



# PRODUCT SPECIFICATION SHEET

## Modified CPC Agar Base(Modified Cellobiose- Polymyxin B-Colistin agar)(DM868)

### Intended Use

Modified CPC Agar Base is used for the cultivation and identification of Vibrio species from foods in accordance with FDA BAM, 1998.

### Product Summary and Explanation

Human disease is associated with ingestion of contaminated water or consumption of contaminated seafood. Wound and systemic infections develop following contact with contaminated water <sup>(4)</sup>. Vibrio species are natural inhabitants of brackish and salt water. Modified CPC (Cellobiose, Polymyxin and Colistin) Agar Base, is formulated in accordance with FDA BAM <sup>(5)</sup> for the differentiation of Vibrio vulnificus from other Vibrio's <sup>(4)</sup>. Vibrio cholerae strains except V.cholerae O1-classical biotype grow on CPC Agar while most Vibrio parahaemolyticus strains do not grow on CPC Agar. If growth occurs, colonies appear green purple coloured due to lack of cellobiose fermentation.

### Principles of the Procedure

Modified CPC Agar contains peptone and beef extract, which supply the essential nitrogenous, carbonaceous compounds, long chain amino peptides, vitamins and other growth nutrients to Vibrios. Cellobiose is fermented by some Vibrios producing acid and is indicated by the pH indicator bromothymol blue, which turns yellow at acidic pH. Cresol red is the pH indicator of alkaline range, which turns red at alkaline pH. Alkaline pH of the medium enhances the recovery of Vibrios.

### Formula / Liter

Ingredients	Gms / Liter
Peptone	10.00
Beef extract	5.00
Sodium chloride	20.00
Cresol red	0.04
Bromothymol blue	0.04
Cellobiose	10.00
Agar	15
Final pH: 7.6 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

### Precautions

1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

### Directions

1. Suspend 60.08 grams of the medium in one liter of distilled water.
2. Heat if necessary, to dissolve the medium completely.
3. Dispense as desired.
4. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.
5. Cool to 45-50°C and aseptically add the rehydrated contents of 1 vial of Modified CPC Supplement (MS215).
6. Mix well and pour into sterile Petri plates.

### Quality Control Specifications

Dehydrated Appearance	Light yellow to light brown colored, homogeneous, free flowing powder
Prepared Medium	Olive-green to light brown coloured, clear to slightly opalescent gel forms in Petri plates
Reaction of 6.08 %	pH : 7.6 ± 0.2 at 25°C





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<b>Solution</b>	
<b>Gel Strength</b>	Firm, comparable with 1.5% Agar ge

**Expected Cultural Response:** Cultural characteristics observed with added Modified CPC Supplement (MS215) after an incubation at 39-40°C for 18-24 hours.

Sr. No.	Organisms	Results to be achieved			Color of colony
		Inoculum (CFU)	Growth	Recovery	
1.	<i>Vibrio cholerae</i> ATCC 15748	50 - 100	good-luxuriant	≥50%	Green-purple
2.	<i>Vibrio parahaemolyticus</i> ATCC 17802	≥10 <sup>3</sup>	Inhibited	-	-
3.	<i>Vibrio vulnificus</i>	50 - 100	good-luxuriant	≥50%	Yellow

The organisms listed are the minimum that should be used for quality control testing.

## Test Procedure

Blend approximately 25 grams of food sample with 225 ml Alkaline Peptone Water (DM009). Transfer a loopful from the surface growth of either Alkaline Peptone Water (DM009) or Gelatin Phosphate Salt Broth to the surface of the dried plates of CPC Agar with supplement (MS215). Streak in a manner that will yield isolated colonies. Incubate CPC Agar at 40 - 42°C for 18 to 24 hours.

## Results

Typical colonies of *V. cholerae* on CPC Agar are small, smooth, opaque and green to purple in colour as CPC Agar contains two pH indicators viz. bromothymol blue and cresol red. A purple background will also develop in the CPC Agar upon extended incubation.

## Storage

Store the sealed bottle containing the dehydrated medium at 2 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

## Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

## Limitations of the Procedure

*V. cholerae* on CPC Agar are small, smooth, opaque and green to purple in colour as CPC Agar contains two pH indicators viz. bromothymol blue and cresol red. 2. A purple background will develop if incubation gets protracted.

## Packaging

**Product Name :** Modified CPC Agar Base

**Product Code :** DM868

**Available Pack sizes :** 500gm

## References

1. Bacteriological Analytical Manual, 8th Edition, Revision A, 1998
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
3. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock, D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
4. Murray P.R., Baron J.H., Pfaller M.A., Jorgensen J.H. and Tenover F.C., (Ed), 2003, 5. Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.





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6.Salfinger Y., and Tortorello M.L. 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.

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