

Technical Information

Doyle's Enrichment MiVeg Broth Base

Product Code : VM1916

Application:- Doyle's Enrichment MiVeg Broth Base is recommended for enrichment of *Campylobacter* species.

Composition**

Ingredients	Gms / Litre
MiVeg hydrolysate	10.0
MiVeg peptone	10.0
Yeast extract	2.0
Dextrose	1.0
Sodium chloride	5.0
Sodium bisulphite	0.1
Sodium succinate	3.0
L -cysteine hydrochloride	0.1
Final pH (at 25°C)	7.0 ± 0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

This medium is prepared by adding vegetable peptones which are free from BSE/TSE risks associated with animal based peptones. Doyle's Enrichment MiVeg Broth Base is the modification of Doyle's Enrichment Broth Base, which is recommended by APHA (1) for enrichment of *Campylobacter* species. Dekeyser et al (2) reported the isolation of *Campylobacter jejuni* from the faeces of patients with diarrhoea and acute gastroenteritis using a filtration technique and a selective medium with antimicrobics to suppress the normal enteric flora. Skirrow (3), reported a selective medium containing three antimicrobics. Blaser et al (4) reported success in isolating *Campylobacter jejuni* with a medium containing four antimicrobics added to Brucella Agar supplemented with defibrinated sheep blood.

MiVeg hydrolysate, MiVeg peptone, yeast extract, dextrose and blood provide the nitrogenous compounds, vitamin B, energy and X factor (heme) respectively and also other growth factors for the growth of *Campylobacter* species. Addition of antibiotics like Vancomycin, Trimethoprim, Polymyxin B and Cycloheximide suppresses the growth of the normal microbial flora in faecal specimens which facilitates easy isolation of *Campylobacter* species.

Methodology

Suspend 15.6 grams of powder media in 460 ml distilled water. Mix thoroughly. Sterilize by autoclaving at 15lbs pressure (121°C) for 15 minutes. Cool to 50°C and aseptically add 35 ml sterile lysed horse blood and rehydrated contents of 1 vial of Doyle's Antibiotic Supplement (MS2043). Mix well and dispense.

Quality Control

Physical Appearance

Yellow coloured, may have slightly greenish tinge, homogeneous, free flowing powder.

Colour and Clarity of prepared medium

Light amber coloured, clear solution without any precipitate.

Reaction

Reaction of 3.12% w/v aqueous solution is pH 7.0 ± 0.2 at 25°C

pH range

6.8-7.2

Cultural Response/Characteristics

Cultural characteristics observed under reduced oxygen atmosphere at 35 - 37°C for 24 - 48 hours with added Doyle's Antibiotic Supplement (MS2043).

Organisms (ATCC)	Inoculum (CFU)	Growth
<i>Campylobacter jejuni</i> (29428)	10^2 - 10^3	Good luxuriant
<i>Candida albicans</i> (10231)	10^2 - 10^3	none poor
<i>Enterococcus faecalis</i> (29212)	10^2 - 10^3	none poor
<i>Escherichia coli</i> (25922)	10^2 - 10^3	none poor

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

1. Downes FP and Ito K (Eds.), 2001, Compendium of Methods For The Microbiological Examination of Foods, 4th ed., APHA, Washington, D.C.
2. Dekeyser, et al, 1972, J. Infect. Dis., 125:390.
3. Skirrow, 1977, Br. Med. J., 2:9.
4. Blaser, Cravens, Powers and Wang, 1978, Lancet, 2:979.

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