Technical Information

Mueller Hinton MiVeg Agar

Product Code : VM1173

Application:- Mueller Hinton MiVeg Agar is recommended for cultivation of *Neisseria* and for determination of susceptibility of microorganisms to antimicrobial agents.

Composition

Ingredients	Gms / Litre
MiVeg infusion	2.00
MiVeg acid hydrolysate	17.50
Starch	1.50
Agar	17.00
Final pH (at 25°C)	7.3±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Mueller Hinton MiVeg Agar is prepared by using Miveg infusion and Miveg acid hydrolysate in place of Beef infusion and Casein acid hydrolysate respectively which makes it free from BSE/TSE risk. This medium is the modification of Mueller Hinton Agar which is recommended for the diffusion of antimicrobial agents impregnated on paper disc through a agar gel as described in CLSI Approved Standard (1). Kirby-Bauer et al recommended this medium for performing antibiotic susceptibility tests using a single disc of high concentration (2). It contains MiVeg infusion and MiVeg acid hydrolysate provide nitrogenous compounds, carbon, sulphur and other essential nutrients. Starch acts as a "protective colloid" against toxic substances present in the medium. The starch gets hydrolyzed during autoclaving supplies some amount of dextrose, which then serves as energy source. Growth of *Gonococci* and *Meningococci* is highly satisfactory on this medium.

A standardized suspension of the organisms is inoculated by swabbing over the entire surface of the agar medium. Paper discs impregnated with certain amount of specific antibiotics are placed on the surface of the medium. The plates are incubated at 35-37°C. After incubation the zones of inhibition around each disc are measured. It is then determined whether the organism is susceptible, intermediate or resistant to an agent by comparing the zone sizes to standard zone sizes. Different factors influence the disc diffusion susceptibility tests such as, inoculum concentration, agar depth, disc potency, medium pH and beta-lactamase production by test organisms (3).

Methodology

Suspend 38.0 grams of powder media in 1000 ml distilled water. Mix thoroughly. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well before pouring.

Quality Control

Physical Appearance

Yellow coloured, homogeneous, free flowing powder.

Gelling

Firm, comparable with 1.7% Agar gel

Colour and Clarity of prepared medium

Light amber coloured, clear to slightly opalescent gel forms in petri plates.

Reaction

Reaction of 3.8 % w/v aqueous solution pH: 7.3 ±0.2 at 25°C

pH range

7.1-7.5

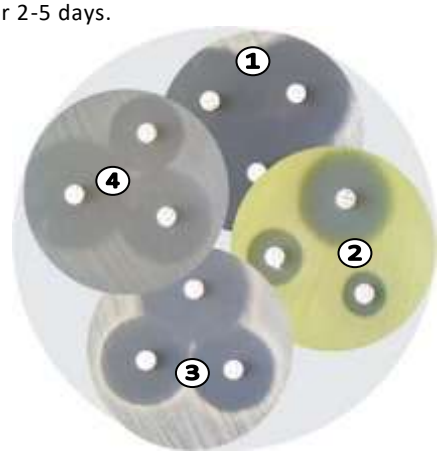
Cultural Response/Characteristics

Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours

Organisms (ATCC)	Inoculum (CFU)	Growth
Escherichia coli (25922)	10^2-10^3	luxuriant
Neisseria gonorrhoeae (49226)	10^2-10^3	luxuriant
Pseudomonas aeruginosa (27853)	10^2-10^3	luxuriant
Staphylococcus aureus (25923)	10^2-10^3	luxuriant
Enterococcus faecalis (29212)	10^2-10^3	luxuriant
Haemophilus influenzae (49247)	10^2-10^3	good-luxuriant (on chocolate agar)

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.



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1. *Escherichia coli*
2. *Pseudomonas aeruginosa*
3. *Staphylococcus aureus*
4. *Streptococcus faecalis*

Further Reading

1. Kauffmann F., and Petersen A., 1956, Acta. Pathol. Microbiol. Scand., 38 (6) : 481.
2. MacFaddin JF., 1985, Media for Isolation-Cultivation-Identification – Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.
3. Ewing., 1986, Edwards and Ewing's identification of Enterobacteriaceae, 4th Ed., Elsevier Science Publishing Co., Inc. New York

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