

Dubos Oleic HiVeg™ Broth Base

MV839

Intended Use:

Recommended for cultivation of *Mycobacterium tuberculosis* and for determining its sensitivity to chemo-therapeutic agent.

Composition**

Ingredients	g / L
HiVeg™ hydrolysate	0.500
L-Asparagine	1.000
Potassium dihydrogen phosphate	1.000
Disodium hydrogen phosphate	2.500
Ferric ammonium citrate	0.050
Magnesium sulphate	0.010
Calcium chloride anhydrous	0.0005
Zinc sulphate	0.0001
Copper sulphate	0.0001
Final pH (at 25°C)	6.6±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 1.0 gram in 180 ml purified/distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool and aseptically add 1 vial (20 ml) of sterile Oleic Albumin Supplement (FD020) and 5,000 to 10,000 units of Penicillin. Mix well and dispense in sterile tubes or flasks as desired.

Principle And Interpretation

Tuberculosis remains a major global public health problem worldwide. *Mycobacterium tuberculosis*, the causative agent of tuberculosis in man, is carried in airborne particles known as droplet nuclei that are generated when patients with pulmonary tuberculosis cough. Infections occur when a susceptible person inhales the droplet nuclei containing the bacterium (1). Dubos Oleic Broth Base is recommended by Dubos and Middlebrook (1) for the primary isolation and subsequent cultivation of the tubercle bacilli. On comparative studies of various media, Dubos Oleic Agar Base was found to be superior to other media for the primary isolation of Mycobacteria (2,3). Mycobacteria grow very rapidly when inoculated in a broth media and therefore preliminary culture of all the test samples in a broth media is recommended. Dubos Oleic HiVeg™ Broth Base is prepared by using vegetable peptones in place of animal based peptones which make the media free of BSE/TSE risks. Dubos Oleic HiVeg™ Broth Base contain HiVeg™ hydrolysate and L-asparagine as sources of nitrogen. The phosphates (together with calcium chloride) buffers the media as well as serve as sources of phosphates. Magnesium sulphate, zinc sulphate, copper sulphate and ferric ammonium citrate provide trace metals and sulphates.

Standard procedures for the isolation of Mycobacteria from test samples should be followed (4). The specimen should be appropriately decontaminated before culturing as per standard methods (4,5,6,7). Maximum care should be taken while handling Mycobacterial cultures, as they are highly infectious.

Type of specimen

Clinical samples : Sputum

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. Proper aerobic conditions and increased CO₂ tension if not provided during incubation, may lead to erroneous result.

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

Off-white to beige homogeneous free flowing powder

Colour and Clarity of prepared medium

Light amber coloured, clear to slightly opalescent solution with a fine precipitate.

Reaction

Reaction of medium (0.5% w/v aqueous solution containing 0.1% FD020) at 25°C. pH : 6.6±0.2

pH

6.40-6.80

Cultural Response

Cultural characteristics observed with added Oleic Albumin Supplement (FD020) and 5000-10,000 units of Penicillin, after an incubation at 35-37°C for 2-6 weeks.

Organism	Growth
<i>Mycobacterium avium</i> (25291)	luxuriant
<i>Mycobacterium gordonae</i> ATCC 14470	luxuriant
<i>Mycobacterium kansasii</i> ATCC 12478	luxuriant
<i>Mycobacterium smegmatis</i> ATCC 14468	luxuriant
<i>Mycobacterium tuberculosis</i> H37RV (25618)	luxuriant

Storage and Shelf Life

Store below 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 (4,5,6,7,8).

Reference

1. Dubos R. J., and Middlebrook G., 1947, Am. Rev. Tuberc., 56:334.
2. Byham, 1950, Am. J. Clin. Pathol., 20:678.
3. Roberts A. H., Wallace R. J. and Erlich P., 1950, Am. Rev. Tuberc., 61:563.
4. Kent and Kubica, 1985, Public Health Mycobacteriology : A Guide For the Level III Laboratory, USDHHS, Center for Disease Control, Atlanta c.a.
5. Forbes B. A., Sahm A. S., and Weissfeld D. F., Bailey & Scotts Diagnostic Microbiology, 10th Ed., 1998, Mosby, Inc., St. Louis, Mo.
6. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Tenover F. C., (Ed.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.
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.

Revision : 00/2024

Disclaimer :

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory, diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.