



Blood Free Campylobacter Selectivity Agar Base

M887

Blood Free Campylobacter Selectivity Agar Base is used for selective isolation and differentiation of *Campylobacter* species from food and animal feeding stuffs. The composition and performance criteria of this medium are as per the specifications laid down in ISO 10272:1995.

Composition**

Ingredients	Gms / Litre
Meat extract B #	10.000
Peptone	10.000
Casein enzymic hydrolysate	3.000
Sodium chloride	5.000
Sodium deoxycholate	1.000
Ferrous sulphate	0.250
Sodium pyruvate	0.250
Charcoal, bacteriological	4.000
Agar	12.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Equivalent to Beef extract

Directions

Suspend 22.75 grams in 500 ml distilled water. Heat to boiling 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 rehydrated contents of 1 vial of Campylobacter Supplement V (FD067). Alternatively to increase the selectivity of the medium, rehydrated content of one vial of CAT Selective Supplement (FD145) may be added to 500 ml sterile molten base. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Campylobacters are carried in the intestinal tract of animal and therefore contaminate foods of animal origin (1). *Campylobacter* causes intestinal upset or abortion in animals. It is also one of the most important causes of human gastroenteritis, particularly in children. Initially blood was used in the isolation of *Campylobacter*. But, later it was reported by Bolton et al (2) that charcoal can be effectively used in place of blood. This rules out the variability obtained due to the use of blood.

Blood Free Campylobacter Selectivity Agar Base (3) formulated as per APHA (1) and recommended by the ISO Committee (4) is used for selective isolation of *Campylobacter* species. Cephalothin in the original formulation was replaced by Cefoperazone as the selective agent since the latter gave better selectivity (5). *Campylobacter* species are highly resistant to cefoperazone, an antibiotic which effectively suppresses growth of *Pseudomonas* and *Enterobacteriaceae* (7, 8, 9). Addition of cefoperazone increases the selectivity of the medium. Due to this addition, the medium is also known as Campylobacter Charcoal Differential Agar (CCDA). Charcoal, sodium pyruvate and ferrous sulphate reduces the aerotolerance of medium by quenching photochemically generated toxic oxygen derivatives (9).

Peptone, casein enzymic hydrolysate and meat extract B serve as sources of essential nutrients and amino acids. Casein is added to help grow certain strains of nalidixic acid resistant thermophilic *Campylobacter* that are environmental organisms (6). Additional Amphotericin B in Blood Free Campylobacter Broth Base suppresses the growth of yeast and mold contaminants. Colonies tend to swarm when initially isolated from clinical specimens.

Quality Control

Appearance

Grey to black homogeneous free flowing powder

Gelling

Firm, comparable with 1.2% Agar gel

Colour and Clarity of prepared medium

Black coloured, opaque gel forms in Petri plates

Reaction

Reaction of 4.55% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH

7.20-7.60

Cultural Response

Cultural characteristics observed with added Campylobacter Supplement V(FD067), after an incubation at 42°C for 24-48 hours.

Cultural Response

Organism	Growth	Inoculum (CFU)	Recovery	Colour of colony
Cultural Response <i>Campylobacter coli</i> ATCC 33559	good-luxuriant	50-100	≥50%	creamy-grey
<i>Campylobacter jejuni</i> ATCC 29428	good-luxuriant	50-100	≥50%	grey
<i>Escherichia coli</i> ATCC 25922	inhibited	≥10 ³	0%	
<i>Campylobacter laridis</i> ATCC 35222	good-luxuriant	50-100	≥50%	varying type

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 the label.

Reference

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