Technical Data

Dextrose Proteose Peptone HiVeg™ Agar Base MV734

Intended Use:

Recommended with added blood and tellurite it is used for isolation of *Corynebacterium diphtheriae.*

Composition**

Ingredients	g / L
HiVeg™ peptone No. 3	20.000
Dextrose (Glucose)	2.000
Sodium chloride	5.000
Agar	15.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 42.0 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. Cool to 45-50°C. Aseptically add sterile 5% v/v defibrinated blood and sterile PTe 1% Selective Supplement (1 ml per vial) (FD052). Mix well and pour into sterile Petri plates.

Principle And Interpretation

Corynebacterium diphtheriae is the causative agent of diphtheria, an acute communicable disease manifested by both local infection of the upper respiratory tract and the systemic effects of a toxin, which are most notable in the heart and peripheral nerves. *C. diphtheriae* is most often isolated from the nasopharynx or skin lesions of patients with diphtheria (1). Dextrose Proteose Peptone HiVeg™ Agar Base is prepared by using vegetable peptones in place of animal based peptones which make the media free of BSE/TSE risks. Dextrose Proteose Peptone HiVeg™ Agar Base is used for the isolation of *C.diphtheriae,* in combination with blood and tellurite. A selective serum medium containing tellurite was described by Conradi and Troch for isolating *C.diphtheriae* (2). This medium later on underwent modification by different authors in which they used heated Blood Agar Tellurite or Blood Agar Tellurite Arsenate Medium (3,4,5). McGuigan and Frobisher had used a Cystine Tellurite Blood Agar for C.diphtheriae (6). Without the inclusion of blood and tellurite, this medium is recommended as a general laboratory medium. With added tellurite and blood, this medium permits the isolation of *C.diphtheriae.* HiVeg™ peptone No. 3 serves as source of carbon, nitrogen, vitamins and minerals. Dextrose serves as an energy source. Sodium chloride helps to maintain the osmotic equilibrium. Potassium tellurite serves as a selective agent.

Type of specimen

Please add specimens

Specimen Collection and Handling:

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. Specimens if enriched on Loeffler medium, can give better growth of *Corynebacterium* species.
2. Other organisms such as Staphylococci, Streptococci will grow as minute black colonies due to tellurite reduction, hence *Corynebacterium* should be confirmed by gram staining and other biochemical test.

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 brown coloured, opaque gel forms in Petri plates

Reaction

Reaction of 4.2% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH

7.20-7.60

Cultural Response

Cultural characteristics observed with added 5%v/v sterile defibrinated blood and PTe 1% Selective Supplement (1 ml per vial) (FD052), after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of Colony
Corynebacterium diphtheriae ATCC 11913	50-100	good-luxuriant	>=50%	black

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).

Reference

1. Murray P. R., Baron E. J, Pfaller M. A, Tenover F. C, Yolken R .H. (Eds.) 1995, Manual of Clinical Microbiology,6th Ed. ASM Press, Washington D.C.
2. Conradi and Troch, 1912, Muench. Wochschr., 59:1652.
3. Anderson J. S., Happold F. C, McLeod J. W. and Thompson J. G., 1931, J. Path. Bacteriol., 34:667.
4. Horgan E. S. and Marshall A., 1932, J. Hyg., 32:544.
5. Wilson S., 1934, J. Path. Bact., 38:114.
6. McGuigan and Frobisher, 1936, J. Infect. Dis., 59:22
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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