



Technical Data

SDS HiVeg[®] Agar Base (Sodium Dodecyl Sulphate Polymyxin Sucrose HiVeg[®] Agar Base)

MV1155

Intended Use:

This medium is prepared by completely replacing animal based peptones with vegetable peptones. Recommended for enrichment, isolation and enumeration of *Vibrio vulnificus* from seafood samples in accordance with APHA.

Composition**

Ingredients	g / L
HiVeg [®] peptone No. 3	10.000
HiVeg [®] 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

- Equivalent to Beef extract

Directions

Suspend 33.04 gram in 500 ml purified / distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C and aseptically add rehydrated contents of 1 vial of PolyB 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) and ISO / TS 21872-2 (5) and ISO 11133-2014 (6) for isolation and enumeration of *V. vulnificus* from foods. *V. vulnificus* is a causative agent of septicemic shock associated with consumption of raw oysters. *V. vulnificus* forms distinctive colonies which are round, purple/green colonies with an opaque halo about 2 to 3 mm in diameter. SDS HiVeg[®] Agar Base is prepared by using vegetable peptones in place of animal based peptones which make the media free of BSE/TSE risks.

The medium contains HiVeg[®] peptone No. 3 and HiVeg[®] extract which provide nitrogen and carbon source, long chain amino acids, vitamins and necessary growth nutrients. 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.

Type of specimen

Food samples

Specimen Collection and Handling:

For food samples, follow appropriate techniques for sample collection and processing as per guidelines (4-6). After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

Limitation

1. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
2. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirement.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

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

Productivity : Cultural characteristics observed after an incubation at 37±1°C for 24±3 hours with added PolyB Selective Supplement (FD003).

Selectivity : Cultural characteristics observed after an incubation at 37±1°C for 24±3 hours with added PolyB Selective Supplement (FD003).

Organism	Inoculum (CFU)	Growth	Characteristic reaction
Productivity			
<i>Vibrio cholerae</i> non-01 / non-0139 ATCC 14733 (00203)	10 ³ -10 ⁴	good	yellow colonies with an opaque halo
<i>Vibrio vulnificus</i> ATCC 29307 (00187*)	10 ³ -10 ⁴	good	purple/green colonies with an opaque halo
Selectivity			
<i>Escherichia coli</i> ATCC 25922 (00013*)	≥10 ⁴	inhibited	
<i>Escherichia coli</i> ATCC 8739 (00012*)	≥10 ⁴	inhibited	
<i>Escherichia coli</i> ATCC 11775 (00090*)	≥10 ⁴	inhibited	

Key : (*) Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (7,8).

References

- 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.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.
- 5.Microbiology of the food chain Horizontal method for the determination of *Vibrio* spp .Part 2: Enumeration of total and potentially enteropathogenic *Vibrio parahaemolyticus* in seafood using nucleic acid hybridization. ISO/TS 21872-2:2020
- 6.Microbiology of food , animal feed and water- Preparation, production, storage and performance testing of culture media, ISO 11133:2014 (E) Amd. :2020.
- 7.Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition
- 8.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.

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1. Nakanishi Y., 1963, *Modern Media* 9: 246.
2. Kobayashi T., Enomoto S., Sakazaki R., and Kuwahara S., 1963, *Jap. J. Bacteriol.*, 18: 387.
3. Bureau of Indian Standards, IS : 5887 (Part V) 1976, reaffirmed 2005.
4. Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, *Standard Methods for the Examination of Water and Wastewater*, 23rd ed., APHA, Washington, D.C.
5. BAM Media M147: Thiosulfate-Citrate-Bile Salts-Sucrose (TCBS) Agar, *Bacteriological Analytical Manual*, 8th Edition, Revision A, 1998.
6. *Microbiology of the food chain —Horizontal method for the determination of *Vibrio* spp.*, Part 1:Detection of potentially enteropathogenic *Vibrio parahaemolyticus*, *Vibrio cholerae* and *Vibrio vulnificus*, ISO 21872-1:2017(E).
7. *Microbiology of food , animal feed and water- Preparation, production, storage and performance testing of culture media*, ISO 11133:2014(E).
8. MacFaddin J. F., 1985, *Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria*, Vol. 1, Williams & Wilkins, Baltimore, Md.
9. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, *Compendium of Methods for the Microbiological Examination of Foods*, 5th Ed., American Public Health Association, Washington, D.C.
10. Isenberg, H.D. *Clinical Microbiology Procedures Handbook* 2nd Edition.
11. 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.