Thiobacillus Agar

Intended Use
Thiobacillus Agar is recommended for isolation and cultivation of *Thiobacillus* species.

Summary
The genus *Thiobacillus* is also known under the name of *Acidithiobacillus*. *Thiobacillus* are obligate autotrophic organisms, as they require organic carbon both as an electron and carbon source. Thiobacilli produce high quantity of sulphuric acid as a byproduct during oxidation of thiosuphates, sulphur and related inorganic sulphur-containing compounds to generate metabolic energy. *Thiobacillus*, by its production of sulphuric acid is involved in the destruction of concrete sewers and the acid corrosion of metals. Thiobacillus Agar is a modification of formulation described by Starkey and is used for the isolation and maintenance of *Thiobacillus* species.

Principle
The medium contains three inorganic sulphates and a thiosulphate. Phosphate serves as a buffer.

Formula*
Ingredients	**g/L**
Ammonium sulphate	0.4
Monopotassium phosphate	4.0
Calcium chloride	0.25
Ferrous sulphate	0.01
Magnesium sulphate	0.5
Sodium thiosulphate	5.0
Agar	12.5
Final pH (at 25°C)	4.2 ± 0.2

*Adjusted to suit performance parameters

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Specimen Collection and Handling
Ensure that all samples are properly labelled.
Follow appropriate techniques for handling samples as per established guidelines.
Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure.
The samples must be stored and tested within the permissible time duration.
After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions
1. Suspend 22.66 g of the powder in 1000 mL distilled water.
2. Heat if necessary to dissolve the powder completely.
3. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle
4. Mix well and pour in to sterile petriplates.

Quality Control
Dehydrated Appearance: White to cream coloured, homogenous, free flowing powder.
Prepared Appearance: Light amber to white coloured, clear to slightly opalescent gel forms in petriplates.
Cultural Response: Cultural characteristics observed after an incubation of 25°C-30°C for upto 7 days.

Organism (ATCC)	**Growth**
Thiobacillus thioparus (8158)	Good
Thiobacillus thiooxidans (8085)	Good

Interpretation of Results

Thiobacillus forms small sulphur impregnated colonies with clear zones, indicating acid formation from thiosulphate oxidation.

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

References

1. Starkey R. L., 1935, Science, 39:197.
2. Eaton A. D., Clesceri L. S. and Greenberg A. E., (Ed.), 1995, Standard Methods for the Examination of water and Wastewater, 19th Ed., American Public Health Association, Washington, D.C.
3. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201200130500	Dehydrated Culture Media	500 g