



Sea Water Agar (Twin Pack)

M592

Sea Water Agar is recommended for the cultivation of marine microorganisms.

Composition**

Ingredients	Gms / Litre
Part A	-
Yeast extract	5.000
Peptic digest of animal tissue	5.000
Beef extract	3.000
Agar	15.000
Part B	-
Sodium chloride	24.000
Potassium chloride	0.700
Magnesium chloride, 6H ₂ O	5.300
Magnesium sulphate, 7H ₂ O	7.000
Calcium chloride	0.100
Final pH (at 25°C)	7.5±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 30.7 grams (the equivalent weight of dehydrated medium) of Part B in 1000 ml distilled water. Heat if necessary to dissolve completely. This will be sea water (Synthetic). Add 28 grams of Part A medium. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

Principle And Interpretation

Marine life represents a vast resource, providing food, medicine, and raw materials. It is also a source of halophilic bacteria. These bacteria contribute to the spoilage of marine fish and shellfish. Halophilic bacteria have complex ionic requirements and may require Mg⁺⁺ and K⁺ in addition to sodium chloride for growth and proteolytic activity. Sea Water Agar (1, 2) is formulated as recommended by APHA (3) for cultivation of marine microorganisms from sea foods.

Part B composition acts as synthetic sea water to create conducive growth atmosphere. Yeast extract, beef extract and peptic digest of animal tissue provide nitrogenous compounds, vitamin B complex and other essential growth nutrients.

Quality Control

Appearance

Part A : Cream to yellow homogeneous free flowing powder Part B : White to cream homogeneous free flowing powder

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Yellow coloured slightly opalescent gel forms in Petri plates

Reaction

Reaction of 2.8% w/v aqueous solution of Part A + 3.07% w/v aqueous solution of Part B at 25°C. pH : 7.5±0.2

pH

7.30-7.70

Cultural Response

M592: Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Organism	Inoculum (CFU)	Growth	Recovery
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Cultural Response

<i>Vibrio cholerae</i> ATCC 15748	50-100	luxuriant	>=70%
<i>Vibrio parahaemolyticus</i> ATCC 11344	50-100	luxuriant	>=70%

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.

Reference

1. Liston J., Matches J. R., and Baross J., 1971, Fish Inspection and Quality Control, Ed., R. Krevger, P. 246 Fishing News (Books) Limited, London, England
2. MacLeod R. A., Onofrey E. and Norris M. E., 1954, J. Bacteriol., 68: 6803.
3. Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.

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