



PRODUCT SPECIFICATION SHEET

Vibrio Agar (DM707)

Intended Use

Vibrio Agar (DM707) is recommended for selective cultivation of *Vibrio* species.

Product Summary and Explanation

Vibrio species cause intestinal or extra-intestinal human infections, usually associated with eating undercooked seafood. Several species of *Vibrio* are pathogens.⁽¹⁾ Most disease-causing strains are associated with gastroenteritis, but can also infect open wounds and cause septicemia. *Vibrio* species, like many other gram-negative bacteria, grow in the presence of relatively high levels of bile salts. They are facultatively anaerobic and grow best in alkaline conditions. Media formulated with an alkaline pH is used to facilitate isolation of these organisms, due to the tolerance of this condition by *Vibrio* species. Addition of appropriate selective agents can make the media can be made selective for *Vibrios*. The main agents engaged are bile salts, teepol, tellurite and polymyxin B and E (Colistin).⁽²⁾ Vibrio Agar is a selective medium for the isolation of *Vibrio cholerae*, *Vibrio parahaemolyticus* and other *Vibrios*.⁽³⁾

Principles of the Procedure

Vibrio Agar contains casein enzymic hydrolysate, proteose peptone, yeast extract which provides nitrogenous, carbonaceous compounds, sulphur, vitamin B complex and other essential nutrients required for growth of microorganisms. Sodium citrate, sodium deoxycholate and oxgall inhibit gram-positive organisms and coliforms. Sucrose is the fermentable carbohydrate. Sodium thiosulphate acts as a sulphur source and in combination with ferric citrate helps to detect H₂S production. China blue and cresol red are the pH indicators. Alkaline pH of this medium helps in recovery of *V. cholerae*.

Formula / Liter

Ingredients	Gms / Liter
Casein enzymic hydrolysate	4.00
Yeast extract	5.00
Proteose peptone	3.00
Sucrose	20.00
Sodium thiosulphate	6.50
Sodium citrate	10.00
Sodium deoxycholate	1.00
Sodium chloride	10.00
Oxgall	5.00
Sodium lauryl sulphate	0.20
China blue	0.20
Cresol red	0.02
Agar	15.00
Final pH: 8.5 ± 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.





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Directions

1. Suspend 79.92 grams of the medium in one liter of distilled water.
2. Heat to boiling, to dissolve the medium completely.
3. DO NOT AUTOCLAVE.
4. Cool to 45-50°C and pour into sterile Petri plates.

Quality Control Specifications

Dehydrated Appearance	Light yellow to greyish yellow homogeneous free flowing powder
Prepared Medium	Reddish purple coloured clear to slightly opalescent gel forms in Petri plates
Reaction of 7.99% Solution	pH : 8.5 ± 0.2 at 25°C
Gel Strength	Firm, comparable with 1.5% Agar gel

Expected Cultural Response: Cultural characteristics after an incubation at 35-37°C for 18-24 hours.

Sr. No.	Organisms	Results to be achieved			
		Inoculum (CFU)	Growth	Recovery	Colour of colony
1.	<i>Enterococcus faecalis</i> ATCC 29212	50-100	none-poor	<=10%	yellow
2.	<i>Escherichia coli</i> ATCC 25922	>=10 ³	inhibited	0%	-
3.	<i>Pseudomonas aeruginosa</i> ATCC 27853	50-100	none-poor	<=10%	blue
4.	<i>Salmonella Typhi</i> ATCC 6539	>=10 ³	inhibited	0%	-
5.	<i>Shigella flexneri</i> ATCC 12022	>=10 ³	inhibited	0%	-
6.	<i>Vibrio cholerae</i> ATCC 15748	50-100	good-luxuriant	>=50%	blue
7.	<i>Vibrio parahaemolyticus</i> ATCC 17802	50-100	good-luxuriant	>=50%	slightly reddish

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

Test Procedure

Refer to appropriate references for standard test procedures.

Results

1. Sucrose fermentative bacteria such as *V. cholerae* and *V.alginolyticus* form blue colonies due to the pH indicator china blue and *V.parahaemolyticus* forms slightly reddish and translucent colonies.
2. Refer appropriate references and procedures for interpretation of results.

Storage

Store the sealed bottle containing the dehydrated medium at 10 - 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.





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Limitations of the Procedure

1. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
2. Consult appropriate texts for detailed information and recommended procedures.

Packaging

Product Name : Vibrio Agar

Product Code : DM707

Available Pack sizes : 500gm

References

1. C. Michael Hogan. 2010. *Bacteria*. Encyclopedia of Earth. eds. Sidney Draggan and C.J.Cleveland, National Council for Science and the Environment, Washington DC.
2. Gomez-Gil B. and Roque A., Isolation, Enumeration and Preservation of the Vibrionaceae, Thompson F. L., Austin B. And Swings J., The Biology of Vibrios, ASM press.
3. Atlas R. M. 2004, 3rd Ed., Handbook of Microbiological Media, Parks, L.C., (Ed.), CRC Press, Boca Raton.

Further Information

For further information please contact your local MICROMASTER Representative.



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