

Technical Information

Doyle's Enrichment Broth Base

Product Code: DM 1916

Application: - Doyles Enrichment Broth Base is used for enrichment of *Campylobacter* species.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	10.000
Peptic digest of animal tissue	10.000
Yeast extract	2.000
Dextrose	1.000
Sodium chloride	5.000
Sodium bisulphite	0.100
Sodium succinate	3.000
L-Cysteine hydrochloride	0.100
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Campylobacter have long been known as pathogens of animal but two species i.e. *Campylobacter jejuni* and *Campylobacter coli* are now among the commonest identified cause of enteritis in man. It was due to the former lack of selective culture medium for their isolation from faeces that their role as human pathogens was not recognized (1).

Doyles Enrichment Broth Base is recommended by APHA (2) for enrichment of *Campylobacter* species. Dekeyser et al (3) 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 (4) reported a selective medium containing three antimicrobics. Blaser et al (5) reported success in isolating *Campylobacter jejuni* with a medium containing four antimicrobics added to Brucella Agar supplemented with defibrinated sheep blood.

Peptic digest of animal tissue, casein enzymic hydrolysate, yeast extract, and blood supply the nitrogenous compounds, vitamin B, X factor (heme) and other growth factors for the growth of *Campylobacter* species. Dextrose acts as a source of energy. Inclusion of antibiotics like vancomycin, trimethoprim, polymyxin B and cycloheximide suppresses the growth of the normal microbial flora in faecal specimens, thereby facilitating easy isolation of *Campylobacter* species.

Inoculate 10 to 25 grams of the test food sample in 100 ml Doyles Enrichment Broth Base. After incubation at 35-37°C for 18-24 hours under reduced oxygen atmosphere, isolate onto a suitable selective medium.

Methodology

Suspend 15.6 grams of dehydrated powder media in 460 ml distilled water. Mix thoroughly & heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C and aseptically add 35 ml sterile lysed horse blood and rehydrated contents of 1 vial of Doyles Antibiotic Supplement (MS2043). Shake well before dispense as desired.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity

Basal medium: Light amber coloured clear solution. After addition of sterile lysed horse blood : Cherry red coloured, opaque solution in tubes

Reaction

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

pH Range

6.80-7.20

Cultural Response

DM1916: Cultural characteristics observed under reduced oxygen atmosphere, with added sterile lysed horse blood and Doyle's Antibiotic Supplement (MS2043) after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth
<i>Candida albicans</i> ATCC 10231	50-100	none-poor
<i>Campylobacter jejuni</i> ATCC 29428	50-100	good - luxuriant
<i>Escherichia coli</i> ATCC 25922	50-100	none-poor
<i>Enterococcus faecalis</i> ATCC 29212	50-100	none-poor

Storage and Shelf Life

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

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

Further Reading

1. Collee J. G., Fraser A. G., Marmion B. P., Simmons A., (Eds.), Mackie and McCartney, Practical Medical Microbiology, 1996, 14th Edition, Churchill Livingstone
2. Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.
3. D. C. Dekeyser, et al, 1972, J. Infect. Dis., 125:390.
4. Skirrow, 1977, Br. Med. J., 2:9.
5. Blaser, Cravens, Powers and Wang, 1978, Lancet, 2:979.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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