Campylobacter Agar Base

M994

Intended use

Recommended for selective isolation of *Campylobacter* species from faecal specimens, food and environmental specimens.

Composition**

Ingredients	g / L
Proteose peptone	15.000
HL Digest#	2.500
Yeast extract	5.000
Sodium chloride	5.000
Agar	12.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Equivalent to Liver digest

Directions

Suspend 19.75 grams in 500 ml purified/distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 40-50°C and aseptically add 5-7% v/v sterile lysed horse blood or 10% sterile defibrinated sheep blood and rehydrated contents of one vial of Blaser-Wang Selective Supplement, FD006 or Skirrow Selective Supplement, FD008. Mix well before pouring into sterile Petri plates.

Principle And Interpretation

Campylobacter species are ubiquitous in the environment inhabiting a wide variety of ecological niches (1). Infection with a *Campylobacter* species is one of the most common causes of human bacterial gastroenteritis (1). Most species are found in animals (cattle, swine) and cause infertility and abortion (2). *C.jejuni* was originally isolated on a blood-containing media with antibiotics (3). Skirrow described a selective medium for *Campylobacter* species consisting of Blood Agar Base No. 2 supplemented with horse blood and antibiotics (4). Subsequently, Blaser et al isolated *C.jejuni* on Brucella Agar supplemented with sheep blood and four antibiotics (5). Later on, a fifth antibiotic, cephalothin was added to improve the selectivity of the medium by inhibition of accompanying faecal bacteria (6). Campylobacter Agar Base is recommended by APHA for selective isolation of *Campylobacter* species (7).

Campylobacter Agar Base is well supplemented to support luxuriant growth of *Campylobacter* species. Osmotic equilibrium of the medium is maintained by sodium chloride. Blood serves as an additional source of nutrients including X-factor. The antibiotic supplements namely Blaser-Wang (FD006) and Skirrow (FD008) markedly reduce the growth of normal enteric bacteria while enhancing the growth and recovery of *C.jejuni* from faecal specimens. Amphotericin B in Blaser-Wang supplement greatly or completely inhibits growth of fungi. *C.jejuni* colonies appear non-haemolytic, flat and gray with an irregular edge or raised and round with a mucoid appearance. Some strains may appear tan or slightly pink. Swarming may be observed on moist surfaces. Incubation at 35-37°C may show a delayed growth of *C.jejuni* cultures. Incubating the plates at 42°C can fasten this.

The contaminated food sample (10 to 25 grams) is enriched in Campylobacter Enrichment Broth Base (M899 + FD042). The broth is incubated with agitation under a micro aerobic atmosphere for 16-18 hrs. The enrichment culture is then plated onto the selective media i.e. Campylobacter Agar Base (M994) (7).

Type of specimen

Clinical samples - faeces; Food and dairy samples; Environmental samples.

Specimen Collection and Handling:

For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (8,9).

For clinical, environmental samples follow appropriate techniques for handling specimens as per established guidelines (10,11).

After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

In Vitro diagnostic use. For professional use only. 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 clinical 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. Well isolated colonies must be used.

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

Gelling

Firm, comparable with 1.2% Agar gel.

Colour and Clarity of prepared medium

Basal medium: Yellow coloured clear gel

After addition of 5-7% v/v lysed blood: Reddish brown coloured opaque gel forms in Petri plates

Reaction

Reaction of 3.95% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH

7.20-7.60

Cultural Response

Cultural characteristics observed under reduced oxygen atmosphere after an incubation at 35-37°C for 24-48 hours. (FD006-Blaser-Wang Selective Supplement/ FD008-Skirrow Selective Supplement)

Organism	Growth w/ added FD006	Growth w/ added FD008
Candida albicans ATCC 10231 (00054*)	none - poor	moderate
Campylobacter jejuni ATCC 29428 (00156*)	good-luxuriant	good-luxuriant
Escherichia coli ATCC 25922 (00013*)	none - poor	none - poor
Enterococcus faecalis ATCC 29212 (00087*)	none - poor	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 clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (10,11).

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