Michrom™ Vibrio Agar

Intended Use
Michrom™ Vibrio Agar is recommended for the isolation and selective chromogenic differentiation of *Vibrio* species from seafood and clinical samples.

Summary
Vibrio' s 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 Vibrio's 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. *Vibrio* species are mainly responsible for causing cholera and food poisoning in humans. *Vibrio cholerae* causes cholera due to the intake of contaminated food such as raw oysters. *Vibrio parahaemolyticus* is a major cause of food borne infections, causing food poisoning. 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. The widely used media for *Vibrio* isolation are TCBS Agar and Alkaline Peptone Water. However accompanying sucrose-fermenting bacteria pose a problem in the identification of *Vibrio* species on TCBS Agar. On Michrom Vibrio 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 beta-galactosidase with the substrate contained in the media.

Principle
Peptone provides carbonaceous, nitrogeneous 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.

Formula*

Ingredients	**g/L**
Peptone	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 (at 25°C)	8.5 ± 0.2

*Adjusted to suit performance parameters

Storage and Stability
Store below 8°C in tightly closed container, preferably in dessicators and use freshly prepared medium. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of Specimen
Clinical samples- faeces; Food samples.

Specimen Collection and Handling
Ensure that all samples are properly labelled.
Follow appropriate techniques for handling samples as per established guidelines.
Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure.
The samples must be stored and tested within the permissible time duration. After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions

1. Suspend 67.50 g of the powder in 1000 mL purified / distilled water.
2. Heat to boiling to dissolve the powder completely.
3. DO NOT AUTOCLAVE
4. Cool to 45 - 50°C, mix well before pouring into sterile petridishes.

Quality Control

Dehydrated Appearance: Light yellow to light tan coloured, homogeneous, free flowing powder.
Prepared Appearance: Light yellow coloured, clear to slightly opalescent gel forms in petridishes.
Cultural Response: Cultural characteristics observed after an incubation of 18-24 hours at 35°C-37°C.

Organism (ATCC)	Growth	Colour of Colony
Vibrio cholerae (15748)	Good	Purple
Vibrio parahaemolyticus (17802)	Good	Bluish green
Enterococcus faecalis (29212)	Partial Inhibition	Bluish green
Escherichia coli (25922)	Complete Inhibition	-
Staphylococcus aureus subsp. *aureus* (25923)	Complete Inhibition	-

Key: *Corresponding WDCM numbers.

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. Alcamo. E.I, 2001. Fundamentals of Microbiology, 6th ed, Jones and Bartlett Publishers, Inc. pg 254, 244.
2. Clesceri, Greenberg and Eaton (ed.). 1998. Standard Method for the examination of Water and Waste water, 20th ed. American Public Health Association, Washington, D. C.
3. Isenberg, H. Clinical Microbiology Procedures Handbook 2nd Edition.
4. Kudo. H. Y et al, 2001. Improved Method for Detection of Vibrio parahaemolyticus in Seafood. ASM. Vol 67, No.12, pg 5819-5823.
5. Murray P. R., Baron J. H., Pfaller M. A., Jorgensen J. H. and Yolken R. H., (Eds.), 2003, Manual of Clinical Microbiology, 8th Ed., American Society for Microbiology, Washington, D.C.
6. Salfinger Y., and Tortorello M.L., 2015, Compendium of Methods for the Microbiological Examination of, Foods, 5th Ed., American Public Health Association, Washington, D.C.
7. Thompson et al (ed.). 2006. The Biology of Vibrios, ASM Press, chapter 1, pg 3.
8. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201130500100	Dehydrated Culture Media	100 g
201130500500	Dehydrated Culture Media	500 g