Dehydrated Culture Media
Bases / Media Supplements

Technical Information

Dubos Oleic MiVeg Agar Base

Product Code : VM1179

Application:- Dubos Oleic MiVeg Agar Base is used for preparation of solid agar media for plate or tube cultures of *Mycobacteria*.

Composition**

Ingredients	Gms / Litre
MiVeg hydrolysate	0.5
L-Asparagine	1.0
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
Agar	15.0
Final pH (at 25°C)	6.6 ± 0.2

** Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Dubos Oleic MiVeg Base is prepared by adding MiVeg hydrolysate in place of Casein enzymic hydrolysate, thus making the medium free from BSE/TSE risks. This medium is the modification of medium described by Dubos and Middlebrook (1) for primary isolation and cultivation of tubercle bacilli and for colony morphology study. Dubos Oleic MiVeg Agar Base along with Oleic Albumin Supplement like the conventional medium forms a nutritionally rich medium for isolation of *Mycobacterium tuberculosis* (2) and is also used for determining its sensitivity to chemotherapeutic agent.

The medium is enriched with MiVeg hydrolysate and L- Asparagine. The wide range of inorganic salts present in the medium aid to the metabolic activities of *Mycobacterium*. The oleic acid present in the medium provides essential fatty acids for the replication of *Mycobacterium*. Penicillin inhibits most bacteria. The Dubos Oleic MiVeg Agar Base is prepared without glycerol or dextrose to avoid growth of commensals.

Methodology

Suspend 4 grams of powder media in 180 ml of distilled water. Mix thoroughly. Heat to boiling 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 Oleic Albumin Supplement (MS2020) and 5,000 to 10,000 units of Penicillin. Mix thoroughly and distribute in sterile tubes or plates.

Quality Control

Physical Appearance

Light yellow coloured, may have slightly greenish tinge, homogeneous, free flowing powder.

Gelling

Firm, comparable with 1.5% Agar gel.

Colour and Clarity

Light amber coloured, slightly opalescent gel forms with a fine precipitate in a petri plate or tubes.

Reaction

Reaction of 2.0% w/v aqueous solution 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 in 5 - 10% Carbon dioxide (CO_2) with added sterile Oleic Albumin Supplement (MS2020) and 5,000 to 10,000 units of penicillin.

Organisms (ATCC)	Growth	Colony morphology
Mycobacterium avium (25291)	luxuriant	Smooth, thin*
Mycobacterium gordonae (14470)	luxuriant	Smooth, yellow to orange**
Mycobacterium kansasii (12478)	luxuriant	Photochromogenic $
Mycobacterium smegmatis (14468)	luxuriant	Rough or smooth @
Mycobacterium tuberculosis H37RV (25618)	luxuriant	Flat, rough #

Key : * = non-pigmented colonies
** = colonies which are occasionally rough
$ = with flat, smooth or somewhat granular surface andslightly undulating margins
# = dry and usually non-pigmented
@ = white dome shaped colonies

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 Middlebrook, 1942, Am. Rev. Tuberculosis, 56:334.
2. Wzsallace and Erlich, 1950, Am. Rev. Tuberculosis, 61,563.
3. MacFaddin J., 1985, Media for Isolation-Cultivation-Identification- Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.
4. Finegold and Baron, 1990, Bailey and Scott's 'Diagnostic Microbiology' 8th ed., The C.V. Mosby Co., St. Louis .

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