Technical Information

Dubos Oleic MiVeg Broth

Product Code : VM1067

Application:- Dubos MiVeg Broth Base with added supplements is recommended for the preparation of a liquid medium for the rapid cultivation of pure cultures of *Mycobacterium tuberculosis* and related microorganisms.

Composition**

Ingredients	Gms / Litre
MiVeg hydrolysate	0.5
L-Asparagine	2.0
Polysorbate 80	0.2
Monopotassium phosphate	1.0
Disodium phosphate	2.5
Ferric ammonium citrate	0.05
Magnesium sulphate	0.01
Calcium chloride	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

Principle & Interpretation

This medium is prepared by adding MiVeg hydrolysate in place of Casein enzymic hydrolysate thus making medium free from BSE/TSE risks. Dubos MiVeg Broth Base is the modification of original medium of Dubos and Davis (1) and Dubos and Middlebrook (2). Dubos MiVeg Broth Base can be used for the preparation of variety of media for the rapid cultivation of *Mycobacterium tuberculosis*. This medium is valuable for research on antituberculosis drugs, for preparation of inocula for animal studies, etc. Dubos MiVeg Broth Base can be helpful in diagnostic procedures in which specimens such as spinal or pleural fluids may be expected to yield pure cultures.

MiVeg hydrolysate and L-Asparagine in the medium act as source of nutrients, inorganic salts supplies ions required for the metabolism. Glycerol serves as essential fatty acids for the multiplication of *Mycobacteria* and Phosphates in the media act as buffering system (4). Polysorbate 80 (Tween 80) acts as surfactant facilitating the even distribution of two phases and dispersion of *Mycobacterial* cells, thereby enhancing their growth. Dubos MiVeg Broth Base enriched with serum will generally initiate growth from smaller inocula and yield more luxuriant growth than the basal medium enriched with albumin V. Growth is generally more granular with the serum enrichment, while it is more diffused with albumin enrichment. Maximum care should be taken while handling *Mycobacterial* cultures as they are highly infectious.

Methodology

Suspend 1.3 gram of powder media in 180 ml distilled water. Mix thoroughly. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 50°C and aseptically add 20 ml sterile bovine albumin V or sterile serum or 1 vial of sterile Albumin Glucose Supplement (MS2201) to each 180 ml of broth base. Mix well and dispense in sterile tubes.

Quality Control

Physical Appearance

Beige to light yellow coloured, may have slightly greenish tinge, homogeneous, free flowing powder.

Colour and Clarity

Light yellow coloured, clear solution without any precipitate.

Reaction

Reaction of 0.65% w/v aqueous solution with 1% glycerol is pH 6.6 ± 0.2 at 25°C.

pH range

6.4-6.8

CulturalResponse/Characteristics

Cultural characteristics observed after an incubation at 35 - 37°C for 2 - 6 weeks with added Albumin Glucose supplement (FD201) or Bovine Albumin V or sterile serum.

Organisms (ATCC)	Growth
Mycobacterium avium (25291)	Good-luxuriant
Mycobacterium gordonae (14470)	Good-luxuriant
Mycobacterium kansasii (12478)	Good-luxuriant
Mycobacterium smegmatis (14468	Good-luxuriant
Mycobacterium tuberculosis H37RV (25618)	Good-luxuriant

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^0 in sealable plastic bags for 2-5 days.

Further Reading

1. Dubos and Davis, 1946, J. Exp., Med., 83:409.
2. Dubos and Middlebrook, 1947, Am. Rev. Tuberc., 56:334.
3. MacFaddin J.F., 1985, Media for Isolation-Cultivation-Identification- Maintenance of Medical Bacteria, Volume I, Williams and Wilkins, Baltimore.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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