Mueller Tellurite Agar Base

M1202

Intended Use:

Used 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

**Formula adjusted, standardized to suit performance parameters

Equivalent to Casein acid hydrolysate $ Equivalent to Casein powder

Directions

Suspend 45.45 grams of dehydrated media in 975 ml purified/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 45-50°C and aseptically add 25.0 ml MTS Supplement (25 ml per vial)(FD100). Mix thoroughly to distribute into sterile Petri plates. Allow the surface of 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.

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 clinical samples follow appropriate techniques for handling specimens as per established guidelines (5,6).

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

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

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

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

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. 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 (5,6).

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.
5. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
6. 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.
7. Lipps WC, Braun-Howland EB, Baxter TE,eds. Standard methods for the Examination of Water and Wastewater, 24th ed. Washington DC:APHA Press; 2023.

Revision : 04/2024

HiMedia Laboratories Pvt. Limited,
Plot No.C-40, Road No.21Y,
MIDC, Wagle Industrial Area,
Thane (W) -400604, MS, India

IVD ***In vitro*** **diagnostic medical device**

30°C
10°C **Storage temperature**

EC REP CEpartner4U, Esdoornlaan 13,
3951DB Maarn, NL
www.cepartner4u.eu

CE Marking

Do not use if package is damaged

Disclaimer :

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal or therapeutic use but for laboratory,diagnostic, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.