Tellurite Glycine Agar Base

M448

Intended Use:

For quantitative detection of coagulase-positive *Staphylococci* from food and other sources like skin, mucous membranes, faeces, air and soil.

Composition**

Ingredients	g / L
Tryptone	10.000
Yeast extract	5.000
Mannitol	5.000
Dipotassium hydrogen phosphate	5.000
Lithium chloride	5.000
Glycine	10.000
Agar	16.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 56.0 grams in 1000 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 to each 100 ml of base add 2 ml of PTe 1% Selective Supplement (1 ml per vial) (FD052). Mix well before pouring into sterile Petri plates.

Principle And Interpretation

Bacteria in the genus *Staphylococcus* are pathogens of man and other mammals. Traditionally they were divided into two groups on the basis of their ability to clot blood plasma (the coagulase reaction). Coagulase-positive strains of *Staphylococcus aureus* form the most pathogenic *Staphylococci.* The presence of *Staphylococci* in a lesion might first be suspected after examination of a direct gram stain. However, small numbers of bacteria in blood preclude microscopic examination and require culturing first (1). Tellurite Glycine Agar was originally developed by Ludlam and modified by Zebovitz et al (2). It is used for the quantitative detection of coagulase-positive *Staphylococci* from foods and other sources like skin, mucous membranes, air and soil etc. This medium supports better growth of coagulase-positive cocci even if present in small numbers.

Tryptone and yeast extract provide nitrogenous compounds, vitamin B complex and other essential growth nutrients. Lithium chloride and potassium tellurite are the inhibitors of the coagulase negative *Staphylococci* and a wide variety of other bacteria. Potassium tellurite also serves as a differential agent since coagulase-positive *Staphylococci* reduce tellurite and form black colonies (3). Mannitol is a source of fermentable carbohydrate for coagulase positive staphylococci. Coagulase-positive *Staphylococci* produce black colonies within 24 hours after an incubation at 37°C. Generally other organisms produce no growth during this incubation period with the exception of an occasional coagulase-negative strain that may produce small grey colonies, not readily confused with black coagulase positive colony.

Type of specimen

Clinical samples - skin, mucous membranes, faeces; Food samples

Specimen Collection and Handling:

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (4,5). For food samples, follow appropriate techniques for sample collection and processing as per guidelines (6). 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. Do not heat medium after addition of potassium tellurite is heat labile. (5)
2. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium.
3. Further biochemical and serological test must be performed for confirmation.

Performance and Evaluation

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

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.6% Agar gel.

Colour and Clarity of prepared medium

Light amber coloured clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 5.6% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH

7.00-7.40

Cultural Response

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

Organism	Inoculum (CFU)	Growth	Recovery	Colour of colony
Escherichia coli ATCC 25922 (00013*)	>=10^4	inhibited	0%	-
Salmonella Typhimurium ATCC 14028 (00031*)	>=10^4	inhibited	0%	-
Staphylococcus aureus subsp. aureus ATCC 25923 (00034*)	50-100	good-luxuriant	>=50%	black
Staphylococcus epidermidis ATCC 12228 (00036*)	50-100	poor-fair	10-20%	grey

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.Easmon C. S. F., Adlam C, 1983, Staphylococci and Staphylococcal infections. Vol. I and II, Academic Press, London.
2.Zebovitz E., Evans J. B. and Niven C. F., 1955, J. Bacteriol., 70:687.
3.MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.
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.
6.Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.

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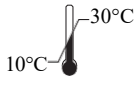
IVD ***In vitro*** **diagnostic medical device**



Storage temperature

EC REP CEpartner4U, Esdoornlaan 13,
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CE **CE Marking**

Do not use if package is damaged

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