MUELLER HINTON BROTH w/ and w/o CATIONS

INTENDED USE
Remel Mueller Hinton Broth w/ Cations is a liquid medium recommended for use in the qualitative procedures for the cultivation of a wide variety of microorganisms.

SUMMARY AND EXPLANATION
This medium was originally formulated by Mueller and Hinton as a protein-free medium for the purpose of isolating pathogenic *Neisseria*.[1] It was later used to test gonococci and other organisms for susceptibility to sulfonomides.[2,3] More recently, it has become useful as a general purpose cultivation broth.

PRINCIPLE
Mueller Hinton Broth is prepared using beef extract and acid digest of casein that supply amino acids, nitrogenous substances, and other nutrients necessary for bacterial growth. Starch serves as a growth factor and a protective colloid to neutralize toxic products that form in the medium during the growth of bacteria. Calcium and magnesium are divalent cations that enrich the medium and help to support the growth of fastidious microorganisms.

REAGENTS (CLASSICAL FORMULA)*

Acid Digest of Casein	17.5 g	Soluble Starch	1.5 g
Beef Extract	2.0 g	Demineralized Water	1000.0 ml

pH 7.3 ± 0.1 @ 25°C

The following optional ingredients are available per liter of medium:

Calcium	20.0-25.0 mg	Magnesium	10.0-12.5 mg

*Adjusted as required to meet performance standards.

PRECAUTIONS
This product is For Laboratory Use only. It is not intended for use in the diagnosis of disease or other conditions.

PROCEDURE
1. Consult current editions of appropriate references for the recommended procedure for sample preparation, inoculation, testing, and interpretation.

QUALITY CONTROL
Each lot number of Mueller Hinton Broth w/ and w/o Cations has been manufactured, packaged, and processed in accordance with current Good Manufacturing Practice regulations. All lot numbers have been tested using the following quality control organisms and have been found to be acceptable. Testing of control organisms should be performed in accordance with established laboratory quality control procedures.

CONTROL	INCUBATION	RESULTS
Escherichia coli ATCC® 25922	Ambient, 18-24 h @ 33-37°C	Growth
Pseudomonas aeruginosa ATCC® 27853	Ambient, 18-24 h @ 33-37°C	Growth
Staphylococcus aureus ATCC® 25923	Ambient, 18-24 h @ 33-37°C	Growth

BIBLIOGRAPHY

1. Mueller, J.H. and J. Hinton. 1941. Proc. Soc. Exp. Biol. Med. 48:330-333.
2. Washington, J.A. 1985. Laboratory Procedures in Clinical Microbiology. 2nd ed. Springer-Verdag, New York, N.Y.
3. MacFaddin, J.F. 1985. Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria. Vol.1. Williams & Wilkins, Baltimore, MD.

Refer to the front of Remel *Technical Manual of Microbiological Media* for **General Information** regarding precautions, product storage and deterioration, sample collection, storage and transportation, materials required, quality control, and limitations.

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