Brucella Agar Plate

MP074

Intended Use:

Recommended for enrichment, isolation and cultivation of *Brucella* or *Campylobacter* species from clinical and non-clinical specimen

Composition**

Ingredients	g / L
Tryptone	10.000
Peptone	10.000
Yeast extract	2.000
Dextrose (Glucose)	1.000
Sodium chloride	5.000
Sodium bisulphite	0.100
Horse serum	50.000ml
NPBCVN Selective Supplement (FD005).	2Vials

*Ingredients	Concentration
Polymyxin B sulphate	2500IU
Bacitracin	12500IU
Nystatin	50000IU
Cycloheximide	50mg
Naildixic acid	2.500mg
Vancomycin	10mg
Agar	15.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Either streak, inoculate or surface spread the test inoculum (50-100 CFU) aseptically on the plate.

Principle And Interpretation

Brucella are intracellular parasites that cause epizootic abortions in animals and septicemic febrile illness or localized infections of bone, tissue or organ systems in humans (1,2). *Brucella* species are highly fastidious and therefore require a nutrient rich medium to be able to grow. Also, *Brucella* species are highly infective and so extreme care should be taken while handling. Brucella Agar Base is used for the isolation and cultivation of *Brucella* species. The basal medium (with addition of Campylobacter Supplements) can be also used for the isolation of *Campylobacter* (3). Brucella Medium is a modified medium formulated to support luxuriant growth of fastidious bacteria like *Brucella,* streptococci, pneumococci, *Listeria, Neisseria meningitides* and *Haemophilus influenzae (*4). Brucella Agar is also recommended by APHA for isolation of *Brucella* species from foods (5).

Tryptone and peptone provide nitrogen and carbon source, long chain amino acids, vitamins and other essential nutrients Yeast extract serves as a source of vitamin B complex, and additionally it also supplies some nitrogenous nutrients. Sodium bisulphite is a reducing agent and sodium chloride helps to maintain the osmotic equilibrium of the medium. Dextrose serves as an energy source. The medium can also be enriched with 5 % v/v sterile defibrinated horse blood. For selective isolation of Brucella species antibiotic mixtures in the form of freeze dried supplements (FD) are incorporated into the base (6,7,8).

Type of specimen

Clinical : Blood

Specimen Collection and Handling

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (4,9). Swab specimens can be directly streaked on the plate. Liquid specimens can be inoculated by means of an inoculation loop. When non-selective medium is required, Brucella Broth Base may be employed with the addition of serum only (i.e. without antibiotics).

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. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
2. All presumptive anaerobic organisms must be identified by confirmatory test.

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

Sterile Brucella Agar in 90mm disposable plate with smooth surface and absence of black particles/cracks/bubbles **Colour of medium**

Yellow coloured medium

Quantity of medium

25 ml of medium in 90 mm disposable plate

pH

6.80-7.20

Cultural Response

Cultural characteristics observed after an incubation at 35-37°C for 24-72 hours in presence of 10% CO_2

Organism	Inoculum (CFU)	Growth
Brucella melitensis ATCC 4309	50-100	luxuriant
Brucella suis ATCC 4314	50-100	luxuriant
Staphylococcus aureus subsp. *aureus* ATCC 25923 (00034*)	>=10^3	inhibited
Escherichia coli ATCC 25922 (00013*)	>=10^3	inhibited

Key : (*) Corresponding WDCM numbers.

Storage and Shelf Life

On receipt store between 2-8°C. Use before expiry date on the label. 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 (4,9).

Reference

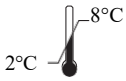
1. Moyer N. P., and Holcomb L. A., Laboratory Diagnosis and Infectious Diseases: Principles and Practice, Vol. I, Springer-Verlag, New York.
2. Smith L. D., and Fient T. A., 1990, Crit. Rev.Microbiol., 17 : 209-230.
3. Murray P. R., Baron E. J., Jorgensen J. H., Pfaller M. A., Yolken R. H., (Eds.), 8th Ed., 2003, Manual of Clinical Microbiology, ASM, Washington, D.C.
4. 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.

5.Salfinger Y., and Tortorello M.L. 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
6.Jones L. M. and Brinley M. W. J., 1958, Bull. Wld. Hlth. Org., 19:200.
7.Kuzdas C. D., and Morse E. V., 1953, J. Bacteriol., 66 (4):502
8.Renoux G., 1954, Ann. Inst. Pasteur, 87 (3):325.
9.Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.

Revision : 02/2024

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.