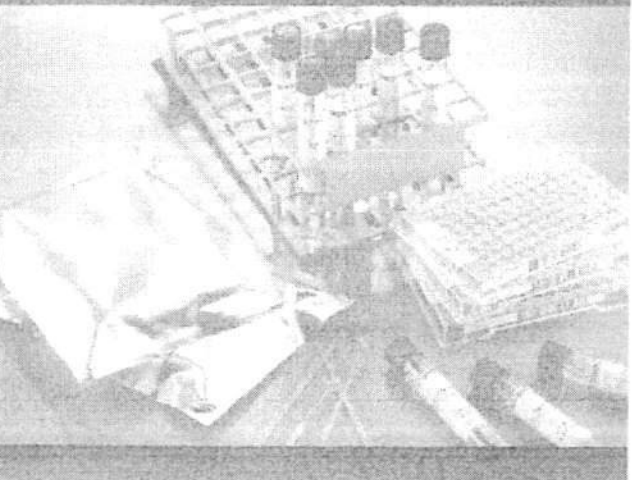
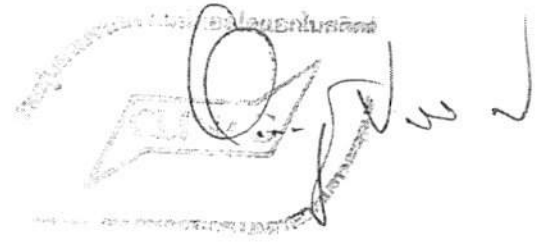


Thermo Scientific Sensititre
Susceptibility and Identification System



maximum performance



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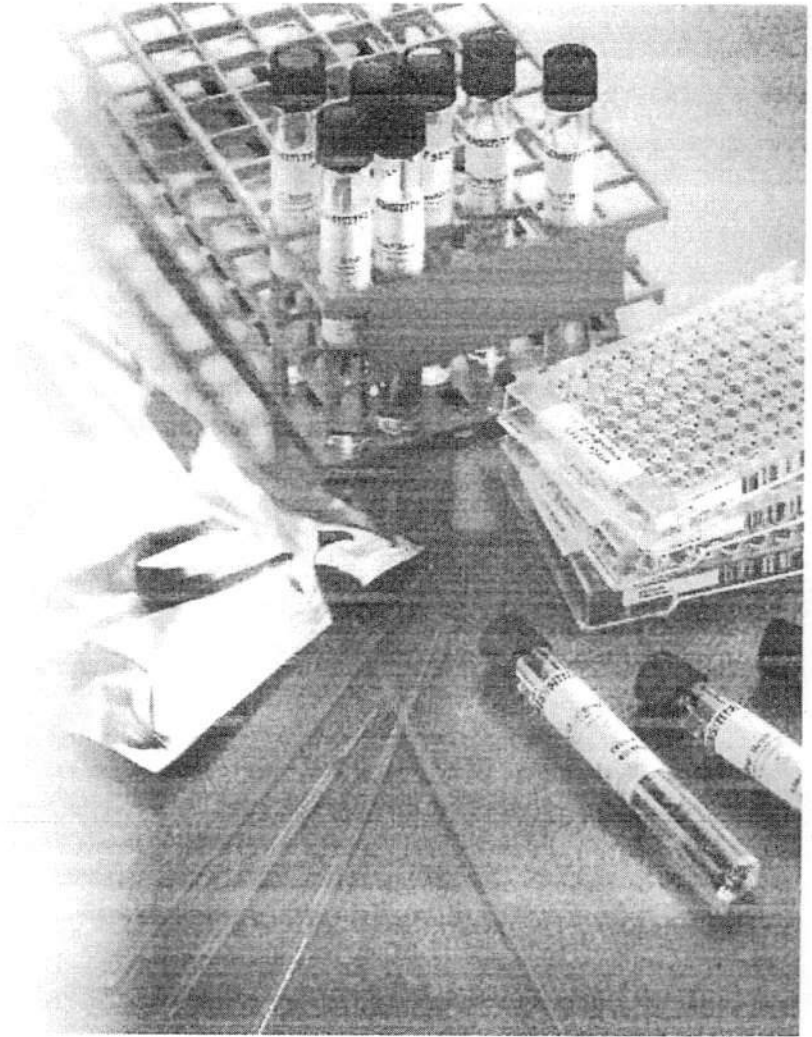
True MIC results

the key to battling resistance

The Thermo Scientific Sensititre System is a leader in antimicrobial susceptibility and identification (AST/ID) testing, offering flexible, customizable testing options to accommodate laboratories of all sizes.

The Sensititre™ System utilizes true MIC results, versus extrapolated [MIC] results, essential to fighting antimicrobial resistance for a number of reasons:

- Greater sensitivity; provides better antimicrobial resistance tracking
- Best measure of antibacterial effect; can assist with therapeutic choices
- Preferred microbroth dilution test method
- Superior quality and reproducibility for accurate results the first time, eliminating offline tests and retests



The Sensititre System is the *only* system that utilizes true MIC results, crucial in the fight against antimicrobial resistance.

More antimicrobials, more testing options

The Sensititre System utilizes 96-well microtitre plates, available in both standard and custom formats, with in-vitro diagnostic (IVD) or research use only (RUO) markings. With over 240 antimicrobials available in extended dilution ranges on a wide variety of formats, the Sensititre System allows you to eliminate supplementary offline tests while meeting FDA, CLSI and EUCAST breakpoint requirements.

Susceptibility & Identification Testing

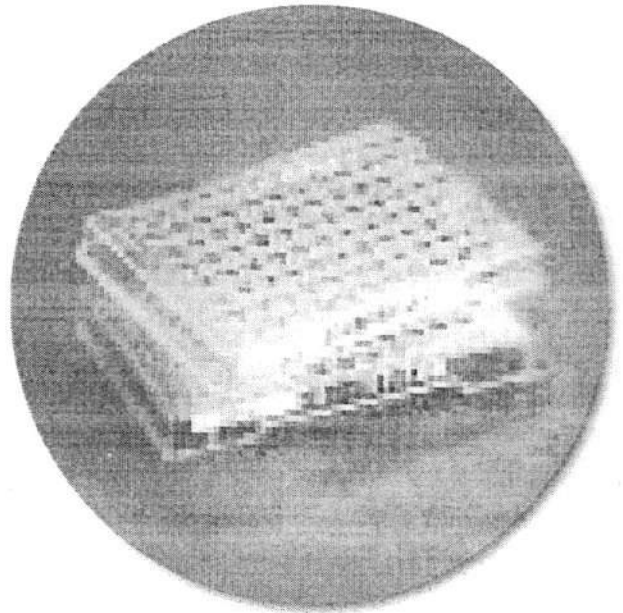
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Logo: **CLINAG**
Text: **CLINICAL DIAGNOSTICS LIMITED**
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Customizable testing for your unique needs

The Sensititre System offers the largest selection of FDA-cleared antimicrobials to meet your formulary. In addition, Sensititre MIC plates can be customized for use with FDA, CLSI or EUCAST recommendations. Combined with flexible equipment options, the Sensititre System allows you to create the ultimate test program tailored to your laboratory's unique needs.

Eliminate offline tests, reduce costs with MIC plates tailored to your formulary

The Sensititre System allows you to design a custom plate with over 20 antimicrobials on a single format, eliminating offline tests (Etest[®], Kirby-Bauer) and reducing your cost per test. Sensititre custom plates can match almost any formulary, and flexible batch sizes allow you to make updates as your formulary changes.



Create your own MIC plates based on your formulary, your dilution ranges, and your patient population, for a truly customized test program.

Why Sensititre.?

Accurate, timely results

"Sensititre plays a significant role in making our laboratory a recognized leader in providing accurate and timely microbiology services."

Best technology, lowest cost per test

"We chose the Sensititre System because it provided us with the easiest set up options, best microbiology technology for accurate results, and the overall lowest cost per test."

References available upon request

greater flexibility

Detect emerging resistance

"The most important factors for our laboratory were availability of necessary drugs and appropriate dilution ranges. Sensititre MIC plates are accurate and able to detect emerging resistance."

A unique system

"The technology associated with Sensititre, as well as the ability to have custom plates, really make Sensititre a unique system."



Reduce cost per test

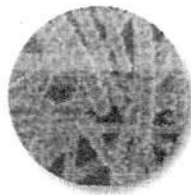
The latest antimicrobials on multi-isolate formats

The Sensititre System offers a number of standard MIC plate formats, with MD/CE markings or RUO designations to ensure excellent quality and consistent results.

Along with FDA clearance for testing *Streptococcus* spp., *Haemophilus influenzae*, *Candida* spp., and aerobic nonfastidious Gram-negative and Gram-positive organisms, the Sensititre System provides CLSI-recommended methodology for testing *Cryptococcus neoformans*, *Aspergillus*, *Campylobacter**, aquatic organisms, anaerobes and *Mycobacterium**, including rapid*, slow* and *Mtb**.

Gram-positive plates

- Monitor resistant organisms, such as MRSA, VRSA, VISA and VRE
- Fewest limitations for *Enterococcus* spp. and *Staphylococcus* spp.
- FDA-cleared all-in-one plate offers numerous antimicrobials, including daptomycin, as well as D-test and ceftioxin screen
- FDA-cleared *Streptococcus* spp. plate for manual or automated reading with the ARIS 2X



The FDA-cleared Gram-positive all-in-one plate (Part No. GPALL1F) features D-test and a ceftioxin screen, allowing laboratories to eliminate additional offline test procedures required to detect resistant organisms.

Gram-negative plates

- MD format includes extended cephalosporin and carbapenem ranges. RUO format includes colistin and polymyxin B
- Three-isolate urine panel includes nine antimicrobial options

YeastOne™ plates

- Colorimetric alamarBlue™ agent provides reliable and consistent endpoint determination, with visual read option for yeast and filamentous fungi*
- Available in dual-isolate MD format for *Candida* spp., and single-isolate* format, including anidulafungin*, caspofungin and micafungin*



The YeastOne plate's easy set up procedure eliminates the time-consuming macrobroth dilution method.

Mycobacterium tuberculosis plates*

- Twelve first and second-line antimicrobials on a single plate
- 10–14 day time-to-results
- Easy set up and incubation requirements, with manual viewbox or Vizion™ read options

*CE/MD-marked. For research use only in the U.S. Not for use in diagnostic procedures.

Standard & Custom MIC Plates

CLINICAL DIAGNOSTICS LIMITED

John J. Sinden

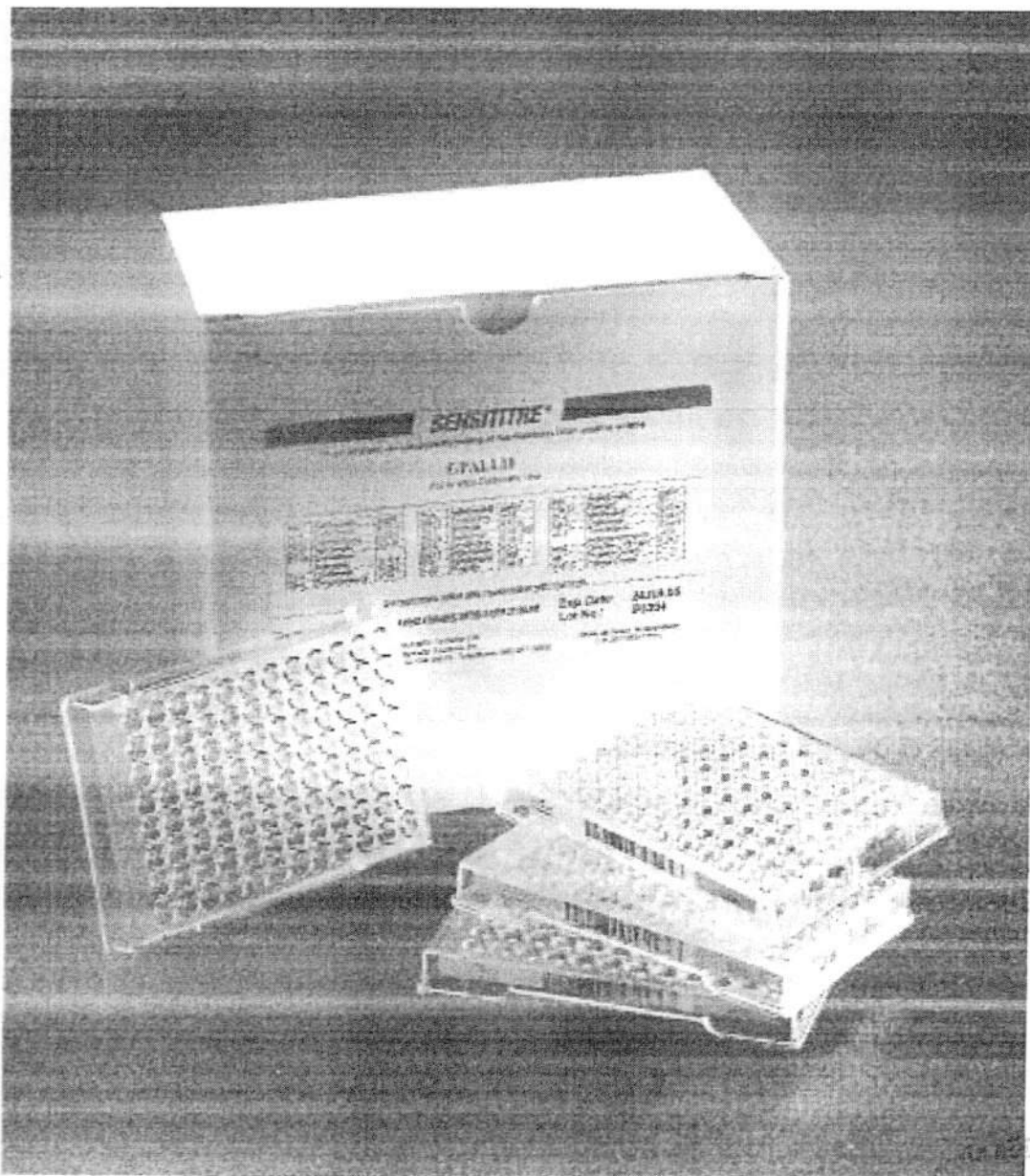
High performance for low-volume testing

Microbroth dilution testing is a great alternative to disk diffusion methods, eliminating inaccuracies with easy-to-read endpoints. If you want to take advantage of the superior performance of Sensititre plates, but don't have the volume to justify automation, plates can be inoculated with our multichannel pipette and read manually with a mirrored viewbox.

For low-volume laboratories, plates can be inoculated with the Sensititre Multichannel Pipette.



The Sensititre Nephelometer provides an inexpensive solution to standardize inoculum density.



Why Sensititre.?

The most FDA-cleared antimicrobials

"Sensititre was one of the first to incorporate the broth microdilution D-test and cefoxitin screen, and the drug tigecycline on MIC panels, giving our lab immediate access to the latest antimicrobials."

Flexible batch sizes for better cost control

"We have added custom three-isolate plates for urinary isolates that better suit our outpatient formulary guidelines. I don't believe any of the other AST/ID vendors would have been able to provide a custom product at our volumes, at the same price as other standard product."

Reference available upon request

CLINICAL DIAGNOSTIC

Dr. F. J. ...

Full automation: consolidate *all* susceptibility testing on a single platform



Thermo Scientific Sensititre ARIS 2X System. The ARIS™ 2X System is a fully automated, benchtop incubating and reading system that reduces workload and facilitates efficient workflow. It can accommodate 64 MIC, breakpoint or identification plates, for a combination of 192 possible tests on a single instrument.

- Heated carousel individually incubates all plates, ensuring optimal growth conditions and eliminating repeat tests
- Plate-specific barcodes allow user to load or unload tests at any time, in any location



Thermo Scientific Sensititre AIM Automated Inoculation Delivery System. The Sensititre AIM™ System quickly and accurately doses most 96-well plates, eliminating both skipped wells and costly repeat tests.

- Compact, user-friendly design minimizes benchtop footprint
- Provides flexible storage and accessibility, while conserving valuable laboratory space
- Icon-driven, touch-screen facilitates quick dosing selection, for simple, intuitive operation

Reliable, cost-effective automation

"The ARIS 2X System does not extrapolate MIC results; it provides a true MIC result that can be read automatically and visually. There is just no comparison for a truly mess-free, closed system which requires no maintenance or reagents."

"We have consolidated the majority of our isolates on the ARIS 2X System using just four susceptibility plates. The ARIS 2X System provides results that are reliable, reproducible and cost-effective."

References available upon request



Sensititre Automated Solutions



Semiautomation: flexible technologies enhance manual methodologies

Thermo Scientific Sensititre OptiRead Automated Fluorometric Plate Reading System.

OptiRead™ fluorescence technology provides fast, accurate plate reads, maximizing consistency and eliminating manual reading.

- Quickly transfer test results for processing, interpretation and report generation, improving laboratory efficiency and productivity
- User-friendly automation for busy laboratorians in a compact, lightweight design



Thermo Scientific Sensititre Vizion Digital MIC Viewing System.

Combining automation with visual results, the Vizion System consolidates all offline testing on a single instrument, with the benefits of Expert System software and LIS connectivity.

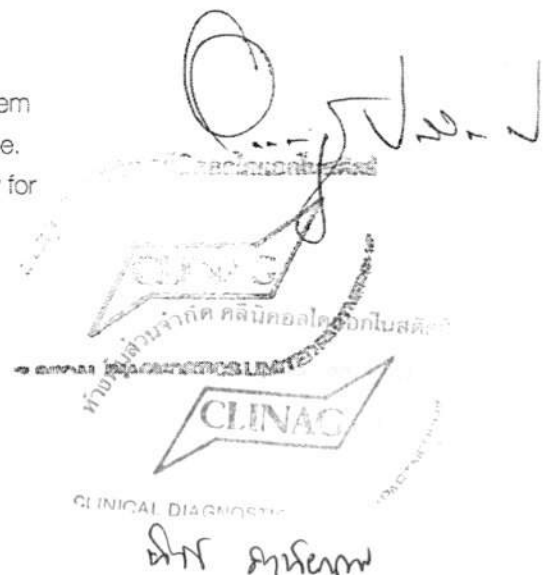
- Customizable lighting options facilitate reading of all organisms
- Easy-to-read digital images eliminate manual reading errors
- Stored images expedite teaching, sharing and decision-making



Boost productivity with semiautomated solutions

"We reduced our set-up time, decreased time spent reading plates manually, and advanced manual plate reading with the touch screen application of the Vizion System. The time savings these provided gave us more time for other value-added tasks."

"With the Vizion System, there is no need to manually record MIC results. The system automatically saves digital images for all isolates so they can be reviewed at any time. The Vizion is an excellent teaching tool, and easily documents proof of competency for technologists."



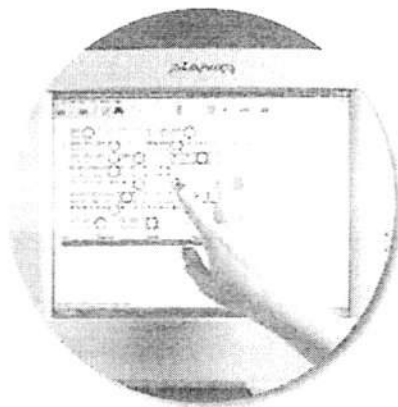
Intelligent software system

to easily manage your test program

The Sensitre Windows® (SWIN) Software System combines manual, semi-automated and fully automated read options on a single software platform, to easily consolidate your entire test program and enhance data entry.

- Customizable Expert System provides three-tiered expert messages: Information, Modification (based on FDA, CLSI and EUCAST recommendations) and Warning Levels
- Quality control module to easily manage MIC results and broth information, for inspection purposes
- Automated alerts and report functionality enhance workflow and expedite release of results
- View ID details and susceptibility results at the same time

The screenshot displays the SWIN software interface. On the left, a tree view lists various organisms under the heading 'Organism'. The main area shows a list of 'Short Expert Description' for each organism, such as '127 Natural Gentamicin resistance expected' for Enterobacteriaceae. On the right, the 'Expert Cases' window is open, showing details for a specific case. It includes fields for 'Category', 'Organism (if grouping)', 'Source', 'Species', 'Incubation Period (Hours)', and 'Priority'. Below these are 'Drug Description' and 'Interpretation' fields. At the bottom, there are 'View ID' and 'View MIC' buttons.



Touch screen navigation puts results at your fingertips!



Drop down fields eliminate difficult codes and numbers, eliminating manual entry errors.

SWIN™ Software System



Fast, customizable reporting options

The SWIN Epidemiology Module allows users to generate complete, real-time reports and bar graphs in just minutes. With multiple search options, laboratories can create comprehensive reports specific to their patient populations.

- Define duplicate criteria, for accurate susceptibility trends
- "Save" and "Modify" existing report capabilities ensure quick access to the reports utilized most often
- Includes five customized report options: Percent Susceptible (JCAHO requirement), Cumulative MIC, Workload Report, Occurrence Report and Interpretation Report

Generating Reports is Fast and Easy...

1. Name your report
2. Select your organisms
3. Define duplicate criteria and date range

It's as simple as that!



The SWIN Epidemiology Module is the ultimate tool for comprehensive reporting, with five customizable report options.

Why Sensitre.?

Generate monthly and annual reports in minutes

"The SWIN Epidemiology platform allows us to quickly generate monthly and annual susceptibility reports. Prior to using the Sensitre SWIN Software, it took many hours to compile all of the necessary reports."

"After using SWIN for several months, we can honestly say we love it! It is very user-friendly. We really like the expert comments and the quality control package."

References available upon request



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General Instrument Specifications:

	ARIS 2X:	OptiRead:	Vizion:	AIM:	Nephelometer:
Instrument Part No.:	V3090	V3030	V2020	V3020	V3011
Height:	28 in.; 70cm	7.3 in.; 18.5cm	12.4 in.; 31.5cm	11.3 in.; 28.7cm	3.84 in.; 9.7cm
Width:	25 in.; 63cm	13.2 in.; 33.5 cm	10.4 in.; 26.3cm	13.3 in.; 33.8cm	7.5 in.; 19cm
Depth:	19 in.; 48cm	10.2 in.; 26cm	13.9 in.; 35.4cm	12.3 in.; 31.2cm	5.3 in.; 13.5cm
Weight:	128.2 lbs; 58 kg	14.1 lbs; 6.4kg	21 lbs; 9.5kg	17.6 lbs; 8kg	1.8 lbs; 0.8kg
Power Requirements:	220/240 VAC 60 Hz; 110/120 VAC 50 Hz	100-240 VAC 50-60 Hz	220/240 VAC 60 Hz	94-237V; 47-63 Hz	8-18 VAC/DC, 130 mA
Power Consumption:	230 watts	50 watts	8 watts	150 watts	1 watt
Regulatory Compliance:	ANSI/UL 6101-1 and CSA C22.2#61010-1, ETL safety tested, CE marked and EMC tested	FDA-cleared	ETL safety tested, CE marked and EMC tested, FDA-cleared	FDA-cleared	
System Part No. and Description	V3000; includes ARIS 2X, SWIN Computer, Vizion System and AIM System		V2020-SYS; includes Vizion instrument and SWIN Computer V2020-SYS-LIS; includes Vizion instrument, SWIN Computer and LIS interface V2020-SYE; includes Vizion instrument, SWIN Computer and SWIN Epidemiology V2020-SYE-LIS; includes Vizion instrument, SWIN Computer, SWIN Epidemiology and LIS interface		

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USA and Canada +1 800 871 8909
All Other Inquiries +44 1256 841144

Technical Support
USA and Canada +1 800 642 7029
All Other Inquiries +44 1342 318777

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Sensititre Susceptibility Plates for testing non-fastidious Gram negative and Gram positive isolates

Sensititre 18-24 hour

For *in vitro* Diagnostic use

For full plate information, including plate layout, QC information, Interpretative criteria, performance data and references please refer to www.trekds.com/techinfo. The plate type and plate lot number will be required.

INTENDED USE

The Sensititre MIC and Breakpoint Susceptibility system is an *in vitro* diagnostic product for clinical susceptibility testing of non-fastidious Gram negative isolates, comprising of *Enterobacteriaceae*, *Pseudomonas aeruginosa*, and other non-*Enterobacteriaceae* and of non-fastidious Gram positive isolates, comprising of *Staphylococcus* sp., *Enterococcus* sp., and Beta haemolytic *Streptococci* other than *S. pneumoniae*. The Sensititre ESBL confirmatory test plate is an *in vitro* diagnostic product for detection of ESBLs in clinical isolates of *Klebsiella pneumoniae*, *Klebsiella oxytoca* and *Escherichia coli*. MIC and ESBL plates can either be read manually or automatically on the Sensititre Autoreader / OptiRead and/or ARIS. Thermo Scientific manufactured broths have only been validated with Sensititre products .

SUMMARY AND PRINCIPLES OF USE

Each plate is dosed with antimicrobial agents at appropriate dilutions. Results can be read manually by visual reading of growth or automatically on an ARIS / OptiRead /Autoreader using fluorescence.

The Sensititre Autoreader /OptiRead systems utilize fluorescence technology. The technology involves the detection of bacterial growth by monitoring the activity of specific surface enzymes produced by the test organism. Growth is determined by generating a fluorescent product from a non-fluorescent (fluorogenic) substrate. The non-fluorescent substrate is prepared by conjugating a fluorescent compound to the specific enzyme substrates with a bond, which prevents fluorescence. The fluorophore is then said to be quenched. Enzymatic action of the bacterial surface enzymes on the specific substrates cleaves this bond releasing the fluorophore which is now capable of fluorescence. The amount of fluorescence detected is directly related to the activity of the bacterial surface enzymes and, therefore, to the bacterial growth.

Only plates which have the format name suffixed with F can be read automatically.

PRECAUTIONS

Only instruments supported by Sensititre (i.e. a simple manual viewer, Sensitouch, Vizion, Sensititre Autoreader / OptiRead and ARIS) must be used to report results with CE IVD and FDA cleared Sensititre products. Any other system used will not be supported. Results should be used as an aid in selecting the drug of choice for treatment. This product is for *in vitro* diagnostic use and should be used by properly trained personnel. Precautions should be taken against the dangers of microbiological hazards by properly sterilizing specimens, containers, media, and test plates after use. Directions should be read and followed carefully.

STORAGE AND SHELF LIFE

Store Sensititre susceptibility plates in original containers at 15 – 25°C and away from direct

sunlight and heat until used. Each plate is packaged in foil with a desiccant. Plates should not be used beyond their expiration date, if the foil pouch is damaged, or the desiccant color is not orange. Plates should be inoculated within 5 hours of removing from pouch.

SPECIMEN COLLECTION AND PREPARATION

Specimens should be collected and handled following recommended guidelines.

Materials included

- 10 Sensititre™ plate with substrate in wells
- 10 adhesive seals

Materials not included [Product Code]:

Broth:

- Sensititre™ demineralised water [T3339]
- Sensititre™ Cation adjusted Mueller-Hinton broth with TES (CAMHBT) [T3462]

Turbidity:

- Sensititre Nephelometer™ [V3011]
- 0.5 McFarland polymer turbidity standard [E1041]

Plate inoculation:

- Doseheads for Sensititre AIM for plate inoculation [E3010]
- Sensititre Automated Inoculation Delivery System™ [V3020] / Sensititre Autoinoculator*

Plate reading:

- Sensititre AutoReader™* OptiRead™ [V3030] or ARIS™ [V3090]
- Sensititre Vizion Digital MiC Viewing System™ [V2021]
- Sensititre Manual Viewbox [V4007]

Other supplies:

- Sterile inoculum reservoir
- Quality control strains (see Table 1)
- Incubator 34-36°C
- Vortex mixer
- Current CLSI, EUCAST, or local guideline documents

*No longer sold or supported

SELECTION OF SUSCEPTIBILITY TEST BROTH

Thermo Scientific Sensititre broth is validated for use with Sensititre susceptibility plates.

INOCULATION PROCEDURES FOR SENSITITRE PLATES

Allow all broths equilibrate to room temperature before use.

Standard Inoculum

For all plates pick 3-5 colonies of non-fastidious isolates from fresh primary agar plate, emulsify in sterile water, and adjust to a 0.5 McFarland Standard. Mix well.

Transfer 10µl of the McFarland suspension into 11 ml tube of cation adjusted Muller Hinton broth with TES buffer. Proceed to step 2.

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Increased inoculum method

Depending on the strains tested, an increase to 30 µl may aid in detecting resistance mechanisms.

For both Gram positive and negative isolates, the transfer of 30µl of the suspension into an 11 ml Sensititre Mueller-Hinton broth tube results in colony counts which fall within the cleared Sensititre range of 5.0×10^4 and 5.0×10^5 cfu/ml. Proceed to step 2.

Proteus, Providencia and Morganella

For tribe *Proteae* (including *Proteus* species, *Providencia* species and *Morganella morganii*), transfer 1µl into the broth.

2. Transfer 50µl of the broth suspension into the plate within 30 min of preparation by either:
 1. **Sensititre Autoinoculator / AIM.** Replace the tube cap with a Sensititre single-use dosehead and inoculate the plate according to the Autoinoculator / AIM instructions. Remove the test tube/dosehead combination from the Autoinoculator / AIM within 30 seconds of dosing a plate.
 2. **Manual pipette.** Pour the broth into a sterile seed trough and inoculate the plate using an appropriate pipette.
3. Perform a purity check on all final inocula after plate inoculation.
4. A periodic check of the colony count should be performed (see Appendix 1). Isolates should have an inoculum of 1×10^5 cfu/ml, (range $5.0 \times 10^4 - 5.0 \times 10^5$) with the exception of tribe *Proteae* isolates which should be 1×10^4 cfu/ml (range $5.0 \times 10^3 - 5.0 \times 10^4$).
5. Cover all wells of each plate with the adhesive seal provided. Avoid creases as these can lead to skips.
6. Plates should be inoculated within 5 hours of removal from their pouch.

INCUBATION

All non-fastidious aerobic organisms should be incubated at 34-36°C either in the ARIS or in a non-CO₂ incubator for 18 -24 hours.

- In order to ensure detection of vancomycin-resistant *Enterococci* and oxacillin-resistant *Staphylococci*, incubate for 24 hours.
- *Acinetobacter* spp., *Burkholderia cepacia*, and *Stenotrophomonas maltophilia* should be incubated for 20 -24 hours.

Sealed plates can be stacked up to 3 high in an incubator if not incubated in the ARIS:

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Summary of set up and incubation

Organism group	McFarland Suspension medium	Intended Final Inoculum* (cfu/ml)	Inoculum transfer	Broth	Plate Reconstitution	Incubation conditions	Incubation Hours
Non-fastidious Gram negative	Water	1×10^5	10 μ L	MHB	50 μ L	35°C O ₂	18-24
Non-fastidious Gram positive	Water	1×10^5	10 μ L	MHB	50 μ L	35°C O ₂	18-24
Increased inoculum for both Gram negative and Gram positive organisms**	Water	3×10^5	30 μ L	MHB	50 μ L	35°C O ₂	18-24
Tribe <i>Proteae</i>	Water	1×10^4	1 μ L	MHB	50 μ L	35°C O ₂	18-24

* See appendix #1 for inocula ranges

** Depending on strains being tested, an increase to 30 μ l may aid in the detecting resistant mechanisms

READING TEST RESULTS

Check purity test plates. Results are invalid if a mixed culture is present

1. Automatically

Plates may be read on the AutoReader / OptiRead or the ARIS according to the instructions in the appropriate User Manual or by using the SWIN HELP files.

Sensititre plates with intended use of Manual, Sensitouch or Vizion only cannot be read on the AutoReader / OptiRead or ARIS.

2. Manually

After incubation, results can be read using the Sensititre manual viewer or Vizion. See User Manuals. It is not necessary to remove the adhesive seal. Growth appears as turbidity or as a deposit of cells at the bottom of a well. The MIC is recorded as the lowest concentration of antimicrobial that inhibits visible growth. Reading faint growth on the Vizion can be improved by adjusting the lighting. The positive growth control wells should be read first. If any show no growth, results are invalid.

The following points should be noted:

a. Fading End Points

Most organism / antimicrobial combinations give distinct end points. With some combinations there may be a gradual fading of growth over 2 to 3 wells. The end points should be taken as the first well that inhibits visible growth, except with sulphonamides and linezolid when the MIC must be read as an 80-90% decrease in growth compared to

the Positive Control well.

b. Contamination

Contamination may result in growth in a well bordered by wells showing no growth. Such a single well contamination can be ignored, but if multiple well contaminants are suspected, the test should be repeated.

c. Skips

Occasionally a "skip" may be seen - a well showing no growth bordered by wells showing growth. There are a variety of explanations for this including contamination, mutation, creased seal and misaligned dosing. A single skip can be ignored. However, in order to ensure effective antimicrobial therapy, NEVER read the skip well as the MIC; always read the lowest well concentration above which there is consistently no growth.

d. Mixed Cultures

Except as referred to in (a) above, if two end points are seen as a distinct "button" of cells followed by several wells of diffuse growth with the "button" no longer visible (or seen as smaller buttons), there may be a mixed bacterial population. Purity should be checked by sub-culturing growth onto suitable agar. Test results are invalid if a mixed culture is detected.

3. Additional Information

MIC Results for ESBL Confirmation

To confirm ESBLs a ≥ 3 twofold concentration decrease in an MIC for the antimicrobial agent tested in combination with clavulanic acid versus its MIC when tested alone = ESBL. Example: ceftazidime MIC = $8\mu\text{g/ml}$, ceftazidime/clavulanic acid MIC = $1\mu\text{g/ml}$. For more details refer to CLSI M7.

Cefoxitin Screen

The "Cefoxitin Screen ($6\mu\text{g/ml}$)" can be used to predict the presence of *mecA*-mediated resistance in *Staphylococcus aureus*. Isolates for which the cefoxitin MIC is >6 (positive growth) should be reported as oxacillin resistant. Those which have cefoxitin MICs of ≤ 6 (no growth) should be reported as oxacillin susceptible.

D Test

The D test for Broth Microdilution test is for *Staphylococcus* spp. resistant to (MIC's $\geq 8\mu\text{g/ml}$) erythromycin and susceptible or intermediate (MIC's $\leq 2\mu\text{g/ml}$) to clindamycin. With these isolates, a D test 1 ($4/0.5\mu\text{g/ml}$) or D Test 2 ($8/1.5\mu\text{g/ml}$) or both 1 or 2 are positive (growth), the test should be reported as inducible clindamycin resistance. If with these isolates there is no growth in both D test 1 and D test 2, the isolates should be reported as negative for inducible resistance. If erythromycin is resistant, clindamycin sensitive and the D test is negative after 18 hours incubation, reread after 24 hours incubation.

INTERPRETATION OF RESULTS

For interpretation of results, refer to the MIC interpretive guidelines provided by CLSI, EUCAST, or local standard guidelines.

There may be antimicrobial agents included in the plate that have not been proven to be

effective for treating infections for all organisms tested. Refer to the individual FDA approved pharmaceutical antimicrobial agent package insert for interpreting and reporting results of antimicrobial agents that have shown to be active against organism groups both *in vitro* and in clinical infections.

For automatically read results, the software applies interpretive criteria based on CLSI, EUCAST or FDA guidelines, depending on software configuration

When reporting these ESBL Confirmatory Test antimicrobial results, please refer to the CLSI M100: Screening and Confirmatory Tests for ESBL's in *Klebsiella pneumoniae*, *Klebsiella oxytoca* and *Escherichia coli*, for the appropriate interpretation of results.

Breakpoint Results

Breakpoint testing is a broth dilution method for qualitative susceptibility testing. The Sensititre breakpoint system has been developed to provide a simple standardized method for sensitivity testing based on the concept of breakpoint concentrations. A breakpoint is defined as the concentration of an antibiotic that inhibits the growth of sensitive, but not resistant, organisms. For most antimicrobics, two concentrations are used - a lower concentration, which represents the upper limit of the susceptible category; and a higher concentration, which represents the upper limit of the intermediate category.

Breakpoint interpretations for Antimicrobics present in 1 or 2 well concentrations.

Result	Interpretation One well	Interpretation Two well
No growth	Susceptible	-
Growth	Resistant	-
No growth in both wells	-	Susceptible
Growth in lower concentration only.	-	Intermediate
Growth in both wells	-	Resistant
Growth in higher concentration only.	-	Invalid - Repeat

QUALITY CONTROL

1. The frequency of quality control testing should be set according to laboratory standard guidelines.
2. The inoculum should be cultured onto a suitable medium to check for purity. Test results are invalid if a mixed culture is detected.
3. All Sensititre plates include positive control wells. Tests are invalid unless there is distinct growth in all positive control wells. Some plate formats also include a "negative growth" well. This well may, in some cases, be used for calibration of the AutoReader /Optiread and is not required for manual reading.
4. Several factors contribute to achieving the correct MICs including using 3-5 colonies from a pure 16-24 hour agar plate as well as a standardized inoculum density made using our Mcfarland standard and nephelometer, temperature and broth. In practice, replicate MICs will form a normal distribution with the majority of results lying within one dilution of the modal value.