Thioglycollate Broth

Intended Use
Thioglycollate Broth is a medium used for cultivation and isolation of obligate and facultative anaerobic and microaerophilic bacteria and for aseptic process simulations.

Summary
Thioglycollate broth is a multipurpose, enriched, differential medium used primarily to determine the oxygen requirements of microorganisms. Sodium thioglycollate in the medium consumes oxygen and permits the growth of obligate anaerobes. This, combined with the diffusion of oxygen from the top of the broth, produces a range of oxygen concentrations in the medium along its depth. The oxygen concentration at a given level is indicated by a redox-sensitive dye such as resazurin that turns pink in the presence of oxygen. This allows the differentiation of obligate aerobes, obligate anaerobes, facultative anaerobes, microaerophiles and aerotolerant organisms. For example, obligately anaerobic *Clostridium* species will be seen growing only in the bottom of the test tube.

Principle
Tryptone serves as a source of nitrogen and carbon compounds, long chain amino acids and other essential nutrients. Yeast extract serve as source of essential nutrients to the contaminants, if present. Dextrose serves as the energy source. Sodium chloride maintains the osmotic equilibrium of the medium whereas L-cystine, an amino acid, also serves as source of essential growth factors. Sodium thioglycollate and L-cystine lower the oxidation-reduction potential of the medium by removing oxygen to maintain a low Eh. Sodium thioglycollate also helps to neutralize the toxic effects of mercurial preservatives.

Formula*

Ingredients	**g/L**
Tryptone	15.0
Dextrose	5.5
Yeast Extract	5.0
Sodium Chloride	2.5
Sodium Thioglycollate	0.5
L-Cystine	0.5
Final pH (at 25°C)	7.1 ± 0.2

*Adjusted to suit performance parameters.

Directions
1. Bring the Thioglycollate Broth vial to the room temperature 22°C-30°C.
2. Use Thioglycollate Broth as per required application.

Quality Control
Appearance: Light amber, clear solution without any precipitate.
Growth Promotion Test: Growth promotion is carried out in accordance with the harmonized method of USP/EP/JP/IP and growth is observed after an incubation at 30- 35°C for 18-48 hours under anaerobic conditions.
Growth Promoting Properties: The test results observed are within the specified temperature and shortest period of time specified in the test, inoculating ≤ 100 cfu of appropriate microorganism at 30-35°C for 18 hours under anaerobic conditions.

Organism (ATCC)	**Growth**
Bacteroides vulgatus (8482)	Good
Clostridium sporogenes (11437)	Good
Clostridium sporogenes (19404)	Good

Note: Inoculum cfu for good growth is 10-100.

Remarks

1. Do not use media bottles that exhibit any damage, cracks, microbial contamination, discoloration, drying or other sign of deterioration.
2. Ensure that the temperature of water bath is at 100°C so that the medium melts completely. Cooler water baths give rise to lumpy, uneven medium.
3. Before pouring into sterile petriplates, gently swirl the bottle to check whether the entire contents are properly mixed and melted.
4. Good laboratory practices and hazard precautions must be observed at all times.
5. After use media containers, prepared plates, sample, sample containers and other contaminated materials must be sterilized or incinerated before discarding.

Storage and Stability

1. Store the ready to use Thioglycollate Broth at 15°C-25°C in a cool, dry place away from light.
2. Stability of the kit is as per expiry date mentioned on the label.

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. The United States Pharmacopoeia, 1985 21st rev. U.S. Pharmacopocial Convention, Rockville, M.D.
2. Speck M. L.(ed.), 1985, Compendium of Methods for the Microbiological examination of Foods, 2nd ed., APHA, Washington, D.C.
3. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat. No.	Product Description	Pack Size
203200830010	Ready Prepared Tube	25 x 10 mL