



PRODUCT DATA SHEET

CPC (CELLOBIOSE, POLYMXIN AND COLISTIN) AGAR BASE

TM 1422

for cultivation of *Vibrio* species from foods

Composition

Ingredients	Gms/Ltr.
Sodium chloride	20.00
Agar	15.00
Cellobiose	15.00
Peptic digest of animal tissue	10.00
Beef extract	5.00
Bromothymol blue	0.04
Cresol red	0.04

* Dehydrated powder, store in a dry place, in tightly-sealed containers at 24°C and protect from direct Sunlight.

Instructions for Use

Dissolve 65.08gms in 1000 ml of distilled water. Gently heat to boiling with gentle swirling and dissolve the medium completely. Sterilize by autoclaving at 15 psi (121°C) for 15 minutes. Cool to 45 - 50°C and then add two vials of **CPC SUPPLEMENT (TS 141)** to the medium. Mix well before pouring into the sterile Petri plates.

Appearance: Olive-green to light brown colour, slightly opalescent
pH (at 25°C): 7.6 ± 0.2

Principle

CPC (CELLOBIOSE, POLYMXIN AND COLISTIN) AGAR BASE is used for cultivation of *Vibrio* species from foods. Vibrios are Gram negative, motile and facultative anaerobic group of bacteria commonly inhabit in the marine water and are the fish parasites. They are well known to cause food borne diseases in humans by consuming the undercooked sea foods. Different species of Vibrios such as *V. cholera*, *V. vulnificus* and *V. parahaemolyticus* are the most common human pathogens. The CPC Agar is often used as a differential medium to differentiate the *V. vulnificus* from the other species of Vibrios. Most of the *V. parahaemolyticus* species are unable to grow in this medium. The medium composition is in accordance to the rules and regulations of APHA. The medium contains Peptic digest of animal tissue and Beef extract to provide carbon, nitrogen, vitamins and other nutrients for the growth of microbes in the medium. Sodium chloride is added to control the osmotic balance of the medium. Cellobiose acts as a source for carbohydrate and energy for the fermentation reaction by some species of *Vibrio* to produce acid which is detected by the acidic pH indicator - Bromothymol blue to turn the colour of the medium to yellow. The alkaline pH indicator - Cresol red turns the medium colour to red if the medium is alkaline. Agar is added as a solidifying agent in the medium.



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Interpretation

Cultural characteristics observed after inoculating the organisms and subsequent incubation at $40 \pm 2^{\circ}\text{C}$ for 18 – 24 hours.

Microorganisms	ATCC	Inoculum (CFU)	Growth	Appearance of colonies
<i>Vibrio vulnificus</i>	27562	$10^3 - 10^5$	Luxuriant	Yellow colour colonies
<i>Vibrio cholerae</i>	15748	$10^3 - 10^5$	Luxuriant	Green to purple colour colonies
<i>Vibrio parahaemolyticus</i>	17802	$10^3 - 10^5$	Poor to None	No characteristic colony colour

References

1. American Type Culture Collection, Manassas, Va. U.S.A.
2. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Tenover F. C., (Eds.). 2003. Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.
3. Vanderzant C. and Splittstoesser D. F., (Eds.). 1992. Compendium of Methods for the Microbiological Examination of foods, 3rd Ed., APHA, Washington, D.C.