

Technical Information

Tellurite Blood Agar Base

Product Code: DM 2260

Application: - Tellurite Blood Agar Base is used for the selective isolation and cultivation of *Corynebacterium* species.

Composition**

Ingredients	Gms / Litre
Biopeptone	10.000
Sodium chloride	5.000
Dipotassium hydrogen phosphate	4.000
Corn starch	1.000
Monopotassium phosphate	1.000
Agar	10.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Corynebacterium is a genus of gram-positive, facultatively anaerobic, non-motile bacteria that shows a fermentative metabolism (carbohydrates to lactic acid) under certain conditions. Corynebacteria comprise of a diverse group of bacteria that includes saprophytic associations as well as plant and animal pathogens. Most species are normal flora virtually present at all human anatomic sites. 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. Tellurite Blood Agar is a selective medium used for isolation and cultivation of *Corynebacterium* species^(1, 2). The medium is selective due to the presence of inhibitor and differential by means of ability of organism to reduce potassium tellurite. Biopeptone provides nitrogenous compounds. Sodium chloride maintains the osmotic equilibrium of the medium while phosphates buffer the medium. Corn starch neutralizes the toxic metabolites. Haemoglobin and Vitamino Growth Supplement stimulate good growth of *Corynebacterium*. Potassium tellurite acts as a selective agent and has inhibitory activity against most gram-positive and gram-negative bacteria except *Corynebacterium* species. *C.diphtheriae* reduces potassium tellurite to tellurium and thereby produce gray-black coloured colonies. Throat or nasal swab is directly inoculated and streaked on this agar medium.

Methodology

Suspend 31 grams of powder media in 970 ml distilled water. Shake well & heat to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Aseptically add sterile solution of Haemoglobin (MS2022) to a final concentration of 10 grams/l and sterile reconstituted contents of one vial of Vitamino Growth Supplement (MS2025) and 1% Potassium Tellurite (MS2052). Mix well and pour into sterile Petri plates.

Quality Control

Physical Appearance

Cream to yellow homogeneous free flowing powder.

Gelling

Firm, comparable with 1.0% Agar gel.



Dehydrated Culture Media
Bases / Media Supplements

Colour and Clarity of prepared medium

Basal medium: Yellow coloured clear to slightly opalescent gel. With the addition of haemoglobin solution: Reddish brown coloured, opaque gel forms in Petri plates.

Reaction

Reaction of 3.1% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH Range 7.00-7.40

Cultural Response/ characteristics

DM2260: Cultural characteristics observed along with added Haemoglobin solution (MS2022), Vitamino Growth Supplement (MS2025) and 1% Potassium Tellurite (MS2052) after an incubation at 35-37°C for 48 hours (or more).

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
<i>Corynebacterium diphtheriae</i> ATCC 11913	50-100	good-luxuriant	>=50%	grey-black
<i>Escherichia coli</i> ATCC 25922	>=10 ³	Inhibited	0%	-

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

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

Further Reading

1. Scott T. J., 1981, Microbiological Media, A Manual of Products and Procedures, Fieskeville, TI : Scott Laboratories, Inc.
2. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. I, Williams and Wilkins, Baltimore.

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