Transport Charcoal Medium

M315

Intended Use:

For transportation of clinical specimens.

Composition**

Ingredients	g / L
Sodium thioglycollate	0.900
Sodium β-glycerophosphate	10.000
Charcoal	10.000
Calcium chloride anhydrous	0.100
Methylene blue	0.002
Agar	3.000
Final pH (at 25°C)	7.4±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 24.0 grams in 1000 ml purified/distilled water. Heat to boiling to dissolve the medium completely. Dispense in screw capped tubes with constant stirring to maintain charcoal particles in suspension. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Shake gently to distribute charcoal particles evenly, just before the medium gels. Cool the tubed medium in an upright position.

Principle And Interpretation

Muffett, Young and Stuart (1) described a medium and method for transporting gonococcal specimens from the site of collection to the laboratory. Stuart, Toshach and Potsula (2) elaborated upon the rationale of their transport method and presented the formulation in which they observed that coliform organisms were occasionally encountered in gonococcal specimens and that they were able to propagate in the transport medium and overgrow the gonococci. Transport Medium with Charcoal is a modified medium based on the transport medium originally developed by Moffett et al (1) and Stuart et al (2) and is formulated for the transportation of clinical specimens containing moulds, yeasts and bacteria especially gonococci.Transport media is generally formulated to provide enrichment to maintain viability of the organisms. Transport Charcoal Medium is devoid of inorganic phosphate buffer but contains glycerophosphate and methylene blue in addition to thioglycollate. Small amount of agar together with sodium thioglycollate creates a reduced atmosphere in the medium. Charcoal neutralizes the toxic metabolic products. Like the Amies Transport Medium (3), this medium is also semisolid and reductive thereby inhibiting the contaminants and avoiding the toxic oxidative effects. As compared to the fresh specimen or direct inoculation, transport medium will not show optimal growth. The specimen will be undoubtedly preserved during transportation and also the viability of the organisms will be maintained but it will diminish over time. Some growth of contaminants also may occur during longer period of transport. After transportation, the specimen should be inoculated in proper medium as soon as possible.

Type of specimen

Clinical samples : pathological samples.

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. The specimen will be preserved and the viability of the organisms will be also maintained during transport, but over the time it will diminish.
2.Therefore direct inoculation of the specimen is advised.
3.Some growth of accompanying contaminants may also occur during longer period of transit.
4.The specimen should be inoculated into a proper medium as soon as possible.

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
Grey to black homogeneous free flowing powder
Gelling
Semisolid, comparable with 0.3% Agar gel.
Colour and Clarity of prepared medium
Black coloured opaque gel forms in tubes as butts
Reaction
Reaction of 2.4% w/v aqueous solution at 25°C. pH : 7.4±0.2
pH
7.20-7.60
Cultural Response
Cultural characteristics observed after an incubation at 25-30°C for 5 days upon subculturing on Tryptone Soya Agar (M290).

Organism	Inoculum (CFU)	Growth on Tryptone Soya Agar (M290)
Klebsiella pneumoniae ATCC 13883 (00097*)	50-100	luxuriant
Pseudomonas aeruginosa ATCC 27853 (00025*)	50-100	luxuriant
Salmonella Typhi ATCC 6539	50-100	luxuriant
Shigella flexneri ATCC 12022 (00126*)	50-100	luxuriant
Staphylococcus aureus subsp. *aureus* ATCC 25923 (00034*)	50-100	luxuriant
Vibrio cholerae ATCC 15748	50-100	luxuriant
Neisseria gonorrhoea ATCC 43069	50-100	good
Neisseria meningitidis ATCC 13090	50-100	good

Key : (*) Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 5-25°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. Moffett M., Young J. and Stuart R. D., 1948, Brit. Med. J., 2:241.
2. Stuart R. D., Toshach S. R. and Patsula T. M., 1954, Can. J. Public Health, 45:73.
3. Amies C. S., 1967, Can. J. Public Health, 58:296.
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.

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**

10°C 30°C **Storage temperature**

EC REP

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

CE Marking

Do not use if package is damaged

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