Thiobacillus Broth (ATCC Medium 152) M1962

Intended Use:

Recommended for cultural isolation of *Thiobacillus intermedia.*

Composition**

Ingredients	Gms / Litre
Chlorophenol red	0.080
Sodium Thiosulphate.5H2O	10.000
Ammonium Chloride	1.000
Magnesium Chloride	0.500
Dipotassium hydrogen phosphate	0.600
Monopotassium dihydrogen phosphate	0.400
Ferric Chloride	0.020
Yeast Extract	1.000
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 9.97 grams (the equivalent weight of dehydrated medium per litre) in 1000ml purified / distilled water. Heat if necessary to dissolve the medium completely. Dispense as desired. Sterilize by autoclaving at 15lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

The genus *Thiobacillus* consists of gram negative bacteria. It has the ability to gain energy from the oxidation of elemental sulfur and sulfur containing compounds. Thiobacilli are obligate autotrophs and cannot grow with organic carbon as an electron and carbon source (2). This medium is suggested by ATCC for the growth and maintenance of *Thiobacillus intermedius.*(1)

T. intermedius is dependant on thiosulphate for its growth and is facultative chemolithotrophs that can grow with an organic electron donor.

Yeast extract provides nitrogeneous compounds, vitamin B complex and other growth factors. Phosphates buffer the medium. Sodium thiosulphate serves as a source of sulphur. Ammonium, magnesium and ferric chloride provides ions for the growth of *Thiobacillus*.

Type of specimen

Isolated Microorganism

Specimen Collection and Handling

For isolated microorganism samples follow appropriate techniques for handling specimens as per established guidelines (1). After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions

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 specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. Further biochemical testing is required for complete identification.

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

Light pink to purple homogeneous free flowing powder.

Colour and Clarity of prepared medium

Pink coloured clear solution in tubes.

Reaction

Reaction of 1.0% 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 25-30°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth
Thiobacillus intermedia ATCC 15466	50-100	good

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 20-30°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 sample must be decontaminated and disposed of in accordance with current laboratory techniques (3,4).

Reference

1. American Type Culture Collection. Catalogue of Bacteria and phages. 18th Edition 1992.
2. Inst J Syst Bacteriol(42)522-528,1997,Moreira & Amils.
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
4. 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.

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