



Exeter *Campylobacter* Selective Broth Base

M1893

Intended Use:

Recommended for selective isolation of *Campylobacter* from food and environmental samples.

Composition**

Ingredients	Gms / Litre
HM peptone#	10.000
Lactalbumin hydrolysate	5.000
Yeast extract	5.000
Sodium chloride	5.000
alpha-Ketoglutaric acid	1.000
Sodium carbonate	0.600
Hemin	0.010
Sodium metabisulphite	0.750
Iron (II) sulphate	0.250
Sodium pyruvate	0.750
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

- Equivalent to Meat peptone

Directions

Suspend 28.4 grams in 1000 ml purified / distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15lbs pressure (121°C) for 15 minutes. Cool to 45- 50°C and aseptically add one vial of Exeter *Campylobacter* Selective Supplement (FD303) and 10% w/v sterile lysed defibrinated horse blood. Mix well and dispense into tubes or flasks as desired.

Principle And Interpretation

Campylobacter are gram negative, oxidase positive curved or spiral shaped bacteria and grow under anaerobic conditions. *Campylobacter* species are found in environmental, food and water samples. There are many selective media employed for the selective isolation of *Campylobacter* species. Exeter selective enrichment broth has been shown to result in improved enrichment of *Campylobacter* from food, clinical and environment samples (2). The method was first based on a nutrient broth base (4), but has been improved by using Bolton broth as base. The broth can be used in conjunction with *Campylobacter* Cefex Agar Base for isolation of some thermophilic *Campylobacter* 's from food and environment samples (8) and the medium can be made selective by adding *Campylobacter* Selective supplement (FD303).

HM peptone, Lactalbumin hydrolysate and yeast extract supply all the necessary nutrients for the growth of *Campylobacter*. Sodium metabisulfite, Sodium pyruvate, Iron (II) sulphate and blood improve the recovery of *Campylobacter*. Sodium chloride maintains the osmotic equilibrium. Selective supplement helps in the inhibition of the accompanying flora.

Type of specimen

Food and dairy samples; Water samples

Specimen Collection and Handling

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (1,7,9).

For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards.(3)

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. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium
2. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirement.
3. Further recovery is required for organisms.

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 of prepared medium

Basal medium: Yellow coloured clear to slightly opalescent solution. After addition of 10% w/v sterile lysed defibrinated horse blood : Cherry red coloured opaque solution.

Reaction

Reaction of 2.84% w/v aqueous solution at 25°C. pH : 7.4±0.2

Cultural Response

Cultural characteristics observed with added 10%w/v sterile lysed defibrinated horse blood and Exeter *Campylobacter* Selective Supplement (FD303) after an incubation at 35-37°C for 24-48 hours under microaerobic conditions.

Organism	Inoculum (CFU)	Growth
<i>Campylobacter coli</i> ATCC 33559 (00072*)	50-100	good-luxuriant
<i>Pseudomonas aeruginosa</i> ATCC 27853 (00025*)	≥10 ⁴	inhibited
<i>Enterococcus faecalis</i> ATCC 29212 (00087*)	≥10 ⁴	inhibited
<i>Proteus mirabilis</i> ATCC 25933	50-100	none-poor

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 (5,6).

Reference

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3. Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.
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5. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
6. 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.
7. 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.
8. Slader, J., Domingue, G., Jorgensen, F., McAlpine, K., Owen, R.J., Bolton, F.J. and Humphrey, T.J. (2002) Influence of transport crate re-use and processing on *Campylobacter* and *Salmonella* contamination in broiler chickens. Appl. Environ. Microbiol., 68, 713-719.
9. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.

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