

## Mueller Hinton Broth (i23119)

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

Industry: Clinical / Antimicrobial susceptibility testing

## Principles & Uses

Mueller Hinton Broth, originally designed for cultivating pathogenic *Neisseria* species, have found extensive use in antimicrobial susceptibility testing. Mueller Hinton Broth is recommended for dilution testing of aerobic and facultatively anaerobic bacteria. The media's composition includes meat infusion and acid hydrolysate of casein, providing essential nutrients, and starch acting as a protective colloid. The deliberate selection of ingredients with low thymine and thymidine content ensures accurate MIC values for specific antibiotics.

Calcium and magnesium ion concentrations are adjusted for compatibility with CLSI recommendations, particularly crucial for accurate MIC values with aminoglycosides and *Pseudomonas aeruginosa*. This media, almost devoid of sulfonamide antagonists, create optimal growth conditions. Mueller Hinton Broth is frequently used in tandem with Mueller Hinton Agar for comprehensive antimicrobial testing, especially for determining minimal inhibitory concentrations. Its cation-adjusted formulation ensures reliability, making it suitable for growing fastidious organisms in antibiotic susceptibility assays. The rich nutrient content is fundamental for assessing microbial susceptibility to antibiotics with confidence.

## Composition (gr/L)

Acid Hydrolysate of Casein 17.5 g, Meat Infusion 2 g, Starch 1.5 g.

Final pH at 25°C 7.4 ± 0.2

## Preparation from dehydrated Powder

Suspend 21 g of powder in 1 L of distilled water. Dispense into test tubes. Autoclave at 121°C for 15 minutes.

## Quality Control

Dehydrated Appearance: Fine, homogeneous, free of extraneous material.

Prepared Appearance: Pale to light, tan to yellow, clear to slightly hazy.

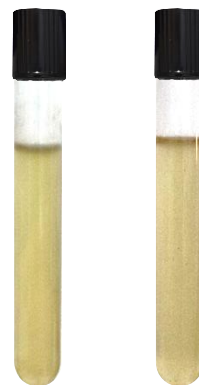
Reaction of 2.1% Solution at 25°C: pH 7.4 ± 0.2

## Cultural Response

Inoculate and incubate at 35 ± 2°C for 18 - 24 hours.

Organism (ATCC*)	Recovery
<i>Enterococcus faecalis</i> (33186)	Good
<i>Escherichia coli</i> (25922)	Good
<i>Escherichia coli</i> (35218)	Good
<i>Pseudomonas aeruginosa</i> (27853)	Good
<i>Staphylococcus aureus</i> (25923)	Good

\*ATCC is a registered trade mark of the American Type Culture Collection.



*Pseudomonas aeruginosa* (left). *Enterococcus faecalis* (right).

## Storage

Keep the container at 15-30 °C. Store prepared medium at 2-8 °C.