



Cholera Medium Base

M558

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

Directions

Suspend 65.1 grams in 1000 ml distilled water. 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 (FD052) and 5 ml of sterile defibrinated blood. Maintain at 70°C for a few minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Principle And Interpretation

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. 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*.

Beef extract and peptic digest of animal tissue provide nitrogenous nutrients whereas sucrose serves 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.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Gelling

Firm, comparable with 1.0% Agar gel.

Colour and Clarity of prepared medium

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

pH

8.30-8.70

Cultural Response

M558: Cultural characteristics observed with added 1% Potassium Tellurite Solution(FD052) 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

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

Reference

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

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