



PRODUCT SPECIFICATION SHEET

Campylobacter Enrichment Broth Base (Preston Enrichment Broth Base) (DM1316)

Intended Use

Campylobacter Enrichment Broth Base (Preston Enrichment Broth Base) (DM1316) is recommended for selective enrichment and cultivation of *Campylobacter* species.

Product Summary and Explanation

Many experts consider *Campylobacter* to be the leading cause of enteric illness in the US. *Campylobacter* spp. can cause mild to severe diarrhea, with loose, watery stools often followed by bloody diarrhea. These pathogens are highly infective, and transmitted by contaminated food or water. *Campylobacter* Enrichment Broth Base was described by Balton and Robertson⁽¹⁾ 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⁾

Principles of the Procedure

Campylobacter Enrichment Broth Base contains peptic digest of animal tissue and beef extract in the medium which provides nitrogen, vitamins and minerals essential for bacterial growth. Sodium chloride provides essential ions. Preston Selective Supplement (MS135) 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.

Formula / Liter

Ingredients	Gms / Liter
Peptic digest of animal tissue	10.00
Beef extract	10.00
Sodium chloride	5.00
Final pH: 7.5 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

Precautions

1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions

1. Suspend 12.5 grams of the medium in 470 ml of distilled water.
2. Heat if necessary to dissolve the medium completely.
3. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.
4. Cool to room temperature and aseptically add sterile 25 ml lysed horse blood and reconstituted contents of 1 vial of *Campylobacter* Selective Supplement-IV (Preston Selective Supplement) (MS135).
5. Mix well and dispense as desired.

Quality Control Specifications

Dehydrated Appearance	Cream to yellow homogeneous free flowing powder
Prepared Medium	Basal medium :Light yellow coloured clear solution After addition of sterile lysed horse blood : Cherry red coloured opaque solution in tubes
Reaction of 2.5% Solution	pH : 7.5 ± 0.2 at 25°C
Gel Strength	Not Applicable

Expected Cultural Response: Cultural characteristics observed with added 25ml sterile lysed horse blood and *Campylobacter* Selective Supplement-IV (Preston Selective Supplement), (MS135), after an incubation at 42°C for 48 hours (5% O₂ + 10% CO₂ + 85% N₂).





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Sr. No.	Organisms	Results to be achieved
		Growth
1.	<i>Bacillus cereus</i> ATCC 10876	Inhibited
2.	<i>Campylobacter coli</i> ATCC 33559	good-luxuriant
3.	<i>Campylobacter jejuni</i> ATCC 29428	good-luxuriant
4.	<i>Campylobacter lari</i> ATCC 35221	good-luxuriant
5.	<i>Escherichia coli</i> ATCC 25922	Inhibited
6.	<i>Proteus mirabilis</i> ATCC 25933	Inhibited
7.	<i>Staphylococcus aureus</i> ATCC 25923	Inhibited

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure

1. Refer appropriate references for standard test procedures.
2. 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.
3. 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.

Results

Refer appropriate references and procedures for interpretation of results.

Storage

Store the sealed bottle containing the dehydrated medium at 10 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitations of the Procedure

1. 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*.⁽³⁾
2. Consult appropriate texts for detailed information and recommended procedures.

Packaging

Product Name : *Campylobacter* Enrichment Broth Base (Preston Enrichment Broth Base)

Product Code : DM1316

Available Pack sizes : 500gm

References

1. Balton F.J. and Robertson L., 1982, J. Clin. Pathol., 35:462.
2. Vanderzant C. and Splittstoesser D. (Eds.), 1992, Compendium of Methods for the Microbiological Examination of Foods, 3rd ed., APHA, Washington, D.C.
3. Humphrey T. J., 1989, J. Appl. Bacteriol. 66, 119-126.

Further Information

For further information please contact your local MICROMASTER Representative.



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