

Product Information

70192 Mueller Hinton Broth (M-H Broth)

A liquid medium for antibiotic susceptibility studies (MIC-determination).

Composition:

Ingredients	Grams/Litre
Beef infusion solids	2.0
Starch	1.5
Casein hydrolysate	17.5
Final pH 7.4 +/- 0.2 at 25°C	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C.

Directions :

Dissolve 21 g in 1 litre of distilled water. Sterilize by autoclaving at 121°C for 15 minutes.

Principle and Interpretation:

Mueller Hinton Broth is used for determining minimal inhibitory concentrations (MICs). Mueller Hinton medium is recommended by FDA, World Health Organization and NCCLS for testing most commonly encountered aerobic and facultative anaerobic bacteria in food and clinical material. The medium shows good batch-to-batch reproducibility, it is low in sulfonamide, trimethoprim, and tetracycline inhibitors and yields satisfactory growth of most non-fastidious pathogens.

Beef infusion and Casein provide nitrogenous compounds, vitamins, carbon, sulphur and amino acids in Mueller Hinton media. Starch is added to absorb any toxic metabolites produced.

For testing streptococci, supplementation with 5% defibrinated sheep or horse blood is recommended.

Mueller Hinton media should be supplemented with 2% NaCl for testing methicillin or oxacillin (28221) against staphylococci. Mueller Hinton media with Rabbit Serum is used for the susceptibility of microorganisms to sulfonamides and trimethoprim. Antagonism to sulfonamide activity is demonstrated by para-aminobenzoic acid (PABA) and its analogs. Reduced activity of trimethoprim is demonstrated on medium possessing high levels of thymidine. The PABA and thymine/thymidine content of Mueller Hinton media is reduced to a minimum.

Cultural characteristics after 24 hours at 35°C.

Organisms (ATCC)	Growth
<i>Escherichia coli</i> (25922)	+++
<i>Staphylococcus aureus</i> (25923)	+++
<i>Pseudomonas aeruginosa</i> (27853)	+++
<i>Neisseria meningitidis</i> (13090)	+++
<i>Streptococcus faecalis</i> (29212)	+++

References:

1. NCCLS Approved Standard: ASM-2, Performance Standards for Antimicrobial disc Susceptibility Tests, 2nd ed., National Committee for Clin. Lab. Standards (1979)
2. NCCLS M7-T Tentative Standard, National Committee for Laboratory Standards (1983)
3. Bauer et al, Am. J. Clin. Path., 45, 493 (1966)
4. Ericsson and Sherris, Acta. Pathol. Microbiol., Scand. Sec. B. Suppl., 217, 1 (1971)
5. Present Status and Future Work, WHO Sponsored collaborative study, Chicago (Oct. 1967)
6. J.H. Müller, J. Hinton, Proc. Soc. Exptl. Biol. 48, 330 (1941)
7. G.M. Eliopoulos, et al., Enhancement of cefotaxime and other cephalosporins against *Enterococcus faecalis* by blood supplemented Mueller-Hinton agar, Diagn. Microbiol. Infect. Dis. 12, 149 (1989);
8. R.D. Jenkins, et al., J. Clin. Microbiol. 22, 369 (1985)

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

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