

Technical Information

Cystine Tellurite Agar Base

Product Code: DM 1881

Application: - Cystine Tellurite Agar Base is recommended for the selective isolation and differentiation of *Corynebacterium diphtheriae* types from clinical samples.

Composition**

Ingredients	Gms / Litre
Meat heart, infusion from	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

Principle & 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 meat heart infusion 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 prevents most upper respiratory tract normal flora other than *Corynebacterium* species and also enhances 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 diphtheroides found in upper respiratory tract are not able to reduce tellurite. L-Cystine acts as a 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.

Methodology

Suspend 40.05 grams of dehydrated powder media in 900 ml distilled water. Mix thoroughly & heat to boil 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 5% v/v of 1% Potassium Tellurite (MS2052). Shake well and pour into sterile Petri plates.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity

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 Range

7.20-7.60



Dehydrated Culture Media
Bases / Media Supplements

Cultural Response

DM1881: Cultural characteristics observed with added sterile defibrinated sheep blood and 1% Potassium tellurite solution (MS2052), after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
<i>Corynebacterium diphtheriae type mitis</i>	50-100	good	40-50%	black, with shining surface
<i>Bacillus subtilis</i> ATCC 6633	$\geq 10^3$	inhibited	0%	-
<i>Escherichia coli</i> ATCC 25922	$\geq 10^3$	inhibited	0%	-
<i>Enterococcus faecalis</i> ATCC 29212	50-100	none-poor	$\leq 10\%$	minute, black colonies

Storage and Shelf Life

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

Prepared Media: 2-8° in sealable plastic bags for 2-5 days.

Further Reading

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.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at CDH is true and accurate
- Central Drug House 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 diagnostic or therapeutic use but for laboratory, research or further manufacturing of diagnostic reagents extra.
- 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. Do not use the products if it fails to meet specifications for identity and performances parameters.

