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Liofilchem® MTS™

Rx only IVD

SUMMARY AND EXPLANATION OF THE TEST

The Liofilchem® MTS™ (MIC Test Strip) are gradient tests used to determine the minimum inhibitory concentration (MIC) of select bacteria to indicate appropriate patient treatment and for identifying resistance patterns. The MIC is the minimum inhibitory concentration of an antibiotic that will inhibit the growth of bacteria under standardized *in vitro* conditions. Broth and agar dilution MIC procedures based on two-fold serial dilutions of antibiotics are the reference methodologies; expected reproducibility of which is within ± 1 two-fold dilution (1).

PRINCIPLE OF THE METHOD

MTS™ are made of special high quality paper impregnated with a predefined concentration gradient of antibiotic, across 15 two-fold dilutions like those of a conventional MIC method. When the MTS™ is applied onto an inoculated agar surface, the preformed exponential gradient of antimicrobial agent diffuses into the agar for over an hour. After incubation, a symmetrical inhibition ellipse centered along the strip is formed. The MIC is read directly from the scale in terms of µg/mL at the point where the edge of the inhibition ellipse intersects the strip MTS™.

REAGENTS

MTS™ is supplied in 3 different packaging options (no additional reagents are included):

- The 10-test box contains 10 strips individually packed in desiccant envelops.
- The 30-test box contains 30 strips individually packed in desiccant envelops.
- The 100-test box contains 100 strips in a canister with a desiccant built into the lid.

This instruction sheet is available from **www.liofilchem.com/MTS/US**

DIRECTIONS FOR USE

Storage

Unopened foil packages and canisters: On receipt, store MTS™ at –20°C to +8°C until the given expiry date. Some MTS™ (e.g. carbapenems) should be stored frozen at –20°C. Check the drug-specific MTS™ supplement for the specific storage temperature.

Opened canisters: MTS™ in canister can be used for up to 2 months from first opening (record the date on which the canister was open) and must be stored at the label storage temperature. Before using the remaining strips, check the expiry date indicated on the packaging. Do not store near sources of heat and do not expose to excessive temperature variations.

Protect MTS™ from moisture, heat and direct exposure to strong light at all times.

Handling

Before using the MTS™ from an unopened package, visually inspect to ensure the package is intact. Do not use the strips if the package has been damaged. When removed from the refrigerator/freezer, allow the package or storage container to reach room temperature for about 30 minutes. Moisture condensing on the outer surface must evaporate completely before opening the package. Use forceps or a similar device to pick up a strip.

When using MTS™ from a canister, replace the lid immediately after use and store as outlined under STORAGE.

Precautions

The MTS™ is not classified as being hazardous according to current regulations. The MTS™ is a disposable product. The MTS™ is only for diagnostic *in vitro* use and is intended for professional use. They must be used in the laboratory by properly trained operators using approved aseptic and safety methods for pathogenic agents.

Per the FDA-Recognized Susceptibility Test Interpretive Criteria website, the safety and efficacy of antimicrobial drugs, for which antimicrobial susceptibility is tested by this AST device, may or may not have been established in adequate and well-controlled clinical trials for treating clinical infections due to microorganisms outside of those found in the indications and usage in the drug label. The clinical significance of susceptibility information in those instances is unknown. The approved labeling for specific antimicrobial drugs provides the uses for which the antimicrobial drug is approved.

Materials Required but Not Provided:

- Agar plate medium (validated by the media manufacturer for use with antimicrobial susceptibility testing, 90 or 150 mm plates)
- Suspension medium
- McFarland turbidity standard

  (The medium to be used as well as the inoculum suspension will depend on the organism under investigation, see the MTS™ Supplement for more information)
- Sterile loops, swabs (not too tightly spun), test tubes, pipettes and scissors
- Forceps
- Incubator (35 ± 2°C)
- Quality control organisms
- Additional technical information from **www.liofilchem.com**

Inoculum Preparation
Suspend well-isolated colonies from an overnight agar plate into the suspension medium to achieve the turbidity of the recommended McFarland standard. If the inoculum concentration is correct, a confluent lawn of growth will be obtained after incubation. If insufficient growth occurs, the testing should be repeated.

McFarland turbidity standards do not guarantee the correct number of viable cells in the suspension. In order to verify that your procedure gives the correct inoculum density in terms of CFU/mL performing regular colony counts is recommended. An acceptable inoculum should give approximately 1-2 x 10^8 CFU/mL.

Inoculation
Dip a sterile swab in the broth culture or in a diluted form thereof and squeeze it on the wall of the test tube to eliminate excess liquid. Streak the swab over the entire sterile agar surface. Repeat this procedure by streaking 2 more times, rotating the plate approximately 60 degrees each time to ensure an even distribution of inoculum. Allow excess moisture to be absorbed so that the surface is completely dry before applying MTS™.

Use well-defined, high quality media for AST that supports good growth. The brand chosen should have good batch-to-batch reproducibility to ensure that accurate and reliable MIC values are obtained.

The agar medium should have a depth of 4.0 ± 0.5 mm, a pH of 7.3 ± 0.1 and all other quality specifications should be fulfilled. Refer to the media manufacturer's instructions for more information.

Application
Apply the strip to the agar surface with the scale facing upwards and code of the strip to the outside of the plate, pressing it with sterile forceps on the surface of the agar and ensure that whole length of the antibiotic gradient is in complete contact with the agar surface. Once applied, do not move the strip.

Incubation
Incubate the agar plates in an inverted position at the appropriate temperature, atmosphere and time. Refer to the drug-specific MTS™ Supplement for specific incubation instructions.

Reading the MIC
After the required incubation period, and only when an even lawn of growth is distinctly visible, read the MIC value where the relevant inhibition ellipse intersects the strip. Do not read the plate if the culture appears mixed or if the lawn of growth is too light or too heavy.

NOTES:

- Antimicrobial drugs can be either "-static" (e.g. bacteriostatic, fungistatic) or "-cidal" in their interactions with target organisms and this needs to be considered for determining correctly the MIC endpoint. For bactericidal drugs, e.g. beta-lactams, read the MIC at the point of complete inhibition of all growth. Haze and macrocolonies or microcolonies within 3 mm from the strip should be read as growth. For bacteriostatic drugs, e.g. trimethoprim-sulfamethoxazole, in case of trailing endpoints, read at 80% inhibition, i.e. the first point of significant inhibition as judged by the naked eye. Consult MTS30 (cidal-static technical sheet) for more information.
- Growth along the entire gradient i.e. no inhibition ellipse indicates that the value is greater than or equal to (≥) the highest value on the scale. An inhibition ellipse that intersects below the lower end of the scale is read as less than (<) the lowest value. Intersection between two scale segments should be rounded up to the higher value. An MIC of 0.125 µg/mL is considered the same as 0.12 µg/mL for reporting purposes. See the appropriate MTS™ technical sheets for example specific drug-organism photographs. Also consult the MTS™ Photographic Guide.
- Excessively wet plates prior to inoculation, insufficient drying before applying strips and/or unevenly streaked surfaces may give non confluent growth or jagged ellipse edges. Repeat the test if MIC endpoints are difficult to read. In the case of uneven MIC intersections, read the higher value. Repeat the test if the discrepancy is >1 dilution.
- Occasionally, certain antimicrobial agent/microorganism combinations may give unusual results. In these cases, judgment of the MIC endpoint may be difficult for the inexperienced personnel. However, individuals can be trained through regular use of quality control strains , MTS™ reading guides and comparison with experienced personnel to correctly assess MIC endpoints.

Result Interpretation
To categorize the result according to the interpretive criteria, refer to the appropriate MTS™ product supplement for the specific antimicrobial agent interpretive criteria. Since MTS™ generates MIC values which fall between two-fold dilutions for interpretation, an MTS™ MIC value which falls between standard two-fold dilutions must be rounded up to the next standard upper two-fold value before categorization. For example a *S. aureus* vancomycin MIC of 1.5 µg/mL is reported as 2 µg/mL.

NOTES:

- As with all AST data, MTS™ results are *in vitro* values only and may provide an indication of the organism's potential *in vivo* susceptibility. The use of results to guide therapy selection must be the sole decision and responsibility of the attending physician. Their judgement should be based on the medical history and knowledge of the patient, pharmacokinetics/pharmacodynamics of the antimicrobial agent, and clinical experience in treating infections caused by the particular microbial pathogen. The drug, dose and dosing regimen must also be considered.
- For details of specific interpretive limitations and/or limitations on the clinical use of an antimicrobial agent in various therapeutic situations, please refer to the tables and footnotes of MIC interpretive standards in the latest CLSI documents.

Eliminating Used Material
After use, MTS™ and the material that comes into contact with the sample must be decontaminated and disposed of in accordance with current laboratory techniques for the decontamination and disposal of potentially infected material.

QUALITY CONTROL

To check the performance of the MTS™ result, test the quality control strain(s) as shown in the appropriate MTS™ product supplement. Patient isolate results are considered satisfactory if the quality control result(s) fall within the expected range(s). Patient isolate results should not be reported if the quality control results are outside of this stated QC range. MIC results for a QC strain that fall a half dilution below the lower QC limit should be rounded up to the next upper two-fold value which would establish QC compliance. MIC results that are a half dilution above the upper limit would be rounded up to the next upper two-fold value which would result in non-QC compliance.

LIMITATIONS

Refer to the drug-specific MTS™ Supplement.

EXPECTED VALUES

Expected results for susceptibility tests will vary based on location and institution. Organism resistance patterns will be directly related to the population of organisms at each site.

PERFORMANCE CHARACTERISTICS

Refer to the drug-specific MTS™ Supplement.

REFERENCES

1. CLSI. *Methods for Dilution Antimicrobial Susceptibility Tests for Bacteria That Grow Aerobically*. 11th ed. CLSI standard M07. Wayne, PA: Clinical and Laboratory Standards Institute; 2018.

GLOSSARY OF TERMS

	Do not reuse	LOT	Batch code		Manufacturer	IVD	*In vitro* diagnostic medical device		Upper limit of temperature
	Use by	REF	Catalog number		Contains sufficient for <n> tests		Temperature limitation		Consult instructions for use

Drug Specific Supplement for MTS™ Levofloxacin

Rx only IVD

Indications for Use/Intended Use

The MTS™ (MIC Test Strip) Levofloxacin 0.002-32 µg/mL is a quantitative method intended for the *in vitro* determination of antimicrobial susceptibility of bacteria. MTS™ consists of specialized paper impregnated with a pre-defined concentration gradient of an antimicrobial agent, which is used to determine the minimum inhibitory concentration (MIC) in µg/mL of antimicrobial agents against bacteria as tested on agar media using overnight incubation and manual reading procedures.

MTS™ Levofloxacin at concentrations of 0.002 – 32 µg/mL should be interpreted at 16-20 hours of incubation.

MTS™ Levofloxacin can be used to determine the MIC of levofloxacin against the following bacteria.

Levofloxacin has been shown to be active both clinically and *in vitro* against these bacterial species according to the FDA drug approved label:

Gram-negative bacteria
Enterobacter cloacae
Escherichia coli
Klebsiella pneumoniae
Proteus mirabilis
Pseudomonas aeruginosa
Serratia marcescens

Levofloxacin has been shown to be active *in vitro* only against the non-fastidious bacteria listed below according to the FDA drug approved label:

Gram-negative bacteria
Citrobacter freundii
Citrobacter koseri
Klebsiella aerogenes
Klebsiella oxytoca
Morganella morganii
Proteus vulgaris
Providencia rettgeri
Providencia stuartii

Specifications

Antibiotic code: LEV
MIC range: 0.002-32 µg/mL
Antibiotic group: Fluoroquinolone

Directions for Use

Follow the MTS™ package insert instructions.

Procedures specific to MTS™ Levofloxacin:

Storage	Temperature between –20°C and +8°C
Organism	*Enterobacteriaceae, Pseudomonas aeruginosa*
Medium	Mueller Hinton Agar
Inoculum	Suspension in saline (0.85% NaCl) to 0.5 McFarland standard (1 if mucoid)
Incubation	Agar plates in inverted position at 35 ± 2°C for 16-20 hours in ambient atmosphere
Reading	Interpret the MIC as 100% inhibition

FDA levofloxacin interpretive criteria (µg/mL)

Use the following breakpoints to categorize the result according to the interpretive criteria (i.e. susceptible or resistant). An MTS™ MIC value which falls between standard two-fold dilutions must be rounded up to the next standard upper two-fold value before categorization. For example a *K. pneumoniae* levofloxacin MIC of 0.19 µg/mL is reported as 0.25 µg/mL (see reading guide section for example pictures).

Bacterial Species	Susceptible	Intermediate	Resistant
Enterobacteriaceae	≤0.5	1	≥2
Pseudomonas aeruginosa	≤1	2	≥4

US FDA Susceptibility Interpretive Criteria (STIC) Ref:
https://www.fda.gov/STIC

Quality Control range (µg/mL) (CLSI M100S Performance Standards for Antimicrobial Susceptibility Testing, 29th Edition)

To check the performance of the MTS™ Levofloxacin, media and procedure, test ***E. coli* ATCC 25922** and ***P. aeruginosa* ATCC 27853** according to the method as outlined in the MTS™ package insert. Results are considered satisfactory if they fall within the following ranges:

Quality Control Strain	Acceptable MIC Range (µg/mL)
Escherichia coli, ATCC® 25922	0.008 – 0.06
Pseudomonas aeruginosa, ATCC® 27853	0.5 – 4

Performance Characteristics

Correlation to Reference Method[1]

	N	% Essential Agreement	% Category Agreement
Enterobacteriaceae [2,3]	389	99.5	96.4
Pseudomonas aeruginosa	123	99.2	95.9

[1] For the plate inoculation procedure, one testing site utilized a plate rotator (Retro C80) to assist even distribution of inoculum. There was no difference in performance for the site using the plate rotator as compared to sites using the manual plate inoculation method.

[2] MTS™ Levofloxacin MIC values tended to be in exact agreement or at least one doubling dilution lower when testing *P. rettgeri, P. stuartii* and *S. marcescens* compared to the CLSI reference broth microdilution.

[3] MTS™ Levofloxacin MIC values tended to be in exact agreement or at least one doubling dilution higher when testing *P. vulgaris* compared to the CLSI reference broth microdilution.

Reproducibility

99.6% of MTS™ Levofloxacin results for non-fastidious Gram-negative bacteria (1 *C. freundii*, 1 *E. cloacae*, 2 *E. coli*, 1 *K. pneumoniae*, 1 *P. mirabilis*, 1 *S. marcescens*, and 3 *P. aeruginosa* tested in triplicate at 3 sites on 3 days) were within a doubling dilution of reference broth microdilution results.

Limitations

The ability of MTS™ to detect resistant isolates with the following drug/bacterial species combinations is unknown because resistant isolates were either not available or an insufficient number was encountered at the time of comparative testing:

Levofloxacin: *C. koseri, P. vulgaris,* and *P. rettgeri*

Characterization of Topoisomerase IV and DNA gyrase quinolone-resistance determining regions (QRDRs) and altered efflux resistance mechanisms was not available for organisms at the time of comparative testing, and therefore the performance of MTS™ Levofloxacin for non-fastidious Gram-negative bacilli with these resistance mechanisms is unknown for the following: *Enterobacteriaceae* and *P. aeruginosa*.

The safety and efficacy of levofloxacin in treating clinical infections due to Gram-negative organisms other than *Enterobacter cloacae, Escherichia coli, Klebsiella pneumoniae, Proteus mirabilis, Pseudomonas aeruginosa,* and *Serratia marcescens* may or may not have been established in adequate and well-controlled clinical trials. The clinical significance of susceptibility information in such instances is unknown.

MTS™ Levofloxacin Reading Guide

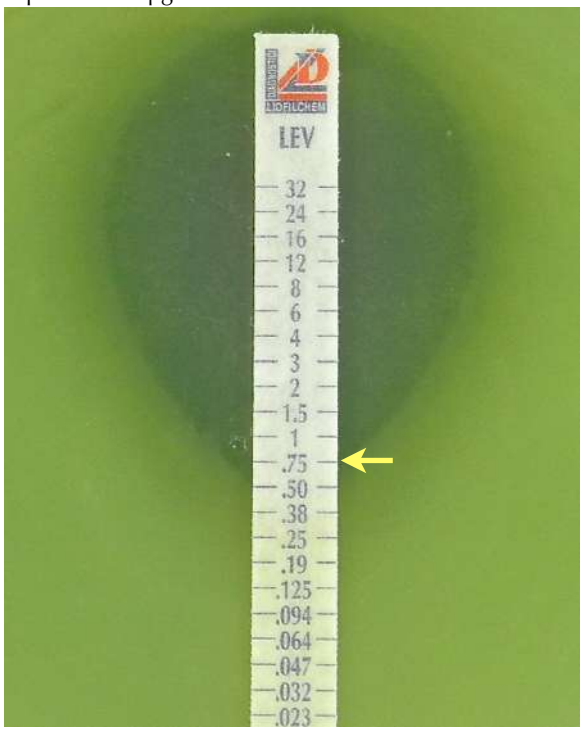
Note: Interpret the MIC as 100% inhibition

Example 1:
E. coli, LEV MIC = 0.016 µg/mL

Example 2:
K. pneumoniae, LEV MIC = 0.047 µg/mL,
reported as 0.06 µg/mL

Example 3:
P. mirabilis, LEV MIC = 0.032 µg/mL

Example 4:
P. aeruginosa, LEV MIC = 0.75 µg/mL,
reported as 1 µg/mL



PRESENTATION		µg/mL	Code	Packaging	Ref.
MTS™	Levofloxacin	0.002 - 32	LEV	10 30 100	920811 92081 920810

REVISION HISTORY

Document	Release Date	Change Summary
Package Insert 92081 PI-0 F00520 v5.3-v0 MTS CIP US	2018-12-20	Not applicable (Initial release)
Package Insert 92081 PI-1 F00520 v6.2-v1 MTS LEV US	2019-08-30	Revised: Precautions, Inoculum Preparation Updated: Interpretive Criteria [CLSI Breakpoints (M100S ED29), Link to FDA-recognized Susceptibility Test Interpretive Criteria (STIC), Performance Characteristics (CA)]
eIFU 92081 IFU-2 MTS LEV US	2022-04-19	Revised: Reagent, Storage and Handling (new Canister packaging), Inoculum Preparation, Inoculation, Reading the MIC, Results Interpretation Added: Table of Contents, Revision History

Note: Minor typographical, grammar, and formatting changes are not included in the revision history.

For all inquiries please fill out the form at https://www.liofilchem.com/contact-us.html

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CHROMATIC™ MRSA AGAR BASE

Chromogenic selective medium for the isolation of methicillin-resistant *Staphylococcus aureus*.

TYPICAL FORMULA	(g/l)
Peptone and Yeast Extract	30.0
Sodium Chloride	10.0
Sodium Phosphate Dibasic	2.5
Selective and Matting Agents	16.5
Agar	15.0
Final pH 6.9 ± 0.2	

DESCRIPTION

CHROMATIC™ MRSA AGAR BASE is a chromogenic selective medium used for the isolation of methicillin/oxacillin resistant *S. aureus*.

PRINCIPLE

Peptone and yeast extract supply amino acids, nitrogen, carbon, minerals, vitamins and other nutrients which support the growth of microorganism. Sodium chloride enhances growth of *S. aureus*. Sodium phosphate is the buffer. Selective agents inhibit the growth of yeast and the most of Gram-negative and Gram-positive bacteria other than methicillin-resistant staphylococci. Matting agents enhance colonies contrast on the medium. Agar is the solidifying agent.

The medium must be supplied with Chromatic™ MRSA Supplement (ref. 81078). This supplement consists of a chromogenic and antibiotic mix that allows the optimal recovery of MRSA and the identification based on a mauve or orange-mauve coloration of the colonies.

PREPARATION

Suspend 74.0 g of powder in one liter of deionized or distilled water. Bring to boil and shake until completely dissolved. Sterilize at 121°C for 15 minutes. Cool up to 45-50°C. Aseptically, add 10 ml (2 vials) previously reconstituted Chromatic™ MRSA Supplement (ref. 81078). Pour in Petri dishes.

TECHNIQUE

Inoculate the plates by streaking directly the specimen onto the agar surface. Incubate aerobically at 35 ± 2°C for 18-24 hours.

INTERPRETATION OF RESULTS

S. aureus produces mauve to orange-mauve colonies. Most gram-positive bacteria, if not inhibited, will produce white colonies. Gram-negative organisms and yeast are partially to completely suppressed.

STORAGE AND TRANSPORT CONDITIONS

The powder is very hygroscopic, store the powder at 10-30°C, in a dry environment, in its original container tightly closed and use it before the expiry date on the label or until sings of deterioration or contamination are evident. Store prepared plates at 2-8°C away from light.

WARNING AND PRECAUTIONS

The product does not contain hazardous substances in concentrations exceeding the limits set by current legislation and therefore is not classified as dangerous. it is nevertheless recommended to consult the safety data sheet for its correct use. The product is designed for *in vitro* diagnostic use only and must be used by properly trained operators.

DISPOSAL OF WASTE

Disposal of waste must be carried out according to the national and local regulations in force.

REFERENCES

1. Evaluation of CHROMagar Staph aureus, a new chromogenic medium, for isolation and presumptive identification of Staphylococcus aureus from human clinical specimens. Gaillot O. et al. 2001. Journal of Clinical Microbiology, 38 : 1587-1591.
2. Dépistage nasal de Staphylococcus aureus. Nécessité de standardiser les protocoles. Laudat P. et al. 2000 Poster 343/P2 presented at RICAI in Paris (France).

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CE IVD

PRODUCT SPECIFICATIONS

NAME
CHROMATIC™ MRSA AGAR BASE

PRESENTATION
Dehydrated medium

STORAGE
10-30°C

PACKAGING

Ref.	Content	Packaging
610615	500 g	500 g of powder in plastic bottle
620615	100 g	100 g of powder in plastic bottle

pH OF THE MEDIUM
6.9 ± 0.2

USE
CHROMATIC™ MRSA AGAR BASE is a chromogenic selective medium used for the isolation of methicillin/oxacillin resistant *S. aureus*

TECHNIQUE
Refer to technical sheet of the product

APPEARANCE OF THE MEDIUM
Powder medium
Appearance: free-flowing, homogeneous
Colour: beige
Ready-to-use medium
Appearance: opaque
Colour: whitish

SHELFLIFE
2 years

QUALITY CONTROL
1. Control of general characteristics, label and print
2. Sterility control
   7 days at 22 ± 1°C, in aerobiosis
   7 days at 36 ± 1°C, in aerobiosis
3. Microbiological control
   Inoculum for productivity: 10-100 CFU/ml
   Inoculum for selectivity: 10^4-10^5 CFU/ml
   Inoculum for specificity: ≤10^4 CFU/ml
   Incubation Conditions: 18-24 h at 35 ± 2°C, in aerobiosis

Microorganism		Growth	Colony colour
Staphylococcus aureus (MRSA)	ATCC® 43300	Good	Mauve
Staphylococcus aureus (MSSA)	ATCC® 25923	Inhibited	---
Staphylococcus aureus (MSSA)	ATCC® 6538	Inhibited	---
Escherichia coli	ATCC® 25922	Inhibited	---
Proteus mirabilis	ATCC® 25933	Inhibited	---
Pseudomonas aeruginosa	ATCC® 27853	Inhibited	---

TABLE OF SYMBOLS

LOT Batch code	IVD *In vitro* Diagnostic Medical Device	Manufacturer	Use by	Fragile, handle with care
REF Catalogue number	Temperature limitation	Contains sufficient for <n> tests	Caution, consult instructions for use	Do not reuse

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CE IVD

CHROMATIC™ MRSA AGAR BASE

Terreno selettivo cromogenico per l'isolamento di *Staphylococcus aureus* meticillina-resistente

FORMULA TIPICA	**(g/l)**
Peptone ed Estratto di Lievito	30.0
Sodio Cloruro	10.0
Sodio Fosfato Bibasico	2.5
Agenti Selettivi ed Opacizzanti	16.5
Agar	15.0
pH Finale 6.9 ± 0.2	

DESCRIZIONE

CHROMATIC™ MRSA AGAR BASE è un terreno cromogenico selettivo utilizzato per l'isolamento di *S. aureus* meticillina/oxacillina resistente.

PRINCIPIO

Peptone ed estratto di lievito forniscono amino acidi, azoto, carbonio, minerali vitamine ed altri nutrienti che supportano la crescita del microrganismo. Il sodio cloruro ha un effetto positivo sulla crescita di *S. aureus*. Il sodio fosfato è il tampone. Gli agenti selettivi inibiscono la crescita dei lieviti e della maggior parte dei batteri Gram negativi e Gram positivi ad eccezione degli stafilococchi meticillina-resistenti. Gli agenti opacizzanti migliorano il contrasto delle colonie sul terreno. L'agar è l'agente solidificante.

Il terreno deve essere addizionato di Chromatic™ MRSA Supplement (ref. 81078). Questo supplemento è costituito da una miscela cromogenica ed antibiotica che permette il recupero ottimale di MRSA e l'identificazione in base alla colorazione malva o arancio-malva delle colonie.

PREPARAZIONE

Sospendere 74.0 g di polvere in un litro di acqua distillata o deionizzata. Portare ad ebollizione ed agitare fino a completo scioglimento. Sterilizzare a 121°C per 15 minuti. Lasciar raffreddare fino a 45-50°C. Aggiungere asetticamente 10 ml (2 fiale) di Chromatic™ MRSA Supplement (ref. 81078) precedentemente ricostituito. Mescolare con cura. Distribuire in piastre Petri.

TECNICA

Inoculare le piastre strisciando direttamente il campione clinico sulla superficie dell'agar. Incubare a 35 ± 2°C per 18-24 ore.

INTERPRETAZIONE DEI RISULTATI

S. aureus produce colonie color malva o arancio-malva. Molti batteri gram-positivi, se non inibiti, producono colonie bianche. I batteri gram-negativi ed i lieviti sono parzialmente o completamente inibiti.

CONDIZIONI DI CONSERVAZIONE E TRASPORTO

Il prodotto è molto igroscopico, conservare la polvere a 10-30°C, in un ambiente asciutto, nel suo contenitore originale chiuso ermeticamente, fino alla data di scadenza indicata in etichetta. Eliminare se vi sono segni evidenti di deterioramento o contaminazione. Conservare le piastre pronte a 2-8°C al riparo dalla luce.

AVVERTENZE E PRECAUZIONI

Il prodotto non contiene sostanze nocive in concentrazioni superiori ai limiti fissati dalla normativa vigente, perciò non è classificato come pericoloso; per il suo impiego si consiglia comunque di consultare la scheda di sicurezza. Il prodotto è destinato esclusivamente per Uso Diagnostico *in vitro* e deve essere utilizzato da parte di personale qualificato.

SMALTIMENTO DEI RIFIUTI

Lo smaltimento del prodotto deve essere effettuato secondo le vigenti regolamentazioni nazionali e locali.

RIFERIMENTI BIBLIOGRAFICI

1. Evaluation of CHROMagar Staph aureus, a new chromogenic medium, for isolation and presumptive identification of Staphylococcus aureus from human clinical specimens. Gaillot O. et al. 2001. Journal of Clinical Microbiology, 38 : 1587-1591.
2. Dépistage nasal de Staphylococcus aureus. Nécessité de standardiser les protocoles. Laudat P. et al. 2000 Poster 343/P2 presented at RICAI in Paris (France).

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CE IVD

SPECIFICHE DI PRODOTTO

DENOMINAZIONE
CHROMATIC™ MRSA AGAR BASE

PRESENTAZIONE
Terreno in polvere

CONSERVAZIONE
10-30°C

CONFEZIONAMENTO

Ref.	Contenuto	Confezionamento
610615	500 g	500 g di povere in contenitore di plastica
620615	100 g	100 g di povere in contenitore di plastica

pH DEL TERRENO
6.9 ± 0.2

IMPIEGO
CHROMATIC™ MRSA AGAR BASE è un terreno cromogenico selettivo utilizzato per l'isolamento di *S. aureus* meticillina/oxacillina resistente

TECNICA
Fare riferimento alla scheda tecnica del prodotto

ASPETTO DEL TERRENO
Terreno in polvere
Aspetto: omogeneo
Colore: beige
Terreno pronto
Aspetto: opaco
Colore: biancastro

VALIDITÀ DALLA DATA DI PRODUZIONE
2 anni

CONTROLLO DI QUALITÀ
1. Controllo caratteristiche generali, etichettatura e stampa
2. Controllo sterilità
   7 giorni a 22 ± 1°C, in aerobiosi
   7 giorni a 36 ± 1°C, in aerobiosi
3. Controllo microbiologico
   Dimensione dell'inoculo per produttività: 10-100 UFC/ml
   Dimensione dell'inoculo per selettività : 10^4-10^5 UFC/ml
   Dimensione dell'inoculo per specificità : ≤10^4 UFC/ml
   Condizioni di incubazione: 18-24 h a 35 ± 2°C in aerobiosi

Microrganismo		Crescita	Colore colonie
Staphylococcus aureus (MRSA)	ATCC® 43300	Buona	Malva
Staphylococcus aureus (MSSA)	ATCC® 25923	Inibita	---
Staphylococcus aureus (MSSA)	ATCC® 6538	Inibita	---
Escherichia coli	ATCC® 25922	Inibita	---
Proteus mirabilis	ATCC® 25933	Inibita	---
Pseudomonas aeruginosa	ATCC® 27853	Inibita	---

TABELLA DEI SIMBOLI

LOT Numero di lotto	IVD Per uso diagnostico *in vitro*	Fabbricante	Data di scadenza	Fragile, maneggiare con cura
REF Numero di catalogo	Limiti di temperatura	Contenuto sufficiente per <n> test	Attenzione, consultare le istruzioni per l'uso	Non riutilizzare

LIOFILCHEM® S.r.l.
Via Scozia, Zona Ind.le - 64026, Roseto degli Abruzzi (TE) - ITALY
Tel +39 0858930745 Fax +39 0858930330 Website: www.liofilchem.net E-mail: liofilchem@liofilchem.net

CE IVD

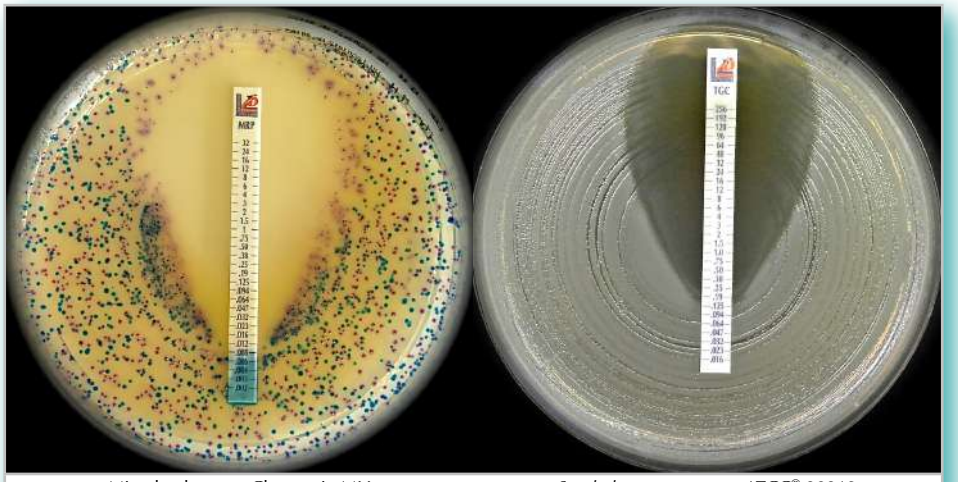
MIC Test Strip

for antimicrobial susceptibility testing

Quantitative assay for determining the Minimum Inhibitory Concentration (M.I.C.)

MIC Test Strip is a quantitative assay for determining the Minimum Inhibitory Concentration (M.I.C.) of antimicrobial agents against microorganisms and for detecting the resistance mechanisms.
MIC Test Strip are porous strips with special features **(International Patent)** that are impregnated with a predefined concentration gradient of antibiotic, across 15 two-fold dilutions of a conventional M.I.C. method.

On one side of the strip is indicated a M.I.C. scale in µg/mL and a code that identify the antimicrobial agent.
For ESBL, MBL, GRD, AmpC and KPC detection, the double-sided gradient carries the appropriate diagnostic reagents.
MIC Test Strip are available in a large variety of configurations. Each configuration is available in packages of 10, 30 and 100 tests.



Mixed culture on Chromatic MH
MIC Test Strip Meropenem 0.002 - 32 µg/mL

Staphylococcus aureus ATCC® 29213
MIC Test Strip Tigecycline 0.016 - 256 µg/mL
M.I.C. = 0.19 µg/mL

method principle

When the **MIC Test Strip** is applied onto an inoculated agar surface, the preformed exponential gradient of antimicrobial agent is immediately transferred to the agar matrix. After 18 hours incubation or longer, a symmetrical inhibition ellipse centered along the strip is formed. The MIC is read directly from the scale in terms of µg/mL at the point where the edge of the inhibition ellipse intersects the strip **MIC Test Strip**.
Other growth/inhibition patterns may also be seen for resistance detection methods.

Staphylococcus aureus
MIC Test Strip Vancomycin / Teicoplanin
GRD+

Klebsiella pneumoniae
MIC Test Strip Ertapenem / Ert. +Phenylboronic acid
KPC +

BIBLIOGRAPHY

- CLSI M100-S27 , 2017. Performance Standards for Antimicrobial Susceptibility Testing.
- CLSI M7-A10, 2015. Methods for Dilution Antimicrobial Susceptibility Tests for Bacteria that Grow Aerobically.
- CLSI M11-A8 Methods for Antimicrobial Susceptibility Testing of Anaerobic Bacteria.
- CLSI M11-S1 Performance Standards for Antimicrobial Susceptibility Testing of Anaerobic Bacteria.
- CLSI M27-A3. Reference Method for Broth Dilution Antifungal Susceptibility Testing of Yeasts; Approved Standard - Third Edition.
- CLSI M27-S4. Reference Method for Broth Dilution Antifungal Susceptibility Testing of Yeasts; Fourth Informational supplement.
- EUCAST. Breakpoint tables for interpretation of MICs and zone diameters Version 7.1 , March 2017.

MIC Test Strip for **ANTIMICROBIAL** susceptibility testing

Description		µg/mL	Code	Packaging	Ref.
MIC Test Strip	AMIKACIN	0.016 - 256	AK	10 strips 30 strips 100 strips	920181 92018 920180
MIC Test Strip	AMOXICILLIN	0.016 - 256	AML	10 strips 30 strips 100 strips	920211 92021 920210
MIC Test Strip	AMOXICILLIN*-CLAVULANIC ACID (2/1) *CLSI recommended*	0.016 - 256*	AUG	10 strips 30 strips 100 strips	920241 92024 920240
MIC Test Strip	AMOXICILLIN*-CLAVULANIC ACID (2 µg/mL) *EUCAST recommended*	0.016 - 256*	AMC	10 strips 30 strips 100 strips	921801 92180 921800
MIC Test Strip	AMPICILLIN	0.016 - 256	AMP	10 strips 30 strips 100 strips	920031 92003 920030
MIC Test Strip	AMPICILLIN*-SULBACTAM (2/1) *CLSI recommended*	0.016 - 256*	AMS	10 strips 30 strips 100 strips	920271 92027 920270
MIC Test Strip	AMPICILLIN*-SULBACTAM (4 µg/mL) *EUCAST recommended*	0.016 - 256*	SAM	10 strips 30 strips 100 strips	921811 92181 921810
MIC Test Strip	AZITHROMYCIN	0.016 - 256	AZM	10 strips 30 strips 100 strips	920301 92030 920300
MIC Test Strip	AZTREONAM	0.016 - 256	ATM	10 strips 30 strips 100 strips	920331 92033 920330
MIC Test Strip	AZTREONAM	0.064 - 1024	ATM	10 strips 30 strips 100 strips	921731 92173 921730
MIC Test Strip	BACITRACIN	0.016 - 256	BA	10 strips 30 strips 100 strips	920191 92019 920190
MIC Test Strip	CEFACLOR	0.016 - 256	CEC	10 strips 30 strips 100 strips	920361 92036 920360
MIC Test Strip	CEFAZOLIN	0.016 - 256	KZ	10 strips 30 strips 100 strips	921741 92174 921740
MIC Test Strip	CEFEPIME	0.016 - 256	FEP	10 strips 30 strips 100 strips	921261 92126 921260
MIC Test Strip	CEFIXIME	0.016 - 256	CFM	10 strips 30 strips 100 strips	920601 92060 920600
MIC Test Strip	CEFOPERAZONE*-SULBACTAM (2/1)	0.016 - 256*	CPS	10 strips 30 strips 100 strips	920231 92023 920230
MIC Test Strip	CEFOTAXIME	0.002 - 32	CTX	10 strips 30 strips 100 strips	920071 92007 920070
MIC Test Strip	CEFOTAXIME	0.016 - 256	CTX	10 strips 30 strips 100 strips	920061 92006 920060
MIC Test Strip	CEFOTETAN	0.016 - 256	CTT	10 strips 30 strips 100 strips	920201 92020 920200
MIC Test Strip	CEFOXITIN	0.016 - 256	FOX	10 strips 30 strips 100 strips	920661 92066 920660
MIC Test Strip	CEFPIROME	0.016 - 256	CR	10 strips 30 strips 100 strips	920081 92008 920080
MIC Test Strip	CEFPODOXIME	0.016 - 256	PX	10 strips 30 strips 100 strips	920051 92005 920050
MIC Test Strip	CEFTAROLINE	0.002 - 32	CPT	10 strips 30 strips 100 strips	920561 92056 920560
MIC Test Strip	CEFTAROLINE	0.016 - 256	CPT	10 strips 30 strips 100 strips	920491 92049 920490
MIC Test Strip	CEFTAZIDIME **(FDA cleared)**	0.016 - 256	CAZ	10 strips 30 strips 100 strips	921381 92138 921380
MIC Test Strip	CEFTAZIDIME*-AVIBACTAM	0.016 - 256*	CZA	10 strips 30 strips 100 strips	921391 92139 921390
MIC Test Strip	CEFTIBUTEN	0.002 - 32	CTB	10 strips 30 strips 100 strips	920581 92058 920580
MIC Test Strip	CEFTIZOXIME	0.016 - 256	CZX	10 strips 30 strips 100 strips	920161 92016 920160
MIC Test Strip	CEFTOBIPROLE	0.002 - 32	BPR	10 strips 30 strips 100 strips	921401 92140 921400
MIC Test Strip	CEFTOLOZANE*-TAZOBACTAM **(FDA cleared)**	0.016 - 256*	C/T	10 strips 30 strips 100 strips	921461 92146 921460

MIC Test Strip for **ANTIMICROBIAL** susceptibility testing

Description		µg/mL	Code	Packaging	Ref.
MIC Test Strip	CEFTRIAXONE	0.016 - 256	CRO	10 strips 30 strips 100 strips	920421 92042 920420
MIC Test Strip	CEFTRIAXONE	0.002 - 32	CRO	10 strips 30 strips 100 strips	920431 92043 920430
MIC Test Strip	CEFUROXIME	0.016 - 256	CXM	10 strips 30 strips 100 strips	921291 92129 921290
MIC Test Strip	CEPHALOTHIN	0.016 - 256	KF	10 strips 30 strips 100 strips	920391 92039 920390
MIC Test Strip	CHLORAMPHENICOL	0.016 - 256	C	10 strips 30 strips 100 strips	920751 92075 920750
MIC Test Strip	CIPROFLOXACIN	0.002 - 32	CIP	10 strips 30 strips 100 strips	920451 92045 920450
MIC Test Strip	CLARITHROMYCIN	0.016 - 256	CLR	10 strips 30 strips 100 strips	920481 92048 920480
MIC Test Strip	CLINDAMYCIN **(FDA cleared)**	0.016 - 256	CD	10 strips 30 strips 100 strips	920721 92072 920720
MIC Test Strip	CLOXACILLIN	0.016 - 256	CX	10 strips 30 strips 100 strips	920441 92044 920440
MIC Test Strip	COLISTIN	0.016 - 256	CS	10 strips 30 strips 100 strips	921411 92141 921410
MIC Test Strip	COLISTIN	0.064 - 1024	CS	10 strips 30 strips 100 strips	921421 92142 921420
MIC Test Strip	DALBAVANCIN **(FDA cleared)**	0.002 - 32	DAL	10 strips 30 strips 100 strips	921371 92137 921370
MIC Test Strip	DAPTOMYCIN (Includes Ca^{2+})	0.016 - 256	DAP	10 strips 30 strips 100 strips	921451 92145 921450
MIC Test Strip	DELAFLOXACIN **(FDA cleared)**	0.002 - 32	DLX	10 strips 30 strips 100 strips	920801 92080 920800
MIC Test Strip	DORIPENEM	0.002 - 32	DOR	10 strips 30 strips 100 strips	920401 92040 920400
MIC Test Strip	DOXYCYCLINE	0.016 - 256	DXT	10 strips 30 strips 100 strips	921561 92156 921560
MIC Test Strip	ENROFLOXACIN	0.002 - 32	ENR	10 strips 30 strips 100 strips	920131 92013 920130
MIC Test Strip	ERTAPENEM	0.002 - 32	ETP	10 strips 30 strips 100 strips	921571 92157 921570
MIC Test Strip	ERYTHROMYCIN **(FDA cleared)**	0.016 - 256	E	10 strips 30 strips 100 strips	920511 92051 920510
MIC Test Strip	FLORFENICOL	0.016 - 256	FFC	10 strips 30 strips 100 strips	920611 92061 920610
MIC Test Strip	FOSFOMYCIN (Includes Glucose-6-Phosphate)	0.016 - 256	FOS	10 strips 30 strips 100 strips	920781 92078 920780
MIC Test Strip	FOSFOMYCIN (Includes Glucose-6-Phosphate)	0.064 - 1024	FOS	10 strips 30 strips 100 strips	920791 92079 920790
MIC Test Strip	FUSIDIC ACID	0.016 - 256	FU	10 strips 30 strips 100 strips	920021 92002 920020
MIC Test Strip	GATIFLOXACIN	0.002 - 32	GAT	10 strips 30 strips 100 strips	920111 92011 920110
MIC Test Strip	GEMIFLOXACIN	0.002 - 32	GEM	10 strips 30 strips 100 strips	920351 92035 920350
MIC Test Strip	GENTAMICIN	0.016 - 256	CN	10 strips 30 strips 100 strips	920091 92009 920090
MIC Test Strip	GENTAMICIN	0.064 - 1024	CN	10 strips 30 strips 100 strips	920101 92010 920100
MIC Test Strip	IMIPENEM	0.002 - 32	IMI	10 strips 30 strips 100 strips	920541 92054 920540
MIC Test Strip	KANAMYCIN	0.016 - 256	K	10 strips 30 strips 100 strips	920341 92034 920340
MIC Test Strip	LEVOFLOXACIN	0.002 - 32	LEV	10 strips 30 strips 100 strips	920811 92081 920810

MIC Test Strip for **ANTIMICROBIAL** susceptibility testing

Description		µg/mL	Code	Packaging	Ref.
MIC Test Strip	LINEZOLID	0.016 - 256	LNZ	10 strips 30 strips 100 strips	921351 92135 921350
MIC Test Strip	MARBOFLOXACIN	0.002 - 32	MAR	10 strips 30 strips 100 strips	920621 92062 920620
MIC Test Strip	MECILLINAM	0.016 - 256	MEC	10 strips 30 strips 100 strips	920171 92017 920170
MIC Test Strip	MEROPENEM **(FDA cleared)**	0.002 - 32	MRP	10 strips 30 strips 100 strips	920841 92084 920840
MIC Test Strip	MEROPENEM	0.016 - 256	MRP	10 strips 30 strips 100 strips	920851 92085 920850
MIC Test Strip	MEROPENEM*-VABORBACTAM (8 µg/mL) **(FDA cleared)**	0.016 - 256*	M/V	10 strips 30 strips 100 strips	920741 92074 920740
MIC Test Strip	METRONIDAZOLE	0.016 - 256	MTZ	10 strips 30 strips 100 strips	920871 92087 920870
MIC Test Strip	MOXIFLOXACIN	0.002 - 32	MXF	10 strips 30 strips 100 strips	920901 92090 920900
MIC Test Strip	MUPIROCIN	0.064 - 1024	MUP	10 strips 30 strips 100 strips	920381 92038 920380
MIC Test Strip	MINOCYCLINE	0.016 - 256	MN	10 strips 30 strips 100 strips	920321 92032 920320
MIC Test Strip	NALIDIXIC ACID	0.016 - 256	NA	10 strips 30 strips 100 strips	921321 92132 921320
MIC Test Strip	NETILMICIN	0.016 - 256	NET	10 strips 30 strips 100 strips	920931 92093 920930
MIC Test Strip	NORFLOXACIN	0.016 - 256	NOR	10 strips 30 strips 100 strips	920961 92096 920960
MIC Test Strip	NITROFURANTOIN	0.032 - 512	F	10 strips 30 strips 100 strips	920221 92022 920220
MIC Test Strip	OFLOXACIN	0.002 - 32	OFX	10 strips 30 strips 100 strips	920991 92099 920990
MIC Test Strip	OXACILLIN	0.016 - 256	OX	10 strips 30 strips 100 strips	920151 92015 920150
MIC Test Strip	PENICILLIN G	0.002 - 32	P	10 strips 30 strips 100 strips	921031 92103 921030
MIC Test Strip	PENICILLIN G	0.016 - 256	P	10 strips 30 strips 100 strips	921021 92102 921020
MIC Test Strip	PIPERACILLIN	0.016 - 256	PIP	10 strips 30 strips 100 strips	921051 92105 921050
MIC Test Strip	PIPERACILLIN*-TAZOBACTAM (4 µg/mL)	0.016 - 256*	TZP	10 strips 30 strips 100 strips	921081 92108 921080
MIC Test Strip	POLYMYXIN B	0.064 - 1024	PB	10 strips 30 strips 100 strips	920041 92004 920040
MIC Test Strip	QUINUPRISTIN-DALFOPRISTIN	0.002 - 32	QDA	10 strips 30 strips 100 strips	920261 92026 920260
MIC Test Strip	RIFAMPICIN	0.002 - 32	RD	10 strips 30 strips 100 strips	920011 92001 920010
MIC Test Strip	RIFAMPICIN	0.016 - 256	RD	10 strips 30 strips 100 strips	920251 92025 920250
MIC Test Strip	SPECTINOMYCIN	0.064 - 1024	SPC	10 strips 30 strips 100 strips	920141 92014 920140
MIC Test Strip	SPIRAMYCIN	0.002 - 32	SP	10 strips 30 strips 100 strips	920461 92046 920460
MIC Test Strip	STREPTOMYCIN	0.064 - 1024	S	10 strips 30 strips 100 strips	921111 92111 921110
MIC Test Strip	SULBACTAM	0.016 - 256	SUL	10 strips 30 strips 100 strips	920281 92028 920280
MIC Test Strip	SULFAMETHOXAZOLE	0.064 - 1024	SMX	10 strips 30 strips 100 strips	920311 92031 920310
MIC Test Strip	TEDIZOLID **(FDA cleared)**	0.002 - 32	TZD	10 strips 30 strips 100 strips	921361 92136 921360

MIC Test Strip for **ANTIMICROBIAL** susceptibility testing

Description		µg/mL	Code	Packaging	Ref.
MIC Test Strip	TEICOPLANIN	0.016 - 256	TEC	10 strips 30 strips 100 strips	920121 92012 920120
MIC Test Strip	TELAVANCIN	0.002 - 32	TLV	10 strips 30 strips 100 strips	920521 92052 920520
MIC Test Strip	TELAVANCIN **(FDA cleared)**	0.016 - 256	TLV	10 strips 30 strips 100 strips	920531 92053 920530
MIC Test Strip	TEMOCILLIN	0.064 - 1024	TMO	10 strips 30 strips 100 strips	920291 92029 920290
MIC Test Strip	TETRACYCLINE	0.016 - 256	TE	10 strips 30 strips 100 strips	921141 92114 921140
MIC Test Strip	TIAMULIN	0.002 - 32	TIA	10 strips 30 strips 100 strips	922001 92200 922000
MIC Test Strip	TICARCILLIN*-CLAVULANIC ACID (2 µg/mL)	0.016 - 256*	TTC	10 strips 30 strips 100 strips	921171 92117 921170
MIC Test Strip	TIGECYCLINE	0.016 - 256	TGC	10 strips 30 strips 100 strips	921441 92144 921440
MIC Test Strip	TILMICOSIN	0.002 - 32	TIL	10 strips 30 strips 100 strips	922011 92201 922010
MIC Test Strip	TOBRAMYCIN	0.016 - 256	TOB	10 strips 30 strips 100 strips	921211 92121 921210
MIC Test Strip	TOBRAMYCIN	0.064 - 1024	TOB	10 strips 30 strips 100 strips	921201 92120 921200
MIC Test Strip	TRIMETHOPRIM	0.002 - 32	TM	10 strips 30 strips 100 strips	920371 92037 920370
MIC Test Strip	TRIMETHOPRIM*-SULFAMETHOXAZOLE (1/19)	0.002 - 32*	SXT	10 strips 30 strips 100 strips	921231 92123 921230
MIC Test Strip	VANCOMYCIN **(FDA cleared)**	0.016 - 256	VA	10 strips 30 strips 100 strips	920571 92057 920570

MIC Test Strip for **ANTIFUNGAL** susceptibility testing

Description		µg/mL	Code	Packaging	Ref.
MIC Test Strip	AMPHOTERICIN B	0.002 - 32	AMB	10 strips 30 strips 100 strips	921531 92153 921530
MIC Test Strip	ANIDULAFUNGIN	0.002 - 32	AND	10 strips 30 strips 100 strips	921551 92155 921550
MIC Test Strip	CASPOFUNGIN	0.002 - 32	CAS	10 strips 30 strips 100 strips	921541 92154 921540
MIC Test Strip	FLUCONAZOLE	0.016 - 256	FLU	10 strips 30 strips 100 strips	921471 92147 921470
MIC Test Strip	FLUCYTOSINE	0.002 - 32	FC	10 strips 30 strips 100 strips	921491 92149 921490
MIC Test Strip	ISAVUCONAZOLE	0.002 - 32	IVU	10 strips 30 strips 100 strips	921841 92184 921840
MIC Test Strip	ITRACONAZOLE	0.002 - 32	ITC	10 strips 30 strips 100 strips	921481 92148 921480
MIC Test Strip	KETOCONAZOLE	0.002 - 32	KE	10 strips 30 strips 100 strips	921511 92151 921510
MIC Test Strip	MICAFUNGIN	0.002 - 32	MYC	10 strips 30 strips 100 strips	921821 92182 921820
MIC Test Strip	POSACONAZOLE	0.002 - 32	POS	10 strips 30 strips 100 strips	921521 92152 921520
MIC Test Strip	VORICONAZOLE	0.002 - 32	VO	10 strips 30 strips 100 strips	921501 92150 921500

MIC Test Strip for **KPC** detection

Description		µg/mL	Code	Packaging	Ref.
MIC Test Strip	MEROPENEM / MEROPENEM + PHENYLBORONIC ACID	0.125-8 / 0.032-2	MRP/MBO	10 strips 30 strips 100 strips	921671 92167 921670
MIC Test Strip	ERTAPENEM / ERTAPENEM + PHENYLBORONIC ACID	0.125-8 / 0.032-2	ETP/EBO	10 strips 30 strips 100 strips	921681 92168 921680

MIC Test Strip **ESBL** for confirmation of Extended Spectrum Beta-Lactamase

Description		µg/mL	Code	Packaging	Ref.
MIC Test Strip	CEFEPIME/CEFEPIME+CLAVULANIC ACID (4 µg/mL)	0.25-16 / 0.064-4	FEP/FEL	10 strips	921611
				30 strips	92161
				100 strips	921610
MIC Test Strip	CEFOTAXIME/CEFOTAXIME+CLAVULANIC ACID (4 µg/mL)	0.25-16 / 0.016-1	CTX/CTL	10 strips	921601
				30 strips	92160
				100 strips	921600
MIC Test Strip	CEFTAZIDIME/CEFTAZIDIME+CLAVULANIC ACID (4 µg/mL)	0.5-32 / 0.064-4	CAZ/CAL	10 strips	921591
				30 strips	92159
				100 strips	921590

MIC Test Strip **MBL** for detection of Metallo Beta-Lactamase

Description		µg/mL	Code	Packaging	Ref.
MIC Test Strip	IMIPENEM / IMIPENEM + EDTA	4-256 / 1-64	IMI/IMD	10 strips	921621
				30 strips	92162
				100 strips	921620
MIC Test Strip	IMIPENEM / IMIPENEM + EDTA	0.125-8 / 0.032-2	IMI/IMD	10 strips	921661
				30 strips	92166
				100 strips	921660
MIC Test Strip	MEROPENEM / MEROPENEM + EDTA	0.125-8 / 0.032-2	MRP/MRD	10 strips	921651
				30 strips	92165
				100 strips	921650

MIC Test Strip **GRD** for detection of Glycopeptide Resistance

Description		µg/mL	Code	Packaging	Ref.
MIC Test Strip	VANCOMYCIN / TEICOPLANIN	0.5-32 / 0.5-32	VA/TEC	10 strips	921631
				30 strips	92163
				100 strips	921630

MIC Test Strip for **AmpC** detection

Description		µg/mL	Code	Packaging	Ref.
MIC Test Strip	CEFOTETAN / CEFOTETAN+CLOXACILLIN	0.5-32 / 0.5-32	CTT/CXT	10 strips	921641
				30 strips	92164
				100 strips	921640
MIC Test Strip	ERTAPENEM / ERTAPENEM + CLOXACILLIN	0.125-8 / 0.032-2	ETP/ECX	10 strips	921691
				30 strips	92169
				100 strips	921690

MIC Test Strip for **ANTIMYCOBACTERIAL** susceptibility testing

Description		µg/mL	Code	Packaging	Ref.
MIC Test Strip	ETHAMBUTOL	0.016 - 256	EB	10 strips	921701
				30 strips	92170
				100 strips	921700
MIC Test Strip	ETHIONAMIDE	0.016 - 256	ET	10 strips	921721
				30 strips	92172
				100 strips	921720
MIC Test Strip	ISONIAZIDE	0.016 - 256	IZ	10 strips	921711
				30 strips	92171
				100 strips	921710

MTS **Synergy Application System** (International Patent)

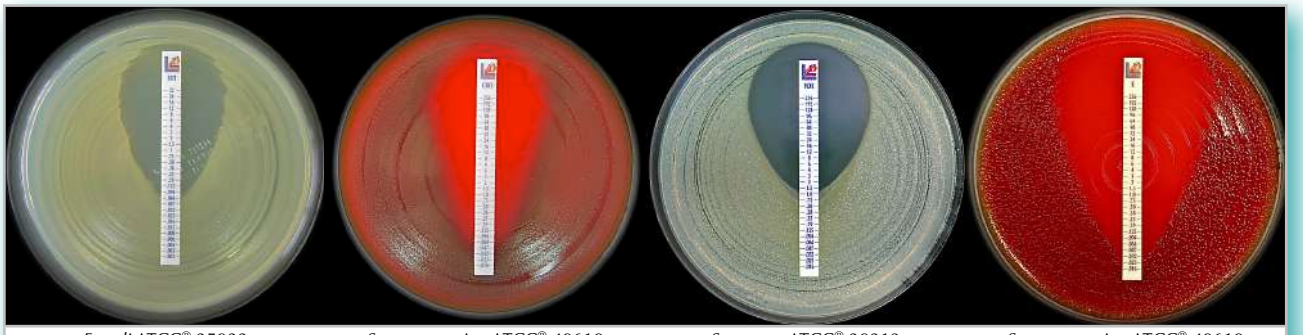
Description	Packaging	Ref.
MTS Synergy Applicator Platform	1 unit	96860
MTS Synergy Delivery Tool	10 disposable applicators	96870

Accessories

Description	Packaging	Ref.
Rotating Plate Inoculator for confluent microbial growth on the 90 mm petri dish		96794
DEN-1B McFarland densitometer with built-in adapter for 18 mm tubes		96881
A-16 Adapter for 16 mm tubes		96882
CKG18 calibration kit for DEN-1, for 18mm glass tubes		96883
CKG16 calibration kit for DEN-1, for 16mm glass tubes		96884
Storage Tube with Desiccant	10 tubes	96719
McFarland Standard Set 0.5 - 1.0 - 2.0 - 3.0 -4.0	5 tubes	80405
0.5 McFarland	1 tube	80400
1 McFarland	1 tube	80401
2 McFarland	1 tube	80402

Ready to use culture media

DESCRIPTION	FORMAT	PACKAGING	REF.
MUELLER HINTON AGAR II for antimicrobial susceptibility testing of non-fastidious organisms.	90 mm 140 mm	20 plates 10 plates	10031 10231
MUELLER HINTON AGAR II + SHEEP BLOOD 5% for antimicrobial susceptibility testing of fastidious organisms.	90 mm 140 mm	20 plates 10 plates	10131 11231
MUELLER HINTON FASTIDIOUS AGAR (Horse blood 5% + 20 mg/L β-NAD) EUCAST recommended: for antimicrobial susceptibility testing of *Streptococcus* spp., *Haemophilus* spp., and some other fastidious organisms.	90 mm 140 mm	20 plates 10 plates	10132 11132
MUELLER HINTON AGAR II + 2% NaCl for antimicrobial susceptibility testing of staphylococci with Oxacillin.	90 mm	20 plates	11206
CHROMATIC MH Chromogenic medium for the preliminary identification and susceptibility testing of bacteria directly from clinical and environmental specimens.	90 mm 140 mm	20 plates 10 plates	11618 10246
BRUCELLA BLOOD AGAR with HEMIN AND VITAMIN K1 for antimicrobial susceptibility testing of anaerobic bacteria.	90 mm	20 plates	10245
SCHADLER K AGAR (SHEEP BLOOD 5%) for antimicrobial susceptibility testing of anaerobic bacteria.	90 mm	20 plates	11065
HAEMOPHILUS TEST AGAR for *Haemophilus* spp. susceptibility testing.	90 mm	20 plates	10080
MIDDLEBROOK 7H11 AGAR for antimicrobial susceptibility testing of mycobacteria.	90 mm	20 plates	10416
R.P.M.I. AGAR (2% glucose + MOPS) for antifungal susceptibility testing.	90 mm 140 mm	20 plates 10 plates	11509 10233

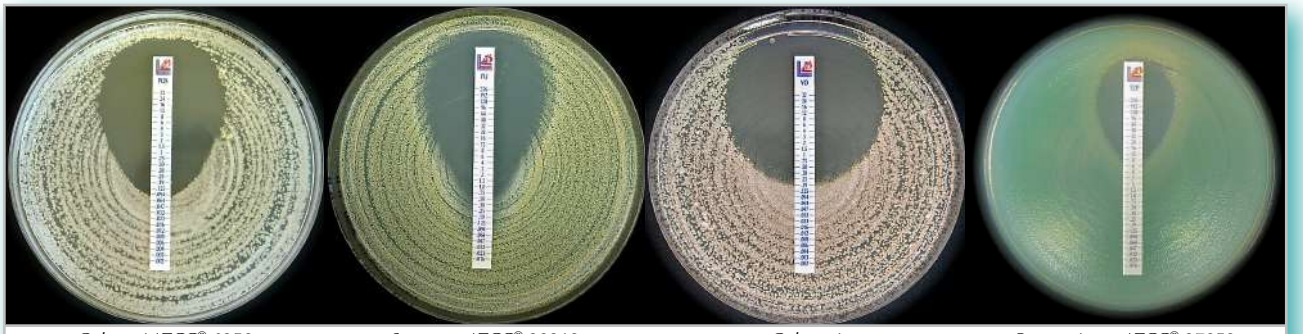


E. coli ATCC® 25922
MIC Test Strip SXT 0.002-32 µg/mL
M.I.C. = 0.094 µg/mL

S. pneumoniae ATCC® 49619
MIC Test Strip CRO 0.016-256 µg/mL
M.I.C. = 0.064 µg/mL

S. aureus ATCC® 29213
MIC Test Strip FOX 0.016 - 256 µg/mL
M.I.C. = 1.5 µg/mL

S. pneumoniae ATCC® 49619
MIC Test Strip E 0.016-256 µg/mL
M.I.C. = 0.032 µg/mL

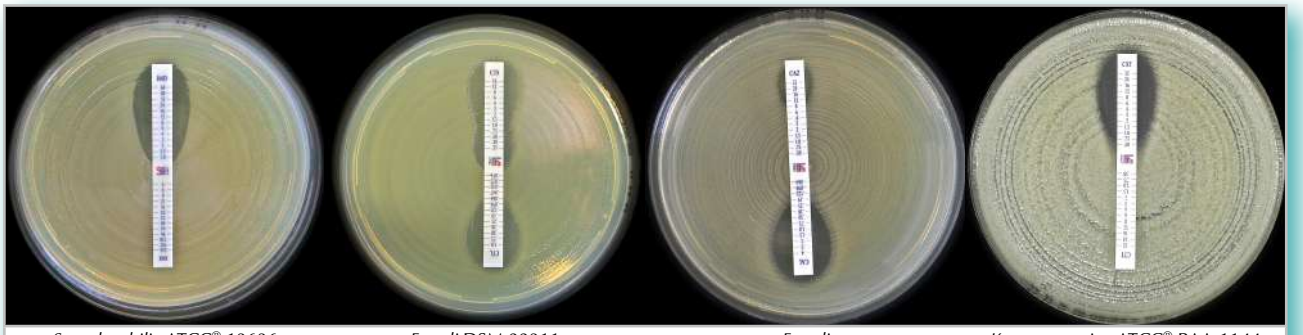


C. krusei ATCC® 6258
MIC Test Strip POS 0.002-32 µg/mL
M.I.C. = 0.094 µg/mL

S. aureus ATCC® 29213
MIC Test Strip FU 0.016-256 µg/mL
M.I.C. = 0.50 µg/mL

C. krusei
MIC Test Strip VO 0.002-32 µg/mL
M.I.C. = 0.25 µg/mL

P. aeruginosa ATCC® 27853
MIC Test Strip TZP 0.016-256 µg/mL
M.I.C. = 8 µg/mL



S. maltophilia ATCC® 13636
MIC Test Strip IMI/IMD
4-256/1-64 µg/mL
MBL+

E. coli DSM 22311
MIC Test Strip CTX/CTL
0.25-16/0.016-1 µg/mL
ESBL+

E. coli
MIC Test Strip CAZ/CAL
0.5-32/0.064-4 µg/mL
ESBL+

K. pneumoniae ATCC® BAA-1144
MIC Test Strip CTT/CXT
0.5-32/0.5-32 µg/mL
AmpC+

Contact your local dealer or Liofilchem headquarter for **MIC Test Strip** availability.

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In USA, available for products noted as "FDA Cleared" in the product list.

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