

Technical Information

Cetrimide Broth

Product Code: DM 1862

Application: - Cetrimide Broth is used for the selective cultivation of *Pseudomonas aeruginosa*.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	10.000
Beef extract	10.000
Sodium chloride	5.000
Cetrimide	0.300
Final pH (at 25°C)	7.2±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Pseudomonas aeruginosa grows well on all normal laboratory media. Cetrimide Broth Base is the modification of the formula designed by King, Ward and Raney ⁽¹⁾ This media is useful for the cultivation of *P. aeruginosa* as it contains cetrimide (Cetyl trimethyl ammonium bromide), which inhibits growth of other bacteria except *P. aeruginosa* and play an important role in the identification of *P. aeruginosa*. Cetrimide Broth is used for the examination of cosmetics ⁽²⁾ and clinical specimens ^(3, 4) for the presence of *P. aeruginosa*, as well as for evaluating the efficacy of disinfectants against this organism ⁽⁵⁾.

Peptic digest of animal tissue and beef extract provide necessary nutrients for *P. aeruginosa*. Cetrimide acts as a quaternary ammonium, cationic detergent that causes release of nitrogen and phosphorus from bacterial cells other than *Pseudomonas aeruginosa*. Sodium chloride maintains osmotic equilibrium in the medium.

Methodology

Suspend 25.3 grams of powder media in 1000 ml distilled water. Shake well & heat to dissolve the medium completely. Dispense in tubes. Sterilize by autoclaving at 15lbs pressure (121°C) for 15 minutes.

Quality Control

Physical Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Light amber coloured, clear to slightly opalescent solution in tubes

Reaction

Reaction of 2.53% w/v aqueous solution at 25°C. pH : 7.2±0.2

pH range 7.0-7.4

Cultural Response/ characteristics

DM 1862: Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

Organism	Inoculum (CFU)	Growth
Escherichia coli ATCC 25922	$\geq 10^3$	inhibited
Pseudomonas aeruginosa ATCC 27853	50-100	luxuriant
Staphylococcus aureus ATCC 25923	$\geq 10^3$	inhibited

Inhibition after 72 hours Additional Microbiological testing



Dehydrated Culture Media
Bases / Media Supplements

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° in sealable plastic bags for 2-5 days.

Further Reading

1. King E.O., Ward M.K. and Raney D.E., 1954, J. Lab. Clin. Med., 44(2):301.
2. USFDA Bacteriological Analytical Manual, 2005, 18th Ed., AOAC, Washington, DC.
3. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Tenover F. C., (Ed.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.
4. Forbes B. A., Sahm A. S. and Weissfeld D. F., Bailey & Scotts Diagnostic Microbiology, 10th Ed., 1998, Mosby, Inc., St. Louis, Mo.
5. Williams, (Ed.), 2005, Official Methods of Analysis of the Association of Official Analytical Chemists, 19th Ed., AOAC, Washington, D.C.

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