

Technical Information

Cholera Medium Base

Product Code: DM 1558

Application: - Cholera Medium Base is a selective medium used for the isolation of *Vibrio* species from specimens heavily contaminated with *Enterobacteriaceae*.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	10.000
Beef extract	10.000
Sucrose	10.000
Sodium lauryl sulphate	0.100
Sodium chloride	20.000
Sodium carbonate	5.000
Agar	10.000
Final pH (at 25°C)	8.5±0.2

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

Cholera Medium Base is a selective medium used for the isolation of *Vibrio* species from specimens contaminated with enteric bacteria. It is based on the formulation described by Felsenfeld and Watanabe (1) for the isolation of *V. cholerae* and similar *Vibrios* from specimens contaminated with *Enterobacteriaceae*. *Vibrio cholerae* is the etiological agent of cholera in humans in which the disease is caused not by tissue invasion of microorganisms but through the production of toxins that interrupt normal intra-intestinal exchanges of water and electrolytes. *Vibrios* grow readily on most isolation media. Adding sodium chloride to the medium enhances growth of all species.

Beef extract and peptic digest of animal tissue supply nitrogenous nutrients whereas sucrose act as the fermentable carbohydrate source for the metabolism of *Vibrios*. Sodium lauryl sulphate inhibits many contaminating organisms. Potassium tellurite also inhibits many gram-positive and gram-negative bacteria except *Vibrios*. Sodium chloride maintains osmotic equilibrium.

Methodology

Suspend 65.1 grams of dehydrated media powder in 1000 ml distilled water. Mix thoroughly & heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE. Cool to 70°C and add 2 ml of sterile 1% Potassium Tellurite Solution (MS1052) and 5 ml of sterile defibrinated blood. Maintain at 70°C for a few minutes. Cool to 45-50°C. Mix well before pouring into sterile Petri plates.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder.

Gelling

Firm, comparable with 1.0% Agar gel.

Colour and Clarity

Basal medium: Yellow coloured clear to slightly opalescent gel. After Addition of blood & Tellurite and on heating: Brownish red coloured opaque gel forms in Petri plates.

Reaction

Reaction of 6.5% w/v aqueous solution at 25°C. pH : 8.5±0.2



Dehydrated Culture Media
Bases / Media Supplements

pH Range

8.30-8.70

Cultural Response

DM1558: Cultural characteristics observed with added 1% Potassium Tellurite Solution (MS1052) and sterile defibrinated blood, after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth	Recovery
<i>Bacillus subtilis</i> ATCC 6633	$\geq 10^3$	inhibited	0%
<i>Escherichia coli</i> ATCC 25922	$\geq 10^3$	inhibited	0%
<i>Proteus mirabilis</i> ATCC 25933	$\geq 10^3$	inhibited	0%
<i>Pseudomonas aeruginosa</i> ATCC 27853	$\geq 10^3$	inhibited	0%
<i>Vibrio cholerae</i> ATCC 15748	50-100	luxuriant	$\geq 50\%$
<i>Vibrio parahaemolyticus</i> ATCC 17802	50-100	luxuriant	$\geq 50\%$

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and prepared medium at 2 - 8°C. Use before expiry date on the label.

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

Further Reading

1. Felsenfeld O. and Watanabe Y., 1958, U.S. Armed Forces Med. J., 9 (7): 975.

Disclaimer :

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