Technical Information

Thiol Medium

Product Code: DM 1852

Application: - Thiol Medium is recommended for cultivation of organisms 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
Agar	1.000
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).

Proteose peptone and yeast extract supply nitrogenous compounds, vitamin B complex and other essential growth nutrients. Dextrose acts as the energy source. The small quantity of agar keeps the oxido-reductive potential quite congenial for the growth of aerobic, microaerophilic and anaerobic microorganisms. p-Amino benzoic acid serves as a preservative.

10 ml of Thiol Medium has capacity to nullify 100 units of penicillin and 1000 units of streptomycin supporting good growth of Staphylococci and other test organisms. Even dilute inoculam of the test organisms can initiate and result in good growth within 24 hours. For testing, medium is prepared and tested with and without concentrations of 5, 100 and 1000 units of penicillin and 100, 1000 and 10,000 micrograms of streptomycin per 10 ml of tube. It is further inoculated with test organisms and incubated at 18 - 48 hours at 35-37°C

Methodology

Suspend 30.05 grams of dehydrated powder media in 1000 ml distilled water. Mix thoroughly & heat to boil 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. Use within 4 days of preparation.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Gelling
Viscous, comparable with 0.1% Agar gel.

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

Reaction
Reaction of 3.0% w/v aqueous solution at 25°C. pH : 7.1±0.2

pH Range
6.90-7.30

Cultural Response
DM 1852: 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.

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
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