Campylobacter Enrichment Broth Base (Preston Enrichment Broth Base)

M899

Intended Use:

Recommended for selective enrichment and cultivation of *Campylobacter* species.

Composition**

Ingredients	g/ L
Peptone	10.000
HM peptone B #	10.000
Sodium chloride	5.000
Final pH (at 25°C)	7.5±0.2

**Formula adjusted, standardized to suit performance parameters

- Equivalent to Beef extract

Directions

Suspend 12.5 grams in 470 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. Aseptically add sterile 25 ml lysed horse blood and reconstituted contents of 1 vial of PRTC Selective Supplement (Preston Selective Supplement) (FD042). Mix well and dispense in tubes or flasks as desired.

Principle And Interpretation

Balton and Robertson (1) described this as a selective medium for the cultivation of *Campylobacter* species. It is recommended by APHA (2) for enrichment of thermotolerant *Campylobacter* species from foods. Preston Enrichment Broth has a rich basal medium to aid resuscitation of sublethally damaged *Campylobacter*. Preliminary incubation of the medium complete with antibiotics for 4 hours at 37°C was recommended to aid resuscitation of injured organisms followed by 42°C for 18-48 hours (3). Peptone and HM peptone B in the medium provide nitrogen, vitamins and minerals necessary to support bacterial growth. Sodium chloride provides essential ions.

PRTC Selective Supplement (FD042) contains antibacterial and antifungal agents. Polymyxin B is active only against gram-negative bacteria and *Proteus* species are sometimes resistant. Trimethoprim usually inhibits *Proteus* species as well as other gram-negative bacteria. Rifampicin is also active against gram-negative organisms. Cycloheximide acts as antifungal agent.

Direct plating without enrichment is adequate for fresh faecal samples, fecal contents or intestinal specimens as high numbers of the organisms may be anticipated. For food samples enrichment is required. Humphrey (1989) suggested that pre-enrichment at 37°C should be continued for 4 hours and that addition of all antibiotics should be delayed until the 4 hours pre- enrichment had been completed. Enrichment medium with rifampicin was recommended in parallel with similar plating medium. The *Campylobacter* species grow well in microaerobic conditions i.e. in 5% O2 at 42°C in about 48 hours. Addition of about 4 drops of glycerol to a filter paper kept within the jar/container will hamper confluent and swarming growth of *Campylobacter* (1).

Type of specimen

Clinical samples - Faeces; Food and dairy samples

Specimen Collection and Handling:

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (4,5).
For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (2,6).
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.

Limitations :

1. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium
2. Further isolation and biochemical tests must be carried out for confirmation

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

Basal medium :Light yellow coloured clear solution.

After addition of sterile lysed horse blood : Cherry red coloured opaque solution in tubes

Reaction

Reaction of 2.5% w/v aqueous solution at 25°C. pH : 7.5±0.2

pH

7.30-7.70

Cultural Response

Cultural characteristics observed with added 25ml sterile lysed horse blood and PRTC Selective Supplement (Preston Selective Supplement), (FD042), after an incubation at 42°C for 48 hours(5% O_2 + 10% CO_2 + 85% N_2).

Organism	Inoculum (CFU)	Growth
Bacillus cereus ATCC 10876	>=10^4	inhibited
Campylobacter coli ATCC 33559 (00072*)	50-100	good-luxuriant
Campylobacter jejuni ATCC 29428 (00156*)	50-100	good-luxuriant
Campylobacter lari ATCC 35221	50-100	good-luxuriant
Escherichia coli ATCC 25922 (00013*)	>=10^4	inhibited
Proteus mirabilis ATCC 25933	>=10^4	inhibited
Staphylococcus aureus subsp. *aureus* ATCC 25923 (00034*)	>=10^4	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 (4,5).

Reference

1.Balton F.J. and Robertson L., 1982, J. Clin. Pathol., 35:462.
2.Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C
3.Humphrey T. J., 1989, J. Appl. Bacteriol. 66, 119-126
4.Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition
5.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.
6.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.

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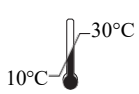
IVD ***In vitro*** **diagnostic medical device**



Storage temperature

EC REP CEpartner4U, Esdoornlaan 13,
3951DB Maarn, NL
www.cepartner4u.eu

CE Marking

Do not use if package is damaged

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