Technical Information

Modified Buffered Charcoal MiVeg Agar Base

Product Code : VM1892

Application:- Modified Buffered Charcoal MiVeg Agar Base is recommended for isolation and cultivation of *Legionella* species from clinical and environmental samples.

Composition

Ingredients	Gms / Litre
MiVeg peptone No. 3	10.0
Charcoal activated	2.0
ACES buffer	10.0
α-Ketoglutarate monopotassium salt	1.0
Agar	17.0
Final pH (at 25°C)	6.9±0.2

** Formula adjusted, standardized to suit performance parameters.

Principle & Interpretation

Modified Buffered Charcoal MiVeg Agar Base is prepared by using MiVeg peptone No.3 instead of Proteose peptone thereby making the medium free from BSE/TSE risks. This medium is the modification of medium formulated by Feeley et al (1) and further modified by Edelstein (2). It is recommended for isolation and cultivation of *Legionella* species from clinical and environmental specimens.

This medium contains MiVeg peptone No. 3 which supplies nitrogenous nutrients for growth. L-Cysteine is an essential amino acid. Ferric pyrophosphate provides iron supplement. α-Ketoglutarate stimulates the growth of *Legionella* species. Activated charcoal decomposes hydrogen peroxide which is a toxic metabolic product and also collects carbon-dioxide and as well as modify the surface tension. ACES buffer helps in maintaining the pH of the medium for optimal growth. The selective supplement (MWY) of Edelstein (3) enables in selective and differential isolation of *Legionella* species. Antibiotics helps to be selective by suppressing contamination of other gram-negative organisms like the conventional medium. By means of bromo cresol purple and bromo thymol blue the medium becomes differential as it gives colour to the colonies (4, 5).

Methodology

Suspend 20 grams of powder media in 500 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. Cool to 50°C and aseptically add sterile reconstituted contents of one vial of Legionella Supplement (MS2041). For selectivity of medium, add rehydrated contents of 1 vial of Legionella Selective Supplement IV (MWY MS2040). Mix well and pour into sterile petri plates with constant agitation to ensure that charcoal particles are evenly distributed.

Quality Control

Physical Appearance

Grey coloured, homogeneous, free flowing powder.

Gelling

Firm, comparable with 1.7% Agar gel.

Colour and Clarity of prepared medium

Black coloured, opalescent gel forms in petri plates.

Reaction

Reaction of 4.0 % w/v aqueous solution pH: 6.9 ±0.2 at 25°C

pH range

6.7-7.1

Cultural Response/Characteristics

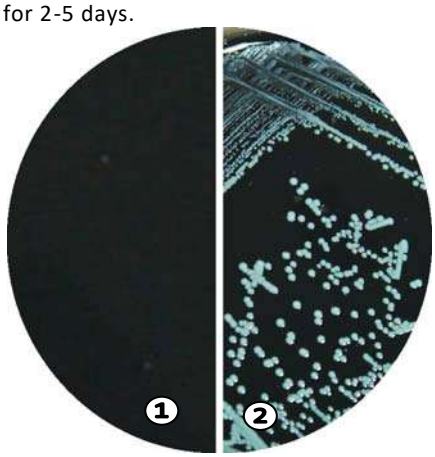
Cultural characteristics observed on addition of Legionella supplement (MS2041) after an incubation at 35-37°C for .....

Organisms (ATCC)	Inoculum (CFU)	Growth	Colony colour (3-5 days)	Colony colour (5-7 days)
Legionella bozemanni (33217)	10^2-10^3	good	brighter green	intensity of green colour increases
Legionella dumoffii (33343)	10^2-10^3	good	green	intensity of green colour increases
Legionella gormanii	10^2-10^3	good	green	intensity of green colour increases
Legionella jordanis	10^2-10^3	good	white green	green
Legionella longbeachae	10^2-10^3	good	white green	green
Legionella micdadei (33218)	10^2-10^3	good	blue-grey	blue
Legionella pneumophila (33153)	10^2-10^3	good	white *	green

Key : * = with slight colouration

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. Control
2. *Legionella pneumophila*

Further Reading

1. Feeley J.C. et al, 1979, J. Clin. Microbiol., 10:437.
2. Edelstein P.H., 1981, J. Clin. Microbiol., 14:298.
3. Edelstein P.H., 1982, J. Clin. Microbiol., 16:697.
4. Vickers R.M. et al 1981, J. Clin. Microbiol., 13:380.
5. Finegold and Martin (Eds.), 1982, Bailey and Scott's Diagnostic Microbiology 6th ed., The C.V. Mosby Co., Missouri.

Disclaimer :

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