Brewer Thioglycollate Medium, Modified (Thioglycollate Medium, Linden) M195

Intended use

Recommended for testing sterility of biological products and for isolation of aerobic and anaerobic organisms.

Composition**

Ingredients	Gms / Litre
Tryptone	17.500
Soya peptone	2.500
Dextrose (Glucose)	10.000
Sodium chloride	5.000
Dipotassium hydrogen phosphate	2.000
Sodium thioglycollate	1.000
Methylene blue	0.002
Agar	0.500
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 38.5 grams in 1000 ml purified / distilled water. Heat to boiling to dissolve the medium completely. Dispense in tubes or in suitable containers as desired and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C.

Note : If more than the upper one third layer acquires bluish-green colour (absorbs oxygen), the dissolved oxygen can be removed by heating the medium in free flowing steam for 5-10 minutes or in a water bath until the green colour disappears, and the prepared medium should be stored in the dark till use.

Principle And Interpretation

Brewer Thioglycollate Medium Modified is a modification of Linden Thioglycollate Medium (1). National Institute of Health specified the use of Brewers formula and Linden formula (3) for sterility testing, which was later referred to as Modified Brewer Thioglycollate Medium (4).

It contains highly nutritious tryptone and soya peptone that provides carbon, nitrogen substances, long chain amino acids, vitamins and minerals which support luxuriant growth of even fastidious bacteria. Sodium thioglycollate helps to create anaerobic condition as well as neutralizes toxicity of mercurial compounds if present in the inoculum of the test material. Sodium chloride maintains the osmotic equilibrium while dipotassium phosphate buffers the medium. Very small amount of agar present maintains anaerobic conditions at the bottom of the broth. Methylene blue indicates oxygen content of the medium by exhibiting bluish-green colour to the medium in presence of oxygen. The uninoculated medium shows bluish green colour at the top indicating presence of oxygen in that part. The medium contains more thioglycollate and is recommended for sterility testing procedures. Organisms that ferment dextrose and lower the pH to critical levels may not survive in this medium after growth has taken place.

Growth is observed as turbidity of the medium compared to an uninoculated control. Strict aerobes tend to grow in a thin layer at the surface of the broth; obligate anaerobes will grow below the upper oxidized layer. Sometimes anaerobes can be overgrown by the more rapidly growing facultative organisms. Some anaerobes may be inhibited by acids or metabolic products produced from more rapidly growing facultative anaerobes. If the medium is to be used as a sterility testing medium incubation should be carried out for minimum 7 days under appropriate atmospheric conditions.

Type of specimen

Clinical samples; Industrial samples for sterility testing.

Specimen Collection and Handling:

For clinical and Industrial samples, follow appropriate techniques for sample collection, processing as per guidelines (1,2) .
After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

In Vitro diagnostic 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. It is intended for the examination of clear liquid or water-soluble materials.
2. Further biochemical 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.

Quality Control

Appearance
Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium
Yellow coloured clear to slightly opalescent fluid with upper 10% or less medium bluish green on standing.

Reaction
Reaction of 3.85% 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 (*Clostridium* and Bacteroides species incubated anaerobically).

Organism	Inoculum (CFU)	Growth
Bacteroides melaninogenicus ATCC 25848	50-100	good-luxuriant
Clostridium sporogenes ATCC 11437	50-100	good-luxuriant
Streptococcus mitis ATCC 9895	50-100	good-luxuriant
Streptococcus pyogenes ATCC 19615	50-100	good-luxuriant
Bacteroides fragilis ATCC 25285	50-100	good-luxuriant
Staphylococcus aureus subsp.aureus ATCC ATCC 25923 (00034*)	50-100	good-luxuriant

Key : (*) Corresponding WDCM numbers.

Storage and Shelf Life

Store between 10-30°C in a tightly closed container and the prepared medium at 15-25°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. Use before expiry date on the label. 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 (1,2).

Reference

1. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
2. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, Andry, M.L., Richter, S.S and Warnock.,fD.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
3. Linden. 1941, National Institute of Health
4. MacFaddin J. F., 2000, Biochemical Tests for Identification of Medical Bacteria, 3rd Ed., Williams and Wilkins, Baltimore.Md.

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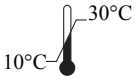
In vitro diagnostic medical device

CE Marking



Storage temperature

Do not use if package is damaged

HiMedia Laboratories Pvt. Limited,
23 Vadhani Industrial Estate,
LBS Marg,Mumbai-86,MS,India

CE Partner 4U ,Esdoornlaan 13, 3951
DB Maarn The Netherlands,
www.cepartner 4u.eu

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