

Instructions for Use

REF - BM0800

Mueller-Hinton Broth

Bottled Media

1. Intended Use

For *in vitro* diagnostic use. BM0800 Mueller-Hinton Broth is for antimicrobial sensitivity testing and minimal inhibitory concentration (MIC) determinations by tube dilution methods.

2. Composition*

<u>Ingredient</u>	<u>g/L</u>
Beef extract	2.0
Acid hydrolysate of casein	17.5
Starch	1.5

*Adjusted/supplemented as needed to meet performance requirements

3. Summary and Explanation

Antimicrobial susceptibility testing is performed using genotypic or phenotypic techniques. MIC serves as the primary factor of phenotypic techniques. The organism is classified as susceptible, intermediate, or resistant to the agent in question based on clinical MIC breakpoints ⁽¹⁾. Mueller-Hinton Broth can be used in conjunction with Mueller-Hinton Agar.

4. Principle

Muller Hinton broth is low in thymine and thymidine and is therefore suitable for use in testing sulphonamides and trimethoprim. Beef extract and acid hydrolysate of casein provides the required nitrogen, carbon, and vitamins in the medium. Starch absorbs any toxic metabolites produced.

5. Physical Characteristics

	Appearance and Colour	pH
Medium	Pale straw liquid	7.3 ± 0.1

6. Materials Provided

BM0800 can be provided in packs of 50 x 3ml in Thin Wall Bijous (product code: BM0800-M003-3). Each bottle is ink-jet printed with (abbreviated) product name, product code, lot number and expiry date.

7. Materials Needed but not Provided

Standard microbiological laboratory materials e.g., sterile loops or swabs, collection containers, incubators, media for isolation and quality control organisms.

8. Specimens

BM0800 Mueller-Hinton Broth is suitable for the testing of the following specimens:

- Isolated Colonies: A Gram stain and a primary bacterial identification are required for choosing the antimicrobial agents to be tested and using a sterile loop or cotton swab to pick colonies from an overnight culture on non-selective media. If possible, use several morphologically similar colonies to avoid selecting an atypical variant.

9. Test Procedures and Interpretation of results

Inoculate media directly with the sample colony and carry out the sensitivity or resistance test as directed for the organism being tested for ⁽¹⁾. Incubate broths at 37 ± 1°C for 18-24 hours.

After incubation, examine broths for turbidity. Perform further biochemical or mass spectroscopy testing to confirm identity of isolated from subcultures. Refer to relevant local guidelines.

10. Quality Control

Organism	Incubation	Result (Specificity)
<i>E. coli</i> (NCTC 12241) <i>P. aeruginosa</i> (NCTC 12903) <i>S. aureus</i> (NCTC 12981)	Incubate broths at 37 ± 1°C for 18-24 hours. Incubate broths at 37 ± 1°C for 18-24 hours. Incubate broths at 37 ± 1°C for 18-24 hours. Subculture onto E&O PP0120 Columbia Blood agar and incubate at 37 ± 1°C for 18-24 hours.	Broth: Good turbidity. Subplate: Cream colonies Broth: Good turbidity. Subplate: Grey colonies Broth: Good turbidity. Subplate: White colonies

It is the responsibility of the user to perform Quality Control testing taking into consideration the intended use of the medium and in agreement with any local relevant guidelines (e.g., frequency, strains used, atmosphere, incubation temperature).

11. Performance

To fully verify BM0800 Mueller-Hinton Broth performance, samples were tested to assess colour change and turbidity/colony morphology and recovery level when incubated at $37 \pm 1^\circ\text{C}$ for 18-24 hours, before being subcultured on E&O PP0120 Columbia Blood agar and incubated at $37 \pm 1^\circ\text{C}$ for 18-24 hours. All samples showed expected recovery and morphology of the required test organisms: *E. coli* (NCTC 12241), *P. aeruginosa* (NCTC 12903) and *S. aureus* (NCTC 12981). Therefore, it can be concluded that BM0800 Mueller-Hinton Broth, meets performance criteria when used according to the instructions outlined above. Trend analysis data available upon request.

12. Limitations of the Media

- Due to natural variation, some strains may grow poorly in this medium.
- Microorganisms requiring thymine or thymidine may not grow satisfactorily in Mueller Hinton Broth because of low levels of thymine or thymidine.
- Un-supplemented Muller Hinton Broth is not appropriate for slow growing organisms, fastidious organisms such as *Haemophilus*, *Neisseria*, and certain *Streptococci* species.

13. Precautions and Warnings

This product is considered non-hazardous under CLP regulations. Wear such PPE as recommended by laboratory COSHH assessment. During and after use, always handle all materials in a manner conforming to Good Laboratory Practices and consider that material under test should be regarded as a potential biohazard if mishandled.

Refer to Bottled Media Material Safety Data Sheet.

14. Storage conditions and Shelf life

Store BM0800 in the original bottle with the lid tightly closed at between 15 and 30°C . Kept under these conditions it may be used up to date of expiry shown on product label.

Dispose of in accordance with local and national authority requirements. Do not use media if it is contaminated, discoloured or out of date. Additionally, do not use medium if it has been stored inappropriately or the packaging has been damaged.

15. References

1. Kowalska-Krochmal, B., and Dudek-Wicher, R. (2021) The Minimum Inhibitory Concentration of Antibiotics: Methods, Interpretation, Clinical Relevance. Pathogens (Basel, Switzerland), 10(2), pp.165.

Version History*

001 06/04/2023 - New document created

002 28/01/2026 - Removed invalid reference, typographical correction and formatting changes

*Note: minor typographical, grammatical, and formatting changes are not included in the revision history.



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TABLE OF APPLICABLE SYMBOLS

 REF Catalogue number	 LOT Batch code	 IVD In vitro Diagnostic Medical Device	 Manufacturer	 Use by
 Temperature limitation	 Contents sufficient for <n> tests	 Consult Instructions for Use	 Keep away from direct light	 Store in a dry place