

# **Brucella Broth Base**

### **M348**

## **Intended Use:**

Recommended for enrichment and cultivation of *Brucella* or *Campylobacter* species from clinical and nonclinical specimens.

### **Composition\*\***

Ingredients	g / L
Tryptone	10.000
Peptone	10.000
Yeast extract	2.000
Dextrose (Glucose)	1.000
Sodium chloride	5.000
Sodium bisulphite	0.100
Final pH ( at 25°C)	7.0±0.2
**Formula adjusted, standardized to suit performance parameters	

### Directions

Suspend 14.05 grams in 500 ml purified/distilled water. 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 (RM1239, inactivated by heating at 56°C for 30 minutes). For selective isolation, add reconstituted contents of one vial of NPBCVN Selective Supplement (FD005). Mix well and dispense into sterile tubes or flasks as desired.

For isolation of *Campylobacter* species add rehydrated contents of one vial of Blaser-Wang Selective Supplement (FD006) or Butzler Selective Supplement (FD007) or Skirrow Selective Supplement (FD008) and Minerals Growth Supplement (FD009). Mix well and dispense into sterile tubes or flasks as desired.

### **Principle And Interpretation**

Brucella Broth Base is formulated so as to support luxuriant growth of fastidious bacteria like *Brucella* species (1). *Brucella* is an intracellular parasite that causes epizootic abortions in animals and septicemic febrile illness or localized infections of bone, tissue or organ systems in humans (2,3). *Brucella* species are highly fastidious and therefore require a nutrient rich medium to be able to grow. Also, *Brucella* species are highly infective and so extreme care should be taken while handling. The basal medium (with addition of Campylobacter Supplements) can be also used for the isolation of *Campylobacter* (4). 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% CO<sub>2</sub> enriched atmosphere. *Brucella* species are highly infectious and so extreme care should be taken while handling.

### **Type of specimen**

Clinical: faeces

### **Specimen Collection and Handling**

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (8,9). After use, contaminated materials must be sterilized by autoclaving before discarding.

### **Warning and Precautions**

In Vitro diagnostic use only. For professional use only. Read the label before opening the container. 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.

### **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.

### **Quality Control**

#### Appearance

Cream to yellow homogeneous free flowing powder

#### Colour and Clarity of prepared medium

Light amber coloured, clear solution in tubes

#### Reaction

Reaction of 2.81% w/v aqueous solution at 25°C. pH : 7.0±0.2

pН

#### 6.80-7.20

#### **Cultural Response**

Cultural characteristics observed under 10% Carbon dioxide (CO<sub>2</sub>) with added 5%v/v inactivated horse serum (RM1239) and NPBCVN Selective Supplement (FD005),after an incubation at 35-37°C for 24-72 hours.

Organism	Inoculum (CFU)	Growth
<i>Brucella melitensis</i> ATCC 4309	50-100	luxuriant
Escherichia coli ATCC 25922 (00013*)	>=104	inhibited
Staphylococcus aureus subsp. aureus ATCC 25923 (00034*)	>=10 <sup>4</sup>	inhibited

Key: \*Corresponding WDCM numbers.

#### **Storage and Shelf Life**

Store between 10-30°C in a tightly 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 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.

#### 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 (8,9).

#### Reference

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, Springer-Verlag, 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.Renoux G., 1954, Ann. Inst. Pasteur, 87 (3):325.

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. Bact., 66 (4):502.

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.

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EC REP

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In vitro diagnostic

medical device

IVD



-30°C

Storage temperature

Do not use if package is damaged

#### Disclaimer :

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