Vibrio Agar

M820

Vibrio Agar is used for selective cultivation of *Vibrio* species.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	4.000
Yeast extract	5.000
Proteose peptone	3.000
Sucrose	20.000
Sodium thiosulphate	6.500
Sodium citrate	10.000
Sodium deoxycholate	1.000
Sodium chloride	10.000
Oxgall	5.000
Sodium lauryl sulphate	0.200
China blue	0.200
Cresol red	0.020
Agar	15.000
Final pH (at 25°C)	8.5±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 79.92 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE. Cool to 45-50°C and pour into sterile Petri plates.

Principle And Interpretation

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. Isolation is facilitated by the use of media formulated with an alkaline pH due to the tolerance of this condition by *Vibrio* species. Media can be made selective for Vibrios by adding appropriate selective agents. The main agents employed 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* (1).

Casein enzymic hydrolysate, proteose peptone, yeast extract provide nitrogenous, carbonaceous compounds, sulphur, vitamin B complex and other essential growth nutrients. Sodium citrate, sodium deoxycholate and oxgall inhibit gram-positive organisms and coliforms. Sucrose is the fermentable carbohydrate. Sucrose fermentative bacteria such as *V. cholerae* and *V. alginolyticus* form blue colonies due to the indicator china blue. *V. parahaemolyticus* forms slightly reddish and transluscent colonies. Sodium thiosulphate in combination with ferric citrate detects H2S production. Thiosulphate also acts as a sulphur source. Alkaline pH of this medium helps in recovery of *V. cholerae* . China blue and cresol red are the pH indicators.

Quality Control

Appearance

Light yellow to greyish yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity of prepared medium

Reddish purple coloured clear to slightly opalescent gel forms in Petri plates.

Reaction

Reaction of 7.99% w/v aqueous solution at 25°C. pH : 8.5±0.2

pH

8.30-8.70

Cultural Response

M820: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
Enterococcus faecalis ATCC 29212	50-100	none-poor	<=10%	yellow
Escherichia coli ATCC 25922	>=10^3	inhibited	0%	-
Pseudomonas aeruginosa ATCC 27853	50-100	none-poor	<=10%	blue
Salmonella Typhi ATCC 6539	>=10^3	inhibited	0%	-
Shigella flexneri ATCC 12022	>=10^3	inhibited	0%	-
Vibrio cholerae ATCC 15748	50-100	good-luxuriant	>=50%	blue
Vibrio parahaemolyticus ATCC 17802	50-100	good-luxuriant	>=50%	slightly reddish

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

1. Atlas R. M. 2004, 3rd Ed., Handbook of Microbiological Media, Parks, L.C., (Ed.), CRC Press, Boca Raton.
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.

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