

Technical Information

Thioglycollate Medium w/ Hemin and Vitamin K

Product Code: DM 1979

Application: - Recommended for routine cultivation of fastidious anaerobic microorganisms. Also used for blood culturing and studying fermentation reactions.

Composition**

Ingredients	Gms / Litre
Enzymatic protein hydrolysate	15.000
Yeast Autolysate	10.000
Sodium thioglycollate	0.500
Sodium chloride	2.500
L-Cystine hydrochloride	0.500
Sodium bicarbonate	0.400
Resazurin	0.001
Hemin	0.005
Vitamin K	0.0005
Agar	0.750
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Certain anaerobes require addition of Vitamin K and hemin (1,2) for their growth. Therefore, Thioglycollate Medium with hemin and Vitamin K is recommended for use in the isolation and cultivation of fastidious or slow-growing obligatory anaerobic microorganisms present in clinical materials. It is also recommended for the isolation and cultivation of wide variety of aerobic and facultatively anaerobic microorganisms.

Enzymatic protein hydrolysate and yeast Autolysate provide nitrogenous compounds, vitamin B complex and other essential growth nutrients for bacterial metabolism. Sodium thioglycollate and L-cystine act as reducing agents and maintain a low oxygen tension in the medium. Vitamin K is a growth requirement for some strains of *Prevotella melaninogenica*. Pink ring at the top (oxidized medium) is due to resazurin indicator. Hemin is the source of the X factor which stimulates the growth of many microorganisms.

Type of specimen

Clinical samples : pus, wounds, infected tissue, etc

Specimen Collection and Handling:

For clinical sample, follow appropriate techniques for sample collection, processing as per guidelines (3,4). After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

In Vitro diagnostic Use only. For professional use only. 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 clinical specimens. Safety guidelines may be referred in individual safety data sheets.

Limitations

1. Individual organisms differ in their growth requirement and may show variable growth patterns on the medium. 2. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirement.

3. Further biochemical and serological 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.

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.



Dehydrated Culture Media
Bases / Media Supplements

Methodology

Suspend 29.65 grams in 1000 ml purified/distilled water. Heat to boiling to dissolve the medium completely. Dispense into tubes or flasks as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Note: If more than the upper one third has acquired a pink colour, the medium may be restored once by heating in a water bath or in free flowing steam until the pink colour disappears.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Amber coloured clear to very slightly opalescent fluid with upper 10% or less medium pink on standing.

Reaction

Reaction of 2.96% 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 35-37°C for 18-48 hours.

Organism	Inoculum (CFU)	Growth
<i>Bacteroides levii</i> ATCC 9177	50-100	luxuriant
\$\$ <i>Phocaeicola vulgatus</i> ATCC 8482	50-100	fair
<i>Bacteroides melaninogenicus</i> ATCC 25611	50-100	luxuriant
<i>Clostridium perfringens</i> ATCC 12924	50-100	luxuriant
<i>Clostridium sporogenes</i> ATCC 11437	50-100	luxuriant
<i>Streptococcus pyogenes</i> ATCC 19615	50-100	luxuriant

Key: \$\$ Formerly known as *Bacteroides vulgatus*

Storage and Shelf Life

Store dehydrated and the prepared medium at 2-8°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 clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (3,4).

Further Reading

1. Gibbon R. J. and MacDonald J. B., 1960, J. Bacteriol., 80:164.
2. Wilkins T. D., Chalgren S. L., Jimenez Ulat G., Drace C. R. , Johnson J. L., 1976, J. Clin Microbiol., 3:359.
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
4. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, Andry, M.L., Richter, S.S and Warnock.,D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.





Dehydrated Culture Media
Bases / Media Supplements

Disclaimer :

- User must ensure suitability of the product(s) in their application prior to use.
- The product conform solely to the technical information provided in this booklet and to the best of knowledge research and development work carried at **CDH** is true and accurate
- **Central Drug House Pvt. Ltd.** reserves the right to make changes to specifications and information related to the products at any time.
- Products are not intended for human or animal diagnostic or therapeutic use but for laboratory, research or further manufacturing of diagnostic reagents extra.
- Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.
- Do not use the products if it fails to meet specifications for identity and performance parameters.

