

## Modified Middlebrook 7H9 Broth with Indicator

MT001

Modified Middlebrook 7H9 Broth w/ Indicator is the novel, fastest ever reagent system for isolation and cultivation of *Mycobacterium tuberculosis* from sputum and body fluids.

### Reagent supplied as single unit ready to use two component system.

(1) Middlebrook 7H9 Broth base. (2) Modified Selective Enrichment (Lyophilized) .

### Directions

Preparation of Modified Middlebrook 7H9 broth w/Indicator.

(1) Reconstitute Modified Selective Enrichment with one ml of Sterile distilled water.

(2) Transfer reconstituted Modified Selective Enrichment aseptically to the Middlebrook 7H9 broth base.

This is now ready to use as Modified Middlebrook 7H9 broth w/indicator Medium.

### Test Protocol

1. Inoculate aseptically 50 -300 µl of decontaminated & concentrated specimen in the Modified Middlebrook 7H9 Broth w/Indicator, using calibrated device (Inoculum should be inversely proportional to the initial M.T.B.Count in the specimen). Mix well.
2. Incubate at 35-37°C observe for the growth every third day.

### Principle And Interpretation

Modified Middlebrook 7H9 Broth w/ Indicator is the modification of Middlebrook 7H9 broth developed by Middlebrook et al (1). Growth promoting factor incorporated in the medium, accelerates growth and presence of biological indicator it possible to visualize growth distinctly as early as 6 days and on an average of 10-14 days in most of the case. Antibiotic cocktail (PACT) present in the system eliminates/retards growth of contaminating flora. This medium contains many inorganic salts which support the growth of Mycobacteria Sodium citrate becomes citric acid in the medium which retains certain inorganic cations in the solution. This broth base is supplemented for the growth of Mycobacteria. Enrichment Supplement contains bovine albumin, dextrose, catalase and sodium chloride. Some free fatty acids are toxic to *Mycobacteria* but albumin binds to those fatty acids and prevent toxic action on *Mycobacteria*. *Toxic peroxides present in the medium are destroyed by catalase. Dextrose supplies energy while sodium chloride maintains osmotic equilibrium. Glycerol enhances the growth*

### Quality Control

#### Appearance

Reagent is supplied as single unit ready to use two component system. 1. Middlebrook 7H9 Broth base - Light yellow coloured clear solution. 2. Modified Selective Enrichment Supplement (Lyophilized) - Beige to light pink powder.

#### Cultural response

Cultural response observed after incubation at 35-37°C till 2-4 weeks (observe for growth every third day)

#### *Mycobacterium tuberculosis* H37RV (25618)

Magenta pink coloured granular deposition (To be confirmed with microscopy and other tests)

#### Sterility test

Passes release criteria

## Storage and Shelf Life

Store between 2-8°C. Use before expiry date on the label.

## Reference

1. Middlebrook and Cohn, 1958, Am. J. Public Health, 48:844. 2. Microbiology zinsser, 16th Edition, 1976. 3. Practical Medical Microbiology, Mackie & McCartney, 13th Edition. 4. Clinical Diagnostic & Management by laboratory methods. Todd Sanford, 17th Edition, 1998. 5. Tuberculosis a clinical Handbook, 1st Edition, 1995. 6. Cultural Detection of Mycobacteria, L. Neumann; Biotest Bulletin 5:177-180(1995). 7. HiMedia's Manual. 8. Data on file : HiMedia Laboratories Pvt. Ltd.



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