Technical Data

Phenylethyl Alcohol HiVeg™ Agar

MV269

Intended Use:

Recommended for selective isolation of gram positive organisms like Staphylococci and Streptococci from various samples.

Composition**

Ingredients	g / L
HiVeg™ hydrolysate	15.000
Soya peptone	5.000
Sodium chloride	5.000
Phenyl ethanol	2.500
Agar	15.000
Final pH (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 42.5 grams in 1000 ml purified/distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. For the preparation of blood agar add 5% v/v sterile defibrinated blood to the sterile molten medium cooled to 45-50°C. Mix well before pouring into sterile Petri plates.

Principle And Interpretation

Phenylethyl alcohol is a chemical agent that exhibits inhibitory action against gram-negative and certain gram-positive bacteria. Phenylethyl Alcohol Agar is formulated as per Lilley and Brewer (1) for the selective isolation of gram-positive bacteria. This medium can be supplemented with 5 % sheep blood. This medium is especially useful when specimens are contaminated with swarming *Proteus* species. It is also useful in the diagnostic studies of wounds and exudate cultures (2). However, Phenylethyl Alcohol Agar cant be used to study haemolytic reactions as the results are atypical. Phenylethyl Alcohol HiVeg™ Agar is prepared by using vegetable peptones in place of animal based peptones which make the media free of BSE/TSE risks.

HiVeg™ hydrolysate and soya peptone provide nitrogen, carbon, sulfur and trace elements to the growing organisms. Addition of sheep blood provides many growth factors. Sodium chloride maintains osmotic equilibrium. Addition of phenylethanol to a nutritive medium permits the growth of gram-positive organisms but inhibits the gram-negative organisms found in the same specimen (1). Phenylethyl alcohol exerts inhibitory bacteriostatic action on gram-negative bacteria by inhibiting their DNA synthesis (3).

Type of specimen

Food samples

Specimen Collection and Handling

For food samples, follow appropriate techniques for sample collection and processing as per guidelines (4). 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.

Limitations

1. Due to nutritional variations, some strains may show poor growth.
2. Phenylethyl Alcohol Agar cant be used to study haemolytic reactions as the results are atypical.

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

Basal medium: Light amber coloured clear to slightly opalescent gel. After addition of 5%v/v sterile defibrinated blood : Cherry red coloured opaque gel forms in Petri plates

Reaction

Reaction of 4.25% w/v aqueous solution at 25°C. pH : 7.3±0.2

pH

7.10-7.50

Cultural Response

Cultural characteristics observed with added 5% v/v sterile defibrinated blood, after an incubation at 35-37°C for 18-48 hours

Organism	Inoculum (CFU)	Growth	Colour of colony
Staphylococcus aureus subsp. *aureus* ATCC 25923 (00034*)	50-100	good-luxuriant	white to gray or cream to yellow
Enterococcus faecalis ATCC 29212 (00087*)	50-100	good-luxuriant	blue-gray
Salmonella Typhi ATCC 6539	50-100	none-poor	
Escherichia coli ATCC 25922 (00013*)	50-100	none-poor	
Proteus mirabilis ATCC 25933	50-100	none-poor	

Key : *Corresponding WDCM numbers.

Storage and Shelf Life

Store dehydrated 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 (5,6).

Reference

1. Lilley B. D. and Brewer J. H., 1953, J. Am. Pharm. Assoc., 42:6.
2. Dowell, Hill and Altemeier, 1964, J. Bacteriol., 88:1811.
3. Holzman J. A., 1958, Am. J. Med. Technol., 24 (5), 327,342
4. 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.
5. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
6. 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.

Revision :03/2024