Cystine Tellurite Agar Base

M881

Intended use

Recommended for selective isolation and differentiation of *Corynebacterium diphtheriae* types.

Composition**

Ingredients	g / L
HM infusion B from 500g #	10.000
Tryptose	10.000
Sodium chloride	5.000
L-Cystine	0.050
Agar	15.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

#- - Equivalent to Beef heart, infusion from

Directions

Suspend 40.05 grams in 900 ml purified/distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C and aseptically add 5% v/v sterile defibrinated sheep blood and PTe 1% Selective Supplement (1 ml per vial) (FD052). Mix well and pour into sterile Petri plates.

Principle And Interpretation

Cystine Tellurite Agar Base was originally formulated by Tinsdale (1) which was later on modified by Moore (2) and Parsons and then by Imre et al (3). Present formulation of Cystine Tellurite Agar Base with the addition of sterile sheep blood is used for selective isolation and differentiation of *Corynebacterium diphtheriae* types. Medium constituents HM Infusion B from and tryptose supply the necessary nutrients for the growth of *C.diphtheriae.* Sheep blood also provides the necessary growth factors for *C.diphtheriae* types. Potassium tellurite inhibits most upper respiratory tract normal flora other than Corynebacterium species and also inhibits the growth of majority of gram-negative bacteria. This medium is differential on the basis of the ability of Corynebacterium species to reduce tellurite whereas diphtheroids found in upper respiratory tract are not able to reduce tellurite. L-Cystine is the source of amino acid, which enhances H2S production. Further biochemical tests are necessary to distinguish between *C.diphtheriae* and *C.ulcerans* due to similar reactions on this medium.

Type of specimen

Clinical samples- sputum samples, throat swabs

Specimen Collection and Handling:

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (4,5).
After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

In Vitro diagnostic use only. 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.Sample enriched on Loeffler medium, can give better growth of *Corynebacterium* species.
2.Other organisms such as *Staphylococci*, *Streptococci* will grow as minute black colonies due to tellurite reduction, hence *Corynebacterium* should be confirmed by gram staining and other biochemical test.

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 1.5% Agar gel

Colour and Clarity of prepared medium

Basal medium: Amber coloured clear to slightly opalescent gel. After addition of blood & tellurite : Brownish red coloured opaque gel forms in Petri plates

Reaction

Reaction of 4.0% w/v aqueous solution at 25°C. pH : 7.4±0.2

pH

7.20-7.60

Cultural Response

Cultural characteristics observed with added sterile defibrinated sheep blood and PTe 1% Selective Supplement (1 ml per vial) (FD052),after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
Corynebacterium diphtheriae type mitis	50-100	good	40-50%	black, with shining surface
Bacillus subtilis subsp. spizizenii ATCC 6633 (00003*)	>=10^4	inhibited	0%	
Escherichia coli ATCC 25922 (00013*)	>=10^4	inhibited	0%	
Enterococcus faecalis ATCC 29212 (00087*)	50-100	none-poor	<=10%	minute, black colonies

Key : *Corresponding WDCM numbers.

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 (4,5).

Reference

1.Tinsdale G. F. W., 1947, J. Pathol. Bacteriol., 59(3):461.
2.Moore M. S. and Parsons E. I., 1958, J. Infect. Dis., 102:88.
3.Imre Z., Eylan E. and Keydar J., 1960, Proc. Isr. Microbiol. Soc. (Abstr.), 8, E.
4.Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
5.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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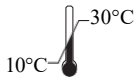
IVD ***In vitro*** **diagnostic medical device**



Storage temperature

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

CE **CE Marking**

Do not use if package is damaged

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