M0303 Middlebrook 7H10 Agar Base

Middlebrook 7H10 Agar Base with a supplement is used for the isolation and cultivation of *Mycobacterium tuberculosis.*

Composition:

Ingredients	Grams/Litre
Ammonium Sulfate	0.5
L-Glutamic Acid	0.5
Disodium Phosphate	1.5
Monopotassium Phosphate	1.5
Sodium Citrate	0.4
Magnesium Sulfate	0.025
Calcium Chloride	0.0005
Zinc Sulfate	0.001
Copper Sulfate	0.001
Ferric Ammonium Citrate	0.04
Pyridoxine Hydrochloride	0.001
Biotin	0.0005
Malachite Green	0.00025
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: Very light amber colored, slightly opalescent gel with a greenish tinge.

Directions:
Suspend 19.47 g of Middlebrook 7H10 Agar Base in 900 ml of distilled water. Add 5 ml of glycerol (Cat. No. 49769). Boil to dissolve the medium completely. Distribute in 180 ml amounts in erlenmeyer flasks and sterilize by autoclaving at 15 lbs. pressure (121°C) for 10 minutes. Cool to 45°C and aseptically add 20 ml of Middlebrook OADC Growth Supplement (M0678). Mix well and pour into screw capped tubes.

Note: Keep prepared medium in the dark before and after inoculation.

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. Finegold, E.J., et al., (1990). Bailey and Scott's Diagnostic Microbiology. 8th Edition. The C.V. Mosby Co. St. Louis, Missouri.
2. American Type Culture Collection, Manassas, Va. U.S.A

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.