



Mueller Tellurite Agar Base

M1202

Mueller Tellurite Agar Base is used for the isolation, cultivation and differentiation of *Corynebacterium diphtheriae* .

Composition**

Ingredients	Gms / Litre
Casein acid hydrolysate	20.000
Casein powder	5.000
Potassium dihydrogen phosphate	0.300
Magnesium sulphate. heptahydrate	0.100
L-Tryptophan	0.050
Agar	20.000
Final pH (at 25°C)	7.4±0.1

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 45.45 grams of dehydrated media in 975 ml distilled water. Gently heat and bring to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool quickly to 50°C and aseptically add 25 ml Mueller Tellurite Serum (FD100). Mix thoroughly to distribute into sterile Petri plates. Allow the surface of the plates to dry by partially removing the covers during solidification.

Principle And Interpretation

Corynebacterium diphtheriae is gram-positive, facultative anaerobic, non-motile bacteria. It is the etiological agent for diphtheria. Many species of *Corynebacteria* can be isolated from various places such as soil, water, blood, and human skin. Pathogenic strains of *Corynebacteria* can infect plants, animals, or humans. Though humans are now the only known reservoir for the disease. The bacterium is generally found in temperate zones but may also be found in other parts of the world. Various tellurite media such as Mcleods (1), Hoyles (2), or CTBA (3) have been used for isolation and differentiation of *C. diphtheriae* .

Mueller Tellurite Agar has been recommended (4) for isolation, cultivation and differentiation of *C. diphtheriae* . Potassium tellurite in the medium inhibits the growth of most of the normal flora of the upper respiratory tract allowing *C. diphtheriae* and other saprophytic *Corynebacteria* to grow.

The serum used in medium enhances granule formulation.

Casein acid hydrolysate and L-tryptophan provide nitrogenous compounds. Magnesium sulphate supplies essential ions required by the organisms. *C. diphtheriae* forms grayish black colonies surrounded by dark brown halo due to H₂S production.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 2.0% Agar gel.

Colour and Clarity of prepared medium

Yellow coloured clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 4.54% w/v aqueous solution at 25°C. pH : 7.4±0.1

pH

7.30-7.50

Cultural Response

M1202: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Please refer disclaimer Overleaf.

Organism	Inoculum (CFU)	Growth	Recovery
Cultural Response			
<i>Corynebacterium diphtheriae</i> ATCC 11913	50-100	luxuriant	>=50%
<i>Corynebacterium xerosis</i> ATCC 7094	50-100	luxuriant	>=50%

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

1. Anderson J. S., Happold F. C., McLeod J. W., Thomson J. G, 1931, J. Pathol. Bacteriol., 34:667:88.
2. Hoyle L., 1941, Lancet 1:175-176.
3. Saragea A., Maximescu P., Meitert E., 1979, Methods in Microbiol, Vol. 13 Bergman T., Norris J. R. (Eds.), Academic Press, London, p. 61-76.
4. Atlas R. M., 1993, Handbook of Microbiological Media, Parks L.C. (Ed.) CRC Press, Inc.

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