
THIOGEL MEDIUM

INTENDED USE

Remel Thiogel Medium is a liquid medium recommended for use in qualitative procedures for identification of microorganisms based on the ability to liquefy gelatin.

SUMMARY AND EXPLANATION

Thiogel Medium was originally described by Brewer for cultivation of aerobic organisms and obligate anaerobes.^{1,2} Brewer's formulation was modified by replacing meat infusion with peptones to enhance growth.^{3,4} Gelatin has been added to detect liquefaction of gelatin by anaerobes, microaerophiles, and aerobic microorganisms. Most microorganisms grow luxuriantly in this medium regardless of their oxygen requirements.

PRINCIPLE

Peptones and cystine supply nitrogen, carbon, and trace nutrients necessary for bacterial growth. Dextrose is a ready source of energy. Sodium chloride is a source of essential electrolytes and maintains osmotic equilibrium. Sodium thioglycollate is a reducing agent which maintains low oxygen tension in the medium. A small amount of agar provides for anaerobic conditions in the depths of the tubes by restricting convection currents. Gelatin serves as a substrate and allows for the detection of gelatinase, produced by certain organisms.

REAGENTS (CLASSICAL FORMULA)*

Gelatin	50.0 g	Sodium Thioglycollate	0.5 g
Casein Peptone.....	17.0 g	L-Cystine	0.25 g
Dextrose.....	6.0 g	Sodium Sulfite	0.1 g
Soy Peptone.....	3.0 g	Agar.....	0.7 g
Sodium Chloride.....	2.5 g	Demineralized Water	1000.0 ml

pH 7.0 ± 0.2 @ 25°C

*Adjusted as required to meet performance standards.

PRECAUTIONS

This product is For Laboratory Use only. It is not intended for use in the diagnosis of disease or other conditions.

PREPARATION OF DEHYDRATED CULTURE MEDIUM

1. Suspend 80 grams of medium in 1000 ml of demineralized water.
2. Bring to a boil to completely dissolve.
3. Dispense into appropriate containers and sterilize at 121 C for 10 minutes.

PROCEDURE

1. Consult current editions of appropriate references for the recommended procedure for sample preparation, inoculation, testing, and interpretation.

QUALITY CONTROL

Each lot number of Thiogel Medium has been manufactured, packaged, and processed in accordance with current Good Manufacturing Practice regulations. All lot numbers have been tested using the following quality control organisms and have been found to be acceptable. Testing of control organisms should be performed in accordance with established laboratory quality control procedures. If aberrant quality control results are noted, sample results should not be reported.

CONTROL

Clostridium perfringens ATCC® 13124
Bacteroides fragilis ATCC® 25285

INCUBATION

Anaerobic, up to 72 h @ 33-37°C
Anaerobic, up to 72 h @ 33-37°C

RESULTS

Growth, gelatin positive (medium liquid after ~30 minutes at 2-8°C)
Growth, gelatin negative (medium solid after ~30 minutes at 2-8°C)

LIMITATIONS

1. Do not shake gelatin tubes while they are warm. Some organisms only grow and liquefy gelatin on the surface of the medium. If the gelatin mixes with the warm fluid of the medium a positive result may be overlooked.⁶

BIBLIOGRAPHY

1. Brewer, J.H. 1940. J. Am. Med. Assoc. 115:598-600.
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3. Brewer, J.H. 1943. J. Bacteriol. 46:395-397.
4. Vera, H.D. 1944. J. Bacteriol. 47:59-68.
5. MacFaddin, J.F. 1985. Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria. Vol.1. Williams & Wilkins, Baltimore, MD.
6. MacFaddin, J.F. 2000. Biochemical Tests for Identification of Medical Bacteria. 3rd ed. Lippincott Williams & Wilkins, Philadelphia, PA.

Refer to the front of Remel *Technical Manual of Microbiological Media* for **General Information** regarding precautions, product storage and deterioration, sample collection, storage and transportation, materials required, quality control, and limitations.

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IFU 454842, Revised December 1, 2011

Printed in U.S.A.

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