg															
	Staphylococcus, Enterococcus spp., *S. pneumoniae, Streptococcus spp. beta haemolytic group & Streptococcus* spp. *Viridans group*			19	16–18	15	–	21–28	–	–	–	–	15–21	–	–	–	19–24	–
	Staphylococcus spp.			21	18–20	18	–	–	–	–	21-27	–	–	–	–	–	–	–
	Enterococcus spp.			22	20–21	20	–	–	–	–	–	11 - 17	–	–	–	–	–	–
SD030	**Rifampicin**	RIF	5 mcg															
	Staphylococcus, Enterococcus spp.,			–	–	–	8–10	–	–	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae & Haemophilus parainfluenzae			20	17–19	16	–	26–34	–	–	–	–	22–30	–	–	–	–	–
	Neisseria meningitidis			25	20–24	19	–	–	–	–	–	–	–	–	–	–	–	–
	S. pneumoniae			19	17–18	16	–	–	–	–	–	–	–	–	–	–	25–30	–
	Staphylococcus spp.			26	23-25	23	–	–	–	–	30-36	–	–	–	–	–	–	–
	Streptococcus group A, B, C & G			21	15-20	15	–	–	–	–	–	–	–	–	–	–	–	–
	S. pneumoniae			22	17-21	17	–	–	–	–	–	–	–	–	–	–	26-32	–
	Haemophilus influenzae			18	–	18	–	–	–	–	–	–	–	21–27	–	–	–	–
	Corynebacterium spp.			30	25-29	25	–	–	–	–	–	–	–	–	–	–	–	–
	Aerococcus sanguinicola & urinae			25	–	25	–	–	–	–	–	–	–	–	–	–	–	–
	Kingella kingae			20	–	20	–	–	–	–	–	–	–	–	–	–	–	–
SD162	**Sparfloxacin**	SPX	5 mcg															
	Enterobacteriaceae			–	–	–	30–38	–	21–29	–	–	–	32–40	–	–	43–51	–	–
	Staphylococcus, S. pneumoniae			19	16–18	15	–	27–33	–	–	–	–	–	–	–	–	21–27	–
SD181	**Spectinomycin**	SPT	100 mcg															
	Neisseria gonorrhoeae			18	15–17	14	–	–	–	–	–	–	–	–	–	23–29	–	–
SD236	**Streptomycin**	HLS	300 mcg															
	Enterococcus spp.			10	7–9	6	–	–	–	–	–	14–20	–	–	–	–	–	–
	Enterococcus spp.			–	–	–	–	–	–	–	–	14–20	–	–	–	–	–	–
SD031	**Streptomycin**	S	10 mcg															
	Enterobacteriaceae			15	12–14	11	12–20	14–22	–	–	–	–	–	–	–	–	–	–
SD032	**Sulphafurazole (Sulfisoxazole)**	SF	300 mcg															
	Enterobacteriaceae & Staphylococcus			17	13–16	12	15–23	24–34	–	–	–	–	–	–	–	–	–	–
SD213	**Teicoplanin**	TEI	30 mcg															
	Enterococcus spp.			14	11–13	10	–	15–21	–	–	–	–	–	–	–	–	–	–
	Enterococcus spp.,			16	–	16	–	–	–	–	–	15-21	–	–	–	–	–	–
	Streptococcus spp. viridans group			16	–	16	–	–	–	–	–	–	–	–	–	–	–	–
	Streptococcus group A, B, C & G			15	–	15	–	–	–	–	–	–	–	–	–	–	–	–
	S. pneumoniae			17	–	17	–	–	–	–	–	–	–	–	–	–	18-24	–
SD037	**Tetracycline**	TE	30 mcg															
	Enterobacteriaceae, Acientobacter			15	12–14	11	18–25	–	–	–	–	–	–	–	–	–	–	–
	Staphylococcus, Enterococcus spp. & *Neisseria meningitidis*			19	15–18	14	–	24–30	–	–	–	–	–	–	–	–	–	–
	Haemophilus influenzae & Haemophilus parainfluenzae			29	26–28	25	–	–	–	–	–	–	14–22	–	–	–	–	–
	Neisseria gonorrhoeae			38	31–37	30	–	–	–	–	–	–	–	–	–	30–42	–	–
	S. pneumoniae,			28	25–27	24	–	–	–	–	–	–	–	–	–	–	27–31	–
	Streptococcus spp. *beta haemolytic group & Viridans* group			23	19–22	18	–	–	–	–	–	–	–	–	–	–	–	–

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	Staphylococcus spp.			22	19–21	19	–	–	–	–	23-31	–	–	–	–	–	–	–
	Streptococcus group A, B, C & G			23	20–22	20	–	–	–	–	–	–	–	–	–	–	–	–
	S.pneumoniae, Haemophilus influenzae			25	22–24	22	–	–	–	–	–	–	–	28–34	–	–	28-34	–
	Corynebacterium spp.,			24	–	24	–	–	–	–	–	–	–	–	–	–	–	–
	Pasteurella multocida			24	–	24	–	–	–	–	–	–	–	–	–	–	–	–
	Campylobacter jejuni & coli			30	–	30	–	–	–	–	–	–	–	–	–	–	–	30-38
	Moraxella catarrhalis			28	25–27	25	–	–	–	–	–	–	–	–	–	–	–	–
	Kingella kingae			28	–	28	–	–	–	–	–	–	–	–	–	–	–	–
SD201	**Ticarcillin / Clavulanic Acid**	TCC	75/10mcg															
	Enterobacteriaceae & Acientobacter			20	15–19	14	24–30	–	–	21–25	–	–	–	–	–	–	–	–
	P. aeruginosa			24	16–23	15	–	–	20–28	–	–	–	–	–	–	–	–	–
	Staphylococcus spp.			23	–	22	–	29–37	–	–	–	–	–	–	–	–	–	–
	Enterobacteriaceae			23	20–22	20	24–30	–	–	21–25	–	–	–	–	–	–	–	–
	Pseudomonas spp.			18	–	18	–	–	20–28	–	–	–	–	–	–	–	–	–
SD074	**Ticarcillin**	TI	75 mcg	–	–	–	24–30	–	21–27	6	–	–	–	–	–	–	–	–
	Enterobacteriaceae			23	20–22	20	24-30	–	–	–	–	–	–	–	–	–	–	–
	Pseudomonas spp.			18	–	18	–	–	–	–	–	–	–	–	–	–	–	–
SD278	**Tigecycline**	TGC	15 mcg	–	–	–	20–27	20–25	9–13	–	–	–	23–31	–	–	30–40	23–29	–
	Enterobacteriaceae, Enterococcus spp.			18	15-17	15	20–27	–	–	–	–	20-26	–	–	–	–	–	–
	Staphylococcus spp.			18	–	18	–	–	–	–	19–25	–	–	–	–	–	–	–
	Streptococcus group A, B, C & G			19	16–18	16	–	–	–	–	–	–	–	–	–	–	24-30	–
SD044	**Tobramycin**	TOB	10 mcg															
	Enterobacteriaceae, P. aeruginosa, Acientobacter & Staphylococcus spp.			15	13–14	12	18–26	19–29	20–26	–	–	–	–	–	–	–	–	–
	Enterobacteriaceae			17	14–16	14	18–26	–	–	–	–	–	–	–	–	–	–	–
	Staphylococcus spp.			18	–	18	–	–	–	–	20–26	–	–	–	–	–	–	–
	Coagulase negative *Staphylococci*			22	–	22	–	–	–	–	–	–	–	–	–	–	–	–
	Pseudomonas spp.			16	–	16	–	–	20–26	–	–	–	–	–	–	–	–	–
	Acinetobacter spp.			17	–	17	–	–	–	–	–	–	–	–	–	–	–	–
SD039	**Trimethoprim**	TR	5 mcg															
	Enterobacteriaceae, Staphylococcus spp.			16	11–15	10	21–28	19–26	–	–	–	–	–	–	–	–	–	–
	Enterobacteriaceae			18	15-17	15	21-28	–	–	–	–	–	–	–	–	–	–	–
	Staphylococcus spp.			17	14-16	14	–	–	–	–	22-28	–	–	–	–	–	–	–
	Enterococcus spp.			50	21-49	21	–	–	–	–	–	24-32	–	–	–	–	–	–
SD268	**Ulifloxacin (Prulifloxacin)**	PRU	5 mcg	–	–	–	32–38	20–26	27–33	–	–	–	–	–	–	–	–	–
SD045	**Vancomycin**	VA	30 mcg	–	–	–	–	17–21	–	–	–	–	–	–	–	–	–	–
	Enterococcus spp.			17	15–16	14	–	–	–	–	–	–	–	–	–	–	–	–
	S. pneumoniae, Streptococcus spp. beta haemolytic group & *Streptococcus* spp. *Viridans group*			17	–	–	–	–	–	–	–	–	–	–	–	–	20–27	–
SD155	**Vancomycin**	VA	5 mcg															
	Enterococcus spp.			12	–	12	–	–	–	–	–	10 - 16	–	–	–	–	–	–
	Streptococcus group A, B, C & G			13	–	13	–	–	–	–	–	–	–	–	–	–	–	–
	S.pneumoniae			16	–	16	–	–	–	–	–	–	–	–	–	–	17-23	
	Streptococcus spp. viridans group			15	–	15	–	–	–	–	–	–	–	–	–	–	–	–
	Corynebacterium spp.			17	–	17	–	–	–	–	–	–	–	–	–	–	–	–
	Aerococcus sanguinicola & urinae			16	–	16	–	–	–	–	–	–	–	–	–	–	–	–

Zone size interpretative chart for Antifungal agent

(Based on results obtained on Mueller Hinton Agar + 2% Glucose + 0.5mcg/ml Methylene Blue Dye Medium)

Code	Antifungal agent	Symbol	Disc content	Zone diameter, Nearest Whole (mm)			Quality Control Limits (mm)			
				Resistant mm or less	S-DD*	Susceptible mm or more	*C. albicans* ATCC 90028	*C. parapsilosis* ATCC 22019	*C. tropicalis* ATCC 750	*C. krusei* ATCC 6258
SD232	Fluconazole	FLC	25 mcg	14	15-18	19	28-39	22-33	26-37	—
SD277	Voriconazole	VRC	1 mcg	13	14-16	17	31-42	28-37	—	16-25

* S-DD - Susceptible - Dose Dependent

References: 1) Method for Antifungal Disk Diffusion Susceptibility Testing of Yeasts; Approved Guidelines - Second Edition Vol.29 No.17, Aug - 2009 CLSI document M44-A2. For more details refer to this volume.
2) Zone Diameter Interpretive Standards, Corresponding Minimal Inhibitory Concentration (MIC) Interpretive Breakpoints, and Quality Control Limits for Antifungal Disk Diffusion Susceptibility Testing of Yeasts, Third Informational Supplement CLSI document – M44-S3 – Aug 2009.

▼ : In accordance to Performance Standards for Antimicrobial Disk Susceptibility Tests, CLSI & EUCAST.
□ : Zone size interpretative criteria is as per **CLSI** standard. □ : Zone size interpretative criteria is as per **EUCAST** standard. Resistant criteria is below the given zone diameter.
* : Not included in CLSI chart; FDA approved performance standards for Antimicrobial Discs obtained from drug manufacturers.
For *E. coli, S. aureus, P. aeruginosa* : Mueller Hinton Agar (MHA). For *Haemophilus spp.* : Haemophilus Test Medium;
For *S. pneumoniae* : Mueller Hinton Agar with 5% sheep blood; For *N. gonorrhoeae* : GC Agar Base with 1% defined growth supplement.

References: 1. Bauer, Kirby, Sherris and Turck, 1966, Am. J. Clin. Path., 45 : 493. 2.Performance Standards for Antimicrobial Disk Susceptibility Tests, M100S, 28th Ed., CLSI Vol.- 38 No.3, Jan-2018. For more details refer to this volume. 3. EUCAST, Breakpoint tables for interpretation of MICs & zone diameters, version 8.0, valid from 01.01.2018. 4. Routine & extended internal quality control for MIC determination & Disc diffusion as recommended by EUCAST. version 8.0, valid from 01.01.2018.

HIMEDIA®

Zone Size Interpretative Chart (not as per CLSI & EUCAST)

Antimicrobial Susceptibility Testing - Quality Control Limits for Antibiotics*

Based on Results obtained using Mueller Hinton Agar

Product Code	Antimicrobial Agent	Sym-bol	Disc content	Diameter of zone of inhibition in mm		
				Quality Control Limits		
				E. coli ATCC 25922	*S. aureus* ATCC 25923	*P. aeruginosa* ATCC 27853
SD082	Amikacin	AK	10 mcg	16-23	18-24	15-23
SD001	Amoxicillin	AMX	10 mcg	19-25	28-36	—
SD129	Amoxicillin	AMX	25 mcg	19-25	28-36	—
SD076	Amoxicillin	AMX	30 mcg	19-25	28-36	—
SD281	Amoxyclav (Amoxicillin/ Clavulanic acid)	AMC	50/10 mcg	24-30	30-38	—
SD264	Amoxicillin/Sulbactam	AMS	30/15 mcg	28-38	32-43	—
SD078	Amoxyclav	AMC	10 mcg	19-25	28-36	—
SD077	Ampicillin	AMP	25 mcg	20-30	32-40	—
SD113	Ampicillin/Cloxacillin	AX	10 mcg	16-22	35-37	—
SD124	Azithromycin	AZM	30 mcg	—	24-30	—
SD094	Azlocillin	AZ	30 mcg	—	—	22-28
SD263	Aztreonam	AT	50 mcg	29-37	—	24-33
SD003	Bacitracin	B	10 units	—	12-22	—
SD105	Bacitracin	B	8 units	—	12-22	—
SD079	Cefaloridine (Cephaloridine)	CR	10 mcg	17-21	29-37	—
SD005	Cefaloridine (Cephaloridine)	CR	30 mcg	17-21	29-37	—
SD262	Cefepime	CPM	50 mcg	32-40	26-34	27-35
SD234	Cefepime/Clavulanic acid	CFC	30/10 mcg	32-40	24-30	25-31
SD247	Cefepime/Tazobactam	CPT	80/10 mcg	31-39	30-35	27-34
SD257	Cefepime/Tazobactam	CPT	30/10 mcg	33-39	24-30	26-32
SD820	Cefixime	CFM	10 mcg	24-29	—	—
SD266	Cefixime/Clavulanic acid	CMC	5/10 mcg	24-32	—	—
SD203	Cefoperazone/Sulbactam	CFS	75/30 mcg	27-33	23-30	22-28
SD254	Cefoperazone/Sulbactam	CFS	75/10 mcg	27-33	23-30	20-25
SD259	Cefoperazone/Sulbactam	CFS	50/50 mcg	28-36	24-33	22-29
SD253	Cefoperazone/Tazobactam	CST	75/10 mcg	27-32	23-30	22-28
SD040A	Cefotaxime (Cephotaxime)	CTX	10 mcg	29-35	25-31	18-22
SD285	Cefoxitin/Cloxacillin	CXX	30/200 mcg	26-34	36-50	—
SD724	Cefotaxime/Clavulanic acid	CEC	30/10 mcg	30-37	29-36	—
SD738	Cefpirome	CFP	30 mcg	28-34	29-37	23-29
SD235	Cefpirome/Clavulanic acid	CPC	30/7.5 mcg	29-35	29-37	17-23
SD160	Cefradine (Cephradine)	CH	25 mcg	17-22	29-37	—
SD704	Cefradine (Cephradine)	CH	30 mcg	17-22	29-37	—
SD207	Ceftazidime/Clavulanic acid	CAC	30/10 mcg	27-34	*K. pneumoniae* ATCC 700603 = ≥ 23 mm	
SD269	Ceftazidime/Tazobactam	CAT	80/10 mcg	25-32	19-28	23-30
SD252	Ceftazidime/Tazobactam	CAT	30/10 mcg	25-32	17-24	22-29
SD109	Ceftriaxone	CTR	10 mcg	29-35	22-28	17-23
SD261	Ceftriaxone/Sulbactam	CIS	30/15 mcg	31-37	24-30	16-21
SD256	Ceftriaxone/Tazobactam	CIT	30/10 mcg	29-35	24-32	17-24
SD251	Ceftriaxone/Tazobactam	CIT	80/10 mcg	29-35	24-32	17-24
SD081	Chloramphenicol	C	10 mcg	17-25	19-26	—
SD131	Chloramphenicol	C	50 mcg	23-29	25-32	—
SD153	Chloramphenicol	C	25 mcg	21-27	23-30	—
SD007	Chlortetracycline	CT	30 mcg	18-25	19-28	—
SD080	Ciprofloxacin	CIP	10 mcg	30-40	27-35	28-35
SD142	Ciprofloxacin	CIP	30 mcg	30-40	27-35	28-35
SD060A	Ciprofloxacin	CIP	1 mcg	26-36	20-28	22-30
SD164	Clindamycin	CD	10 mcg	—	28-34	—
SD008	Cloxacillin	COX	1 mcg	—	18-24	—
SD075	Cloxacillin	COX	5 mcg	—	18-30	—
SD143	Cloxacillin	COX	10 mcg	—	23-34	—
SD165	Cloxacillin	COX	30 mcg	—	30-40	—
SD284	Cloxacillin	COX	200 mcg	—	36-50	—
SD108	Colistin (Methane Sulphonate)	CL	25 mcg	11-15	—	11-15
SD097	Colistin (Methane Sulphonate)	CL	50 mcg	11-15	—	11-15
SD071	Co-Trimazine (Human)	CM	25 mcg	21-28	19-26	—
SD052	Dicloxacillin	D/C	1 mcg	—	18-30	—
SD120	Doxycycline Hydrochloride	DO	10 mcg	12-18	23-29	—
SD150	Enrofloxacin	EX	10 mcg	30-40	22-30	—
SD156	Enrofloxacin	EX	5 mcg	30-40	22-30	—
SD083	Erythromycin	E	10 mcg	—	22-30	—
SD222	Erythromycin	E	5 mcg	—	22-30	—
SD140	Floxidin	FL	20 mcg	30-40	25-30	—
SD141	Floxidin	FL	30 mcg	30-40	25-30	—
SD179	Fosfomycin	FO	50 mcg	19-25	25-33	—
SD014	Framycetin	F	100 mcg	18-24	18-24	16-21
SD015	Furazolidone	FR	50 mcg	20-25	18-22	—
SD197	Furazolidone	FR	100 mcg	20-25	18-22	—
SD042	Furoxone	FX	100 mcg	20-25	18-22	—
SD169	Fusidic Acid	FC	30 mcg	—	26-37	—
SD166	Gentamicin	GEN	50 mcg	21-28	25-33	20-25
SD753	Gatifloxacin	GAT	10 mcg	30-37	27-33	20-28
SD740	Gatifloxacin	GAT	30 mcg	32-40	31-37	24-32
SD265	Imipenam/Cilastin	IC	10/10 mcg	28-35	—	24-31
SD282	Imipenam/EDTA	IE	10/750 mcg	25-31	—	19-27
SD214	Isepamicin	IP	30 mcg	20-28	24-32	19-24
SD223	Kanamycin	K	5 mcg	16-22	19-26	—
SD018	Lincomycin	L	2 mcg	—	15-22	—
SD084	Lincomycin	L	10 mcg	—	15-22	—
SD098	Lincomycin	L	15 mcg	—	22-32	—
SD125	Lomefloxacin	LOM	30 mcg	27-33	23-29	22-28
SD260	Lomefloxacin	LOM	15 mcg	28-36	24-32	22-30
SD177	Mecillinam	MEC	25 mcg	24-36	—	—
SD068	Methanamine Mandalate	ME	3 mg	13-18	14-22	—
SD136	Methicillin	MET	10 mcg	—	17-22	—
SD137	Methicillin	MET	30 mcg	—	22-32	—
SD748	Mupirocin	MU	5 mcg	—	18-24	—
SD258	Nadifloxacin	NAD	5 mcg	28-34	29-37	25-32
SD731	Neomycin	N	10 mcg	13-19	17-25	—
SD022	Neomycin	N	30 mcg	17-23	18-26	—
SD090	Nitrofurantoin	NIT	200 mcg	20-25	18-22	—
SD024	Nitrofurazone	NR	100 mcg	20-25	18-22	—
SD184	Norfloxacin	NX	5 mcg	28-35	17-28	22-29
SD053	Novobiocin	NV	30 mcg	—	22-31	—
SD121	Novobiocin	NV	5 mcg	—	22-31	—
SD069	Ofloxacin	OF	2 mcg	29-33	24-28	17-21
SD026	Oleandomycin	OL	15 mcg	—	19-28	—
SD043	Oxacillin	OX	5 mcg	—	27-35	—
SD027	Oxytetracycline	O	30 mcg	18-25	19-28	—
SD144	Penicillin G	P	2 units	—	26-37	—
SD175	Pipemidic Acid	PA	30 mcg	18-25	13-19	11-16
SD185	Pipemidic Acid	PA	20 mcg	18-25	13-19	11-16
SD132	Piperacillin	PI	75 mcg	24-30	—	25-33
SD106	Polymyxin B	PB	50 units	12-16	—	11-17
SD139	Polymyxin B	PB	100 units	12-16	—	11-17
SD267	Prulifloxacin (Ulifloxacin)	PRU	10 mcg	28-34	19-27	24-32
SD096	Rifampicin	RIF	2 mcg	8-10	26-34	—
SD127	Rifampicin	RIF	30 mcg	9-12	32-40	—
SD128	Rifampicin	RIF	15 mcg	8-10	26-34	—

* : Concentration of Antibiotics **not as per CLSI** & **not as per EUCAST**.

Zone Size Interpretative Chart (not as per CLSI & EUCAST)

Antimicrobial Susceptibility Testing - Quality Control Limits for Antibiotics*

Based on Results obtained using Mueller Hinton Agar

Product Code	Antimicrobial Agent	Sym-bol	Disc content	Diameter of zone of inhibition in mm		
				Quality Control Limits		
				E. coli ATCC 25922	*S. aureus* ATCC 25923	*P. aeruginosa* ATCC 27853
SD126	Roxithromycin	RO	30 mcg	—	22-30	—
SD059	Sisomicin	SS	10 mcg	17-24	19-26	17-22
SD054	Spiramycin	SR	30 mcg	—	22-29	—
SD101	Spiramycin	SR	100 mcg	—	22-29	—
SD091	Streptomycin	S	25 mcg	15-23	17-25	—
SD056	Sulfasomidine	SO	300 mcg	18-26	24-34	—
SD033	Sulphamethizole	SM	300 mcg	18-26	24-34	—
SD055	Sulphamethoxypyridazine	ST	300 mcg	18-26	24-34	—
SD036	Sulphaphenazole	SP	200 mcg	18-26	24-34	—
SD092	Sulphadiazine	SZ	100 mcg	12-20	16-26	—

Product Code	Antimicrobial Agent	Sym-bol	Disc content	Diameter of zone of inhibition in mm		
				Quality Control Limits		
				E. coli ATCC 25922	*S. aureus* ATCC 25923	*P. aeruginosa* ATCC 27853
SD034	Sulphadiazine	SZ	300 mcg	18-26	24-34	—
SD133	Tetracycline	TE	10 mcg	18-25	24-30	—
SD154	Tobramycin	TOB	30 mcg	18-26	19-29	19-25
SD093	Trimethoprim	TR	10 mcg	21-28	19-26	—
SD148	Trimethoprim	TR	25 mcg	21-28	19-26	—
SD149	Trimethoprim	TR	30 mcg	21-28	19-26	—
SD038	Triple Sulpha	S3	300 mcg	15-23	24-34	—
SD199	Tylosine	TL	15 mcg	—	22-30	—
SD163	Vancomycin	VA	10 mcg	—	17-21	—
SD182	Virginamycin	VI	15 mcg	—	22-30	—

Cultural Response : Suceptibility test of Metronidazole discs (SD020, SD099) is carried out by incorporating it into 5 ml Fluid Thioglycollate Medium (M009). It is incubated at 35°C for 24 hours and results are recorded on the basis of appearance of growth using *Cl. perfringens* (ATCC 12924) as a test organism.

Product Code	Antimicrobial Agent	Symbol	Disc content
SD020	Metronidazole	MT	5 mcg
SD099	Metronidazole	MT	4 mcg

No. of Discs*	0	1	3	5	7
Growth	luxuriant	good	poor to good	poor	none

* addition to 5 ml medium

ZONE SIZE INTERPRETATIVE CHART

Product Code	Antimicrobial Agent	Symbol	Disc content	Interpretative criteria		Quality Control Limits*	
				Sensitive	Resistant	*Bacteroides fragilis* ATCC 25285	*Fusobacterium necrophorum* ATCC 25286
SD837	**Kanamycin**	K	1000 mcg	≥ 10 mm	< 10 mm	Resistant (< 10 mm zone)	Sensitive (≥ 10 mm zone)

*: Expected diameter of zone of inhibition, as per Quality Control results obtained on Brucella Blood Agar w/ Hemin and Vitamin K1 (M1039).

Quality Control Limits for Antifungal Agent

(Based on results obtained on Mueller Hinton Agar + 2% Glucose + 0.5mcg/ml Methylene Blue Dye Medium)

Product Code	Antimicrobial Agent	Symbol	Disc content	Quality Control Limits					
				C. albicans ATCC 90028	*C.parapsilosis* ATCC 22019	*C.tropicalis* ATCC 750	*C.krusei* ATCC 6258	*C.albicans* ATCC 10231	*S.cerevisiae* ATCC 9763
SD111	**Amphotericin-B**	AP	100 units	10-17	11-20	8-12	9-14	10-18	11-18
SD233	**Amphotericin-B**	AP	20 mcg	10-15	10-17	8-10	8-12	10-16	8-12
SD270	**Amphotericin-B**	AP	50 mcg	12-15	13-17	13-17	14-20	15-23	16-25
SD115	**Clotrimazole**	CC	10 mcg	18-32	16-30	10-20	14-24	12-18	17-25
SD114	**Fluconazole**	FLC	10 mcg	27-38	22-33	16-25	—	18-22	—
SD221	**Itraconazole**	IT	10 mcg	16-20	11-18	8-13	8-15	18-22	—
SD276	**Itraconazole**	IT	30 mcg	18-22	20-24	11-18	8-15	18-22	—
SD224	**Ketoconazole**	KT	10 mcg	20-32	14-29	17-28	10-14	18-22	—
SD275	**Ketoconazole**	KT	30 mcg	32-36	26-32	26-32	19-26	31-40	—
SD274	**Ketoconazole**	KT	50 mcg	37-45	36-44	27-34	19-26	31-40	—
SD273	**Miconazole**	MIC	30 mcg	22-26	13-17	14-20	19-26	20-27	20-28
SD272	**Miconazole**	MIC	50 mcg	26-32	23-29	14-20	19-26	20-27	20-28
SD025	**Nystatin**	NS	100 units	19-27	16-25	16-21	15-20	15-23	17-25
SD271	**Nystatin**	NS	50 mcg	19-23	19-23	13-17	19-26	16-25	22-27

* : Concentration of Antibiotics **not as per CLSI** & **not as per EUCAST**.

HiComb™ Interpretative Chart

Table 1 - MIC Interpretative Chart

Table 1 A - Antibacterial Agents

Code	Name	Symbol	Range (mcg)	Interpretative criteria for	Interpretative criteria			Quality Control limits (mcg)					
					S ≤	I	R ≥	*S.aureus* ATCC 29213	*E.faecalis* ATCC 29212	*E.coli* ATCC 25922	*P.aeruginosa* ATCC 27853	*E.coli* ATCC 35218	K. pneumoniae ATCC 700603
MD001	Amikacin	AK	A: 256 - 0.1 B:4-0.001	*Enterobacteriaceae*	16	32	64	1-4	64-256	0.5-4	1-4	-	-
				Acinetobacter	16	32	64						
				P. aeruginosa	16	32	64						
MD067	Amikacin	AK	A:256-2 B :2.048-0.016	other non-*Enterobacteriaceae*	16	32	64						
				Staphylococcus spp	16	32	64						
▲MD002	Amoxicillin	AMX	A: 240 - 0.01 B:4-0.001	*S. pneumoniae* (non-meningitis)	2	4	8	-	-	-	-	-	>128
▲MD003	Amoxyclav (Amoxycillin/ Clavulanic acid) (2:1)	AMC	A: 240 - 0.01 B:4-0.001	*Enterobacteriaceae*	8	16	32	0.12-0.5	0.25-1.0	2-8	-	4-16	4-16
				Haemophilus spp	4	-	8						
				Staphylococcus spp*	4	-	8						
				S. pneumoniae (non-meningitis)	2	4	8						
				Anaerobes	4	8	16						
▲MD068	Ampicillin	AMP	A:256-2 B :2.048-0.016	*Enterobacteriaceae*	8	16	32	0.5-2	0.5-2	2-8	-	>32	>128
				Staphylococcus spp*	0.25	-	0.5						
				Enterococcus spp	8	-	16						
				Haemophilus spp	1	2	4						
				Streptococcus spp, Beta haemolytic group	0.25	-	-						
				Streptococcus spp, Viridans group	0.25	0.5-4	8						
				N. meningitidis	0.12	0.25-1	2						
				Anaerobes	0.5	1	2						
MD004	Azithromycin	AZM	A:128- 0.01 B:2- 0.0001	*Enterobacteriaceae* (S. Typhi only)	16	-	32	0.5-2	-	-	-	-	-
				Staphylococcus spp	2	4	8						
				Haemophilus spp	4	-	-						
				S. pneumoniae	0.5	1	2						
				Streptococcus spp, Beta haemolytic group	0.5	1	2						
				Streptococcus spp, Viridans group	0.5	1	2						
				N. meningitidis	2	-	-						
▲MD005	Azlocillin	AZ	A: 240 - 0.01 B:16-0.001	Not available	Not available			2-8	1-4	8-32	2-8	-	-
MD006	Aztreonam	AT	A: 240 - 0.01 B:2-0.0001	*Enterobacteriaceae*	4	8	16	-	-	0.06-0.25	2-8	0.03-0.12	8-64
				P. aeruginosa	8	16	32						
				other non-*Enterobacteriaceae*	8	16	32						
				Haemophilus spp	2	-	-						
▲MD062	Benzyl Penicillin	P	A:256-2 B :2.048-0.016	*Staphylococcus* spp	0.12	-	0.25	0.25-2	1-4	-	-	-	-
				Enterococcus spp	8	-	16						
				N. meningitidis	0.06	0.12-0.25	0.5						
				N. gonorrhoeae	0.06	0.12-1	2						
				S. pneumoniae (meningitis)	0.06	-	0.12						
				S. pneumoniae (non meningitis)	2	4	8						
				Streptococcus spp, Beta haemolytic group	0.12	-	-						
				Streptococcus spp, Viridans group	0.12	0.25-2	4						
				Anaerobes	0.5	1	2						
MD007	Carbenicillin	CB	A: 512-0.1 B:32-0.01	other non-*Enterobacteriaceae*	16	32	64	2-8	16-64	4-16	16-64	-	-
▲MD008	Cefazolin	CZ	A: 240 - 0.01 B:4-0.001	*Enterobacteriaceae*	2	4	8	0.25-1	-	1-4	-	-	-
				Enterobacteriaceae (Surrogate test for uncomplicated UTI)	16	-	32						
▲MD009	Cefdinir	CDR	A: 240 - 0.01 B:4-0.001	*Enterobacteriaceae*	1	2	4	0.12-0.5	-	0.12-0.5	-	-	-
				Haemophilus spp	1	-	-						
				S. pneumoniae	0.5	1	2						
▲MD010	Cefepime	CPM	A:240-0.01 B:30- 0.001	*Enterobacteriaceae*	2	4-8	16	1-4	-	0.016-0.12	0.5-4	-	-
				Staphylococcus spp*	8	16	32						
				other non-*Enterobacteriaceae*	8	16	32						
				Acinetobacter spp	8	16	32						
				P. aeruginosa	8	16	32						
				N. gonorrhoeae	0.5	-	-						
▲MD070	Cefepime	CPM	A:256-2 B :2.048-0.016	*Haemophilus* spp	2	-	-						
				S. pneumoniae (meningitis)	0.5	1	2						
				S. pneumoniae (non meningitis)	1	2	4						
				Streptococcus spp, Beta haemolytic group	0.5	-	-						
				Streptococcus spp, Viridans group	1	2	4						
▲#MD011	Cefpirome	CFP	A: 240 - 0.01 B:30- 0.001	not available	not available			0.25-2	-	1-4	1-4	-	-

HiComb™ Interpretative Chart

Table 1 - MIC Interpretative Chart

Table 1 A - Antibacterial Agents

Code	Name	Symbol	Range (mcg)	Interpretative criteria for	Interpretative criteria			Quality Control limits (mcg)					
					S ≤	I	R ≥	*S.aureus* ATCC 29213	*E.faecalis* ATCC 29212	*E.coli* ATCC 25922	*P.aeruginosa* ATCC 27853	*E.coli* ATCC 35218	K. pneumoniae ATCC 700603
▲MD012	Ceftazidime	CAZ	A: 240 - 0.01 B:30- 0.001	*Enterobacteriaceae*	4	8	16	4-16	-	0.06-0.5	1-4	-	16-64
				Staphylococcus spp*	8	16	32						
				other non-*Enterobacteriaceae*	8	16	32						
▲MD069	Ceftazidime	CAZ	A:256-2 B :2.048-0.016	*Acinetobacter, P. aeruginosa*	8	16	32						
				S. maltophila, B. cepacia	8	16	32						
				Haemophilus spp	2	-	-						
				N. gonorrhoeae	0.5	-	-						
▲MD013	Ceftriaxone	CTR	A: 240 - 0.01 B:30- 0.001	*Enterobacteriaceae*	1	2	4	1-8	-	0.03-0.12	8-64	-	-
				Staphylococcus spp	8	16-32	64						
▲MD066	Ceftriaxone	CTR	A:256-2 B :2.048-0.016	other non-*Enterobacteriaceae*	8	16-32	64						
				Acinetobacter spp	8	16-32	64						
				Haemophilus spp	2	-	-						
				N. gonorrhoeae	0.25	-	-						
				N. meningitidis	0.12	-	-						
				Streptococcus spp, Beta haemolytic group	0.5	-	-						
				S. pneumoniae (meningitis)	0.5	1	2						
				S. pneumoniae (non meningitis)	1	2	4						
				Streptococcus spp, Viridans group	1	2	4						
▲MD014	Cefalexin	CN	A: 240 - 0.01 B:30- 0.001	not available	not available			0.01-0.1	-	0.1-5	-	-	-
▲MD015	Cephotaxime	CTX	A: 240 - 0.01 B:30- 0.001	*Enterobacteriaceae*	1	2	4	1-4	-	0.03-0.12	8-32	-	-
				Staphylococcus spp*	8	16-32	64						
				other non-*Enterobacteriaceae*	8	16-32	64						
				Acinetobacter,	8	16-32	64						
				Haemophilus spp	2	-	-						
				N. gonorrhoeae	0.5	-	-						
▲MD064	Cephotaxime	CTX	A:256-2 B :2.048-0.016	*Streptococcus* spp Beta haemolytic group	0.5	-	-						
				N. meningitidis	0.12	-	-						
				S. pneumoniae(meningitis)	0.5	1	2						
				S. pneumoniae (non meningitis)	1	2	4						
				Streptococcus spp Viridans group	1	2	4						
MD016	Chloramphenicol	C	A: 240 - 0.01 B:8- 0.001	*Enterobacteriaceae*,	8	16	32	2-16	4-16	2-8	-	-	-
				Enterococcus, Anaerobes	8	16	32						
				S. maltophila, B. cepacia,	8	16	32						
				Staphylococcus spp, *V. cholerae*,	8	16	32						
				other non-*Enterobacteriaceae*	8	16	32						
				Haemophilus spp	2	4	8						
				N. meningitidis	2	4	8						
				Streptococcus spp Beta haemolytic group	4	8	16						
				Streptococcus spp Viridans group	4	8	16						
				S. pneumoniae	4	-	8						
MD017	Ciprofloxacin	CIP	A: 240 - 0.01 B:2-0.001	*Enterobacteriaceae*	1	2	4	0.12-0.5	0.25-2	0.004-0.015	0.25-1	-	-
				Salmonella Typhi	0.06	0.12-0.5	1						
				Salmonella Para Typhi	0.06	0.12-0.5	1						
				Enterococcus spp	1	2	4						
				Staphylococcus spp	1	2	4						
				other non-*Enterobacteriaceae*	1	2	4						
				Acinetobacter spp	1	2	4						
				P. aeruginosa	1	2	4						
				Haemophilus spp	1	-	-						
				N. gonorrhoeae	0.06	0.12-0.5	1						
				N. meningitidis	0.03	0.06	0.12						
MD018	Clarithromycin	CLR	A: 240 - 0.01 B:16-0.001	*Staphylococcus* spp	2	4	8	0.12-0.5	-	-	-	-	-
				Haemophilus spp	8	16	32						
				S. pneumoniae, H. pylori	0.25	0.5	1						
				Streptococcus spp, Beta haemolytic group	0.25	0.5	1						
				Streptococcus spp, Viridans group	0.25	0.5	1						
MD019	Clindamycin	CD	A: 240 - 0.01 B:8- 0.001	*Staphylococcus* spp	0.5	1-2	4	0.06-0.25	4-16	-	-	-	-
				S. pneumoniae	0.25	0.5	1						
				Streptococcus spp, Beta haemolytic group	0.25	0.5	1						
				Streptococcus spp, Viridans group	0.25	0.5	1						
				Anaerobes	2	4	8						
MD020	Colistin	CL	A: 240 - 0.01 B:30- 0.001	*Acientobacter*	2	-	4	-	-	0.25-2	0.5-4	-	-
				P. aeruginosa	2	-	4						
				other non-*Enterobacteriaceae*[$]	2	4	8						

All other products to be stored between 2 to 8°C, ▲:On receipt, store at -20°C, For prolonged use, store below -20°C

* = Interpretive criteria are as per CLSI guidelines 2012 & have been deleted thereafter

$ = Interpretive criteria are as per CLSI guidelines 2016 & have been deleted thereafter

HiComb™ Interpretative Chart

Table 1 - MIC Interpretative Chart

Table 1 A - Antibacterial Agents

Code	Name	Symbol	Range (mcg)	Interpretative criteria for	Interpretative criteria			Quality Control limits (mcg)					
					S ≤	I	R ≥	*S.aureus* ATCC 29213	*E.faecalis* ATCC 29212	*E.coli* ATCC 25922	*P.aeruginosa* ATCC 27853	*E.coli* ATCC 35218	K. pneumoniae ATCC 700603
MD021	Co-Trimoxazole (Sulpha/ Trimethoprim) (1:19)	COT	A: 240 - 0.01 B:4-0.001	*Enterobacteriaceae*	2	-	4	≤0.5	≤0.5	≤0.5	8-32	-	-
				Staphylococcus spp	2	-	4						
				S. maltophila, B. cepacia, V. cholerae	2	-	4						
				other non-*Enterobacteriaceae*	2	-	4						
				Acientobacter	2	-	4						
				N. meningitidis	0.12	2.5	0.5						
				Haemophilus spp	0.5	1-2	4						
				S. pneumoniae	0.5	1-2	4						
MD022	Erythromycin	E	A: 240 - 0.01 B:4-0.001	*Staphylococcus* spp	0.5	1-4	8	0.25-1	1-4	-	-	-	-
				Enterococcus spp	0.5	1-4	8						
				S. pneumoniae	0.25	0.5	1						
				Streptococcus spp, Beta haemolytic group	0.25	0.5	1						
				Streptococcus spp, Viridans group	0.25	0.5	1						
MD023	Fusidic Acid	FC	A: 240 - 0.01 B:30- 0.001	not available	not available			0.06-0.25	-	-	-	-	-
MD024	Gatifloxacin	GAT	A: 64 - 0.01 B:2- 0.001	*Enterobacteriaceae*	2	4	8	0.03-0.12	0.12-1.0	0.008-0.03	0.5-2	-	-
				Enterococcus spp	2	4	8						
				other non-*Enterobacteriaceae*	2	4	8						
				Acinetobacter spp	2	4	8						
				P. aeruginosa	2	4	8						
				Staphylococcus spp	0.5	1	2						
				Haemophilus spp	1	-	-						
				S. pneumoniae	1	2	4						
				Streptococcus spp, Beta haemolytic group	1	2	4						
				Streptococcus spp, Viridans group	1	2	4						
MD076	Gemifloxacin	GEM	A: 240 - 0.01 B:4-0.001	*Enterobacteriaceae*	0.25	0.5	1	0.008-0.03	0.016-0.12	0.004-0.016	0.25-1	-	-
				Haemophilus spp	0.12	-	-						
				S. pneumoniae	0.12	0.25	0.5						
MD025	Gentamicin	GEN	A: 240 - 0.01 B:5 - 0.001	*Enterobacteriaceae*	4	8	16	0.12-1	4-16	0.25-1	0.5-2	-	-
				other non-*Enterobacteriaceae*	4	8	16						
MD061	Gentamicin	GEN	A: 1024-8 B: 8.192-0.064	*Acinetobacter, P. aeruginosa*	4	8	16						
				Staphylococcus spp	4	8	16						
MD026	Kanamycin	K	A: 240 - 0.01 B:30- 0.001	*Enterobacteriaceae*	16	32	64	1-4	16-64	1-4	-	-	-
				Staphylococcus spp	16	32	64						
MD027	Levofloxacin	LE	A: 240 - 0.01 B:5 - 0.005	*Enterobacteriaceae* except *Salmonella* spp	2	4	8	0.06-0.5	0.25-2	0.008-0.06	0.5-4	-	-
				*S.*Typhi, *S.* Paratyphi A-C	0.12	0.25-1	2						
				other non-*Enterobacteriaceae*	2	4	8						
				Acinetobacter spp	2	4	8						
				P. aeruginosa	2	4	8						
				S. maltophila	2	4	8						
				B. cepacia	2	4	8						
				Enterococcus spp	2	4	8						
				S. pneumoniae	2	4	8						
				Streptococcus spp, Beta haemolytic group	2	4	8						
				Streptococcus spp, Viridans group	2	4	8						
				Staphylococcus spp	1	2	4						
				Haemophilus spp	2	-	-						
				N. meningitis	0.03	0.06	0.12						
#MD028	Lincomycin	L	A: 240 - 0.01 B:30- 0.001	not available	not available			0.1-1	-	-	-	-	-
MD029	Linezolid	LZ	A: 240 - 0.01 B:8- 0.001	*Staphylococcus* spp	4	-	8	1-4	1-4	-	-	-	-
				Enterococcus	2	4	8						
				S. pneumoniae	2	-	-						
				Streptococcus spp, Beta haemolytic group	2	-	-						
				Streptococcus spp, Viridans group	2	-	-						
MD030	Lomefloxacin	LOM	A: 240 - 0.01 B:4-0.001	*Enterobacteriaceae*	2	4	8	0.25-2	2-8	0.03-0.12	1-4	-	-
				other non-*Enterobacteriaceae*,	2	4	8						
				P. aeruginosa	2	4	8						
				Staphylococcus spp	2	4	8						
				Haemophilus spp	2	-	-						
				N. gonorrhoeae	0.12	0.25-1	2						
▲MD031	Methicillin	MET	A: 240 - 0.01 B:4-0.001	not available	not available			0.5-2	>16	-	-	-	-
MD032	Minocycline	MI	A: 240 - 0.01 B:4-0.001	*Enterobacteriaceae*	4	8	16	0.06-0.5	1-4	0.25-1	-	-	-
				other non-*Enterobacteriaceae*	4	8	16						
				Acinetobacter spp	4	8	16						
				S. maltophila, B. cepacia	4	8	16						
				Staphylococcus spp	4	8	16						
				Enterococcus	4	8	16						
				N. meningitidis	2	-	-						

HiComb™ Interpretative Chart

Table 1 - MIC Interpretative Chart

Table 1 A - Antibacterial Agents

Code	Name	Symbol	Range (mcg)	Interpretative criteria for	Interpretative criteria			Quality Control limits (mcg)					
					S ≤	I	R ≥	*S.aureus* ATCC 29213	*E.faecalis* ATCC 29212	*E.coli* ATCC 25922	*P.aeruginosa* ATCC 27853	*E.coli* ATCC 35218	K. pneumoniae ATCC 700603
MD033	Moxifloxacin	MO	A: 240 - 0.01 B:32 - 0.005	*Staphylococcus* spp	0.5	1	2	0.016-0.12	0.06-0.5	0.008-0.06	1-8	-	-
				S. pneumoniae	1	2	4						
				Haemophilus spp	1	-	-						
				Anaerobes	2	4	8						
#MD034	Mupirocin	MU	A: 240 - 0.01 B:30- 0.001	not available	not available			0.064-0.25	-	-	-	-	-
MD035	Nalidixic Acid	NA	A: 240 - 0.01 B:8- 0.001	*Enterobacteriaceae*	16	-	32	-	-	1-4	-	-	-
#MD036	Neomycin	N	A: 240 - 0.01 B:30- 0.001	not available	not available			1-5	-	1-5	-	-	-
MD037	Nitrofurantoin	NIT	A: 240 - 0.01 B:30- 0.001	*Enterobacteriaceae*	32	64	128	8-32	4-16	4-16	-	-	-
				Enterococcus spp	32	64	128						
				Staphylococcus spp	32	64	128						
MD038	Norfloxacin	NX	A: 240 - 0.01 B:8- 0.001	*Enterobacteriaceae*	4	8	16	0.5-2	2-8	0.03-0.12	1-4	-	-
				Enterococcus spp	4	8	16						
				Staphylococcus spp	4	8	16						
				other non-*Enterobacteriaceae*	4	8	16						
				P. aeruginosa	4	8	16						
MD039	Ofloxacin	OF	A: 64 - 0.01 B:8- 0.001	*Enterobacteriaceae* except *Salmonella* spp	2	4	8	0.12-1	1-4	0.016-0.12	1-8	-	-
				Salmonella spp including S. Typhi and S. Paratyphi A-C	0.12	0.25-1	2						
				other non-*Enterobacteriaceae*	2	4	8						
				P. aeruginosa	2	4	8						
				S. pneumoniae	2	4	8						
				Streptococcus spp, Beta haemolytic group	2	4	8						
				Streptococcus spp, Viridans group	2	4	8						
				Staphylococcus spp	1	2	4						
				N. gonorrhoeae	0.25	0.5-1	2						
				Haemophilus spp	2	-	-						
▲MD065	Oxacillin	OX	A:256-2 B :2.048-0.016	*S. aureus* and *S. lugdunesis*	2	-	4	0.12-0.5	8-32	-	-	-	-
				Coagulase-negative *Staphylococci* except *S. lugdunesis*	0.25	-	0.5						
#MD040	Pefloxacin	PF	A: 240 - 0.01 B:30- 0.001	not available	not available			0.1-2	-	0.064-0.25	1-4	-	-
▲MD041	Piperacillin	PI	A: 240 - 0.01 B:5-0.001	*Enterobacteriaceae*,	16	32-64	128	1-4	1-4	1-4	1-8	>64	-
				other non-*Enterobacteriaceae*	16	32-64	128						
				Acinetobacter spp	16	32-64	128						
				P. aeruginosa	16	32-64	128						
▲MD042	Piperacillin/ Tazobactam	PIT	A: 240 - 0.01 B:5-0.001	*Enterobacteriaceae*	16	32-64	128	0.25-2	1-4	1-4	1-8	0.5-2	8-32
				other non-*Enterobacteriaceae*	16	32-64	128						
				Acinetobacter spp	16	32-64	128						
				P. aeruginosa	16	32-64	128						
				Staphylococcus spp*	8	-	16						
				Haemophilus spp	1	-	2						
				Anaerobes	32	64	128						
MD043	Polymyxin-B	PB	A: 240 - 0.01 B:32-0.001	*Acientobacter* spp	2	-	4	-	-	0.25-2	0.5-2	-	-
				other non-*Enterobacteriaceae*	2	4	8						
				P. aeruginosa	2	4	8						
MD044	Pristinomycin (Quinupristin-Dalfopristin)	RP	A: 240 - 0.01 B:30- 0.001	*Staphylococcus* spp	1	2	4	0.25-1	2-8	-	-	-	-
				S. pneumoniae	1	2	4						
				Enterococcus spp	1	2	4						
				Streptococcus spp, Beta haemolytic group	1	2	4						
				Streptococcus spp, Viridans group	1	2	4						
MD045	Rifampicin	RIF	A: 240 - 0.01 B:32-0.001	*Staphylococcus* spp	1	2	4	0.004-0.015	0.5-4	4-16	16-64	-	-
				S. pneumoniae	1	2	4						
				Enterococcus	1	2	4						
				Haemophilus spp	1	2	4						
				N. meningitidis	0.5	1	2						
#MD046	Roxithromycin	RO	A: 240 - 0.01 B:30- 0.001	not available	not available			0.1-1	-	-	-	-	-
MD047	Sparfloxacin	SPX	A: 64 - 0.01 B:2- 0.001	*Staphylococcus* spp	0.5	1	2	0.03-0.12	0.12-0.5	0.004-0.015	0.5-2	-	-
				S. pneumoniae	0.5	1	2						
				Haemophilus spp	0.25	-	-						
#MD048	Streptomycin	S	A: 240 - 0.01 B:30- 0.001	not available	not available			1-5	-	1-5	-	-	-
#MD049	Sulfasomidine	SO	A: 240 - 0.01 B:30- 0.001	not available	not available			1-5	-	5-10	-	-	-
#MD050	Sulphadiazine	SZ	A: 240 - 0.01 B:30- 0.001	not available	not available			30-60	-	15-60	-	-	-

All other products to be stored between 2 to 8°C, ▲:On receipt, store at -20°C, For prolonged use, store below -20°C

* = Interpretive criteria are as per CLSI guidelines 2012 & have been deleted thereafter

HiComb™ Interpretative Chart

Table 1 - MIC Interpretative Chart

Table 1 A - Antibacterial Agents

Code	Name	Symbol	Range (mcg)	Interpretative criteria for	Interpretative criteria			Quality Control limits (mcg)					
					S ≤	I	R ≥	*S.aureus* ATCC 29213	*E.faecalis* ATCC 29212	*E.coli* ATCC 25922	*P.aeruginosa* ATCC 27853	*E.coli* ATCC 35218	K. pneumoniae ATCC 700603
#MD051	Sulphafurazole (Sulfisoxazole)	SF	A: 240 - 0.01 B:30- 0.001	not available	not available			1-10	-	1-10	-	-	-
#MD052	Sulphamethizole	SM	A: 240 - 0.01 B:30- 0.001	not available	not available			1-10	-	1-10	-	-	-
#MD053	Sulphamethoxy pyridazine	ST	A: 240 - 0.01 B:30- 0.001	not available	not available			10-30	-	5-10	-	-	-
#MD054	Sulphaphenazole	SP	A: 240 - 0.01 B:30- 0.001	not available	not available			1-5	-	1-10	-	-	-
MD055	Teicoplanin	TEI	A: 240 - 0.01 B:1 -0.001	*Staphylococcus* spp	8	16	32	0.25-1	0.25-1	-	-	-	-
				Enterococcus spp	8	16	32						
MD056	Tetracycline	TE	A: 240 - 0.01 B:5 - 0.01	*Enterobacteriaceae*	4	8	16	0.12-1	8-32	0.5-2	8-32	-	-
				Staphylococcus spp	4	8	16						
				Enterococcus spp, *V. cholerae*	4	8	16						
				other non-*Enterobacteriaceae*	4	8	16						
				Acientobacter spp	4	8	16						
				Haemophilus spp	2	4	8						
				S. pneumoniae,	1	2	4						
				Streptococcus spp, Beta haemolytic group	2	4	8						
				Streptococcus spp, Viridans group	2	4	8						
				N. gonnorhoea	0.25	0.5-1	2						
				Anareobes	4	8	16						
▲MD057	Ticarcillin	TI	A: 240 - 0.01 B:16 - 0.001	*Enterobacteriaceae*	16	32-64	128	2-8	16-64	4-16	8-32	>128	>256
				other non- *Enterobacteriaceae*	16	32-64	128						
				Acientobacter spp	16	32-64	128						
				P. aeruginosa	16	32-64	128						
				Anaerobes	32	64	128						
MD058	Tobramycin	TOB	A: 240 - 0.01 B:16 -0.001	*Enterobacteriaceae*	4	8	16	0.12-1	8-32	0.25-1	0.25-1	-	-
				other non-*Enterobacteriaceae*	4	8	16						
				Acientobacter spp	4	8	16						
				Staphylococcus spp	4	8	16						
				P. aeruginosa	4	8	16						
MD059	Trimethoprim	TR	A: 240 - 0.01 B:32 - 0.001	*Enterobacteriaceae*	8	-	16	1-4	0.12-0.5	0.5-2	>64	-	-
				Staphylococcus spp	8	-	16						
MD060	Vancomycin	VA	A: 240 - 0.01 B:4-0.001	*Staphylococcus* spp	2	4-8	16	0.5-2	1-4	-	-	-	-
				Enterococcus spp	4	8-16	32						
				Coagulase-negative Staphylococci	4	8-16	32						
MD063	Vancomycin	VA	A:256-2 B :2.048-0.016	*S. pneumoniae*	1	-	-						
				Streptococcus spp, Beta haemolytic group	1	-	-						
				Streptococcus spp, Viridans group	1	-	-						

Quality control limits and interpretative criteria are in accordance to performance Standards for Antimicrobial Disks susceptibility tests CLSI, except those code marked '#"

Reference : 1. Bauer, Kirby, Sherris and Truck, 1966 Am. J. Clin. Path., 45:493,
2. Performance standards for Antimicrobial Disks Susceptibility tests, CLSI Vol. 38 No. 3 Jan. 2018. For more details refer to this volume.

Table 1 B - Antifungal Agents

Code	Name	Symbol	Range(mcg)	Interpretative criteria for	Interpretative criteria			Quality Control limits (mcg)				
					S ≤	S-DD**	R ≥	*C.albicans* ATCC 90028	*C.parapsilosis* ATCC 22019	*C.krusei* ATCC 6258	*C.tropicalis* ATCC750	*C.albicans* ATCC 10231
MD071	Amphotericin B	AP	A :32-0.25 B: 0.256-0.002	Not Available	Not Available			0.5-2.0	0.25-1	0.25-2	0.5-2	0.016-0.25*
MD072	Fluconazole	FLC	A:256-2 B :2.048-0.016	*C. albicans*	2	4	8	0.25-1	2-8	16-64	1-4	0.5-8*
				C. glabrata	-	≤ 32	64					
				C. parapsilosis	2	4	8					
				C. tropicalis	2	4	8					
MD073	Itraconazole	IT	A :32-0.25 B: 0.256-0.002	*Candida* spp	0.12	0.25-0.5	1	0.064-0.25*	0.06-0.25	0.12-0.5	0.032-1*	0.016-0.25*
MD074	Ketoconazole	KT	A :32-0.25 B: 0.256-0.002	Not Available	Not Available			0.008-0.032*	0.06-0.25	0.12-0.5	0.032-2*	0.004-1*

Quality control limits and interpretative criteria are in accordance to Reference Method for Broth Dilution Antifungal Susceptibility Testing of Yeasts.

CLSI Reference : Reference Method for Broth Dilution Antifungal Susceptibility Testing of Yeasts : Fourth Informational Supplement M 27-S4, Vol. 32 No. 17, Dec. 2012, CLSI. For more details refer to this volume.

** S-DD - Susceptible - Dose Dependent,

*Not included in CLSI chart, QC limits are obtained based on in-house observations.

Ezy MIC™ Strips

Ezy MIC™ Strips is a quantitative technique for determining the antimicrobial susceptibility of a wide range of aerobic and fastidious organisms. The system comprises a predefined antibiotic gradient which is coated on a paper strip used to determine the Minimum Inhibitory Concentration (MIC), in µg/mL, of different antimicrobial agents against variety of micro-organisms when tested on appropriate agar media under specific incubation conditions. Ezy MIC™ Strips helps to determine the MIC of fastidious, slow growing or nutritionally deficient micro-organisms, or for a specific type of patient or infection.

The Ezy MIC™ Strips gradient technology is based on a combination of the concepts of dilution and diffusion principles for susceptibility testing. As with other dilution methods, Ezy MIC™ Strips directly quantifies antimicrobial susceptibility in terms of discrete MIC values. However, in using a predefined, stable and continuous antibiotic concentration gradient Ezy MIC™ Strips. MIC values can be more precise and reproducible than results obtained from conventional procedures based on discontinuous two-fold serial dilutions.

What are Ezy MIC™ Strips ?

Ezy MIC™ Strips is a quantitative technique for determining the antimicrobial susceptibility of a wide range of aerobic and fastidious organisms. The system comprises a predefined antibiotic gradient which is coated on a paper strip used to determine the Minimum Inhibitory Concentration (MIC), in µg/mL, of different antimicrobial agents against variety of microorganisms when tested on appropriate agar media under specific incubation conditions.

Ezy MIC™ Strips can help you to,

- Determine the MIC of fastidious, slow-growing or nutritionally deficient micro-organisms, or for a specific type of patient or infection.
- Confirm/detect a specific resistant phenotype e.g. ESBL, MBL, AmpC, MRSA, HLAR or VISA/hVISA.
- Detect low levels of resistance.
- Test an antimicrobial not performed in routine use or a new, recently introduced antimicrobial agent.
- It provides high medical value to critical care cases to, refine or guide treatment decisions. Also helps in determining the choice and dosage of antimicrobials in patients with sterile site infections (e.g. endocarditis), severe nosocomial infections, chronic infections (e.g. cystic fibrosis) and immunosuppressed patients.
- Promote antibiotic stewardship.

Underlying Principles

The Ezy MIC™ Strip gradient technology is based on a combination of the concepts of dilution and diffusion principles for susceptibility testing. As with other dilution methods, Ezy MIC™ Strip directly quantifies antimicrobial susceptibility in terms of discrete MIC values. However, in using a predefined, stable and continuous antibiotic concentration gradient Ezy MIC™ Strip MIC values can be more precise and reproducible than results obtained from conventional procedures based on discontinuous two-fold serial dilutions.

Ezy MIC™ Strip is a thin, inert and porous paper strip coated with antibiotic. Both sides of the strip are likewise printed with the MIC reading scale in µg/ml and the two or three-letter symbol printed on the top of the strip helps in easy identification of the antibiotic. A predefined exponential gradient of antibiotic, dried and stabilized, is immobilized on either sides of the strip with the concentration maximum at one end and minimum at the other. The gradient covers a continuous concentration range across 15 two-fold dilutions of a conventional MIC method.

Advantages of Ezy MIC™ Strips

Ezy MIC™ Strip exhibits several advantages over conventional plastic MIC strip.

- Ezy MIC™ Strip is made up of porous biodegradable paper material unlike plastic non-porous material used for other marketed strips.
- Unlike for other strips, Ezy MIC™ Strip has MIC values printed on both sides identically and therefore MIC values can be read without opening the lid of the plate as most commonly translucent medium such as Mueller Hinton Agar is employed.
- The antimicrobial agent is evenly distributed on either side of the Ezy MIC™ Strip and hence it can be placed by any side on the agar surface.
- Once placed, Ezy MIC™ Strip is adsorbed within 60 seconds and firmly adheres to the agar surface.
- Unlike with plastic material, it does not form air bubbles underneath and hence there is no need to press the strip once placed.
- Ezy MIC™ Strip can be very easily, conveniently and accurately placed on the agar surface with the aid of specially developed and simple to use applicator.

Method and use of Ezy MIC™ Strips

Materials

- Agar medium plates (90/100 mm or 150 mm) with the appropriate susceptibility test media as defined in table below
- Inoculum suspension media
- Cotton Swabs (sterile, non-toxic and not too tightly spun), test tubes
- 0.2 and 1 McFarland turbidity standards
- Incubator (35 $\pm$ 2°C), anaerobic jar or chamber or CO_2 enriched chamber
- Quality control organisms

Procedure

A. Preparation of Inoculum for bacterial strains

Use only pure cultures. Confirm by Gram-staining before starting susceptibility test. Transfer 4-5 similar colonies with a wire, needle or loop to 5 ml Tryptone Soya Broth (M011) and incubate at 35-37°C for 2-8 hours until light to moderate turbidity develops. Compare the inoculum turbidity with that of standard 0.5 McFarland (prepared by mixing 0.5 ml of 1.175% barium chloride and 99.5 ml of 0.36N sulfuric acid). Dilute the inoculum or incubate further as necessary to attain comparative turbidity. Alternatively, the inoculum can be standardized by other appropriate optical method (0.08 - 0.13 OD turbid suspension at 625 nm).

Also direct colony suspension method can be used. Prepare a direct colony suspension, from 18-24 hour old non-selective media agar plate in broth or saline. Adjust the turbidity to that of standard 0.5 McFarland. This method is recommended for testing fastidious organisms like *Haemophilus* spp., *Neisseria* spp., Streptococci and for testing Staphylococci for potential Methicillin or Oxacillin resistance.

B. Preparation of Inoculum for fungal strains

Inoculum is prepared by picking five distinct colonies of approximately 1mm from 24 hours old culture grown on Sabouraud Dextrose Agar (M063) and incubated at 35 ± 2°C. Colonies are suspended in 5ml of sterile 0.85% Saline. Vortex the resulting suspension and adjust the turbidity to yield 1 x 10^6 - 5 x 10^6 cells/ml (i.e. 0.5 McFarland standard)

C. Swab the entire agar surface of the plate with standardized inoculum soaked on to the cotton swab. Neccessary precaution should be followed as directed in product insert

D. Position the Ezy MIC™ Strips by adopting procedure illustrated in diagram.

E. Incubate the agar plates in an inverted position after drying for appoximately 10-15 minutes under appropriate conditions

F. Reading the MIC for interpretation of results

- After the required incubation period and only when an even lawn of growth is distinctly visible, read the MIC value where the edge of the inhibition ellipse intersects the side of the strip
- If the ellipse intersects the strip in between 2 dilutions, read the MIC as the value which is nearest to the zone
- Do not read the plate if the culture appears mixed or if the lawn of growth is too light or too heavy; repeat the test
- With Ezy MIC™ Strips the MIC endpoints are usually clear-cut although different growth / inhibition patterns may be seen. Refer the result reading guide for few such illustrations.

Recommended media, inoculum and incubation for various organisms

Organism group	Medium	Inoculum			Incubation	
		Suspension	Turbidity eqvivalent to	Temperature	Atmosphere	Period
Aerobes (Bacteria)	Mueller Hinton Agar	0.85 % NaCl	0.5 or 1.0 (if mucoid) McFarland standard	35°C ± 2°C	Ambient	16-20 hours
MRSA/MRSE	Mueller Hinton Agar + 2% NaCl	0.85 % NaCl	0.5 McFarland standard	35°C ± 2°C	Ambient	24 hours MRSA 48 hours MRSE
Anaerobes *Brucella* spp.	Blood Brucella Agar	Brucella broth or Mueller Hinton broth	1.0 McFarland standard	35°C ± 2°C	85% N_2/5-10% CO_2/10% H_2	24 to 72 hours depending on the species
Haemophilus spp.	Haemophilus Test Agar (HTM)	Mueller Hinton or HTM Broth	0.5 McFarland standard	35°C ± 2°C	5% CO_2	20-24 hours
S. pneumoniae, *Streptococcus* spp. Beta haemolytic group, *Streptococcus* spp. Viridans group	Mueller Hinton Agar + 5% sheep blood	Mueller Hinton Broth	0.5 McFarland standard	35°C ± 2°C	5% CO_2	20-24 hours
Neisseria gonorrhoeae	GC-agar base + defined supplement	Mueller Hinton Broth	0.5 McFarland standard	35°C ± 2°C	5% CO_2	20-24 hours
Fungal cultures	Mueller Hinton Agar with added 2% Glucose + 0.5 mcg/ml Methylene Blue Dye or Mueller Hinton Agar, Modified, (as per CLSI for Antifungal) (M1825)	0.85 % NaCL	0.5 McFarland standard	35°C ± 2°C	Ambient	24-48 hours

Procedure for application of Ezy MIC™ Strips using the applicator sticks

Remove the Ezy MIC™ strips from its container after reaching room temperature

Remove the outer foil & open the lid

Hold the applicator stick with its narrow tip.

Hold the applicator stick at it's center & place the broad sticky end gently at the center of the Ezy MIC™ Strips

Lift the applicator stick. The strip will adhere to the base of the stick

Place the strip at the desired position on an adequately moist, pre swabbed plate

Gently rotate the applicator stick clockwise, with this action the applicator will detach from the strip

Do not press the Ezy MIC™ Strip. It will be adsorbed within 60 seconds

Replace the pack back into the container & store as recommended

Procedure for application of Ezy MIC™ Strips (For Packing with glass Vial)

Remove the Ezy MIC™ strips from the box after reaching room temperature.

Break open the outer seal of the vial.

Remove the rubber stoper of the vial.

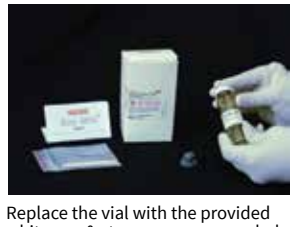
Hold the applicator stick with its narrow tips.

Hold the applicator stick & place the broader sticky end gently on the Ezy MIC™ Strip.

Lift the applicator stick. The strip will adhere to the base of the stick.

Place the strip at the desire position on an adequately moist, swabbed plate. gently rotate the applicator stick clockwise, with this action the applicator will detach from the strip.

Do not press the Ezy MIC™ Strip. It will be adsorbed within 60 seconds.



Replace the vial with the provided white cap & store as recommended.

Range of Ezy MIC™ Strips

Product	Symbol	Range	Code
Antibacterial Ezy MIC™ Strips			
Amikacin	AMK	0.016 - 256 mcg/ml	**EM001-10ST EM001-30ST EM001-60ST EM001-90ST EM001-120ST EM001-150ST**
***Amoxicillin**	AMX	0.016 - 256 mcg/ml	**EM002-10ST EM002-30ST EM002-60ST EM002-90ST EM002-120ST EM002-150ST**
***Amoxyclav (2:1) (Amoxicillin/ Clavulanic Acid)**	AMC	0.016 - 256 mcg/ml	**EM003-10ST EM003-30ST EM003-60ST EM003-90ST EM003-120ST EM003-150ST**
***Amoxyclav (Amoxicillin/ Clavulanic acid (2 mcg/ml) (As per EUCAST)**	AUG	0.016 - 256 mcg/ml	**EM139-10ST EM139-30ST EM139-60ST EM139-90ST EM139-120ST EM139-150ST**
***Ampicillin**	AMP	0.016 - 256 mcg/ml	**EM068-10ST EM068-30ST EM068-60ST EM068-90ST EM068-120ST EM068-150ST**
***Ampicillin/ Sulbactam (2:1)**	AMS	0.016 - 256 mcg/ml	**EM109-10ST EM109-30ST EM109-60ST EM109-90ST EM109-120ST EM109-150ST**
***Ampicillin/ Sulbactam Ampicillin/ Sulbactam (4mcg/ml) (As per EUCAST)**	SAM	0.016 - 256 mcg/ml	**EM140-10ST EM140-30ST EM140-60ST EM140-90ST EM140-120ST EM140-150ST**
Azithromycin	AZI	0.016 - 256 mcg/ml	**EM004-10ST EM004-30ST EM004-60ST EM004-90ST EM004-120ST EM004-150ST**
***Aztreonam**	AZT	0.016 - 256 mcg/ml	**EM006-10ST EM006-30ST EM006-60ST EM006-90ST EM006-120ST EM006-150ST**

Product	Symbol	Range	Code
Bacitracin	BAC	0.016 - 256 mcg/ml	**EM126-10ST EM126-30ST EM126-60ST EM126-90ST EM126-120ST EM126-150ST**
***Cefaclor**	CEC	0.016 - 256 mcg/ml	**EM107-10ST EM107-30ST EM107-60ST EM107-90ST EM107-120ST EM107-150ST**
***Cefazolin**	CFZ	0.016 - 256 mcg/ml	**EM008-10ST EM008-30ST EM008-60ST EM008-90ST EM008-120ST EM008-150ST**
***Cefdinir**	CDR	0.016 - 256 mcg/ml	**EM009-10ST EM009-30ST EM009-60ST EM009-90ST EM009-120ST EM009-150ST**
***Cefepime**	CPM	0.016 - 256 mcg/ml	**EM070-10ST EM070-30ST EM070-60ST EM070-90ST EM070-120ST EM070-150ST**
***Cefepime/ Tazobactam**	CPT	0.016 - 256 mcg/ml	**EM093-10ST EM093-30ST EM093-60ST EM093-90ST EM093-120ST EM093-150ST**
***Cefixime**	FIX	0.016 - 256 mcg/ml	**EM110-10ST EM110-30ST EM110-60ST EM110-90ST EM110-120ST EM110-150ST**
***Cefixime/ Clavulanic aci**	FIC	0.016 - 256 mcg/ml	**EM148-10ST EM148-30ST EM148-60ST EM148-90ST EM148-120ST EM148-150ST**
***Cefmetazole**	CMZ	0.016 - 256 mcg/ml	**EM114-10ST EM114-30ST EM114-60ST EM114-90ST EM114-120ST EM114-150ST**

Customer specific ranges of antibiotic other than the ones available can be designed as per the requirements.

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For prolonged use, store at or below -20°C.

Range of Ezy MIC™ Strips

Product	Symbol	Range	Code
***Cefonicid**	CID	0.016 - 256 mcg/ml	**EM113-10ST EM113-30ST EM113-60ST EM113-90ST EM113-120ST EM113-150ST**
***Cefoperazone**	CFP	0.016 - 256 mcg/ml	**EM112-10ST EM112-30ST EM112-60ST EM112-90ST EM112-120ST EM112-150ST**
***Cefoperazone/ Sulbactam (2:1)**	CPS	0.016 - 256 mcg/ml	**EM094-10ST EM094-30ST EM094-60ST EM094-90ST EM094-120ST EM094-150ST**
***Cefotaxime**	CTX	0.002 - 32 mcg/ml	**EM100-10ST EM100-30ST EM100-60ST EM100-90ST EM100-120ST EM100-150ST**
***Cefotaxime**	CTX	0.016 - 256 mcg/ml	**EM064-10ST EM064-30ST EM064-60ST EM064-90ST EM064-120ST EM064-150ST**
***Cefotetan**	CTN	0.016 - 256 mcg/ml	**EM105-10ST EM105-30ST EM105-60ST EM105-90ST EM105-120ST EM105-150ST**
***Cefoxitin**	FOX	0.016 - 256 mcg/ml	**EM101-10ST EM101-30ST EM101-60ST EM101-90ST EM101-120ST EM101-150ST**
***Cefpirome**	CR	0.016 - 256 mcg/ml	**EM011-10ST EM011-30ST EM011-60ST EM011-90ST EM011-120ST EM011-150ST**
***Cefpodoxime**	CPD	0.016 - 256 mcg/ml	**EM129-10ST EM129-30ST EM129-60ST EM129-90ST EM129-120ST EM129-150ST**

Product	Symbol	Range	Code
***Cefpodoxime/ Clavulanic acid**	CPC	0.016 - 256 mcg/ml	**EM138-10ST EM138-30ST EM138-60ST EM138-90ST EM138-120ST EM138-150ST**
***Cefprozil**	CPR	0.016 - 256 mcg/ml	**EM130-10ST EM130-30ST EM130-60ST EM130-90ST EM130-120ST EM130-150ST**
***Ceftazidime**	CAZ	0.016 - 256 mcg/ml	**EM012-10ST EM012-30ST EM012-60ST EM012-90ST EM012-120ST EM012-150ST**
***Ceftazidime/ Tazobactam**	CAT	0.016 - 256 mcg/ml	**EM149-10ST EM149-30ST EM149-60ST EM149-90ST EM149-120ST EM149-150ST**
***Ceftizoxime**	ZOX	0.016 - 256 mcg/ml	**EM123-10ST EM123-30ST EM123-60ST EM123-90ST EM123-120ST EM123-150ST**
***Ceftriaxone**	CTR	0.002 - 32 mcg/ml	**EM013-10ST EM013-30ST EM013-60ST EM013-90ST EM013-120ST EM013-150ST**
***Ceftriaxone**	CTR	0.016 - 256 mcg/ml	**EM066-10ST EM066-30ST EM066-60ST EM066-90ST EM066-120ST EM066-150ST**
***Ceftriaxone/ Sulbactam (2:1)**	CTS	0.016 - 256 mcg/ml	**EM097-10ST EM097-30ST EM097-60ST EM097-90ST EM097-120ST EM097-150ST**
***Cefuroxime**	CXM	0.016 - 256 mcg/ml	**EM102-10ST EM102-30ST EM102-60ST EM102-90ST EM102-120ST EM102-150ST**

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Range of Ezy MIC™ Strips

Product	Symbol	Range	Code
***Cephalothin**	CEP	0.016 - 256 mcg/ml	**EM106-10ST** **EM106-30ST** **EM106-60ST** **EM106-90ST** **EM106-120ST** **EM106-150ST**
Chloramphenicol	CHL	0.016 - 256 mcg/ml	**EM016-10ST** **EM016-30ST** **EM016-60ST** **EM016-90ST** **EM016-120ST** **EM016-150ST**
Ciprofloxacin	CIP	0.002 - 32 mcg/ml	**EM017-10ST** **EM017-30ST** **EM017-60ST** **EM017-90ST** **EM017-120ST** **EM017-150ST**
Ciprofloxacin	CPH	0.016 - 256 mcg/ml	**EM082-10ST** **EM082-30ST** **EM082-60ST** **EM082-90ST** **EM082-120ST** **EM082-150ST**
Clarithromycin	CLR	0.016 - 256 mcg/ml	**EM018-10ST** **EM018-30ST** **EM018-60ST** **EM018-90ST** **EM018-120ST** **EM018-150ST**
Clindamycin	CLI	0.016 - 256 mcg/ml	**EM019-10ST** **EM019-30ST** **EM019-60ST** **EM019-90ST** **EM019-120ST** **EM019-150ST**
Colistin	CL	0.016 - 256 mcg/ml	**EM020-10ST** **EM020-30ST** **EM020-60ST** **EM020-90ST** **EM020-120ST** **EM020-150ST**
Co-Trimoxazole (1:19) (Trimethoprim/ Sulfamethoxazole)	COT	0.002 - 32 mcg/ml	**EM021-10ST** **EM021-30ST** **EM021-60ST** **EM021-90ST** **EM021-120ST** **EM021-150ST**
Co-Trimoxazole (1:19) (Trimethoprim/ Sulfamethoxazole)	TSH	0.016 - 256 mcg/ml	**EM083-10ST** **EM083-30ST** **EM083-60ST** **EM083-90ST** **EM083-120ST** **EM083-150ST**

Product	Symbol	Range	Code
Daptomycin (Supplemented with Calcium ions)	DAP	0.016 - 256 mcg/ml	**EM088-10ST** **EM088-30ST** **EM088-60ST** **EM088-90ST** **EM088-120ST** **EM088-150ST**
***Doripenem**	DOR	0.002 - 32 mcg/ml	**EM090-10ST** **EM090-30ST** **EM090-60ST** **EM090-90ST** **EM090-120ST** **EM090-150ST**
Doxycycline	DOX	0.016 - 256 mcg/ml	**EM103-10ST** **EM103-30ST** **EM103-60ST** **EM103-90ST** **EM103-120ST** **EM103-150ST**
Enrofloxacin	EFX	0.002 - 32 mcg/ml	**EM115-10ST** **EM115-30ST** **EM115-60ST** **EM115-90ST** **EM115-120ST** **EM115-150ST**
***Ertapenem**	ETP	0.002 - 32 mcg/ml	**EM085-10ST** **EM085-30ST** **EM085-60ST** **EM085-90ST** **EM085-120ST** **EM085-150ST**
Erythromycin	ERY	0.016 - 256 mcg/ml	**EM022-10ST** **EM022-30ST** **EM022-60ST** **EM022-90ST** **EM022-120ST** **EM022-150ST**
***Faropenem**	FAR	0.002 - 32 mcg/ml	**EM091-10ST** **EM091-30ST** **EM091-60ST** **EM091-90ST** **EM091-120ST** **EM091-150ST**
Fosfomycin (Supplemented with Glucose-6-phosphate)	FOS	0.064 - 1024 mcg/ml	**EM108-10ST** **EM108-30ST** **EM108-60ST** **EM108-90ST** **EM108-120ST** **EM108-150ST**
Fusidic Acid	FC	0.016 - 256 mcg/ml	**EM023-10ST** **EM023-30ST** **EM023-60ST** **EM023-90ST** **EM023-120ST** **EM023-150ST**

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Range of Ezy MIC™ Strips

Product	Symbol	Range	Code
Gatifloxacin	GAT	0.002 - 32 mcg/ml	**EM024-10ST** **EM024-30ST** **EM024-60ST** **EM024-90ST** **EM024-120ST** **EM024-150ST**
Gemifloxacin	GEM	0.002 - 32 mcg/ml	**EM076-10ST** **EM076-30ST** **EM076-60ST** **EM076-90ST** **EM076-120ST** **EM076-150ST**
Gentamicin	GEN	0.016 - 256 mcg/ml	**EM025-10ST** **EM025-30ST** **EM025-60ST** **EM025-90ST** **EM025-120ST** **EM025-150ST**
Gentamicin	HLG	0.064 - 1024 mcg/ml	**EM061-10ST** **EM061-30ST** **EM061-60ST** **EM061-90ST** **EM061-120ST** **EM061-150ST**
# Imipenem	IPM	0.002 - 32 mcg/ml	**EM104-10ST** **EM104-30ST** **EM104-60ST** **EM104-90ST** **EM104-120ST** **EM104-150ST**
Kanamycin	KAN	0.016 - 256 mcg/ml	**EM026-10ST** **EM026-30ST** **EM026-60ST** **EM026-90ST** **EM026-120ST** **EM026-150ST**
Levofloxacin	LEV	0.002 - 32 mcg/ml	**EM027-10ST** **EM027-30ST** **EM027-60ST** **EM027-90ST** **EM027-120ST** **EM027-150ST**
Linezolid	LNZ	0.016 - 256 mcg/ml	**EM029-10ST** **EM029-30ST** **EM029-60ST** **EM029-90ST** **EM029-120ST** **EM029-150ST**
***Mecillinam**	MEC	0.016 - 256 mcg/ml	**EM124-10ST** **EM124-30ST** **EM124-60ST** **EM124-90ST** **EM124-120ST** **EM124-150ST**

Product	Symbol	Range	Code
***Meropenem**	MRP	0.002 - 32 mcg/ml	**EM080-10ST** **EM080-30ST** **EM080-60ST** **EM080-90ST** **EM080-120ST** **EM080-150ST**
Metronidazole	MTZ	0.016 - 256 mcg/ml	**EM128-10ST** **EM128-30ST** **EM128-60ST** **EM128-90ST** **EM128-120ST** **EM128-150ST**
Minocycline	MIN	0.016 - 256 mcg/ml	**EM032-10ST** **EM032-30ST** **EM032-60ST** **EM032-90ST** **EM032-120ST** **EM032-150ST**
Moxifloxacin	MXF	0.002 - 32 mcg/ml	**EM033-10ST** **EM033-30ST** **EM033-60ST** **EM033-90ST** **EM033-120ST** **EM033-150ST**
Mupirocin	MUP	0.064 - 1024 mcg/ml	**EM087-10ST** **EM087-30ST** **EM087-60ST** **EM087-90ST** **EM087-120ST** **EM087-150ST**
Nalidixic acid	NAL	0.016 - 256 mcg/ml	**EM035-10ST** **EM035-30ST** **EM035-60ST** **EM035-90ST** **EM035-120ST** **EM035-150ST**
Netilmicin	NET	0.016 - 256 mcg/ml	**EM095-10ST** **EM095-30ST** **EM095-60ST** **EM095-90ST** **EM095-120ST** **EM095-150ST**
Nitrofurantoin	NIT	0.032 - 512 mcg/ml	**EM037-10ST** **EM037-30ST** **EM037-60ST** **EM037-90ST** **EM037-120ST** **EM037-150ST**
Norfloxacin	NOR	0.016 - 256 mcg/ml	**EM038-10ST** **EM038-30ST** **EM038-60ST** **EM038-90ST** **EM038-120ST** **EM038-150ST**

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For prolonged use, store at or below -20°C.

On receipt all the other products to be stored between -20°C to 8°C.
: Store at -20°C or below.

Range of Ezy MIC™ Strips

Product	Symbol	Range	Code
Ofloxacin	OFX	0.002 - 32 mcg/ml	**EM039-10ST** **EM039-30ST** **EM039-60ST** **EM039-90ST** **EM039-120ST** **EM039-150ST**
***Oxacillin**	OXA	0.016 - 256 mcg/ml	**EM065-10ST** **EM065-30ST** **EM065-60ST** **EM065-90ST** **EM065-120ST** **EM065-150ST**
***Penicillin**	PEN	0.002 - 32 mcg/ml	**EM084-10ST** **EM084-30ST** **EM084-60ST** **EM084-90ST** **EM084-120ST** **EM084-150ST**
***Penicillin**	PEN	0.016 - 256 mcg/ml	**EM062-10ST** **EM062-30ST** **EM062-60ST** **EM062-90ST** **EM062-120ST** **EM062-150ST**
***Piperacillin**	PIP	0.016 - 256 mcg/ml	**EM041-10ST** **EM041-30ST** **EM041-60ST** **EM041-90ST** **EM041-120ST** **EM041-150ST**
***Piperacillin/ Tazobactam**	PTZ	0.016 - 256 mcg/ml	**EM042-10ST** **EM042-30ST** **EM042-60ST** **EM042-90ST** **EM042-120ST** **EM042-150ST**
Polymixin B	PB	0.016 - 256 mcg/ml	**EM043-10ST** **EM043-30ST** **EM043-60ST** **EM043-90ST** **EM043-120ST** **EM043-150ST**
Pristinomycin (Quinupristin/ Dalfopristin)	QDA	0.002 - 32 mcg/ml	**EM044-10ST** **EM044-30ST** **EM044-60ST** **EM044-90ST** **EM044-120ST** **EM044-150ST**
Rifampicin	RIF	0.002 - 32 mcg/ml	**EM045-10ST** **EM045-30ST** **EM045-60ST** **EM045-90ST** **EM045-120ST** **EM045-150ST**

Product	Symbol	Range	Code
Roxithromycin	ROX	0.016 - 256 mcg/ml	**EM046-10ST** **EM046-30ST** **EM046-60ST** **EM046-90ST** **EM046-120ST** **EM046-150ST**
Sparfloxacin	SPA	0.002 - 32 mcg/ml	**EM047-10ST** **EM047-30ST** **EM047-60ST** **EM047-90ST** **EM047-120ST** **EM047-150ST**
Streptomycin	STR	0.016 - 256 mcg/ml	**EM048-10ST** **EM048-30ST** **EM048-60ST** **EM048-90ST** **EM048-120ST** **EM048-150ST**
***Sulbactam**	SUL	0.016 - 256 mcg/ml	**EM131-10ST** **EM131-30ST** **EM131-60ST** **EM131-90ST** **EM131-120ST** **EM131-150ST**
Teicoplanin	TEI	0.016 - 256 mcg/ml	**EM055-10ST** **EM055-30ST** **EM055-60ST** **EM055-90ST** **EM055-120ST** **EM055-150ST**
Tetracycline	TET	0.016 - 256 mcg/ml	**EM056-10ST** **EM056-30ST** **EM056-60ST** **EM056-90ST** **EM056-120ST** **EM056-150ST**
***Ticarcillin**	TIC	0.016 - 256 mcg/ml	**EM057-10ST** **EM057-30ST** **EM057-60ST** **EM057-90ST** **EM057-120ST** **EM057-150ST**
***Ticarcillin/ Clavulanic Acid**	TCC	0.016 - 256 mcg/ml	**EM125-10ST** **EM125-30ST** **EM125-60ST** **EM125-90ST** **EM125-120ST** **EM125-150ST**
Tigecycline	TGC	0.016 - 256 mcg/ml	**EM089-10ST** **EM089-30ST** **EM089-60ST** **EM089-90ST** **EM089-120ST** **EM089-150ST**

Customer specific ranges of antibiotic other than the ones available can be designed as per the requirements.

* : On receipt, store at -20°C. On receipt all the other products to be stored between -20°C to 8°C.
For prolonged use, store at or below -20°C.

Range of Ezy MIC™ Strips

Product	Symbol	Range	Code
Tobramycin	TOB	0.016 - 256 mcg/ml	**EM058-10ST** **EM058-30ST** **EM058-60ST** **EM058-90ST** **EM058-120ST** **EM058-150ST**
Trimethoprim	TMP	0.002 - 32 mcg/ml	**EM059-10ST** **EM059-30ST** **EM059-60ST** **EM059-90ST** **EM059-120ST** **EM059-150ST**
Vancomycin	VAN	0.016 - 256 mcg/ml	**EM060-10ST** **EM060-30ST** **EM060-60ST** **EM060-90ST** **EM060-120ST** **EM060-150ST**
ESBL Detection Multi Ezy MIC™ Strips			
***Cefepime / Cefepime + Clavulanic acid**	CPM+/ CPM	**CPM+** : Cefepime with Clavulanic acid : 0.064 - 4 **CPM** : Cefepime : 0.25 - 16	**EM116-10ST** **EM116-30ST** **EM116-60ST** **EM116-90ST** **EM116-120ST** **EM116-150ST**
For ESBL detection : A unique phenotypic detection strip which is coated with Cefepime + Clavulanic acid on upper half with highest concentration tapering downward whereas lower half is coated with cefepime in a reverse direction.			
***Cefotaxime / Cefotaxime + Clavulanic acid**	CTX + / CTX	**CTX+** : Cefotaxime with Clavulanic acid: 0.016 - 1 **CTX** : Cefotaxime : 0.25-16	**EM099-10ST** **EM099-30ST** **EM099-60ST** **EM099-90ST** **EM099-120ST** **EM099-150ST**
For ESBL detection : A unique phenotypic detection strip which is coated with Cefotaxime + Clavulanic acid on upper half with highest concentration tapering downward whereas lower half is coated with Cefotaxime in a reverse direction.			
***Ceftazidime / Ceftazidime+ Clavulanic acid**	CAZ + / CAZ	**CAZ+** : Ceftazidime with Clavulanic acid: 0.064 - 4 **CAZ** : Ceftazidime : 0.5 - 32	**EM098-10ST** **EM098-30ST** **EM098-60ST** **EM098-90ST** **EM098-120ST** **EM098-150ST**
For ESBL detection : A unique phenotypic detection strip which is coated with Ceftazidime + Clavulanic acid on upper half with highest concentration tapering downward whereas lower half is coated with Ceftazidime in a reverse direction.			

Product	Symbol	Range	Code
***Ceftriaxone / Ceftriaxone + Clavulanic acid**	CTR +/ CTR	**CTR+** : Ceftriaxone with Clavulanic acid : 0.016 - 1 **CTR** : Ceftriaxone : 0.25 - 16	**EM117-10ST** **EM117-30ST** **EM117-60ST** **EM117-90ST** **EM117-120ST** **EM117-150ST**
For ESBL detection : A unique phenotypic detection strip which is coated with Ceftriaxone + Clavulanic acid on upper half with highest concentration tapering downward whereas lower half is coated with Ceftriaxone in a reverse direction.			
***Improved ESBL Detection Strip**	MIX+ / MIX	**MIX+** : Ceftazidime, Cefotaxime, mixture with Clavulanic acid : 0.032- 4 **MIX** : Ceftazidime, Cefotaxime mixture : 0.125-16	**EM132-10ST** **EM132-30ST** **EM132-60ST** **EM132-90ST** **EM132-120ST** **EM132-150ST**
For ESBL detection : A unique phenotypic detection strip which is coated with Ceftazidime & Cefotaxime mixture + Clavulanic acid on upper half with highest concentration tapering downward whereas lower half is coated with Ceftazidime & Cefotaxime mixture in a reverse direction.			
AmpC Detection Multi Ezy MIC™ Strips			
***Cefotetan / Cefotetan + Cloxacillin**	CTN+ / CTN	**CTN+** : Cefotetan with Cloxacillin : 0.5 - 32 mcg/ml **CTN** : Cefotetan : 0.5 - 32 mcg/ml	**EM127-10ST** **EM127-30ST** **EM127-60ST** **EM127-90ST** **EM127-120ST** **EM127-150ST**
For AmpC Detection : A unique phenotypic detection strip which is coated with Cefotetan + Cloxacillin on upper half with highest concentration tapering downward whereas lower half is coated with Cefotetan in a reverse direction.			
***Improved AmpC Detection Strip**	MIX + / MIX	**MIX+** : Ceftazidime, Cefotaxime & Cloxacillin mixture with Clavulanic acid : 0.032- 4 **MIX** : Ceftazidime, Cefotaxime & Cloxacillin mixture : 0.125-16	**EM133-10ST** **EM133-30ST** **EM133-60ST** **EM133-90ST** **EM133-120ST** **EM133-150ST**
For ESBL & AmpC Detection : A unique phenotypic detection strip which is coated with Ceftazidime, Cefotaxime & Cloxacillin mixture + Clavulanic acid on upper half with highest concentration tapering downward whereas lower half is coated with Ceftazidime, Cefotaxime & Cloxacillin mixture in a reverse direction.			

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Range of Ezy MIC™ Strips

Product	Symbol	Range	Code
MBL-ESBL-AmpC Detection Ezy MIC™ Strips			
***MBL Plus ESBL Detection Strip**	ESBL+/ ESBL	**ESBL+**: Ceftazidime, Cefotaxime & EDTA with Clavulanic acid : 0.032- 4 **ESBL** : Ceftazidime, Cefotaxime & EDTA : 0.125-16	**EM134-10ST** **EM134-30ST** **EM134-60ST** **EM134-90ST** **EM134-120ST** **EM134-150ST**
For MBL + ESBL Detection : A unique phenotypic detection strip which is coated with Ceftazidime, Cefotaxime, EDTA mixture + clavulanic acid on upper half with highest concentration tapering downward whereas lower half is coated with Ceftazidime, Cefotaxime, EDTA mixture in a reverse direction.			
***MBL Plus AmpC Detection Strip**	AmpC+/ AmpC	**AmpC+**: Ceftazidime, Cefotaxime, Cloxacillin & EDTA with Clavulanic acid : 0.032- 4 **AmpC** : Ceftazidime, Cefotaxime, Cloxacillin & EDTA : 0.125-16	**EM135-10ST** **EM135-30ST** **EM135-60ST** **EM135-90ST** **EM135-120ST** **EM135-150ST**
For MBL, ESBL & AmpC Detection : A unique phenotypic detection strip which is coated with Ceftazidime, Cefotaxime, Cloxacillin, EDTA mixture + clavulanic acid on upper half with highest concentration tapering downward whereas lower half is coated with Ceftazidime, Cefotaxime, Cloxacillin & EDTA mixture in a reverse direction.			
MBL Detection Dual Ezy MIC™ Strips			
#Imipenem with & without EDTA	IPM+ EDTA / IPM	**IPM+ EDTA**: Imipenem+EDTA : 1 - 64 **IPM** : Imipenem: 4 - 256	**EM078-10ST** **EM078-30ST** **EM078-60ST** **EM078-90ST** **EM078-120ST** **EM078-150ST**
For MBL detection: A unique phenotypic detection strip which is coated with Imipenem + EDTA on upper half with highest concentration tapering downward whereas lower half is coated with Imipenem in a reverse direction.			
***Meropenem with & without EDTA**	MRP + EDTA / MRP	**MRP + EDTA** : Meropenem+EDTA : 1 - 64 **MRP** : Meropenem: 4 - 256	**EM092-10ST** **EM092-30ST** **EM092-60ST** **EM092-90ST** **EM092-120ST** **EM092-150ST**
For MBL detection: A unique phenotypic detection strip which is coated with Meropenem + EDTA on upper half with highest concentration tapering downward whereas lower half is coated with Meropenem in a reverse direction.			

Product	Symbol	Range	Code
KPC Detection Ezy MIC™ Strip			
***Ertapenem/ Ertapenem + Boronic acid**	ETP+/ ETP	**ETP+**: Ertapenem + Boronic acid : 0.032-2 **ETP**: Ertapenem : 0.125 - 8	**EM141-10ST** **EM141-30ST** **EM141-60ST** **EM141-90ST** **EM141-120ST** **EM141-150ST**
For KPC Detection: A unique phenotypic detection strip which is coated with Ertapenem + Boronic acid on upper half with highest concentration tapering downward whereas lower half is coated with Ertapenem in a reverse direction.			
Dual Ezy MIC™ Strips			
***Oxacillin - Vancomycin**	OXA / VAN	**Oxacillin** : 0.064 - 8 mcg/ml **Vancomycin** : 0.19 - 16 mcg/ml	**EM063-10ST** **EM063-30ST** **EM063-60ST** **EM063-90ST** **EM063-120ST** **EM063-150ST**
For MRSA detection: MIC strip which is coated with two different antibiotics on a single strip in a concentration gradient manner. The upper half has Oxacillin with a highest concentration tapering downwards, whereas lower half is similarly coated with Vancomycin concentration gradient in reverse direction.			
***Vancomycin - Cefoxitin**	VAN / CX	**Cefoxitin**: 0.5 - 64 mcg/ml **Vancomycin** : 0.19 -16 mcg/ml	**EM077-10ST** **EM077-30ST** **EM077-60ST** **EM077-90ST** **EM077-120ST** **EM077-150ST**
For MRSA detection: MIC strip which is coated with two different antibiotics on a single strip in a concentration gradient manner. The upper half has Vancomycin with a highest concentration tapering downwards, whereas lower half is similarly coated with Cefoxitin concentration gradient.			
Vancomycin - Teicoplanin	VAN / TEI	**VAN** : Vancomycin : 0.5 - 32 mcg/ml **TEI** : Teicoplanin : 0.5 - 32 mcg/ml	**EM111-10ST** **EM111-30ST** **EM111-60ST** **EM111-90ST** **EM111-120ST** **EM111-150ST**
For GRD detection: MIC strip which is coated with two different antibiotics on a single strip in a concentration gradient manner. The upper half has Vancomycin with a highest concentration tapering downwards, whereas lower half is similarly coated with Teicoplanin concentration gradient in reverse direction.			

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On receipt all the other products to be stored between -20°C to 8°C.
: Store at -20°C or below.

Ezy MIC™ Strips

Range of Ezy MIC™ Strips

Product	Symbol	Range	Code
Antifungal Ezy MIC™ Strips			
Amphotericin B	AP	0.002 - 32 mcg/ml	**EM071-10ST** **EM071-30ST** **EM071-60ST** **EM071-90ST** **EM071-120ST** **EM071-150ST**
Anidulafungin	AND	0.002 - 32 mcg/ml	**EM122-10ST** **EM122-30ST** **EM122-60ST** **EM122-90ST** **EM122-120ST** **EM122-150ST**
Caspofungin	CAS	0.002 - 32 mcg/ml	**EM119-10ST** **EM119-30ST** **EM119-60ST** **EM119-90ST** **EM119-120ST** **EM119-150ST**
Clotrimazole	CLO	0.002 - 32 mcg/ml	**EM144-10ST** **EM144-30ST** **EM144-60ST** **EM144-90ST** **EM144-120ST** **EM144-150ST**
Fluconazole	FLC	0.016 - 256 mcg/ml	**EM072-10ST** **EM072-30ST** **EM072-60ST** **EM072-90ST** **EM072-120ST** **EM072-150ST**
Flucytosine	FLU	0.002 - 32 mcg/ml	**EM118-10ST** **EM118-30ST** **EM118-60ST** **EM118-90ST** **EM118-120ST** **EM118-150ST**
Griseofulvin	GRI	0.002 - 32 mcg/ml	**EM143-10ST** **EM143-30ST** **EM143-60ST** **EM143-90ST** **EM143-120ST** **EM143-150ST**
Itraconazole	ITR	0.002 - 32 mcg/ml	**EM073-10ST** **EM073-30ST** **EM073-60ST** **EM073-90ST** **EM073-120ST** **EM073-150ST**
Ketoconazole	KET	0.002 - 32 mcg/ml	**EM074-10ST** **EM074-30ST** **EM074-60ST** **EM074-90ST** **EM074-120ST** **EM074-150ST**
Micafungin	MYC	0.002 - 32 mcg/ml	**EM121-10ST** **EM121-30ST** **EM121-60ST** **EM121-90ST** **EM121-120ST** **EM121-150ST**
Miconazole	MIC	0.002 - 32 mcg/ml	**EM146-10ST** **EM146-30ST** **EM146-60ST** **EM146-90ST** **EM146-120ST** **EM146-150ST**
Nystatin	NYT	0.002 - 32 mcg/ml	**EM145-10ST** **EM145-30ST** **EM145-60ST** **EM145-90ST** **EM145-120ST** **EM145-150ST**
Posaconazole	POS	0.002 - 32 mcg/ml	**EM120-10ST** **EM120-30ST** **EM120-60ST** **EM120-90ST** **EM120-120ST** **EM120-150ST**
Terbinafine	TRB	0.002 - 32 mcg/ml	**EM142-10ST** **EM142-30ST** **EM142-60ST** **EM142-90ST** **EM142-120ST** **EM142-150ST**
Voriconazole	VRC	0.002 - 32 mcg/ml	**EM086-10ST** **EM086-30ST** **EM086-60ST** **EM086-90ST** **EM086-120ST** **EM086-150ST**
HiPer® Microbiology Teaching Kits			
HiPer® Ezy MIC™ Teaching Kit ▲ HiMedia's HiPer® Ezy MIC™ Teaching Kit facilitates the determination of the Minimum Inhibitory Concentration (MIC) of an antimicrobial agent required to inhibit growth of a microorganism under defined condition. **Contents**: *S. aureus* culture, MIC Strips (Ciprofloxacin, Vancomycin, Azithromycin, Linezolid, Amikacin), Mueller Hinton Agar, Sterile cotton swabs, Applicator, Saline.			**HTM006-10PR#**

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#: Preparation ®: Registered Trade Mark of Croda International PLC.

▲: Stored at 15 - 25°C except certain components specified in each kit (as specified on label).

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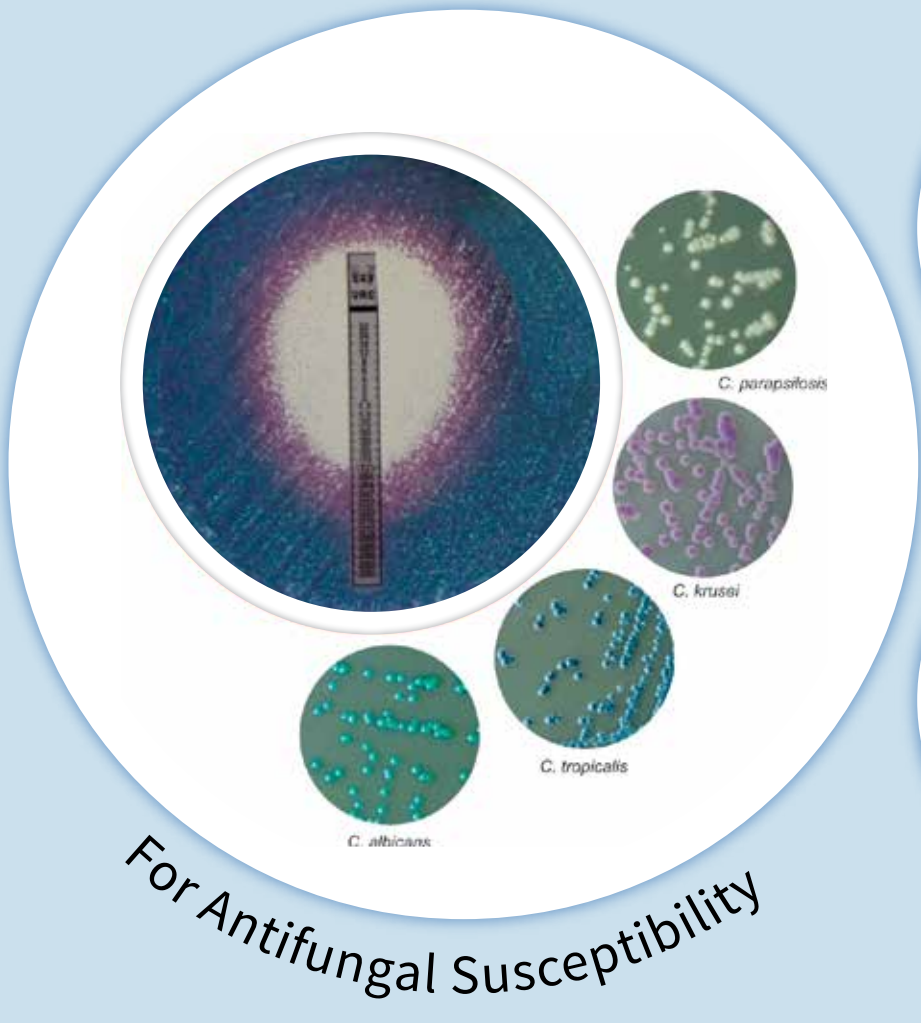

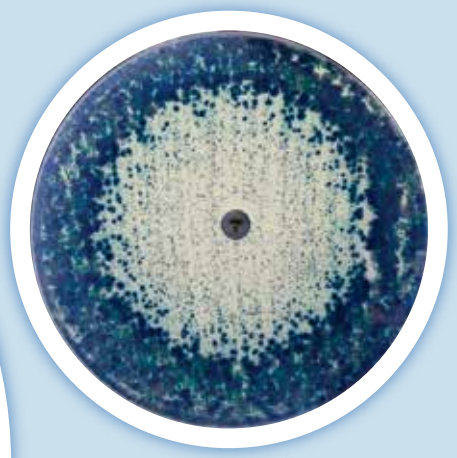

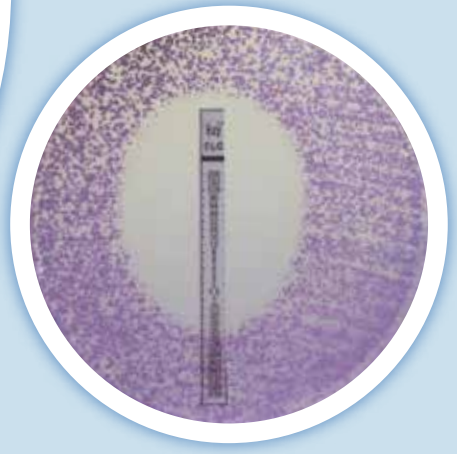

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