

Lethen Broth

LQ108

For determination of bacterial activity of quaternary ammonium compounds using *Escherichia coli* or *Staphylococcus aureus*.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	10.000
Beef extract	5.000
Lecithin	0.700
Polysorbate 80	5.000
Sodium chloride	5.000

**Formula adjusted, standardized to suit performance parameters

Directions

Label the ready to use LQ108 bottle. Inoculate the sample and Incubate at specified temperature and time.

Principle And Interpretation

Lethen Broth was developed by Quisno, Gibby and Foter (2) by the addition of lecithin and Polysorbate 80 to FDA Broth. Lethen Broth is recommended by AOAC to determine the phenol coefficient of cationic surfactants (3). Lethen Medium is also recommended for testing of cosmetics (4). Beef extract, casein enzymic hydrolysate, 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 (5, 1). Dehydrated medium may appear moist with brown sugar appearance, which does not indicate deterioration (1).

Quality Control

Appearance

Sterile Lethen Broth in bottles.

Colour

Yellow coloured, clear solution.

Quantity of medium

100 ml of medium in bottles.

Reaction

6.80- 7.20

Sterility test

Passes release criteria

Cultural Response

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

Organism	Inoculum (CFU)	Growth
<i>Escherichia coli</i> ATCC 25922	50-100	luxuriant
<i>Staphylococcus aureus</i> ATCC 25923	50-100	luxuriant
<i>Staphylococcus aureus</i> ATCC 6538	50-100	good-luxuriant

Storage and Shelf Life

Store between 2-8°C. Use before expiry date on the label.

Reference

1. MacFaddin J. F., 1985, Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria, Vol. 1, Williams and Wilkins, Baltimore.
2. Weber and Black, 1948, Am. J. Public Health, 38:1405.
3. Horwitz, (Ed.), 2000, Official Methods of Analysis of AOAC International, 17th Ed., Vol. I, AOAC International, Gaithersburg, Md.
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.
5. Favero (Chm.), 1967, A State of the Art Report, Biological Contamination Control Committee, American Association for Contamination Control.

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