Technical Information

Brucella Agar Base

Product Code: DM 1074

Application: Brucella Agar Base with supplement is recommended for enrichment, isolation and cultivation of *Brucella* or *Campylobacter* species from clinical and nonclinical specimens.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.000
Peptic digest of animal tissue	10.000
Yeast extract	2.000
Dextrose	1.000
Sodium chloride	5.000
Sodium bisulphite	0.100
Agar	15.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & 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 require a nutrient rich medium to be able to grow. *Brucella* species are also highly infective and 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]. Casein enzymic hydrolysate and peptic digest of animal tissue provide organic nitrogen. 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 are incorporated into the base [6-8]. 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).

Methodology

Suspend 21.55 grams of powder media in 500 ml distilled water. Shake well & heat to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C and aseptically add sterile 5% v/v inactivated Horse Serum (MS3239, inactivated by heating at 56°C for 30 minutes) and rehydrated contents of one vial of Brucella Selective Supplement (MS2005).
For *Campylobacter :* Add rehydrated contents of 1 vial of Campylobacter Supplement-I (Blaser-Wang) (MS2006) or Campylobacter Supplement-II (Butzler) (MS2007) or Campylobacter Supplement-III (Skirrow) (MS2008) and 5-7% defibrinated sheep blood to 500 ml sterile medium. For growth enhancement add rehydrated contents of 1 vial of Campylobacter Growth Supplement (MS2009). Mix well before pouring into sterile Petri plates.

Quality Control

Physical Appearance
Cream to yellow homogeneous free flowing powder
Gelling
Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Yellow coloured, clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 4.31% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH range 6.80-7.20

Cultural Response/Characteristics

DM1074: Cultural characteristics observed after an incubation at 35-37°C for 24-72 hours in presence of 10% CO_2 with added sterile 5% v/v inactivated horse serum (MS3239) and Brucella Selective Supplement (MS2005).

Organism	Growth
Brucella melitensis ATCC 4309	Luxuriant
Brucella suis ATCC 4314	Luxuriant
Escherichia coli ATCC 25922	Inhibited
Staphylococcus aureus ATCC 25923	inhibited

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^0 in sealable plastic bags for 2-5 days.

Further Reading

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. Finegold et al, (Ed.), 1990, Bailey and Scotts Diagnostic Microbiology, 8th Ed., The C.V. Mosby Co., St. Louis
5. Vanderzant C. and Splittstoesser D. F., (Eds.), 1992, Compendium of Methods for the Microbiological Examination of Foods, 3rd Ed., APHA, 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.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conforms solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate.
- **Central Drug House 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 diagnostic or therapeutic use but for laboratory, research or further manufacturing of diagnostic reagents extra.
- 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.
- Do not use the products if it fails to meet specificatons for identity and performens parameters.