

Product Insert

THIOGLYCOLLATE BROTH (THIO)

Products

AS-801	Thioglycollate Broth (THIO) – 7 mL	10 Tubes / pkg
AS-805	Thioglycollate Broth (THIO) – 5 mL	10 Tubes / pkg

Intended Use

Thioglycollate Broth (THIO) is an enriched nonselective liquid medium used for the growth of microaerophilic and anaerobic bacteria, including fastidious organisms, from clinical specimens.

Summary

THIO is an enriched nonselective liquid medium used for the growth of microaerophilic and fastidious anaerobic organisms. THIO contain casein, meat peptones, yeast extract, and dextrose as the nutritive base. Sodium thioglycollate and L-cystine are included as reducing agents. Hemin and vitamin K₁ are included to promote the growth of fastidious anaerobes. A small quantity of agar is added to slow the diffusion of oxygen. A marble chip is included to each tube to act as a pH buffer and neutralize acids produced during growth of the organisms. This media is prepared, dispensed, and packaged under oxygen-free conditions to prevent the formation of oxidized products prior to use.

Formulation*

Pancreatic Digest of Casein	15.00	g
Dextrose	6.00	g
Yeast Extract	5.00	g
Meat Peptone	3.00	g
Sodium Chloride	2.50	g
Agar	0.50	g
Hemin (0.1% solution)	5.00	mL
Vitamin K ₁ (1.0% solution)	0.10	mL
L-Cystine	0.25	g
Sodium Hydroxide (4.0% solution)	2.50	mL
Sodium Thioglycollate	0.50	g
Sodium Sulfite	0.10	g
Marble Chip	1.00	piece
DI Water	1.00	L

Final pH: 7.3 ± 0.3 at 25° C

Final volume: 7.0 mL ± 0.7 mL for AS-801

Final volume: 5.0 mL ± 0.5 mL for AS-805

*Approximate formula. Adjusted and/or supplemented as required to meet performance criteria.

Precautions

For *IN VITRO DIAGNOSTIC USE* only. Utilize approved biohazard precautions and aseptic technique when using this product. This product is for use only by properly-trained and qualified personnel. Sterilize all biohazard waste prior to disposal. Due to the possible presence of nonviable organisms within this medium, caution should be observed when reporting Gram stain results (or other direct microbiological staining results) on tissue specimens when processed from this medium.

Storage and Shelf Life

Storage: Upon receipt, store at room temperature in original package until used. Avoid overheating or freezing. Do not use media if there are signs of deterioration (discoloration due to oxidation of media) or contamination. The expiration date applies to the product in its original packaging and stored as directed. Do not use product past the expiration date shown on the label.

Shelf Life: 1 year from date of manufacture.

Procedure

Specimen Collection: Specimens for anaerobic culture should be protected from oxygen during collection, transportation, and processing. Consult appropriate references for detailed instructions concerning collection and transportation of anaerobes.

Methods for Use: Inoculate THIO directly with clinical specimen. Inoculated tubes should be immediately placed into an anaerobic atmosphere and incubated at 35-37°C for 18-48 hours. Extended periods of incubation may be required to recover some anaerobes. Detailed instructions for processing anaerobic cultures can be found in the listed references.

Materials Required, But Not Provided

Standard microbiological supplies and equipment such as loops, saline blanks, slides, staining supplies, microscope, incinerator / autoclave, incubators, anaerobic chamber / anaerobic jars, disinfectant, other culture media, and serological / biochemical reagents.

Interpretation of Results

If used properly, THIO will support good growth of many commonly isolated anaerobes from clinical specimens, including known strains of *Clostridium perfringens*, *Bacteroides fragilis*, *Prevotella melaninogenica*, and *Fusobacterium necrophorum*.

Limitations

THIO will not provide complete information for identification of bacterial isolates. Additional test procedures and media are required for complete identification. Consult reference materials for additional information.

Quality Control

The following organisms are routinely used for quality control testing at Anaerobe Systems.

Organism Tested	ATCC #	Results	Time
<i>Bacteroides fragilis</i> *	25285	Growth	24 hrs
<i>Prevotella melaninogenica</i>	25845	Growth	24 – 48 hrs
<i>Bacteroides vulgatus</i> *	8482	Growth	24 hrs
<i>Fusobacterium necrophorum</i>	25286	Growth	24 – 48 hrs
<i>Clostridium perfringens</i> *	13124	Growth	24 hrs
<i>Clostridium novyi</i>	7659	Growth	48 hrs
<i>Peptostreptococcus anaerobius</i> *	27337	Growth	24 hrs
<i>Staphylococcus aureus</i> *	25923	Growth	24 hrs

* Organisms specified by CLSI for quality control testing of Thioglycollate Broth.

User Quality Control: The final determination to the extent and quantity of user laboratory quality control must be determined by the end user.

If sterility testing is to be performed on this product, a representative sample of the lot(s) should be incubated anaerobically and aerobically for 48 – 96 hours.

If the nutritive capacity of this media is to be tested for performance, it is recommended that the following ATCC organisms be evaluated for growth.

Organism	ATCC #	Expected Growth
B. vulgatus	8482	24 hrs
C. perfringens	13124	24 hrs
P. anaerobius	27337	24 hrs

Physical Appearance: THIO should appear as a clear, golden-yellow liquid with a submerged marble chip.

References

1. Dowell, V. R., Jr., G. L. Lombard, F. S. Thompson and A. Y. Armfield. 1977. *Media for the Isolation, Characterization and Identification of Obligately Anaerobic Bacteria*. USDHHS, CDC. Atlanta, GA 30333.
2. Englekirk, P. G., Duben-Englekirk, J. and Dowell, V. R. 1992. *Principles and Practices of Clinical Anaerobic Bacteriology*. Star Publishing Co., Belmont, CA 94002.
3. Holdeman, L. V., F. P. Cato and W. E. C. Moore. 1987. *Anaerobe Laboratory Manual*. Virginia Polytechnic Institute and State University. Blacksburg, VA 24061
4. Jousimeis-Somer, H. R., Summanen, P., Citron, D. M., Baron, E. J., Wexler, H. M. and S. M. Finegold. 2002. *Wadsworth – KYL Anaerobic Bacteriology Manual*. Star Publishing Co., Belmont, CA 94002.
5. CLSI. *Quality Control for Commercially Prepared Microbiological Culture Media; Approved Standard- Third Edition*. (2004). CLSI document M22-A3. CLSI, 940 West Valley Road, Suite 1400, Wayne, PA 19087-1898.

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