

Technical Information

Dubos Oleic MiVeg Broth Base

Product Code : VM1839

Application Dubos Oleic MiVeg Broth Base w/o Tween 80 and Supplement is used for cultivation of *Mycobacterium tuberculosis* and for determining its sensitivity to chemotherapeutic agent.

Composition**

Ingredients	Gms / Litre
MiVeg hydrolysate	0.5
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
Final pH (at 25°C)	6.6 ± 0.2

** Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

This medium is prepared by using MiVeg hydrolysate in place of Casein enzymic hydrolysate, thus making the medium free from BSE/TSE risks. Dubos Oleic MiVeg Broth Base is the modification of Dubos Oleic Broth Base which is the medium described by Dubos and Middlebrook (1) without agar for primary isolation and cultivation of tubercle bacilli. Dubos Oleic MiVeg Broth Base alongwith 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.

Dubos Oleic MiVeg Broth Base is enriched with MiVeg hydrolysate and L-Asparagine. The inorganic salts present in the medium aid to the metabolic activities of *Mycobacterium*. The oleic acid provides essential fatty acids for the replication of *Mycobacterium*. Penicillin inhibits most bacteria.

Methodology

Suspend 1 gram of powder media in 180 ml distilled water. Mix thoroughly. Boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 50°C and aseptically add 1 vial of sterile Oleic Albumin Supplement (MS2020) and 5000 to 10000 units of Penicillin. Mix well and dispense in sterile tubes.

Quality Control

Physical Appearance

Light yellow coloured, homogeneous, free flowing powder.

Colour and Clarity

Light amber coloured, slightly opalescent solution with fine precipitate forms in tubes.

Reaction

Reaction of medium (0.5% w/v aqueous solution containing 0.1% (MS2020) is pH 6.6 ± 0.2 at 25°C.

pH range

6.4-6.8

Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 4-6 weeks with added Oleic Albumin Supplement (MS2020) and 5000 to 10,000 U of Penicillin.

Organisms (ATCC)

Mycobacterium avium (25291)

Mycobacterium gordonae (14470)

Mycobacterium kansasii (12478)

Mycobacterium smegmatis (14468)

Mycobacterium tuberculosis H37RV (25618)

Growth

luxuriant

luxuriant

luxuriant

luxuriant

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° in sealable plastic bags for 2-5 days.

Further Reading

1. Dubos and Middlebrook, 1942, Am. Rev. Tuberculosis, 56:334.
2. Wallace and Erlich, 1950, Am. Rev. Tuberculosis, 61,563.
3. MacFaddin J.F., 2000(ed), Biochemical Tests for Identification of Medical Bacteria, 3rd edition, Lippincott Williams and Wilkins, New York
4. Finegold and Baron, 1990, Bailey and Scott's 'Diagnostic Microbiology' 8th ed., The C.V. Mosby Co., St. Louis.

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