

# **Technical Data**

**M960** 

# **Smiberts Semisolid Brucella Medium**

# **Intended Use:**

Recommended for cultivation of Campylobacter species.

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

| Ingredients        | g / L  |
|--------------------|--------|
| Tryptone           | 10.000 |
| Peptone            | 10.000 |
| Dextrose (Glucose) | 1.000  |
| Yeast extract      | 2.000  |
| Sodium chloride    | 5.000  |
| Sodium bisulphite  | 0.100  |
| Neutral red        | 0.020  |
| Agar               | 1.600  |

\*\*Formula adjusted, standardized to suit performance parameters

# Directions

Suspend 29.72 grams in 1000 ml purified/distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and dispense in sterile tubes or flasks as desired.

# **Principle And Interpretation**

*Campylobacter* were originally classified in the genus Vibrio. Most strains associated with acute gastroenteritis in humans have the ability to grow at 42°C (heat tolerant). Heat-tolerant *Campylobacters* are oxidase-positive, catalase-positive, and gram-negative bacteria. Diagnostic characteristics of these organisms are growth at 42°C and not at 25°C. Smiberts Semisolid Brucella Medium is used for the cultivation of *Campylobacter* species, as recommended by APHA (1). It can be used for maintenance during transport of swab samples (at 4°C). For maintenance of stock cultures, Smiberts semisolid Brucella Medium can be inoculated, incubated under aerobic/microaerobic conditions and subcultured weekly (2). Tryptone, peptone and yeast extract act as carbon and nitrogen sources. Dextrose acts as source of fermentable carbohydrates. Neutral red acts as a pH indicator. Sodium chloride maintains osmotic equilibrium. Addition of sodium bisulphite, a reducing agent, improves the oxygen tolerance of the medium for growth of *Campylobacter*. Growth of *Campylobacter* at 25°C, 30.5°C and 42°C is examined. Development of a yellow colour (alkaline) in the semisolid Brucella Medium containing neutral red indicates growth of *Campylobacter*. If the original medium colour is not changed and no growth is apparent, record as no growth. Development of a darker red colour indicates contamination by non-*Campylobacter* microorganisms. For maintenance of stock cultures, inoculate medium and do not tighten the screw caps. Incubate at 37°C under aerobic or microaerobic conditions. Transfer weekly or when most of the medium turns yellow. This medium can be used for storage of stock cultures for upto a month without serial passage at room temperature after cells were grown at 42°C for 24 hours.

### **Type of specimen**

Clinical samples - Stool sample; Food sample

### **Specimen Collection and Handling:**

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (2,3). For food samples, follow appropriate techniques for sample collection and processing as per guidelines (4). After use, contaminated materials must be sterilized by autoclaving before discarding.

### Warning and Precautions :

In Vitro diagnostic use. 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.

Please refer disclaimer Overleaf.

#### **Limitations :**

1. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.

2.Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirement.

# **Quality Control**

# Appearance

Light yellow to pink homogeneous free flowing powder

#### Gelling

Semisolid, comparable with 0.16% Agar gel.

#### Colour and Clarity of prepared medium

Orange red coloured clear to slightly opalescent gel forms in tubes as slants

#### **Cultural Response**

Cultural characteristics observed after an incubation at 35-37°C for 24-72 hours under aerobic/microaerobic atmosphere.

| Organism                                 | Growth |
|--|--------|
| Brucella melitensis ATCC 4309            | good   |
| Brucella suis ATCC 4314                  | good   |
| Campylobacter jejuni ATCC 29428 (00156*) | good   |

Key: \*Corresponding WDCM numbers.

## **Storage and Shelf Life**

Store between 10-30°C in a tightly closed container and the prepared medium at 15-30°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 (3,4).

#### Reference

1. Salfinger Y., and Tortorello M.L., 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.

2. Holdeman L.V., Cato E. P., and Moore W. E. C., 1977, *Campylobacter*, In Anaerobe Laboratory Manual, 4th Ed., Virginia Polytechnic Institute and State University, Blacksburg, VA., pp114 -115.

3. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.

4. 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.



#### Disclaimer :

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