

Thioglycollate Broth

Thioglycollate Broth is a medium used for sterility tests and the cultivation of microaerophilic and anaerobic organisms.

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 resazurine 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, yeast extract provides nitrogenous compounds, vitamin B and other essential growth nutrients. Dextrose is the fermentable carbohydrate and energy source. Thioglycollate neutralizes the bacteriostatic effect of mercurial compounds used as the preservatives in the injection solution.

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

Type of Specimen

Pharmaceutical sample

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 29.00 g (the equivalent weight of dehydrated medium per litre) of the powder in 1000 mL purified / distilled water.
2. Mix thoroughly.
3. Heat with the frequent agitation and boil for one minute to dissolve the powder completely.
4. Dispense as desired into containers.
5. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.

Quality Control

Dehydrated Appearance: Yellow coloured, homogenous, free flowing powder.

Prepared Appearance: Medium to dark amber Coloured, clear to very slightly opalescent solution, may or may not have a slight 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°C-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 \leq 100 cfu of appropriate microorganism at 30°C-35°C for 18 hours under anaerobic conditions.

Organism (ATCC)	Growth
<i>Bacteroides vulgatus</i> (8482)	Good
<i>Clostridium sporogenes</i> (11437)	Good
<i>Clostridium sporogenes</i> (19404)	Good

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

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. 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
201200120500	Dehydrated Culture Media	500 g

Disclaimer

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.
