Technical Information

Christopher Semisolid Brucella Medium Base

Product Code: DM 1943

Application: - Christopher Semisolid Brucella Medium Base is recommended for the selective enrichment of *Campylobacter* species from food.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.000
Peptic digest of animal tissue	10.000
Dextrose	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

Principle & Interpretation

Christopher Semisolid Brucella Medium Base is also used by APHA (4) for enrichment of *Campylobacter* species from food using MPN technique.

Infection with a *Campylobacter* species is one of the most common causes of human bacterial gastroenteritis (1). 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 (2). Christopher described this medium as a selective medium for cultivation of *Campylobacter* species (3).

Peptic digest of animal tissue, yeast extract and casein enzymic hydrolysate supply 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 helps to maintain osmotic equilibrium of the medium. Sodium pyruvate acts to prevent the growth of *Campylobacter* species.

Methodology

Suspend 15.05 grams of dehydrated powder media in 500 ml distilled water. Mix thoroughly & heat to boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 50°C and aseptically add rehydrated contents of 1 vial of Campylobacter Supplement-I, Blaser-Wang (MS 2006). Shake well and dispense in tubes as desired. Allow the tubes to cool in an upright position.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Semisolid, comparable with 0.15% Agar gel.

Colour and Clarity

Yellow coloured, clear to slightly opalescent gel forms in tubes.

Cultural Response

DM 1943: Cultural characteristics observed with added Campylobacter Supplement-I, Blaser-Wang (MS 2006) 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	good-luxuriant
Campylobacter jejuni ATCC 29428	good-luxuriant

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.
Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

1. Moore J. E. et al, 2005, "Campylobacter", Vet Res 36 (3): 351-82.
2. Saenz Y., Zarazaga M., Lantero M., Gastanares M. J., Baquero F., Torres C., 2000, Antimicrob. Agents Chemother., 44 (2): 267-71.
3. Christopher F. M., Smith G. C., and Vanderzant C., 1982, J. Food Prot. 45: 260-262.
4. Speck M. L., (Ed), 1984, Compendium of Methods for the Microbiological Examination of Foods, 2nd Ed., APHA, Washington D.C.

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