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## TECHNICAL PRODUCT INFORMATION

### MUELLER HINTON BROTH

Catalog No. T1544 – 10 ml  
Catalog No. T1545 – 5 ml

#### INTENDED USE:

Mueller Hinton Broth is a general purpose medium that may be used for the primary isolation of Gonococci and Meningococci. This broth may also be used for serial dilution antibiotic sensitivity testing.

#### HISTORY/SUMMARY:

Mueller Hinton medium was originally formulated by Mueller and Hinton as a protein free medium for the primary isolation of *Neisseria* species<sup>1</sup>. The medium became useful as a practical method of identifying sulfonamide resistant and sulfonamide responsive strains of gonococci<sup>2</sup>. However, with the development of modern antibiotics and the use of Thayer Martin medium for the culture of gonococci, neither of the above uses for Mueller Hinton medium remained effective. Mueller Hinton broth may be used for the general cultivation of bacteria.

#### PRINCIPLES:

Mueller Hinton Broth is formulated to have a similar formula to the Mueller Hinton Agar. The broth is not cation adjusted, and is formulated to have low thymine and thymidine. It is prepared from a dried infusion of beef acid and hydrolysate of casein for amino acids and other nutrients to support the growth of microorganisms, and soluble starch to protect from toxic substances. Mueller Hinton Broth is low in sulfonamide and tetracycline inhibitors and yields good growth with rapidly growing pathogens.

#### Ingredients per Liter of Demineralized Water:

Casein Digest Peptone.....17.5 g  
Beef Extract.....2.0 g  
Starch.....1.5 g  
Final pH: 7.3 @ 25°C.

#### STORAGE:

This medium should be stored at 2-30°C. Media should not be used beyond expiration date.

#### PRECAUTIONS:

Since living organisms used with this material can be infectious to the user, proper handling and disposal methods should be established by the Laboratory director. This product is for not for in vitro diagnostic use.

#### PROCEDURE:

Before inoculation is performed, the culture medium should be brought to room temperature. The size of inoculum and the technique should be calculated to produce isolated colonies on incubation. Incubation time and temperature as well as oxygen requirements are dependent on the source of the specimen.

**PERFORMANCE TEST:**

Approval by NEL of each lot of Mueller Hinton is based, among other parameters, on the ability of this medium to support the growth of the organisms described below.

ORGANISMS	RESULTS
ATCC# 25923 <i>Staphylococcus aureus</i>	Good Growth
ATCC# 25922 <i>Escherichia coli</i>	Good Growth
ATCC# 27853 <i>Pseudomonas aeruginosa</i>	Good Growth
ATCC# 29212 <i>Enterococcus faecalis</i>	Good Growth

**QUALITY CONTROL:**

It is recommended that the Laboratory confirm the performance characteristics of this media. Careful selection of test organisms must be made so maximum information on product suitability is obtained.

**REFERENCES:**

1. Am. J. Clin. Path., 45:493, 1966.
2. Hospital Practices, 5:81, 1970.
3. Federal Register 37:20525, Sept. 30, 1972 Amended, Fed. Register 36:2796, Jan. 30.
4. Manual of Clinical Microbiology, Lennette et al., 2nd ed., Am. Soc. Microbiol., Washington, D.C., 1974.
5. Diagnostic Microbiology, Bailey and Scott, 4th ed., C.V. Mosby Co., St. Louis, 1974.