

## MUELLER HINTON AGAR

For sensitivity tests on antibiotics and sulfamides, and for the primary isolation of *Neisseria* and other pathogens from clinical samples

**CAT N°: 21058**

### FORMULA IN g/l

Acid Casein Peptone (H)	17.50	Starch	1.50
Beef Infusion	2.00	Bacteriological Agar	17.00

**Final pH 7.4 ± 0.2 at 25°C**

### PREPARATION

Suspend 38 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Dispense into appropriate containers and sterilize in autoclave at 121°C for 15 minutes. Cool to 45 or 50°C and add defibrinated blood if desired. The blood mixture should be chocolate by heating to 80°C for 10 minutes if *Neisseria* development is desired. DO NOT OVERHEAT. To remelt the cold medium, heat as briefly as possible. The prepared medium should be stored at 8-15°C. The colour is amber, slightly opalescent without blood and red with blood.

The dehydrated medium should be homogeneous, free-flowing and cream in colour. If there are any physical changes, discard the medium.

### USES

MUELLER HINTON AGAR, together with Mueller Hinton Broth (Cat. 21214), is used for testing the antimicrobial susceptibility of rapidly growing aerobic organisms from clinical samples.

The medium can be used with complete confidence because it is rich in nutrients, able to grow fastidious organisms. The use of a medium with suitable growth characteristics is essential to test the susceptibility of microorganisms to antibiotics. It is also recommended for testing most commonly encountered aerobic and facultative anaerobic bacteria.

Beef infusion and Acid Casein peptone (H) provide nitrogen, vitamins, minerals and amino acids essential for growth. The starch absorbs any toxic metabolites produced. Bacteriological agar is the solidifying agent.

Mueller Hinton Agar can be used to cultivate *Neisseria* specimens, the recommended incubation of plates

being at a temperature of 35 ± 2°C in a CO<sub>2</sub> atmosphere for 18 – 24 hours.

It has become the standard medium for the Bauer Kirby method and its performance is specified by the NCCLS.

### MICROBIOLOGICAL TEST

The following results were obtained in the performance of the medium from type cultures after incubation at a temperature of 35 ± 2°C and observed after 18-24 hours.

Microorganism	Ampicillin 10 µg	Tetracycline 30 µg	Gentamicin 10 µg	Polymyxin B 300 µg	Sulfamethoxazole 1.25 µg Trimethoprim 23.75 µg
<i>Escherichia coli</i> ATCC 25922	15-20	18-25	19-26	12-16	24-32
<i>Staphylococcus aureus</i> ATCC 25923	24-35	19-27	19-27	7-13	24-32
<i>Enterococcus faecalis</i> ATCC 29212					16-23
<i>Pseudomonas aeruginosa</i> ATCC 27853			16-21		

Diameter halo in mm according to NCCLS

### BIBLIOGRAPHY

Mueller and Hinton A. Protein-Free Medium for Primary Isolation of the Gonococcus and Meningococcus. Proc. Soc. Exp. Biol. and Med. 48:330. 1941. Harris and Coleman Diagnostic.

Procedures and Reagents. 4th Edition APH, Inc. New York, 1963.

National Committee for Clinical Laboratory Standards. 1993.

Atlas, R.M. 1993 Handbook of microbiological media. CRC Press, Boca Raton. FL..



### STORAGE

Once opened keep powdered medium closed to avoid hydration.

