

Mueller Tellurite Agar Plate

MP1202

Intended Use:

Recommended for isolation, cultivation and differentiation of *Corynebacterium diphtheriae*.

Composition**

Ingredients	g / L
Acicase™ #	20.000
M-Protein 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
MTS Supplement (25 ml per vial)(FD100)	Concentration
Potassium tellurite	100mg
Calcium D pantothenate	0.050mg
Horse serum	12.500ml
Sodium lactate solution	10.000ml
Ethanol	2.500ml

**Formula adjusted, standardized to suit performance parameters

Equivalent to Casein acid hydrolysate

\$ Equivalent to Casein powder

Directions

Either streak, inoculate or surface spread the test inoculum (50-100 CFU) aseptically on the plate.

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. Acicase™ 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 production.

Type of specimen

Clinical samples - Throat swab; Water samples

Specimen Collection and Handling:

For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards (5).

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (6,7).

After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

In vitro diagnostic use. For professional use only. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations :

1. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
2. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirement.

Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

Quality Control

Appearance

Sterile Mueller Tellurite Agar in 90 mm disposable plates with smooth surface and absence of black particles/cracks/bubbles

Colour

Colourless to light yellow coloured medium.

Quantity of Medium

25ml of medium in 90 mm disposable plates.

pH

7.30-7.50

Cultural Response

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

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

Storage and Shelf Life

On receipt store between 2-8°C. Use before expiry date on the label. Product performance is best if used within stated expiry period.

Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (6,7).

Reference

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- Saragea A., Maximescu P., Meitert E., 1979, Methods in Microbiol, Vol. 13 Bergman T., Norris J. R. (Eds.), Academic Press, London, p. 61-76.
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- Lipps WC, Braun-Howland EB, Baxter TE, eds. Standard methods for the Examination of Water and Wastewater, 24th ed. Washington DC:APHA Press; 2023.
- Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
- Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

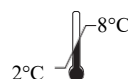
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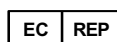
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Storage temperature



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