Brucella Selective Medium Base

M822

Brucella Selective Medium Base is used for the enrichment, cultivation and identification of *Brucella* species.

Composition**

Ingredients	Gms / Litre
Beef heart, infusion from	500.000
Tryptose	10.000
Sodium chloride	5.000
Gelatin	1.000
Glucose	2.500
Agar	15.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

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.

Principle And Interpretation

Brucellosis is a zoonotic disease with a domestic animal reservoir. It is an occupational disease of veterinarians, microbiologists, farmers etc. The route of infections is genital, nasopharyngeal, gastrointestinal, conjunctival, respiratory and through abraded skin (1, 2). Brucellosis in humans has a variable incubation period, an insidious or abrupt onset and no pathognomic symptoms or signs. Brucella Agar was designed for cultivating *Brucella* species from diagnostic specimens. With the incorporation of blood or other nutritious substances, it facilitates the cultivation of variety of fastidious anaerobic organisms (3). However, Brucella Medium is supplemented with antibiotics to prevent overgrowth of other accompanying organisms. Brucella Agar Base w/ 1.0 % Dextrose was originally developed by Jones and Morgan (4) for preparations of serum-dextrose-antibiotic medium used for the isolation and cultivation of *Brucella* species.

The medium contains beef heart infusion and tryptose, which facilitates cultivation of variety of fastidious anaerobic organisms; by providing essential nutrients. Gelatin serves as a source of nutrients. Glucose serves as source of energy. Addition of antibiotics (as FD) makes the medium highly selective for *Brucella* species. Ethyl violet and circulin, which were recommended initially, are no longer used (5).

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

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

M822: Cultural characteristics observed in presence of 10% Carbon dioxide (CO2) 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	**Growth**
Cultural Response	
Brucella melitensis ATCC 4309	luxuriant
Brucella suis ATCC 4314	luxuriant
Escherichia coli ATCC 25922	inhibited
Staphylococcus aureus ATCC 25923	inhibited

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.

Reference

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.

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