

CM 21167 - ZOBELL MARINE BROTH 2216. (MARINE BROTH 2216)

INTENDED USE

Forcultivation,isolation and enumeration of heterotrophic marine bacteria.

PRODUCT SUMMARYAND EXPLANATION

Zobell MarineBroth has beenused for thegrowth of marine bacteria. Microorganisms in an aquatic environment may occur at all depths ranging from the surface region to the very bottom of the ocean trenches. The top layers and the bottom sediments harbor higher concentration of microorganisms. Marine microorganisms are vital to ecological cycles because they form the foundations of many food chains. Zobell Marine Broth formulated by Zobell, has a composition that mimics seawater and thus helps the marine bacteria to grow abundantly.

COMPOSITION

Ingredients	Gms / Ltr
Peptone	5.000
Yeast extract	1.000
Ferric citrate	0.100
Sodium chloride	19.450
Magnesium chloride	8.800
Sodium sulphate	3.240
Calcium chloride	1.800
Potassium chloride	0.550
Sodium bicarbonate	0.160
Potassium bromide	0.080
Strontium chloride	0.034
Boric acid	0.022
Sodium silicate	0.004
Ammonium nitrate	0.0016
Disodium phosphate	0.008
Sodium fluoride	0.0024

PRINCIPLE

Zobell Marine Broth 2216 contains the nutrients, which are required for the growth of marine bacteria. These media have minerals as in seawater and peptone and yeast extract as the sources of nutrients for the marine bacteria as reported by Jones. High amount of salt content is used to simulate seawater. Other minerals are used to mimic the mineral composition of seawater.

INSTRUCTION FOR USE

- Dissolve 40.25grams in 1000 ml purified / distilled water.
- Heatif necessary to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Coolto 45-50°C.Mix well and Pour in sterile Petri plates.



QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium : Yellow coloured opalescent solution in tubes.
pH (at 25°C) : 7.6±0.2

INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period
Vibrio fischeri	7744	50-100	Good-luxuriant	20-25°C	40-72 Hours
Vibrio harveyi	14126	50-100	Good-luxuriant	20-25°C	40-72 Hours

PACKAGING:

In pack size of 100 gm and 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°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 they 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. Alcamo E.I., 2001, Fundamentals of Microbiology, 6th Ed., Jones AND Barlett Publishers
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook. Second Edition.
3. Jones, 1960, Bact. Proc. Pg. 36 (A29)
4. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock, D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
5. Lyman J. and Fleming R. H., 1940, J. Mar. Res. 3:134.
6. Pelczar M.J., Jr., Reid R.D., Chan E.C.S., 1977, Microbiology, 4th Ed., Tata McGraw-Hill Publishing Company Ltd, New Delhi
7. Sizemore R. K. and Stevenson L. H., 1970, Appl. Microbiol., 20:991
8. Weiner R. M., Segall A. M. and Colwell R. R., 1985, Appl. Environ. Microbiol., 49:83.
9. Zobell C. E., 1940, J. Marine Research 3:134
10. ZoBell C. E., 1941, J. Mar. Res., 4:42.

