IFU

Instructions for Use

CRITERION™ BRAIN HEART INFUSION (BHI) AGAR

Cat. no. C5120	CRITERION™ Brain Heart Infusion Agar	99.4gm
Cat. no. C5121	CRITERION™ Brain Heart Infusion Agar	500gm
Cat. no. C5122	CRITERION™ Brain Heart Infusion Agar	2kg
Cat. no. C5123	CRITERION™ Brain Heart Infusion Agar	10kg
Cat. no. C5124	CRITERION™ Brain Heart Infusion Agar	50kg

INTENDED USE

Hardy Diagnostics CRITERION™ Brain Heart Infusion Agar is a general purpose nutrient medium recommended for the cultivation and isolation of a variety of fastidious and nonfastidious microorganisms, including bacteria, yeasts, and mold.

This dehydrated culture medium is a raw material intended to be used in the making of prepared media products, which will require further processing, additional ingredients, or supplements.

SUMMARY

Rosenow, by adding brain tissue to dextrose broth, discovered a medium useful in the cultivation of streptococci.[8] Formula modifications were made by various researchers who found the medium effective in the recovery of dental pathogens.[4,5,8] The medium was further modified by the addition of agar and a variety of supplements and enrichments which further enhanced the recovery of microorganisms.

The brain heart infusion, peptone and dextrose components of the medium provide the nutrients to BHI Agar. Organic nitrogen, carbon, sulfur, vitamins and trace substances are provided by the peptones and infusion. Dextrose provides the carbohydrate source for fermentative microorganisms. Disodium phosphate is added to the medium in order to maintain an optimal pH.

FORMULA

Gram weight per liter:	49.7gm/L
Pancreatic Digest of Casein	16.0gm
Brain Heart Infusion from Solids	8.0gm
Peptic Digest of Animal Tissue	5.0gm
Sodium Chloride	3.0gm
Disodium Phosphate	2.5gm

Dextrose	2.0gm
Agar	13.5gm

Final pH 7.4 +/- 0.2 at 25ºC.

* Adjusted and/or supplemented as required to meet performance criteria.

STORAGE AND SHELF LIFE

Store the sealed bottle(s) containing dehydrated culture medium at 2-30ºC. Dehydrated culture medium is very hygroscopic. Keep lid tightly sealed. Protect dehydrated culture media from moisture and light. The dehydrated culture media should be discarded if it is not free-flowing or if the color has changed from its original beige.

Store the prepared culture media at 2-8ºC.

The expiration date on the product label applies to the product in its intact packaging when stored as directed. The product may be used and tested up to the expiration date on the product label and incubated for the recommended incubation times as stated below.

Refer to the document "Storage" for more information.

PRECAUTIONS

This product may contain components of animal origin. Certified knowledge of the origin and/or sanitary state of the animals does not guarantee the absence of transmissible pathogenic agents. Therefore, it is recommended that these products be treated as potentially infectious, and handle observing the usual universal blood precautions. Do not ingest, inhale, or allow to come into contact with skin.

This product is for laboratory use only. It is to be used only by adequately trained and qualified laboratory personnel. Observe approved biohazard precautions and aseptic techniques. All laboratory specimens should be considered infectious and handled according to "standard precautions." Refer to the document "Guidelines for Isolation Precautions" from the Centers for Disease Control and Prevention.

For additional information regarding specific precautions for the prevention of the transmission of all infectious agents from laboratory instruments and materials, and for recommendations for the management of exposure to infectious disease, refer to CLSI document M29: *Protection of Laboratory Workers from Occupationally Acquired Infections.*

Sterilize all biohazard waste before disposal.

Refer to the document "Precautions When Using Media" for more information.

METHOD OF PREPARATION FOR DEHYDRATED CULTURE MEDIA

1. Suspend 49.7gm of the dehydrated culture media in 1 liter of distilled or deionized water.

2. Heat to boiling and mix to dissolve completely.

3. Sterilize in the autoclave at 121ºC for 15 minutes.

4. Cool to 45-50ºC and aseptically add enrichments, if desired.

5. Dispense into sterile containers.

PROCEDURE AND INTERPRETATION OF RESULTS

For information on procedures and interpretation of results, consult listed references or refer to the prepared media

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LIMITATIONS

It is recommended that biochemical, immunological, molecular, or mass spectrometry testing be performed on colonies from pure culture for complete identification.

Some formulations may require a settling period before pH testing of the prepared medium. If the pH is tested immediately after preparation and is out of specification, retest the medium after 24 hours to obtain final pH results. Always take pH reading at room temperature.

Refer to the document "Limitations of Procedures and Warranty" for more information.

MATERIALS REQUIRED BUT NOT PROVIDED

Standard microbiological supplies and equipment such as autoclaves, incinerators, and incubators, etc., are not provided.

QUALITY CONTROL

Hardy Diagnostics tests each lot of commercially manufactured media using appropriate quality control microorganisms and quality specifications as outlined on the Certificate of Analysis (CofA) and the CLSI document M22-A3 *Quality Assurance for Commercially Prepared Microbiological Culture Media*. The following microorganisms are routinely used for testing at Hardy Diagnostics:

Test Organisms	Inoculation Method*	Incubation			Results
		Time	Temperature	Atmosphere	
Escherichia coli ATCC® 25922	A	24-48hr	35°C	Aerobic	Growth
Staphylococcus aureus ATCC® 25923	A	24-48hr	35°C	Aerobic	Growth
Staphylococcus epidermidis ATCC® 12228	A	18-24hr	35°C	Aerobic	Growth

* Refer to the document "Inoculation Procedures for Media QC" for more information.

USER QUALITY CONTROL

Users of dehydrated culture media should perform QC testing in accordance with applicable government regulatory agencies, and in compliance with accreditation requirements. Hardy Diagnostics recommends end users check for signs of contamination and deterioration and, if dictated by laboratory quality control procedures or regulation, perform quality control testing to demonstrate growth or a positive reaction and to demonstrate inhibition or a negative reaction, if applicable. Hardy Diagnostics quality control testing is documented on the certificate of analysis (CofA) available from Hardy Diagnostics Certificate of Analysis website. In addition, refer to the following document "Finished Product Quality Control Procedures," for more information on QC or see the reference(s) for more specific information.

PHYSICAL APPEARANCE

CRITERION™ Brain Heart Infusion Agar powder should appear homogeneous, free-flowing, and beige in color. The prepared media should appear clear, and light to medium amber in color.

REFERENCES

1. Jorgensen., et al. *Manual of Clinical Microbiology*, American Society for Microbiology, Washington, D.C.

2. Tille, P., et al. *Bailey and Scott's Diagnostic Microbiology*, C.V. Mosby Company, St. Louis, MO.

3. Falk, C.R., et al. 1939. *J. Bacteriol.*; 37:121.

4. Hayden, R.L. 1932. *Arch. Internal Med.*; 32:828.

5. Isenberg, H.D. *Clinical Microbiology Procedures Handbook*, Vol. I, II & III. American Society for Microbiology, Washington, D.C.

6. MacFaddin, J.F. 1985. *Media for Isolation, Cultivation, Identification, Maintenance of Bacteria*, Vol. I. Williams & Wilkins, Baltimore, MD.

7. Hitchens, A.P. 1921. *J. Infect. Disease*; 29:230.

8. Rosenow, E.C. 1919. *J. Dental Research*; 1:205.

9. *Quality Assurance for Commercially Prepared Microbiological Culture Media*, M22. Clinical and Laboratory Standards Institute (CLSI - formerly NCCLS), Wayne, PA.

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California · Washington · Utah · Arizona · Texas · Ohio · New York · Florida · North Carolina

The Hardy Diagnostics manufacturing facility and quality management system is certified to ISO 13485.

HDQA 2207B [D]