

Marine Broth 2216 (Zobell Marine Broth)

Intended Use

Marine Broth 2216 (Zobell Marine Broth) is used for cultivation of heterotrophic marine bacteria.

Summary

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 harbour higher concentration of microorganisms. Marine microorganisms are vital to ecological cycles because they form the foundations of many food chains. Marine Broth 2216 formulated by Zobell, has a composition that mimics seawater and thus helps the marine bacteria to grow abundantly. This medium has been used for the growth of marine bacteria.

Principle

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. High amount of salt content is used to simulate seawater. Other minerals are used to mimic the mineral composition of seawater.

Formula*

Ingredients	g/L
Peptone	5.0
Sodium Chloride	19.45
Yeast Extract	1.0
Magnesium Chloride	8.8
Ferric Citrate	0.1
Sodium Sulfate	3.24
Calcium Chloride	1.8
Potassium Chloride	0.55
Sodium Bicarbonate	0.16
Potassium Bromide	0.08
Strontium Chloride	0.034
Disodium Phosphate	0.008
Boric Acid	0.022
Sodium Silicate	0.004
Sodium Fluorate	0.0024
Ammonium Nitrate	0.0016
Final pH (at 25°C)	7.6 ± 0.2

*Adjusted to suit performance parameters

Storage and Stability

Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of Specimen

Marine Water 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 40.25 g of the powder in 1000 mL purified / distilled water.
2. Mix thoroughly.
3. Heat with frequent agitation for 1 minute to dissolve the powder completely.
4. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.

Quality Control

Dehydrated Appearance: Cream to yellow coloured, homogenous, free flowing powder.

Prepared Appearance: Yellow to amber coloured, clear solution with or without slight precipitate forms in tubes.

Cultural Response: Cultural characteristics is observed after an incubation of 48-72 hours at 20°C- 25°C.

Organism (ATCC)	Growth
<i>Vibrio fischeri</i> (7744)	Good
<i>Vibrio parahaemolyticus</i> (17802)	Good

Performance and Evaluation

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

1. Directions
2. Storage
3. Expiry

Precautions / Limitations

The medium is recommended for the isolation of marine bacteria. Further biochemical and serological testing must be carried out for further identification.

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. Pelczar M.J..Jr., Reid R.D., Chan E.C.S., 1977, Microbiology, 4th Edi, Tata McGraw-Hill Publishing Company Ltd, New Delhi
2. Alcamo E.I.,2001, Fundamentals of Microbiology, 6th Ed., Jones AND Barlett Publishers
3. ZoBell C. E., 1941, J. Mar. Res., 4:42.
4. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201130360500	Dehydrated Culture Media	500 g

Disclaimer

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.
