

Antimicrobial Susceptibility Testing (AST)



Providing Expertise for the Right Treatment

Bio-Rad has acquired solid experience in susceptibility testing, offering a complete line of products for diffusion method, including:

- The highest quality Mueller-Hinton Agar media for disks diffusion susceptibility testing
- An extensive range of about 100 antibiotic disks used for semi-quantitative, in vitro susceptibility testing compliant with EUCAST, CLSI and CA-SFM/EUCAST
- Disk dispensers to accurately place Bio-Rad AST disks onto culture media

CLSI: Clinical and Laboratory Standard Institute

EUCAST: European Committee on Antimicrobial Susceptibility Testing



Start a conversation



Contact your Bio-Rad representative to get the Antimicrobial Susceptibility Testing Brochure (16515)

AST Culture Media

EUCAST, CA-SFM/EUCAST & CLSI Compliant

Mueller-Hinton (MH) Agar

Standardized medium for antimicrobial disk diffusion methods.

The composition of Mueller-Hinton agar is standardized with thymidine and cation concentrations of calcium, magnesium, manganese, and zinc to obtain reliable antimicrobial susceptibility results. Magnesium and calcium cations are known to affect the results obtained (diameters and minimum inhibitory concentrations or MIC) for *Pseudomonas aeruginosa* with aminoglycosides and for *Staphylococcus* spp. with tetracycline. Excess of manganese and zinc lead to false resistant interpretations respectively with glycyclines and carbapenems. Last, the low concentration of thymidine decreases regrowth phenomena around trimethoprim-sulfamethoxazole and trimethoprim disks.

- Formulation conforms with EUCAST, CA-SFM/EUCAST and/or CLSI recommendations
- Manufacturing in accordance with WHO standard
- Plates with perfectly flat surfaces to deliver AST disks
- Thickness of 4 ± 0.5 mm in accordance with the ISO 16782 and the Quality control criteria published in the current EUCAST, CA-SFM/EUCAST guidelines

Ordering Information

Catalog #	Description
63824	Mueller-Hinton (MH) Agar , 20 plates of 90 mm
63829*	Mueller-Hinton (MH) Agar , 100 plates of 90 mm
63901	Mueller-Hinton (MH) Agar , 10 square plates of 120 mm
64884	Mueller-Hinton (MH) Agar , 500 g
64888	Mueller-Hinton (MH) Agar , 5 kg

* Special ordering available upon request.

Related Products: *AST Disks, AST Dispenser.*



EUCAST, CA-SFM/EUCAST Compliant



Mueller-Hinton-F (MHF) Agar

Standardized medium supplemented with 5% mechanically defibrinated horse blood and 20 mg/L β -NAD, used by the EUCAST and CA-SFM/EUCAST for testing the antimicrobial susceptibility of *Streptococcus* spp. (including *S. pneumoniae*), *Haemophilus* spp., *Moraxella catarrhalis*, *Listeria monocytogenes*, *Campylobacter* spp., *Pasteurella multocida*, *Corynebacterium* spp., *Aerococcus* spp. and *Kingella* spp., *Brucella melitensis*.

- Formulation conforms with EUCAST and CA-SFM/EUCAST recommendations
- Manufacturing in accordance with WHO standard
- Thickness of 4 ± 0.5 mm in accordance with the ISO 16782 and the Quality control criteria published in the current EUCAST, CA-SFM/EUCAST guidelines
- Perfectly flat surfaces to deliver AST disks



Ordering Information

Catalog #	Description
63524	Mueller-Hinton-F (MHF) Agar , 20 plates of 90 mm
63525	Mueller-Hinton-F (MHF) Agar , 10 square plates of 120 mm

Related Products: [AST Disks](#), [AST Dispenser](#).

CLSI Compliant

Mueller-Hinton Agar + Sheep Blood (MHB)

Standardized medium supplemented with 5% sheep blood used by the CLSI for testing the antimicrobial susceptibility of fastidious species: *Streptococcus* spp. (including *S. pneumoniae*), *Campylobacter jejuni* and *Campylobacter coli*, *Neisseria meningitidis* and *Pasteurella* spp.

- Formulation conforms with CLSI recommendations
- Manufacturing in accordance with WHO standard
- Thickness of 4 ± 0.5 mm in accordance with the ISO 16782 and the Quality control criteria published in the current CLSI guidelines
- Perfectly flat surfaces to deliver AST disks



Ordering Information

Catalog #	Description
63825	Mueller-Hinton Agar + Sheep Blood (MHB) , 20 plates of 90 mm
63902	Mueller-Hinton Agar + Sheep Blood (MHB) , 10 square plates of 120 mm

Related Products: [AST Disks](#), [AST Dispenser](#).

AST Disks



Bio-Rad offers the most comprehensive line of antimicrobial susceptibility disks for semi-quantitative *in vitro* susceptibility testing of previously isolated pure cultures of microorganisms.



[Start a conversation](#)

EUCAST, CLSI & CA-SFM/EUCAST Compliant

Antibiotic Disks

Antibiotic disk used as a semi-quantitative test to determine the *in vitro* clinical susceptibility category of a bacterial strain to the antimicrobial agent.

- All our antibiotic disks are stored at 2-8°C
- To ensure anhydrous conditions before and during cartridge use, cartridges are packed in containers containing silica gel
- For convenience, the antibiotic code is printed on both sides of each disk
- AST plate interpretation is simplified with color-coded antibiotic labels identifying each antibiotic family

Combined Antibiotic Disks

Third-generation cephalosporin + clavulanic acid disks used as a semi-quantitative test for detecting Enterobacterales strains with an extended-spectrum β -lactamase (ESBL) resistance phenotype.



Ordering Information

Catalog #	Description
	Antibiotic Disks , 4 x 50 disks
	Combined Antibiotic Disks , 4 x 50 disks

Related Products: [AST Culture Media](#), [AST Disks Dispensers](#), [\$\beta\$ LACTA](#) and [\$\beta\$ CARBA Tests](#).

CLSI: Clinical and Laboratory Standards Institute

EUCAST: European Committee on Antimicrobial Susceptibility Testing

CA-SFM: Comité de l'Antibiogramme - Society of French Microbiology

Antibiotic Disk Categories

(color-coding designations for the AST list)

- green: β Lactams
- pink: Macrolides
- black: Aminoglycosides
- brown: Fluoroquinolones
- orange: Cyclines
- blue: Other antibiotics
- red: High load

Antibiotic Disks



Catalog #	Antibiotic	Disk Content	Symbol	CLSI	EUCAST	CA-SFM/EUCAST
66148	Amikacin	30 µg	AKN 30	■	■	■
68042	Amoxicillin	20 µg	AMO 20			■
66680	Amoxicillin + Clavulanic acid	2 + 1 µg	AUG 3		■	■
66178		20 + 10 µg	AMC 30	■	■	■
67288	Ampicillin	2 µg	API 2		■	■
66128		10 µg	AMP 10	■	■	■
67018	Ampicillin + Sulbactam	10 + 10 µg	SAM 20	■	■	■
67008	Azithromycin	15 µg	AZM 15	■		
66928	Aztreonam	30 µg	ATM 30	■	■	■
67788	Benzylpenicillin	1 IU	PNG 1		■	■
66198	Carbenicillin	100 µg	CRB 100	■		
67498	Cefaclor	30 µg	CEC 30	■		
66208	Cefalexin	30 µg	CXN 30		■	■
66258	Cefazolin	30 µg	CZN 30	■		
66098	Cefepime	30 µg	FEP 30	■	■	■
67588	Cefixime	5 µg	FIX 5	■	■	■
67618	Cefoperazone	75 µg	CFP 75	■		
66734*	Cefoperazone + Sulbactam	75 + 30 µg	SCF 105			
67718	Cefotaxime	5 µg	COX 5		■	■
66368		30 µg	CTX 30	■		
66228	Cefoxitin	30 µg	FOX 30	■	■	■
66918	Cefpodoxime	10 µg	CPD 10	■	■	■
68658	Ceftaroline	5 µg	CPN 5		■	■
67298	Ceftazidime	10 µg	CZD 10		■	■
66308		30 µg	CAZ 30	■		
12008071	Ceftazidime + Avibactam	10 + 4 µg	CZA 14		■	■
12012124		30 + 20 µg	CTA 50	■		
67638	Ceftibuten	30 µg	CTB 30	■	■	■
68039	Ceftobiprole	5 µg	BPR 5	■	■	■
68040	Ceftolozane + Tazobactam	30 + 10 µg	CLT 40	■	■	■
66188	Ceftriaxone	30 µg	CRO 30	■	■	■
66358	Cefuroxime	30 µg	CXM 30	■	■	■
66218	Cephalotin	30 µg	CEF 30	■		
66278	Chloramphenicol	30 µg	CHL 30	■	■	■
68648	Ciprofloxacin	5 µg	CIP 5	■	■	■
67058	Clarithromycin	15 µg	CLR 15	■		
66328	Clindamycin	2 µg	CMN 2	■	■	■
67268	Colistin	10 µg	COL 10	■		
66388	Doxycycline	30 µg	DOX 30	■		
67518	Ertapenem	10 µg	ETP 10	■	■	■
66448	Erythromycin	15 µg	ERY 15	■	■	■
67658	Fosfomycin	200 µg	FOS 200	■	■	■
66518	Fusidic acid	10 µg	FAD 10	■	■	■

* Non CE-Marked.

Catalog #	Antibiotic	Disk Content	Symbol	CLSI	EUCAST	CA-SFM/EUCAST
66608	Gentamicin	10 µg	GMN 10	■	■	■
67318		30 µg	GME 30	■	■	■
67598		120 µg	HLG 120	■	■	■
66568	Imipenem	10 µg	IPM 10	■	■	■
66618	Kanamycin	30 µg	KMN 30	■		
66858	Levofloxacin	5 µg	LVX 5	■	■	■
67878	Linezolid	10 µg	LIN 10		■	■
67388		30 µg	LZD 30	■		
66768	Mecillinam	10 µg	MEC 10	■	■	■
67048	Meropenem	10 µg	MEM 10	■	■	■
12016866	Metronidazole	5 µg	MTA 5		■	■
66728	Minocycline	30 µg	MNO 30	■	■	■
67098	Moxifloxacin	5 µg	MXF 5	■	■	■
67078	Mupirocin	200 µg	PUM 200	■	■	■
68618	Nalidixic acid	30 µg	NAL 30	■	■	■
67798	Netilmicin	10 µg	NTM 10		■	■
66758		30 µg	NET 30	■		
67328	Nitrofurantoin	100 µg	NFE 100		■	■
68678		300 µg	FTN 300	■		
12007959	Nitroxolin	30 µg	NIR 30		■	■
66338	Norfloxacin	10 µg	NXN 10	■	■	■
68938	Ofloxacin	5 µg	OFX 5	■	■	■
66888	Oxacillin	1 µg	OXC 1	■	■	■
68228	Pefloxacin	5 µg	PEF 5	■	■	■
67218	Penicillin	6 µg (10 IU)	PEN 6	■		
68478	Piperacillin	30 µg	PIL 30		■	■
67228		100 µg	PIR 100	■		■
67338	Piperacillin + Tazobactam	30 + 6 µg	PTZ 36		■	■
67238		100 + 10 µg	TZP 110	■		■
67278	Pristinamycin	15 µg	PTN 15			■
67528	Quinupristin - Dalfopristin	15 µg	QDF 15	■	■	■
66648	Rifampicin	5 µg	RIF 5	■	■	■
68798	Spectinomycin	100 µg	SPT 100	■		
67418	Streptomycin	10 µg	SMN 10	■		
67608		300 µg	HLS 300	■	■	■
67578	Sulfonamides	300 µg	SSS 300	■		
68948	Teicoplanin	30 µg	TEC 30	■	■	■
66068	Temocillin	30 µg	TEM 30		■	■
67448	Tetracycline	30 µg	TET 30	■	■	■
67458	Ticarcillin	75 µg	TIC 75	■	■	■
67468	Ticarcillin + Clavulanic acid	75 + 10 µg	TCC 85	■	■	■
67398	Tigecycline	15 µg	TGC 15	■	■	■
67488	Tobramycin	10 µg	TMN 10	■	■	■
68888	Trimethoprim	5 µg	TMP 5	■	■	■
68898	Trimethoprim + Sulfamethoxazole	1.25 + 23.75 µg	SXT 25	■	■	■
67828	Vancomycin	5 µg	VNC 5		■	■
68928		30 µg	VAN 30	■		



Combined Antibiotic Disks*



Catalog #	Antibiotic	Disk Content	Symbol	CLSI	EUCAST	CA-SFM/EUCAST
12012199	Ceftazidime + Clavulanic acid	30 + 10 µg	CCA 40	■	■	■
12010680		10 + 10 µg	CCZ 20		■	■
12012125	Cefotaxime + Clavulanic acid	30 + 10 µg	CCT 40	■	■	■
12010679		5 + 10 µg	CCO 15		■	■
12012123	Cefepime + Clavulanic acid	30 + 10 µg	CFE 40	■	■	■

* Antibiotic disks for the detection of Enterobacterales strains with an extended-spectrum β-lactamase (ESBL) resistance phenotype.

Non Impregnated Paper Disks

Non impregnated paper disks provided in bag, or in cartridges.

Ordering Information

Catalog #	Description
66100	Non Impregnated Paper Disks, 1,000 disks
66101	Non Impregnated Paper Disks, 4 x 50 disks

Related Products:
AST Culture Media,
AST Disks Dispensers,
β LACTA and β CARBA Tests.

AST Disks for Veterinary Laboratory Use



CLSI-VET & CASFM-VET Compliant

AST Disks for Veterinary Laboratory Use

Antibiotic disks used to perform semi-quantitative antimicrobial susceptibility testing using the disk diffusion method.



Ordering Information

Catalog # Description
AST Disks for Veterinary Laboratory Use, 4 x 50 disks

Related Products: AST Culture Media, AST Disks Dispensers, β LACTA and β CARBA Tests.

Catalog #	Antibiotic	Disk Content	Symbol	CLSI-VET	CASFM-VET
12017551	Cefoperazone	30 μ g	CPZ 30	■	■
3566658	Ceftiofur	30 μ g	XNL	■	■
3567508	Enrofloxacin	5 μ g	ENR	■	■
12017543	Gentamicin	15 μ g	GMI 15		■
12017498	Gentamicin	500 μ g	GEN 500		■
12017553	Kanamycin	1000 μ g	KAN 1		■
12017508	Lincomycin	15 μ g	LCN 15		■
3567628	Marbofloxacin	5 μ g	MAR	■	■
12017497	Neomycin	30 IU	NEO 30	■	■
12017552	Oxacillin	5 μ g	OXA 5		■
12017542	Spiramycin	100 μ g	SPN 100		■
12017541	Streptomycin	500 μ g	STR500		■
12017490	Sulfonamides	200 μ g	SUL 200	■	■
66092	Tilmicosin	15 μ g	TMS15	■	■
66316	Tylosin	30 μ g	TYL30	■	■

AST Disk Dispenser



Contact your Bio-Rad representative to get the Disk Dispenser Brochure (16348)

EUCAST, CLSI & CA-SFM/EUCAST Compliant

7-Disk Dispenser

7-Disk Dispenser designed for 90 or 100 mm round plates.

12/16-Disk Dispenser

12/16-Disk Dispenser designed for 150 mm round plates (12 disks) or 120 mm square plates (16 disks).

- Match the different volumes of media in plates without any height adjustment
- Avoid plate-to-plate contamination with the unused position's stopper tool
- Adapter ring centers each agar plate as antibiotic disks are dispensed
- Ensure the correct antibiotic diffusion into the agar by dispensing and tamping disks onto the surface

Colored Desiccant Capsule

Desiccant capsule to add to the dispenser storage box.

- Protects against antibiotic disk moisture and ensures appropriate anhydrous conditions when the dispenser is kept at 2-8°C

Adhesive labels with Bio-Rad disk abbreviations

Adhesive labels for each Bio-Rad antibiotic disk with a dedicated code and antibiotic family color.

- Ensures the correct positioning of antibiotic cartridges into the disk dispenser



Ordering Information

Catalog #	Description
50294	7-Disk Dispenser , 1 unit
50295	12/16-Disk Dispenser , 1 unit
50291	Colored Desiccant Capsule , 6 units
50292	Adhesive labels with Bio-Rad disk abbreviations , 20 sheets

Related Products: *AST Disk, AST Culture Media.*