SDS Agar (Sodium Dodecyl Sulphate Polymyxin Sucrose Agar) M1155

SDS Agar is used for enrichment, isolation and enumeration of *Vibrio vulnificus* from seafood samples as per APHA.

Composition**

Ingredients	Gms / Litre
Proteose peptone	10.000
Beef extract	5.000
Sucrose	15.000
Sodium chloride	20.000
Sodium dodecyl sulphate	1.000
Bromothymol blue	0.040
Cresol red	0.040
Agar	15.000
Final pH (at 25°C)	7.6±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 33.04 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 to 50°C and aseptically add rehydrated contents of 1 vial of Polymyxin B Selective Supplement (FD003). Mix well and pour into sterile Petri plates.

Principle And Interpretation

Vibrio vulnificus is a gram-negative, motile, curved, rod-shaped bacterium. Present in marine environments such as estuaries, brackish ponds, or coastal areas, *V. vulnificus* is closely related to *V. cholerae* , the causative agent of cholera (1, 2). *V. vulnificus* causes an infection often incurred after eating seafood, especially oysters. The bacteria can also enter the body through open wounds when swimming or wading in infected waters (2). SDS Agar is formulated as described by Bryant et al (3) for differentiation of *V. vulnificus* from other *Vibrio* . SDS Agar is recommended by APHA (4) for isolation and enumeration of *V. vulnificus* from sea foods. *V. vulnificus* is a causative agent of septicemic shock associated with consumption of raw oysters (4). *V. vulnificus* forms distinctive colonies which are round, opaque, blue to brownish, about 2 to 3 mm in diameter with a blue opaque halo around each colony.

The medium contains proteose peptone and beef extract which provide necessary growth nutrients like nitrogenous and carbonaceous compounds. Sucrose is a fermentable sugar.

Addition of 2% sodium chloride to the medium provides necessary salinity for the growth of *Vibrio* . Bromothymol blue and cresol red act as pH indicators. Sodium dodecyl sulphate and polymyxin B sulphate are the selective agents.

Quality Control

Appearance
Cream to 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 6.6% w/v aqueous solution at 25°C. pH : 7.6±0.2

pH
7.40-7.80

Cultural Response
M1155: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
Cultural Response				
Vibrio cholerae ATCC 15748	50-100	luxuriant	>=50%	yellow
Vibrio vulnificus ATCC 29306	50-100	luxuriant	>=50%	blue

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. Oliver J. D., Kaper J., 2001, Vibrio species. pp. 263-300 In: Food Microbiology: Fundamentals and Frontiers, (Doyle M. P. et al, Editors), 2nd Ed., ASM Press. 1555811175.
2. Oliver J. D., 2005, “Wound infections caused by Vibrio vulnificus and other marine bacteria”, Epidemiol. Infect. 133 (3): 383-91.
3. Bryant R. G., Jarvis J. and Janda J. M., 1987, Appl. Environ. Microbiol. 53:1556.
4. Vanderzant C. and Splittstoesser D. F., (Eds.), 1992, Compendium of Methods for the Microbiological Examination of Foods, 3rd Ed., APHA, Washington, D.C.

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