

MUELLER-HINTON Agar

Media proposed by MUELLER and HINTON (1941) for testing the sensitivity of clinically important pathogens towards antibiotics or sulfonamides.



In Vitro Diagnostic Medical Device –

For professional use only



Version 01-12-2010

Merck KGaA, 64271 Darmstadt

*See also General Instruction for Use
„How to use Dehydrated Culture Media“*

*For MSDS, warnings and precautions see our website:
www.merck-chemicals.com*

Principle

Microbiological method.

General Information

These culture media comply with the requirements of the WHO (1961, 1977) and DIN Norm 58930.

MUELLER-HINTON agar is used for agar diffusion tests while MUELLER-HINTON broth is employed for the determination of the MIC in serial dilution tests.

Mode of Action

The composition of the culture media provide favourable growth conditions, the media are almost totally devoid of sulfonamide antagonists.

In order to improve the growth of fastidious microorganisms, blood can be added to MUELLER-HINTON agar. According to JENKINS et al. (1985), this may lead to false results when testing the susceptibility of enterococci to aminoglycosides.

Typical Composition (g/litre)

Meat infusion 2.0; casein hydrolysate 17.5; starch 1.5; agar-agar 13.0.

Preparation

Suspend 34.0 g/litre, autoclave 121°C 15 min., if required cool to 45-50 °C and add 5 - 10 % defibrinated blood, pour plates.

pH: 7.4 ± 0.2 at 25 °C.

Without blood, the plates are clear to opalescent and yellowish-brown.

Storage

Usable up to the expiry date when stored dry and tightly closed at +15 to +25 °C. Protect from light.

After first opening of the bottle the content can be used up to the expiry date when stored dry and tightly closed at +15 to +25 °C.

Specimen

e.g. Isolated bacteria from urine,

Clinical specimen collection, handling and processing, see general instructions of use.

Experimental Procedure and Evaluation

Carry out the sensitivity or resistance test as directed.

Incubation for 24 h at 35 °C aerobically.

Literature

BAUER, A.W., KIRBY, W.M.M., SHERRIS, J.C., a. TURCK, M.: Antibiotic susceptibility testing by a standardized single disk method. - *Amer. J. Clin. Pathol.*, 45; 493-496 (1966).

DIN Deutsches Institut für Normung: Methoden zur Empfindlichkeitsprüfung von bakteriellen Krankheitserregern (außer Mycobakterien) gegen Chemotherapeutika. Agar-Diffusionstest. - **DIN 58940**.

ERICSSON, H.M., a. SHERRIS, J.C.: Antibiotic Sensitivity Testing. Report of an International Collaborative Study. - *Acta path. microbiol. scand., B. Suppl.*, 217; 90 pp (1971).

JENKINS, R.D., STEVENS, S.L., CRAYTHORN, J.M., THOMAS, T.W., GUINAN, M.E., a. MATSEN, J.M.: False susceptibility of enterococci to aminoglycosides with blood-enriched Mueller-Hinton agar for disk susceptibility testing. - *J. Clin. Microbiol.*, 22; 369-374 (1985).

MUELLER, H.J., a. HINTON, J.: A protein-free medium for primary isolation of the *Gonococcus* and *Meningococcus*. - *Proc. Soc. Expt. Biol. Med.*, 48; 330-333 (1941).

World Health Organization: Standardization of methods for conducting microbic sensitivity tests (Technical Report Series No. 210, Geneva 1961).

World Health Organization: Requirements for antibiotic susceptibility tests. I. Agar diffusion tests using antibiotic susceptibility discs. (Technical Report Series No. 610, Geneva 1977).

Ordering Information

Product	Ordering No.	Pack size
MUELLER-HINTON Agar	1.05437.0500	500 g
MUELLER-HINTON Agar	1.05437.5000	5 kg
Merckoplate® MUELLER-HINTON Agar	1.10414.0001	20 plates

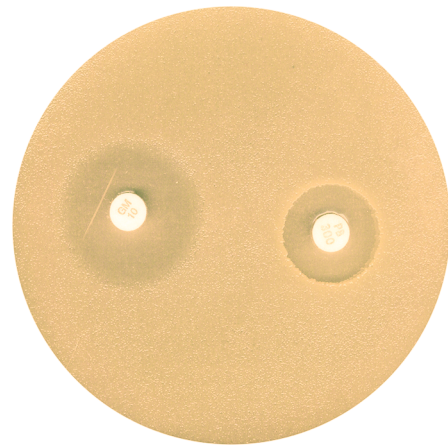
MUELLER-HINTON Agar

Quality control

Test discs	Inhibition zone diameter in mm acc. to WHO (revised)			
	TEST STRAINS			
	Esch. coli ATCC 25922	Staph. aureus ATCC 25923	Pseud. aeruginosa ATCC 27853	Enteroc. faecalis ATCC 33186
Ampicillin 10 µg	16-22	27-35	-	-
Tetracyclin 30 µg	18-25	19-28	-	-
Gentamicin 10 µg	19-26	19-27	16-21	-
Polymyxin B 300 IU	12-17	7-13	-	-
Sulfamethoxazole 1.25 µg + Trimethoprim 23.75 µg	24-32	24-32	-	> 20



Staphylococcus aureus ATCC 25923



Escherichia coli ATCC 25922