Letheen Broth

MU165

Intended use

Letheen Broth is recommended for determination of bactericidal activity of quaternary ammonium compounds using *Escherichia coli* or *Staphylococcus aureus* in accordance with United States Pharmacopoeia

Composition**

Ingredients	Gms / Litre
Peptamin	10.000
HM Peptone B #	5.000
Polysorbate 80	5.000
Sodium chloride	5.000
Lecithin	0.700

-Equivalent to Beef extract

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 25.7 grams in 1000 ml purified/distilled water. Heat if necessary to dissolve the medium completely. Dispense into tubes or flasks as desired. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

Glucose Extract Agar was developed according to APHA (1) for use in the microbiological examination of water. Weber and Black (2) modified it further with addition of lecithin and polysorbate 80 and developed a laboratory procedure for evaluating bactericidal activity of quaternary ammonium compounds proposed for sanitizing food utensils (3). Letheen media are recommended by USP in disinfectant challenge testing (4).

HM Peptone B and peptone, supply nitrogenous compounds, carbon, sulphur and other trace elements to the organisms. Lecithin and polysorbate 80 enables the recovery of bacteria from solutions containing residues of disinfectant used in sanitization of utensils and equipments. Lecithin neutralizes quaternary ammonium compounds and polysorbate 80 neutralizes phenolic disinfectants, hexachlorophene and formalin (5, 6).

Dehydrated medium may appear moist with `brown sugar appearance, does not indicate deterioration.

Type of specimen

Water samples, Pharmaceutical samples

Specimen Collection and Handling:

For pharmaceutical samples follow appropriate techniques for handling specimens as per established guidelines (4).

For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards.(3)

After use, contaminated materials must be sterilized by autoclaving before discarding.

Warning and Precautions :

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 guidleines should be followed while handling specimens. Saftey guidelines may be referred in individual safety data sheets

Limitations :

Further biochemical tests must be carried out for confirmation.

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

Off-white to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Light yellow coloured clear to slightly opalescent solution

Cultural Response

MU165: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organism (ATCC)	Inoculum(CFU)	Growth
Staphylococcus aureus ATCC 6538 (00032*)	50-100	good-luxuriant
Staphylococcus aureus ATCC 6538 (00032*)	50-100	good-luxuriant
Escherichia coli ATCC 8739 (00012*)	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 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle inorder 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 (7,8).

Reference

1. APHA, 1960, Standard Methods for the Examination of Water and Wastewater, 11th ed., APHA, N.Y.
2. Weber and Black, 1948, Soap Sanitary Chem., 24:134.
3. Weber and Black, 1948, Am. J. Public Health, 38:1405.
4. The United States Pharmacopoeia/National Formulary 2017, US Pharmacopeial Convention Inc. Rockville, M.D.
5. Favero (Chm.), 1967, A State of the Art Report, Biological Contamination Control Committee, American Association for Contamination Control.
6.MacFaddin J., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.
7.Isenberg, H.D. Clinical Microbiology Procedures Handb0ook. 2nd Edition.
8. Jorgensen,J.H., Pfaller , M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

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