



Antimicrobial susceptibility testing (AST)

Our health is all connected

Driving the One Health Quadripartite's approach
to combat antimicrobial resistance

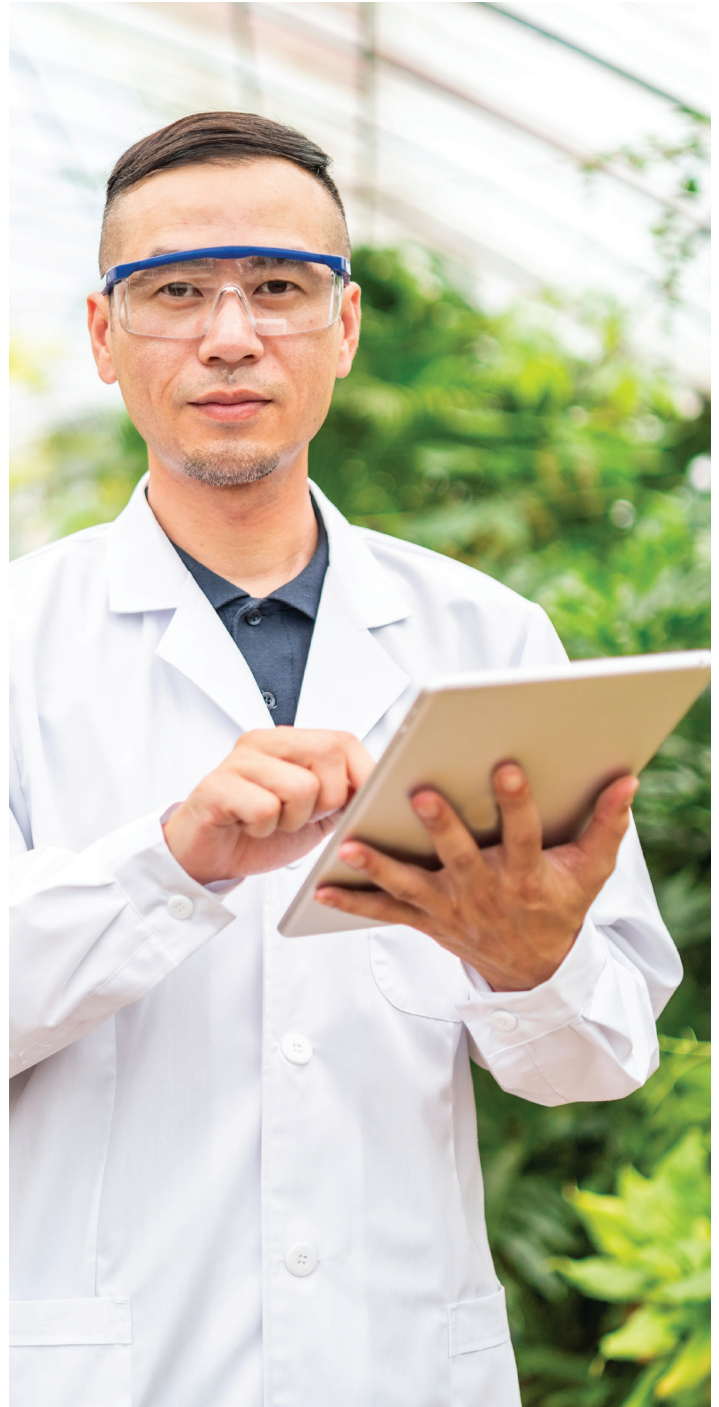
Powerful, comprehensive solutions for common and complex pathogens

Antimicrobial resistance (AMR) has reached global health crisis levels. This, combined with a lack of comprehensive AMR data to react to AMR trends, poses challenges to many microbiology labs, especially post-COVID-19. Robust antimicrobial susceptibility testing (AST) is critical in the fight against AMR. It aids in optimising treatment for critically ill patients, supporting enhanced patient outcomes, stewardship initiatives, and worldwide AMR surveillance in human, animal, and environmental sectors.

It is also instrumental in safeguarding our existing antimicrobials against escalating resistance.

Empowering your expertise: from test to results

From manual disc diffusion to automated instrumentation with definitive minimum inhibitory concentration (MIC) results, our Thermo Scientific AST portfolio can be used for a wide array of applications, from common, everyday AST to specialty applications such as yeast and mycobacteria, with gold standard-level results¹. Our AST solutions can help clinicians, veterinarians, food scientists, and public health officials determine pathogen antimicrobial susceptibility patterns, while supporting global and regional antimicrobial stewardship.



¹ Gram negative anaerobe susceptibility testing in clinical isolates using Sensititre and Etest methods. C. Hughes, C. Ashhurst-Smith, J.K. Ferguson. Pathology Volume 50, Issue 4, June 2018.

One Health

“Antimicrobial resistance is one of the greatest health challenges of our time, and we cannot leave it for our children to solve. Now is the time to forge new, cross-sector partnerships that will protect the medicines we have and revitalise the pipeline for new ones.”

— Dr. Tedros Adhanom Ghebreyesus, WHO Director-General

The One Health approach is the One Health Quadripartite’s global initiative to improve alignment across human, animal, and environmental sectors and, ultimately, tackle antimicrobial resistance.¹

Our unique combination of antimicrobial susceptibility testing solutions address human, animal, and environmental sectors. At Thermo Fisher Scientific we uphold the importance of this initiative as we understand that our health is all connected.

Our health is all connected

Whether the patient has fur, feathers, or skin, accurate testing is paramount in diagnosing and treating infections.



- Our **clinical** portfolio helps optimise treatment for the critically ill, promoting better patient outcomes.
- Our **veterinary** solutions can be used to detect resistance in a wide range of animals, from pets and livestock to wildlife, using species-specific formats.
- Our **environmental** capabilities help to determine pathogen antimicrobial susceptibility patterns in food, animals, water and the environment, making us the system of choice for many global surveillance organisations.

¹ World Health Organisation, One Health [website], <https://www.who.int/news-room/questions-and-answers/item/one-health>, accessed (21 December 2023).

Facilitate optimal patient outcomes and respond more effectively to emerging resistance

Thermo Scientific™ Sensititre™ System

With a proven history of AST accuracy, the Sensititre System delivers definitive MIC results for both commonly prescribed and novel antimicrobials.

While other automated AST systems may rely on generating MIC values based on extrapolated data calculated from historical data sets, the Sensititre System utilises gold standard-level¹ MIC accuracy, providing superior quality and reproducibility for definitive results the first time.



More antimicrobials, more testing options

The Sensititre System combines manual, semi-automated, and fully automated testing on a single AST platform using broth microdilution (BMD) - the gold standard for AST accuracy. With access to over 300 antimicrobials, including more than 40 veterinary-specific antimicrobials, as well as offering the latest-to-market on standard and custom MIC plates, the Sensititre System allows you to consolidate confirmatory tests and can offer plates that meet US FDA, CLSI, and/or EUCAST breakpoint requirements.

Moreover, the Sensititre System provides a standardised AMR surveillance tool to support public health and national reference laboratories, enabling you to comply with government surveillance mandates while streamlining workflow. Harmonise your surveillance AST with the method of choice for global AMR programs, including:

- U.S. National Antimicrobial Resistance Monitoring System (NARMS), coordinated via FDA/CVM, USDA, and the CDC
- Australian Group for Antimicrobial Resistance (AGAR)
- Australian Society for Antimicrobials (ASA)
- Antimicrobials Special Interest Group (ASIG) of The Australian Society for Microbiology (ASM)
- Antimicrobial Use and Resistance in Australia (AURA)
- Australian Antimicrobial Resistance Network (AAMRNet)

¹ Gram negative anaerobe susceptibility testing in clinical isolates using Sensititre and Etest methods. C. Hughes, C. Ashhurst-Smith, J.K. Ferguson. Pathology Volume 50, Issue 4, June 2018.

Consolidate all AST on a single platform

Meeting the unique testing demands of all laboratory sizes and volumes, choose from a variety of manual and automated options

Select Plate

Sensititre Standard AST

Plates:* Choose from our wide selection of standard plates to suit your application, including Gram-positive, Gram-negative, fastidious, mycobacteria, and yeast formats, as well as veterinary and surveillance testing formats.



Sensititre Custom AST Plates:

Design your own plate from our selection of over 300 antimicrobials and over 40 veterinary-specific antimicrobials. We offer one of the widest, most up-to-date selections of antimicrobials, available in wide dilution ranges.



Inoculum

Thermo Scientific™ Sensititre™ Nephelometer:**

A simple solution for inoculum density measurements and standardised inoculation preparation.



Inoculate

Thermo Scientific™ Sensititre AIM™ Automated Inoculation

Delivery System:** Automatically doses Sensititre plates and eliminates skipped wells and costly repeat tests.



Incubate

Thermo Scientific™ Sensititre™ ARIS HiQ™ System:** Individually incubates 100 MIC, breakpoint, or identification plates, ensuring optimal growth conditions and eliminating offline or supplementary testing.



Read

Thermo Scientific™ Sensititre™ OptiRead™ Automated Fluorometric Plate Reading System:**

Utilises fluorescence detection technology to automate Sensititre plate reading, delivering fast, accurate results, and directly linking to the Sensititre SWIN Software System to automate interpretation and result reporting.



Thermo Scientific™ Sensititre™ Vizion™ Digital MIC Viewing System:**

Captures and stores easy-to-read digital plate images for optimised manual reading and traceability and connects to the Sensititre SWIN Software System for automated interpretation and reporting of results.



Thermo Scientific™ Sensititre™ Manual Viewer:***

Perform simple visual reads of your 96-well microtitre plates with our mirrored viewbox.



Interpret

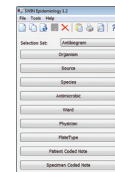
Thermo Scientific™ Sensititre™ SWIN™ Software System:**

Consolidates Sensititre results from manual and automated reading options on a single software platform.



Sensititre SWIN Epidemiology Module:***

Provides comprehensive reporting of AST results to help detect, monitor, and track local antibiotic resistance patterns to facilitate decision-making and support antimicrobial stewardship programs.



Customised formats for every AST workflow

Thermo Scientific™ Sensititre™ Custom Plates

Our custom plates let you tailor your AST to your antimicrobial formulary and test population, supporting antibiotic stewardship protocols. In just four steps, our team assists with customisation, ensuring timely, pertinent AST results based on real-time resistance trends and local epidemiology.

The goal? Better patient outcomes and effective AMR management.

■ Design

Customise antimicrobials and dilutions based on your formulary requirements and local test population.

■ Approval

Plates undergo a rigorous review against quality and regulatory benchmarks.

■ Order

Post-approval, Sensititre custom plates are ready for production.

■ Delivery

Every custom plate includes the Sensititre SWIN Software script, tailored to your design, ensuring results are reported with the correct interpretive criteria.



Simple, flexible manual AST

Thermo Scientific™ Oxoid™ Antimicrobial Susceptibility Test Discs*

Ease of diffusion. Maximum reproducibility.

Harness the simplicity and flexibility of disc diffusion to tackle antimicrobial resistance with Oxoid Antimicrobial Susceptibility Test Discs. These discs, inclusive of the newest antimicrobials and a full range of concentrations, deliver top-tier results, when aligned with appropriate CLSI, EUCAST and FDA guidelines.**

Flexible dispensing options

The Oxoid Disc Dispenser ensures accurate disc placement on agar plates, including 90mm, 100mm, 120mm, and 140mm diameters. Easy to operate with one hand, these height-adjustable dispensers cater to specific laboratory needs. Safely housed in interlocking containers to keep moisture out, a desiccant at the container's base provides a dry environment for opened cartridges, preserving product quality.



*For In Vitro Diagnostic (IVD) Use. **Individual product specifications will align to the relevant guidelines associated with a particular product.

First-to-market with the latest antimicrobials

Stay on the cutting edge of AST and emerging resistance by utilising the newest compounds, such as meropenem/vaborbactam, ceftazidime/avibactam, ceftolozane/tazobactam, eravacycline, imipenem/relebactam, colistin, fosfomicin, clofazimine and minocycline.

Our strong ties with numerous pharmaceutical companies enable the timely release of new Sensititre standard plates and Oxoid discs, alongside custom options, as new antimicrobials are launched. Our strong ties with numerous pharmaceutical companies enable the timely release of new Sensititre standard plates and Oxoid discs, alongside custom options, as new antimicrobials are launched.



Act for a better tomorrow and drive real change in the world of antimicrobial resistance.

Let's continue to innovate together.

Learn more at thermofisher.com/onehealth