TM 603 – CAMPYLOBACTER ENRICHMENT BROTH BASE (PRESTON ENRICHMENT BROTH BASE)

INTENDED USE

For selective enrichment and cultivation of *Campylobacter* species.

PRODUCT SUMMARY AND EXPLANATION

Balton and Robertson described this as a selective medium for the cultivation of *Campylobacter* species. It is recommended by APHA 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.

Preston Selective Supplement 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 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.

COMPOSITION

Ingredients	Gms / Ltr
Peptone	10.000
Beef extract	10.000
Sodium chloride	5.000

PRINCIPLE

Peptone and beef extract in the medium provide nitrogen, vitamins and minerals necessary to support bacterial growth. Sodium chloride provides essential ions.

INSTRUCTION FOR USE

- Dissolve 12.5 grams in 470 ml purified / distilled water.
- Heat if necessary to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to room temperature and aseptically add sterile 25 ml lysed horse blood and reconstituted contents of 1 vial of Campylobacter Supplement IV (Preston Selective Supplement). Cool to 45-50°C.
- Mix well and dispense as desired.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium : Basal medium: Light yellow coloured clear solution. After addition of sterile lysed horse blood : Cherry red coloured opaque solution in tubes.
pH (at 25°C) : 7.5±0.2

INTERPRETATION

Cultural characteristics observed after incubation with added 25ml sterile lysed horse blood and Campylobacter Supplement IV. (5% O2 + 10% CO_2 + 85% N_2).

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period
Bacillus cereus	10876	>=10^4	Inhibited	42°C	48 Hours
Campylobacter coli	33559	50-100	Good-luxuriant	42°C	48 Hours
Campylobacter jejuni	29428	50-100	Good-luxuriant	42°C	48 Hours
Campylobacter lari	35221	50-100	Good-luxuriant	42°C	48 Hours
Escherichia coli	25922	>=10^3	Inhibited	42°C	48 Hours
Proteus mirabilis	25933	>=10^3	Inhibited	42°C	48 Hours
Staphylococcus aureus subsp. aureus	25923	>=10^3	Inhibited	42°C	48 Hours

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

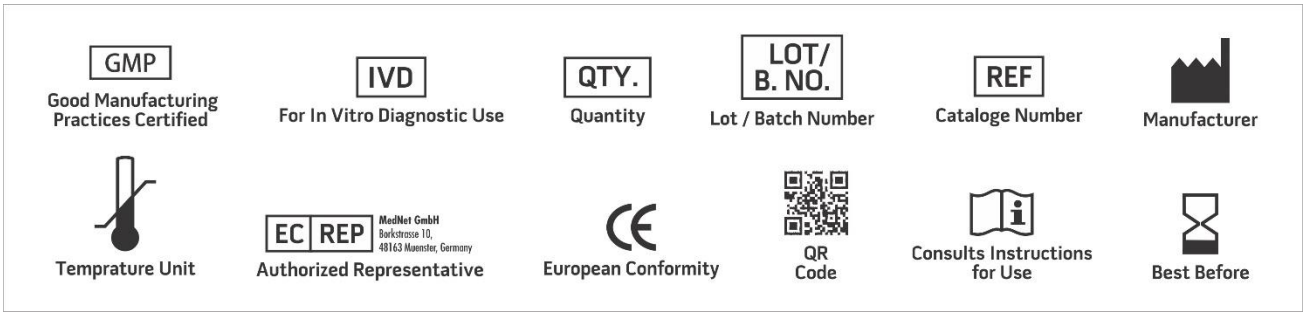
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

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



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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