Technical Information

Thiol Broth

Product Code: DM 1853

Application: - Thiol Broth is recommended for cultivation of microorganisms from body fluids and other materials containing Penicillin, Streptomycin and Sulphonamides.

Composition**

Ingredients	Gms / Litre
Proteose peptone	10.000
Yeast extract	5.000
Dextrose	1.000
Sodium chloride	5.000
Thiol compound	8.000
p-Amino benzoic acid (PABA)	0.050
Final pH (at 25°C)	7.1±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Thiol Medium is recommended for culturing microorganisms from body fluids and also other materials containing antibiotics like penicillin, streptomycin or sulphonamides. The efficacy of Thiol Medium to retain viability of *Vibrio* was initially described by Huddleson (1). The ability of Thiol Medium to neutralize antibacterials was demonstrated by Christensen (2). This media can also be used for the cultivation and maintenance of *Haemophilus*, *Vibrio* and Meningococci (1).

Thiol Broth which is Thiol Medium devoid of agar is also recommended for growing anaerobic bacteria in blood cultures and for recovery of nutritionally variant Streptococci (3, 4) and *Bacteriodes* (5, 6).

Proteose peptone and yeast extract provide nitrogenous compounds, vitamin B complex and other essential growth nutrients. Dextrose is the energy source. p-Amino benzoic acid serves as a preservative.

Methodology

Suspend 29.05 grams of dehydrated powder media in 1000 ml distilled water. Mix thoroughly & heat if necessary to dissolve the medium completely. Dispense in tubes or flasks to a depth of 6 cm for neutralization of Penicillin or in shallow layers for neutralization of Streptomycin. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder.

Colour and Clarity
Light yellow coloured clear to slightly opalescent solution.

Reaction
Reaction of 2.9% w/v aqueous solution at 25°C. pH : 7.1±0.2

pH Range
6.90-7.30

Cultural Response

DM 1853: Cultural characteristics observed after an incubation at 35-37°C for 18- 48 hours. Growth observed after addition of antibiotic concentrations up to 100 units of Penicillin or 1,000 micrograms of Streptomycin.

Organism	Inoculum (CFU)	Growth
Neisseria meningitidis ATCC 13090	50-100	poor-fair
Staphylococcus aureus ATCC 25923	50-100	good-luxuriant
Streptococcus pneumoniae ATCC 6303	50-100	good-luxuriant
Streptococcus pyogenes ATCC 19615	50-100	good-luxuriant

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

Further Reading

1. Huddleson I. F., 1948, J. Bacteriol., 56:508.
2. Christensen D. H., 1947, Presented at the Michigan Branch, Society of American Bacteriologists, Detroit, Mich, December 12, 1947.
3. Donnelly J. P., 1994, Infect. Dis. Alert 6:109.
4. Isenberg (Ed.), 1992, Clinical Microbiology Procedures Handbook, Vol. 1, American Society for Microbiology, Washington, D.C.
5. Szawatkowski M. V., 1976, Med. Lab. Sci., 33:5.
6. Shanson D. C. and Barnicoat, 1975, J. Clin. Pathol., 28:407.

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