

Mueller Hinton Broth

Intended Use

Mueller Hinton Broth is used for determining the antimicrobial susceptibility of bacteria by the tube-dilution method.

Summary

The Mueller Hinton formulation was originally developed as a simple, transparent agar medium for the cultivation of pathogenic *Neisseria* species. Other media were subsequently developed that replaced the use of Mueller Hinton Agar for the cultivation of pathogenic *Neisseria* species, but it became widely used in the determination of sulfonamide resistance of Gonococci and other organisms. Mueller Hinton Broth is recommended for dilution antimicrobial susceptibility testing of all species of most commonly encountered aerobic and facultatively anaerobic bacteria.

Principle

Beef extract and casein acid hydrolysate provide nitrogenous compounds, carbon, sulphur and other essential nutrients. Starch acts as a protective colloid against toxic substances present in the medium. Starch hydrolysis yields dextrose, which serves as a source of energy.

Formula*

Ingredients	g/L
Beef, Extract Powder	2.0
Casein Acid Hydrolysate	17.5
Starch	1.5
Final pH (at 25°C)	7.3 ± 0.1

*Adjusted to suit performance parameters.

Storage and Stability

Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Specimen Collection and Handling

Ensure that all samples are properly labelled. Follow appropriate techniques for handling samples as per established guidelines. Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure. The samples must be stored and tested within the permissible time duration. After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions

1. Suspend 21.00 g of the powder in 1000 mL purified / distilled water.
2. Mix thoroughly.
3. Boil with frequent agitation to dissolve the powder completely.
4. Dispense in desired test tubes as per requirement.
5. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.

Quality Control

Dehydrated Appearance: Cream to yellow coloured, homogeneous, free flowing powder.

Prepared Appearance: Light amber coloured, clear solution without any precipitate.

Cultural Response: Cultural characteristics observed after an incubation of 18-24 hours at 30-35°C.

Organism (ATCC)	Growth
<i>Escherichia coli</i> (25922)	Good
<i>Pseudomonas aeruginosa</i> Strain Boston 41501 (27853)	Good
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> (25923)	Good
<i>Enterococcus faecalis</i> (29212)	Good

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Murray P. R., Baron J. H., Pfaller M. A., Tenover J. C. and Tenover F. C., (Ed.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.
2. Mueller J. H. and Hinton J., 1941, Proc. Soc. Exp. Biol. Med., 48:330.
3. National Committee for Clinical Laboratory Standards, 2000, Approved Standard: M7-A5. Methods for Dilution Antimicrobial
4. Susceptibility Tests for Bacteria that grow aerobically, 5th Ed., NCCLS, Wayne, Pa.
5. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201130680100	Dehydrated Culture Media	100 g
201130680500	Dehydrated Culture Media	500 g
203130840010	Ready Prepared Tube	25 x 10 mL

Disclaimer

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.