

CM 21187 - MIDDLEBROOK 7H11 AGAR BASE

INTENDED USE

For isolation, cultivation and sensitivity testing of Mycobacteria.

PRODUCT SUMMARY AND EXPLANATION

Middlebrook 7H11 Agar is a modification of Middlebrook 7H10 Agar used for the isolation, cultivation and sensitivity testing of *M. tuberculosis*. It was shown by Cohn et al that the addition of casein enzymic hydrolysate enhanced the growth of more fastidious *M. tuberculosis* strains, which in turn was helpful in drug susceptibility testing. The media is enriched by the addition of Middlebrook OADC Growth Supplement and glycerol.

COMPOSITION

Ingredients	Gms / Ltr
Casein enzymic hydrolysate	1.000
Ammonium sulphate	0.500
Monopotassium phosphate	1.500
Disodium phosphate	1.500
Sodium citrate	0.400
Magnesium sulphate	0.050
L-Glutamic acid	0.500
Ferric ammonium citrate	0.040
Pyridoxine	0.001
Biotin	0.0005
Malachite green	0.001
Agar	15.000

PRINCIPLE

The media consists of many inorganic salts, which help in growth of Mycobacteria. Citric acid formed from sodium citrate helps in retaining inorganic cations in solution. Glycerol supplies carbon and energy. Middlebrook OADC Growth Supplement contains oleic acid, bovine albumin, sodium chloride, dextrose and catalase. Oleic acid and other long chain fatty acids are essential for metabolism of Mycobacteria. Some free fatty acids are toxic to Mycobacteria but albumin binds to those fatty acids and prevents toxic action on Mycobacteria. Dextrose serves as an energy source. Catalase neutralizes toxic peroxides. Malachite green partially inhibits other bacteria.

INSTRUCTION FOR USE

- Dissolve 10.25 grams in 450 ml distilled water containing 2.5 ml glycerol.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool to 50°C. Aseptically add contents of 1 vial of Middlebrook OADC Growth Supplement.
- Mix thoroughly before dispensing.

QUALITY CONTROL SPECIFICATIONS



Appearance of Powder	: Light yellow to light green homogeneous free flowing powder.
Appearance of prepared medium	: Light amber coloured clear to slightly opalescent gel with greenish tinge forms in petri plates.
pH (at 25°C)	: 6.6±0.2

INTERPRETATION

Cultural characteristics observed on addition of Middlebrook OADC Growth Supplement and glycerol after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
Mycobacterium tuberculosis	25618	50-100	Good-luxuriant	≥50 %	35-37°C	2-4 weeks
Mycobacterium fortuitum	6841	50-100	Good-luxuriant	≥50 %	35-37°C	2-4 weeks
Mycobacterium smegmatis	14468	50-100	Good-luxuriant	≥50 %	35-37°C	2-4 weeks

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

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