M0428 Middlebrook 7H11 Agar Base

Middlebrook 7H11 Agar Base with a supplement is used for the isolation, cultivation and sensitivity testing of *Mycobacteria.* Casein enzymic hydrolysate enhances the growth of *Mycobacterium tuberculosis.*

Composition:

Ingredients	Grams/Litre
Casein Enzymic Hydrolysate	1.0
Ammonium Sulfate	0.5
Monopotassium Phosphate	1.5
Disodium Phosphate	1.5
Sodium Citrate	0.4
Magnesium Sulfate	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 6.6 +/- 0.2 at 25°C	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder in a dry place in tightly-sealed containers at 2-25°C.

Appearance:	Light green colored, homogenous, free flowing powder.
Gelling:	Firm
Color and Clarity:	Light amber colored, slightly opalescent gel with a greenish tinge.

Directions:
Suspend 10.25 g of Middlebrook 7H11 Agar Base in 450 ml of distilled water. Add 2.5 ml of glycerol (Cat. No. 49769). 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 Middlebrook OADC Growth Supplement (M0678). Mix thoroughly before dispensing.

Principle and Interpretation:
This agar base contains many inorganic salts which help the growth of *Mycobacteria.* Citric acid formed from sodium citrate helps in retaining inorganic cations in solution. Glycerol supplies carbon and energy. The Middlebrook OADC Supplement (M0678) contains oleic acid, bovine albumin, sodium chloride, dextrose and catalase. Oleic acid and other long chain fatty acids are essential for the metabolism of *Mycobacteria.* Dextrose is an energy source. Catalase neutralizes toxic peroxides. Albumin protects tubercle bacilli from toxic agents. Malachite green partially inhibits other bacteria.

Cultural characteristics after 2-4 weeks at 35-37°C.

Organisms (ATCC)	Growth
Mycobacterium tuberculosis H37 RV (25618)	+++
Mycobacterium smegmatis (14468)	+++
Mycobacterium fortuitum (6841)	+++

References:

1. MacFaddin, J.F., (1985). Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria. Vol. 1. Williams and Wilkins. Baltimore, Maryland.
2. American Type Culture Collection, Manassas, Va. U.S.A.