# Exeter Campylobacter Selective Broth Base

**M1893**

The broth base is used for selective enrichment of *Campylobacter* from food and environment samples.

## Composition**

| Ingredients | Gms / Litre |
|---|---|
| Meat peptone | 10.000 |
| Lactalbumin hydrolysate | 5.000 |
| Yeast extract | 5.000 |
| Sodium chloride | 5.000 |
| alpha-Ketoglutaric acid | 1.000 |
| Sodium carbonate | 0.600 |
| Haemin | 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

## Directions

Suspend 28.4 grams in 1000 ml 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 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 (1). The method was first based on a nutrient broth base (2), 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 campylobacters from food and environment samples (3)and the medium can be made selective by adding Campylobacter Selective supplement (FD303).

Meat 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.

## 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.

**Cultural Response**

| Organism | Inoculum (CFU) | Growth |
|---|---|---|

**Cultural Response**

| | | |
|---|---|---|
| *Campylobacter coli ATCC 33559* | 50-100 | good-luxuriant |
| *Pseudomonas aeruginosa ATCC 27853* | >=$10^3$ | inhibited |
| *Enterococcus faecalis ATCC 29212* | >=$10^3$ | inhibited |
| *Proteus mirabilis ATCC 25933* | 50-100 | none-poor |

## Storage and Shelf Life

Store below 30°C in tightly closed container and prepared medium at 2-8°C. Use before expiry date on the label.

## Reference

1.Anon.(1998)PHLS methods for food products. Detection of Campylobacter species. Standard methods:F21. Public Health Laboratory Service,London.
2.Humphrey,T.J.(1995)Techniques for the isolation of campylobacters from food and the environment. In:Proceedings of WHO Meeting, Bilthoven, The Netherlands, April 1994.WHO, Geneva,pp.79-83.
3.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. Micobial., 68,713-719.

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