Transport Charcoal Medium

M315

Transport Charcoal Medium is recommended for transportation of clinical specimens.

Composition**

Ingredients	Gms / Litre
Sodium thioglycollate	0.900
Sodium glycerophosphate	10.000
Charcoal	10.000
Calcium chloride	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 grams in 1000 ml 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.

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

M315: 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)
Cultural Response		
Klebsiella pneumoniae ATCC 13883	50-100	luxuriant
Pseudomonas aeruginosa ATCC 27853	50-100	luxuriant
Salmonella Typhi ATCC 6539	50-100	luxuriant
Shigella flexneri ATCC 12022	50-100	luxuriant
Staphylococcus aureus ATCC 25923	50-100	luxuriant
Vibrio cholerae ATCC 15748	50-100	luxuriant
Neisseria gonorrhoea ATCC43069	50-100	good
Neisseria meningitidis ATCC 13090	50-100	good

Storage and Shelf Life

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

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.

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