

## Technical Information

### Middlebrook 7H11 MiVeg Agar Base

#### Product Code : VM1511

**Application:-** Middlebrook 7H11 MiVeg Agar Base with the addition of supplement is a selective media for isolation, cultivation and sensitivity testing of *Mycobacteria*.

#### Composition

Ingredients	Gms / Litre
MiVeg hydrolysate	1.0
Ammonium sulphate	0.5
Monopotassium phosphate	1.5
Disodium phosphate	1.5
Sodium citrate	0.4
Magnesium sulphate	0.05
L-Glutamic acid	0.5
Ferric ammonium citrate	0.04
Pyridoxine	0.001
Biotin	0.0005
Malachite green	0.001
Agar	15.0
Final pH ( at 25°C)	6.6±0.2

\*\* Formula adjusted, standardized to suit performance parameters.

#### Principle & Interpretation

Middlebrook 7H11 MiVeg Agar Base is prepared by using MiVeg hydrolysate instead of Casein enzymic hydrolysate thereby making the medium free from BSE/TSE risks. This medium is a modification of Middlebrook 7H11 Agar Base which in turn is a modification of Middlebrook 7H10 Agar (1) used for the isolation, cultivation and sensitivity testing of *Mycobacterium tuberculosis*. It supports the growth of *Mycobacterium tuberculosis* which in turn helps in drug susceptibility testing (2). This medium contains many inorganic salts which help in growing *Mycobacteria*. Formation of Citric acid from sodium citrate helps in retaining inorganic cations in solution. Glycerol provides carbon and energy. OADC Supplement contains oleic acid, bovine albumin, sodium chloride, dextrose and catalase. Oleic acid and other long chain fatty acids are metabolized by *Mycobacteria*. Dextrose serve as an energy source. Catalase neutralizes toxic peroxides, while albumin protects tubercle bacilli from toxic agents. Malachite green partially inhibits other bacteria.

#### Methodology

Suspend 10.25 grams of powder media in 450 ml distilled water containing 2.5 ml glycerol. 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. Aseptically add 1 vial of Middlebrook OADC Growth Supplement (MS2018). Mix well before dispensing.

#### Quality Control

##### Physical Appearance

Light green coloured, homogeneous, free flowing powder.

##### Gelling

Firm, comparable with 1.5% Agar gel.

##### Colour and Clarity of prepared medium

Light amber coloured slightly opalescent gel with greenish tinge.



Dehydrated Culture Media  
Bases / Media Supplements

#### Reaction

Reaction of 2.05 % w/v aqueous solution containing 0.5% glycerol 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 2 - 4 weeks with addition of Middlebrook OADC Growth Supplement (MS2018).

Organisms (ATCC)	Inoculum (CFU)	Growth	Recovery
<i>Mycobacterium fortuitum</i> (6841)	100-300	good-luxuriant	> 70%
<i>Mycobacterium smegmatis</i> (14468)	100-300	good-luxuriant	> 70%
<i>Mycobacterium tuberculosis</i> H37RV (25618)	100-300	good-luxuriant	> 70%

## 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. Middlebrook and Cohn, 1958, Am. J. Public Health, 48:844.
2. MacFaddi JF., 1985, Media for isolation-cultivation-identification-maintenance of medical bacteria, Vol. 1, Williams and Wilkins, Baltimore.

## Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at CDH is true and accurate
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