TM 1640- CHROMOGENIC VIBRIO AGAR

INTENDED USE

For selective isolation and differentiation of *Vibrio* species.

PRODUCT SUMMARY AND EXPLANATION

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. *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 Chromogenic Vibrio Agar, the colour development by *Vibrio* species in 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

COMPOSITION

Ingredients	Gms / Ltr
Sodium chloride	25.000
Agar	15.000
Peptone	10.000
Sodium citrate	6.000
Chromogenic mixture	5.500
Sodium thiosulphate	5.000
Sodium cholate	1.000

PRINCIPLE

Peptone 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.

INSTRUCTION FOR USE

- Dissolve 67.5 grams in 1000 ml distilled water.
- Gently heat to boiling with swirling to dissolve the medium completely. Do not autoclave the medium.
- Cool to 45-50°C.
- Mix well before pouring into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS

Appearance of powder : Light yellow to light tan homogeneous free flowing powder

Appearance of prepared medium : Light yellow coloured, clear to slightly opalescent gel

pH (at 25°C) : 8.5±0.2

INTERPRETATION

Culture characteristics observed after incubation. Recovery rate is considered 100% for bacteria growth on Soya Agar.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Colour of colony	Recovery	Incubation Temp.	Incubation Period
Vibrio cholerae	15748	50-100	Good-luxuriant	Purple	>=50%	35 ± 2°C	18 – 24 Hours
Vibrio parahaemolyticus	17802	50-100	Good-luxuriant	Bluish green	>=50%	35 ± 2°C	18 – 24 Hours
Staphylococcus aureus	25923	≥ 1000	Inhibited	-	0%	35 ± 2°C	18 – 24 Hours
Escherichia coli	25922	≥ 1000	Inhibited	-	0%	35 ± 2°C	18 – 24 Hours
Enterococcus faecalis	29212	≥ 1000	Inhibited	-	0%	35 ± 2°C	18 – 24 Hours

PACKAGING:

In pack size of 100gm & 500gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 2-8°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

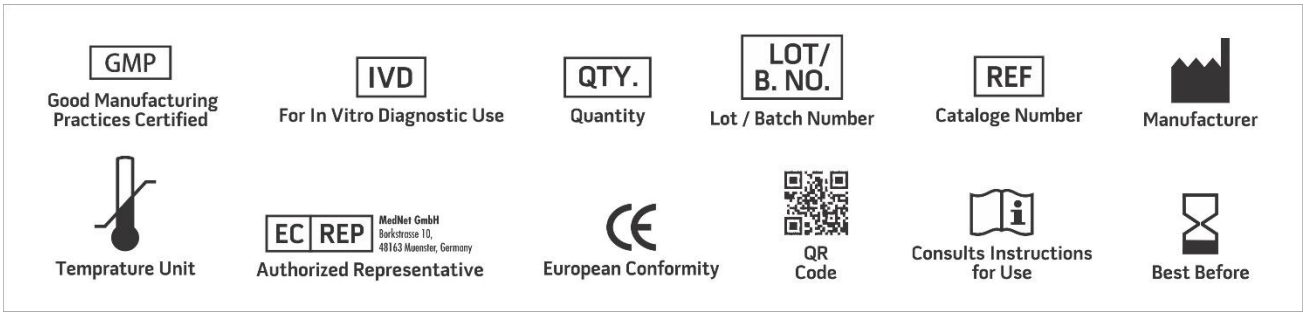
Product Deterioration: Do not use if powder show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. Thompson et al (ed.). 2006. The Biology of Vibrios, ASM Press, chapter 1, pg 3.
2. Alcamo. E.I, 2001. Fundamentals of Microbiology, 6th ed, Jones and Bartlett Publishers, Inc. pg 254, 244.
3. 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.
4. Kudo. H. Y et al, 2001. Improved Method for Detection of! *Vibrio parahaemolyticus* @ in Seafood. ASM. Vol 67,12, pg 5819-5823



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

Revision: 25 February, 2022