Campylo Thioglycollate Medium Base

M908

Campylo Thioglycollate Medium is recommended for maintenance, transport and storage of *Campylobacter* species .

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	20.000
Sodium chloride	2.500
Dipotassium phosphate	1.500
Sodium thioglycollate	0.600
L-Cystine	0.400
Sodium sulphite	0.200
Agar	1.600
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 26.8 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. To make the medium selective for Campylobacter species, add reconstituted contents of 2 vials of Campylobacter supplement-I (Blaser-Wang, FD006). Mix well before dispensing.

Principle And Interpretation

Campylobacter infections occur sporadically in the summer months and usually follow ingestion of improperly handled or cooked food, primarily poultry products (1). Dekeyser et al (2) reported that *Campylobacter jejuni* could be isolated on a selective media supplemented with antimicrobials from the faeces of patients having diarrhea and gastroenteritis (by the filtration technique). The antimicrobials help to inhibit the normal enteric flora of faeces. Skirrow used a selective medium with three antimicrobials i. e. vancomycin, polymyxin B and trimethoprim. (3). Later on, Blaser et al isolated *C. jejuni* by direct inoculation of faeces sample on an agar medium containing four antibiotics (4). They also reported that *C. jejuni* could be isolated from faeces sample held at refrigeration temperature for duration of 8-10 hours in Thioglycollate Broth, incorporated with the four antibiotics (5). Blaser et al later included the fifth antibiotic cephalothin to inhibit non-pathogenic *Campylobacter fetus* (6). Campylo Thioglycollate Medium Base (with antibiotics) is generally used as a holding medium when immediate examination and testing of samples is not possible (6). Campylo Thioglycollate Medium Base is also recommended by APHA for maintenance, transport and storage of cultures of *Campylobacter* species (7). It is also used for enrichment of *Campylobacter* species from stool samples (1).

The medium contains necessary nutrients to promote growth of *Campylobacter* species. Moreover the supplement FD006 (Blaser-Wang) consists of five antibiotics viz. amphotericin B, cephalothin, polymyxin B, trimethoprim and vancomycin which inhibits multiplication of normal microbial flora in faecal specimens thus facilitating isolation of *C. jejuni* . Cephalothin may not always inhibit *C. fetus* species and some strains may grow at 42°C. Further tests should be performed to confirm *C. jejuni* .

Rectal swabs can be directly inoculated into the medium in tubes. About 5 drops of stool sample (prepare a saline suspension if stool is solid) can be placed on the medium about 1cm below the surface. Inoculated Campylo Thioglycollate Medium Base can be refrigerated and subcultured on Campylobacter Agar Base (M994) with Campylobacter Supplement-I (Blaser-Wang, FD006).

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Highly viscous solution comparable with 0.16% Agar gel.

Colour and Clarity of prepared medium
Light to medium amber coloured, very slightly opalescent solution

Reaction
Reaction of 2.68% w/v aqueous solution at 25°C. pH : 7.0±0.2

pH
6.80-7.20

Cultural Response
M908: Cultural characteristics observed with added Campylobacter Supplement I(Blaser Wang,FD006) in an atmosphere of 5-15% O2 and 5-12% CO2 after an incubation at 42°C for 18-24 hours.

Organism	Growth
Campylobacter coli ATCC 33559	good-luxuriant
Campylobacter jejuni ATCC 33291	good-luxuriant
Escherichia coli ATCC 25922	none-poor
Helicobacter pylori ATCC 43504	good-luxuriant

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

Reference
1. Murray P. R., Baron E. J., Pfaller M. A., Tenover F. C., Yolken R. H ., (Eds.), 1995, Manual of Clinical Microbiology, 6th Ed, ASM Press.
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3. Skirrow M. B., 1977, Br. Med. J., 2:9.
4. Blaser, Cravens, Powers and Wang, 1978, Lancet, 2:979.
5. Blaser et al, 1979, Ann. Intern. Med., 91:179.
6. Reller, Wang and Blaser, 1979, ASCP check sample, Microbiology No.MB -99. Commission of Continuing Education, ASCP, Chicago.
7. Speck M. L., (Ed.), 1984, Compendium of Methods for The Microbiological Examination of Foods, 2nd Ed., APHA, Washington D.C.

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