



PRODUCT SPECIFICATION SHEET

Nutrient Broth (DM184)

Intended Use

Nutrient Broth (DM184) is recommended for general cultivation of less fastidious microorganisms can be enriched with blood or other biological fluids.

Product Summary and Explanation

In the early 1900's, the American Public Health Association (APHA) suggested the formula of Nutrient Agar as a standard culture medium used in water testing.⁽¹⁾ Nutrient Broth is the same formulation as Nutrient Agar, only Agar has been omitted. Nutrient media are basic culture media used for maintaining microorganisms, cultivating fastidious organisms by enriching with serum or blood and are also used for purity checking prior to biochemical or serological testing.^(4,11) Nutrient Broth is used as a pre-enrichment medium when testing certain foods and dairy products for Salmonella spp. In dried or processed foods, salmonellae may be sub-lethally injured and in low numbers. The presence of other bacteria and food sample components may hinder growth and recovery of Salmonella spp. Pre-enrichment in a nonselective medium such as Nutrient Broth allows for cell damage repair, dilutes toxic or inhibitory substances, and provides a nutritional advantage to Salmonella over other bacteria.⁽²⁾ Nutrient Broth is included in many standard methods procedures for testing food, dairy products, and other materials.⁽²⁻⁶⁾ Nutrient Broth can be enriched with other ingredients such as carbohydrates, blood, serum, egg yolk etc. to make it suitable for the cultivation of related fastidious organisms.

Principles of the Procedure

Peptic digest of animal tissue, beef extract and yeast extract provide the necessary nitrogen compounds, carbon, vitamins and also some trace ingredients necessary for the growth of bacteria. Sodium chloride maintains the osmotic equilibrium of the medium.

Formula / Liter

Ingredients	Gms / Litre
Peptic digest of animal tissue	5.00
Beef extract	1.50
Yeast extract	1.50
Sodium chloride	5.00
Final pH: 7.4 ± 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 13 g of the medium in one liter of distilled water.
2. Heat, if necessary, to dissolve the medium completely.
3. Dispense as desired and sterilize by autoclaving at 121°C, 15 psi pressure, for 15 minutes.





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Quality Control Specifications

Dehydrated Appearance	Cream to yellow, homogeneous, free flowing powder
Prepared Medium	Light amber coloured clear solution in tubes
Reaction of 1.3% Solution	pH 7.4 ± 0.2 at 25°C
Gel Strength	Not Applicable

Expected Cultural Response: Cultural response on Nutrient Broth after incubation at 35-37°C for 18-48 hours.

Sr. No.	Organisms	Results to be achieved	
		Inoculum (CFU)	Growth
1.	<i>Escherichia coli ATCC 25922</i>	50-100	Good-Luxuriant
2.	<i>Pseudomonas aeruginosa ATCC 27853</i>	50-100	Good-Luxuriant
3.	<i>Staphylococcus aureus ATCC 25923</i>	50-100	Good-Luxuriant
4.	<i>Streptococcus pyogenes ATCC 19615</i>	50-100	Good-Luxuriant

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

Test Procedure

1. Inoculate tubes of the broth medium with the test samples.
2. Incubate aerobically at 35± 2°C for 18 - 24 hours or longer if necessary.
3. Refer to appropriate references for specific recommendations when testing certain foods and dairy products for *Salmonella* spp.

Results

1. After incubation, growth is evidenced by the appearance of turbidity in the broth.
2. Aliquots of the broth can be used for subculturing to solid media for purification and identification purposes.

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

Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.

Packaging

Product Name : Nutrient Broth

Product Code : DM184

Available Pack sizes : 100gm / 500gm





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References

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Further Information

For further information please contact your local MICROMASTER Representative.



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