

92323 *Vibrio ChromoSelect* Agar

Vibrio ChromoSelect Agar is recommended for isolation, and selective chromogenic differentiation of *Vibrio* species from seafood.

Composition:

Ingredients	Grams/Litre
Peptic digest of animal tissue	10.0
Sodium chloride	25.0
Sodium thiosulphate	5.0
Sodium citrate	6.0
Sodium cholate	1.0
Chromogenic mixture	5.5
Agar	15.0
Final pH 8.5 +/- 0.2 at 25°C	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C.

Appearance: Faintly yellow coloured, homogeneous, free flowing powder.

Gelling: Firm

Color and Clarity: Slightly brownish-yellow coloured clear to slightly opalescent gel forms in petri plates.

Directions:

Suspend 67.5 g in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. DO NOT AUTOCLAVE. Cool to 45-50°C, mix well and pour into sterile petri plates.

Principle and Interpretation:

Vibrios have played a significant role in human history. Outbreaks of cholera, caused by *Vibrio cholerae*, can be traced back in time to early recorded descriptions of enteric infections. The Vibrios have also received the attention of marine microbiologists who observed that the readily cultured bacterial population in near-shore waters and those associated with fish and shell fish were predominantly *Vibrio* species (1). *Vibrio* species are mainly responsible for causing cholera and food poisoning in humans. *Vibrio cholerae* causes cholerae due to the intake of contaminated food such as raw oysters. *Vibrio parahaemolyticus* is a major cause of food borne infections, causing food poisoning (2). Since *Vibrio* species naturally occur in sea water, worth special mention is their need for sodium chloride, although some species can grow with minimum sodium chloride concentration (1). The widely used media for *Vibrio* isolation are TCBS Agar and Alkaline Peptone Water (3). However accompanying sucrose-fermenting bacteria pose a problem in the identification of *Vibrio* species on TCBS Agar. On *Vibrio ChromoSelect* Agar, the colour development by *Vibrio* species is not affected by the presence of colonies of other bacteria. This is because, the amount of colour developed depends on the reaction of the bacterial β -galactosidase with the substrate contained in the media (4). Peptic digest of animal tissue provides carbonaceous, nitrogenous and essential nutrients to the organisms. High concentration of sodium chloride in addition to maintaining the osmotic equilibrium also has an inhibitory action on the accompanying microflora. Sodium thiosulphate, sodium citrate and sodium cholate are used in the formulation because they can inhibit the growth of gram positive and some gram negative bacteria, but not members of Enterobacteriaceae. The proprietary chromogenic mixture incorporated in the medium helps in the chromogenic differentiation of *Vibrio cholerae* and *Vibrio parahaemolyticus*. The high (alkaline) pH of the medium helps in selective isolation of *Vibrio* species.

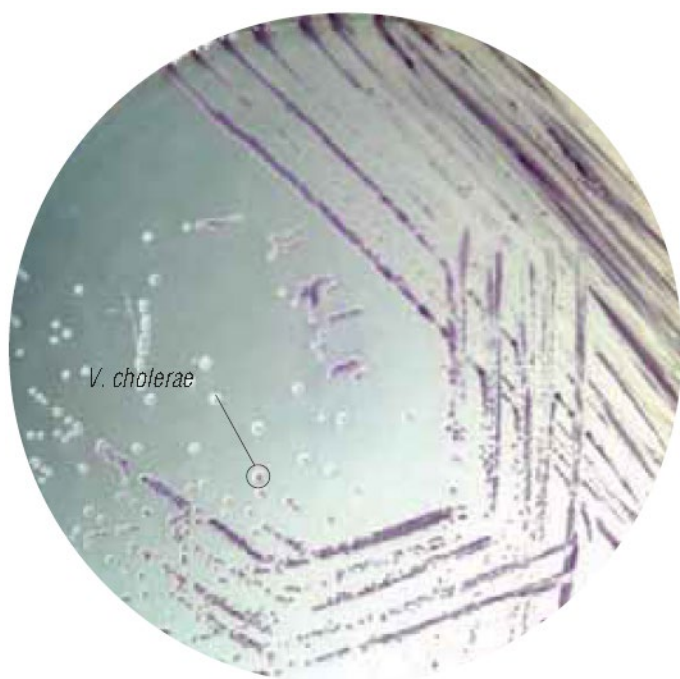


Cultural characteristics after 18-24 hours at 35-37°C.

Organisms (ATCC)	Growth	Color of Colony
<i>Escherichia coli</i> (25922)	-	-
<i>Enterococcus faecalis</i> (29212)	-	-
<i>Staphylococcus aureus</i> (25923)	-	-
<i>Vibrio cholerae</i> (15748)	+++	purple
<i>Vibrio parahaemolyticus</i> (17802)	+++	bluish-green

References:

1. Thompson et. al (ed.), The Biology of Vibrios, ASM Press, chapter1, pg 3 (2006)
2. E.I. Alcamo, Fundamentals of Microbiology, 6th ed, Jones and Bartlett Publishers, Inc. pg 254, 244 (2001)
3. Clesceri, Greenberg and Eaton (ed.), Standard Method for the examination of Water and Waste water, 20th ed. American Public Health Association, Washington, D. C. (1998)
4. H.Y. Kudo et. al, Improved Method for Detection of *Vibrio parahaemolyticus* in Seafood. ASM. Vol 67, No. 12, pg 5819-5823 (2001)



Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

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