HI Broth (Heart Infusion Broth)

M170

Intended Use:

Recommended for the isolation and cultivation of a wide variety of fastidious organisms.

Composition**

Ingredients	g / L
HM infusion B from 500 g #	10.000
Tryptose	10.000
Sodium chloride	5.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters
Equivalent Beef heart, infusion from

Directions

Suspend 25.0 grams in 1000 ml of distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. If desired 5% v/v sterile defibrinated blood may be added. Mix well and aseptically pour into sterile tubes or flasks as desired.

Principle And Interpretation

Fastidious organisms having exacting nutritional requirement could be cultivated on infusion media, as demonstrated by Huntoon (1). A liquid medium containing an infusion of meat was one of the first media used for the cultivation of bacteria. These infusion media need not be further supplemented by the addition of supplements for cultivation of fastidious bacteria (2). HI broth, containing HM infusion B from (equivalent to infusion from beef heart) is used for the enrichment of a wide variety of fastidious organisms (3). HI broth can also be used for the enrichment of *Vibrio* species (2,4). It can also be supplemented with glucose, horse serum and antibiotics for the cultivation a wide variety of organisms (3). It is used for mass cultivation of organisms for preparation of vaccines.

Tryptose and HM infusion B infusion provide nutritional requirements for the pathogenic bacteria. Sodium chloride maintains the osmotic equilibrium of the medium.

Type of specimen

Clinical samples - Pus, Urine, Faeces samples; Food and dairy samples - Milk, meat samples

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (6,7).

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (4,8,9). After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

In Vitro diagnostic Use. For professional use only. Read the label before opening the container. Wear protective gloves/ protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1. Further biochemical and serological tests must be carried out for further identification.
2. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
3. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirement.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Basal medium: Light yellow coloured, clear to slightly opalescent solution. After addition of 5% sterile defibrinated blood: Cherry red coloured, opaque solution in tubes

Reaction

Reaction of 2.5% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH

7.20-7.60

Cultural Response

Cultural characteristics observed with added 5%w/v sterile defibrinated blood, after an incubation at 35-37°C for 18-48 hours.

Organism	Inoculum (CFU)	Growth
Escherichia coli ATCC 25922 (00013*)	50-100	good-luxuriant
Neisseria meningitidis ATCC 13090	50-100	good-luxuriant
Streptococcus pneumoniae ATCC 6303	50-100	good-luxuriant
Streptococcus pyogenes ATCC 19615	50-100	good-luxuriant
Staphylococcus aureus subsp. *aureus* ATCC 25923 (00034*)	50-100	good-luxuriant

Key : *Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (6,7).

Reference

1.Huntoon F. M., 1918, J. Inf. Dis., 23:169.

2.FDA Bacteriological Analytical Manual, 8th Ed., AOAC International,Gaithersburg, MD.

3.Atlas R. M., 2004, Handbook of Microbiological Media, 3rd Ed., CRC Press.

4.Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, American Public Health Association, Washington, D.C.

5.Diagnostic Procedures and Reagents, 1950, 3rd Edition, 13

6.Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.

7.Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015)Manual of Clinical Microbiology, 11th Edition. Vol. 1.

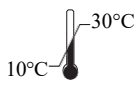
8. American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed., Washington D.C.

9.Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed.,APHA Inc., Washington, D.C.

Revision : 05/2024

HiMedia Laboratories Pvt. Limited,
Plot No.C-40, Road No.21Y,
MIDC, Wagle Industrial Area,
Thane (W) -400604, MS, India

IVD ***In vitro*** **diagnostic medical device**



Storage temperature

EC REP CEpartner4U, Esdoornlaan 13,
3951DB Maarn, NL
www.cepartner4u.eu

CE Marking

Do not use if package is damaged

Disclaimer :

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory,diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.