Marine Agar

Art. No. 01-291

Specification

Solid culture medium for heterotrophic marine bacteria.

Formula* in g/L

Meat peptone	5,0000
Yeast extract	1,0000
Iron citrate	0,1000
Sodium chloride	19,4500
Sodium sulfate	3,2400
Sodium bicarbonate	0,1600
Sodium silicate	0,0040
Sodium fluoride	0,0024
Disodium phosphate	0,0080
Calcium chloride	1,8000
Magnesium chloride	8,8000
Potassium chloride	0,5500
Potassium bromide	0,0800
Strontium chloride	0,0340
Ammonium nitrate	0,0016
Boric acid	0,0220
Agar	15,0000

Final pH 7,6 ± 0,2 at 25°C

* Adjusted and /or supplemented as required to meet performance criteria

Directions

Suspend 55,1 g of the powder in 1 L of distilled water and bring to the boil. Distribute in suitable containers and sterilize in the autoclave at 121°C for 15 minutes.

Description

Marine Agar was formulated according to the original description of ZoBell that tries to duplicate the major mineral concentration found in sea water. Included in its composition are mineral salts, peptone and yeast extract, and growth factors necessary to sustain the growth of heterotrophic marine bacteria.

The gelling agent is agar and it is often found to be liquefied by marine bacteria.

Marine bacteria are thermo-sensitive and streak-plates are recommended, if pour-plates are preferred, the molten medium must be cooled to 45°C before pouring it over the sample.

Marine Agar is a very hygroscopic medium: Keep the bottle tightly caped in a dry place.

References

- BUCK, J. D. & R.C. CLEVERDON (1960) The spread plate as a method for the enumeration of marine bacteria. Limnol. Oceanogr. 5:78-80.
- ISO/TS 11133-1: 2009 Microbiology of food and animal feeding stuffs.- Guidelines on preparation and production of culture media. Part 1: General guidelines on quality assurance for the preparation of culture media in the laboratory.
- ISO/TS 11133-2: 2003 Corr. 2004 Microbiology of food and animal feeding stuffs.- Guidelines on preparation and production of culture media. Part 2: Practical guidelines on performance testing of culture media.
- SIZEMORE, R.K. & L.H. STEVENSON (1970) Method for the isolation of proteolytic marine bacteria. Appl. Microbiol. 20:991-992.
- ZOBELL, C.E. (1941) Studies on marine bacteria. I. The cultural requirements of heterotrophic aerobes. J. Mar. Res. 4:42-75.

Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4°C to 30°C and <60% RH).

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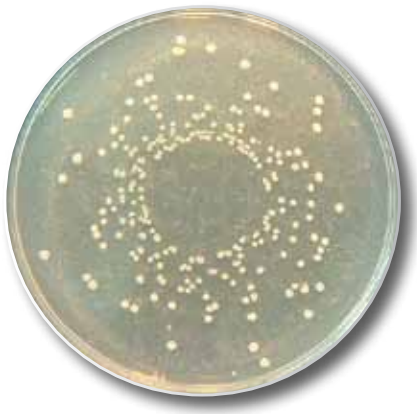
Quality control

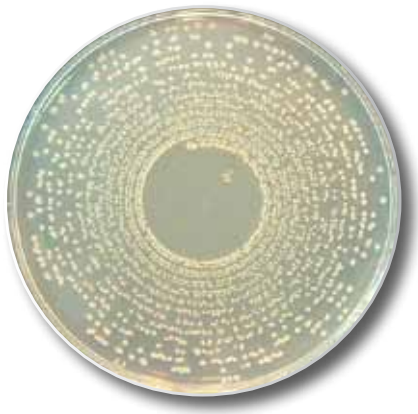
Incubation temperature: 20 - 25°C ± 2,0
Incubation time: 48 - 72 h
Inoculum: 10-100 CFU (Productivity) // 1.000-10.000 CFU (Selectivity). Spiral Plate Method (ISO 11133-1/2)

Microorganism	Growth	Remarks
Escherichia coli ATCC 25922	Good	-
Vibrio parahaemolyticus ATCC 17802	Productivity > 0.70	-
Vibrio alginolyticus ATCC 17749	Productivity > 0.70	-

Vibrio alginolyticus ATCC 17749



Vibrio parahaemolyticus ATCC 17802



Escherichia coli ATCC 25922