PRODUCT SPECIFICATION SHEET

Halophilic Agar (DM656)

Intended Use
Halophilic Agar (DM656) is used for isolation and cultivation of extremely halophilic bacteria.

Product Summary and Explanation
Halophiles are salt-loving organisms that flourish in saline environments and can be classified as slightly, moderately or extremely halophilic, depending on their requirement for sodium chloride. Although most marine organisms are slight halophiles, moderate and extreme halophiles are generally more specialised microbes, which inhabit hypersaline environments with salinity higher than in the sea. Hypersaline environments are found all over the world, in arid, coastal, and deep-sea locations, underground salt mines, and artificial salterns.
Halophilic media are formulated for isolation and cultivation of extreme halophilic species of *Halobacterium* and *Halococcus* from foods.[1,2] They require high salt concentration of about 20 - 30% for optimum growth. In general, the requirement for salt by halophilic microorganisms is not an exclusive need for NaCl since many species require low levels of K+, Mg++ and other ions in addition to NaCl.[3,4] The level of salt required by microorganism varies greatly. Therefore the microbial types associated with a particular salted food depend on the concentration and type of salt and food. The most recent classifications of halophilic microorganisms are based on the level of salt required and can cause pink discoloration on the outer surface accompanied by putrefaction and decomposition of fish, bacon and hides preserved in sea salts.[2,3]

Principles of the Procedure
Halophilic Agar contains casein acid hydrolysate; proteose peptone and yeast extract which provide all the necessary nutrients, mainly nitrogenous and vitamins to the halophilic bacteria. Trisodium citrate is added to avoid the losses.[2] Magnesium sulphate, sodium chloride and potassium chloride are essential ions required for the growth of extreme halophiles.

Formula / Liter

Ingredients	Gms / Liter
Casein acid hydrolysate	10.00
Yeast extract	10.00
Proteose peptone	5.00
Trisodium citrate	3.00
Potassium chloride	2.00
Magnesium sulphate	25.00
Sodium chloride	250.00
Agar	20.00
Final pH: 7.2 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

Precautions
1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions
1. Suspend 32.5 grams of the medium in 100 ml of distilled water.
2. Heat to boiling, to dissolve the medium completely.
3. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.
4. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

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Quality Control Specifications

Dehydrated Appearance	Off-white to yellow homogeneous free flowing powder
Prepared Medium	Amber coloured, slightly opalescent gel w/ precipitate forms in Petri plates
Reaction of 32.5% Solution	pH : 7.2 ± 0.2 at 25°C
Gel Strength	Firm, comparable with 2.0% Agar gel

Expected Cultural Response : Cultural characteristics observed after an incubation at 35-37°C for 12 days.

Sr. No.	Organisms	Results to be achieved
		Growth
1.	*Halobacterium salinarium ATCC 33171*	good-luxuriant
2.	*Halococcus morrhuae ATCC 17082*	good-luxuriant

Test Procedure

10 gm sample is added to 90 ml Halophilic Broth and incubated at 35°C for upto 12 days. From this enriched culture the organisms are then isolated onto Halophilic Agar (DM656). Refer to appropriate references for standard test procedures.

Results

Refer to appropriate references and test procedures for interpretation of results.

Storage

Store the sealed bottle containing the dehydrated medium at 10 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitations of the Procedure

1. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
2. Consult appropriate texts for detailed information and recommended procedures.

Packaging

Product Name : Halophilic Agar
Product Code : DM656
Available Pack sizes : 100gm / 500gm

References

1. Dundas I.E., 1977, Advances In Microbiology and Physiology, Rose H. and Tempest D.W. (Eds.), A.P. London.
2. Gibbons N.E., 1969, Methods In Microbiology, Vol. 3B, Norris J.R., and Ribbons D.W. (Eds.), A.P., New York, pp.169-183.
3. Kushner D. J., (Eds.), 1978, D. J. Kushner, pg 317, Academic Press, London, England.
4. MacLeod R. A., 1965, Bacteriol., Rev., 29:9.

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Further Information

For further information please contact your local MICROMASTER Representative.

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