ARENA BioScien

Block 5, Street 9 inside The Ismailia free zone. Ismailia- Egypt
Post Code-41511
Tel.-Fax: +202 21813500/ +202 21813600
Mob.: +2 01211550941/ +2 01119225860
E-mail: sales@arenabioscientific.com
Website: www.arenabioscien.com

Brucella broth base

Brucella Broth Base with supplement is recommended for enrichment and cultivation of *Brucella* or *Campylobacter* species from clinical and non-clinical specimens.

REF: BS.1/BRB01.100.0100	100 Gram	REF: BS.1/BRB01.250.0250	250 Gram
REF: BS.1/BRB01.500.0500	500 Grams		

CLINICAL SIGNIFICANCE

Brucella Broth Base is designed to promote the luxuriant growth of fastidious microorganisms, particularly Brucella species (1). These intracellular pathogens are responsible for epizootic abortions in animals and can cause septicemic febrile disease or localized infections affecting bones, tissues, and various organ systems in humans (2,3). Owing to their demanding nutritional requirements, Brucella species require a highly enriched medium for successful cultivation. Furthermore, these organisms are highly infectious, necessitating careful handling and strict safety precautions. The basal medium, when supplemented with Campylobacter Supplements, may also be employed for the isolation of Campylobacter species (4).

METHOD PRINCIPLE

Peptone and tryptone provide nitrogenous and carbonaceous compounds, long chain amino acids, vitamins and other nutrients to the organisms. Yeast extract also supply some nitrogenous nutrients but mainly it serves as a source of Vitamin B complex. Dextrose serves as an energy source. It can be enriched with 5% v/v sterile defibrinated horse blood. For selective isolation of Brucella species, antibiotic mixtures are incorporated into the base (5,6,7). When non-selective medium is required, Brucella Broth Base may be employed with the addition of serum only (i.e. without antibiotics). It is suggested that half the tubes to be incubated in the normal atmosphere, and half in a 10% CO2 enriched atmosphere. Brucella species are highly infectious and so extreme care should be taken while handling.

MEDIA COMPOSITION

Item	Formula per liter of medium
Peptone	10.00 gm.
Tryptone	10.00 gm.
Yeast extract	2.000 gm.
Dextrose (Glucose)	1.000 gm.
Sodium chloride	5.000 gm
Sodium bisulphite	0.1 gm

Final pH 7.0 ± 0.2 at 25°C

PRECAUTIONS AND WARNINGS

Media to be handled by entitled and professionally educated person. Do not ingest or inhale.

Good Laboratories practices using appropriate precautions should be followed in:

- Wearing personnel protective equipment (overall, gloves, glasses,).
- Do not pipette by mouth.
- In case of contact with eyes or skin; rinse immediately with plenty of soap and water. In case of severe injuries; seek medical advice immediately.
- Respect country requirement for waste disposal.
  S56: dispose of this material and its container at hazardous or special waste collection point.

S57: use appropriate container to avoid environmental contamination.
S61: avoid release in environment.

For further information, refer to the Brucella Broth base material safety data sheet.

STORAGE AND STABILITY

BioScien Brucella broth base should be stored between 10-30°C in a firmly 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 avoid lump development due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in a 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.

PREPARATION

- Suspend 14.05 grams in 500 ml distilled water.
- Adjust pH to *7.0 ± 0.2 at 25°C*
- Heat if necessary 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 (Inactivate by heating at 56°C for 30 minutes)
- Add rehydrated contents of one vial of Brucella Selective Supplement.
- Mix well before pouring into sterile tubes.
- For Campylobacter : Aseptically add sterile rehydrated contents of 1 vial of Campylobacter Supplement I (Blaser Wang) or Campylobacter Supplement II (Butzler) or Campylobacter Supplement III (Skirrow) and Campylobacter Growth Supplement to 500 ml of sterile medium.

Deterioration

The color of ***BioScien*** Brucella broth base is Cream to yellow homogeneous free flowing powder. Prepared Media is Light amber coloured, clear solution in tubes. If there are any physical changes for powder or signs of deterioration (shrinking, cracking, or discoloration), and contaminations for hydrated media, discard the medium.

SPECIMEN

Clinical: faeces

EQUIPMENT REQUIRED NOT PROVIDED

- Inoculating loops, swabs, collection containers
- Incubators
- Sterile tubes

PERFORMANCE CHARACTERISTICS

Cultural characteristics observed under 10% Carbon dioxide (CO_2) with added 5%v/v inactivated horse serum and Brucella Selective Supplement after an incubation At 35-37°C for 24-72 hours

Organism	Result
Brucella melitensis ATCC 4309	Luxuriant
Escherichia coli ATCC 25922	inhibited
Staphylococcus aureus subsp. aureus ATCC 25923	inhibited

QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control still out of range please contact ***BioScien*** technical support.

REFERENCES

1. Finegold et al (Ed.), 1990, Bailey and Scotts Diagnostic Microbiology, 8th ed., The C.V. Mosby Co., St. Louis.
2. Moyer N. P., and Holcomb L. A., Laboratory Diagnosis and Infectious Diseases: Principles and Practice, Vol. I, SpringerVerlag, New York
3. Smith L. D., and Fient T. A., 1990, Crit. Rev.Microbiol., 17 : 209-230
4. 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.
5. Jones L. M. and Brinley M.W.J., 1958, Bull. Wld. Hlth. Org., 19:200.
6. Kuzdas C.D., and Morse E.V., 1953, J. Bact., 66 (4):502.
7. Renoux G., 1954, Ann. Inst. Pasteur, 87 (3):325.
8. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
9. 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.

SYMBOLS IN PRODUCT LABELLING	
LOT Batch Code/Lot number	Caution
REF Catalogue Number	Do not use if package is damaged
Temperature Limitation	Consult Instruction for use
Expiration Date	
Manufactured by	