

Technical Information

Letheen Agar

Product Code: DM 1414

Application: Letheen Agar is recommended to determine the phenol coefficient of quaternary ammonium compounds using *Escherichia coli* or *Staphylococcus aureus* ATCC 6538.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	5.000
Beef extract	3.000
Dextrose	1.000
Polysorbate 80	7.000
Lecithin	1.000
Agar	15.000
Final pH (at 25°C)	7.0±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Letheen Agar is a modification of Tryptone Glucose Extract Agar with the supplementation of lecithin and Polysorbate 80. The addition of lecithin and Polysorbate 80 was suggested by Weber and Black ⁽¹⁾. This medium is used to neutralize the quaternary ammonium compounds in the testing of germicidal activity.

Letheen Medium is also recommended for testing of cosmetics ⁽⁴⁾. Beef extract, casein enzymic hydrolysate and dextrose supply essential nutrients and other trace elements for the microbial growth. 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 ^(2, 3). Dehydrated medium may appear moist with brown sugar appearance, which does not indicate deterioration ⁽³⁾.

Methodology

Suspend 32 grams of powder media in 1000 ml distilled water. Shake well & heat to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and dispense as desired.

Quality Control

Physical Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Light yellow coloured clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 3.2% w/v aqueous solution at 25°C. pH : 7.0±0.2



Dehydrated Culture Media
Bases / Media Supplements

pH Range

6.80-7.20

Cultural Response/Characteristics

DM1414: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth	Recovery
<i>Escherichia coli</i> ATCC 25922	50-100	good - luxuriant	>=70%
<i>Staphylococcus aureus</i> ATCC 6538	50-100	good - luxuriant	>=70%

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.

Prepared Media: 2-8^o in sealable plastic bags for 2-5 days.

Further Reading

1. Weber and Black, 1948, Soap Sanitary Chem., 24:134.
2. Favero (Chm.), 1967, A State of the Art Report, Biological Contamination Control Committee, American Association for Contamination Control.
3. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.
4. American Society for Testing and Materials, 1991, Standard Test Methods for preservatives in water-containing cosmetics, E640-78. Annual Book of ASTM Standards, ASTM, Philadelphia, Pa.

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