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Brucella Selective Medium Base

Brucella Selective Medium Base is utilized for the enrichment, isolation, and identification of Brucella species

REF: BS.1/BH01.100.0100	100 Gram	REF: BS.1/BH01.250.0250	250 Gram
REF: BS.1/BH01.500.0500	500 Gram		

Principle And Interpretation

Brucellosis is a zoonotic infection primarily transmitted from domestic animals and is considered an occupational hazard for individuals such as veterinarians, microbiologists, and farmers (1, 2). The routes of infection include the genital tract, nasopharynx, gastrointestinal tract, conjunctiva, respiratory tract, and through abraded skin. In humans, brucellosis presents with a variable incubation period and may have either a gradual or sudden onset, often lacking specific symptoms or characteristic clinical signs. Brucella Agar was developed to support the isolation and cultivation of Brucella species from clinical specimens. When enriched with blood or other nutrient supplements, this medium also supports the growth of various fastidious anaerobic organisms (3). However, Brucella Medium is commonly enriched with antibiotics to inhibit the growth of accompanying microbial flora. Brucella Agar Base with 1.0% Dextrose was originally formulated by Jones and Morgan (4) for the preparation of serum-dextrose-antibiotic media aimed at the isolation and cultivation of Brucella species. The ,medium composition includes beef heart infusion and tryptose which provide essential nutrients required for the growth of various fastidious anaerobic organisms. Gelatin acts as an additional nutrient source, while glucose serves as the primary energy source. The incorporation of selective antibiotics (as FD) enhances ,the selectivity of the medium towards Brucella species. Notably compounds like ethyl violet and circulin, which were initially recommended, are no longer in use(5).

MEDIA COMPOSITION

Item	Concentration (g/L)
Beef heart, infusion from 500g#	10.000
Tryptose	10.000
Sodium chloride	5.000
Gelatin	1.000
Dextrose (Glucose)	2.500
Agar	15.000

Final pH 7.2 ± 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 Selective Medium Base media material safety data sheet.

STORAGE AND STABILITY

BioScien Brucella Selective Medium Base media are stable until expiration date stated on label when properly stored at 10-30°Cin a tightly closed container and the prepared medium at 8-15°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in 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.

MEDIA PREPARATION

Suspend 21.75 grams in 500 ml distilled water. Heat to boiling 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 10 % v/v sheep blood and sterile 5% v/v inactivated horse serum (RM1239) (Inactivate RM1239 by heating at 56°C for 30 minutes). Also add rehydrated contents of one vial of Brucella Selective Supplement, (FD005). Mix well before pouring into sterile Petri plates. The prepared medium should be stored at 8-15°C.

Media Appearance and Deterioration

BioScien Brucella Selective Medium Base medium is cream to yellow homogeneous free flowing powder. If there are any physical changes, discard the medium. Colour and Clarity of prepared medium Light yellow coloured, clear to slightly opalescent gel forms in Petri plates On addition of 10% v/v sterile sheep blood cherry red coloured opalescent gel forms in Petri plates Reaction Reaction of 4.35% w/v aqeuous solution at 25°C. pH : 7.4±0.2 pH 7.20-7.60 Cultural Response

EQUIPMENT REQUIRED NOT PROVIDED

- Sterile cups and petri-dishes
- Autoclave and Incubator

Type of specimen

Clinical samples: faeces

QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control values are found outside the defined range, check the system performance. If control still out of range please contact ***BioScien*** technical support.

Cultural Response

Cultural characteristics observed in presence of 10% Carbon dioxide (CO_2) atmosphere with added sterile 10%v/v sheep blood and Brucella Selective Supplement(FD005),after an incubation at 35-37°C for 24-48 hours

Organism Cultural Response:	**Expected results**
Brucella melitensis ATCC 4309	luxuriant
Brucella suis ATCC 4314	luxuriant
Escherichia coli ATCC 25922	inhibited
Staphylococcus aureus ATCC 25923	inhibited

REFERENCES

1. 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.
2. Young E. J., 1983, Human Brucellosis, Rev. Infect. Dis., 5:821-842.
3. Atlas R. M., 1997, Handbook of Microbiological Media, 2nd Edi., Parks L.C. (Ed.), CRC Press, New York.
4. Jones Lois M. and Brinley Morgan W. J., 1958, Bull. Wld. Hlth. Org., 19:200-203.
5. Alton G. G. and Jones L. M., 1967, Lab Technique in Brucellosis, WHO, Geneva.

SYMBOLS IN PRODUCT LABELLING	
IVD For in-vitro diagnostic use	Number of <n> test in the pack
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	

EC REP **Medical Device Safety Service**
MDSS GmbH
Schiffgr aben 41
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CE