



PRODUCT SPECIFICATION SHEET

Nutrient Agar Medium (DM181I)

Intended Use

Nutrient Agar Medium (DM181I) is a general culture medium which may be used as enriched medium by incorporating blood or other biological fluids in compliance with IP.

Product Summary and Explanation

The American Public Health Association published the formula for a general purpose medium for the growth of a wide variety of non-fastidious microorganisms and for purity checking prior to biochemical or serological testing.⁽¹⁾ It is used for the cultivation and enumeration of bacteria, which are not particularly fastidious. In semisolid form it is used for maintenance of control or standard organisms. This medium is recommended by Indian Pharmacopoeia for microbial limit tests of viable aerobic microorganism present in pharmaceutical substances.⁽²⁾ It can also be used as a base for enrichment with blood, ascitic fluid or other supplements for cultivating fastidious microorganisms, since the medium contains 0.8% sodium chloride.⁽³⁾

Principles of the Procedure

Nutrient Agar Medium contains peptone and beef extract which provides nitrogen, carbohydrates, vitamins and salts. Sodium chloride maintains the osmotic balance so that red blood cells will not rupture when blood is added as supplement. Nutrient media may be used for blood culturing work after the addition of sterile 5-10% v/v defibrinated blood or other biological fluids like ascitic fluid, serum etc.

Formula / Liter

Ingredients	Gms / Liter
Peptone	10.00
Beef extract	10.00
Sodium chloride	5.00
Agar	12.00
Final pH : 7.3 ± 0.1 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 37 grams of the medium in one liter of distilled water.
2. Heat to boiling to dissolve the medium completely.
3. Autoclave at 10 lbs pressure (115°C) for 30 minutes or alternatively at 15 lbs pressure (121°C) for 15 minutes.

Quality Control Specifications

Dehydrated Appearance	Cream to yellow homogeneous free flowing powder
Prepared Medium	Light yellow coloured clear to slightly opalescent gel forms in Petri plates
Reaction of % Solution	Not Applicable
Gel Strength	Firm, comparable with 1.2% Agar gel

Growth Promotion Test

Growth Promotion is carried out as per Indian Pharmacopoeia.





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Expected Cultural Response: Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours.

Sr. No.	Organisms	Results to be achieved				
		Inoculum (CFU)	Observed Lot Value CFU	Growth	Recovery	Incubation Temperature/period
1.	<i>Escherichia coli</i> ATCC 8739	50 -100	35 -100	good-luxuriant	≥70%	35-37 °C 18-24 hrs
2.	<i>Staphylococcus aureus</i> ATCC 6538	50 -100	35 -100	good-luxuriant	≥70%	35-37 °C 18-24 hrs
3.	<i>Salmonella Typhimurium</i> ATCC 14028	50 -100	35 -100	good-luxuriant	≥70%	35-37 °C 18-24 hrs
4.	<i>Salmonella Abony</i> NCTC 6017	50 -100	35 -100	good-luxuriant	≥70%	35-37 °C 18-24 hrs
5.	<i>Pseudomonas aeruginosa</i> ATCC 9027	50 -100	35 -100	good-luxuriant	≥70%	35-37 °C 18-24 hrs

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure

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 : Nutrient Agar Medium

Product Code : DM181I

Available Pack sizes : 100gm / 500gm

References

1. Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.





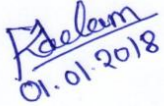
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2. Indian Pharmacopoeia, 1996, Govt. of India, The Controller of Publications, Delhi.
3. International Organization for Standardization (ISO), 1995, Draft ISO/DIS 9308-1.



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