Technical Information

Brucella Agar Plate with Hemin & Vitamin K1

Product Code: PM 2039

Application: Recommended for the isolation and cultivation of *Brucella* species

Composition**

Ingredients	Gms / Litre
Tryptone	10.000
Peptone	10.000
Yeast extract	2.000
Dextrose (Glucose)	1.000
Sodium chloride	5.000
Sodium bisulphate	0.100
Hemin	0.010
Vitamin K1	0.010
Agar	15.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

The agents of brucellosis, *Brucella* species are normal flora of the genital and urinary tracts of many animals including goats, pigs, cows and dogs. Most humans acquire the disease through ingestion of contaminating milk or through occupational exposure; the disease is particularly common among abattoir workers (1). *Brucella* Agar Base w/ Hemin and Vitamin K1 is a modified (6,7,8) and highly enriched medium, which can be used for the isolation of *Brucella* and other anaerobic bacteria (5,9). The medium contain tryptone, peptone and yeast extract serves as sources of carbon, nitrogen, long chain amino acids and essential growth nutrients including B-complex vitamins. Dextrose serves as a source of energy. Addition of blood provides nutrients and helps to differentiate hemolytic organisms (5,9). Presence of hemin and Vitamin K1 supports growth of other fastidious bacteria like *Bacteroides* species and gram-positive spore bearers like *Clostridium* species (2). The specimen should be inoculated onto the plate (reduced earlier by placing under anaerobic conditions for 18-24 hrs) as early as possible. Swab cultures are directly streaked. Non-swab cultures are inoculated using an inoculating loop. Incubation is carried out anaerobically at 35°C for at least 48 hours; however, negative results should be reported only after incubation for 7 days.

Type of specimen

Clinical samples - Clinical samples - Blood, bone marrow, cerebrospinal fluid etc

Specimen Collection and Handling:

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (3,4). After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

In Vitro diagnostic Use only. Read the label before opening the pack. 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. All presumptive anaerobic organisms must be identified by confirmatory test.
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

Methodology

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

Quality Control

Appearance
Sterile Brucella agar w/hemin and vitamin K1 in 90 mm disposable plate.
pH
6.80-7.20
Quantity of medium
25 ml of medium in 90 mm disposable plates.
Colour of medium
Red coloured medium
Sterility Test
Passes release criteria
Cultural Response
Cultural characteristics observed after incubation at 35-37°C for 24 - 48 hours under anaerobic conditions.

Oragnism	Growth (CFU)
Bacteroides fragilis ATCC 25285	good-luxuriant
Clostridium perfringens ATCC 13124 (00007*)	good-luxuriant

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 (5,6).

Further Reading

1. Baron E. J., Finegold S. M., (Eds.), 1990, Bailey and Scotts Diagnostic Microbiology, 8th Ed., The C.V. Mosby Co., St. Louis.
2. Gibbons and MacDonald, 1960, J. Bacteriol., 80:164.
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition
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. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
5. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore
6. Onderdonk A. B., Weinstein W. M., Sullivan N. M. and Bartlett J. G., 1974, Infect. Immun., 10:1256.
7. Sutter V. L., Citron D. M. and Finegold S. M., 1985, Wadsworth Anaerobic Bacteriology Manual, 4th Ed., Star Publishing Co., Belmont, Ca.
8. Weinstein W. M., Onderdonk A. B., Bartlett J. G. and Gorbach S. L., 1974, Infect. Immun., 10:1250.
9. Zennette, Balows, Hausler and Shadomy, (Eds.), 1985, Manual of Clinical Microbiology, 4th Ed., ASM, Washington, D.C.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and developmentwork carried at **CDH** is true and accurate
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