# Christopher's Semisolid Brucella Medium Base

**M943**

## Intended Use:

Recommended for selective enrichment of *Campylobacter* species from food.

## Composition**

| Ingredients | Gms / Litre |
|---|---|
| Tryptone | 10.000 |
| Peptone | 10.000 |
| Dextrose (Glucose) | 1.000 |
| Yeast extract | 2.000 |
| Sodium chloride | 5.000 |
| Sodium bisulphite | 0.100 |
| Sodium pyruvate | 0.500 |
| Agar | 1.500 |

**Formula adjusted, standardized to suit performance parameters

## Directions

Suspend 15.05 grams in 500 ml purified / 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 rehydrated contents of 1 vial of Campylobacter Supplement-I, Blaser-Wang (FD006). Mix well and dispense in sterile tubes as desired. Allow the tubes to cool in an upright position.

## Principle And Interpretation

Infection with a *Campylobacter* species is one of the most common causes of human bacterial gastroenteritis (5). They are generally ingested via contaminated food, often undercooked or poorly handled poultry, although contact with contaminated drinking water, livestock, or household pets can also cause disease (6). Christopher described this medium as a selective medium for cultivation of *Campylobacter* species (2). This medium is also recommended by APHA (8) for enrichment of *Campylobacter* species from food using MPN technique.

Tryptone, yeast extract and peptone provide growth nutrients. Dextrose is utilized as an energy source. The antibiotic supplement makes the medium selective for the isolation of *Campylobacter* species. Sodium bisulphite is a reducing agent and sodium chloride maintains osmotic equilibrium of the medium. Sodium pyruvate serves to enhance the growth of *Campylobacter* species.

## Type of specimen

Food and dairy samples

## Specimen Collection and Handling

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (1,7,9). After use, contaminated materials must be sterilized by autoclaving before discarding.

## Warning and Precautions :

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 specimens. Safety guidelines may be referred in individual safety data sheets.

## Limitations :

1. The media plates should be incubated at 42ºC for luxuriant growth, lower temperatures growth may be delayed and the selectivity of the medium is reduced.

## 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

**Gelling**
Semisolid, comparable with 0.15% Agar gel.

**Colour and Clarity of prepared medium**
Yellow coloured, clear to slightly opalescent gel forms in tubes

**Cultural Response**
Cultural characteristics observed with added Campylobacter Supplement-I, Blaser-Wang(FD006) in microaerobic atmosphere (5% $O_2$ +10% $CO_2$ + 85% $N_2$), after an incubation after at 42°C for 48 hours.

| Organism | Growth |
|---|---|
| *Campylobacter coli* ATCC 33559 ( 00072*) | good-luxuriant |
| *Campylobacter jejuni* ATCC 29428 (00156*) | good-luxuriant |

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 sample must be decontaminated and disposed of in accordance with current laboratory techniques (3,4).

## Reference

1. American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed., Washington D.C.
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5. Moore J. E. et al, 2005, "*Campylobacter*", Vet Res 36 (3): 351-82.
6. Saenz Y., Zarazaga M., Lantero M., Gastanares M. J., Baquero F., Torres C., 2000, Antimicrob. Agents Chemother., 44 (2): 267-71.
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